EPA-460/3-77-003

ADVANCED FUEL METERING DEMONSTRATION

by

Warren Cowles and Patrick McCabe

Holley Carburetor Division
11955 Nine Mile Road
Warren, Michigan 48090

Contract No. 68-03-2208

EPA Project Officer: David L. Tripp

Prepared for

ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Mobile Source Air Pollution Control
Emission Control Technology Division
Ann Arbor, Michigan 48105

April 1977

ADVANCED FUEL METERING DEMONSTRATION

JANUARY 1977

1. SUMMARY 1

2. INTRODUCTION 3

3. TASK 1 - ENGINE SELECTION AND PROCUREMENT. 5

4. TASK 2 - BASELINE TESTING 6

5. TASK 3 - ENGINE MODIFICATION AND OPTIMIZATION . . . 11

5.1 Engine Modifications 11

5.1.1. EGR Back Pressure System 11

5.1.2. Sonic Carburetor. 16

5.1.3. Ignition System 20

5.2 Optimization. 21

5.2.1. Wide Open Throttle Evaluation . . . 22

5.2.2. Fuel Distribution 28

5.2.3. Economy and Emissions 35

5.2.3.1. A/F Ratio Effect 35

5.2.3.2. EGR Effect 35

5.2.3.3. Increased Valve Overlap Effect 37

5.2.3.4. High Energy Ignition and Spark Plug Gap Effect . 38

6. TASK 4 - VEHICLE TESTING 48

6.1 Vehicle Modifications. 48

6.2 Sonic Carburetor Calibration 49

6.2.1. Cold Enrichment 49

6.2.2. Basic Schedule 50
6.2.3. Idle Enrichment. 52
6.3 Vehicle Emission Tests 58
6.4 Final Configuration 65
6.5 Final Emission Tests 66
6.6 Performance and Driveability 71
6.6.1. Performance 73
6.6.2 Driveability. 74
7. PLANS AND RECOMMENDATIONS FOR FUTURE WORK 76
8. PHOTOGRAPHS OF SONIC CARBURETOR INSTALLATION . . . 78
9. SAMPLE CALCULATIONS FOR DATA REDUCTION 79
10. DATA 85

April 1977

ADVANCED FUEL METERING DEMONSTRATION

1. SUMMARY

This work was done under Contract No. 68-03-2208 with the U.S. Environmental Protection Agency. The scope of work consists of the demonstration of a variable area sonic carburetor on a 1975 Dodge Dart with a 225 CID engine. The sonic carburetor contains the auxiliary functions normally required in a conventional carburetor. These include an acceleration fuel pump and fuel enrichment for both cold start and for power. Certain 1975 model year emission control system components have been selected and modified to provide calibration flexibility in the total system. The final system on the vehicle as delivered to EPA consisted of the sonic carburetor, a back pressure EGR control, an oxidation catalyst, and the standard type of ignition system with a modified advance schedule. The factory installed air pump was disconnected.

The sonic carburetor was set in the lean-burn range at an air/fuel ratio of nominally 19.0 to 1.0. Idle air/fuel ratio was 18.3 and power enrichment air/fuel ratio was at 16.1. The cold enrichment air/fuel ratio was set at 13.1 to 1.0.

The back pressure EGR system was a modification of the 1975 Oldsmobile system. It was calibrated to give approximately 6% EGR over the normal operating range as calculated from intake and exhaust gas samples under steady state conditions. (See sample calculation section.)

1. SUMMARY (continued)

The standard oxidation catalyst as used on the 1975 Dodge Dart for California was used. However, the air pump used to supply air to the engine exhaust upstream of the catalyst was disconnected.

The standard ignition system was modified to provide increased vacuum spark advance and increased speed spark advance.

This final configuration was then compared to the baseline configuration for fuel economy, emissions, and driveability. The baseline configuration is defined as the same vehicle with the factory installed carburetor, ignition system, oxidation catalyst, air injection, and venturi vacuum-type EGR system.

This comparison of the final configuration to the baseline configuration gave a slight improvement over the baseline car driveability with no improvement in fuel economy. For the 1975 FTP Cold CVS Driving Cycle, there was no appreciable change in HC and with the elimination of the air pump, the CO emissions increased slightly. The NO_x emissions of the sonic carburetor installation were established at the same unusually low level (1.0 grams per mile) as the baseline by adjusting the EGR system flow rate. This adjusted EGR flow rate in the 30 to 50 mph speed range was approximately 6% for the final configuration and 10 to 12% for the baseline system.

2. INTRODUCTION

The work performed under this Environmental Protection Agency Contract No. 68-03-2208 consisted of adopting a sonic carburetor to the Chrysler 225 CID six-cylinder engine. The engine/carburetor combination was then demonstrated on a 1975 Dodge Dart with an automatic transmission.

The carburetor was one of two units fabricated by Holley Carburetor Division. The units are strictly research design with the main body machined from an aluminum block. The normal functions of cold enrichment, power enrichment, and acceleration enrichment are included in the carburetor.

A back pressure EGR system was used because the sonic carburetor has no fixed venturi to provide the conventional airflow signal for the operation of the baseline EGR valve, which is a venturi vacuum amplified type unit.

The scope of the work included optimizing the final configuration for emissions, fuel economy, and driveability. This final configuration was then to be compared to the baseline vehicle with regards to emissions, fuel economy, and driveability.

To provide data for this comparison, the vehicle was run in both configurations. Emissions were measured for the 1975 FTP CVS Driving Cycle Tests with Evaporative and FTP Highway Fuel Economy Tests. Data was taken before and after 4,000 miles of durability on the oxidation catalyst.

The vehicle was delivered to EPA, Ann Arbor, for additional testing.

The work under this contract was divided into the following tasks:

Task 1 - Engine Selection and Procurement

Task 2 - Baseline Testing

Task 3 - Engine Modification and Optimization

Task 4 - Vehicle Testing

Task 5 - Plans and Recommendations for Future Work

Each task will be discussed separately.

3. Task 1 - Engine and Vehicle Selection and Procurement

The contract specified the vehicle to be a five/six passenger sedan in the 3,000/4,000 pound inertia weight class range. The emission control system was to be a 1975 type including an oxidation catalyst, air injection, and EGR.

The vehicle selected was the 1975 Dodge Dart four-door sedan with a 225 CID six-cylinder engine, automatic transmission, and the California Emission Package. This vehicle has a 3,500 pound inertia weight. The emission package included an oxidation catalyst, air injection, and EGR of the venturi vacuum type.

4. Task 2 - Baseline Testing

The vehicle and engine were checked for normal specified settings and general operation.

Four 1975 FTP tests including evaporative emission testing and four Highway Fuel Economy tests were run. The vehicle was in the production condition with minimum accumulated miles (200 miles). The results are tabulated in Figure 1. The average results were: HC = 0.23 gram/km (0.38 gram/mile), CO = 1.6 gram/km (2.5 gram/mile), NO_X = 0.8 gram/km (1.3 gram/mile) and a fuel economy of 6.5 km/ℓ (15.2 miles/gallon). The Highway Fuel Economy Test was 9.3 km/ℓ (21.7 miles/gallon).

The 1975 FTP tests including evaporative emission testing were repeated after 4,000 miles of AMA Durability with no other changes in the vehicle. These results (Figure 2) showed an improvement in both NO_X and fuel economy. The average results were: HC = 0.33 gram/km (0.53 gram/mile), CO = 1.7 gram/km (2.6 gram/mile), NO_X = 0.7 gram/km (1.0 gram/mile), and fuel economy of 6.8 km/ℓ (16.0 mile/gallon). The Highway Fuel Economy Test was 9.6 km/ℓ (22.6 mile/gallon).

A third set of baseline data (Figure 3) was then taken with the catalyst and air pump removed. These results showed a large increase, as expected, in HC and CO. A small reduction appeared in NO_X. Fuel economy on the 1975 FTP CVS test improved slightly, while on the Highway Fuel Economy Test there was a slight decrease. The average

4. Task 2 - Baseline (continued)

results were: HC = 1.05 gram/km (1.69 gram/mile), CO = 9.8 gram/km (15.7 gram/mile), NO_X = 0.6 gram/km (0.9 gram/mile), and fuel economy of 7.2 km/ℓ (16.9 mile/gallon). The Highway Fuel Economy Test gave 9.3 km/ℓ (21.8 mile/gallon).

The fuel evaporative tests were run according to the EPA test procedure with carbon canisters and reported on Figures 1, 2, and 3.

FIGURE 1 - BASELINE DATA

Test Results on Dodge Dart Program Vehicle in "Production" Condition

Data Page Number		CO_2 gm/km (gm/mi)	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NO_x gm/km (gm/mi)	Evap.Loss gm	Fuel Econ. km/litre (mi/gal)
-	FTP (1975 Cold 3-Bag) CVS Test		.16 (.26)	1.4 (2.2)	0.9 (1.4)	1.44	6.4 (14.9)
81			.22 (.34)	1.4 (2.3)	0.8 (1.4)	1.27	6.6 (15.5)
79			.31 (.49)	1.8 (2.9)	0.8 (1.3)	1.31	6.4 (15.1)
77			.26 (.44)	1.6 (2.5)	0.7 (1.1)	1.27	6.5 (15.3)
	Average		.23 (.38)	1.6 (2.5)	0.8 (1.3)	1.32	6.5 (15.2)
-	FTP (1973 Hot 1-Bag) CVS Test*		.11 (.18)	0.5 (0.7)	0.8 (1.4)		7.0 (16.4)
82			.15 (.23)	0.6 (0.9)	0.8 (1.3)		7.0 (16.4)
80			.11 (.18)	0.2 (0.5)	0.8 (1.3)		6.6 (15.7)
78			.17 (.28)	0.6 (0.9)	0.8 (1.3)		6.7 (15.8)
	Average		.14 (.22)	0.5 (0.8)	0.8 (1.3)		6.8 (16.1)
83	Highway Fuel Economy Test	(427.4)	(0.09)	(0.14)			8.8 (20.7)
-		-------	------	------			8.8 (20.7)
85		(390.6)	(0.09)	(0.13)			9.7 (22.7)
84		(390.5)	(0.07)	(0.12)			9.7 (22.7)
	Average						9.3 (21.7)

*Run in conjunction with "Evaporative Loss" Test

FIGURE 2 - BASELINE DATA

Test Results on Dodge Dart Program Vehicle After 4,000 Mile AMA Durability in "Production" Condition

Data Page Number		CO_2 gm/km (gm/mi)	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NOX gm/km (gm/mi)	Evap. Loss gm HC	Fuel Economy km/litre (mi/gal)
68	FTP (1975 Cold - 3 Bag) CVS Test		.23 (.38)	1.6 (2.6)	0.7 (1.0)	0.97	6.4 (15.1)
65			.25 (.41)	2.0 (3.0)	0.7 (1.0)	0.92	7.0 (16.5)
63			.49 (.80)	1.5 (2.3)	0.7 (1.1)	0.97	6.7 (15.8)
61			.34 (.55)	1.5 (2.4)	0.7 (1.0)	1.05	6.9 (16.1)
60			.32 (.52)	1.8 (2.9)	0.7 (1.1)	1.02	7.0 (16.3)
	Average		.33 (.53)	1.7 (2.6)	0.7 (1.0)	0.99	6.8 (16.0)
67	FTP (1973 Hot - 1 Bag) CVS Test*		.20 (.32)	0.6 (0.9)	0.7 (1.1)		6.6 (15.7)
66			.05 (.08)	0.5 (0.7)	0.7 (1.1)		7.3 (17.2)
64			.14 (.22)	0.5 (0.8)	0.7 (1.0)		7.5 (17.6)
62			.26 (.42)	0.8 (1.4)	0.7 (1.0)		7.1 (16.9)
59			.10 (.17)	0.5 (0.8)	0.7 (1.1)		7.7 (18.0)
	Average		.15 (.24)	0.6 (0.9)	0.7 (1.1)		7.2 (17.1)
69	Highway Fuel Economy Test	(397.13)	(0.12)	(0.19)			9.5 (22.3)
70		(393.51)	(0.09)	(0.19)			9.6 (22.6)
71		(385.24)	(0.12)	(0.18)			9.8 (23.0)
	Average						9.6 (22.6)

FIGURE 3 - BASELINE DATA

Emission Test Results on Dodge Dart Program Vehicle in "Production" Condition Less Catalyst and Air Pump

Data Page Number		CO_2 gm/km (gm/mi)	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NO_X gm/km (gm/mi)	Fuel Economy km/litre (mi/gal)
54	FTP (1975 Cold - 3 Bag) CVS Test		1.03 (1.67)	9.9 (16.0)	0.7 (1.0)	7.2 (17.1)
53			1.07 (1.71)	9.9 (16.0)	0.6 (0.9)	7.1 (16.7)
52			1.05 (1.69)	9.2 (14.8)	0.6 (0.9)	7.1 (16.9)
51			1.05 (1.69)	10.1 (16.3)	0.5 (0.8)	7.2 (17.0)
	Average		1.05 (1.69)	9.8 (15.7)	0.6 (0.9)	7.2 (16.9)
58	Highway Fuel Economy Test	(383.01)	(0.92)	(7.35)		9.5 (22.3)
57		(386.69)	(0.86)	(5.90)		9.5 (22.3)
56		(401.12)	(1.03)	(8.78)		9.1 (21.2)
55		(401.73)	(0.96)	(9.31)		9.0 (21.2)
	Average					9.3 (21.8)

5. Task 3 - Engine Modification and Optimization

5.1 Engine Modifications

The dynamometer engine is a standard 1975 Chrysler 225 CID, in-line six-cylinder engine. The engine in the Dodge Dart test vehicle is of the same specifications.

This phase of the program consists of a series of dynamometer engine tests to optimize the calibration of the sonic carburetor, the EGR system, and the ignition system.

Tests were first run with a back pressure EGR system to determine the effect of back pressure on the engine and to achieve a back pressure level on the engine tests equivalent to the actual back pressures experienced in the vehicle.

5.1.1 EGR Back Pressure System

The actual back pressure EGR system selected was the 1975 Oldsmobile system. A reference schematic of the EGR system is shown in Figure 4. The system consists of the EGR valve, a control orifice, and a back pressure transducer. The transducer receives a pneumatic signal from downstream of the control orifice, compares this signal to atmospheric pressure and transmits a signal to the EGR

5.1.1. EGR Back Pressure System (continued)

valve to open or to close a flow area an amount proportional to the error in control orifice signal pressure. The operating vacuum for the transducer is supplied by a ported vacuum line from the carburetor venturi. The system meters the EGR flow rate as a function of control orifice size and back pressure level.

The EGR flow in this system approximates a fixed percentage of exhaust airflow, but varies from this fixed percentage somewhat due to the back pressure transducer spring effect and the EGR valve spring effect.

The 225 CID engine with this EGR back pressure system was installed on a dynamometer. Data was taken at various constant load conditions for each EGR control orifice area. Figure 5 shows that for large orifice areas and high engine loads the % EGR is limited. This is because it requires 85 mm Hg. (3.35"Hg) to open the EGR valve against the spring load. Therefore, anytime the vacuum source drops below the required value to operate the EGR valve, the % EGR reduces as the EGR valve tends to close. This system was used for all dynamometer data.

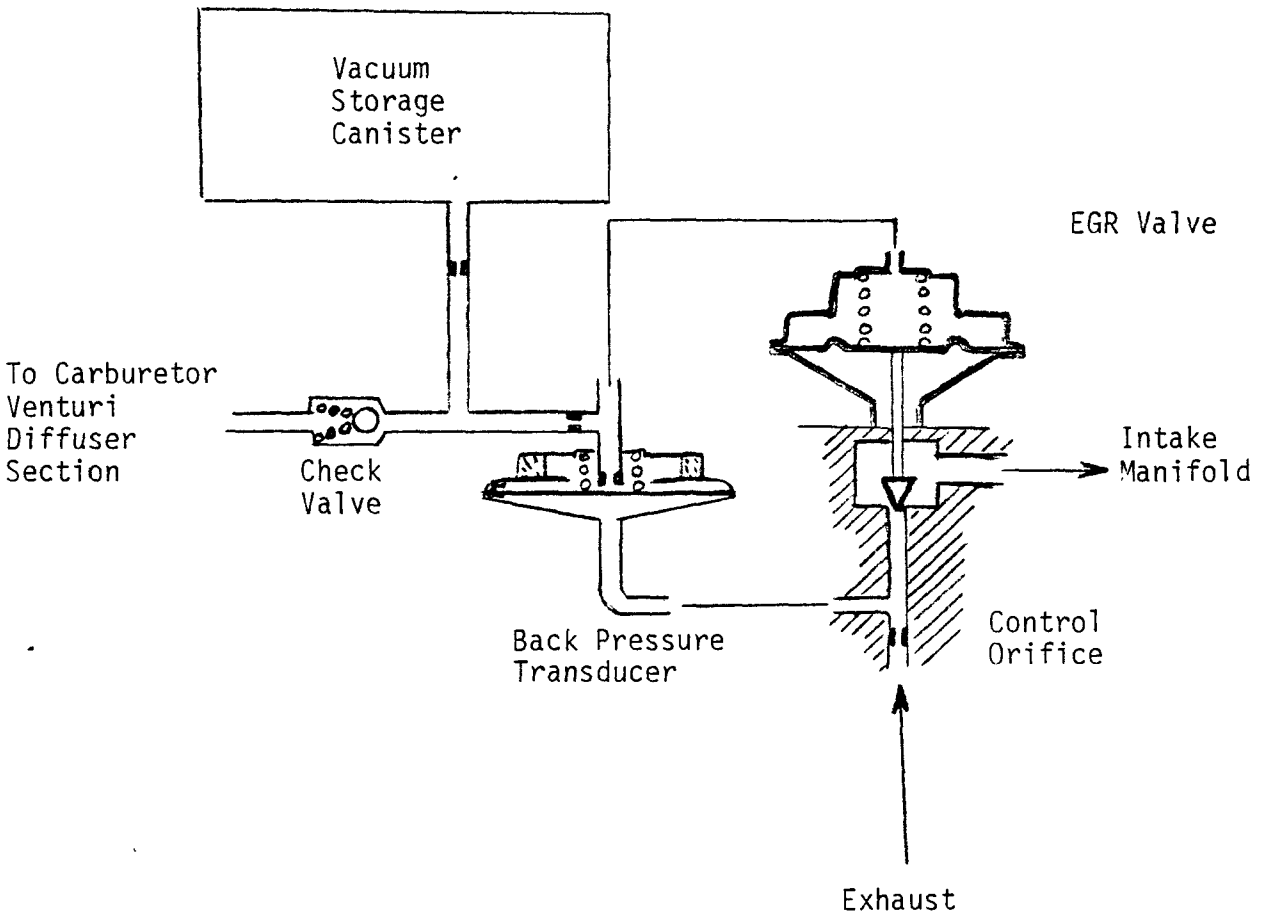
During the vehicle testing phase, a different EGR valve with a lower spring load which opened at 38 mm Hg. (1 1/2"Hg)

5.1.1. EGR Back Pressure System (continued)

was procured. This EGR valve with the lower spring load was used on the reported vehicle testing. A vacuum storage canister, a restriction and a check valve were added to the EGR system to insure that the working vacuum was maintained during transients. This higher working vacuum is sufficient to operate the EGR valve during most engine accelerations. During engine steady-state operation, the EGR system works in a normal manner. It is during this steady-state operating time when there is sufficient vacuum available to operate the EGR valve that the vacuum storage canister is being evacuated.

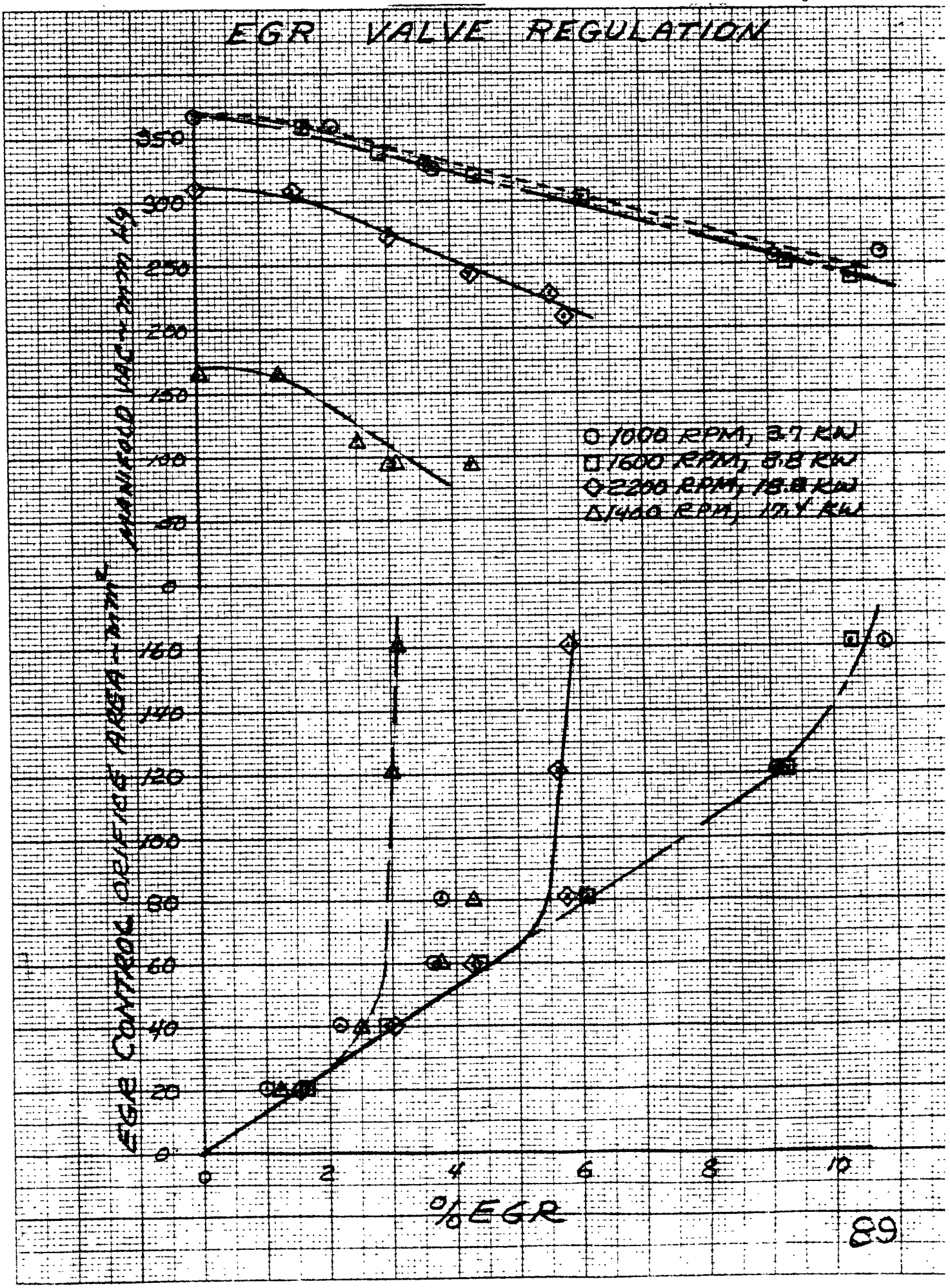
It should be noted that measurement of the EGR rate is determined from intake and exhaust gas samples under steady state conditions and, therefore, the dynamometer data is independent of the actual EGR system used.

Figure 4



Reference Schematic

Back Pressure EGR System


EGR VALVE REGULATION
EGR Control Vacuum Required, mm Hg
350
300
250
200
150
100
50
0
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
% EGR
○ 1000 RPM, 3.7 KW
□ 1600 RPM, 8.8 KW
◇ 2200 RPM, 13.8 KW
△ 1400 RPM, 17.7 KW

5.1.2 Sonic Carburetor

The sonic carburetor used in this evaluation was designed by Holley Carburetor Advanced Systems Research specifically for experimental use on the Chrysler 225 CID six-cylinder engine. Basic data for the design of critical elements was provided by Dresser Industries.

Functionally, this carburetor is shown in block diagram form in Figure 6; however, the following work description will help clarify the functions.

The air section is based on the Dresser Industries Model III variable area venturi. The venturi throat is rectangular in cross-section with one dimension of the throat fixed and the other variable with throttle position. The movable surface and the side opposite are essentially flat surfaces. A contoured shape is designed into the remaining two surfaces to form a venturi. In this design, there is a constant ratio of throat area to inlet area over the complete operating range.

The fuel metering and distribution bar, located upstream of the venturi throat, has tapered fuel metering slots that also aid fuel distribution and fuel atomization in the venturi air section. The fuel bar is attached to the movable venturi section such that travel of the fuel bar is identical to the travel of

5.1.2. Sonic Carburetor continued

the movable venturi section. The fuel slots are tapered in the fuel bar such that the fuel metering area is proportional to the venturi throat area.

The air velocity at the venturi throat is sonic for all inlet manifold vacuum pressures in excess of approximately five inches of mercury.

The variable area entrance to the venturi is designed such that the velocity at any point in the entrance is a fixed percentage of the velocity at the venturi throat. The fuel bar is located a fixed distance upstream of the venturi throat to give ample velocity over the fuel bar to provide good distribution and small fuel particle size. Further reduction in fuel particle size occurs as the mixture of air and fuel pass through the shock waves associated with supersonic and subsonic velocities as they occur in the diffuser section of the venturi.

The total pressure differential that is available for fuel metering is the pressure from the float bowl to the venturi vacuum at the fuel bar. An airflow bleed network is used with both fixed and variable restrictions to use the correct percentage of this available pressure differential for fuel metering.

5.1.2. Sonic Carburetor (continued)

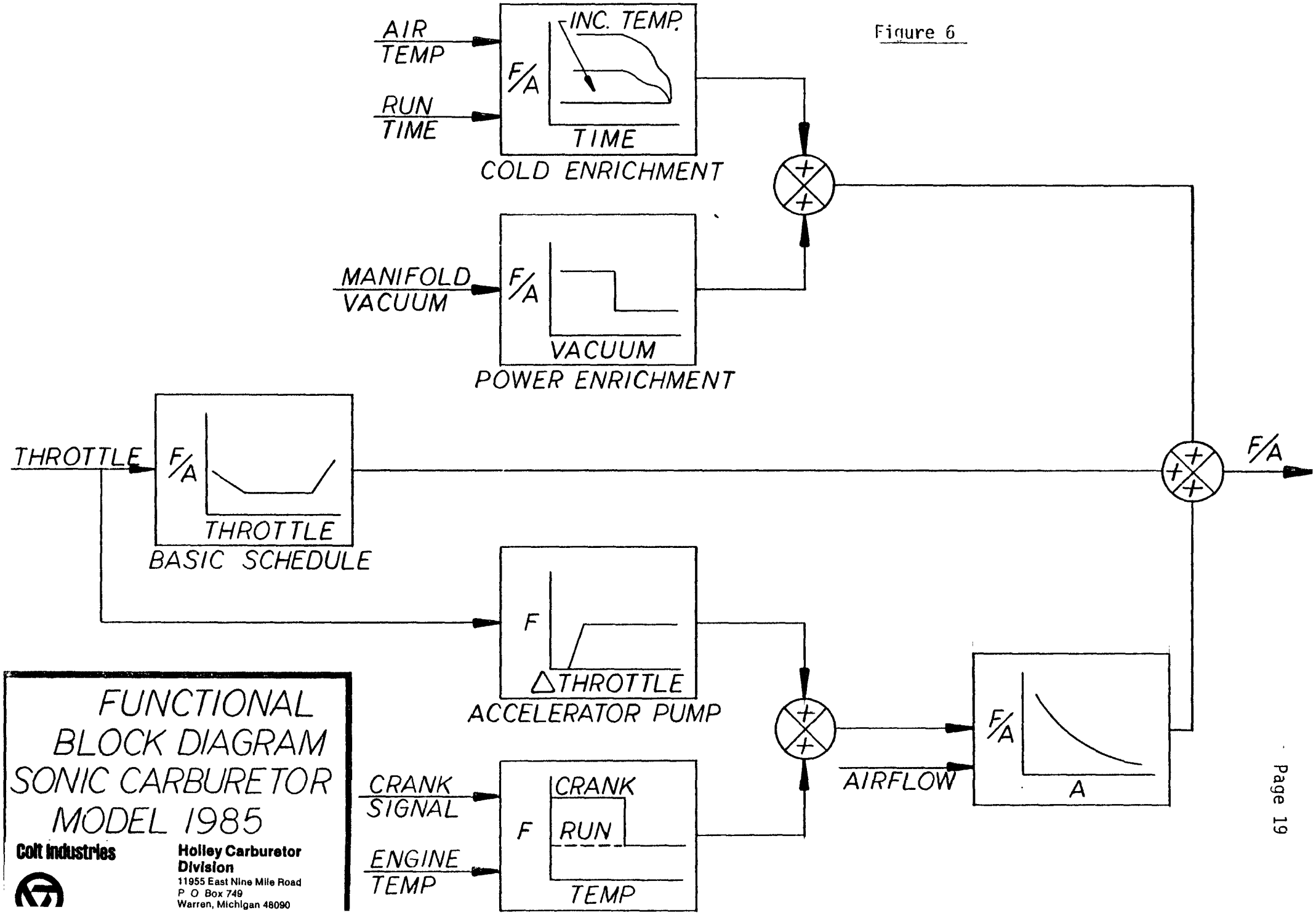
Cold enrichment is achieved through the use of a carburetor electric choke mechanism to control the fuel metering pressure differential as a percentage of the total available pressure differential. This cold enrichment fuel/air ratio is thus metered as a function of engine compartment temperature and time from engine start.

The cold crank fuel is supplied when the engine is cold during crank cycle only. Also, to avoid fuel flooding, the crank fuel can be shut off during the cold crank by selecting wide-open throttle position.

A conventional carburetor acceleration fuel pump delivers fuel in proportion to a change in throttle position. This fuel is injected into the airsteam upstream of the fuel bar.

Power enrichment is achieved by sensing manifold vacuum and increasing the fuel/air ratio for low manifold vacuum. This is accomplished by increasing the fuel metering pressure differential from the normal part throttle metering level as a function of manifold vacuum. Power enrichment also occurs near wide-open throttle by the contour on the fuel bar.

Figure 6



FUNCTIONAL BLOCK DIAGRAM SONIC CARBURETOR MODEL 1985

Colt Industries

Holley Carburetor Division
11955 East Nine Mile Road
P O Box 749
Warren, Michigan 48090

5.1.3. Ignition System

The sonic carburetor was tested with both the baseline ignition system and a special high energy ignition system. The baseline ignition system is the OEM standard equipment for the 1975 Dodge Dart 225 CID engine.

A complete high-energy ignition system that could be installed on the 225 CID engine was not available. A Delco Remy high energy coil and electronic control module were used. A Chrysler pulse generator was used to trigger the electronic control module. The baseline distributor was used in conjunction with OEM spark plugs of increased spark gap.

5.2. Optimization

The purpose of the optimization study was to establish the effect of control parameters on the emissions produced by an engine operating with a sonic carburetor. The optimization study was conducted on a stationary dynamometer with a 225 CID Chrysler six-cylinder engine similar to the one in the vehicle. These data were then used to determine the engine control configurations for vehicle testing.

The parameters controlled were: spark timing, F/A ratio, % EGR and valve timing by means of valve lash. The effect of the varied parameter was measured in terms of cylinder-to-cylinder variations and average BSHC, BSNO, and BSFC.

To establish an initial baseline, the engine was run in a production configuration which included a conventional fixed venturi carburetor. Also, the dynamometer engine's exhaust restriction was configured to approximate the 1975 California car exhaust.

5.2.1. Wide Open Throttle Evaluation

Figure 8 shows a baseline WOT power run with a production Model 1945 carburetor using the production spark advance curve in a standard distributor. The second set of curves shown in Figure 8 is the Model 1985 sonic carburetor using the flow stand WOT fuel curve (Figure 11) and production spark advance. The increase in brake power and torque with the sonic carburetor is the result of the sonic carburetor having, by design, approximately ten percent greater airflow capacity at 50 mm Hg. than the Model 1945 production carburetor. The third set of curves shows the Model 1985 sonic carburetor with LBT fuel and MBT spark advance. Again, the increase in brake power and torque will be significant only if the octane requirements and exhaust emissions of the vehicle permit the use of this much spark advance and this much WOT fuel.

Figure 9 shows the torque curves for various distributor settings with the sonic carburetor. The numbers in parenthesis are the degrees of spark advance (BTC) at the maximum torque point for each speed. From this data, the MBT mechanical and vacuum advance curve, shown on Figure 7, was plotted. This advance curve was incorporated in the distributor for the program vehicle and represents a nominal additional advance of 2.5 degrees.

5.2.1. Wide Open Throttle Evaluation (continued)

Figure 10 shows the torque curves for various fuel settings with the sonic carburetor at MBT spark advance. The numbers in parenthesis are the fuel flows at the maximum torque point for each speed.

Figure 7

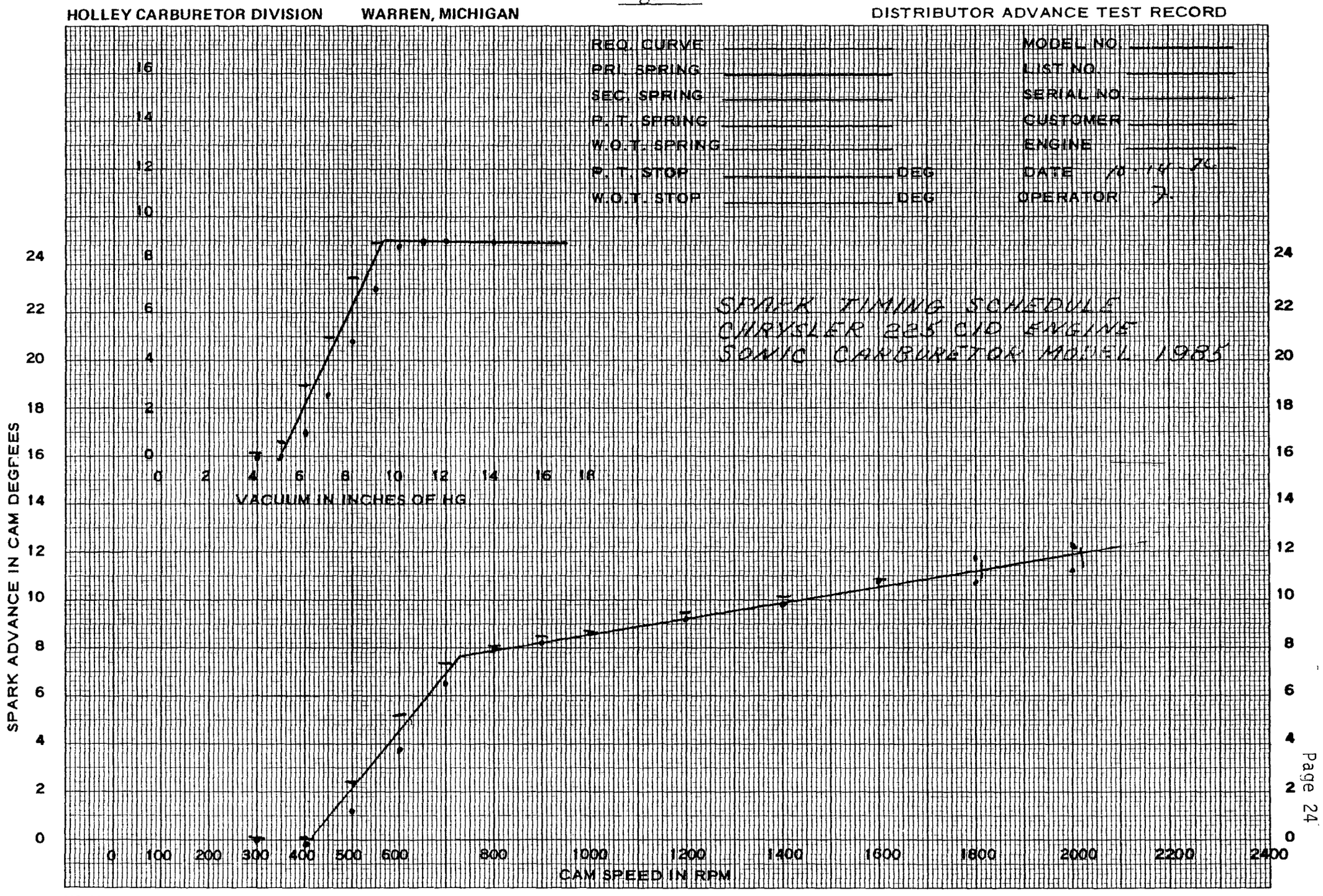
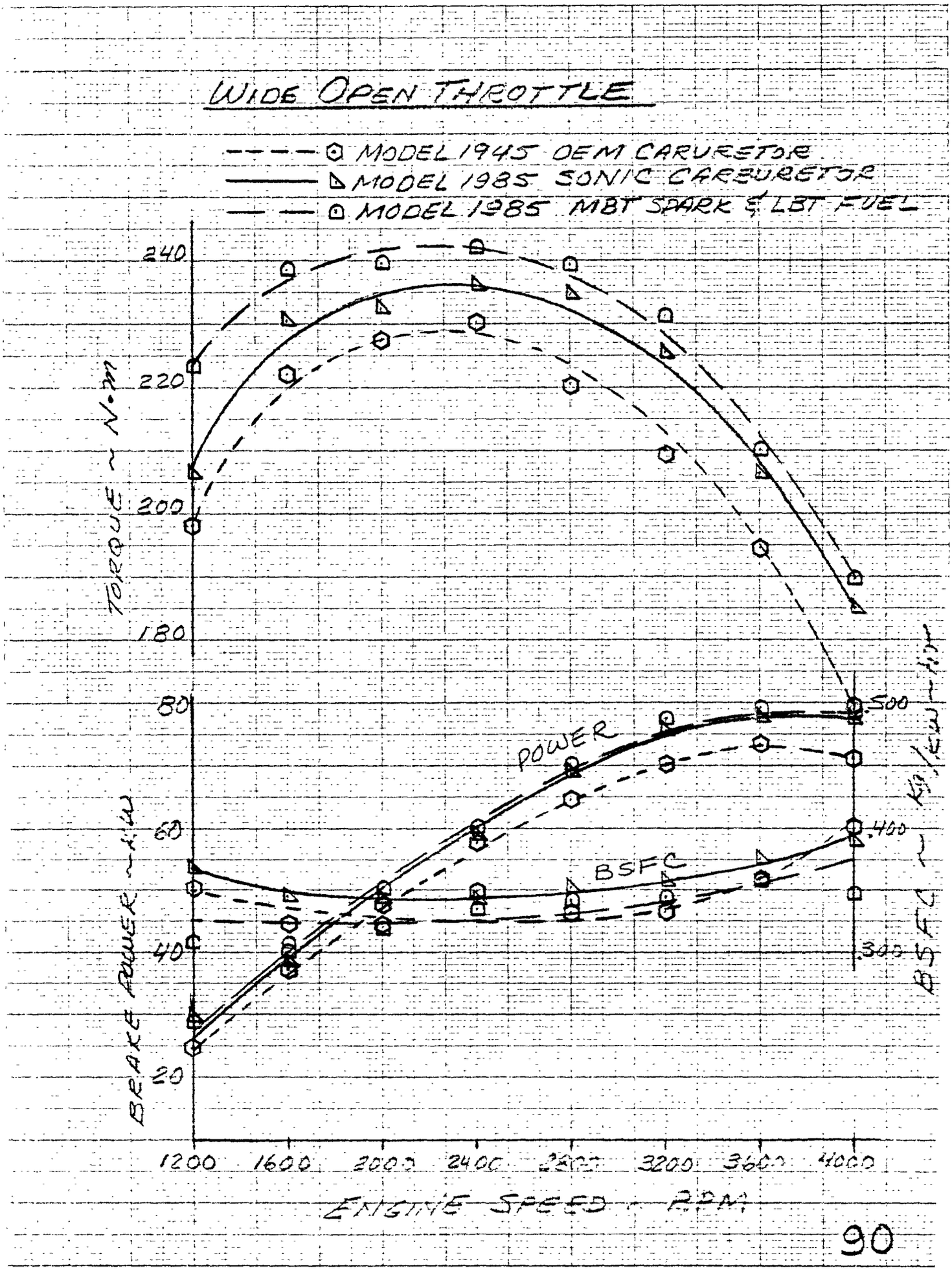
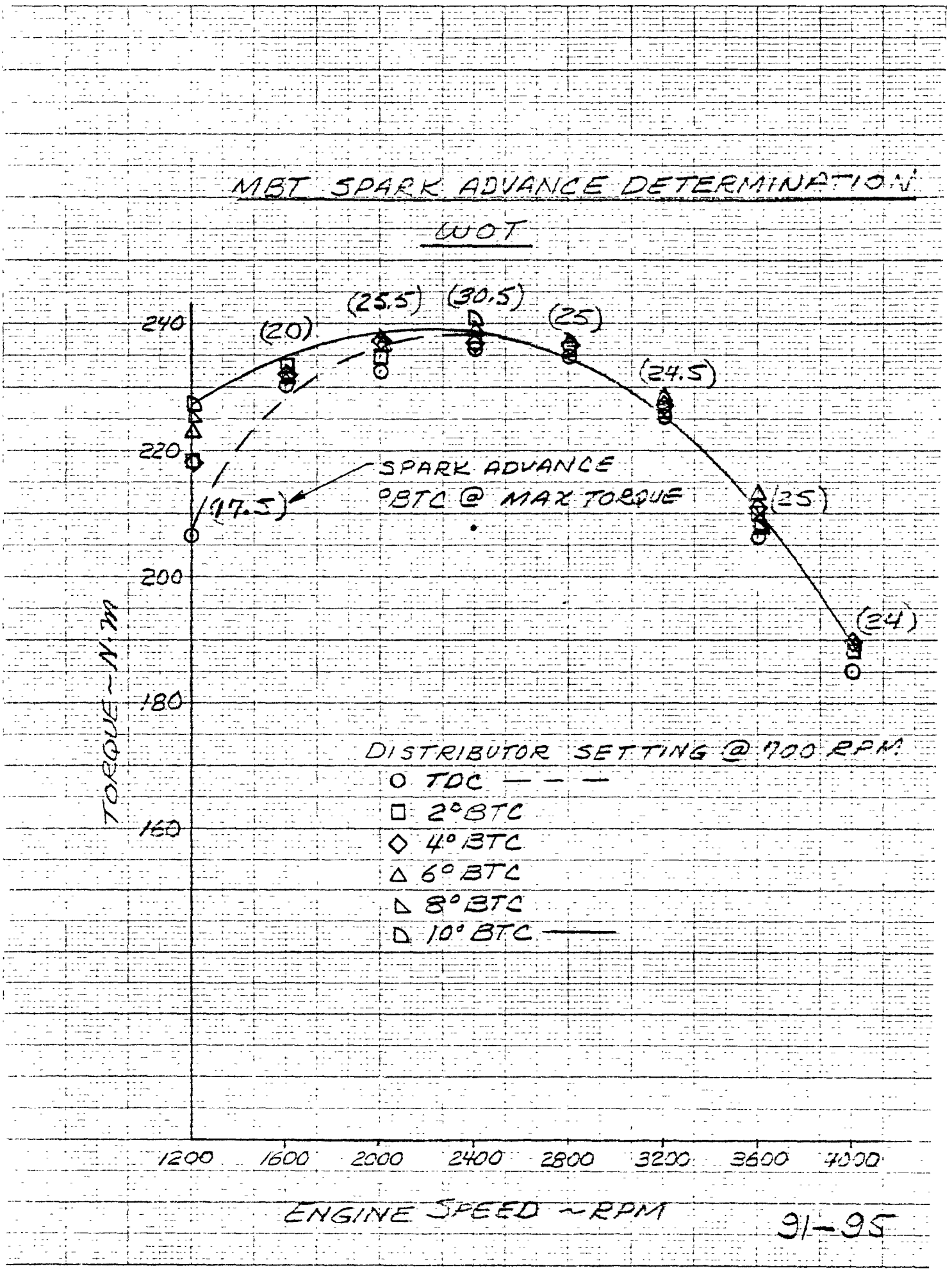
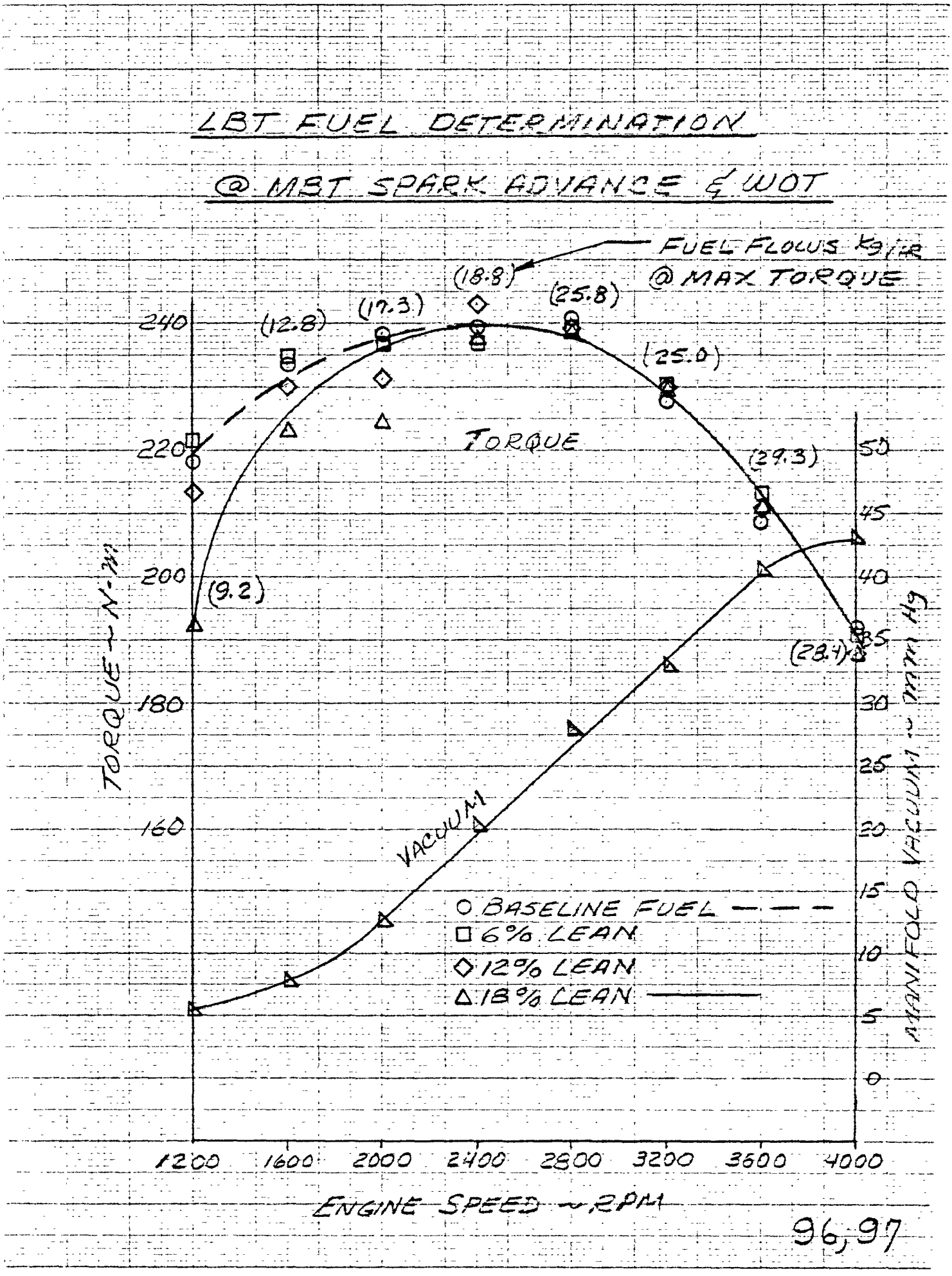

HOLLEY CARBURETOR DIVISION WARREN, MICHIGAN
DISTRIBUTOR ADVANCE TEST RECORD
REQ. CURVE
PRI. SPRING
SEC. SPRING
P. T. SPRING
W.O.T. SPRING
P. T. STOP DEG
W.O.T. STOP DEG
MODEL NO.
LIST NO.
SERIAL NO.
CUSTOMER
ENGINE
DATE 10-16-76
OPERATOR J.
SPARK TIMING SCHEDULE
CHRYSLER 225 CID ENGINE
SONIC CARBURETOR MODEL 1985
SPARK ADVANCE IN CAM DEGREES
VACUUM IN INCHES OF HG
CAM SPEED IN RPM
0 2 4 6 8 10 12 14 16 18
0 100 200 300 400 500 600 800 1000 1200 1400 1600 1800 2000 2200 2400
0 2 4 6 8 10 12 14 16 18 20 22 24

Figure 8


WIDE OPEN THROTTLE
MODEL 1945 OEM CARBURETOR
MODEL 1985 SONIC CARBURETOR
MODEL 1985 MBT SPARK & LBT FUEL
TORQUE ~ N·m
240
220
200
180
BRAKE POWER ~ kW
80
60
40
20
POWER
BSFC
500
400
300
BSFC ~ g/kW·h
1200
1600
2000
2400
2800
3200
3600
4000
ENGINE SPEED - RPM


MBT SPARK ADVANCE DETERMINATION
WOT
240
220
200
180
160
TORQUE - N.m
(20)
(25.5)
(30.5)
(25)
(24.5)
(25)
(24)
(17.5)
SPARK ADVANCE
°BTC @ MAX TORQUE
DISTRIBUTOR SETTING @ 1700 RPM
TDC
2°BTC
4°BTC
6°BTC
8°BTC
10°BTC
1200
1600
2000
2400
2800
3200
3600
4000
ENGINE SPEED - RPM

91-95


LBT FUEL DETERMINATION
@ MBT SPARK ADVANCE & WOT
FUEL FLOWS kg/hr @ MAX TORQUE
(18.8)
(25.8)
(17.3)
(12.8)
(25.0)
(29.3)
(9.2)
(28.4)
TORQUE
TORQUE - N·m
MANIFOLD VACUUM - mm Hg
VACUUM
BASELINE FUEL
6% LEAN
12% LEAN
18% LEAN
240
220
200
180
160
50
45
40
35
30
25
20
15
10
5
0
1200
1600
2000
2400
2800
3200
3600
4000
ENGINE SPEED - RPM
96,97

5.2.2. Fuel Distribution

Figures 11 and 12 show the WOT fuel distribution for the Model 1945 and the sonic Model 1985 carburetors respectively. The WOT conditions represents the worst case of fuel distribution for the Model 1985 carburetor since the venturi throat is at the lowest level of subsonic air velocities.

Figure 13 shows the part throttle fuel distribution for the sonic carburetor at various venturi plate openings with no EGR. "Venturi plate opening" was used as the variable because "throttle opening" is the variable that determines the part throttle fuel distribution with a conventional carburetor. Note that three points were sonic flow (the airflow goes subsonic somewhere between 100 and 150 mm Hg manifold vacuum). The dynamometer was loaded at the larger plate openings to limit the engine speed to 2800 RPM. It is concluded from this data that good fuel distribution throughout the range of venturi plate openings is achieved under the conditions of sonic, as well as subsonic carburetor airflow.

Figure 14 shows the effect of various F/A mixtures (as computed from net O_2) on fuel distribution at a constant engine speed and load. This point, 1400 RPM, 120 N·m torque, represents a moderate acceleration on the vehicle.

5.2.2. Fuel Distribution (continued)

Fuel distribution is unaffected by F/A ratios of .067 (14.9 A/F) to practically .050 (20 A/F). It should be noted that in order to maintain 1400 RPM and 120 N·m torque, substantial increases in airflow (venturi plate opening) are required at the low F/A ratios. For a nominal decrease in F/A ratio from .053 to .050 manifold vacuum dropped from 165 to 10 mm Hg, which is insufficient to maintain sonic flow in the carburetor venturi.

Figure 15 shows the effect of EGR on fuel distribution for a constant F/A mixture, engine speed and load. It shows that EGR is not detrimental to fuel distribution and the amount of EGR has little bearing on fuel distribution.

Figure 11

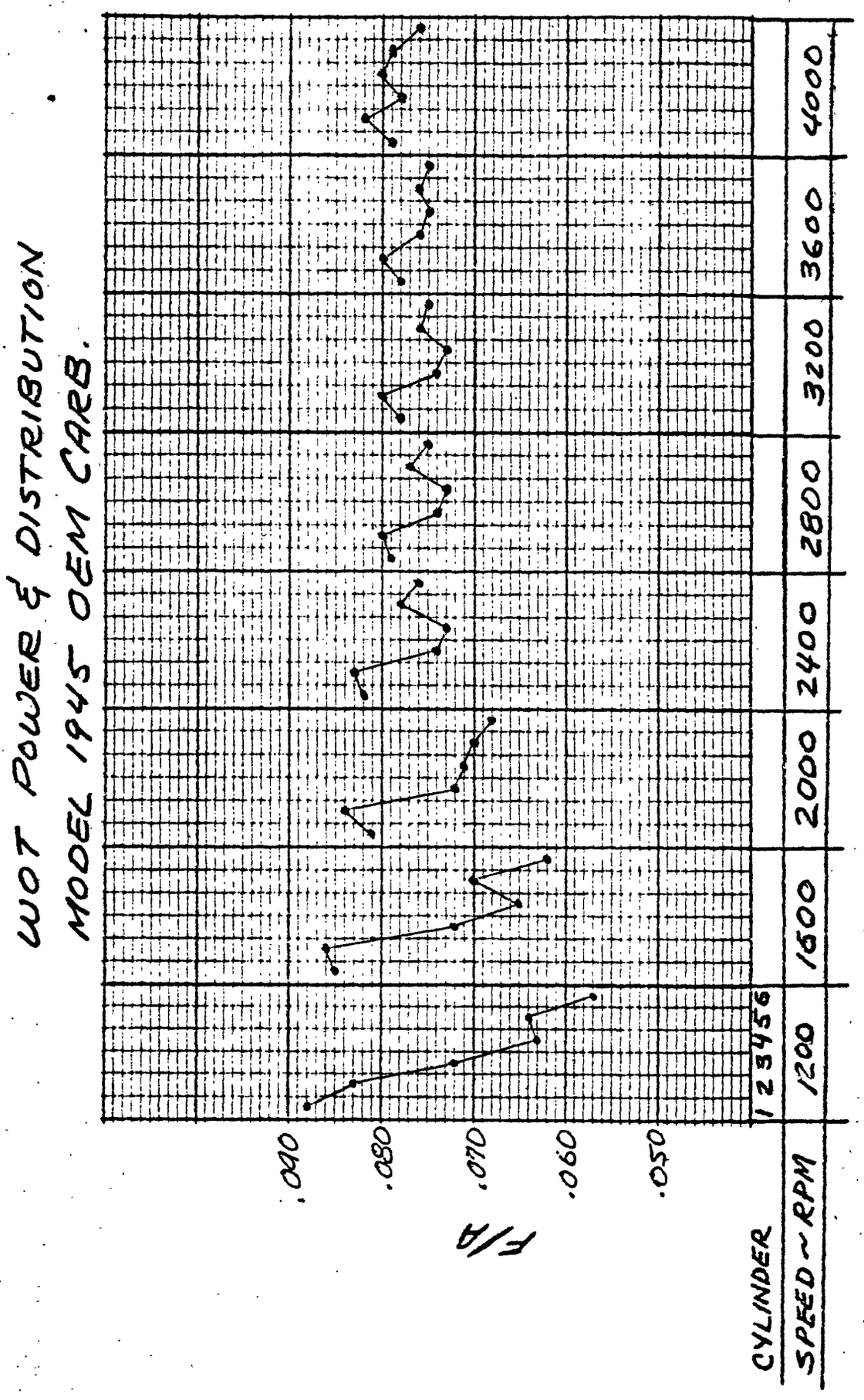

WOT POWER & DISTRIBUTION
MODEL 1945 OEM CARB.
F/A
.040
.050
.060
.070
.080
CYLINDER
1 2 3 4 5 6
SPEED ~ RPM
1200
1600
2000
2400
2800
3200
3600
4000

Figure 12

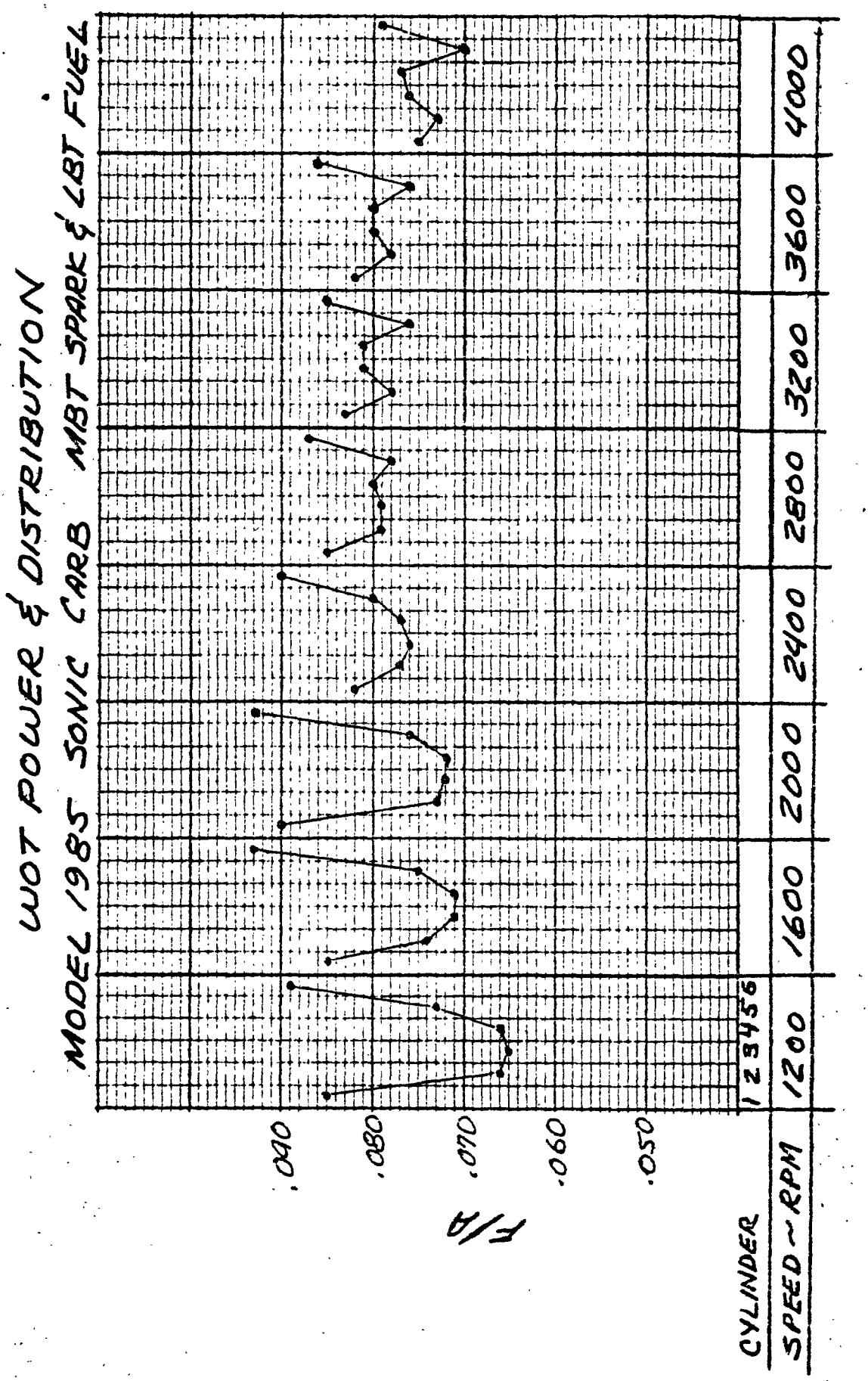

WOT POWER & DISTRIBUTION
MODEL 1985 SONIC CARB MBT SPARK & LBT FUEL
F/A
.090
.080
.070
.060
.050
CYLINDER
1 2 3 4 5 6
SPEED ~ RPM
1200
1600
2000
2400
2800
3200
3600
4000

Figure 13

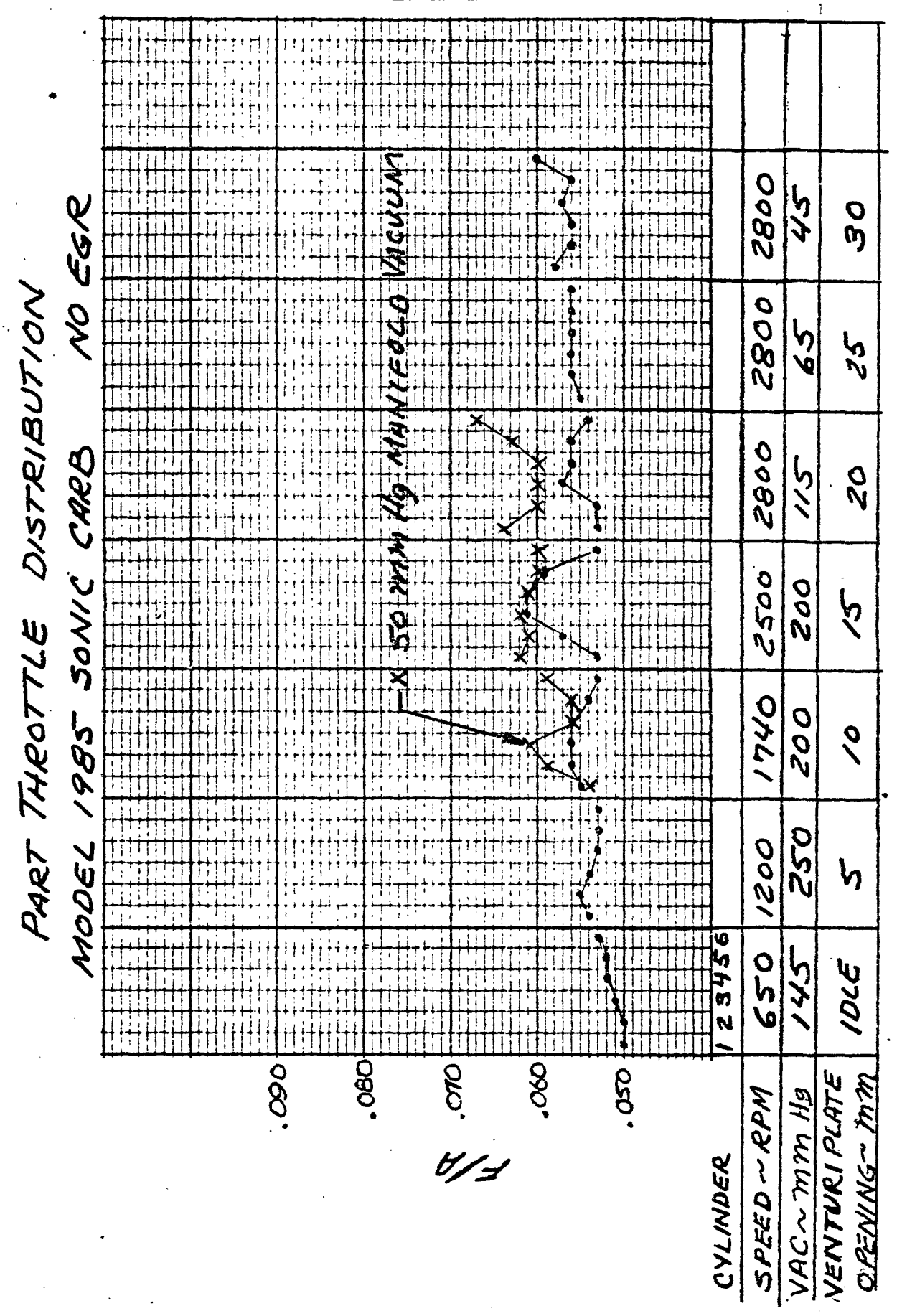

PART THROTTLE DISTRIBUTION
MODEL 1985 SONIC CARB NO EGR
50 mm Hg MANIFOLD VACUUM
F/A
.090
.080
.070
.060
.050
CYLINDER 1 2 3 4 5 6
SPEED ~ RPM 650 1200 1740 2500 2800 2800
VAC ~ mm Hg 145 250 200 200 115 65 45
VENTURI PLATE OPENING ~ mm IDLE 5 10 15 20 25 30

Figure 14

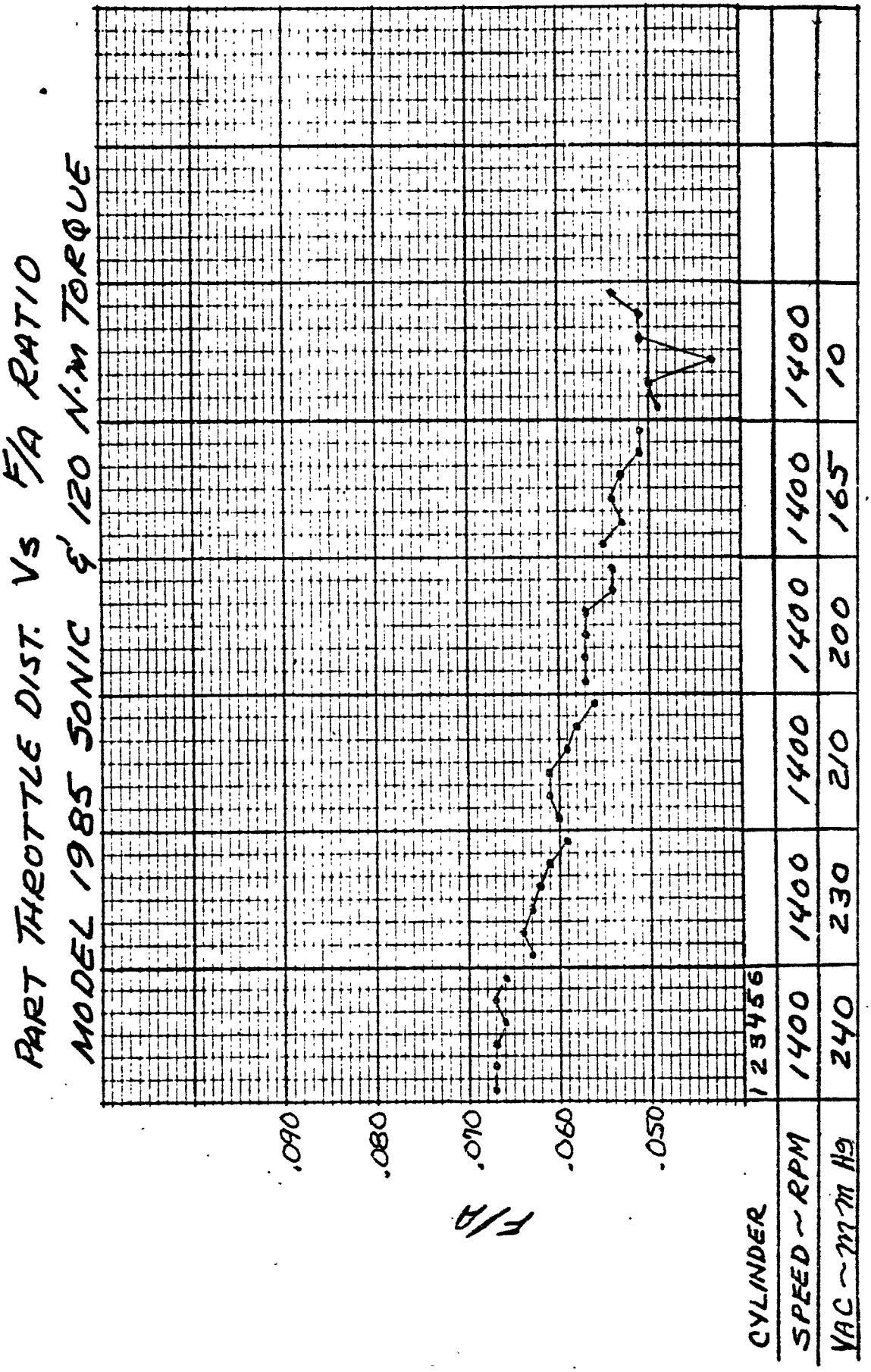
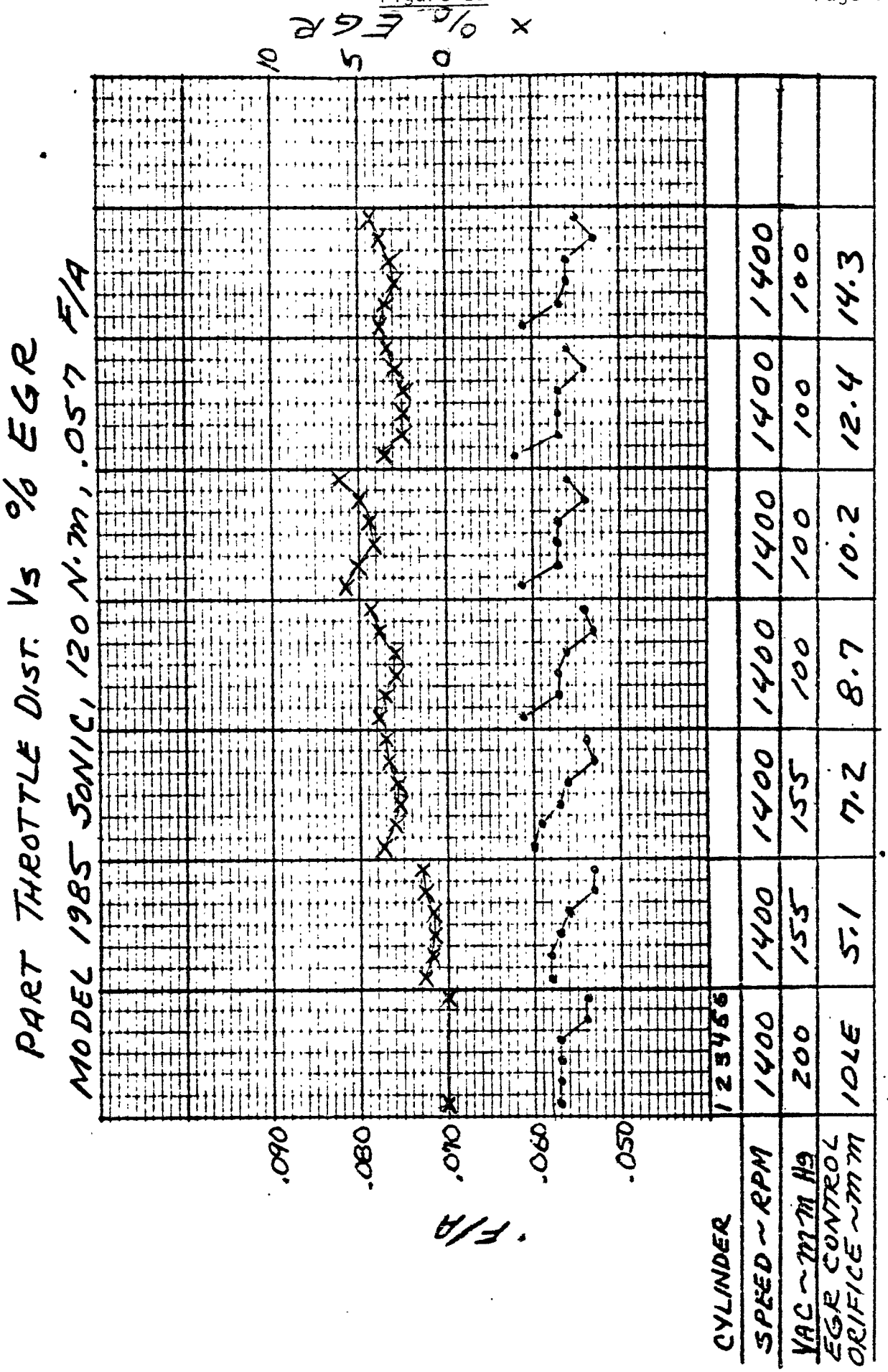

PART THROTTLE DIST. Vs F/A RATIO
MODEL 1985 SONIC @ 120 N·M TORQUE
F/A
.090
.080
.070
.060
.050
CYLINDER 123456
SPEED ~ RPM 1400 1400 1400 1400 1400 1400
VAC ~ mm Hg 240 230 210 200 185 10

Figure 15


PART THROTTLE DIST. VS % EGR
MODEL 1985 SONIC, 120 N·m, .057 F/A
% EGR
10
5
0
F/A
.090
.080
.070
.060
.050
CYLINDER 1 2 3 4 5 6
SPEED ~ RPM 1400 1400 1400 1400 1400 1400
VAC ~ mm Hg 200 155 155 100 100 100
EGR CONTROL ORIFICE ~ mm IDLE 5.1 7.2 8.7 10.2 12.4 14.3

5.2.3. Economy and Emissions

5.2.3.1. A/F Ratio Effect

Figure 16 shows the effect of the sonic carburetor's A/F mixture on BSHC, BSNO and BSFC at a constant engine speed (1400 RPM) and load (18 kw) that corresponds to a moderate acceleration. The effect of spark advance is also shown on this curve. 18^{o} BTC corresponds to a typical centrifugal spark advance, while 34^{o} BTC corresponds to a MBT spark advance that might be achieved with both centrifugal and vacuum advance.

The general trends are similar to those documented for other Otto cycle engines. BSNO with MBT spark advance peaks near an A/F of 16 and decreases as the A/F is made progressively leaner. Retarding the spark reduces the BSNO level and shifts the peak to slightly richer A/F ratios. BSHC begins turning up at an A/F of 17.5 and is only slightly affected by retarding the spark. BSFC with MBT varies only slightly over the A/F ratio range of 15 to 18.5. Retarding the spark has the expected adverse effect on BSFC which becomes more pronounced at leaner A/F ratios.

5.2.3.2. EGR Effect

An A/F ratio of 17.5 was selected to evaluate the effect of EGR on emissions and economy. This A/F ratio is rich

5.2.3.2. EGR Effect (continued)

enough to insure that the effect of EGR on HC emission turn up can be separated from that of lean mixtures. Figure 17 shows the effect of EGR on BSHC, BSNO and BSFC using the production distributor with and without vacuum spark advance. The condition of retarded spark is clearly undesirable. Although there is substantial reduction in BSNO, BSHC control with increasing EGR rates is practically nonexistent and the BSFC penalty is over 20%.

To fully evaluate the effect of the EGR control system, several dynamometer speed and load points that simulate vehicle operating conditions were studied. 1000 RPM, 3.7 kw; 1600 RPM, 8.8 kw; and 2200 RPM, 18.8 kw; correspond to vehicle road load cruising speeds of 30, 65, and 95 km/hr respectively. 1400 RPM, 17.4 kw corresponds to moderate acceleration. BSNO, BSHC and BSFC as a function of % EGR for these conditions are shown in Figure 18. Figure 19 shows the effect of manifold vacuum and EGR control orifice size on the % EGR obtainable under the same conditions. Since the back pressure EGR control system's (described elsewhere) modulation is dependent upon not only the control orifice size, but also the series restriction of the EGR valve itself, low EGR valve vacuums limit the % EGR obtainable. This effect is readily seen in Figures 18 and 19, where manifold vacuum is used as the EGR valve

5.2.3.2. EGR Effect (continued)

controls vacuum. Use of the vacuum signal from the throat of the sonic carburetor to operate the EGR valve was also explored. The signal from the throat is about 450 mm Hg for sonic flow conditions and approximately two times manifold vacuum for subsonic flow. EGR rate increased 25% with this venturi signal as can be seen by comparing the maximum EGR rate at 1400 RPM of Figure 19 with Figure 20.

It should be noted that the EGR rate is determined (as shown in the sample calculation section of this report) from intake and exhaust gas samples under steady state conditions and is, therefore, independent of the actual EGR system used.

Again, referring to Figure 18, the region between 4% and 6% EGR is most desirable for operation. BSNO increases rapidly at lower EGR rates, while BSHC increases rapidly at higher EGR rates. Cruise operation within this region can be insured by using an 80 mm^2 (10.1 mm diameter) EGR control orifice area and manifold vacuum to control the EGR valve.

5.2.3.3. Increased Valve Overlap Effect

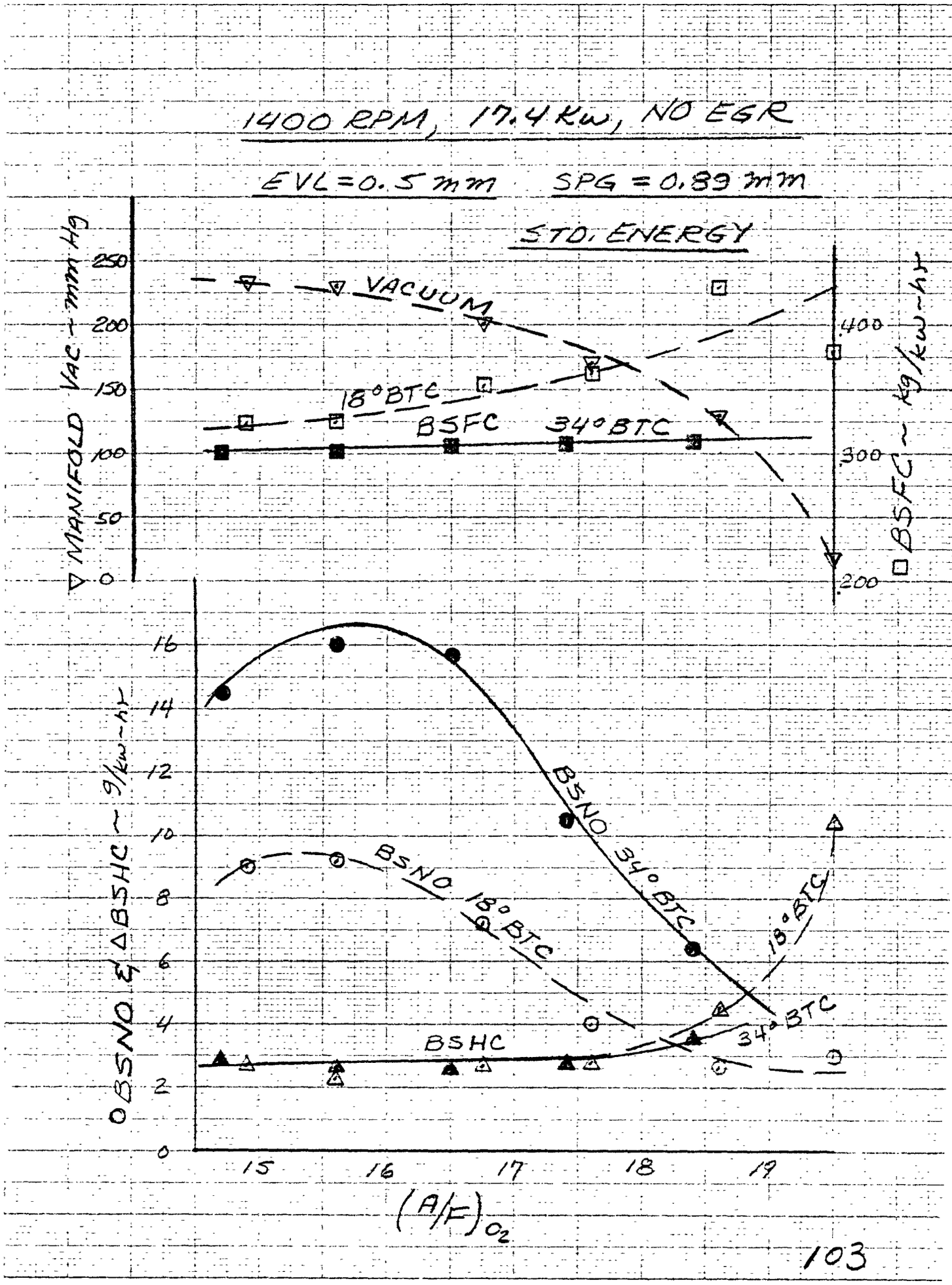
Valve overlap was increased by reducing the exhaust lash (EVL) from 0.5 mm to 0.25 mm. As can be seen by comparing Figure 21 to Figure 16, there is a substantial reduction in BSNO with little or no loss of BSHC or BSFC. However,

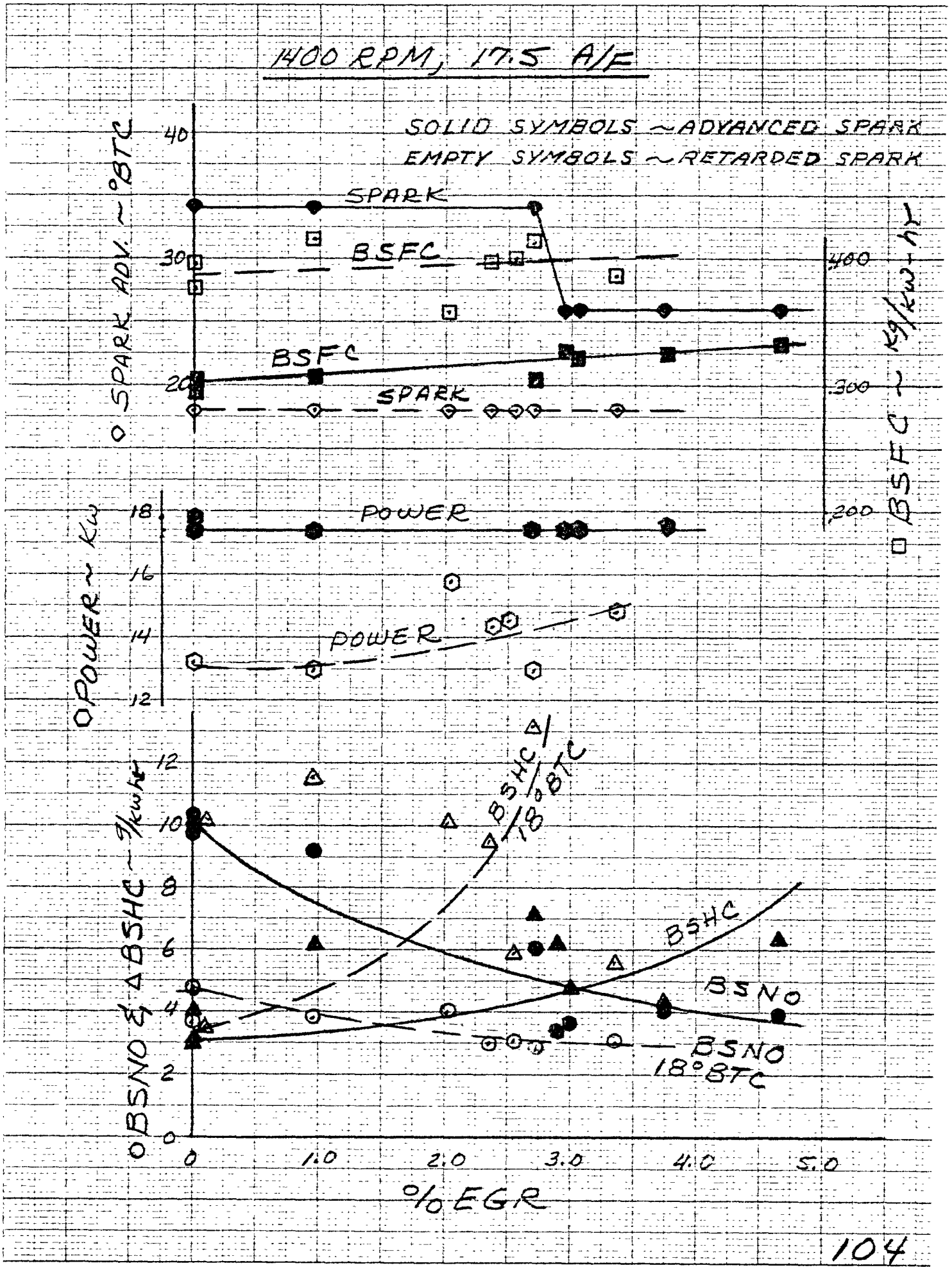
5.2.3.3. Increased Valve Overlap Effect (continued)

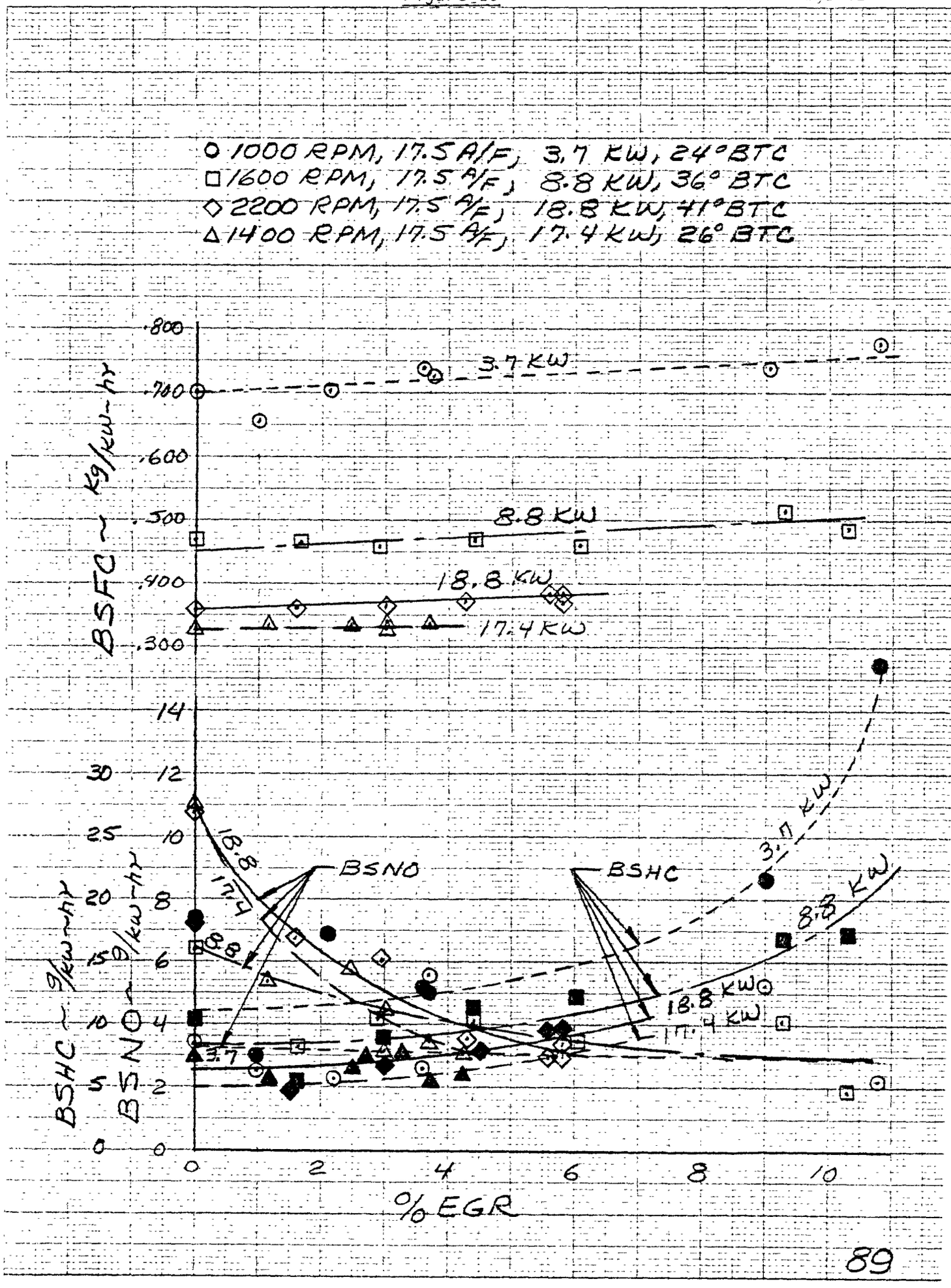
this reduced lash may not be realizable in a production engine because of required tolerances and thermal growth of engine parts.

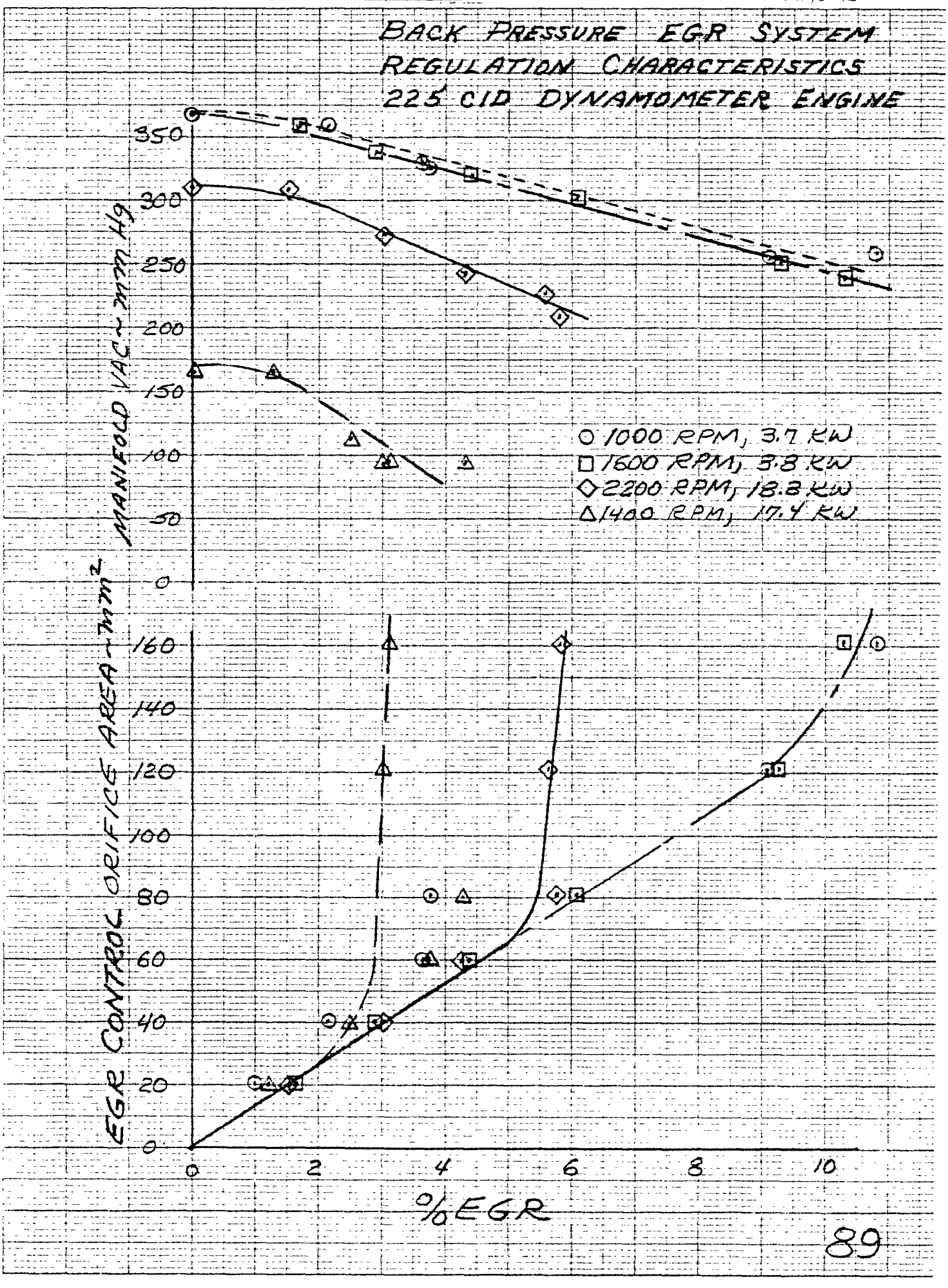
5.2.3.4. High Energy Ignition and Spark Plug Gap Effect

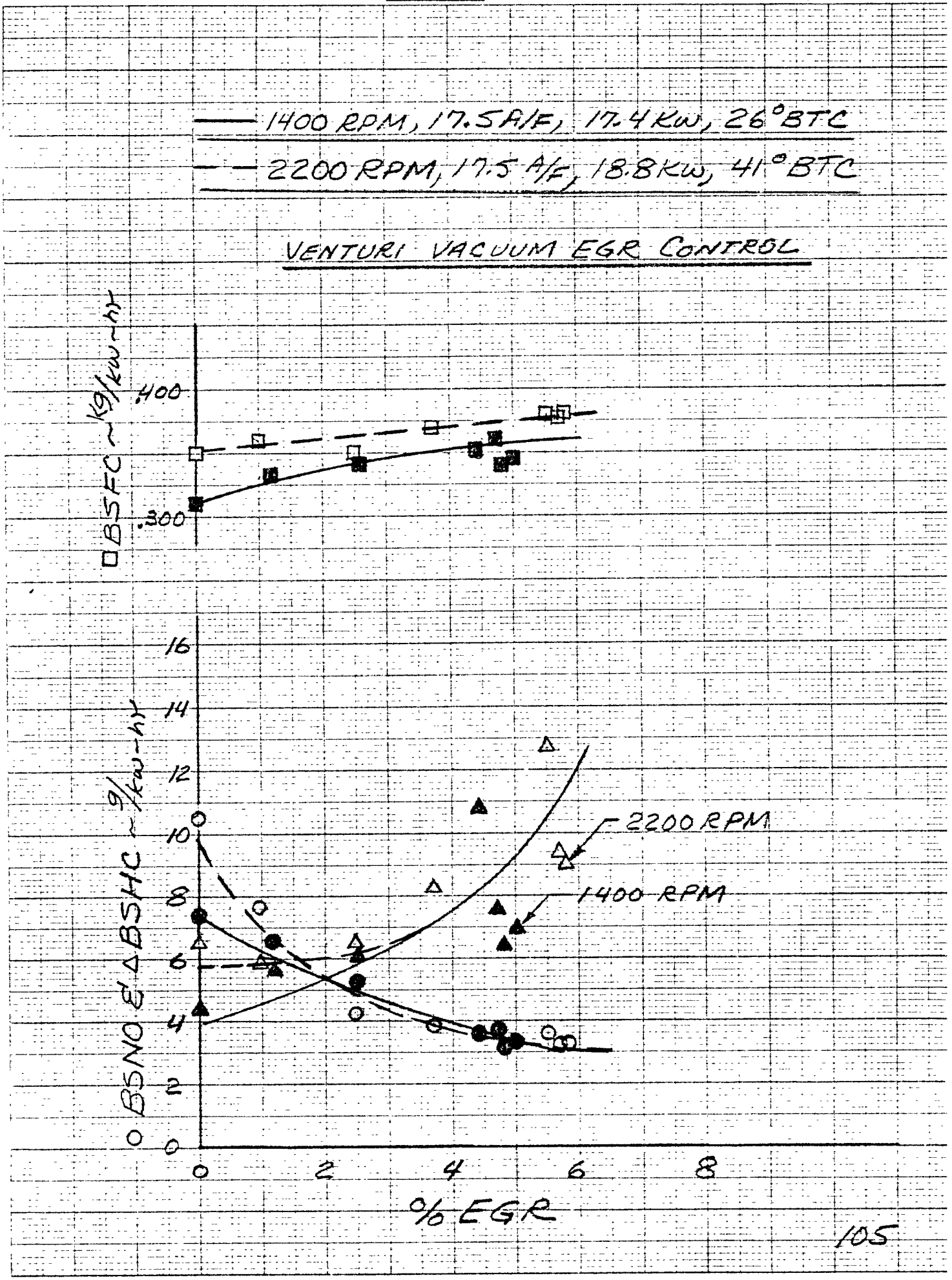
The effect of increasing the spark plug gap (SPG) from 0.89 mm to 1.40 mm with standard energy ignition can be seen by comparing Figures 21 and 22. The larger gap has slightly increased BSNO, but slightly lower BSHC. There is essentially no change in BSFC. Figure 23 shows that there is no change in BSNO, BSHC or BSFC, when high energy ignition is substituted for standard ignition at the 1.40 mm spark plug gap. When the gap is increased to 1.78 mm with the high energy ignition, Figure 24 shows that there is some increase in BSNO and BSFC at the leaner A/F ratios. A direct comparison of standard energy with standard spark gap, Figure 21, to high energy with wide spark gap, Figure 24, shows that the standard energy configuration yields the better compromise of BSNO and BSFC; although the high energy configuration does extend operation to leaner A/F ratios as evidenced by the BSHC curve.

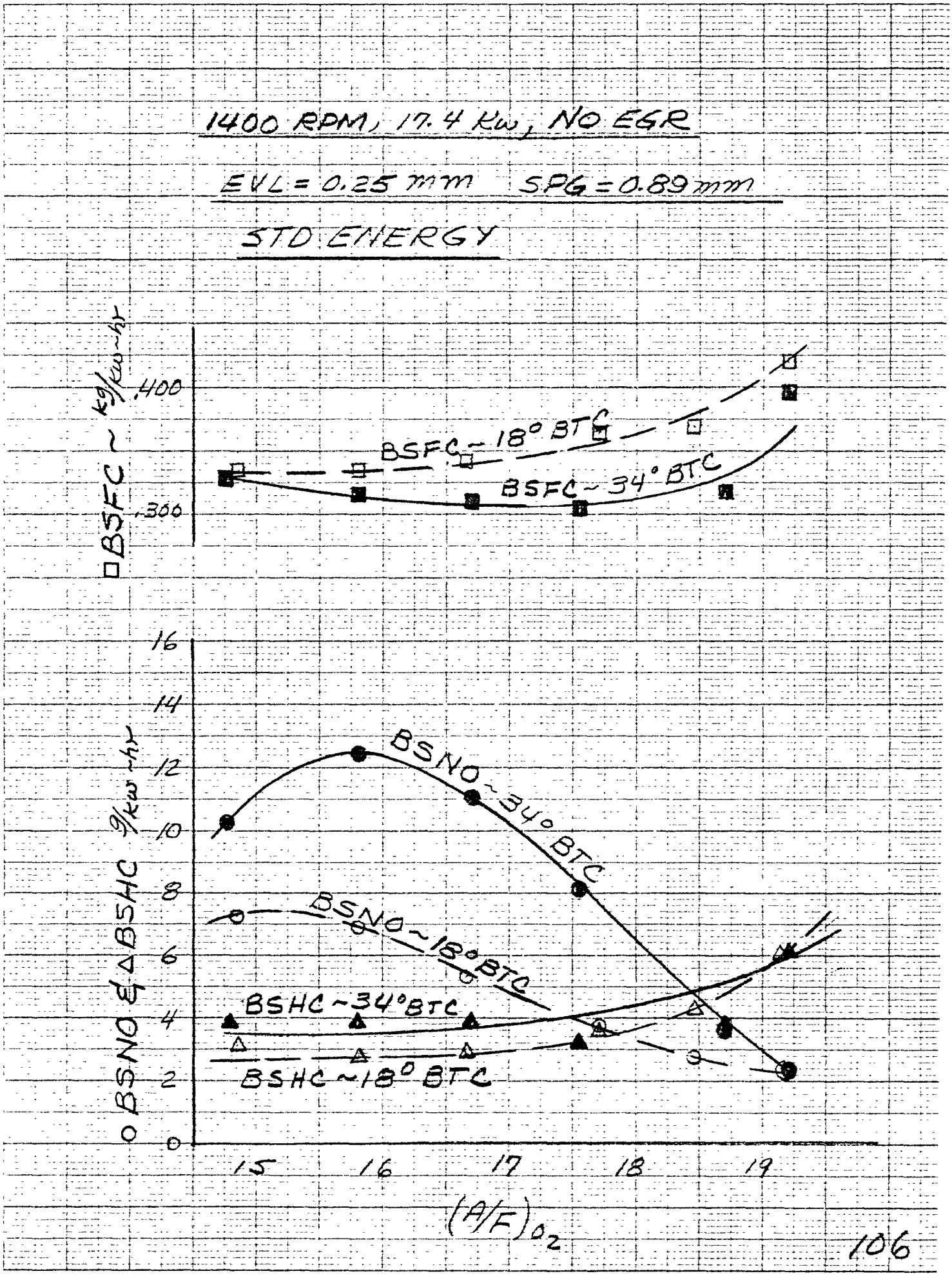

1400 RPM, 17.4 Kw, NO EGR
EVL = 0.5 mm SPG = 0.89 mm
STD. ENERGY
VACUUM
18° BTC
BSFC
34° BTC
△ MANIFOLD VAC - mm Hg
□ BSFC ~ Kg/Kw-Hr
BSNO 34° BTC
BSNO 18° BTC
18° BTC
34° BTC
BSHC
BSNO & △BSHC ~ g/Kw-Hr
(A/F)O2

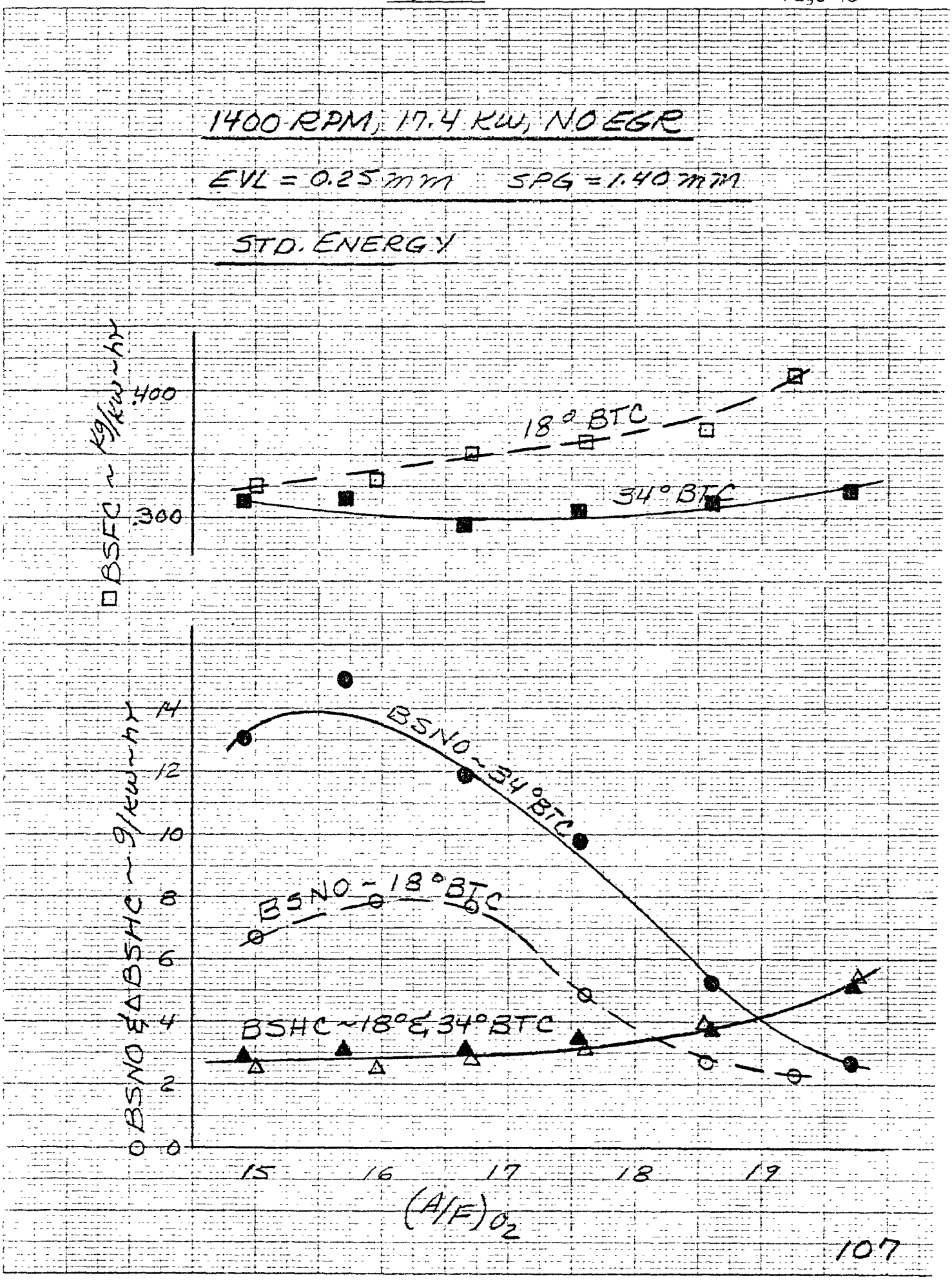

1400 RPM, 17.5 A/F
SOLID SYMBOLS ~ ADVANCED SPARK
EMPTY SYMBOLS ~ RETARDED SPARK
SPARK
BSFC
BSFC
SPARK
POWER
POWER
BSHC
BSHC / 18° BTC
BSNO
BSNO 18° BTC
SPARK ADV. ~ °BTC
BSFC ~ Kg/Kw-hr
POWER ~ Kw
Δ BSHC ~ g/Kw-hr
BSNO g/Kw-hr
% EGR
104


○ 1000 RPM, 17.5 A/F, 3.7 KW, 24° BTC
□ 1600 RPM, 17.5 A/F, 8.8 KW, 36° BTC
◇ 2200 RPM, 17.5 A/F, 18.8 KW, 41° BTC
△ 1400 RPM, 17.5 A/F, 17.4 KW, 26° BTC
BSFC ~ kg/kw-hr
.800
.700
.600
.500
.400
.300
3.7 KW
8.8 KW
18.8 KW
17.4 KW
BSHC ~ g/kw-hr
BSNO ~ g/kw-hr
14
12
10
8
6
4
2
0
30
25
20
15
10
5
0
BSNO
BSHC
18.8
17.4
8.8
3.7
0
2
4
6
8
10
% EGR


BACK PRESSURE EGR SYSTEM
REGULATION CHARACTERISTICS
225 CID DYNAMOMETER ENGINE
MANIFOLD VAC - mm Hg
350
300
250
200
150
100
50
0
EGR CONTROL ORIFICE AREA - mm²
160
140
120
100
80
60
40
20
0
0
2
4
6
8
10
% EGR
○ 1000 RPM, 3.7 KW
□ 1600 RPM, 5.8 KW
◇ 2200 RPM, 18.2 KW
△ 1400 RPM, 17.4 KW


1400 RPM, 17.5 A/F, 17.4 KW, 26° BTC
2200 RPM, 17.5 A/F, 18.8 KW, 41° BTC
VENTURI VACUUM EGR CONTROL
□ BSFC ~ KG/KW-HR
.400
.300
16
14
12
10
8
6
4
2
0
BSNO & ΔBSHC ~ G/KW-HR
2200 RPM
1400 RPM
0
2
4
6
8
% EGR

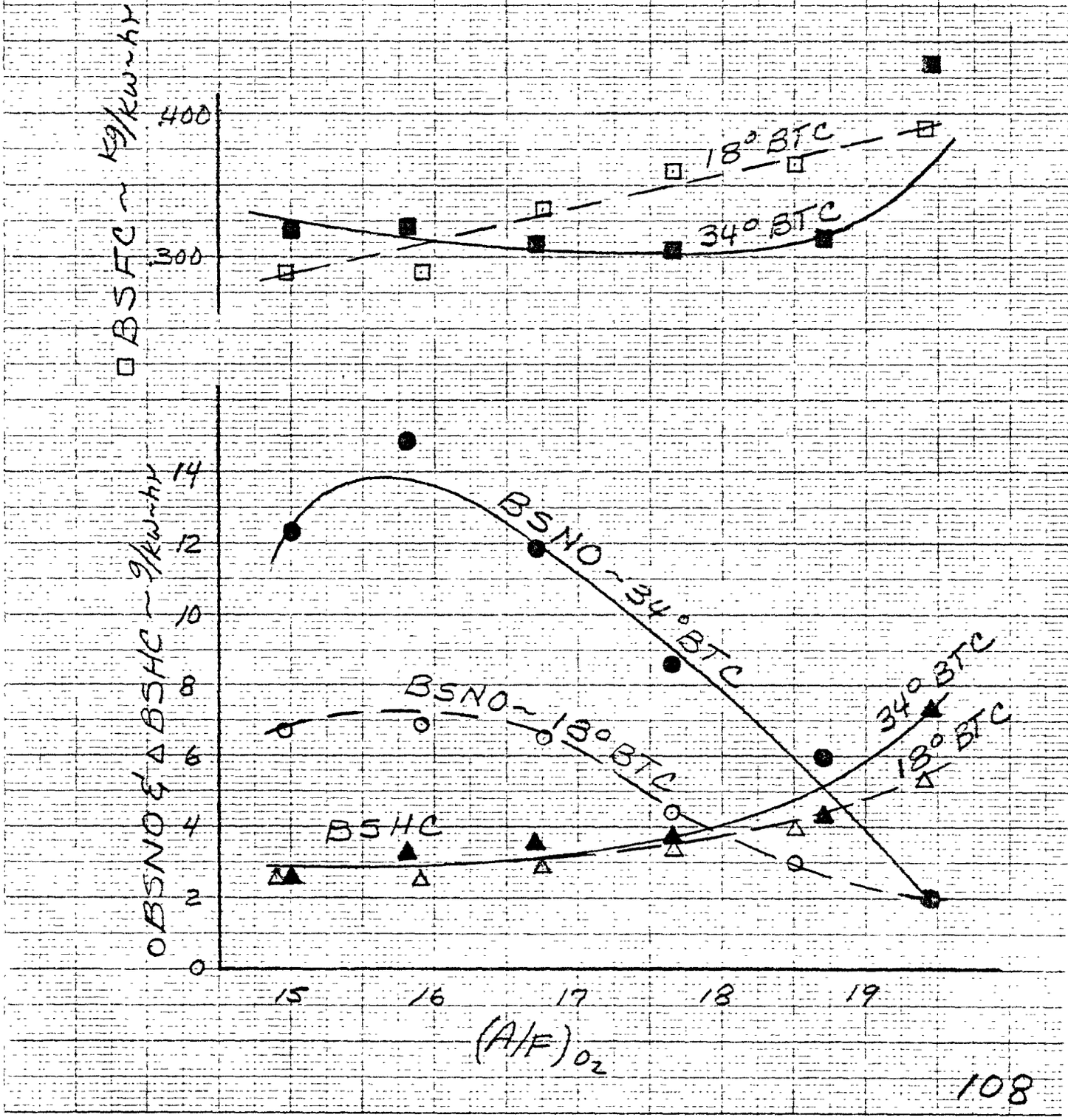

1400 RPM, 17.4 Kw, NO EGR
EVL = 0.25 mm SPG = 0.89 mm
STD ENERGY
□ BSFC ~ kg/kw-hr
.400
.300
BSFC ~ 18° BTC
BSFC ~ 34° BTC
16
14
12
10
8
6
4
2
0
○ BSNO & △ BSHC g/kw-hr
BSNO ~ 34° BTC
BSNO ~ 18° BTC
BSHC ~ 34° BTC
BSHC ~ 18° BTC
15
16
17
18
19
(A/F)O2
106


1400 RPM, 17.4 KW, NO EGR
EVL = 0.25 mm SPG = 1.40 mm
STD. ENERGY
□ BSFC ~ kg/kw~hr
400
300
18° BTC
34° BTC
BSNO ~ 34° BTC
BSNO ~ 18° BTC
BSHC ~ 18° & 34° BTC
BSNO & BSHC ~ g/kw~hr
14
12
10
8
6
4
2
0
15
16
17
18
19
(A/F)O2

1400 RPM, 17.4 KW, NO EGR

EVL = 0.25 SPG = 1.40 mm

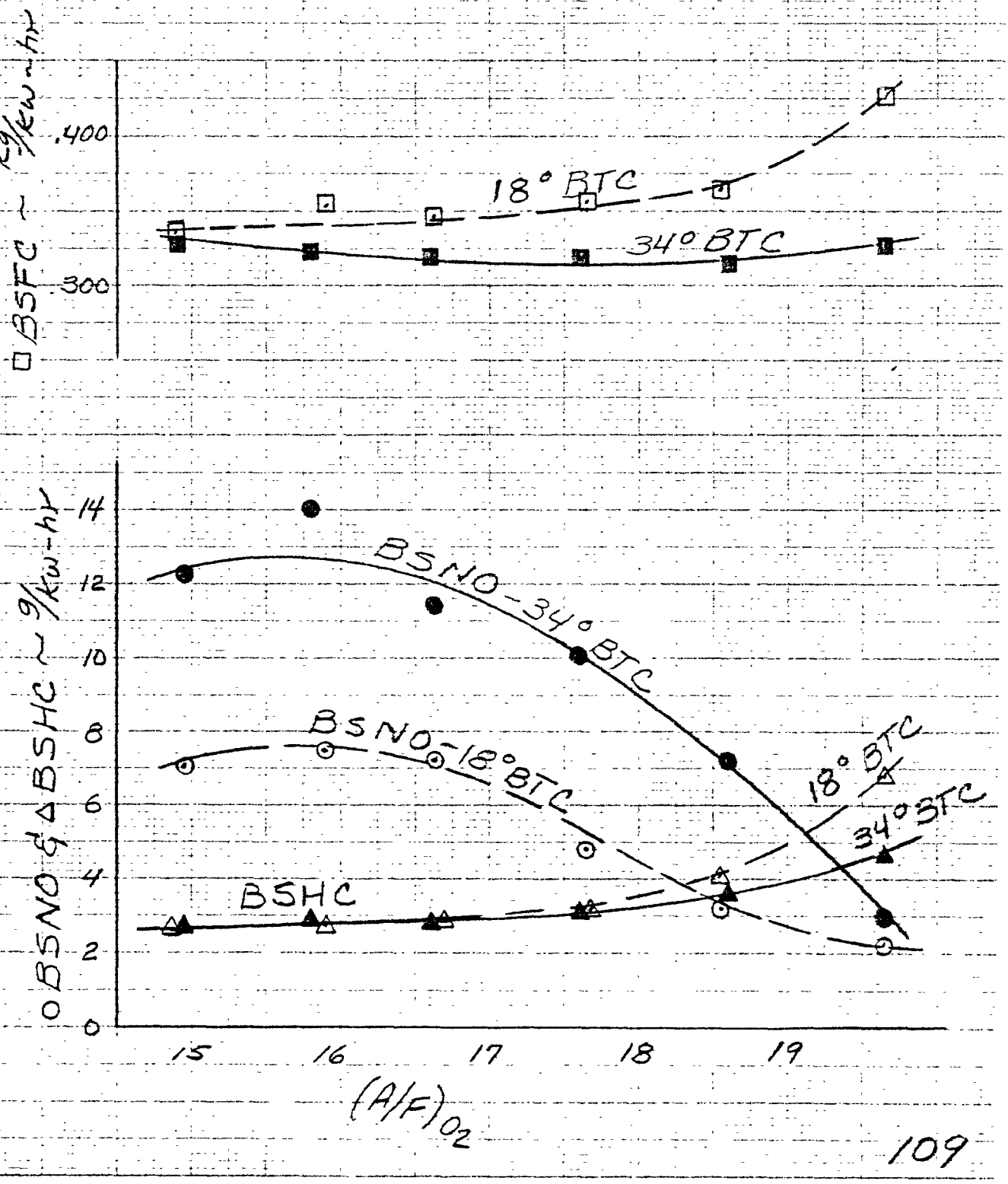
HIGH ENERGY



1400 RPM, 17.4 KW, NO EGR

EVL = 0.25 mm SPG = 1.78 mm

HIGH ENERGY



6. Task 4 - Vehicle Testing

The vehicle as purchased is a 1975 Dodge Dart four-door sedan with a 225 CID six-cylinder engine, automatic transmission, and the California Emission Package. The California emission package includes an oxidation catalyst, air injection, and EGR of the venturi vacuum type.

6.1. Vehicle Modifications

The following changes were made to the baseline vehicle to adapt and evaluate the sonic carburetor.

a) Baseline carburetor replaced with sonic carburetor.

b) Venturi-vacuum EGR system replaced with back pressure EGR system.

c) Baseline ignition system modified to provide increased spark advance.

d) Hood replaced with a bubble hood to accomodate extra height required for sonic carburetor. The increased height is required for the sonic carburetor to accomodate the existing throttle linkage. A production design is possible with no hood interference on this vehicle.

6.1. Vehicle Changes (continued)

e) Instrumentation installed to measure:

(1) Manifold vacuum.

(2) EGR valve vacuum signal.

(3) Vacuum spark advance signal.

(4) Ambient air temperature.

(5) Carburetor inlet air temperature.

(6) Catalyst inlet temperature.

(7) Fuel temperature in carburetor float bowl.

6.2. Sonic Carburetor Calibration

6.2.1. Cold Enrichment

The sonic carburetor was designed and calibrated to give a maximum cold enrichment air/fuel ratio of 12 to 1. This maximum amount of enrichment can be leaned-out by an air bleed restriction that is in parallel to the electric choke valve. The final setting was leaned-out to an air-fuel ratio of 13.1 to 1.0 by the use of an 0.057 inch diameter parallel air bleed. Any further reduction in air-fuel ratio causes an excessive number of stalls and very poor driveability.

The cold enrichment is reduced to normal air/fuel ratios through the Holley electric choke mechanism and valve. When the soak temperature is 70°F, this device begins to

6.2.1. Cold Enrichment (continued)

lean-out the setting in 30 seconds and has leaned-out the setting to the normal hot setting in approximately two minutes from engine start. The air/fuel ratio is leaned-out in approximately a linear manner with time after the initial 30 seconds. Any earlier leaning-out of the cold enrichment causes an excessive number of engine stalls and driveability that is not acceptable.

The cold enrichment calibration, as measured on a Holley airbox when flowing the carburetor only, is shown on flow test record sheet No. 97638, Figure 25.

6.2.2. Basic Schedule

The basic schedule for hot engine operation as measured on the airbox for both the baseline carburetor and the sonic carburetor is shown on flow test record No. 74488, Figure 26. The sonic carburetor has a basic schedule of 18.6 to 1.0 air/fuel ratio. This schedule is the best compromise between emissions and fuel economy as discussed in Section 6.3 on Vehicle Emission Tests. The schedule is externally adjustable to as lean as 20 to 1.0 and as rich as 14 to 1.0. This trim adjustment affects the hot engine schedule only and does not change the cold enrichment. The range of adjustment is shown on flow test record No. 97634, Figure 27.

6.2.2. Basic Schedule

The carburetor calibration data as measured on the airbox and as discussed up to this point is for airflow and fuel flow as metered in the carburetor. When operating an engine, there are other airflows contributing to the engine air/fuel ratio. The largest contribution is from the PCV (positive crankcase ventilation) system. To evaluate the effect of these contributors, the sonic carburetor was calibrated on the airbox with the PCV valve and the charcoal canister. The affect of these two parallel paths on the carburetor air/fuel ratio is shown in Figure 28. The greatest effect is at idle, but the flat in the mid-power range shows to be about 0.5 air/fuel ratios leaner with these two contributions taken into effect. All other vehicle connections to manifold vacuum or to carburetor vacuum have negligible effect on the engine air/fuel ratio.

The curve in Figure 29 shows air/fuel ratio for various trim adjustment settings. This information will aid in the future test program as planned by EPA.

6.2.3. Idle Enrichment

A carburetor must have some amount of idle enrichment to account for the added parallel airflows through the various vacuum systems on the vehicle. The greatest contribution of this parallel airflow is through the PCV valve. Figure 28 shows that an idle enrichment of 12% on the carburetor is only a 5% idle enrichment on the vehicle with all systems in operation.

A 5% idle enrichment on the vehicle at a basic A/F ratio of 19.2 to 1.0 was the "final" selection. The 5% idle enrichment gave a slightly smoother idle and gave no measurable change in emissions.

An external adjustment of idle A/F ratio is provided. This can reduce the idle enrichment to zero percent, if desired.

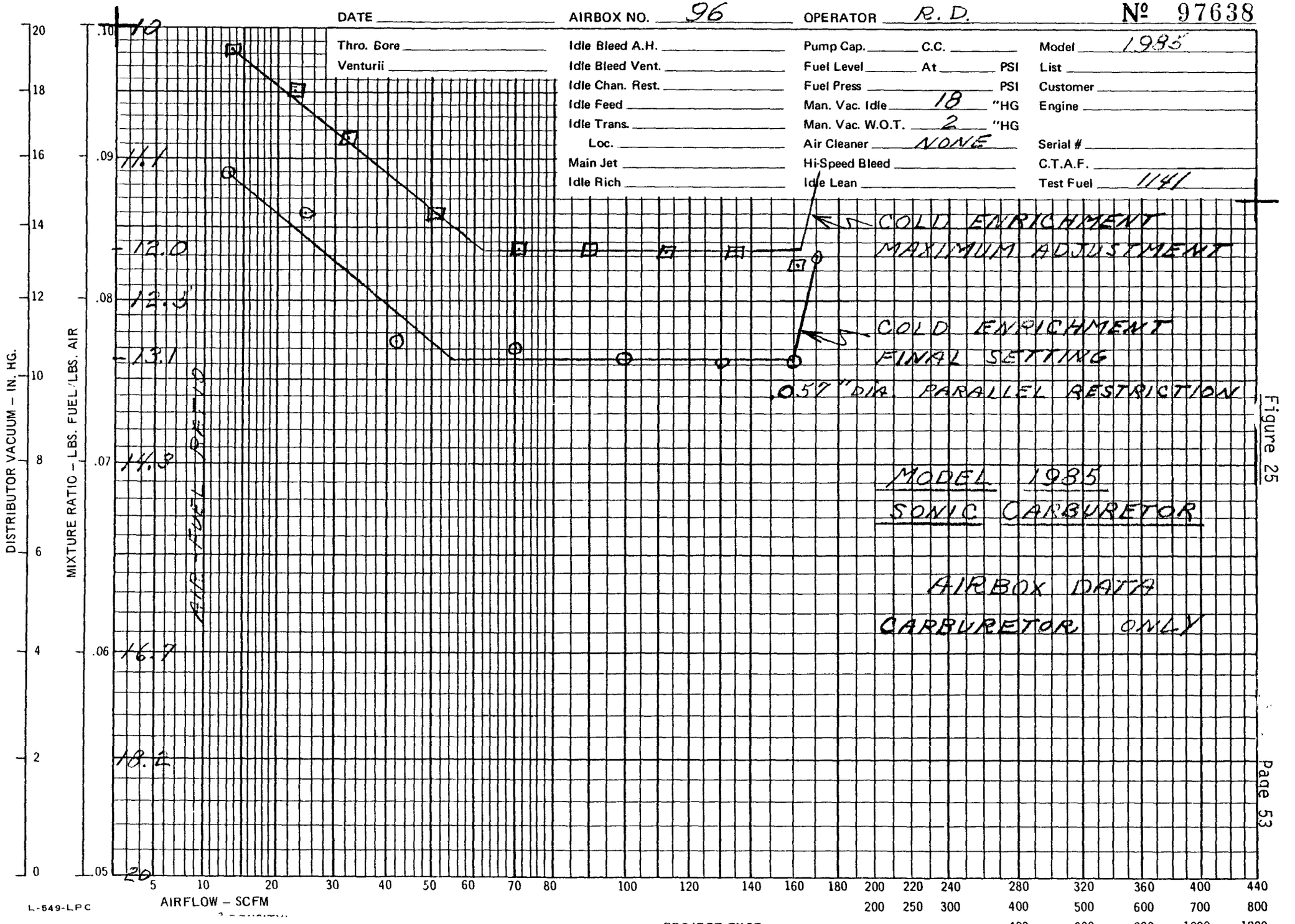

DATE
AIRBOX NO. 96
OPERATOR R. D.
№ 97638
Thro. Bore
Venturii
Idle Bleed A.H.
Idle Bleed Vent.
Idle Chan. Rest.
Idle Feed
Idle Trans.
Loc.
Main Jet
Idle Rich
Pump Cap. C.C.
Fuel Level At PSI
Fuel Press PSI
Man. Vac. Idle 18 "HG
Man. Vac. W.O.T. 2 "HG
Air Cleaner NONE
Hi-Speed Bleed
Idle Lean
Model 1985
List
Customer
Engine
Serial #
C.T.A.F.
Test Fuel 1141
COLD ENRICHMENT MAXIMUM ADJUSTMENT
COLD ENRICHMENT FINAL SETTING
.057" DIA. PARALLEL RESTRICTION
MODEL 1985 SONIC CARBURETOR
AIRBOX DATA CARBURETOR ONLY
DISTRIBUTOR VACUUM – IN. HG.
MIXTURE RATIO – LBS. FUEL/LBS. AIR
AIRFLOW – SCFM
L-549-LPC
PROJECT ENGR

Figure 25

DATE 7-30-76 AIRBOX NO. 96 OPERATOR R. D. № 74488

Thro. Bore	Idle Bleed A.H.	Pump Cap. C.C.	Model 1985 #2
Venturii	Idle Bleed Vent.	Fuel Level At PSI	List
	Idle Chan. Rest.	Fuel Press 5 PSI	Customer EPA
	Idle Feed	Man. Vac. Idle 18 "HG	Engine
	Idle Trans.	Man. Vac. W.O.T. 2 "HG	
	Loc.	Air Cleaner NONE	Serial #
	Main Jet	Hi-Speed Bleed	C.T.A.F.
	Idle Rich	Idle Lean	Test Fuel 1141

SONIC CARBURETOR
COLD ENRICHMENT

AIRBOX DATA
CARBURETOR ONLY

MODEL 1945
CARBURETOR FROM VEHICLE

SONIC CARBURETOR
BASIC SCHEDULE

DISTRIBUTOR VACUUM – IN. HG.

MIXTURE RATIO – LBS. FUEL / LBS. AIR

AIR-FUEL RATIO

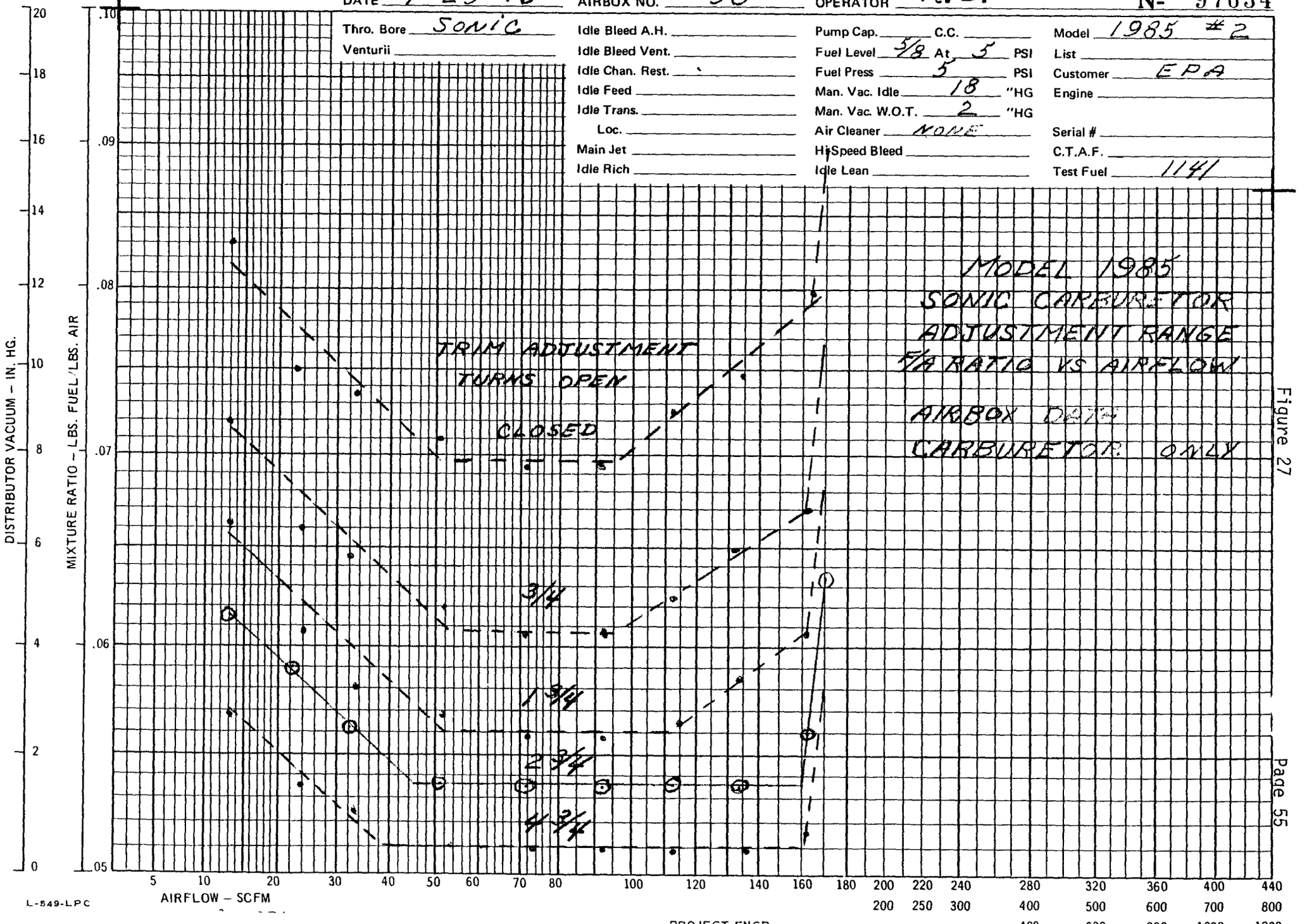
AIRFLOW – SCFM

L-549-LPC

Figure 26

DATE 7-29-76 AIRBOX NO. 96 OPERATOR R. D. № 97634

Thro. Bore SONIC	Idle Bleed A.H.	Pump Cap. C.C.	Model 1985 #2
Venturii	Idle Bleed Vent.	Fuel Level 5/8 At 5 PSI	List
	Idle Chan. Rest.	Fuel Press 5 PSI	Customer EPA
	Idle Feed	Man. Vac. Idle 18 "HG	Engine
	Idle Trans.	Man. Vac. W.O.T. 2 "HG	
	Loc.	Air Cleaner NONE	Serial #
	Main Jet	Hi Speed Bleed	C.T.A.F.
	Idle Rich	Idle Lean	Test Fuel 1141



L-549-LPC

PROJECT ENGR

Figure 27

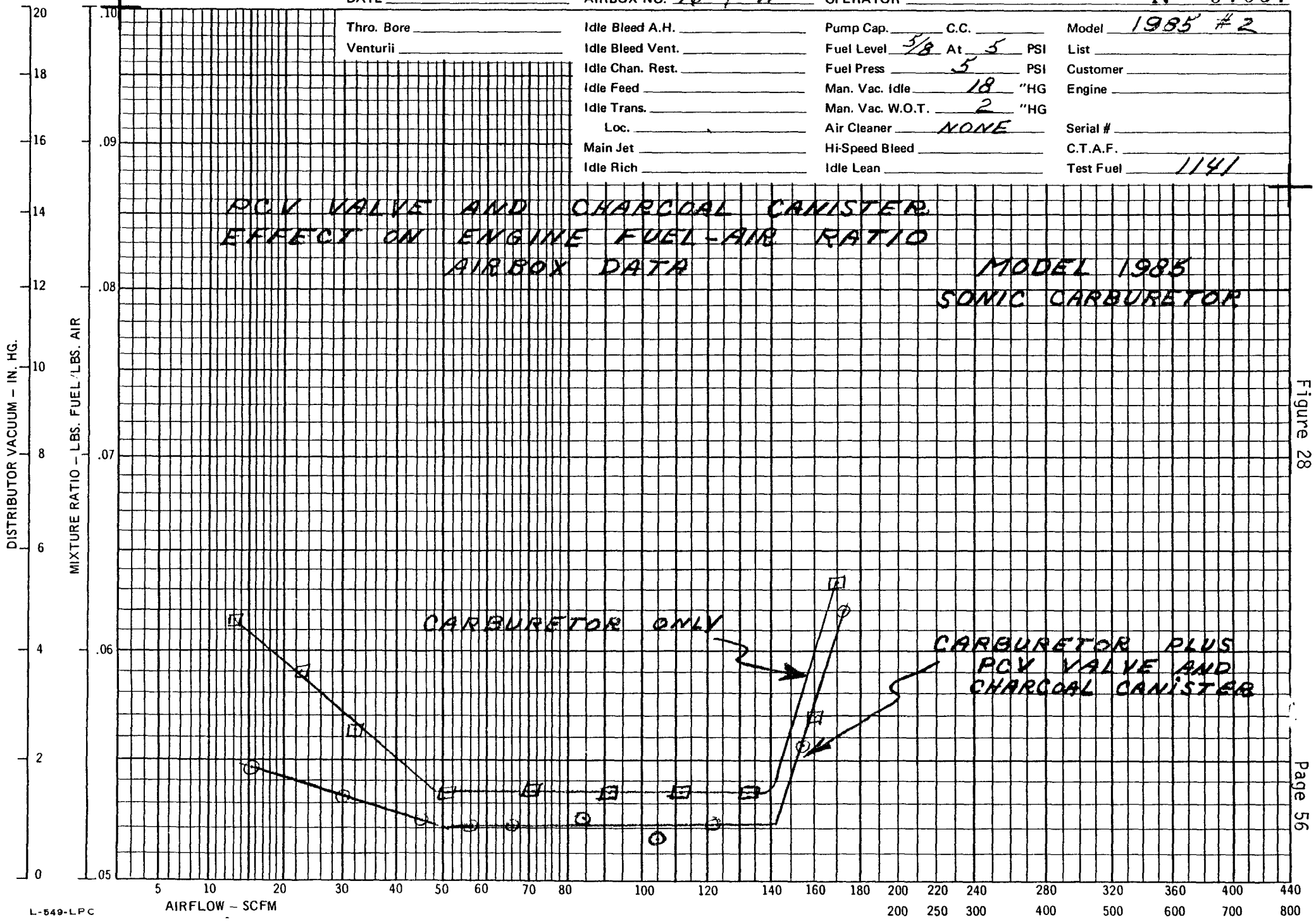
DATE _____ AIRBOX NO. 96 & 91 OPERATOR _____ № 97637

Thro. Bore _____	Idle Bleed A.H. _____	Pump Cap. _____ C.C. _____	Model 1985 #2
Venturii _____	Idle Bleed Vent. _____	Fuel Level 5/8 At 5 PSI	List _____
	Idle Chan. Rest. _____	Fuel Press 5 PSI	Customer _____
	Idle Feed _____	Man. Vac. Idle 18 "HG	Engine _____
	Idle Trans. _____	Man. Vac. W.O.T. 2 "HG	
	Loc. _____	Air Cleaner NONE	Serial # _____
	Main Jet _____	Hi-Speed Bleed _____	C.T.A.F. _____
	Idle Rich _____	Idle Lean _____	Test Fuel 1141

PCV VALVE AND CHARCOAL CANISTER EFFECT ON ENGINE FUEL-AIR RATIO

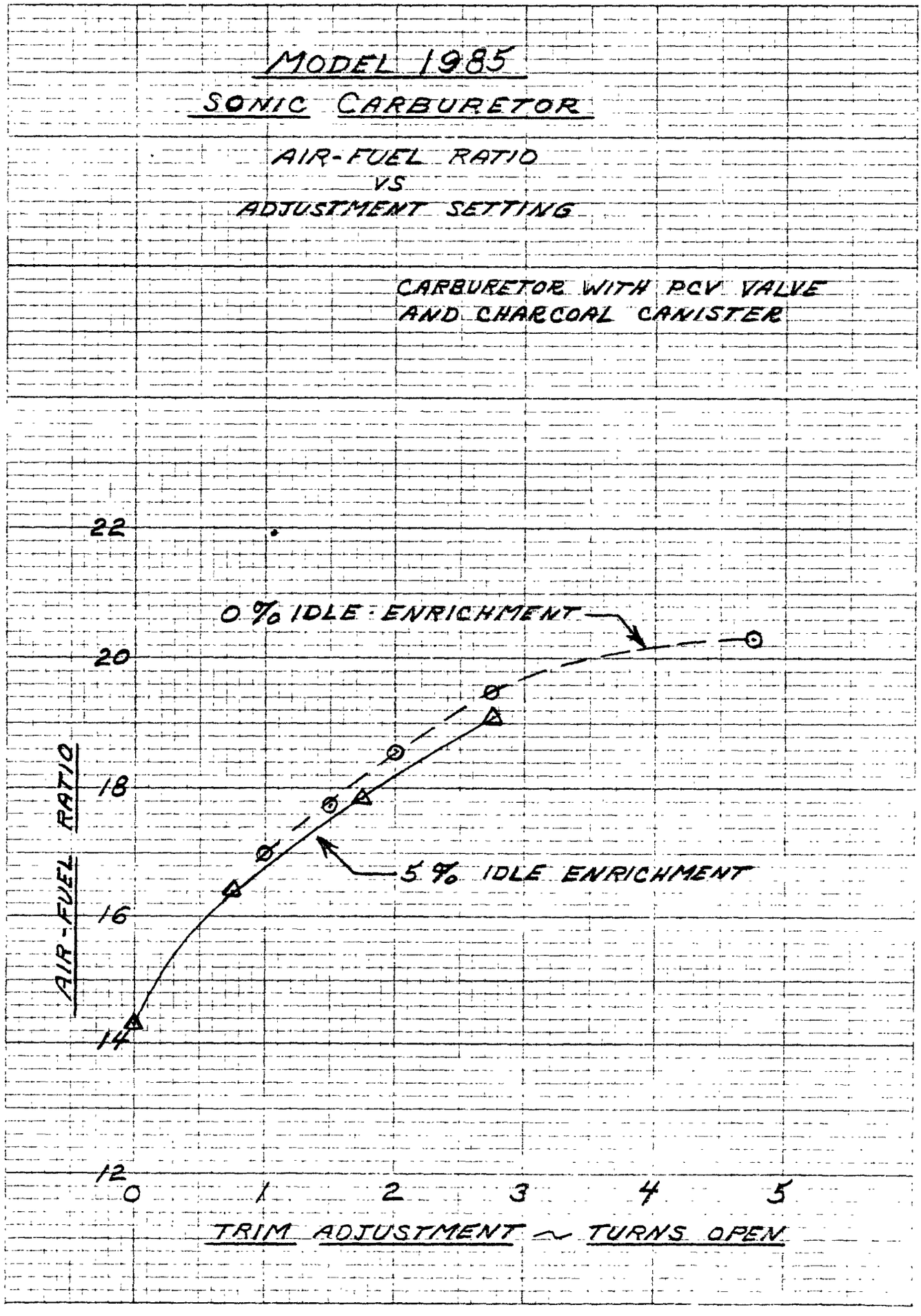
AIRBOX DATA

MODEL 1985 SONIC CARBURETOR



L-549-LPC

Figure 28


MODEL 1985
SONIC CARBURETOR
AIR-FUEL RATIO
VS
ADJUSTMENT SETTING
CARBURETOR WITH PCV VALVE
AND CHARCOAL CANISTER
0% IDLE ENRICHMENT
5% IDLE ENRICHMENT
AIR-FUEL RATIO
22
20
18
16
14
12
0
1
2
3
4
5
TRIM ADJUSTMENT ~ TURNS OPEN

6.3 Vehicle Emission Tests

The vehicle was tested with the sonic carburetor, the baseline ignition system, and a back pressure EGR system. This system was driven extensively around the Holley Carburetor Test Track to evaluate various air/fuel ratio settings, EGR settings, power enrichment, and the need for an acceleration fuel pump. With these features, the vehicle drove about as well as the baseline car for lean air/fuel ratios in the range of 18 to 1. The EGR was metered by the back pressure EGR system with a 10.1 mm (0.400 in.) diameter EGR orifice. For air/fuel ratios as lean as 21 to 1.0, the vehicle driveability is unsatisfactory. However, an 1973 FTP CVS hot driving cycle was made with great difficulty at this lean air/fuel ratio of 21.3 to 1.0.

The acceleration pump was considered a necessity from the driveability standpoint. Without the acceleration pump, there was considerable "hesitation" after a step throttle change.

The power enrichment of 3.5 to 1.0 air/fuel ratios was considered to be necessary to achieve the vehicle accelerations required to meet the 1975 FTP CVS Driving Cycle Test. Of this power enrichment, about one-half is accomplished as a function of throttle position and about one-half as a function of manifold vacuum. The manifold vacuum enrichment occurs below six inches of mercury manifold vacuum.

6.3 Vehicle Emission Tests (continued)

The fuel economy and emission results of the vehicle with the sonic carburetor set at various air/fuel ratios are shown in Figure 34 and Figure 35. The NO_x of 0.75 gm/km (1.207 gm/mi) for this driving cycle did not vary appreciably with air/fuel settings in the range of 17.7 to 21.3. The fuel economy drops off appreciably for air/fuel settings leaner than 19.2. Both the HC and the CO reach a minimum at an air/fuel setting of 20. A final air/fuel setting of 19.2 was selected by Holley based upon emissions and fuel economy, as well as driveability. A five percent idle enrichment was also selected by Holley to give a smooth engine idle at the final air/fuel setting of 19.2. The data in Figure 34 and 35 shows no penalty in NO_x and fuel economy for the five percent idle enrichment and only a small increase in HC and CO.

The transition section between the venturi exit and the intake manifold was required to change from a rectangular cross-section to a circular cross-section. This transition section has a continuous surface downstream of the fixed sides of the venturi. A discontinuity in the surface of this flow channel at the exit of the venturi was evaluated. This discontinuity was about 0.200 inch deep and about 1.00 inch long for the full width of the flow channel. The emissions and economy data with this modified transition section is also shown in Figure 34 and Figure 35. The data shows no

6.3 Vehicle Emission Tests (continued)

improvement in either emissions or economy with this modification.

The back pressure EGR system was used to reduce the NO_x emission level to that of the baseline vehicle. To accomplish this, an EGR orifice of 10.1 mm diameter (80 mm^2 area) was used in conjunction with vacuum storage and a lower EGR valve spring preload than was available for the engine dynamometer tests. The lower spring load allows the EGR valve to open at 38 mm Hg (1-1/2 in. Hg). As shown in Figure 19 of Task 3, the 80 mm^2 area EGR orifice gives about 6% EGR. For vehicle accelerations where manifold vacuum drops below that required to operate the EGR valve, a vacuum storage system is used. The vehicle emissions as measured on the 1973 FTP CVS Hot Driving Cycle for the vehicle in the "final" configuration as described in Section 6.5 are:

No.	Conf.	HC gm/km(gm/mi)	CO gm/km(gm/mi)	NO_x gm/km(gm/mi)	Economy km/ℓ(mi/gal)
9.	w/EGR	0.051 (.082)	1.16 (1.86)	0.580 (0.935)	6.72 (15.81)
10.	wo/EGR	0.025 (.041)	0.24 (0.39)	1.695 (2.728)	7.69 (18.07)

An alternate EGR system was designed and fabricated at Holley expense. This system consists of the baseline EGR valve and the baseline EGR vacuum amplifier with a new EGR signal generator.

6.3 Vehicle Emission Tests (continued)

The baseline system uses an EGR signal generated by a fixed area subsonic venturi. This type of system, that senses incoming airflow, is inherently more responsive than a system sensing the exhaust products because of the transport time lag through the engine.

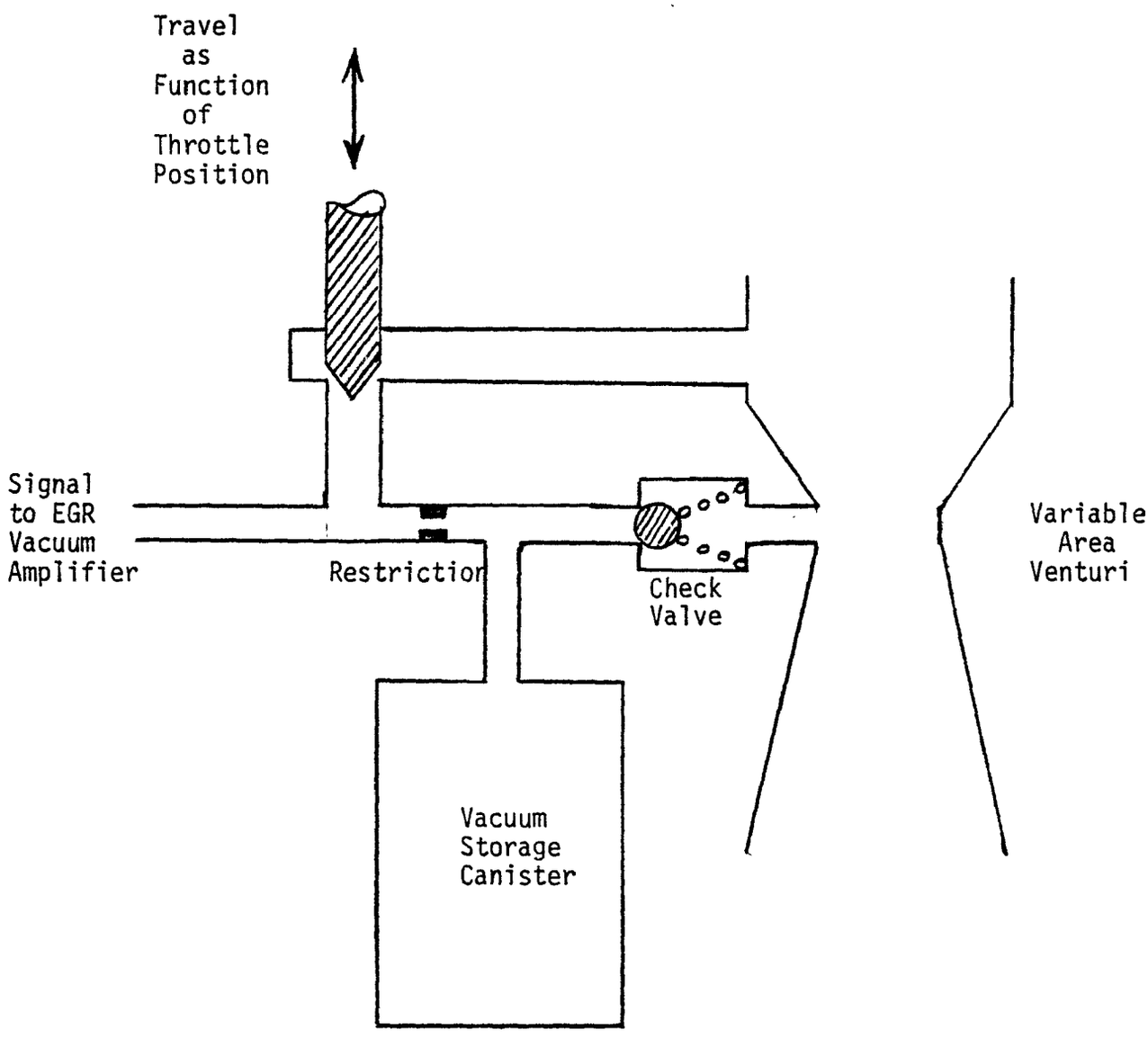
The alternate system is an attempt to measure incoming airflow with a variable area venturi and thus eliminate the transport time lag that exists in the back pressure EGR system. The elimination of this transport time lag should have a beneficial effect on emissions for a step change in throttle position. The alternate EGR design senses airflow as a function of throttle position (venturi area) and uses the venturi throat pressure which is a fixed percentage of venturi inlet pressure over the sonic operating range. A vacuum accumulator is used to maintain the source vacuum essentially constant during transient conditions when the venturi is operating in the subsonic flow range. Through the use of a flowing pneumatic circuit that consists of a variable restriction and a fixed restriction in series, an EGR signal can be generated that is a function of venturi airflow. The schematic of this signal generator is shown in Figure 30.

The hardware, as designed and fabricated, was not capable of achieving a steady-state schedule similar to the baseline schedule because of flowing passages in the carburetor body

6.3 Vehicle Emission Tests (continued)

being too small. This led to a valve contour accuracy that was impractical to achieve. These small lines could be made larger in a redesign of the carburetor; however, that was not within the scope of this project. This approach, therefore, had to be dropped in favor of the back pressure EGR system with the vacuum reservoir.

Alternate EGR Signal Generator



6.3 Vehicle Emission Tests (continued)

The effect of the engine driven air pump upon emissions and economy was checked on both the 1975 FTP Cold CVS Cycle and the 1973 FTP Hot CVS Cycle. The pump was engine-driven during all tests and the air pump hose from the pump to the exhaust system was connected or disconnected. The results in Figure 31 show the effect of operation with and without the air pump connected. In both cases, the air pump was driven by the engine.

The results at the lean air/fuel ratio of 19.2 to 1.0 show improvement in NO_x and economy, no appreciable change in HC, and an increase in CO for the air pump disconnected. For the final configuration, it was decided that the improvement in NO_x and economy more than outweighed the increase in CO. We, therefore, disconnected the air pump hose for the final tests.

Figure 31

EMISSION RESULTS ON DODGE DART PROGRAM WITH SONIC CARBURETOR

Effect of Air Pump

A/F Ratio = 19.2 to 1.0

Run No.	Emission Test	Air Pump Configuration	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NOx gm/km (gm/mi)	Fuel Economy km/ℓ (mi/gal)
35	FTP (1975 Cold - 3 Bag) CVS	Hose Disconnected	0.413 (0.655)	3.27 (5.27)	0.645 (1.038)	6.52 (15.35)
32a	FTP (1975 Cold - 3 Bag) CVS	Hose Connected	0.488 (0.786)	2.14 (3.43)	0.775 (1.248)	6.24 (14.68)
34	FTP (1973 Hot - 1 Bag) CVS	Hose Disconnected	0.111 (0.179)	0.90 (1.45)	0.531 (0.854)	7.14 (16.80)
33	FTP (1973 Hot - 1 Bag) CVS	Hose Connected	0.083 (0.133)	0.31 (0.51)	0.589 (0.949)	6.79 (15.97)

April 1977
WHC:dh

6.4 Final Configuration

The final configuration based upon emissions, fuel economy, and driveability is:

Sonic Carburetor Model 1985

A/F ratio -- 19.2 to 1.0.

Idle enrichment -- 5%.

Power enrichment -- 16%

Cold enrichment A/F ratio -- 13.1 to 1.0.

Cold enrichment time at 21 C (70 F) ambient -- 2 mins.

Back Pressure EGR System

Metering orifice diameter -- 10.1 mm (0.400 inch).

Vacuum storage restriction diameter -- 0.33 mm (0.013 inch).

Vacuum source -- ported venturi.

Deactivated EGR -- idle.

Ignition System

Baseline with modified advance.

Catalyst

Oxidation.

Air Pump

Hose disconnected.

6.5 Final Emission Tests

The Dodge Dart program vehicle was tested in the "Final" configuration for emissions and economy according to the FTP (1975 Cold 3-Bag) CVS Test. The fuel evaporation loss, measured with carbon canisters, was run in conjunction with the emissions test. Figure 32 shows the results of these tests, as well as the results of the FTP Highway Fuel Economy Test. These tests were run with a new oxidation catalyst.

The program vehicle was then delivered to Chrysler Corporation at their Chelsea Proving Grounds, Chelsea, Michigan. Chrysler used their computerized mileage accumulator facility to run 4,000 mile of EPA Emission Durability Mileage Accumulation. This was run with no major problems.

The program vehicle was returned to Holley Carburetor where we repeated the FTP (1975 Cold 3-Bag) CVS Test, the fuel evaporation loss test, and the FTP Highway Fuel Economy Test. The results of these tests are shown in Figure 33.

Figure 32

Dodge Dart Program Vehicle in "Final" Configuration

New Catalyst Before 4,000 Mile Durability

Run No.		CO_2 gm/km (gm/mi)	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NOx gm/km (gm/mi)	Evap. Loss gm HC	Fuel Econ. km/litre (mi/gal)
17	FTP (1975 Cold 3-Bag) CVS Test		.424 (.683)	4.09 (6.58)	.741 (1.193)	0.85	6.11 (14.38)
16	" " " "		.325 (.523)	3.28 (5.28)	.726 (1.168)	0.96	6.20 (14.58)
15	" " " "		.242 (.390)	4.02 (6.47)	.653 (1.051)	0.98	6.36 (14.96)
	Average		.330 (.532)	3.80 (6.11)	.707 (1.137)	0.93	6.22 (14.64)
12	Highway Fuel Economy Test	(418.32)	(.056)	(0.171)			9.01 (21.19)
13	" " " "	(409.92)	(.061)	(0.206)			9.19 (21.62)
14	" " " "	(386.75)	(.147)	(0.194)			9.73 (22.90)
	Average						9.31 (21.90)

Figure 33

Dodge Dart Program Vehicle in "Final" Configuration

After 4,000 Mile Durability

Run No.		CO_2 gm/km (gm/mi)	HC gm/km (gm/mi)	CO gm/km (gm/mi)	NOx gm/km (gm/mi)	Evap. Loss gm HC	Fuel Econ. km/litre (mi/gal)
11	FTP (1975 Cold 3-Bag) CVS Test		.225 (.367)	4.59 (7.38)	.670 (1.078)	1.09	6.42 (15.1)
8	" " " "		.255 (.411)	4.17 (6.71)	.592 (.952)	1.14	6.50 (15.3)
1	" " " "		.278 (.447)	3.29 (5.29)	.603 (.970)	1.11	6.83 (14.9)
	Average		.254 (.408)	4.02 (6.46)	.622 (1.000)	1.11	6.42 (15.1)
2	Highway Fuel Economy Test	(425.19)	(0.060)	(0.212)			8.86 (20.85)
3	" " " "	(408.00)	(0.043)	(0.157)			9.24 (21.73)
4	" " " "	(419.32)	(0.059)	(0.197)			8.99 (21.14)
	Average						9.03 (21.24)

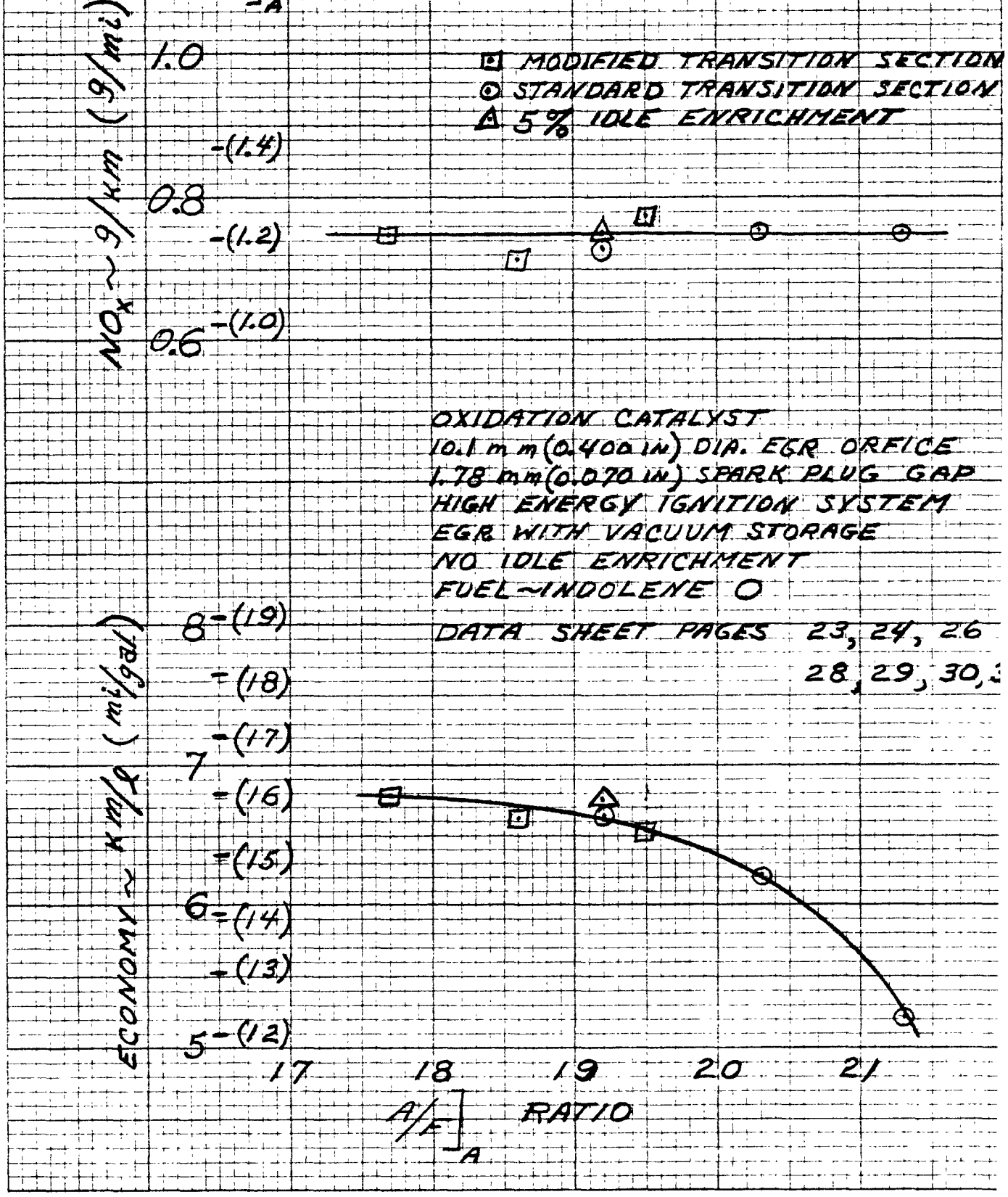
MODEL 1985
SONIC CARBURETOR

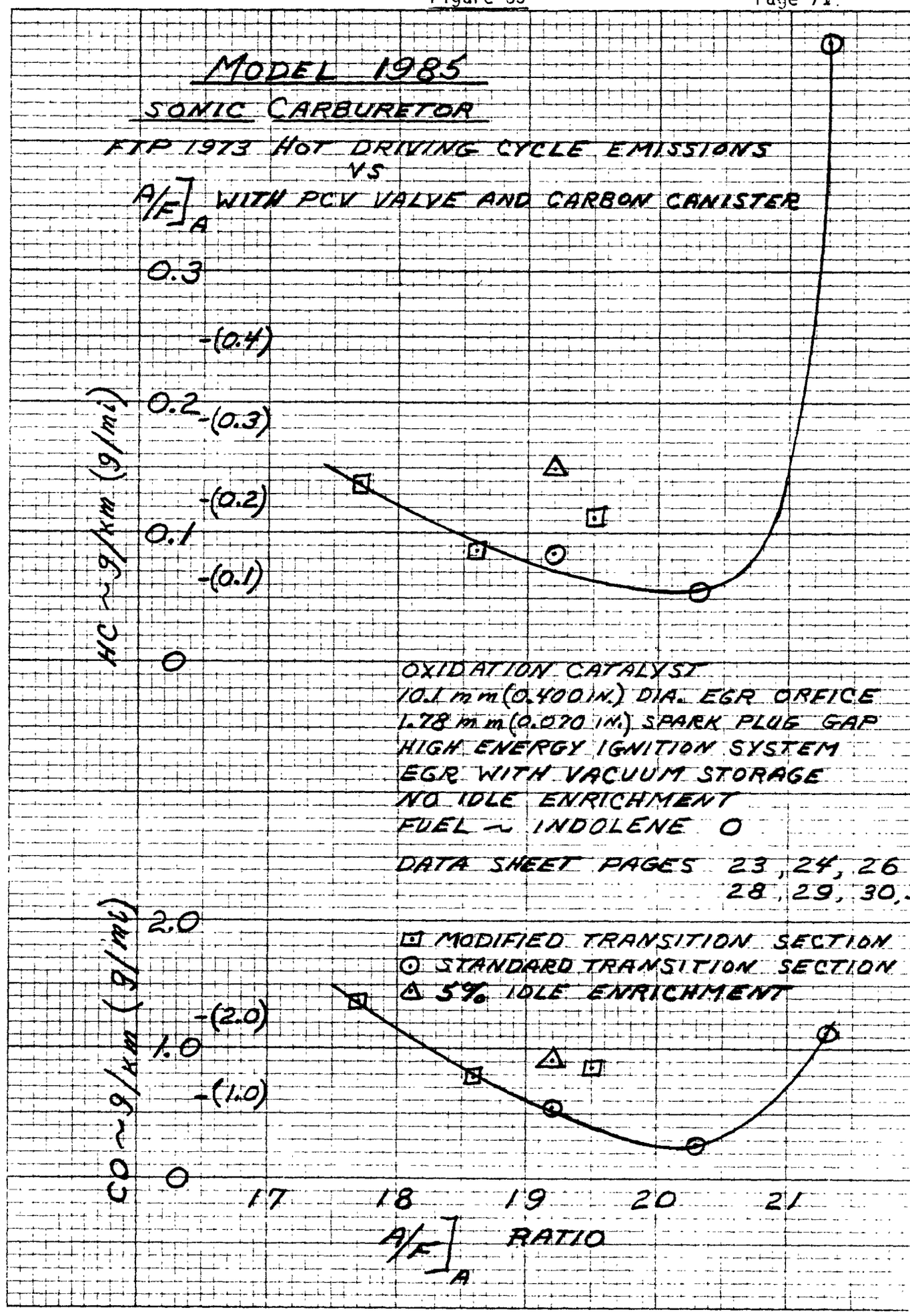
FTP 1973 HOT DRIVING CYCLE EMISSIONS
VS
$A/F]_A$ WITH PCV VALVE AND CARBON CANISTER

- ⊡ MODIFIED TRANSITION SECTION
- ⊙ STANDARD TRANSITION SECTION
- △ 5% IDLE ENRICHMENT

OXIDATION CATALYST
10.1 mm (0.400 IN) DIA. EGR ORFICE
1.78 mm (0.070 IN) SPARK PLUG GAP
HIGH ENERGY IGNITION SYSTEM
EGR WITH VACUUM STORAGE
NO IDLE ENRICHMENT
FUEL ~ INDOLENE O

DATA SHEET PAGES 23, 24, 26
28, 29, 30, 3




MODEL 1985
SONIC CARBURETOR
FTP 1973 HOT DRIVING CYCLE EMISSIONS
VS
A/F]A WITH PCV VALVE AND CARBON CANISTER
HC ~ g/km (g/mi)
0.3
(0.4)
0.2
(0.3)
(0.2)
0.1
(0.1)
0
OXIDATION CATALYST
10.1 mm (0.400 IN.) DIA. EGR ORFICE
1.78 mm (0.070 IN.) SPARK PLUG GAP
HIGH ENERGY IGNITION SYSTEM
EGR WITH VACUUM STORAGE
NO IDLE ENRICHMENT
FUEL ~ INDOLENE O
DATA SHEET PAGES 23, 24, 26
28, 29, 30, 3
MODIFIED TRANSITION SECTION
STANDARD TRANSITION SECTION
5% IDLE ENRICHMENT
CO ~ g/km (g/mi)
2.0
(2.0)
1.0
(1.0)
0
17
18
19
20
21
A/F]A RATIO

6.6 Performance and Driveability

The driveability is qualitative and basically a comparison of the baseline vehicle to the same vehicle in "Final" configuration with the sonic carburetor. For purposes of this evaluation and discussion, the following definitions will be used:

Cold start -- starting an engine that has reached equilibrium with the ambient temperature after "cold soak" of at least twelve hours.

Soak -- a period of time during which the vehicle stands with the engine not running. "Hot soaks" may be a few minutes or several hours and are always made after bringing the engine up to normal operating temperature.

Cold drive -- the driveability and performance characteristics of the vehicle after a cold start until the engine reaches normal operating temperature.

Stall -- an engine die-out requiring restart while the vehicle is stationary and no attempt is being made to accelerate the vehicle.

Pass-out -- an engine die-out requiring restart while the vehicle is in motion or while attempting to accelerate from a standstill.

Hesitation -- a brief, initial lack of response to increased throttle opening during any mode of vehicle

6.6 Performance and Driveability (continued)

operation. An increased throttle opening should always produce an increase in acceleration rate.

Stumble and sag -- a sudden, temporary decrease in acceleration rate.

Surge -- a low frequency fore-and-aft oscillation of the vehicle while cruising or accelerating at part throttle.

Backfire -- the rapid ignition of the F/A charge either entering the combustion chamber (induction backfire) or after leaving the combustion chamber (exhaust backfire) This rapid ignition of the F/A charge outside of the cylinder is usually accompanied by an audible explosion.

Stretchiness -- a lack of performance during light to moderate accelerations. This phenomenon differs from "hesitation" by the length of time during which the vehicle suffers from this condition (i.e. "stretchiness" may be of unlimited duration).

Dieseling -- a period during which the engine continues to run after the ignition is shut off. The build-up of carbon deposits in the combustion chamber and high idle speeds contribute to this condition.

Adjectives of degree:

Light -- detectable by a skilled driver specifically looking for driveability defects.

6.6 Performance and Driveability (continued)

Moderate -- detectable by an average driver versed in the terminology of the art.

Severe -- detectable by any driver.

Poor, fair, good, etc. -- terms relative to like characteristics in vehicles of the same weight and engine class.

6.6.1 Performance

The following performance data was run on both the "baseline" configuration and the "final" configuration. In both cases, the performance was run after the 4,000 mile durability test.

	Data	
Test	Baseline	Final
WOT Accel. 0-96 km/hr (60 MPH)	26 secs.	25 secs.
WOT Accel. 72-105 km/hr (45-65 MPH)	16 secs.	15 secs.
WOT Accel. from Stop to 0.4 km (1/4 mi)	24 secs.	24 secs.
WOT Accel. from Stop to 0.4 km (1/4 mi)	96 km/hr	96 km/hr

The data shows that the performance for both the "baseline" configuration and the "final" configuration to be essentially the same. It should be pointed out that at this WOT condition, the "baseline" carburetor is operating at an A/F ratio of 12.3 to 1, while the sonic carburetor is operating at an A/F ratio of 15.7.

6.6.1 Performance (continued)

The NO_x level for both configurations is essentially the same at about 0.6 gm/km (1.0 gm/mi). The same NO_x level is achieved by using more EGR on the "baseline" configuration.

6.6.2 Driveability

The driveability was checked by two drivers and the data and opinions were in agreement on the results. The cold starts and cold driveability were checked over the temperature range of 0^oC to 16^oC (32^oF to 60^oF). This is the temperature range normally experienced in Detroit, Michigan, during the month of November.

The following data and impressions were observed for both the "baseline" configuration and the "final" configuration. The tests cover cold starts, cold driveability, hot starts, hot driveability, and WOT accelerations for both hot and cold engine conditions.

Test: Cold start time (above 16^oC ambient); Results: Baseline: 2 seconds, Final: 2 seconds.

Test: Cold start stalls (above 16^oC ambient); Results: Baseline: 15%, Final: 2%.

Test: Cold start time (0 to 16^oC ambient); Results: Baseline: 3 seconds, Final: 4 seconds.

Test: Cold start stalls (0 to 16^oC ambient); Results: Baseline & Final: Poor with moderate hesitation and severe stretchiness.

6.6.2 Test: WOT acceleration from 0 km/hr after a cold start; Results: Baseline: Stumble, backfire and passout, Final: Stumble and passout.

Test: Cold driveability (0 to 16°C ambient): Results: Baseline: Good, Final: Poor.

Test: Hot driveability (0 to 26°C ambient): Results: Baseline: Poor with moderate hesitation and severe stretchiness, Final: Poor with moderate hesitation and severe stretchiness. Occasional severe surge at idle.

Test: Hot start time (0 to 26°C ambient): Results: Baseline: 3 seconds, Final: 3 seconds.

Test: Driveability after hot soaks of 30 minutes; Results: Baseline: Moderate surge for 4 km, Final: Light surge for 4 km.

Test: Driveability after hot soaks of 2 hours; Results: Baseline: Severe stretchiness for 4 km after start, Final: Severe stretchiness for 4 km.

The improved cold driveability at ambients colder than 16°C was due to the lockout of the EGR system and the vacuum spark delay at cooling fluid temperatures of less than 16°C (60°F). The cold driveability of the "final" configuration vehicle is slightly worse than the "baseline" car at temperatures less than 16°C (60°F) because of the extremely lean A/F ratio.

7. Task 5 - Plans and Recommendations for Future Work

The vehicle selected for this program was a Dodge Dart with a 225 CID six-cylinder engine. This engine was set up for low emissions with a California Emissions Package. This combination was difficult to improve upon. Two factors led to this difficulty:

a) The power weight ratio was low, this led to much of the operation at manifold vacuums less than 5" Hg. For instance, at (60 MPH) steadystate vehicle speed on the emission rolls, the manifold vacuum is 5" Hg. The carburetor operates in the sonic range for manifold vacuums greater than approximately 5" Hg. Therefore, there is a range of operation for slight grades and accelerations where the carburetor is operating in the subsonic flow range.

b) The opening in the intake manifold at the carburetor flange is small. This required a transition section between the carburetor and the manifold. A manifold with a larger opening would have eliminated this transition section and reduced the wall wetting effect on this installation. This may permit a reduction in the size of the acceleration pump and thus improve emissions.

The following recommendations should be considered:

a) The test vehicle should be run with a three-way catalyst

7. Task 5 - Plans and Recommendations for Future Work (continued)

and the sonic carburetor calibrated for the optimum air/fuel ratio.

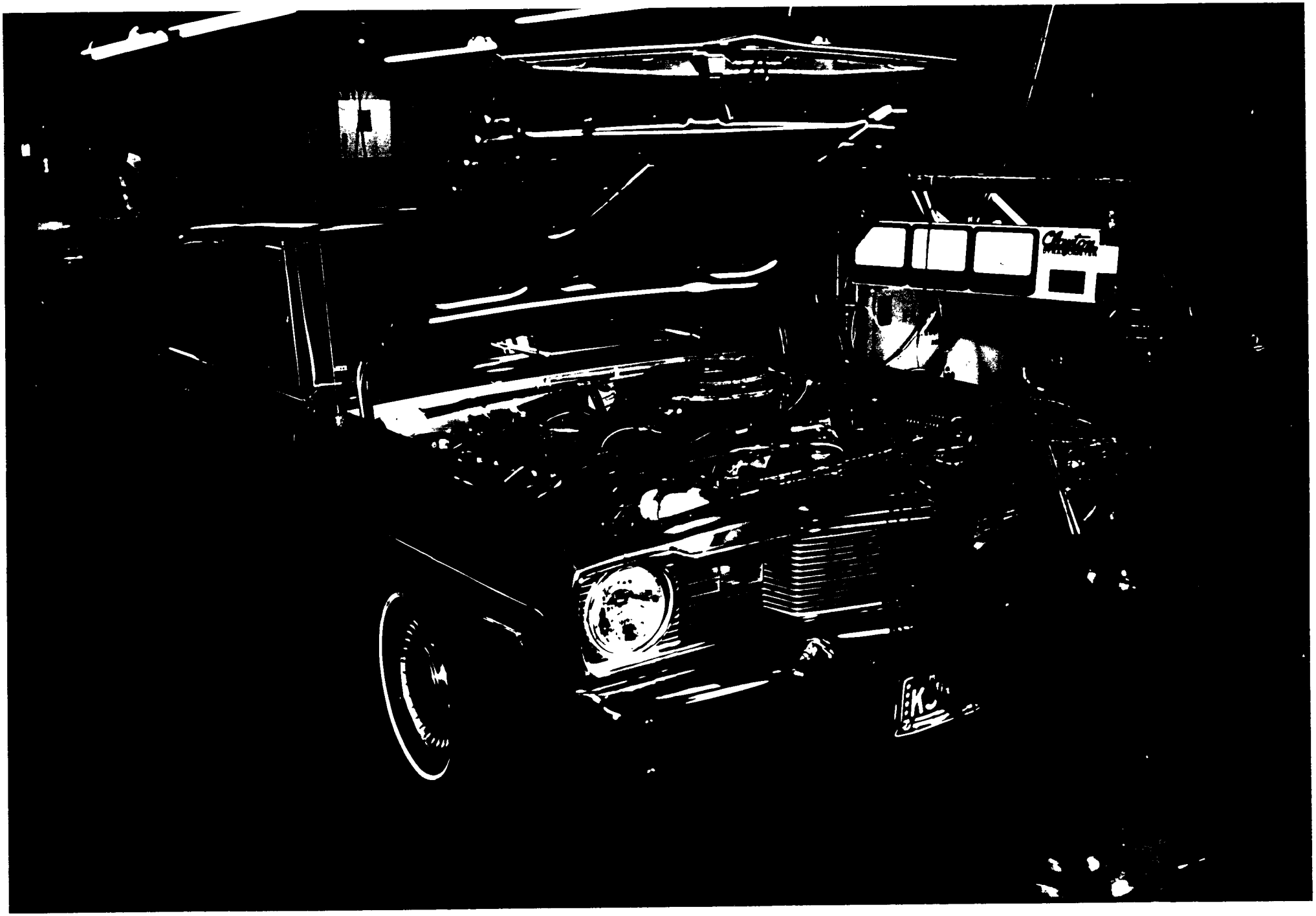
b) The test vehicle should be tested on lower vapor pressure fuels that may have to be used in the future because of the energy shortage.

c) The sonic carburetor should be tested on a vehicle with a greater power to weight ratio. This will permit the carburetor to operate in the sonic flow range over more of the driving cycle.

8.0 Photographs of Sonic Carburetor Installation

The following two photographs show the installation of the sonic carburetor on the Dodge Dart test vehicle. The first photograph of the complete vehicle shows the hood raised and the air cleaner in place on top of the carburetor.

The second photograph is a close-up of the sonic carburetor in the engine compartment with the air cleaner removed. The throttle is in the wide-open position and the fuel bar is visible in the venturi entrance.



9.0 Sample Calculations for Data Reduction

Data:

Speed = 1400 RPM.

Obs. scale load = 50.

Dynamometer constant = 1.75.

Fuel flow = 12.8 PPH.

Manifold vacuum - 4 inch Hg.

HC = 510 PPM FID.

CO = .1%.

Intake CO_2 with EGR = .48%.

Intake CO_2 without EGR = .12%.

Exhaust CO_2 with EGR = 13.27%

O_2 = 4.0%

NO = 1.252 PPM.

Torque:

T = Scale load x dyna. const.

T = 50 x 1.75 = 87.5 ft. -#.

T_m = 1.356 (ft. -#) N·m.

T_m = 1.356 (87.5) = 118.6 N·m.

Power:

$$P = \frac{T \times RPM \times 2\pi}{33{,}000} \text{ HP}$$

$$P = \frac{(1.75)(2\pi)}{33{,}000} \times \text{Scale Load} \times \text{RPM, HP}$$

9.0 Sample Calculation (continued)

Power:

$$P = \frac{\text{Scale Load x RPM,}}{33{,}000} \text{ HP}$$

$$P = \frac{50 \times 1400}{3{,}000} = 23.33 \text{ HP}$$

$$P_m = .7457 \text{ (HP)} = 7.457 \text{ (23.33)} = 17.40 \text{ kw}$$

Fuel Flow:

$$W_f = .4536 \text{ (PPH) kg/hr}$$

$$W_{fm} = .4536 \text{ (12.8)} = 5.806 \text{ kg/hr}$$

Specific Fuel Consumption:

$$\text{BSFC} = \frac{\text{Fuel Flow}}{\text{Power}} = \frac{5.806 \text{ kg/hr}}{17.4 \text{ kw}}$$

$$\text{BSFC} = .3337 \frac{\text{kg}}{\text{kw-hr}}$$

A/F Ratio from Net O_2:

$$\text{Net } O_2 = O_2 \text{ obs} - \frac{\text{HC}}{1000}$$

$$\text{Net } O_2 = 4.0 - .51 = 3.49\%$$

From Chart A/F = 17.3

9.0 Sample Calculation (continued)

% Carbon for Brake Specific Calculations:

$$\% C_{BS} = \% CO_2 + CO + \frac{.6 \text{ HC PPM}}{1000}$$

$$\% C_{BS} = 13.27 + .1 + .6\ (.510) = 13.676$$

BSNO:

$$BSNO = BSFC \left(\frac{216.3 \left(\frac{\text{NO PPM}}{1000} \right)}{\% C_{BS}} \right), \text{ gm/kw-hr}$$

$$BSNO = \frac{.3337}{13.676} \quad (216.3) \quad (1.252) = 6.608 \text{ gm/kw-hr}$$

$$BSHC = \frac{BSFC \left(620.6 \left(\frac{\text{HC PPM}}{1000} \right) \right)}{\% C_{BS}}, \text{ gm/kw-hr}$$

$$BSHC = \frac{.3337}{13.676} \quad (620.6) \quad (.510) = 7.723 \text{ gm/kw-hr}$$

$$\% \text{ EGR} = \frac{(\text{Intake } CO_2 \text{ with EGR}) - (\text{Intake } CO_2 \text{ without EG}}{(\text{Exhaust } CO_2 \text{ with EGR}) \times .01}$$

$$\% \text{ EGR} = \frac{.48 - .12}{(13.27)} = 2.71$$

Solve for BSNO and BSHC formulae given BSFC, Indolene fuel ($C_7 H_{13.02}$).

Exhaust Products: % CO_2 and % CO by volume. HC PPM of Hexane equivalent. NO PPM by volume.

9.0 Sample Calculation (continued)

Carbon Balance:

$$Z\ C_7 H_{13.02} \rightarrow (\%\ CO_2)\ CO_2 = (\%\ CO)\ CO$$

$$+ \frac{(HC\ PPM)}{10{,}000}\ C_6 H_{14}$$

$$Z = \left(\%\ CO_2 + \%\ CO + \frac{6\ HC\ PPM}{10{,}000}\right) \frac{1}{7} \text{ moles of fuel}$$

Molecular Wts.:

$$C_7 H_{13.02} = 7\ (12) + 13.02\ (1.008) = 97.124 \text{ gm/mole}$$

$$NO = 14.01 + 16 = 30.01 \text{ gm/mole}$$

$$C_6 H_{14} = 6\ (12) + 14\ (1.008) = 86.112 \text{ gm/mole}$$

Weight Ratio of NO and HC to Fuel:

$$\frac{\text{gm NO}}{\text{gm Fuel}} = \frac{30.01 \left(\frac{NO\ PPM}{10{,}000}\right) 7}{\left(\%\ CO_2 + \%\ CO + \frac{.6\ HC\ PPM}{1000}\right) 97.124}$$

$$\frac{\text{gm NO}}{\text{gm Fuel}} \qquad \frac{.2163 \left(\frac{NO\ PPM}{1000}\right)}{\%\ CO_2 + \%\ CO + \frac{.6\ HC\ PPM}{1000}}$$

$$\frac{\text{gm HC}}{\text{gm Fuel}} = \frac{86.112 \left(\frac{HC\ PPM}{10{,}000}\right) 7}{\left(\%\ CO_2 + \%\ CO + \frac{6\ HC\ PPM}{1000}\right) 97.124}$$

9.0 Sample Calculation (continued)

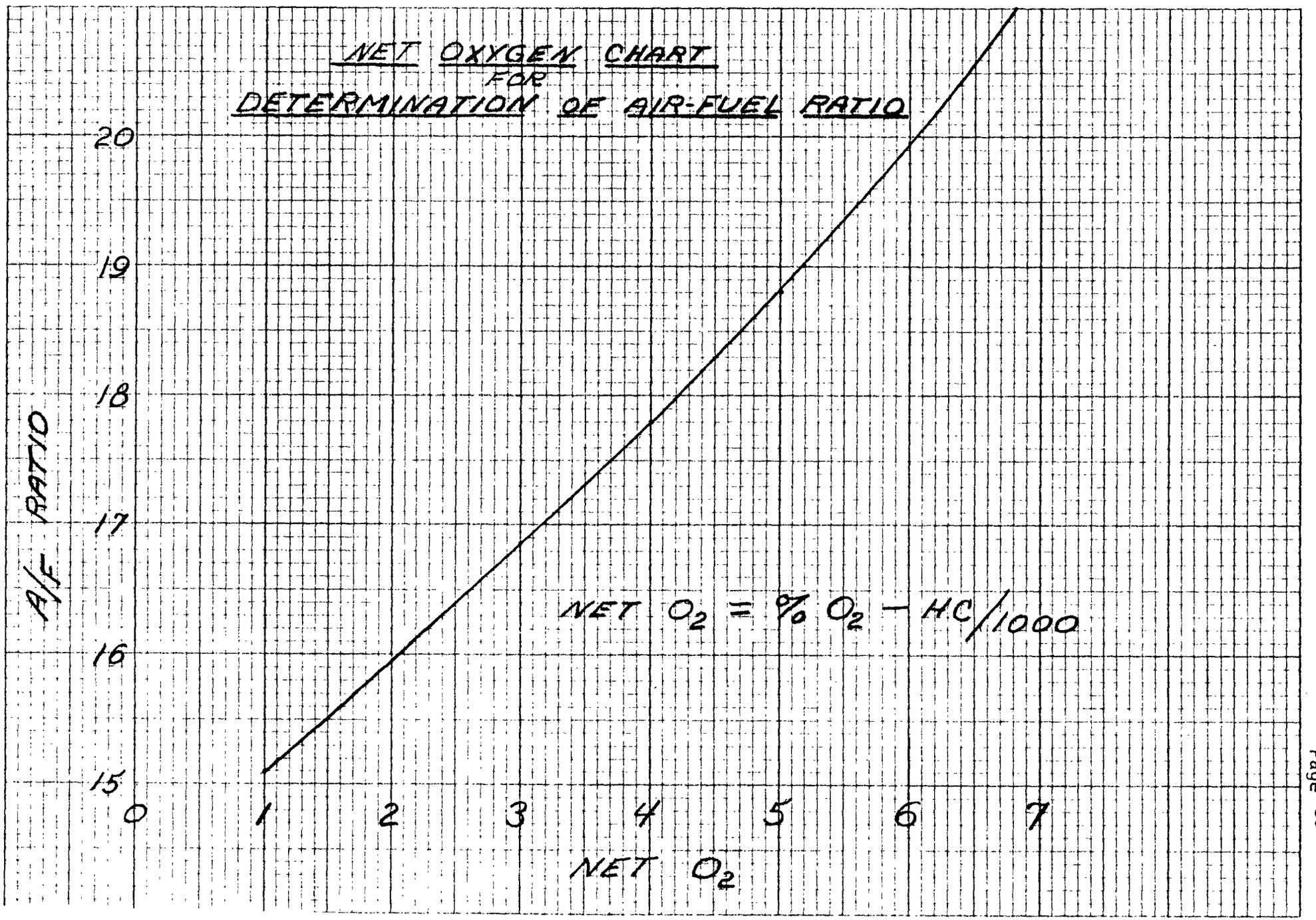
Weight Ratio of NO and HC to Fuel:

$$\frac{\text{gm HC}}{\text{gm Fuel}} = \frac{.6206 \left(\frac{\text{HC PPM}}{1000}\right)}{\%\ CO + \%\ CO + \frac{.6\ \text{HC PPM}}{1000}}$$

Let $\%\ CO_2 + \%\ CO + \frac{.6\ \text{HC PPM}}{1000} = \%\ CO_{BS}$ then:

$$BSNO = BSFC \left(\frac{.2163 \left(\frac{\text{NO PPM}}{1000}\right)}{\%\ C_{BS}}\right), \text{ kg/kw-hr}$$

$$BSHC = BSFC \left(\frac{.6206 \left(\frac{\text{HC PPM}}{1000}\right)}{\%\ C_{BS}}\right), \text{ kg/kw-hr}$$


NET OXYGEN CHART
FOR
DETERMINATION OF AIR-FUEL RATIO
A/F RATIO
20
19
18
17
16
15
0
1
2
3
4
5
6
7
NET O_2
NET O_2 = % O_2 − HC/1000

10.0 Data

The attached data sheets, numbered 1 through 109 is all of the useful data taken during the program. It consists of emission laboratory tests of the vehicle in various configurations as defined on the top of each emission run.

The engine data, as taken on the dynamometer log sheets, is defined on each sheet. Most of the attached data appears throughout the report in the form of tables of data and graphs.

The emission room CVS system was found to have an error in the system for all data taken before November 1, 1977. This is for all run numbers higher than run 10 in the attached data. This error was due to a difference in density between the point where the density of the emissions were measured and the point where the volume of the emissions were measured. It resulted in the average CVS flow constant (cubic feet per revolution) changing from .229 to .263. This factor was used to correct the required data in the body of the report, but not all of the attached data.

(1.) COLD 75#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, 013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. Choke retimed to approximately 2 minutes.

HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
11-12-76 8:16
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 55
DRY BULB ? 74
BAROMETER? 2946
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5C80
REMARKS ? CARB SONIC
REMARKS ? ENGINE 225 CID
REMARKS ? C-75 FPA

HC	CO	NOx	ECON.
.447	3.29	.970	14.9

install

IDLE SET: AS IS
ODOMETER:
NOTES: W/TRAEES&PROBE

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .00 CO2R=-00.02 NO= 7*CO2D= .00

ZERO CHECK OUT OF LIMITS
FID= -0001 COR= .00 CO2R=-00.02 NO= -0010*CO2D= .02

ZERO CHECK
FID= -0002 COR= .00 CO2R=-00.02 NO= 1 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 104* COR= 8.23 CO2R= 15.55 NO= 195 CO2D= 4.15

ZERO CHECK
FID= 0 COR= .00 CO2R=-00.02 NO= 0 CO2D= .00

SPAN CHECK
FID= 99 COR= 8.20 CO2R= 15.51 NO= 195 CO2D= 4.18

REPEAT Z/S CHECKS? N

TEST START : 8:26:48.8
CRANK TIME : 1.4

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	216	.17	24	.25	.04	.013	.07	.001	.2	1.2	6.25
I 1298	1068	3.92	169	10.10	.73	.361	8.93	.053	36.1	6.9	13.84
A 2.92	1068	5.13	192	10.42	1.03	.494	15.98	.083	51.0	9.4	10.12
C 25.8	952	2.56	189	12.34	1.94	2.955	53.47	.546	405.1	63.4	6.36
D-1.03	622	.95	651	14.05	1.31	.136	1.39	.132	32.4	4.5	10.73
--CYCLE 1 (GRAMS/MILE)--						1.100	22.18	.227	145.8	85.4	9.01
I 774	347	.15	468	12.71	1.24	.301	.88	.378	116.5	17.7	10.25
A 1.99	451	.48	347	13.09	2.46	.836	5.99	.599	256.7	37.8	5.30
C 53.2	198	.11	299	13.11	3.42	1.130	4.22	1.588	791.1	116.5	3.83
D-1.00	231	.15	59	13.08	1.03	.138	.60	.033	82.7	12.2	12.70
--CYCLE 2 (GRAMS/MILE)--						.668	3.25	.721	346.4	184.2	13.66
I 586	161	.08	112	12.42	.66	.026	.09	.017	20.9	3.2	18.82
A 2.78	230	.19	426	13.40	2.37	.188	1.04	.323	115.5	16.6	5.65
C 36.1	319	.31	124	13.42	1.89	.176	1.15	.064	78.1	11.2	7.10
D-1.15	158	.11	62	12.79	.78	.031	.15	.011	26.6	4.0	16.40
--CYCLE 3 (GRAMS/MILE)--						.117	.67	.115	67.0	35.1	13.30
I 590	152	.06	201	12.50	.67	.009	.03	.012	8.2	1.3	18.66
A 3.39	236	.21	506	12.57	2.25	.126	.76	.252	71.1	10.9	5.59
D-1.00	158	.38	68	11.56	1.19	.052	.85	.021	40.5	6.8	9.71
--CYCLE 4 (GRAMS/MILE)--						.052	.45	.079	33.3	18.9	10.17
I 586	146	.06	108	12.40	.66	.032	.09	.022	28.9	4.5	18.79
A 3.16	220	.15	470	13.31	2.53	.164	.75	.325	104.7	15.2	5.26
C 35.5	381	.26	63	13.17	1.74	.311	1.43	.048	113.8	16.7	7.57
D-1.02	207	.15	41	12.60	.77	.041	.20	.007	26.1	4.0	16.36
--CYCLE 5 (GRAMS/MILE)--						.152	.69	.112	76.0	40.4	14.24
I 578	161	.08	95	12.43	.65	.010	.03	.005	7.9	1.2	19.12
A 2.34	239	.41	198	13.38	1.56	.122	1.40	.094	72.0	10.4	8.58
C 25.3	237	.38	84	13.57	1.24	.069	.75	.023	41.9	6.0	10.94
D-1.04	113	.08	59	10.02	.83	.019	.09	.009	18.1	3.5	12.07
--CYCLE 6 (GRAMS/MILE)--						.056	.58	.034	35.9	21.1	12.86
I 586	140	.06	96	11.94	.66	.029	.10	.018	25.6	4.2	17.94
A 3.25	260	.43	220	13.45	1.58	.056	.63	.044	30.8	4.4	8.51
C 20.0	217	.38	173	13.27	1.21	.159	1.87	.118	102.5	14.9	10.97
D-1.03	169	.12	62	12.84	.87	.024	.11	.008	19.0	2.9	14.76
--CYCLE 7 (GRAMS/MILE)--						.068	.69	.048	45.6	26.4	12.26
I 587	139	.06	75	12.49	.66	.042	.12	.021	40.0	6.2	18.92
A 2.75	245	.31	226	13.67	1.74	.107	.91	.092	63.3	8.9	7.86
D-1.01	171	.20	51	13.09	1.04	.062	.49	.017	50.4	7.4	12.59
--CYCLE 8 (GRAMS/MILE)--						.054	.39	.033	39.4	22.5	9.51
I 587	133	.06	75	9.87	.65	.026	.08	.014	20.4	4.0	15.20
A 2.03	235	.51	164	13.49	1.41	.124	1.81	.080	75.1	10.8	9.57
D-1.03	147	.10	74	12.80	.81	.026	.12	.012	23.6	3.6	15.80
--CYCLE 9 (GRAMS/MILE)--						.045	.51	.027	30.5	18.3	9.68
A 2.59	241	.24	281	13.70	1.82	.132	.88	.143	79.3	11.2	7.53
D-1.03	162	.13	78	12.96	.96	.058	.31	.026	48.8	7.3	13.50
--CYCLE 10 (GRAMS/MILE)--						.049	.31	.043	32.8	18.4	12.92
A 2.72	245	.26	270	13.71	1.89	.131	.94	.135	77.7	10.9	7.25
C 27.3	221	.25	86	13.18	1.37	.851	6.48	.308	537.0	78.6	9.62
D-1.02	175	.30	62	13.02	.93	.031	.36	.010	24.5	3.6	14.00
--CYCLE 11 (GRAMS/MILE)--						.260	1.99	.116	163.9	93.2	18.44
A 2.60	226	.22	294	13.71	1.74	.118	.77	.142	75.4	10.6	7.88
C 25.1	213	.24	77	12.27	1.26	.159	1.21	.054	96.9	15.2	9.74

```
D-1.01  166  .25  43 12.87  .82    .038    .39    .009   31.5 /-2  4.7 15.70
     --CYCLE 12 (GRAMS/MILE)--     .081    .61    .053    52.3    30.6 15.95

I  591  127  .06  75 12.86  .67    .044    .14    .024   47.1     7.1 19.19
A 2.55  257  .25 258 13.72 1.81    .140    .91    .130   78.8    11.1  7.58
D-1.01  135  .08  42 12.82  .83    .060    .24    .017   60.0     9.0 15.45
     --CYCLE 13 (GRAMS/MILE)--     .062    .33    .044   47.6    27.2  9.78

A 2.14  209  .29 164 13.57 1.44    .111   1.04    .081   76.3    10.9  9.42
C 26.5  194  .26  56 11.65 1.44    .104    .93    .028   65.8    10.9  8.09
D-1.02  154  .06  44 12.81  .77    .025    .08    .007   22.3     3.4 16.64
     --CYCLE 14 (GRAMS/MILE)--     .062    .53    .030   42.2    25.1 14.65

I  591  125  .05  93 12.93  .67    .022    .06    .015   24.2     3.6 19.30
A 3.64  214  .18 443 13.67 1.86    .060    .34    .115   40.4     5.7  7.35
D-1.03  340  .36  67 13.11 1.05    .062    .44    .011   25.3     3.7 12.49
     --CYCLE 15 (GRAMS/MILE)--     .037    .22    .036   23.0    13.0  6.58

I  588  146  .05  79 13.01  .68    .016    .04    .008   14.7     2.2 19.13
A 2.07  267  .40 150 13.40 1.33    .121   1.22    .063   64.2     9.2 10.08
C 21.2  170  .17  74 13.24 1.02    .051    .34    .021   41.8     6.1 12.98
D-1.02  144  .09  52 12.94  .76    .021    .09    .007   20.1     3.0 17.03
     --CYCLE 16 (GRAMS/MILE)--     .053    .43    .025   36.1    20.5 12.19

I  584  126  .06  51 12.94  .67    .018    .06    .007   19.5     2.9 19.31
A 2.07  208  .25 231 11.99 1.34    .122    .98    .126   74.2    11.9  8.95
C 25.3  209  .30 106 13.56 1.39    .112   1.09    .053   77.1    11.0  9.76
D-1.02  192  .27  51 13.09  .93    .034    .32    .008   24.6     3.6 14.08
     --CYCLE 17 (GRAMS/MILE)--     .073    .63    .050   50.1    29.4 12.99

I  591  124  .05  73 12.91  .67    .035    .10    .019   38.8     5.8 19.27
A 2.57  232  .48 164 13.49 1.62    .089   1.24    .059   54.8     7.8  8.33
D-1.01  127  .08  56 12.78  .74    .027    .11    .011   28.7     4.3 17.27
I   15  662  .03  17 11.34  .50    .051    .02    .001    9.2     1.6 22.68
     --CYCLE 18 (GRAMS/MILE)--     .052    .38    .023   33.7    19.5  8.26


TEST STOP:   8:50:17
TEST LENGTH: 1379.9


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     5  COD=     0  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=    98* COD=  1765  NOX=   191 CO2D=  4.16

ZERO CHECK
 FID=     4  COD=     0  NOX=     0 CO2D=   .02

SPAN CHECK
 FID=   100  COD=  1765  NOX=   194 CO2D=  4.16

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    47  COD=   831  NOX=    43 CO2D=  1.85

COLD STAB SAMP
 FID=     9  COD=    78  NOX=    14 CO2D=  1.16

COLD TRAN AMB
 FID=     6  COD=    10  NOX=     0 CO2D=   .06
```

COLD STAB AMB
FID= 5 COD= 7 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

SOAK TIME : 601

TEST START : 8:59:52.2
CRANK TIME : 1.2

MODE P/A/S	TAILPIPE CONC HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/P F/E
CRANK	147	.17	39	.35	.05	.007	.05	.002	.2	1.0	7.00
I 650	582	1.89	209	13.00	.37	.077	1.68	.026	18.1	2.7	35.14
A 3.13	316	.23	465	13.82	1.66	.097	.47	.133	44.8	6.3	8.33
C 25.6	234	.21	253	13.49	1.42	.482	2.91	.485	293.8	42.0	9.50
D-1.03	171	.09	86	12.77	.78	.024	.09	.011	19.2	2.9	16.37
--CYCLE 1 (GRAMS/MILE)--						.191	1.44	.182	104.5	54.9	15.46
I 602	126	.06	121	11.84	.66	.062	.23	.055	61.7	10.1	17.94
A 2.13	267	.27	803	13.44	2.21	.430	2.93	1.204	229.1	32.9	6.05
C 53.3	158	.12	360	13.08	2.94	.777	3.97	1.647	680.1	100.4	4.45
D-1.00	495	.13	54	12.53	.89	.266	.51	.027	71.3	11.0	14.08
--CYCLE 2 (GRAMS/MILE)--						.427	2.12	.815	289.5	154.3	16.42
I 574	162	.08	125	12.94	.66	.025	.08	.018	20.8	3.1	19.61
A 2.78	234	.16	492	13.70	2.15	.169	.78	.331	104.7	14.8	6.37
C 36.2	317	.24	131	13.45	1.82	.167	.85	.064	75.1	10.8	7.39
D-1.02	217	.10	67	12.73	.75	.041	.13	.012	25.4	3.9	16.97
--CYCLE 3 (GRAMS/MILE)--						.112	.51	.118	62.8	32.5	14.23
I 579	155	.08	194	12.87	.65	.009	.03	.010	7.9	1.2	19.80
A 3.41	190	.13	536	13.24	2.32	.100	.49	.261	73.4	10.7	5.71
D-1.02	278	.31	79	10.57	.99	.084	.63	.022	33.6	6.1	10.68
--CYCLE 4 (GRAMS/MILE)--						.053	.32	.082	31.9	18.0	10.67
I 582	135	.06	129	12.92	.67	.029	.10	.026	29.2	4.4	19.28
A 3.14	175	.15	501	13.25	2.54	.131	.75	.349	104.8	15.3	5.22
C 35.8	354	.19	86	13.13	1.63	.271	.98	.061	106.4	15.6	8.06
D-1.02	242	.11	80	12.83	.76	.046	.14	.014	25.8	3.9	16.88
--CYCLE 5 (GRAMS/MILE)--						.132	.55	.125	73.9	39.1	14.68

TEST STOP: 9: 8:40
TEST LENGTH: 506.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 0 NOX= 0 CO2D= .02

SPAN CHECK
FID= 100 COD= 1773 NOX= 193 CO2D= 4.18

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 10 COD= 80 NOX= 42 CO2D= 1.57

HOT TRAN AMB
FID= 6 COD= 6 NOX= 0 CO2D= .05

REPEAT BAG READS ? N

1.4

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.742	10.07	.482	211	34.8
ACCEL	1.808	24.51	1.582	599	90.0
DECEL	.398	3.19	.205	208	31.4
CRUISE	4.571	60.28	2.245	1388	207.7
CHOKE	5.096	86.70	1.792	898	140.9
TOTAL	7.520	98.05	4.515	2406	364.1

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.089	27.24	1.254	668.4	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.292	.73	.133	247	38.7
ACCEL	1.432	13.08	1.305	862	123.9
DECEL	.487	3.16	.154	397	60.0
CRUISE	1.505	12.67	.604	963	142.7
CHOKE	.000	.00	.000	0	.0
TOTAL	3.716	29.63	2.196	2469	365.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	.953	7.60	.563	633.2	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.208	2.18	.137	138	22.4
ACCEL	.927	5.43	2.278	557	79.9
DECEL	.461	1.49	.086	175	27.7
CRUISE	1.697	8.71	2.258	1155	168.8
CHOKE	1.179	8.36	1.916	667	97.3
TOTAL	3.293	17.81	4.759	2025	298.8

EQUIVALENT MASS BAG RESULTS

GMS/MI	.915	4.95	1.322	562.6	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.177	10.93	.913	621.1	

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.390	17.54	1.328	631.4
COLD STABILIZED	.226	2.38	.664	595.9
HOT TRANSIENT	.154	1.58	1.281	529.0
WEIGHTED TOTAL	.447	5.29	.970	584.9

14.91

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	6.895	11.450	8.477
RELATIVE HUMIDITY	28	28	28
HUM. CORR. FACTOR	.842	.842	.842
CVS REVOLUTIONS	10000	16880	9930
AVG.INLET DEPR. (IN.H20)	12.6	12.5	12.6

AVG.PRESSURE DIFF. (IN.H2O)	21.7	21.5	21.6
AVG.CVS TEMPERATURE (DEG.F)	85	93	88
MAX.INLET DEPR. (IN.H2O)	12.7	12.5	12.6
MIN.INLET DEPR. (IN.H2O)	12.4	12.4	12.5
MAX.CVS TEMPERATURE (DEG.F)	92	94	93
MIN.CVS TEMPERATURE (DEG.F)	77	91	83
AVG.CVS FLOW (CU.FT/REV)	.264	.264	.264
TOTAL CVS VOL. (STD.CU.FT.)	2439	4059	2409
AVG MODAL CO2 RATIO	6.57	11.07	7.97
FUEL ECONOMY (MI/GAL)	13.37	14.78	16.68

DAMON
#1

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	11/10/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	EPA DIST	BAROMETER (IN. HG.):	28.930
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	58.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	48.49983
CARBURETOR & NO.:		KH:	0.88924
VEHICLE TEST WT.:		R:	37.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.500	IN. H20	V0	= 0.264 CU. FT./REV.
N	=	14417.0	REV.	DF	= 5.163
PP	=	711.469	MM HG	V MIX	= 3325.652 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	11.229	0.610	0.060
CO	19.839	2.175	0.212
C02	25254.950	4354.832	425.193

MPG = 20.848

DAMON
#2

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	11/10/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	Ext Dart	BAROMETER (IN. HG.):	28.930
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	58.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	48.49983
CARBURETOR & NO.:		KH:	0.88924
VEHICLE TEST WT.:		R:	37.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.800	IN. H20	VO	=	0.264 CU. FT./REV.
N	=	14540.0	REV.	DF	=	5.415
PP	=	710.909	MM HG	V MIX	=	3351.382 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	7.986	0.437	0.043
CO	14.509	1.603	0.157
CO2	24047.730	4178.750	408.001

MPG = 21.733

DAMON
#3

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	11/10/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	Ford	BAROMETER (IN. HG.):	28.930
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	58.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	48.49983
CARBURETOR & NO.:		KH:	0.88924
VEHICLE TEST WT.:		R:	37.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.800 IN. H20	V0	=	0.264 CU. FT./REV.
N	=	14544.0 REV.	DF	=	5.264
PP	=	710.909 MM HG	V MIX	=	3346.389 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	11.129	0.608	0.059
CO	18.256	2.014	0.197
CO2	24751.960	4294.715	419.324

MPG = 21.141

5

SHEET 1

TEST NO. 1 LAB NAME Holley Emissions CAR NO. 508
SYSTEM UNDER TEST Holley Sonic FUEL Indo 0
VEH. MFR. Chev MODEL Vega YEAR 75
BODY TYPE 4dr Sedan TRANS. Auto WEIGHT 3500
ODO. AIR CONDITIONER yes ACC.
ENG. MFR. Chev ENG. TYPE Strt Six NO. CYL. 6
DISPL. 225 CARB. MAKE Holley MODEL & NO. VENTURI Sonic
ADV. H.P. MANIF. HEAT
FUEL TANK LOCATION & CONFIGURATION
TANK VENT SYSTEM Canister
TANK CAPACITY FILL CAP TYPE non Vented
CARB. VENT SYS. Canister
FUEL PUMP TYPE Mech BLEED BACK RETURN LINE yes

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	11-9-74								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	7:10	70	64	8:15	75	84	9:02	78	94
	FINISH	8:10	72	84	8:59	74	94	10:03	79	92
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		7						79	
	TARE WT.		261.67						25301	
	END WT.		262.46						25331	
	DIFF.		.79						.30	
CHARCOAL IDENT.		TOTAL EMISSION								1.09 gm

OBSERVER Martin Lukaszewski

6.2
SHEET

TEST NO. 2 LAB NAME Holley Emission CAR NO. SC80
SYSTEM UNDER TEST Holley Sonic FUEL Indo 0
VEH. MFR. Chev MODEL Dart YEAR 75
BODY TYPE 4 DR SEDAN TRANS. AUTO WEIGHT 3500
ODO. AIR CONDITIONER Yes ACC.
ENG. MFR. Chev ENG. TYPE SLANT SIX NO. CYL. 6
DISPL. 225 CARB. MAKE Holley MODEL & NO. VENTURI Sonic
ADV. H.P. MANIF. HEAT
FUEL TANK LOCATION & CONFIGURATION
TANK VENT SYSTEM
TANK CAPACITY FILL CAP TYPE non-vented
CARB. VENT SYS. Canister
FUEL PUMP TYPE mech BLEED BACK RETURN LINE Yes

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	11-10								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	6 59	73	62	8 00	72	86	9 05	73	95
	FINISH	8 08	74	85	9 02	73	95	10 03	72	94
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		3						5	
	TARE WT.		271.63						258.60	
	END WT.		272.42						258.95	
	DIFF.		.79						.35	
CHARCOAL IDENT.		TOTAL EMISSION								1.14 gms

OBSERVER

SHEET 7 3

TEST NO. 3 LAB NAME Holley Emission - CAR NO. 5080
SYSTEM UNDER TEST Holley Sonic FUEL Indo C
VEH. MFR. Chev MODEL Ldz - Dart YEAR 75
BODY TYPE Loz Sedan TRANS. Auto WEIGHT 3500
ODO. AIR CONDITIONER yes ACC.
ENG. MFR. Chev ENG. TYPE Slant Six NO. CYL. 6
DISPL. 225 CARB. MAKE Holley MODEL & NO. VENTURI Sonic
ADV. H.P. MANIF. HEAT
FUEL TANK LOCATION & CONFIGURATION Under Trunk
TANK VENT SYSTEM Canister
TANK CAPACITY FILL CAP TYPE Non Vented
CARB. VENT SYS. Canister
FUEL PUMP TYPE Mech. BLEED BACK RETURN LINE yes

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	11-11-76								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	6 58 Am	77	60	8:42	72	84	9 06 Am	72	95
	FINISH	7 58 Am	73	84	8:55	73	92	10 06 Am	73	91
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		#21						#23	
	TARE WT.		246.77						252.66	
	END WT.		247.52						252.36	
	DIFF.		.75						-.30	
CHARCOAL IDENT.		TOTAL EMISSION								1.11 g

OBSERVER M. Sulaszek

(8)

EVAP. COLD 75#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0527 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1^{0} ATDC. Choke retimed to approximately 2 minutes.

HC	CO	NOX	CCON.
.411	6.71	.952	15.34

HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
11-10-76 8: 6
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 58
DRY BULB ? 74
BAROMETER? 2893
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1,2,3,4
VEH. MAKE? DART
VEH. I.D.? 5C80 No stalls
REMARKS ? @ARB SONIC
REMARKS ? ENGINE 225 CID
REMARKS ? C-75 EPA

IDLE SET: AAS IS
ODOMETER: 14210
NOTES: W/TRACES & PROBE

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .00 CO2R= .00 NO= 16*CO2D= .01

ZERO CHECK OUT OF LIMITS
FID= -0001 COR= .01 CO2R= .00 NO= 13*CO2D= .01

ZERO CHECK
FID= -0001 COR= .01 CO2R= .00 NO= 4 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 102 COR= 8.24 CO2R= 15.42 NO= 200*CO2D= 4.17

ZERO CHECK OUT OF LIMITS
FID= -0003* COR= .05 CO2R= .00 NO= 7*CO2D= .01

ZERO CHECK
FID= 0 COR= .05 CO2R= .00 NO= -0002 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 102 COR= 8.19*CO2R= 15.39 NO= 198 CO2D= 4.16

ZERO CHECK
FID= 0 COR= .04 CO2R= .00 NO= 0 CO2D= .01

SPAN CHECK
FID= 103 COR= 8.23 CO2R= 15.41 NO= 194 CO2D= 4.17

8-1

REPEAT Z/S CHECKS? N

TEST START : 8:19: .9
CRANK TIME : 1.2

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	105	.05	37	.35	.04	.004	.01	.001	.1	.7	8.75
I 1355	1025	6.67	113	10.54	.67	.294	12.87	.032	32.0	5.9	15.73
A 3.06	993	2.03	303	12.59	1.51	.297	4.09	.089	39.9	6.1	8.34
C 25.7	832	3.38	201	12.74	1.86	2.306	63.04	.548	373.4	56.6	6.85
D-1.14	583	1.31	672	14.59	1.42	.128	1.94	.146	34.0	4.5	10.27
--CYCLE 1 (GRAMS/MILE)--						.841	22.77	.227	133.2	73.8	9.67
I 823	385	.34	604	13.69	1.33	.319	1.90	.493	120.0	16.9	10.29
A 2.10	426	.61	424	13.61	2.58	.760	7.33	.745	257.0	36.4	5.28
C 53.1	199	.17	289	13.45	3.59	1.117	6.42	1.595	798.1	114.5	3.75
D-1.01	256	.13	72	13.32	1.06	.148	.51	.041	81.6	11.8	12.57
--CYCLE 2 (GRAMS/MILE)--						.651	4.49	.798	349.1	179.7	13.49
I 624	156	.10	142	13.01	.69	.024	.10	.021	21.0	3.1	18.86
A 2.77	223	.26	459	13.89	2.37	.168	1.32	.341	110.8	15.4	5.86
C 36.4	293	.35	137	13.78	2.05	.163	1.31	.075	81.2	11.4	6.72
D-1.02	176	.21	74	13.16	.88	.036	.29	.015	28.7	4.2	14.95
--CYCLE 3 (GRAMS/MILE)--						.109	.84	.126	67.2	34.1	13.21
I 623	148	.09	217	12.97	.69	.009	.04	.013	8.0	1.2	18.80
A 3.36	194	.24	475	13.74	2.26	.091	.76	.220	68.4	9.6	6.08
D-1.07	184	.22	82	10.71	1.20	.064	.51	.028	39.1	7.0	8.92
--CYCLE 4 (GRAMS/MILE)--						.045	.36	.072	32.1	17.8	10.59
I 626	143	.09	150	12.82	.69	.031	.13	.031	28.9	4.4	18.58
A 3.15	197	.23	462	13.64	2.63	.142	1.12	.328	104.0	14.7	5.19
C 35.7	315	.32	99	13.75	1.83	.249	1.70	.077	114.7	16.1	7.51
D-1.01	171	.18	73	13.11	.85	.034	.24	.014	27.6	4.1	15.42
--CYCLE 5 (GRAMS/MILE)--						.126	.88	.125	76.5	39.2	14.11
I 627	146	.08	130	12.90	.69	.009	.03	.007	8.0	1.2	18.70
A 2.32	212	.43	203	13.82	1.55	.099	1.35	.094	68.4	9.6	8.92
C 25.5	254	.65	80	13.77	1.43	.081	1.39	.025	46.3	6.5	9.63
D-1.14	144	.11	79	9.00	.83	.026	.13	.014	17.3	3.7	10.84
--CYCLE 6 (GRAMS/MILE)--						.055	.75	.036	35.9	21.0	12.77
I 630	138	.10	110	12.97	.70	.026	.13	.021	26.0	3.9	18.53
A 3.15	286	.46	187	13.70	1.51	.055	.60	.036	28.0	3.9	9.07
C 20.0	236	.51	179	13.71	1.27	.168	2.45	.125	103.3	14.5	10.80
D-1.11	298	.82	98	13.39	1.06	.046	.86	.015	22.1	3.2	12.63
--CYCLE 7 (GRAMS/MILE)--						.076	1.03	.050	46.0	25.5	12.02
I 636	141	.13	116	13.09	.71	.042	.26	.034	41.4	6.1	18.44
A 2.78	198	.22	255	13.88	1.79	.084	.63	.107	62.4	8.7	7.75
D-1.03	230	.58	91	11.75	1.19	.102	1.74	.040	55.3	9.1	9.87
--CYCLE 8 (GRAMS/MILE)--						.059	.67	.046	40.8	23.9	9.09
I 637	131	.13	99	13.07	.70	.020	.13	.015	21.3	3.1	18.67
A 2.06	275	.65	198	13.74	1.44	.140	2.22	.099	73.8	10.4	9.54
D-1.08	158	.21	97	13.30	.84	.026	.24	.016	23.5	3.4	15.83
--CYCLE 9 (GRAMS/MILE)--						.048	.67	.033	30.4	16.9	9.64
A 2.56	231	.42	279	13.93	1.82	.120	1.47	.142	76.4	10.6	7.65
D-1.03	162	.22	98	13.43	1.02	.057	.52	.034	50.1	7.2	13.17
--CYCLE 10 (GRAMS/MILE)--						.045	.51	.045	32.4	17.8	12.95
A 2.71	197	.31	305	14.13	1.87	.098	1.04	.149	74.2	10.1	7.56

C	27.4	237	.45	107	13.51	1.35	.857	10.95	.381	516.5	73.8	10.01
D	-1.02	197	.53	90	13.33	1.03	.037	.68	.017	26.7	3.9	12.94
	--CYCLE 11 (GPAMS/MILE)--						.254	3.25	.140	158.3	87.8	18.84
A	2.62	220	.29	335	12.08	1.75	.128	1.14	.192	74.3	11.9	6.90
C	25.1	184	.32	100	13.75	1.24	.118	1.38	.063	93.5	13.1	11.09
D	-1.01	139	.26	59	13.35	.89	.033	.41	.014	33.4	4.8	15.00
	--CYCLE 12 (GPAMS/MILE)--						.272	.75	.069	51.6	29.8	16.09
I	644	107	.13	97	13.17	.70	.037	.30	.033	47.9	7.0	13.81
A	2.57	213	.30	253	14.10	1.81	.110	1.04	.128	76.8	10.5	7.79
D	-1.01	137	.25	66	12.13	.86	.065	.80	.031	61.0	9.7	14.10
	--CYCLE 13 (GPAMS/MILE)--						.054	.55	.049	47.6	27.2	9.73
A	2.16	195	.31	226	13.91	1.41	.097	1.04	.110	73.1	10.1	9.87
C	26.7	217	.55	68	13.82	1.47	.098	1.69	.030	65.7	9.2	9.40
D	-1.02	130	.20	48	13.31	.80	.021	.22	.008	22.6	3.3	16.64
	--CYCLE 14 (GRAMS/MILE)--						.055	.76	.038	41.4	22.6	14.80
I	647	113	.12	123	13.24	.70	.020	.14	.021	24.7	3.6	13.91
A	3.76	145	.20	482	14.12	1.73	.036	.33	.117	36.8	5.0	8.16
D	-1.03	368	.59	102	13.52	1.29	.078	.85	.021	30.4	4.3	10.48
	--CYCLE 15 (GRAMS/MILE)--						.034	.34	.041	23.6	13.0	6.39
I	655	147	.12	165	13.38	.72	.016	.09	.017	15.2	2.2	18.58
A	2.09	205	.42	161	13.36	1.34	.092	1.27	.071	63.4	9.2	9.97
C	21.3	146	.24	86	12.06	1.05	.048	.53	.028	42.1	6.7	11.49
D	-1.02	145	.29	81	13.36	.87	.023	.31	.013	22.5	3.3	15.36
	--CYCLE 16 (GRAMS/MILE)--						.046	.56	.033	36.7	21.3	11.94
I	645	114	.12	97	13.37	.71	.016	.11	.014	20.1	2.9	18.83
A	2.06	218	.39	238	13.77	1.35	.110	1.32	.118	73.3	10.3	10.20
C	25.4	258	.44	103	13.87	1.42	.135	1.55	.053	76.9	10.7	9.77
D	-1.02	230	.49	76	13.54	1.03	.043	.61	.014	26.6	3.8	13.15
	--CYCLE 17 (GRAMS/MILE)--						.078	.92	.051	50.5	27.7	12.78
I	651	119	.11	106	13.37	.71	.034	.21	.030	40.2	5.8	13.83
A	2.60	208	.31	191	14.04	1.57	.073	.73	.066	51.9	7.1	8.94
D	-1.01	136	.20	63	13.35	.84	.031	.30	.014	31.8	4.6	15.89
I	14	612	.08	99	11.18	.54	.053	.05	.008	10.3	1.8	20.70
	--CYCLE 18 (GRAMS/MILE)--						.049	.33	.030	34.4	19.3	8.11

TEST STOP: 8:42:21
TEST LENGTH: 1371.3

***** MASS BAG RESULTS *****

ZERO CHECK OUT OF LIMITS
FID= 4* COD= 1 NOX= 0 CO2D= .01

ZERO CHECK OUT OF LIMITS
FID= 3* COD= 1 NOX= 0 CO2D= .01

ZERO CHECK OUT OF LIMITS
FID= 3* COD= 1 NOX= 0 CO2D= .01

ZERO CHECK OUT OF LIMITS
FID= 3* COD= 1 NOX= 0 CO2D= .01

ZERO CHECK
FID= 1 COD= 1 NOX= 0 CO2D= .01

SPAN CHECK

FID= 100 COD= 1775 NOX= 193 CO2D= 4.20

8-3

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 68 COD= 983 NOX= 45 CO2D= 1.90

COLD STAB SAMP
FID= 22 COD= 127 NOX= 16 CO2D= 1.17

COLD TRAN AMB
FID= 72 COD= 11 NOX= 0 CO2D= .05

COLD STAB AMB
FID= 31 COD= 8 NOX= 0 CO2D= .06

REPEAT BAG READS ? Y

COLD TRAN SAMP
FID= 71 COD= 991 NOX= 44 CO2D= 1.89

COLD STAB SAMP
FID= 22 COD= 128 NOX= 16 CO2D= 1.17

COLD TRAN AMB
FID= 46 COD= 9 NOX= 0 CO2D= .06

COLD STAB AMB
FID= 17 COD= 7 NOX= 0 CO2D= .05

REPEAT BAG READS ? N

SOAK TIME : 865

TEST START : 8:56:20.9
CRANK TIME : 1.8

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/P
P/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/F
CRANK	196	.37	35	.78	.06	.007	.08	.001	.3	.7	13.00
I 710	605	2.46	197	13.15	.38	.079	2.16	.025	18.1	2.7	34.61
A 3.09	389	.80	476	13.88	1.66	.115	1.60	.139	43.6	6.1	8.36
C 25.5	292	.46	245	13.83	1.40	.561	5.95	.463	281.2	39.2	9.88
D-1.03	171	.20	117	13.27	.82	.024	.19	.016	19.6	2.8	16.18
--CYCLE 1 (GRAMS/MILE)--						.218	2.77	.179	100.8	51.5	15.67
I 642	133	.12	154	13.26	.70	.060	.37	.069	63.5	9.2	18.94
A 2.14	246	.29	777	13.63	2.23	.382	3.03	1.186	223.7	31.7	6.11
C 53.2	177	.18	326	13.64	2.94	.814	5.57	1.474	663.1	93.8	4.64
D-1.00	318	.16	70	13.02	.93	.168	.57	.036	72.8	10.8	14.00
--CYCLE 2 (GRAMS/MILE)--						.395	2.65	.768	284.2	145.5	16.68
I 643	128	.11	142	13.16	.69	.020	.11	.021	21.2	3.1	19.07
A 2.73	221	.17	482	13.91	2.12	.151	.78	.324	100.4	13.9	6.56
C 36.1	315	.30	144	13.73	1.77	.154	.99	.069	71.2	10.0	7.76
D-1.02	183	.12	86	13.18	.78	.034	.15	.016	25.9	3.8	16.90
--CYCLE 3 (GRAMS/MILE)--						.100	.56	.119	60.7	30.8	14.68
I 643	128	.10	192	13.22	.69	.007	.04	.011	8.2	1.2	19.16
A 3.39	217	.29	549	13.87	2.21	.101	.91	.251	63.2	9.5	6.28
D-1.02	202	.36	93	13.40	1.00	.047	.56	.021	33.0	4.8	13.40
--CYCLE 4 (GRAMS/MILE)--						.043	.42	.079	30.4	15.4	11.14
I 640	116	.10	148	13.19	.70	.025	.14	.031	29.9	4.4	18.84
A 3.14	215	.27	562	13.70	2.44	.146	1.24	.377	98.7	13.9	5.59

C-35.6	318	.25	91	13.36	1.59	.228	1.21	.064	101.3	14.6	8.40
D-1.02	159	.17	37	9.52	.85	.044	.32	.010	28.1	5.7	11.20
--CYCLE 5 (GRAMS/MILE)--						.123	.81	.134	71.7	38.6	15.06

8-4

TEST STOP: 9: 5: 9
TEST LENGTH: 506.8

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 1 NOX= 0 CO2D= .01

SPAN CHECK
FID= 100 COD= 1774 NOX= 196 CO2D= 4.15

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 14 COD= 120 NOX= 31 CO2D= 1.51

HOT TRAN AMB
FID= 11 COD= 13 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.680	15.05	.591	210	32.2
ACCEL	1.459	14.62	1.722	580	82.3
DECEL	.411	3.49	.244	211	31.6
CRUISE	3.834	72.47	2.295	1367	198.6
CHOKE	4.109	91.19	2.053	856	127.1
TOTAL	6.384	105.63	4.852	2369	344.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.773	29.34	1.348	657.9

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.273	1.46	.200	255	37.6
ACCEL	1.241	14.17	1.428	833	117.4
DECEL	.590	7.67	.250	423	64.3
CRUISE	1.505	19.95	.705	944	134.6
CHOKE	.000	.00	.000	0	.0
TOTAL	3.608	43.25	2.584	2456	353.8

EQUIVALENT MASS BAG RESULTS

GMS/MI	.925	11.09	.662	629.7

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.198	2.90	.159	141	21.3
ACCEL	.895	7.55	2.277	535	75.1
DECEL	.317	1.79	.100	179	27.9
CRUISE	1.758	13.72	2.071	1117	157.7
CHOKE	1.228	13.37	1.900	650	92.4
TOTAL	3.168	25.96	4.606	1972	281.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	.880	7.21	1.280	547.8

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS
GMS/MI 1.088 13.80 .973 613.1

8-5

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.999	19.72	1.356	609.4
COLD STABILIZED	.322	3.91	.780	589.0
HOT TRANSIENT	.136	2.23	.976	489.0
WEIGHTED TOTAL	.411	6.71	.952	566.1

15.34

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	6.681	11.270	8.783
RELATIVE HUMIDITY	38	38	38
HUM. CORR. FACTOR	.890	.890	.890
CVS REVOLUTIONS	9830	16890	9940
AVG.INLET DEPR. (IN.H20)	12.5	12.4	12.3
AVG.PRESSURE DIFF. (IN.H20)	21.1	21.1	21.1
AVG.CVS TEMPERATURE (DEG.F)	95	97	90
MAX.INLET DEPR. (IN.H20)	12.6	12.5	12.4
MIN.INLET DEPR. (IN.H20)	12.3	12.3	12.3
MAX.CVS TEMPERATURE (DEG.F)	104	104	94
MIN.CVS TEMPERATURE (DEG.F)	85	94	87
AVG.CVS FLOW (CU.FT/REV)	.263	.263	.263
TOTAL CVS VOL. (STD.CU.FT.)	2303	3943	2351
AVG MODAL CO2 RATIO	6.57	11.20	8.16
FUEL ECONOMY (MI/GAL)	13.78	14.88	17.96

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. Choke retimed to approximately 2 minutes.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
11-10-76   12:36
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 58
DRY BULB ? 74
BAROMETER? 2893
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1,2
VEH. MAKE? DART
VEH. I.D.? 5C80
REMARKS  ? CARB SONIC                    IDLE SET: AS IS
REMARKS  ? ENGINE 225 CID                ODOMETER:
REMARKS  ? H-73 EPA                      NOTES: W/TRACES & PROBE

ZERO CHECK
 FID=     1  COR=    .00 CO2R=-00.03   NO=      4 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=   100  COR=   8.26 CO2R= 15.48   NO=   215*CO2D=   4.22

ZERO CHECK
 FID=     0  COR=    .00 CO2R=-00.02   NO=      5 CO2D=    .00

SPAN CHECK
 FID=   103  COR=   8.26 CO2R= 15.48   NO=    198 CO2D=   4.19

REPEAT Z/S CHECKS? N

TEST START :  12:44:15.7
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/P
 R/A/S   HC    CO   NO   CO2  CONC    HC      CO      NO      CO2    VOL.  F/E

CRANK    73   .11   57 12.64   .69   .001     .01    .001     2.1     .3 18.32
I  656   81   .10  105 12.44   .69   .020     .17    .026    33.2    5.1 18.03
A 3.11  193   .22  319 13.24  1.63   .060     .46    .097    43.2    6.3  8.12
C 25.8  236   .25  160 12.98  1.39   .483    3.45    .322   281.2   41.8  9.34
D-1.03  194   .22   55 12.46   .75   .027     .20    .007    18.9    2.8 16.61
     --CYCLE  1 (GRAMS/MILE)--       .079     .57    .060    59.4   56.4 15.46

I  587  137   .11   89 12.22   .61   .059     .32    .038    55.9    8.8 20.03
A 2.17  327   .32  581 12.19  2.28   .583    3.84   1.018   229.6   36.4  5.35
C 53.3  162   .17  312 13.01  2.79   .742    5.24   1.406   630.2   93.5  4.66
D-1.00  690   .21   29 11.91   .87   .374     .77    .015    68.2   11.1 13.69
```

HC	CO	NOx	Eng.
.052	1.86	.933	15.81

	--CYCLE 2 (GRAMS/MILE)--					.234	1.35	.330	131.2	149.7	17.31
								9-1			
I	587	240	.13	93	12.37	.61	.035	.13	.013	13.8	2.9	20.28
A	2.77	246	.26	444	11.75	2.07	.195	1.39	.346	98.4	16.2	5.68
C	36.2	321	.26	90	12.98	1.74	.164	.89	.045	70.2	10.4	7.46
D	-1.02	291	.23	40	12.34	.73	.054	.29	.007	24.3	3.9	16.90
	--CYCLE 3 (GRAMS/MILE)--					.060	.36	.055	28.2	33.3	15.07	
I	595	194	.17	242	12.44	.61	.011	.06	.013	7.2	1.1	20.39
A	3.40	249	.29	541	13.21	2.23	.123	.96	.263	69.0	10.1	5.90
D	-1.02	275	.29	41	12.59	.87	.060	.42	.009	28.9	4.4	14.47
	--CYCLE 4 (GRAMS/MILE)--					.026	.19	.038	14.0	15.6	11.59	
I	608	172	.18	108	12.40	.62	.035	.25	.021	26.5	4.1	20.00
A	3.14	200	.29	450	12.80	2.48	.148	1.44	.327	100.1	15.1	5.16
C	35.8	420	.32	49	12.42	1.58	.323	1.65	.037	100.9	15.7	7.86
D	-1.02	325	.24	34	12.26	.74	.061	.30	.006	24.4	3.9	16.57
	--CYCLE 5 (GRAMS/MILE)--					.076	.49	.052	33.6	38.7	15.33	
I	582	201	.19	92	12.30	.61	.011	.07	.005	7.2	1.1	20.16
A	2.34	249	.45	174	13.08	1.48	.120	1.46	.082	66.7	9.8	8.84
C	25.5	201	.34	62	10.70	1.24	.073	.83	.022	41.1	7.4	8.63
D	-1.04	148	.22	32	12.41	.77	.019	.19	.004	16.5	2.6	16.12
	--CYCLE 6 (GRAMS/MILE)--					.030	.34	.015	17.5	20.9	13.62	
I	582	160	.19	97	12.37	.62	.029	.23	.017	23.5	3.7	19.95
A	3.17	309	.57	222	13.09	1.50	.064	.79	.045	28.6	4.2	8.73
C	20.0	193	.40	129	12.87	1.14	.134	1.87	.088	94.5	14.2	11.29
D	-1.03	348	.61	47	12.54	.87	.049	.58	.006	18.6	2.9	14.41
	--CYCLE 7 (GRAMS/MILE)--					.037	.46	.021	22.0	24.9	13.09	
I	586	171	.20	72	12.44	.62	.048	.38	.020	36.8	5.7	20.06
A	2.72	279	.44	245	13.19	1.68	.120	1.27	.103	59.8	8.7	7.85
D	-1.01	195	.25	53	12.73	1.01	.069	.60	.019	47.9	7.3	12.60
	--CYCLE 8 (GRAMS/MILE)--					.032	.30	.019	19.3	21.7	10.02	
I	585	159	.19	78	12.48	.62	.023	.19	.011	19.2	3.0	20.13
A	2.05	290	.58	187	11.50	1.35	.168	2.27	.107	70.6	11.9	8.52
D	-1.03	166	.22	82	12.46	.73	.026	.23	.013	20.8	3.2	17.07
	--CYCLE 9 (GRAMS/MILE)--					.029	.36	.017	14.8	18.0	10.29	
A	2.59	243	.33	256	13.36	1.72	.126	1.16	.131	73.6	10.6	7.77
D	-1.11	222	.23	81	12.52	.87	.073	.51	.026	43.4	6.7	14.39
	--CYCLE 10 (GRAMS/MILE)--					.027	.22	.021	15.6	17.3	14.02	
A	2.70	257	.36	259	13.43	1.83	.134	1.26	.133	74.0	10.6	7.34
C	27.4	323	.42	101	12.64	1.26	1.196	10.31	.362	487.6	74.5	10.03
D	-1.02	314	.30	45	12.38	.75	.047	.30	.007	19.7	3.1	16.51
	--CYCLE 11 (GRAMS/MILE)--					.184	1.58	.067	77.5	88.2	19.98	
A	2.64	258	.34	415	13.12	1.63	.130	1.15	.205	69.7	10.3	8.05
C	25.2	309	.44	70	12.92	1.15	.198	1.89	.044	87.3	13.0	11.23
D	-1.01	135	.20	40	10.29	.76	.049	.36	.010	29.0	5.4	13.54
	--CYCLE 12 (GRAMS/MILE)--					.050	.45	.035	24.8	28.7	17.28	
I	580	173	.17	82	12.58	.62	.056	.37	.026	42.8	6.6	20.29
A	2.57	245	.33	277	13.34	1.77	.131	1.19	.146	75.7	11.0	7.54
D	-1.01	230	.27	52	12.50	.75	.093	.74	.021	53.6	8.3	16.67
	--CYCLE 13 (GRAMS/MILE)--					.037	.31	.026	22.9	25.8	10.46	
A	2.15	352	.52	219	13.03	1.40	.187	1.86	.115	73.2	10.8	9.31
C	26.4	393	.54	77	12.93	1.29	.167	1.57	.032	58.2	8.7	10.02
D	-1.02	236	.15	39	12.26	.65	.034	.14	.005	18.6	2.9	18.86
	--CYCLE 14 (GRAMS/MILE)--					.052	.48	.020	20.0	22.5	15.72	
I	587	172	.13	117	10.32	.61	.034	.19	.023	21.7	4.1	16.99

```
A-3.61  268  .24 431 13.17 1.90    .073    .47    .124    40.7    6.0  6.93
D-1.03  231  .32  59 12.79  .90    .037    .34    .009    21.4    3.2 14.21
     --CYCLE 15 (GRAMS/MILE)--     .020    .13    .021    11.2   13.3  7.03

I  585  166  .13  87 12.63  .63    .017    .09    .009    13.5    2.1 20.05
A 2.10  271  .45 155 13.09 1.26    .117   1.31    .066    59.9    8.8 10.39
C 21.3  274  .27  91 12.87 1.02    .083    .57    .027    41.2    6.2 12.62
D-1.02  201  .16  45 12.38  .67    .027    .14    .006    17.6    2.7 18.48
     --CYCLE 16 (GRAMS/MILE)--     .033    .28    .014    17.6   19.8 12.89

I  585  173  .13  59 12.46  .61    .023    .12    .008    17.4    2.7 20.43
A 2.06  380  .59 274 12.94 1.33    .203   2.12    .144    73.0   10.9  9.73
C 25.6  268  .32 128 13.11 1.34    .142   1.14    .067    73.4   10.8  9.78
D-1.02  231  .32  40  9.68  .82    .049    .45    .008    21.5    4.3 11.80
     --CYCLE 17 (GRAMS/MILE)--     .056    .51    .030    24.7   28.7 13.50

I  582  178  .13  69 12.54  .62    .047    .25    .018    35.4    5.4 20.23
A 2.65  258  .37 182 13.29 1.61    .099    .95    .068    53.8    7.8  8.25
D-1.01  203  .18  37 12.54  .77    .045    .27    .008    29.4    4.5 16.29
I  577  175  .15  34 12.46  .61    .010    .06    .002     7.3    1.1 20.43
     --CYCLE 18 (GRAMS/MILE)--     .027    .20    .013    16.8   18.9  8.61


TEST STOP:  13: 7:35
TEST LENGTH: 1373.0


***** MASS BAG RESULTS *****
 FID=      4  COD=      0  NOX=      0 CO2D=    .01

SPAN CHECK OUT OF LIMITS
 FID=    97* COD=   1775  NOX=    190 CO2D=   4.18

ZERO CHECK
 FID=      2  COD=      0  NOX=      0 CO2D=    .02

SPAN CHECK
 FID=    100  COD=   1779  NOX=    194 CO2D=   4.17

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=      9  COD=     69  NOX=     23 CO2D=   1.32

BACKGROUND BAG
 FID=      7  COD=      2  NOX=      0 CO2D=    .04

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE         .459   2.87    .251    368    57.9
ACCEL       2.785  25.34   3.521   1360   205.5
DECEL       1.192   6.83    .188    522    83.0
CRUISE      3.705  29.42   2.453   1966   296.2
CHOKE       1.233   8.44   1.510    663   101.6
TOTAL       8.140  64.48   6.413   4215   642.6

EQUIVALENT MASS BAG RESULTS
GMS/MI      1.085   8.60    .855   562.1
```

9-2

9-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.092	1.86	.933	558.2

***** TEST VARIABLES *****

RELATIVE HUMIDITY	38
HUM. CORR. FACTOR	.890
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.4
AVG.PRESSURE DIFF. (IN.H2O)	21.2
AVG.CVS TEMPERATURE (DEG.F)	89
MAX.INLET DEPR. (IN.H2O)	12.5
MIN.INLET DEPR. (IN.H2O)	12.3
MAX.CVS TEMPERATURE (DEG.F)	93
MIN.CVS TEMPERATURE (DEG.F)	83
AVG.CVS FLOW (CU.FT/REV)	.263
TOTAL CVS VOL. (STD.CU.FT.)	6312
AVG MODAL CO2 RATIO	9.33
FUEL ECONOMY (MI/GAL)	15.81

(1C) HOT 73#3

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. Choke retimed to approximately 2 minutes.

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #?
11-10-76 13:15 START OFF
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ? 58
DRY BULB ? 74
BAROMETER? 2893
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1,2
VEH. MAKE? DART
VEH. I.D.? 5C80
REMARKS ? CAPB SONIC
REMARKS ? ENGINE 225 CID
REMARKS ? H-73 EPA

HC	CO	NOX	CO2
.041	.39	2.723	18.07

IDLE RT: S
ODOMETER:
NOTES: W/TRACES & PROBE

ZERO CHECK OUT OF LIMITS
FID= 1 COR= .01 CO2R=-00.02 NO= 8*CO2D= .02

ZERO CHECK OUT OF LIMITS
FID= 1 COR= .00 CO2R=-00.02 NO= 7*CO2D= .00

ZERO CHECK
FID= 1 COR= .00 CO2R=-00.02 NO= 0 CO2D= .01

SPAN CHECK
FID= 102 COR= 8.25 CO2R= 15.44 NO= 191 CO2D= 4.19

REPEAT Z/S CHECKS? N

TEST START : 13:29:17.4
CRANK TIME : 1.0

MODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH.	D/P
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/F
CRANK	183	.13	13	12.36	.61	.003	.01	.000	1.8	.3	22.26
I 581	196	.12	125	12.42	.61	.044	.18	.027	29.2	4.5	22.36
A 3.06	157	.10	926	13.00	1.53	.046	.20	.268	40.4	6.0	8.52
C 25.7	132	.10	487	12.93	1.23	.242	1.23	.879	248.8	37.4	10.43
D-1.03	278	.12	33	12.54	.69	.035	.10	.004	16.5	2.5	18.17
--CYCLE 1 (GRAMS/MILE)--						.049	.23	.157	44.9	50.8	17.53
I 586	153	.09	140	11.82	.61	.068	.27	.061	55.7	9.1	19.38

A	2.14	203	.171498	13.53	2.17	.310	1.75	2.254	218.8	31.2	6.24
C	53.3	128	.101502	12.37	2.39	.530	2.79	6.117	541.5	84.5	5.18
D	-1.00	858	.21 30	11.97	.76	.405	.67	.014	59.8	9.6	15.75
	--CYCLE	2	(GRAMS/MILE)--			.175	.73	1.126	116.8	134.4	19.57
									10-1		
I	571	345	.15 242	12.80	.61	.048	.14	.033	18.9	2.8	20.98
A	2.78	258	.151638	13.28	1.98	.173	.68	1.082	94.3	13.7	6.71
C	36.3	184	.16 247	12.68	1.50	.083	.49	.110	60.7	9.2	8.45
D	-1.02	635	.19 23	12.27	.66	.108	.22	.005	22.0	3.5	13.59
	--CYCLE	3	(GRAMS/MILE)--			.055	.20	.164	26.1	29.3	16.40
I	567	322	.15 697	12.60	.61	.018	.06	.037	7.3	1.1	20.66
A	3.36	279	.181413	13.63	2.11	.126	.55	.629	65.3	9.2	6.46
D	-1.02	350	.18 34	12.81	.81	.070	.24	.007	27.0	4.1	15.81
	--CYCLE	4	(GRAMS/MILE)--			.028	.11	.090	13.3	14.4	12.32
I	574	202	.15 265	10.78	.61	.046	.23	.060	26.1	4.7	17.67
A	3.14	234	.241737	13.49	2.31	.153	1.06	1.121	93.5	13.4	5.84
C	36.0	164	.15 259	12.75	1.34	.105	.64	.163	86.0	13.0	9.51
D	-1.02	652	.19 23	12.11	.67	.114	.22	.004	22.4	3.6	18.07
	--CYCLE	5	(GRAMS/MILE)--			.056	.29	.180	30.4	34.6	17.06
I	561	330	.15 149	12.59	.60	.018	.05	.008	7.1	1.1	20.98
A	2.33	196	.13 705	12.88	1.35	.088	.42	.311	61.1	9.2	9.54
C	25.5	229	.16 132	12.82	1.09	.062	.29	.035	36.7	5.5	11.65
D	-1.03	332	.17 28	12.44	.73	.039	.14	.003	15.6	2.4	17.04
	--CYCLE	6	(GRAMS/MILE)--			.028	.12	.048	16.1	13.2	15.12
I	571	228	.15 232	12.71	.61	.039	.17	.040	23.3	3.5	20.84
A	3.11	182	.17 561	9.14	1.41	.050	.32	.153	26.8	5.7	6.48
C	20.1	131	.13 312	12.93	1.09	.088	.59	.206	91.7	13.7	11.75
D	-1.03	208	.15 32	12.85	.82	.027	.13	.004	17.6	2.6	15.67
	--CYCLE	7	(GRAMS/MILE)--			.027	.16	.054	21.3	25.5	13.86
I	569	189	.12 115	12.74	.62	.052	.22	.031	36.9	5.6	20.55
A	2.75	182	.151064	13.12	1.58	.074	.41	.427	56.6	8.3	8.30
D	-1.01	219	.13 67	12.70	.91	.071	.28	.021	43.3	6.6	13.96
	--CYCLE	8	(GRAMS/MILE)--			.026	.12	.064	18.2	20.5	10.73
I	569	198	.13 105	12.79	.61	.028	.12	.014	18.9	2.9	20.97
A	2.07	146	.13 668	11.68	1.27	.079	.47	.355	66.7	11.0	9.20
D	-1.08	201	.16 231	12.68	.74	.032	.17	.036	21.2	3.2	17.14
	--CYCLE	9	(GRAMS/MILE)--			.018	.10	.054	14.2	17.1	10.97
A	2.61	181	.131094	13.13	1.63	.091	.44	.542	69.9	10.3	8.06
D	-1.16	325	.13 164	12.61	.80	.098	.26	.049	40.1	6.1	15.76
	--CYCLE	10	(GRAMS/MILE)--			.025	.09	.079	14.7	16.4	15.09
A	2.70	195	.101105	13.07	1.69	.096	.33	.538	68.4	10.1	7.73
C	27.4	254	.15 303	12.60	1.15	.853	3.39	1.001	447.5	68.5	10.96
D	-1.02	468	.18 80	12.34	.77	.073	.19	.012	20.3	3.2	16.03
	--CYCLE	11	(GRAMS/MILE)--			.136	.52	.207	71.5	81.8	22.13
A	2.59	244	.151210	13.17	1.58	.119	.49	.579	67.8	9.9	8.34
C	25.2	260	.15 161	11.86	1.08	.171	.66	.104	82.5	13.4	10.98
D	-1.01	454	.17 14	12.21	.70	.094	.24	.003	26.8	4.2	17.44
	--CYCLE	12	(GRAMS/MILE)--			.051	.19	.092	23.6	27.6	18.44
I	560	231	.13 150	12.66	.60	.072	.29	.046	41.6	6.3	21.12
A	2.59	194	.12 967	12.96	1.65	.100	.42	.492	72.9	10.6	7.85
D	-1.04	245	.13 36	12.60	.71	.094	.36	.014	50.9	7.8	17.75
	--CYCLE	13	(GRAMS/MILE)--			.035	.14	.074	21.8	24.7	11.12
A	2.16	167	.13 677	12.75	1.28	.083	.44	.333	67.3	10.2	9.96
C	26.6	131	.13 182	11.50	1.13	.058	.39	.079	53.6	9.0	9.75
D	-1.02	388	.16 22	12.28	.67	.057	.16	.003	19.2	3.0	18.33

--CYCLE 14 (GRAMS/MILE)-- .026 .13 .055 18.7 22.2 17.33

10-2

I	564	223	.13	233	12.67	.60	.036	.15	.037	21.5	3.3	21.12
A	3.58	206	.15	742	13.47	1.70	.053	.26	.188	36.7	5.3	7.92
D	-1.03	201	.22	32	13.04	.84	.029	.22	.005	20.1	3.0	15.52

--CYCLE 15 (GRAMS/MILE)-- .016 .08 .031 10.4 11.5 7.57

I	565	133	.13	87	12.70	.62	.018	.09	.009	13.4	2.0	20.48
A	2.12	151	.16	498	12.95	1.19	.063	.45	.204	57.0	8.5	10.88
C	21.5	149	.16	91	12.84	.92	.041	.30	.025	37.5	5.6	13.96
D	-1.02	191	.15	25	12.56	.68	.026	.14	.003	18.0	2.8	18.47

--CYCLE 16 (GRAMS/MILE)-- .020 .13 .032 16.8 13.9 13.75

I	560	168	.13	62	9.79	.61	.028	.16	.010	17.5	3.4	16.05
A	2.09	150	.18	633	13.03	1.25	.075	.61	.312	68.9	10.2	10.42
C	25.5	129	.13	304	12.88	1.22	.064	.43	.147	67.1	10.1	10.56
D	-1.02	250	.17	24	12.74	.82	.040	.13	.004	21.7	3.3	15.54

--CYCLE 17 (GRAMS/MILE)-- .028 .18 .063 23.4 27.0 14.61

I	567	186	.13	120	12.67	.61	.049	.23	.031	35.1	5.3	20.77
A	2.60	168	.12	780	13.13	1.45	.059	.28	.268	48.5	7.1	9.06
D	-1.01	197	.15	32	12.59	.68	.039	.20	.006	26.1	4.0	18.51
I	611	193	.13	20	12.74	.60	.010	.05	.001	7.2	1.1	21.23

--CYCLE 18 (GRAMS/MILE)-- .021 .10 .041 15.6 17.6 9.36

TEST STOP: 13:52:37
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 1 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 97* COD= 1774 NOX= 194 CO2D= 4.13

ZERO CHECK
FID= 3 COD= 1 NOX= -0001 CO2D= .00

SPAN CHECK
FID= 99 COD= 1767 NOX= 195 CO2D= 4.18

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 8 COD= 18 NOX= 67 CO2D= 1.17

BACKGROUND BAG
FID= 7 COD= 4 NOX= 0 CO2D= .05

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.576	2.44	.445	361	57.2
ACCEL	1.841	9.57	10.055	1279	189.9
DECEL	1.450	4.11	.196	489	75.5
CRUISE	2.296	11.20	8.865	1754	270.1
CHOKE	.748	3.74	3.493	611	91.1
TOTAL	6.163	27.32	19.562	3883	592.7

EQUIVALENT MASS BAG RESULTS
GMS/MI .822 3.64 2.608 517.7

10-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.041	.39	2.728	490.2

***** TEST VARIABLES *****

RELATIVE HUMIDITY	38
HUM. CORR. FACTOR	.890
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.4
AVG.PRESSURE DIFF. (IN.H20)	21.3
AVG.CVS TEMPERATURE (DEG.F)	87
MAX.INLET DEPR. (IN.H20)	12.5
MIN.INLET DEPR. (IN.H20)	12.3
MAX.CVS TEMPERATURE (DEG.F)	90
MIN.CVS TEMPERATURE (DEG.F)	83
AVG.CVS FLOW (CU.FT/REV)	.263
TOTAL CVS VOL. (STD.CU.FT.)	6335
AVG MODAL CO2 RATIO	10.67
FUEL ECONOMY (MI/GAL)	19.07

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. Choke retimed to approximately 2 minutes.

First run after 4,000 mile accumulation.

CVS had been recalibrated between this run and the run on 10-28-76.

HOLLEY CAPBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
11- 9-76 8: 8
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 54
DRY BULB ? 74
BAROMETER? 2898
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? 75 DPAT
VEH. I.D.? 5C80
REMARKS ? CARB;HPLLEY SONIC #42460
REMARKS ? ENG; 225 CID
REMARKS ? C-EPA-75

IDLE SET; AS IS
ODOMETER;
NOTES; W/ MODAL BEFORE CONV.

HC	CO	CO2	ECON
.367	7.38	1.078	15.14

EVAP. #1

ZERO CHECK
FID= 0 COR= .00 CO2R=-00.01 NO= 2 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 103 COR= 8.21 CO2R= 15.83* NO= 198 CO2D= 4.18

ZERO CHECK
FID= -0001 COR= .00 CO2R=-00.01 NO= -0005 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 104* COR= 8.27 CO2R= 15.50 NO= 198 CO2D= 4.18

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .00 CO2R=-00.01 NO= -0006*CO2D= .00

-ZERO CHECK
FID= 0 COR= .00 CO2P=-00.02 NO= -0001 CO2D= .00

SPAN CHECK
FID= 102 COR= 8.20 CO2P= 15.40 NO= 194 CO2D= 4.19

REPEAT Z/S CHECKS? N

TEST START : 8:26:13.8
CRANK TIME : 1.5

MODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH.	D/P
R/A/S	HC	CO	NO	CO2 CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	89	.10	47	.43 .04	.003	.02	.002	.2	.7	10.75
I 530	1023	5.16	130	10.77 .69	.302	10.25	.035	33.6	6.0	15.61
A 3.10	888	5.32	137	11.79 1.61	.655	26.43	.093	92.0	15.1	7.32
C 25.6	874	3.38	232	12.37 1.73	2.378	61.90	.581	356.0	55.5	7.15
D-1.03	660	1.82	733	13.89 1.30	.143	2.65	.146	31.8	4.4	10.68
--CYCLE 1 (GRAMS/MILE)--					.967	28.12	.238	142.7	81.8	8.74
I 867	415	.41	574	13.90 1.23	.322	2.14	.410	114.1	15.8	11.30
A 2.14	521	.90	520	12.62 2.57	1.025	11.92	.941	262.6	40.2	4.91
C 53.4	218	.21	371	13.71 3.33	1.140	7.39	1.784	758.3	106.8	4.12
D-1.01	206	.24	114	13.46 1.00	.114	.89	.058	78.7	11.3	13.46
--CYCLE 2 (GRAMS/MILE)--					.723	6.21	.887	337.1	174.0	13.84
I 649	164	.15	195	12.93 .69	.026	.16	.028	21.5	3.2	18.74
A 2.77	282	.31	511	13.90 2.26	.208	1.54	.346	108.2	15.0	6.15
C 36.1	325	.52	145	13.73 1.86	.169	1.82	.069	75.6	10.6	7.38
D-1.02	180	.19	134	13.21 .81	.035	.25	.024	27.1	4.0	16.31
--CYCLE 3 (GRAMS/MILE)--					.122	1.05	.130	64.6	32.8	13.65
I 651	163	.15	297	13.01 .68	.010	.06	.016	8.1	1.2	19.13
A 3.34	246	.35	568	13.73 2.29	.120	1.15	.256	71.1	10.0	6.00
D-1.08	196	.33	130	13.30 1.00	.047	.53	.028	33.5	4.9	13.30
--CYCLE 4 (GRAMS/MILE)--					.049	.48	.083	31.3	16.1	10.79
I 652	158	.13	205	12.86 .69	.035	.21	.041	29.8	4.5	18.64
A 3.16	226	.29	538	13.61 2.61	.167	1.44	.365	106.1	15.0	5.21
C 35.9	305	.34	85	13.48 1.70	.234	1.76	.060	109.5	15.7	7.93
D-1.13	178	.19	108	13.40 .84	.035	.25	.020	28.1	4.0	15.95
--CYCLE 5 (GRAMS/MILE)--					.131	1.02	.135	76.0	39.2	14.16
I 656	155	.13	160	13.13 .69	.009	.06	.009	8.2	1.2	19.03
A 2.33	198	.40	203	11.92 1.57	.112	1.52	.106	71.2	11.5	7.59
C 25.7	241	.43	95	13.70 1.25	.069	.83	.025	41.7	5.9	10.96
D-1.03	209	.51	139	13.20 .91	.029	.48	.013	19.4	2.8	14.51
--CYCLE 6 (GRAMS/MILE)--					.056	.74	.040	36.1	21.5	12.71
I 659	148	.13	180	13.02 .70	.029	.17	.032	26.3	4.0	18.60
A 3.22	244	.54	256	13.69 1.51	.049	.72	.047	28.8	4.1	9.07
C 20.3	197	.43	178	13.50 1.22	.141	2.07	.117	102.0	14.6	11.07
D-1.11	384	.89	149	13.25 .97	.057	.89	.020	20.8	3.0	13.66
--CYCLE 7 (GRAMS/MILE)--					.071	.99	.055	45.8	25.7	12.11
I 661	150	.13	173	11.72 .71	.051	.30	.054	42.4	7.0	16.51
A 2.74	221	.32	243	13.70 1.73	.094	.92	.095	61.9	8.7	7.92
D-1.01	192	.36	111	13.39 1.04	.067	.85	.036	49.5	7.1	12.88
--CYCLE 8 (GRAMS/MILE)--					.055	.53	.048	39.4	22.8	9.45
I 654	139	.13	146	13.05 .70	.022	.15	.021	21.7	3.2	18.64
A 2.05	217	.54	211	13.57 1.35	.107	1.79	.096	70.8	10.1	10.05
D-1.05	198	.39	165	13.30 .83	.033	.44	.026	23.7	3.4	16.02
--CYCLE 9 (GRAMS/MILE)--					.042	.61	.037	29.8	16.7	9.87

```
A 2.60  242  .33 353 13.90 1.81    .128   1.17   .171   77.6   10.8  7.68
D-1.11  174  .27 129 13.37  .95    .059    .61   .040   47.6    6.9 14.07
     --CYCLE 10 (GPAMS/MILE)--     .048    .46   .054   32.1   17.6 13.12
                                                  11-2
A 2.73  215  .33 374 11.99 1.89    .130   1.34   .208   76.6   12.3  6.34
C 27.5  217  .37 121 13.60 1.32    .772   8.86   .396  512.0   72.7 10.30
D-1.02  182  .42 122 13.30  .92    .031    .48   .019   24.1    3.5 14.46
     --CYCLE 11 (GRAMS/MILE)--     .239   2.74   .160  157.1   88.5 19.08

A 2.62  225  .27 360 13.90 1.75    .114    .92   .168   74.7   10.4  7.94
C 25.2  192  .29  96 13.67 1.22    .123   1.25   .057   92.7   13.1 11.20
D-1.01  129  .15  97 13.39  .81    .028    .22   .019   30.8    4.4 16.53
     --CYCLE 12 (GRAMS/MILE)--     .068    .61   .063   50.8   27.9 16.40

I  657  122  .11 146 13.26  .71    .043    .26   .047   49.0    7.1 18.68
A 2.57  229  .32 275 13.90 1.82    .122   1.14   .134   78.1   10.8  7.64
D-1.01  144  .18 104 13.38  .85    .062    .52   .041   60.6    8.7 15.74
     --CYCLE 13 (GRAMS/MILE)--     .058    .49   .057   48.1   26.7  9.64

A 2.17  223  .45 222 13.66 1.45    .117   1.59   .107   76.1   10.7  9.42
C 26.7  238  .46  79 13.72 1.40    .104   1.35   .032   63.2    8.9  9.80
D-1.03  114  .13 102 13.28  .78    .018    .14   .015   22.2    3.2 17.03
     --CYCLE 14 (GRAMS/MILE)--     .061    .79   .039   41.4   22.9 14.76

I  662  123  .11 164 13.34  .72    .022    .13   .027   25.7    3.7 18.53
A 3.70  207  .22 542 13.92 1.79    .054    .39   .131   38.4    5.4  7.72
D-1.03  250  .54 128 13.46 1.09    .046    .67   .022   26.1    3.7 12.24
     --CYCLE 15 (GRAMS/MILE)--     .031    .31   .046   23.1   12.8  6.53

D-1.03  250  .54 128 13.46 1.09    .046    .67   .022   26.1    3.7 12.24
     --CYCLE 15 (GRAMS/MILE)--     .031    .31   .046   23.1   12.8  6.53

I  656  130  .11 140 13.33  .73    .014    .08   .014   15.6    2.3 18.26
A 2.14  190  .31 184 13.70 1.31    .082    .90   .073   62.3    8.8 10.46
C 21.5  176  .37 126 13.56 1.02    .051    .72   .033   41.2    5.9 13.29
D-1.02  121  .15 119 13.37  .82    .018    .15   .017   21.5    3.1 16.30
     --CYCLE 16 (GRAMS/MILE)--     .042    .47   .035   36.1   20.0 12.19

I  656  122  .11 136 13.25  .72    .018    .11   .018   20.6    3.0 18.40
A 2.12  200  .35 259 13.60 1.36    .103   1.22   .123   74.3   10.5 10.00
C 26.0  249  .71 143 13.64 1.40    .132   2.54   .070   76.6   10.8  9.74
D-1.02  187  .29 111 13.51  .92    .032    .33   .017   24.1    3.4 14.69
     --CYCLE 17 (GRAMS/MILE)--     .073   1.07   .059   50.1   27.8 12.81

I  663  124  .10 159 13.39  .72    .036    .22   .042   41.1    5.9 18.60
A 2.63  222  .37 199 13.77 1.62    .082    .92   .068   53.8    7.5  8.50
D-1.01  128  .15 103 13.44  .83    .028    .22   .021   31.6    4.5 16.19
I   14  643  .06  96 11.95  .53    .048    .03   .007    9.5    1.5 22.55
     --CYCLE 18 (GRAMS/MILE)--     .050    .35   .035   34.9   19.5  7.99


TEST STOP:    8:49:46
TEST LENGTH: 1383.3


***** MASS BAG RESULTS *****

ZERO CHECK OUT OF LIMITS
 FID=     4* COD=     0  NOX=     0 CO2D=    .00

ZERO CHECK OUT OF LIMITS
 FID=     3* COD=     0  NOX=     0 CO2D=    .00

ZERO CHECK
 FID=     2  COD=     0  NOX=     0 CO2D=    .00
```

11-3

SPAN CHECK OUT OF LIMITS
FID= 98* COD= 1746* NOX= 193 CO2D= 4.22

ZERO CHECK
FID= 0 COD= 0 NOX= 0 CO2D= .01

SPAN CHECK
FID= 101 COD= 1779 NOX= 193 CO2D= 4.19

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 41 COD= 1108 NOX= 49 CO2D= 1.78

COLD STAB SAMP
FID= 13 COD= 144 NOX= 17 CO2D= 1.14

COLD TRAN AMB
FID= 10 COD= 8 NOX= 0 CO2D= .04

COLD STAB AMB
FID= 10 COD= 37 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

SOAK TIME : 601

TEST START : 8:59:20.7
CRANK TIME : 1.3

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	139	.27	29	.30	.05	.008	.11	.002	.2	1.2	6.00
I 871	585	2.21	207	12.96	.41	.084	2.14	.027	19.7	2.9	31.61
A 3.08	376	.80	353	13.82	1.68	.115	1.65	.099	44.7	6.2	8.23
C 25.8	269	.51	280	13.71	1.36	.511	6.52	.489	275.3	38.8	10.08
D-1.04	150	.23	164	13.40	.82	.021	.22	.021	19.7	2.8	16.34
--CYCLE 1 (GRAMS/MILE)--						.205	2.95	.177	99.9	51.9	15.77
I 673	127	.19	207	13.26	.71	.059	.59	.088	65.0	9.5	18.69
A 2.15	277	.46	900	13.54	2.27	.444	4.96	1.326	229.4	32.7	5.96
C 53.3	167	.25	372	13.51	2.86	.758	7.64	1.553	648.5	92.7	4.72
D-1.00	176	.24	93	13.29	.96	.094	.87	.046	75.4	11.0	13.84
--CYCLE 2 (GRAMS/MILE)--						.376	3.90	.837	282.9	145.8	16.65
I 660	105	.19	175	13.18	.71	.017	.20	.025	22.0	3.2	18.56
A 2.77	211	.37	508	13.64	2.12	.148	1.75	.328	101.2	14.3	6.43
C 36.3	276	.47	131	13.66	1.75	.135	1.55	.059	70.6	10.0	7.81
D-1.02	123	.21	119	13.30	.79	.023	.26	.020	26.3	3.8	16.84
--CYCLE 3 (GRAMS/MILE)--						.090	1.04	.120	61.2	31.3	14.41
I 669	107	.18	361	13.20	.71	.006	.07	.020	8.4	1.2	18.59
A 3.39	208	.27	596	11.32	2.16	.116	1.05	.305	66.7	11.4	5.24
D-1.02	135	.35	125	13.49	1.00	.031	.55	.027	33.3	4.8	13.49
--CYCLE 4 (GRAMS/MILE)--						.043	.46	.098	30.1	17.4	11.22
I 674	105	.18	185	13.18	.71	.023	.26	.037	30.4	4.4	18.56
A 3.14	202	.39	652	13.49	2.46	.141	1.84	.420	99.9	14.3	5.46
C 35.8	279	.35	98	13.32	1.56	.198	1.67	.064	100.8	14.5	8.54
D-1.02	173	.29	81	12.75	.86	.037	.41	.016	28.5	4.3	14.83
--CYCLE 5 (GRAMS/MILE)--						.111	1.16	.149	71.9	37.5	14.92

TEST STOP: 9: 8: 8
TEST LENGTH: 506.3

11-4

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 1 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 99 COD= 1816* NOX= 192 CO2D= 4.18

ZERO CHECK
FID= 1 COD= 1 NOX= 0 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 100 COD= 1749* NOX= 191 CO2D= 4.19

ZERO CHECK
FID= 0 COD= 0 NOX= 0 CO2D= .01

SPAN CHECK
FID= 100 COD= 1774 NOX= 189 CO2D= 4.19

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 14 COD= 186 NOX= 45 CO2D= 1.59

HOT TRAN AMB
FID= 10 COD= 71 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.697	12.84	.532	207	31.5
ACCEL	2.175	42.47	2.000	640	95.3
DECEL	.374	4.57	.276	199	28.6
CRUISE	3.922	72.87	2.495	1299	188.6
CHOKE	4.829	115.31	2.207	890	137.8
TOTAL	7.168	132.75	5.303	2346	344.0

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.991	36.88	1.473	651.6	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.293	1.48	.273	261	38.9
ACCEL	1.294	14.55	1.527	844	121.7
DECEL	.509	6.01	.310	402	58.1
CRUISE	1.392	17.62	.730	929	131.8
CHOKE	.000	.00	.000	0	.0
TOTAL	3.488	39.66	2.840	2437	350.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	.894	10.17	.728	624.8	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.197	3.37	.200	146	22.5
ACCEL	.964	11.24	2.479	542	78.9
DECEL	.206	2.31	.130	183	26.7

CRUISE	1.602	17.37	2.165	1094	155.9
CHOKE	1.241	16.17	2.053	654	94.1
TOTAL	2.969	34.29	4.973	1965	283.9

11-5

EQUIVALENT MASS BAG RESULTS

GMS/MI	.825	9.53	1.381	545.9

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.102	15.51	1.061	608.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.067	23.36	1.433	607.7
COLD STABILIZED	.194	3.53	.784	585.3
HOT TRANSIENT	.167	2.53	1.330	522.4
WEIGHTED TOTAL	.367	7.38	1.078	572.7

15.14

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.059	11.573	8.312
RELATIVE HUMIDITY	25	25	25
HUM. CORR. FACTOR	.932	.832	.832
CVS REVOLUTIONS	10080	16830	9930
AVG.INLET DEPR. (IN.H20)	12.3	12.2	12.3
AVG.PRESSURE DIFF. (IN.H2O)	21.3	21.0	21.1
AVG.CVS TEMPERATURE (DEG.F)	83	91	88
MAX.INLET DEPR. (IN.H20)	12.4	12.3	12.3
MIN.INLET DEPR. (IN.H20)	12.1	12.1	12.2
MAX.CVS TEMPERATURE (DEG.F)	89	92	93
MIN.CVS TEMPERATURE (DEG.F)	77	89	83
AVG.CVS FLOW (CU.FT/REV)	.263	.263	.263
TOTAL CVS VOL. (STD.CU.FT.)	2419	3993	2361
AVG MODAL CO2 RATIO	6.98	11.44	8.19
FUEL ECONOMY (MI/GAL)	13.70	15.00	16.84

DAM-N
#1

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	10/28/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	Dart	BAROMETER (IN. HG.):	29.610
VEHICLE YEAR:	76	WET BULB TEMP (DEG. F):	56.0
ENGINE CID:	225	DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:	C	GRAINS OF H20/LB. DRY AIR:	38.49617
CARBURETOR & NO.:	1/2460	KH:	0.85356
VEHICLE TEST WT.:	3500	R:	30.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.000 IN. H20	V0	=	0.263 CU. FT./REV.
N	=	14554.0 REV.	DF	=	5.164
PP	=	729.676 MM HG	V MIX	=	2867.204 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI	
HC	10.647	0.499	0.049	.0563
CO	16.126	1.524	0.149	.1711
C02	25093.630	3730.531	364.239	418.318

MPG = ~~24.341~~ 21.19

$$\text{CORR. FACTOR} = \frac{.263}{.229} = 1.14847$$

L3

DRMON #2

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	10/28/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	[illegible]	BAROMETER (IN. HG.):	29.610
VEHICLE YEAR:	76	WET BULB TEMP (DEG. F):	56.0
ENGINE CID:	[illegible]	DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	38.49517
CARBURETOR & NO.:	42460	KH:	0.85356
VEHICLE TEST WT.:	3500	R:	30.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.200 IN. H20	VO	=	.263 0.228 CU. FT./REV.
N	=	13732.0 REV.	DF	=	5.145
PP	=	729.302 MM HG	V MIX	=	2789.463 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	11.915	0.543	0.053
CO	19.883	1.829	0.179
CO2	25274.920	3655.603	356.923

MPG = 24.835

21.624

DAMON #3

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	
DATE:	10/28/76	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:		BAROMETER (IN. HG.):	29.610
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	56.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	74.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	38.49617
CARBURETOR & NO.:	4/2460	KH:	0.85356
VEHICLE TEST WT.:	3500	R:	30.7
IDLE RPM:		SPARK VAC.:	

P1	=	12.200 IN. H20	V0	=	0.228 CU. FT./REV.
N	=	13194.0 REV.	DF	=	5.174
PP	=	729.302 MM HG	V MIX	=	2661.456 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	30.277	1.316	0.128
CO	19.710	1.730	0.169
C02	24993.270	3448.983	336.749

MPG = 26.303

22.903

(15) COLD #1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Turn 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. OEM ignition. New plugs (.035").

HC	CO	NOx	ECON.
.39	6.47	1.051	14.96

3 stalls

STALLED TWICE (+1 - (prior to start of 2nd cycle

IDLE SET: 750-

ODOMETER: 9982

NOTES: W/REF CONV MODAL

REF CHECK

FID= [illegible] COF= .74 COEF= .73 NO= [illegible] COEF= .74

CRANK CHECK

FID= 97 COF= 3.14 COEF= 15.61 NO= 198 COEF= 4.50

REPEAT Z/C CHECKS?

TEST START : 13:10:21.1

CRANK TIME : 6.3

MODE	TAILPIPE CONC HC	CO	HC COF	CO COEF	MASS (GRAMS) HC	CO	NO	CO2	FUEL	F/A
CRANK	293	.01	17	.57	.253	.19	.000	.7	0.7	0.57
1 1000	1178	5.39	73	7.33	.347	11.43	.000	65.7	0.0	13.43
2 2.16	1276	7.28	175	10.26	1.71	87.48	.157	115.1	1.5	9.71
3 [illegible]	1371	6.75	241	13.33	1.06	69.56	.075	111.7	0.9	9.75
3-1.53	991	.39	506	11.13	1.50	1.00	.163	66.7	.4	9.54
--CYCLE 1 (GRAMS/MILE)--					1.11	27.01	.055	14.2	10.1	1.1
1 750	555	1.0	13	1.16	.350	.45	.000	25.7	15.6	11.51
2 2.17	703	1.14	222	10.00	1.724	14.00	1.007	149.7	27.5	4.50
3 [illegible]	751	1.13	340	10.00	1.11	5.13	1.505	25.1	17.9	3.71

STALL

15.1

| | | |

15.3

[illegible]

[illegible]

[illegible]

15,4

Econ,

14,98

.390 6.47 1.051 581.6

263

15.5

(16) COLD #1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272". Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC.

HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2 — Choke re-timed to ≈ 2 min.
10-28-76 9:46
CONSOLE SWS: 4 5
TEST CODE? I
NEW DATA ? Y
WET BULB ? 55
DRY BULB ? 74
BAROMETER? 28.61
INERT WT.? 3500
TRANS. ? A
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5C3C
REMARKS ? CARB SONIC — IDLE SET: 750-
REMARKS ? ENGINE 225 CID — ODOMETER:
REMARKS ? C-75 EPA — NOTES: W/PPCDE — Install

HC	CO	NOX	ETOH
.523	5.28	1.168	14.38

ZERO CHECK
FID= 0 COR= .00 CO2R=-00.33 NO= 0 CO2D= .00

SPAN CHECK
FID= 191 COR= 8.21 CO2R= 15.56 NO= 198 CO2D= 4.10

REPEAT Z/S CHECKS? N

TEST START : 10:10:48.5
CRANK TIME : 1.6

MODE	TAILPIPE CONC F/A/S	HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EVIL VOL.	D/P P/F
CRANK	265	.43	62	.69	.35	.007	.09	.002	.2	.5	13.88	
I	1394	364	3.33	141	9.54	.38	.294	7.63	.045	34.3	6.9	11.83
A	3.12	1037	3.33	149	11.88	1.76	.726	15.27	.054	79.3	12.9	6.33
C	25.5	912	2.76	208	10.92	1.31	2.587	52.69	.548	207.6	57.9	6.83
D	1.44	629	.92	671	10.38	1.37	.142	1.83	.180	87.0	4.2	9.35
	--CYCLE 1 (GRAMS/MILE)--						1.233	21.37	.227	138.5	23.5	9.91
I	1396	454	.25	473	10.39	1.23	.348	1.25	.241	108.5	15.7	11.37
A	3.13	422	.33	659	10.38	2.79	.232	5.24	1.283	251.7	46.2	4.31
C	57.4	936	.10	423	10.28	3.42	1.513	6.77	0.273	687.2	127.2	5.59
D	1.20	338	.13	73	10.76	1.23	.134	.66	.037	69.6	11.1	10.19
	--CYCLE 2 (GRAMS/MILE)--						.799	3.32	.937	333.1	175.3	15.96
I	622	217	.13	168	11.53	.66	.330	.13	.083	13.1	3.8	17.55
A	2.77	336	.05	611	10.34	2.33	.091	1.07	.408	93.5	15.4	5.37
C	26.2	341	.05	113	10.13	1.97	.132	.93	.063	75.7	11.2	6.16

TEST STOP: 17:51:17
TEST ELAPSED: 1321.0

***** FAST FAC RESULTS *****

FIF= 4 COF= 1 MOX= 2 COOF= .33

FIF= 36 COF= 1710 MOX= 151 COOF= 4.33

FIF= 58 COF= 703 MOX= 55 COOF= 1.25

FIF= 15 COF= 85 MOX= 16 COOF= 1.17

FIF= 11 COF= 11 MOX= 2 COOF= .36

FIF= 5 COF= 5 MOX= 2 COOF= .56

SCAN TIME : 671

TEST START : 17:43:57.1
SCAN TIME : 1.0

	---TAILPIPE EMIS---				COLD	------ HOT (BRAKE) ------				TOT.	F/
F/T/C	HC	CO	NO	CO2	CCMC	HC	CO	NO	CO2	MPG	F/T
SCAN	045	.01	.00	.06	.05	.005	.10	.771	.1	.4	17.0
T 713	057	.35	100	10.00	.35	.771	1.70	.961	1	.3	5.1
A 7.10	354	.07	501	12.74	1.71	.171	.50	.173	45.0	5.4	5.1
S 05.0	075	.00	076	12.00	1.45	.503	7.01	.783	055.0	33.7	0.15
T-1.10	017	.17	79	10.05	.74	.704	.13	.710	15.5	.4	17.1
--CYCLE 1 (SCANS/FILE)--						.107	1.70	.157	17.1	.7	17.10
I 010	145	.12	171	10.76	.05	.701	.76	.750	50.5	.1	17.55
A 0.10	033	.33	170	10.00	0.71	.461	7.74	1.107	0.0	33.5	5.1
S 03.7	170	.17	100	10.00	5.05	.755	5.7	1.741	535.0	05.5	0.05
T-1.00	520	.00	47	10.17	.00	.010	.70	.701	03.1	.0	17.55

--CYCLE 3 (GRAMS/MILE)--

--CYCLE 4 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

TEST STOP: 10:50:41

***** BAG BAG RESULTS *****

BAG OUTPUT
FID= 5 COD= 0 MOX= 0.000E+ .37

BAG OUTPUT
FID= 25 COD= 1757 MOX= 193.000E+ 4.37

REPEAT B/G OUTPUTS ?

HOT TRANSIENT
FID= 15 COD= 85 MOX= 51.000E+ 1.60

HOT TRANSIENT
FID= 9 COD= 0 MOX= 0.000E+ .00

REPEAT BAG STATS ?

***** FINAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT
MODE TYPE HC CO NOX CO2 FUEL
IDLE .735 9.38 .455 135 31.5
ACCEL 9.197 83.67 2.369 593 95.1
DECEL .469 8.66 .017 170 27.4
CRUISE 4.527 61.89 2.755 1130 183.4
CRUISE 4.017 73.07 2.955 900 139.4
TOTAL 7.999 97.72 5.701 2130 347.5

EQUIVALENT BAG BAG RESULTS
GMS/MI 0.617 97.14 1.570 587.7

COMPOSITE GRAMS - COLD STABILIZED
MODE TYPE HC CO NOX CO2 FUEL
IDLE .735 1.44 .455 135 31.5
ACCEL 1.756 14.10 1.477 787 125.2
DECEL .510 4.44 .093 355 57.5
CRUISE 1.579 11.45 .471 951 153.4
CRUISE .917 7.31 .355 [illegible] 115.4
TOTAL 4.155 31.44 2.511 2178 343.5

16-4

EQUIVALENT MASS BAG RESULTS
GMS/MI 1.[illegible] 7.[illegible] .[illegible]

[illegible] - 2 ST TRANSIENT

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IDLE	.[illegible]	[illegible].57	.[illegible]	11.[illegible]	1.[illegible]
ACCEL	1.[illegible]	[illegible].00	[illegible].[illegible]	[illegible]59	71.[illegible]
DECEL	.[illegible]73	1.59	.[illegible]61	159	[illegible]3.3
CRUISE	1.665	10.43	[illegible].241	1027	159.7
CRUISE	1.193	[illegible].89	1.[illegible]94	586	97.[illegible]
TOTAL	3.[illegible]81	[illegible]1.53	4.[illegible]789	1769	[illegible]69.1

EQUIVALENT MASS BAG RESULTS
GMS/MI .917 5.93 1.[illegible]33 491.[illegible]

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS
GMS/MI 1.269 11.33 1.[illegible]99 547.5

***** [illegible] TEST RESULTS *****

[illegible] EMISSIONS (GMS/MILE)

NOT WEIGHTED	HC	CO	NOX	[illegible]
COLD TRANSIENT	1.174	15.[illegible]36	1.[illegible]456	[illegible]51.[illegible]
COLD STABILIZED	.[illegible]770	1.25	.[illegible]361	[illegible]64.[illegible]
[illegible] TRANSIENT	.[illegible]339	1.[illegible]53	1.[illegible]346	[illegible]71.
WEIGHTED TOTAL	.[illegible]55	[illegible].[illegible]28	1.[illegible]717	[illegible]15.[illegible]

ECON.

.523 5.28 1.168 591.7 14.58

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	[illegible] TRANS.
DILUTION FACTOR	6.[illegible]71	11.[illegible]43	3.[illegible]17
PLATINUM WIDTH	9[illegible]	[illegible]3	[illegible]
[illegible]. [illegible]. FACTOR	.[illegible]45	.[illegible]949	.[illegible]4
[illegible] EXCURSIONS	1[illegible]739	1[illegible]739	[illegible]37
AVG. INLET DEPT. (IN.H2O)	[illegible]0.5	10.7	10.5
AVG. PRESSURE DIFF. (IN.H2O)	[illegible]1.5	[illegible]1.4	[illegible]1.[illegible]
AVG. CVS TEMPERATURE (DEG.F)	75	83	[illegible]
MAX. INLET DEPT. (IN.H2O)	10.[illegible]	10.4	10.5
MIN. INLET DEPT. (IN.H2O)	10.7	10.3	10.4
MAX. CVS TEMPERATURE (DEG.F)	8[illegible]	85	[illegible]
MIN. CVS TEMPERATURE (DEG.F)	73	80	74
AVG. CVS FLOW (CU.FT/REV)	.[illegible]203	.[illegible]209	.[illegible]209
TOTAL CVS VOL. (STD.CU.FT.)	2124.[illegible]	3941.[illegible]	[illegible]2883.[illegible]
AVG. MODAL COR RATIO	[illegible].[illegible]5	12.[illegible]8	[illegible].[illegible]8
FUEL TEMPERATURE (MI/GAL)	15.34	10.[illegible]79	13.71

.263

(17) COLD 75#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Vacuum spark advance via lower ported signal, then OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg.

.400 EGR max. orifice. Timing: 1° ATDC

Choke reset to 3 on min.

HC	CO	NOX	ECON
.683	6.58	1.193	14.38

3 stalls

ODOMETER: 9917

HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #6
12-27-76 B: 6
CONSOLE SUS: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH BUILD ? 55
DIV BUILD ? 74
CALIBRATE? CCC1
INERTIA ?
TRANS ?
CYLINDERS? 6
DISP NO. ? 1,6,3
VEH. MAKE? DAP
VEH. I.D.? 5C3C
REMARKS ? CARB CODE
REMARKS ? ENGINE CODE CID
REMARKS ? C-75 EPA

IDLE SET: 750-
ODOMETER: 9917
NOTES: W/TRACECARESPE

ZERO CHECK
FID= 0 CO%= .01 CO2%=-00.07 NO= 1 CO2D= .00

SPAN CHECK
FID= 130 CO%= 0.16 CO2%= 15.07 NO= 104 CO2D= 1.27

REPEAT F/C CHECKS? N
?

TEST START : - 8:38:58.9
SPAN TIME : 0.1

CODE	TAILPIPE CONC HC	CO	NO	CO2	CO2D	MASS (GRAMS) HC	CO	NO	CO2	FUEL	F/E
SPAN	214	0.30	778	0.54	0.86	0.810	0.00	0.003	0.3	1.8	5.38
1	1387	0396	3.79	110	10.17	0.80	0.273	7.78	0.031	32.8	6.8	12.40
2	3.03	1048	4.37	169	11.66	1.33	0.560	26.94	0.153	119.9	13.7	6.37
3	04.0	1300	0.00	132	11.34	1.97	3.710	55.07	0.501	369.5	63.0	6.03
P-C.01		245	1.17	774	13.90	1.47	0.171	1.59	0.145	20.3	4.1	5.47
--CYCLE 1 (GRAMS/MILE)--							1.209	85.53	0.830	151.5	28.7	7.19
1	805	555	0.15	501	13.67	1.35	0.408	0.73	0.343	134.9	14.7	11.13
2	0.10	592	0.39	536	13.21	0.74	1.005	4.47	0.017	274.7	30.3	4.55
3	53.0	310	0.13	292	13.55	0.75	1.506	4.05	1.275	796.0	154.4	3.56
P-1.		514	0.13	53	13.09	1.11	0.74	0.00	0.005	34.1	11.1	11.00
--CYCLE 2 (GRAMS/MILE)--							0.911	2.06	0.047	315.4	164.9	14.07
1	005	667	0.10	111	10.79	0.09	0.076	0.00	0.014	17.0	0.7	10.55
2	0.71	350	0.10	530	13.33	0.40	0.051	0.52	0.335	100.0	14.6	5.49
3	36.5	387	0.07	130	13.15	0.13	0.010	1.00	0.007	73.6	10.8	6.17
P-1.1		313	0.04	53	12.95	0.05	0.050	0.00	0.010	24.0	3.6	15.24
--CYCLE 3 (GRAMS/MILE)--							0.154	0.54	0.132	60.0	31.7	14.73

0744

--CYCLE 4 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

--CYCLE 6 (GRAMS/MILE)--

--CYCLE 7 (GRAMS/MILE)--

--CYCLE 8 (GRAMS/MILE)--

--CYCLE 9 (GRAMS/MILE)--

--CYCLE 10 (GRAMS/MILE)--

--CYCLE 11 (GRAMS/MILE)--

--CYCLE 12 (GRAMS/MILE)--

--CYCLE 13 (GRAMS/MILE)--

--CYCLE 14 (GRAMS/MILE)--

--CYCLE 15 (GRAMS/MILE)--

[illegible]

TEST START: 9:0:51
TEST LENGTH: 1474.0

[illegible]

[illegible]

FID= [illegible] COD= [illegible] NOX= [illegible] COD= .00

[illegible]

FID= 95 COD= 1764 NOX= 137 COD= 4.07

[illegible]

COLD TRAN SAMP
FID= 71 COD= 1374 NOX= 55 COD= 1.97

COLD STAB SAMP
FID= 11 COD= 185 NOX= 17 COD= 1.21

COLD TRAN AMB
FID= 7 COD= 21 NOX= 0 COD= .06

COLD STAB AMB
FID= 5 COD= 20 NOX= 0 COD= .00

REPEAT BAG READS ? N

SOAK TIME : 601

TEST START : 9:12:06.5
CRANK TIME : 1.7

MODE	---TAILPIPE CONC---			COR'D	------ MASS (GRAMS) ------				FYH.	D/D
D/A/C	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	HC L.	F/E
CRANK	191	.73	26	.27	.25	.014	.21	.000	0	1.5	5.[illegible]
I [illegible]	479	1.57	163	10.66	.26	.054	1.00	.018	15.7	0.7	35.17
A [illegible]	258	.16	437	13.11	1.76	.075	.20	.135	41.5	0.1	7.[illegible]
[illegible]	119	.03	685	13.00	1.44	.011	0.57	.417	253.[illegible]	23.5	[illegible]
P-1.[illegible]	291	.17	57	10.77	.26	.005	.13	.006	15.4	0.5	10.[illegible]
--CYCLE 1 (GRAMS/MILE)--						.101	1.17	.183	91.0	51.5	17.[illegible]
I [illegible]	167	.11	170	11.37	.03	.056	.03	.000	51.1	0.2	10.17
A [illegible]	221	.09	309	10.93	0.70	.041	0.00	1.100	227.0	21.9	5.[illegible]
[illegible]	101	.13	423	10.51	3.01	.003	4.31	1.[illegible]	[illegible]	23.2	4.16
P-1.[illegible]	573	.[illegible]	71	10.67	.[illegible]	.003	.05	.13	21.[illegible]	0.[illegible]	11.05
--CYCLE [illegible] (GRAMS/MILE)--						.451	5.07	.315	550.[illegible]	141.[illegible]	17.[illegible]
[illegible]	[illegible]	.10	115	10.65	.01	.000	.11	.014	13.0	0.2	10.47

L9143

--CYCLE 3 (GRAMS/MILE)--

1743

--CYCLE 4 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

TEST TIME: 9:01:14

TEST LENGTH: 5[illegible]6.7

***** MASS GAS RESULTS *****

EVAP CHECK

FID= 3 COD= 0 MOX= 0 GRAM= .[illegible]

CRANKCHECK

FID= 97 COD= 1743 MOX= 139 GRAM= 4.19

REPEAT B/S CHECKS? N

HOT TRANSAMP

FID= 15 COD= 72 MOX= 59 GRAM= 1.59

HOT TRANSIENT

FID= 8 COD= 17 MOX= 0 GRAM= .05

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	SEC	FUEL
IDLE	.769	3.76	.406	133	69.5
ACCEL	2.573	33.64	2.120	612	91.7
DECEL	.613	3.96	.282	134	86.9
CRUISE	5.123	62.56	2.510	1272	191.3
CHOKE	5.323	97.19	2.106	994	139.7
TOTAL	9.893	193.68	5.258	2954	378.4

EQUIVALENT MASS BAG RESULTS

GMS/MI 8.503 33.91 1.461 606.8

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	SEC	FUEL
IDLE	.693	1.66	.114	214	39.3
ACCEL	1.594	11.67	1.374	703	113.4
DECEL	.576	5.49	.196	350	55.1
CRUISE	1.731	16.67	.571	373	170.1
CHOKE	.330	.98	.063	0	0
TOTAL	4.174	33.64	2.135	2011	377.5

EQUIVALENT MASS BAG RESULTS

GMS/MI 1.[illegible] 3.63 .[illegible] 506.3

17-4

[illegible] - HOT TRANSIENT					
MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.127	1.79	.105	110	10.5
ACCEL	1.295	5.51	2.360	526	76.6
CRUISE	.457	1.62	.823	140	20.7
CRUISE	1.696	9.84	2.033	1054	150.1
CRUISE	1.079	7.44	1.787	599	88.3
TOTAL	3.345	17.05	4.746	1733	274.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	.999	4.09	1.313	496.6	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.339	10.34	.954	559.9	

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

FOR WEIGHTED	HC	CO	NOX	CO2	
COLD TRANSIENT	1.271	13.79	1.462	533.7	ECON
COLD STABILIZED	.939	7.97	.609	574.5	
HOT TRANSIENT	.997	1.77	1.373	460.7	
WEIGHTED TOTAL	.595	5.73	1.039	506.9	
	.683	6.58	1.193	604.1	14.38

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	6.418	10.935	4.305
RELATIVE HUMIDITY	63	63	63
HUM. CORR. FACTOR	.847	.848	.848
SUS REVOLUTIONS	19468	16788	9541
AVG.INLET DEPR. (IN.H2O)	11.7	10.1	10.5
AVG.BAROMETRIC PRES. (IN.HG)	29.5	29.6	29.6
AVG.SUS TEMPERATURE (DEG.F)	113	103	97
MAX.INLET DEPR. (IN.H2O)	11.9	10.2	10.5
MIN.INLET DEPR. (IN.H2O)	11.6	11.8	10.4
MAX.SUS TEMPERATURE (DEG.F)	120	114	[illegible]
MIN.SUS TEMPERATURE (DEG.F)	114	95	73
AVG.SUS FLOW (CU.FT/REV)	.037	.000	.001
TOTAL SUS VOL. (STD.CU.FT.)	9119	3479	2293
AVG.BAG CO2 RATIO	6.01	10.52	7.53
FUEL ECONOMY (MI/GAL)	14.55	16.43	13.91

.263

(18) COLD 75#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 10° ATDC. OEM ignition system - new plugs (.035"). Choke set for 1-1/2 minutes.

HC	CO	NOX	ECON
0.601	3.87	.998	17.23

Three stalls

#1

IDLE SPD: 750-?

9879

	---TAILPIPE CONC---				CORR	------ MASS (GRAMS) ------				EXH.	F/F
	F/A/F	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/F
	GRAMS	157	.16	31	6.86	.84	.041	.03	.003	0	5.3	1.75
I	1359	858	3.13	128	10.79	.78	.224	5.49	.028	29.7	5.3	15.61
A	5.93	1016	4.64	333	8.79	.88	.254	22.31	.078	87.4	19.2	9.57
C	25.4	953	1.33	229	10.58	1.80	2.343	22.81	.506	305.1	52.0	6.37
F	-1.23	737	.61	107	12.36	.33	.169	.57	.214	17.6	2.3	14.53
	--CYCLE 1 (GRAMS/MILE)--					1.218	10.25	.275	107.3	39.7	10.0	
I	617	444	.19	100	11.46	.78	.213	.79	.256	53.1	9.3	15.89
A	1.03	546	.42	563	10.78	0.00	.211	4.55	.733	991.3	33.3	5.00
C	53.1	530	.13	402	10.79	2.33	1.417	4.65	1.215	994.4	133.9	3.19
F	-1.33	430	.09	43	10.76	.05	.174	.05	.020	52.7	2.3	15.21
	--CYCLE 2 (GRAMS/MILE)--					.705	0.00	.757	970.0	140.2	17.00	
I	574	939	.19	74	11.88	.61	.231	.11	.028	10.7	9.3	15.05
A	0.81	453	.01	999	10.87	0.13	.001	.00	.334	99.0	13.3	6.00
C	36.5	340	.32	189	10.00	0.10	.103	1.14	.057	75.0	11.5	5.00
F	-1.00	000	.13	41	10.51	.00	.040	.00	.007	00.3	3.7	15.03
	--CYCLE 3 (GRAMS/MILE)--					.146	.00	.107	50.0	31.0	15.77	

9705

--CYCLE 10 (GRAMS/MILE)--

--CYCLE 11 (GRAMS/MILE)--

--CYCLE 12 (GRAMS/MILE)--

--CYCLE 13 (GRAMS/MILE)--

--CYCLE 14 (GRAMS/MILE)--

--CYCLE 15 (GRAMS/MILE)--

```
      --CYCLE 16 (CRAMS/MILE)--      .147      .32      .005      50.0      17.6      14.6

I   537   135    .11    64  18.00    .08      .019      .11      .009      15.5       4.9     19.55
A   621   570    .35   999  13.11   1.76      .109      .55      .139      65.0       9.6      9.62
B-05.2   645    .73    98  13.01   1.79      .117     1.06      .248      60.4       5.7      9.50
B-11.1   570    .39    50  19.77    .74      .037      .11      .006      10.9       4.5     13.96
      --CYCLE 17 (CRAMS/MILE)--      .077      .09      .041      45.7      14.7     19.45

I   534   103    .10    76  19.79    .07      .020      .10      .017      31.5       4.3     20.10
A   640   337    .24   179  13.32   1.00      .103      .54      .056      47.6       6.7      9.91
B-11.0   153    .10    44  19.05    .71      .006      .14      .007      23.6       3.5     17.39
I   15   500    .32   110   7.07    .43      .006      .05      .009       7.5       1.3     19.44
      --CYCLE 17 (CRAMS/MILE)--      .056      .04      .003      53.1      17.5      9.11
```

```
TEST STOP:   3:40:31
TEST LENGTH: 1406.0

***** TAPE BAD RESULTS *****

TAPE CHECK
  FID=     4  COR=     0  NOX=     0 CORD=    .00

GRAM CHECK OUT OF LIMITS
  FID=    95  COR=  1740  NOX=   134*CORD=   4.11

TAPE CHECK
  FID=     0  COR=     0  NOX=     0 CORD=    .00

GRAM CHECK OUT OF LIMITS
  FID=    99  COR=  1770  NOX=   133*CORD=   4.10

TAPE CHECK
  FID=     0  COR=     0  NOX=     0 CORD=    .00

GRAM CHECK OUT OF LIMITS
  FID=   101  COR=  1767  NOX=   131*CORD=   4.10

TAPE CHECK
  FID=     0  COR=     0  NOX=     0 CORD=    .00

GRAM CHECK
  FID=   100  COR=  1747  NOX=   101 CORD=   4.11

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
  FID=    71  COR=   700  NOX=    49 CORD=   1.70

COLD STAB SAMP
  FID=    10  COR=    53  NOX=    16 CORD=   1.17

COLD TRAN AMP
  FID=     7  COR=     3  NOX=     3 CORD=    .70

COLD STAB AMP
  FID=     0  COR=     1  NOX=     0 CORD=    .05

REPEAT TAPE READS ? N

GRAM TIME :  600

TEST START :   3:56:14.5
GRAM TIME :  1.4
```

MODE	---TRAILERS---				------ MASS (GRAMS) ------				DM	D/I
TYPE	NO	CD	MN	CUM	NO	CD	MN	CUM	MN	T/F
STA M	136	.15	05	.31	.01	.007	.15	.201	.0	.0	7.67
I 331	503	1.23	135	10.47	.24	.300	1.45	.212	15.0	.2	33.76
A 3.15	667	.13	300	15.56	1.71	.387	.45	.107	40.1	6.1	7.47
S 65.7	636	.13	635	13.14	1.84	.477	2.74	.407	954.3	37.4	6.17
T-1.03	518	.16	65	9.75	.77	.071	.16	.006	15.7	3.1	17.76
--CYCLE 1 (GRAMS/MILE)--					.178	1.43	.146	91.9	49.7	13.01	
I 338	178	.10	101	10.74	.05	.350	.71	.044	56.1	7.9	19.63
A 5.16	311	.09	207	10.07	0.00	.403	1.17	1.057	210.9	31.7	5.43
S 51.4	183	.16	401	10.03	7.01	.313	4.71	1.073	596.7	91.0	4.01
T-1.35	656	.01	35	10.11	.07	.310	.07	.017	60.5	9.7	17.76
--CYCLE 2 (GRAMS/MILE)--					.491	6.45	.331	956.0	145.4	13.17	
I 310	503	.13	115	10.63	.05	.330	.10	.014	17.7	0.7	15.51
A 5.76	316	.01	571	13.10	0.01	.003	.04	.350	44.0	13.0	5.04
S 31.7	196	.01	103	11.44	1.25	.153	.77	.000	95.0	11.1	6.17
T-1.11	630	.17	10	10.57	.77	.040	.13	.007	01.7	7.5	17.15
--CYCLE 3 (GRAMS/MILE)--					.103	.56	.106	54.0	7.7	14.7	
I 335	196	.13	174	10.65	.05	.310	.04	.010	6.7	1.7	19.40
A 7.40	130	.01	683	10.35	0.00	.010	.70	.074	64.1	9.0	5.44
T-1.15	663	.07	61	10.27	.07	.055	.30	.010	01.1	4.7	17.03
--CYCLE 4 (GRAMS/MILE)--					.040	.70	.031	07.5	14.9	19.33	
I 335	157	.13	103	10.76	.06	.009	.16	.021	04.8	3.7	19.33
A 7.17	053	.00	674	10.94	0.71	.178	.95	.449	96.1	14.3	4.77
S 35.7	350	.05	70	10.04	1.65	.040	1.17	.045	00.6	14.1	7.66
T-1.00	333	.17	56	10.44	.70	.004	.00	.010	01.0	3.0	14.50
--CYCLE 5 (GRAMS/MILE)--					.147	.00	.146	65.1	20.1	16.50	

TEST CYCD: 0: 5: 0
TEST LENGTH: 535.4

***** MASS PAS RESULTS *****

ZERO CHECK
FID= 1 COD= 1 NOX= 0 GOOD= .00

SPAN CHECK
FID= .99 COD= 1724 NOX= 152 GOOD= 4.00

REPEAT Z/S CHECKS? N

HOT TRANSIENT
FID= 12 COD= 66 NOX= 50 GOOD= 1.01

HOT TRANSIENT
FID= 0 COD= 0 NOX= 0 GOOD= .00

REPEAT PAS BEAMS ?

***** MODAL SUMMARY *****

COMPOSITE EMMNS - GRLP TRANSIENT

PART TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.554	6.74	.169	154	67.3
ACCEL	.370	25.05	.500	551	24.7
CRUISE	.154	6.76	.064	154	6.7

EQUIVALENT MASS EMISSIONS

GMS/MI	4.117	99.05	1.651	719.	1

EQUIVALENT MASS EMISSIONS - COLD STABILIZED

IDLE	.511	1.61	.139	69.	35.
ACCEL	1.059	11.45	1.791	343.	190.
CRUISE	.516	3.03	.131	206.	47.
DECEL	1.467	9.43	.504	197.	106.
OTHER	.000	.00	.000	0.	0.
TOTAL	3.993	25.71	2.179	814.	389.

EQUIVALENT MASS EMISSIONS

GMS/MI	1.996	8.58	.559	393.

EQUIVALENT GRAMS - HOT TRANSIENT

IDLE	.125	0.21	.104	117.	17.
ACCEL	1.203	6.23	0.443	513.	75.
CRUISE	.517	1.65	.255	147.	24.
DECEL	1.051	9.57	0.124	1210.	153.
OTHER	1.151	3.37	1.353	593.	39.
TOTAL	3.496	19.43	4.719	1720.	271.

EQUIVALENT MASS EMISSIONS

GMS/MI	.946	5.41	1.309	495.

WEIGHTED TOTAL EQUIVALENT MASS EMISSIONS

GMS/MI	1.519	9.10	.905	503.5

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.945	13.48	1.367	530.5
COLD STABILIZED	.996	1.48	.656	501.3
HOT TRANSIENT	.108	1.08	1.371	465.9
WEIGHTED TOTAL	.691	3.97	.993	500.3

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.953	11.363	3.979
RELATIVE HUMIDITY	87	87	87
HUM. CORR. FACTOR	.845	.845	.845
CVS EVOLUTIONS	15402.	16853.	8973.
AVG.INLET DEPR. (IN.H2O)	10.4	10.3	10.4
AVG.DILUTED DIFF. (IN.H2O)	11.5	11.9	11.7
AVG.CVS TEMPERATURE (DEG.F)	87	86	86
MAX.INLET DEPR. (IN.H2O)	10.5	10.7	10.4
MIN.INLET DEPR. (IN.H2O)	10.0	10.0	10.3
MAX.CVS TEMPERATURE (DEG.F)	94	93	90
MIN.CVS TEMPERATURE (DEG.F)	83	83	76
AVG.CVS FLOW (CU.FT/REV)	.993	.995	.995
TOTAL CVS VOL. (STD.CU.FT.)	9184.	7409.	8975.
AVG.NORM.CORR.FACTOR	6.90	11.00	3.55
TEST VOLUME (MI/GAL)	15.05	16.51	13.91

2700

(19) HOT 73#2

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. OEM ignition system, with new plugs (.035").

Confirmation of like run on 10-22-76, after diaphragm change in test stand (pump).

HC	CO	NOX	ECON
.143	2.03	.971	18.00

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
ENGN #2
10-25-76 15:11
SCALE SYS: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH CLS ? 6C
DEV CLS ? 7G
CARBURETT? 0806
INERT WT.? 3500
TRANS. ? C
CYLINDERS? 6
DIV NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5083
REMARKS ? CARB SPNIC IDLE SET: 750-N
REMARKS ? ENGIE 225 CID ODOMETER:
REMARKS ? H-73 EPA NOTES:CORRELATION RUN

ZERO CHECK
FID= 0 COF= .00 COOF= .00 NO= 0 NOOF= .00

SPAN CHECK
FID= 97 COF= 3.05 COOF= 15.43 NO= 986 NOOF= 4.00

ENTER F/S CHECKS? N

TEST START : 15:27:00.3
GRAM TIME : 1.0

MODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH.	D/E
F/A/S	HC	CO	NO	CO2 CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	284	.13	64	13.82	.71	.803	.01	.881	1.0	.7	18.34
I 613	138	.10	188	13.88	.76	.838	.14	.883	4.4	12.46
A 3.32	302	.32	363	13.25	1.38	.881	.65	.159	40.0	6.1	7.93
C 25.7	292	.37	816	13.21	1.50	.550	4.77	.415	967.6	39.1	9.69
D-1.74	187	.21	68	14.84	.76	.886	.16	.887	15.0	2.4	17.87
--CYCLE 1 (GRAMS/MILE)--					.885	.76	.874	45.5	50.0	16.87
I 538	142	.13	88	11.39	.67	.761	.09	.848	51.0	7.3	17.42
A 6.17	307	.40	578	13.61	1.55	.566	4.51	.946	885.0	39.0	5.96
C 53.3	188	.17	441	13.93	3.13	.188	5.88	1.873	917.3	15.1	4.93
D-1.91	574	.19	34	15.54	.87	.873	.01	.816	87.1	2.7	15.43
--CYCLE 2 (GRAMS/MILE)--					.873	1.39	.791	1.87.3	142.0	12.96
I 561	237	.19	193	15.75	.87	.914	.11	.817	11.3	2.0	13.55
A 6.70	359	.40	541	13.43	1.39	.838	.93	.566	85.0	12.7	5.71

19-1

--CYCLE 16 (GRAMS/MILE)--

--CYCLE 17 (GRAMS/MILE)--

--CYCLE 18 (GRAMS/MILE)--

TEST TIME: 15:50:48

FINAL ODOMETER: 1773.2

***** MASS EMISSION RESULTS *****

BAG 1 OUTPUT
BAG= 4 CO= 3 NOX= CO2= .

BAG 2 OUTPUT
BAG= CO= 1753 NOX= CO2= 1.

DO YOU WANT BAG 2/3 CHECKS? N

BAG 3 OUTPUT
BAG= 11 CO= NOX= CO2= 1.76

BACKGROUND BAG
BAG= 7 CO= 14 NOX= CO2= .

DO YOU WANT BAG READS? N

***** TOTAL SUMMARY *****

COMPOSITE GRAMS

CODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.456	3.23	.452	367	55.3
ACCEL	2.948	22.52	3.378	1388	193.4
CRUISE	3.574	26.36	3.155	1906	270.3
DECEL	1.297	12.53	1.537	675	92.6
TOTAL	8.315	53.99	7.699	4278	598.6

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.868	7.76	1.726	540.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.142	0.53	.871	437.0

PLASTIC VISCOSITY	35
[illegible] FACTOR	.9967
[illegible]	[illegible]
[illegible] (I.[illegible])	10.1
[illegible] (I.[illegible])	21.7
[illegible] (PPG.F)	98
[illegible] (I.[illegible])	15.0
[illegible] (I.[illegible])	10.9
[illegible] (PPG.F)	102
[illegible] (PPG.F)	76
[illegible] (CU.FT/FEW)	.509
[illegible] VOL. (STP.CU.FT.)	5436
[illegible]	8.15
[illegible] (I/CYL)	10.08

(20) COLD 75#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Original transition casting. Catalyst. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR orifice. Timing = 1° ATDC. OEM ignition system, with new plugs (.035").

4 stalls

HC	CO	NOX	GCON
.07	[illegible]	4.08	[illegible]

[illegible] CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
DEMO #6
12-05-76 [illegible]:44
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH BLD? 6[illegible]
DEV BLD ? 76
PARAMETER? 0900
INERT WT.? 3500
TRANS. ? ?
CYLINDERS? 6
ENG NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5C39
REMARKS ? CARB SONIC
REMARKS ? ENGINE 225 CID
REMARKS ? C-75 EPA

IDLE SET: 750-N
ODOMETER: 9856
NOTES: TRACES&PROBE

ZERO CHECK
FID= -0001 COR= .00 COOR= .00 NO= 6 COOR= .02

SPAN CHECK OUT OF LIMITS
FID= 101 COR= 8.04 COOR= 15.77 NO= 830*COOR= 1.35*

ZERO CHECK
FID= -0001 COR= .00 COOR= .00 NO= 10 COOR= .00

SPAN CHECK
FID= 100 COR= 8.10 COOR= 15.55 NO= 195 COOR= 4.01

REPEAT Z/C CHECKS? N

TEST START : 11:21:14.0
CRANK TIME : 3.0

[illegible] ---TAILPIPE CO%--- COOR ------ MASS (GRAMS) ------ ENV. B/P

--CYCLE 1 (GRAMS/MILE)--

--CYCLE 2 (GRAMS/MILE)--

--CYCLE 3 (GRAMS/MILE)--

--CYCLE 4 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

--CYCLE 6 (GRAMS/MILE)--

--CYCLE 7 (GRAMS/MILE)--

--CYCLE 8 (GRAMS/MILE)--

--CYCLE 9 (GRAMS/MILE)--

--CYCLE 10 (GRAMS/MILE)--

--CYCLE 11 (GRAMS/MILE)--

--CYCLE 16 (GRAMS/MILE)--

--CYCLE 13 (GRAMS/MILE)--

--CYCLE 14 (GRAMS/MILE)--

--CYCLE 15 (GRAMS/MILE)--

--CYCLE 16 (GRAMS/MILE)--

--CYCLE 17 (GRAMS/MILE)--

--CYCLE 18 (GRAMS/MILE)--

TEST TIME: 11:55:37
TEST LENGTH: 1436.5

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 5 COD= 0 NOX= 0 COD= .05

SPAN CHECK
FID= 97 COD= 1759 NOX= 199 COD= 4.84

ENTER Z/S CHECKS ?

COLD TRANSIENT
FID= 104 COD= 1759 NOX= 49 COD= 1.74

COLD STABILIZED
FID= 17 COD= 74 NOX= 16 COD= 1.05

COLD TRANSIENT
FID= 18 COD= 0 NOX= 0 COD= .05

COLD STABILIZED
FID= 19 COD= 4 NOX= 1 COD= .06

ENTER BAG FIGURES ?

TEST START : 10: 5:10.5
SCAN TIME : 1.1

	---TAILPIPE EMIS---				------ I/M (STATE) ------				EMI.	P/F
	/M/	HC	CO	NOX	CO2	HC	CO	NOX	CO2	MDL.	E/F
SCAN	131	.17	93	.71	.05	.017	.05	.001	.1	.9	E.E
I	468	017	1.55	035	11.73	.33	.001	1.74	.006	15.5	2.6
A	3.03	346	.05	360	12.91	1.75	.114	.11	.119	40.7	6.7
C	55.6	055	.01	030	11.37	1.49	.508	.15	.423	0C5.0	48.3
D	-1.3	416	.33	75	11.19	.76	.205	.23	.517	15.5	1.3
	--CYCLE 1 (SCANS/MILE)--						.211	.06	.179	93.9	55.5
I	505	146	.26	141	12.27	.66	.066	.08	.004	59.7	9.3
A	2.17	031	.10	010	11.37	0.53	.495	1.13	1.610	000.3	35.9
C	53.5	005	.01	433	11.51	3.06	1.519	.33	0.134	66A.3	171.4
D	-1.00	605	.06	43	11.05	.91	.309	.00	.003	60.3	10.9
	--CYCLE 2 (SCANS/MILE)--						.503	.43	1.279	961.1	157.5
I	593	049	.10	107	11.54	.70	.037	.10	.005	17.1	3.1
A	2.73	311	.05	535	11.97	0.43	.054	.03	.431	1.3.3	10.7
C	36.4	333	.10	101	11.53	0.04	.193	.03	.171	53.5	11.3
D	-1.10	349	.01	55	11.03	.30	.001	.01	.311	05.0	7.3
	--CYCLE 3 (SCANS/MILE)--						.159	.14	.161	01.3	55.0
I	556	137	.33	359	11.45	.76	.010	.00	.005	7.5	1.5
A	2.33	330	.11	007	11.04	0.03	.179	.40	.354	71.1	11.5
C	-1.00	039	.03	60	11.50	.07	.001	.10	.014	03.1	8.7
	--CYCLE 4 (SCANS/MILE)--						.003	.15	.100	10.0	17.5
I	516	133	.33	151	11.43	.73	.046	.00	.034	07.1	6.0
A	2.17	073	.00	005	11.05	0.00	.037	.43	.570	105.3	17.4
C	36.0	347	.06	07	11.33	1.74	.004	.43	.053	100.5	17.5
D	-1.70	359	.33	48	11.50	.71	.070	.04	.000	03.4	11.1
	--CYCLE 5 (SCANS/MILE)--						.133	.03	.177	71.3	45.5

TEST STOP: 10:14:
TEST DURATION: 530.1

***** LOOP PASS RESULTS *****

SPAN CHECK
FID= 3 COD= 0 NOX= 0 COD= .00

SPAN CHECK OUT OF LIMITS
FID= 54* COD= 1766 NOX= 191 COD= 4.85

ZERO CHECK
FID= 3 COD= 0 NOX= 0 COD= .01

SPAN CHECK
FID= 97 COD= 1746 NOX= 190 COD= 4.66

INTERIM P/S CHECKS? :

HOT TRAN CAMP
FID= 15 COD= 52 NOX= 50 COD= 1.05

HOT TRAN AIR
FID= 10 COD= 4 NOX= 0 COD= .06

INTERIM PASS READY ?

20-4

***** FINAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.701	9.76	.339	156	99.5
ACCEL	3.991	21.75	2.559	704	157.6
DECEL	.687	.95	.119	174	97.9
CRUISE	5.049	24.25	3.331	1677	153.6
CHOKE	6.513	51.34	5.419	903	144.9
TOTAL	11.299	56.30	6.979	8335	759.6

EQUIVALENT MASS BAG RESULTS

GMS/MI	3.943	15.04	1.637	643.5

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.343	.99	.165	693	33.7
ACCEL	2.166	9.39	1.551	769	119.4
DECEL	.514	1.66	.179	305	59.3
CRUISE	1.305	5.01	.659	755	134.9
CHOKE	.333	.99	.334	93	9.6
TOTAL	4.913	18.07	2.956	2147	345.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.966	4.17	.663	553.7

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.244	1.39	.167	100	21.7
ACCEL	1.263	9.39	3.139	543	93.3
DECEL	.550	.49	.367	153	26.7
CRUISE	2.330	1.39	2.371	1241	173.4
CHOKE	1.391	3.56	2.391	611	101.9
TOTAL	4.994	6.69	6.137	1359	209.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.137	1.67	1.725	516.4

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.693	5.36	1.159	561.5

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	2.966	22.63	1.557	563.9
COLD STABILIZED	.345	1.88	.791	502.5
HOT TRANSIENT	.174	1.34	1.469	479.4
WEIGHTED TOTAL	.339	5.53	1.035	501.4

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.171	11.654	3.670
RELATIVE HUMIDITY	39	39	39
HUM. CORR. FACTOR	.933	.933	.933
CVS REVOLUTIONS	11113	16333	8593
AVG.INLET DEPR. (IN.H2O)	10.3	10.1	10.3
AVG.EXHAUST DIFF. (IN.H2O)	21.4	21.0	21.0

20-5

(21)

HOT 73#2

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Timing = 1° ATDC. OEM ignition system, with new plugs (.035").

HC	CO	NOX	ECON.
.155	1.72	.983	12.83
g/km .096	1.07	.611	7.58

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
12-12-76   12:59
CONSOLE SYS: 4 5
TEST CODE? 1
VEH DATA ? Y
WGT CLSS ?     56
DEV CLSS ?     75
CARBURETOR? 0000
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
DUP NO.  ? 1,2
VEH. MAKE? DODGE DART
VEH. I.D.? SCIC
REMARKS  1 CARB; HOLLEY 0C9IC                    IDLE SET:
REMARKS  2 ENG; 225 CID                           ODOMETER;
REMARKS  3 H-EPA                                  NOTES; '1/ NORAL RECORECONV.

ZERO CHECK
 FID=     1  COR=   .00 CO2R=    .00   NO= -0000 CO2D=    .1

SPAN CHECK
 FID=    99  COR=  3.19 CO2R= 16.54   NO=   204 CO2D=  4.16

REPEAT Z/S CHECKS? N

TEST START :  13: 7:24.3
CRANK TIME :   1.1

MODE    ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    ENG.  D/F
 F/A/S    HC    CO    NO    CO2   CONC     HC      CO      NO      CO2     MPG   F/F

CRANK     77   .13    51  13.78   .63    .231    .71    .061     1.7      .7  21.00
I  677    65   .12    97  13.79   .60    .210    .13    .217    97.3     3.0  22.13
A 2.53  2005   .49   541  14.13  1.50    .956    .37    .103    33.4     5.1   9.73
C 25.5  2772   .30   105  14.34  1.72    .379   2.91    .007   945.2    33.   11.27
D-1.07   156   .13    62  14.25   .67    .216    .19    .006    15.9     2.1  21.53
      --CYCLE  1 (GRAMS/MILE)--          .761    .67    .065    43.6    44.7  17.35

I  526   101   .13    84  14.34   .69    .243    .24    .021    50.2     7.3  21.05
A 2.15   977   .37   603  14.54  2.06    .334   2.45    .313   913.1    92.3   6.47
D-53.2   103   .13   395  14.40  1.76    .243   2.58   1.416   525.0    77.5   5.44
```

9593

21-1

21-2

--CYCLE 15 (GRAMS/MILE)--

--CYCLE 16 (GRAMS/MILE)--

--CYCLE 17 (GRAMS/MILE)--

--CYCLE 18 (GRAMS/MILE)--

TEST STOP: 13:33:44
TEST DURATION: 1373.1

***** HOT 505 RESULTS *****

ZERO CUTOFF
PID= 0 COD= 0 NOX= 0 COMP=-01.71

SPAN CUTOFF
PID= 101 COD= 1741 NOX= 105 COMP= 4.13

ENTER T/C CUTOFFS? N

SAMPLE BAG
PID= 3 COD= 67 NOX= 97 COMP= 1.04

BACKGROUND BAG
PID= 4 COD= 1 NOX= 0 COMP= .73

ENTER BAG TEARS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE HC CO NOX CO2 FUEL
IDLE .338 1.65 .004 347 40.3
ACCEL 0.194 10.47 3.714 1543 164.3
DECEL .702 5.13 .199 433 54.7
CRUISE 0.701 [illegible] 0.387 1316 [illegible]
CYCLE .344 3.69 1.063 503 [illegible]
TOTAL 0.347 41.15 5.705 3341 511.7

EQUIVALENT MASS BAG RESULTS
GMS/MI .390 5.37 .777 511.7

[illegible] PLASTIC (GLASS/MILE)

	.155	1.7[illegible]	.[illegible]

***** [illegible] VARIABLES *****

PLASTIC DUCTILITY	[illegible]
[illegible]. COEF. FACTOR	.850
CMS [illegible]	[illegible]
AVG.INLET PRES. (IN.HG)	10.1
AVG.[illegible] (IN.HG)	[illegible].7
AVG.CMS TEMPERATURE (DEG.F)	[illegible]
MAX.INLET PRES. (IN.HG)	10.7
[illegible].INLET PRES. (IN.HG)	10.[illegible]
MAX.CMS TEMPERATURE (DEG.F)	[illegible]
[illegible].CMS TEMPERATURE (DEG.F)	[illegible]
AVG.CMS FLOW (CU.FT/REV)	.945
TOTAL CMS VOL. (STD.CU.FT.)	[illegible]816
AVG TOTAL CMS RATIO	11.77
[illegible] [illegible] (CI/GAL)	17.[illegible]

(42) Hot 73#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .026 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .488" EGR manifold orifice. Timing = 1° ATDC. OEM ignition system, with new plugs (.035").

HC	CO	NOX	ECON
.231	2.33	1.050	17.31
g/km = 0.143	1.44	0.652	7.35

```
                                                IDLE SET: 750-N
                                                BRACKETS:
                                                NOTES: W/REF CONV NORAL

ZERO CHECK
 PID=     1  COL=   .00 CORR=    .00   NO= -3268 CORR=    .00

SPAN CHECK
 PID=    97  COL=  3.05 CORR= 16.06   NO=   805 CORR=  4.09

REPEAT Z/S CHECKS? N

TEST START :  11:10:11.5
CRANK TIME :  1.7

MODE   ---TAILPIPE CONC---  CORR  ------ MASS (GRAMS) ------   EXH.  E/P
 P/A/S   HC    CO   NO   CO2  CONC    HC      CO      NO      CO2     WGT.  T/T

CRANK   156  .11  39  10.93  .01   .053    .21    .001     2.6      .4  01.00
I  500  156  .11  37  10.93  .00   .038    .14    .010    26.3     4.1  01.03
A 3.11  276  .09 A68  13.53 1.05   .079    .56    .104    48.8     5.1   3.00
C 55.6  445  .43  805  13.69 1.48   .096   5.37    .304   207.5    37.8   9.59
D-1.00  394  .01   78  13.58  .03   .040    .15    .003    15.7     2.5  10.33
      --CYCLE  1 (GRAMS/MILE)--     .131    .87    .270    47.1    50.3  10.59

I  570  000  .15  104  13.74  .01   .074    .05    .000    50.4     7.5  01.37
A 2.14  335  .43  755  13.23 2.19   .531   4.33   1.073   000.7    39.8   5.00
D-57.7  000  .13  430  13.74 0.04   .357   2.23   1.077   500.0    34.1   4.74
```

22-1

	--CYCLE 2 (GRAMS/MILE)--											
I	559	561	.10	111	13.43	.09	.033	.10	.013	17.2	1.6	21.66
A	2.74	455	.05	569	13.73	2.10	.061	1.33	.379	93.9	13.1	6.59
C	26.5	540	.33	133	13.53	1.07	.037	.07	.357	63.2	9.3	7.21
D	-1.39	384	.07	64	13.53	.07	.057	.06	.039	99.3	3.9	22.15
	--CYCLE 3 (GRAMS/MILE)--											
I	597	575	.10	105	13.45	.09	.011	.04	.003	6.5	1.9	21.09
A	3.33	595	.06	613	13.59	2.17	.105	.59	.051	69.6	3.9	6.37
D	-1.09	637	.34	69	13.39	.09	.109	.47	.019	96.6	3.9	15.56
	--CYCLE 4 (GRAMS/MILE)--											
I	599	630	.10	116	13.47	.07	.041	.14	.019	95.1	3.6	21.33
A	3.09	396	.13	653	13.59	2.48	.053	.77	.393	91.7	13.6	5.56
C	26.9	699	.07	79	13.39	1.57	.463	1.05	.045	93.4	13.5	7.47
D	-1.06	489	.36	67	13.59	.77	.373	.27	.019	91.0	3.1	19.31
	--CYCLE 5 (GRAMS/MILE)--											
I	596	656	.10	98	13.46	.09	.019	.04	.007	6.3	1.3	21.71
A	2.73	393	.30	511	13.61	1.46	.163	1.33	.095	61.3	7.7	8.39
C	25.5	597	.73	75	13.63	1.05	.169	1.00	.019	73.6	9.5	11.93
D	-1.10	433	.40	79	13.39	.74	.051	.35	.009	14.3	1.1	17.97
	--CYCLE 6 (GRAMS/MILE)--											
I	595	636	.11	119	13.47	.09	.030	.10	.017	99.9	3.9	21.31
A	3.00	563	.33	307	13.41	1.56	.073	.43	.059	97.4	3.9	7.31
C	19.9	301	.37	143	13.63	1.14	.196	1.59	.039	39.9	19.5	11.63
D	-1.39	459	.09	85	13.44	.77	.046	.45	.013	14.5	1.1	13.41
	--CYCLE 7 (GRAMS/MILE)--											
I	596	636	.11	109	13.43	.09	.049	.13	.005	34.9	5.9	21.43
A	2.74	464	.06	353	13.59	1.69	.131	.63	.095	55.9	7.9	8.03
D	-1.11	417	.33	97	13.64	.99	.197	.77	.023	43.6	6.1	13.99
	--CYCLE 8 (GRAMS/MILE)--											
I	596	634	.11	103	13.49	.09	.026	.09	.010	17.9	2.6	21.70
A	2.97	394	.04	507	13.43	1.34	.171	1.03	.039	65.6	9.4	11.75
D	-1.33	437	.30	99	13.49	.71	.033	.30	.011	13.3	2.7	19.6
	--CYCLE 9 (GRAMS/MILE)--											
A	2.55	311	.06	444	13.61	1.66	.159	.39	.014	66.6	13.4	7.36
D	-1.32	547	.05	79	13.63	.37	.153	.49	.003	49.4	5.9	15.21
	--CYCLE 10 (GRAMS/MILE)--											
A	2.93	393	.03	376	13.77	1.75	.146	.70	.160	65.8	9.2	7.37
C	27.3	695	.43	115	13.46	1.29	1.973	10.54	.353	464.3	66.6	10.43
D	-1.82	465	.54	89	13.45	.77	.061	.48	.010	18.7	2.7	17.47
	--CYCLE 11 (GRAMS/MILE)--											
A	2.61	397	.01	430	13.53	1.66	.133	.65	.136	66.1	9.4	8.13
C	25.9	696	.40	95	13.53	1.19	.756	1.94	.053	33.9	19.3	11.37
D	-1.13	373	.18	69	13.33	.69	.065	.21	.013	24.1	3.5	19.53
	--CYCLE 12 (GRAMS/MILE)--											
I	597	610	.11	105	13.53	.09	.010	.01	.007	35.7	5.7	21.39
A	2.81	500	.27	307	13.54	1.70	.046	.19	.130	87.9	9.9	7.93
D	-1.21	471	.07	67	13.46	.78	.007	.01	.001	15.1	3.9	19.39
	--CYCLE 13 (GRAMS/MILE)--											
A	2.15	393	.09	363	13.55	1.71	.137	.03	.171	65.7	9.9	7.39
D	-1.13	457	.55	79	13.35	1.31	.179	1.43	.005	55.1	5.7	19.57
D	-1.19	356	.15	79	13.09	.67	.059	.13	.003	17.1	3.1	19.71
	--CYCLE 14 (GRAMS/MILE)--											

TEST STOP: 11:33:31
TEST LENGTH: 1373.7

***** MASS BAG RESULTS *****

ZERO CHECK
BID= 0 COD= 0 NOX= 0 CO2D= .71

SPAN CHECK
BID= 121 COD= 1753 NOX= 157 CO2D= 4.99

REPEAT B/G CHECKS? N

SAMPLE BAG
BID= 16 COD= 96 NOX= 29 CO2D= 1.30

BACKGROUND BAG
BID= 17 COD= 6 NOX= 0 CO2D= .87

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE HC CO NOX CO2 FUEL
IDLE .534 1.79 .038 340 48.2
ACCEL 3.524 18.38 3.754 1045 179.8
DECEL 1.485 7.09 .081 408 63.2
CRUISE 5.553 30.65 0.300 1757 263.7
CRUISE 1.635 10.35 1.651 611 87.6
TOTAL 11.901 53.48 7.317 3913 563.9

EQUIVALENT MASS BAG RESULTS
GMS/MI 1.475 7.79 .936 501.7

***** EPA MASS TEST RESULTS *****

9591

22-3

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	.031	2.77	1.252	577.4

**** TEST VARIABLES ****

[illegible]	99
[illegible]	.350
[illegible]	22633
[illegible]	10.1
[illegible]	99.9
[illegible]	95
[illegible]	10.1
[illegible]	10.1
[illegible]	99
[illegible]	93
[illegible]	.045
[illegible]	5373
[illegible]	19.53
[illegible]	17.71

(22a)

HOT 73#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-1/2 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transistion casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at approximately 1.5" Hg. .400 EGR manifold orifice. Replaced rubber (plastic) cap on check valve.

HC	CO	NOX	ECON
.118	.79	1.219	12.58
.023	.49	.757	7.47

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
12-18-76 14:12
CONSOLE S/S: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH BUILD ? 5C
ENG BUILD ? 75
CALCULATED? 8547
INERT WT.? 3500
TRANS. ? A
CYLINDERS? 8
VEH. NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5C73
REMARKS ? CARB SONIC
REMARKS ? ENGINE 360 CID
REMARKS ? M-73 EPA

IDLE SET: 750
ODOMETER: 9665
NOTES: W/TRACES&PROBE

ZERO CHECK
FID= 1 CO= .00 CO2= .0 NO= -0003 CO2D= .0

SPAN CHECK
FID= 134 CO= 3.41 CO2D= 16.54 NO= 856 CO2D= 4.05

REPEAT Z/S CHECKS? N

TEST START : 14:33: 7.0
CRANK TIME : 1.0

MODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH. VOL.	D/F F/E
	R/M/S	HC	CO	NO	CONC	HC	CO	NO	CO2		
CRANK	163	.10	17	13.17	.93	.002	.01	.000	1.3	.3	14.10
I	532	173	.12	61	13.09	.92	.037	.17	.012	29.2	4.2	14.45
A	3.07	239	.19	394	13.82	1.60	.066	.35	.102	40.3	5.6	8.64
C	25.7	273	.23	258	13.47	1.34	.494	2.30	.439	258.0	37.0	10.25
D	1.03	202	.17	51	13.84	.74	.026	.13	.006	17.2	2.4	13.72
	--CYCLE 1 (GRAMS/MILE)--					.083	.46	.074	46.2	6.5	16.37
I	553	187	.09	115	13.44	.65	.074	.24	.043	56.5	3.1	22.03
A	2.15	277	.21	393	13.71	2.05	.411	2.39	1.051	210.5	23.3	6.14
C	53.4	252	.19	469	13.49	2.71	1.007	7.36	1.006	520.6	53.7	4.95
D	1.00	457	.16	45	13.45	.78	.184	.46	.013	61.3	8.4	16.42
	--CYCLE 2 (GRAMS/MILE)--					.897	.38	.439	199.3	151.7	17.67
I	553	204	.13	113	13.40	.65	.033	.09	.015	19.9	2.3	22.05
A	2.76	333	.19	499	14.06	2.25	.139	.39	.369	99.9	19.7	6.73
C	36.7	351	.15	156	13.20	1.79	.139	.59	.075	65.4	10.5	7.09
D	1.00	255	.13	51	13.00	.71	.040	.14	.007	20.5	3.0	16.13
	--CYCLE 3 (GRAMS/MILE)--					.259	.21	.060	66.7	23.0	10.66
S	I 554	176	.09	145	13.55	.65	.029	.07	.007	7.4	1.0	22.75

PAGE

22a-1

--CYCLE 4 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

--CYCLE 6 (GRAMS/MILE)--

--CYCLE 7 (GRAMS/MILE)--

--CYCLE 8 (GRAMS/MILE)--

--CYCLE 9 (GRAMS/MILE)--

--CYCLE 10 (GRAMS/MILE)--

--CYCLE 11 (GRAMS/MILE)--

--CYCLE 12 (GRAMS/MILE)--

--CYCLE 13 (GRAMS/MILE)--

--CYCLE 14 (GRAMS/MILE)--

--CYCLE 15 (GRAMS/MILE)--

--CYCLE 16 (GRAMS/MILE)--

I	550	175	.09	69	13.38	.65	.720	.08	.887	17.7	9.6	22.57
A	0.13	994	.21	971	10.39	1.35	.191	.77	.133	70.6	11.1	9.13
D	25.5	967	.40	109	13.24	1.31	.195	1.45	.957	68.5	9.6	10.56
D	-1.01	941	.00	47	13.76	.77	.736	.00	.886	91.7	3.0	15.79
		--CYCLE 17 (GRAMS/MILE)--					.541	.37	.893	83.8	26.0	14.17
I	550	163	.20	79	13.47	.66	.341	.15	.817	36.1	5.0	23.41
A	0.59	935	.19	830	13.37	1.57	.979	.97	.971	47.5	6.3	9.97
D	-1.01	169	.11	32	13.41	.74	.931	.14	.887	96.9	3.0	13.10
I	541	169	.09	38	13.40	.65	.789	.03	.809	7.4	1.1	23.71
		--CYCLE 18 (GRAMS/MILE)--					.821	.33	.713	15.9	16.9	9.59

TEST STOP: 14:56:07
TEST LENGTH: 1373.0

***** BAG BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 0 NOX= 0 GRAD= .00

SPAN CHECK OUT OF LIMITS
FID= 97 COD= 1773* NOX= 197 GRAD= 4.37

ZERO CHECK
FID= 3 COD= 0 NOX= 0 GRAD= .00

SPAN CHECK
FID= 97 COD= 1760 NOX= 185 GRAD= 4.11

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 9 COD= 47 NOX= 37 GRAD= 1.06

BACKGROUND BAG
FID= 6 COD= 17 NOX= 3 GRAD= .05

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE PLANS

MODE	TYPE	HC	CO	NOX	CO2	FXVOL
IDLE		.477	1.66	.203	368.	58.9
ACCEL		2.255	18.54	3.936	1981	175.9
DECEL		.883	3.64	.160	435	68.3
CRUISE		3.039	15.11	2.953	1331	265.5
CYCLE		1.110	5.33	1.259	610	97.4
TOTAL		7.254	32.95	7.315	3965.	563.0

EQUIVALENT MASS BAG RESULTS
GMS/MI .967 4.13 .975 528.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

	HC	CO	NOX	CO2
	.110	.79	1.215	503.1

***** TEST VARIABLES *****

RELATIVE HUMIDITY	60
HUM. CORR. FACTOR	.350
CYC REVOLUTIONS	96552
AVG.INLET DEPR. (IN.H2O)	11.9
AVG.PRESSURE DIFF. (IN.H2O)	33.4
AVG.CYC TEMPERATURE (DEG.F)	87
MAX.INLET DEPR. (IN.H2O)	12.1
MIN.INLET DEPR. (IN.H2O)	5.9
MAX.CYC TEMPERATURE (DEG.F)	90
MIN.CYC TEMPERATURE (DEG.F)	49
AVG.CYC FLOW (CU.FT/REV)	.246
TOTAL CYC VOL. (STD.CU.FT.)	6818
AVG MORAL COR RATIO	12.59
FUEL ECONOMY (MI/GAL)	17.59

Pump with spoiler. -7B fuel bar, 10% deeper, .047 F/A part throttle curve. Trim 6-3/4 turns open. Throttle stroke = .272 (1.421"). Idle flow approximately 1/6 turn richer than original. Stem removed from main air entrance. Hose removed from air pump. Catalyst. Original transition casting. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. A selected spring to open #1 pintle at 1.5" Hg. .400 EGR manifold orifice.

(A/F ratio - 21.3)	HC	CO	NOx	Econ.
	.667	1.57	1.051	14.07

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
12- 3-76   16:39
CONSOLE SNS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ?     60
DRY BULB ?     75
BAROMETER?  2937
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1
VEH. MAKE? DART
VEH. I.D.? 5030
REMARKS  ? CARB; HOLLEY  SONIC      IDLE SET; AS IS

REMARKS  ? ENG ; 225 CID            ODOMETER;
REMARKS  ? H-EPA                    NOES; MAX LEAN MIXTURE

ZERO CHECK OUT OF LIMITS
 FID=     3  COR=   .00 CO2R=-00.00   NO=     00*CO2D=    .01

ZERO CHECK OUT OF LIMITS
 FID=     0  COR=   .02 CO2R=-00.01   NO=     11*CO2D=    .01

ZERO CHECK
 FID=  -0001  COR=   .03 CO2R=-00.02   NO=      7 CO2D=    .01

SPAN CHECK
 FID=   104  COR=  8.25 CO2R= 17.05   NO=    196 CO2D=   4.09

REPEAT Z/S CHECKS? N

TEST START :   16:44:13.4
CRANK TIME :   1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    EXH.   D/P
 R/A/S   HC    CO   NO    CO2   CONC     HC      CO      NO      CO2    VOL.   F/P

CRANK  1307  .21    7 10.34  .24    .023    .03    .000     8.5     .5 11.00
I  493 1307  .25   68  9.35  .22    .393    .06    .007    16.7    8.0 10.71
```

A 3.[illegible]	1[illegible]7	.[illegible]6	864	1[illegible].67	1.23	.[illegible]19	.[illegible]79	.[illegible]1[illegible]8	46.[illegible]	[illegible].4	[illegible].[illegible]3
C [illegible]5.[illegible]	1[illegible]87	.24	84	1[illegible].74	1.[illegible]7	[illegible].7[illegible]0	4.44	.233	314.[illegible]	56.1	[illegible].45
D-1.[illegible]2	1[illegible]87	.23	8	[illegible].00	.74	.[illegible]80	.[illegible]39	.[illegible]3[illegible]	[illegible]7.[illegible]	4.[illegible]	10.[illegible]3
--CYCLE 1 (GRAMS/MILE)--						.[illegible]87	.[illegible]79	.[illegible]49	56.7	77.[illegible]	13.37
I [illegible]93	1[illegible]87	.13	47	[illegible].29	.77	.[illegible]67	.[illegible]3[illegible]	.[illegible]31	65.1	13.5	1[illegible].[illegible]3
A [illegible].[illegible]4	[illegible]9[illegible]	.17	264	11.74	[illegible].5[illegible]	1.735	[illegible].16	.5[illegible]9	234.[illegible]	[illegible]3.5	4.60
C 5[illegible].[illegible]	[illegible]87	.19	84	11.[illegible]3	[illegible].[illegible]3	5.[illegible]34	[illegible].[illegible]7	.64[illegible]	[illegible]84.1	133.[illegible]	[illegible].[illegible]3
D-1.[illegible]1	[illegible]52	.[illegible]6	[illegible]	13.74	1.13	.[illegible]35	1.[illegible]5	.[illegible]1[illegible]6	31.6	14.5	[illegible].59
--CYCLE 2 (GRAMS/MILE)--						1.155	1.[illegible]9	.153	153.[illegible]	[illegible]84.[illegible]	14.19
I 543	1[illegible]87	.13	67	1[illegible].[illegible]3	.34	.[illegible]39[illegible]	.[illegible]73	.[illegible]16	[illegible]4.[illegible]	4.7	11.[illegible]3
A [illegible].7[illegible]	1[illegible]87	.31	241	1[illegible].25	1.[illegible]3	1.133	[illegible].36	.[illegible]75	1[illegible][illegible].[illegible]	[illegible]3.1	[illegible].31
C 36.1	[illegible]73	.[illegible]3	31	11.73	[illegible].[illegible]2	.[illegible]59[illegible]	.[illegible]95	.[illegible]19	76.4	12.[illegible]	[illegible].[illegible]1
D-1.31	[illegible]65	.13	[illegible]	13.71	.[illegible]3	.[illegible]61	.[illegible]37	.[illegible]3[illegible]	39.6	[illegible].5	1[illegible].[illegible]3
--CYCLE 3 (GRAMS/MILE)--						.[illegible]87	.[illegible]58	.[illegible]49	[illegible]7.[illegible]	45.[illegible]	1[illegible].[illegible]6
I 54[illegible]	1[illegible]87	.17	[illegible]3	1[illegible].[illegible]3	.34	.[illegible]33	.[illegible]1[illegible]	.[illegible]39[illegible]	[illegible].4	1.[illegible]	1[illegible].[illegible]1
A [illegible].4[illegible]	1[illegible]87	.37	336	[illegible].77	1.[illegible]7	1.[illegible]3[illegible]	[illegible].55	.[illegible]39[illegible]	135.[illegible]	[illegible]3.[illegible]	[illegible].[illegible]2[illegible]
D-1.[illegible]1	1[illegible]87	.17	1[illegible]	11.[illegible]3	1.1[illegible]	.[illegible]31[illegible]	.[illegible]35	.[illegible]3[illegible]4	[illegible]6.[illegible]	[illegible].[illegible]	[illegible].57
--CYCLE 4 (GRAMS/MILE)--						.191	.[illegible]4[illegible]	.[illegible]55	[illegible]7.[illegible]	[illegible]3.[illegible]	7.[illegible]6
I 561	1[illegible]87	.13	179	1[illegible].39	.35	.[illegible]39[illegible]	.[illegible]39	.[illegible]65[illegible]	34.1	6.5	11.37
A [illegible].35	[illegible]73	.[illegible]3	313	11.73	[illegible].[illegible]7	.[illegible]9[illegible]6	1.25	.[illegible]33	115.[illegible]	13.[illegible]	[illegible].[illegible]4
C 35.[illegible]	[illegible]79	.[illegible]3	[illegible]6	11.[illegible]3	1.75	.[illegible]371	1.33	.[illegible]32	1[illegible]4.4	12.[illegible]	[illegible].34
D-1.[illegible]3	1[illegible]87	.13	7	1[illegible].73	.35	.[illegible]63	.[illegible]32	.[illegible]3[illegible]	[illegible]3.5	5.[illegible]	11.[illegible]6
--CYCLE 5 (GRAMS/MILE)--						.[illegible]15	.44	.[illegible]59	[illegible]7.[illegible]	4[illegible].[illegible]	13.[illegible]9
I 549	1[illegible]87	.19	[illegible]6	1[illegible].19	.[illegible]3	.[illegible]37	.11	.[illegible]67	[illegible].[illegible]	1.[illegible]	1[illegible].[illegible]3
A [illegible].34	1[illegible]86	.16	[illegible]3[illegible]	1[illegible].24	1.55	.511	.55	.144	65.7	13.4	7.[illegible]3
C [illegible]5.7	[illegible]37	.17	49	11.57	1.[illegible]3	.[illegible]33	.[illegible]39	.[illegible]14	41.[illegible]	6.[illegible]	[illegible].77
D-1.[illegible]3	1[illegible]87	.13	14	1[illegible].[illegible]3	.[illegible]6	.13[illegible]	.[illegible]2[illegible]	.[illegible]63	19.[illegible]	[illegible].7	1[illegible].66
--CYCLE 6 (GRAMS/MILE)--						.143	.17	.[illegible]68	1[illegible].1	[illegible][illegible].7	13.13
I 549	1[illegible]87	.17	53	[illegible].99	.[illegible]3	.[illegible]34	.[illegible]3[illegible]	.[illegible]15	[illegible]9.[illegible]	5.[illegible]	1[illegible].34
A 3.13	1[illegible]87	.47	161	[illegible].79	1.11	.443	1.39	.[illegible]71	4[illegible].4	[illegible].[illegible]	7.77
C 1[illegible].[illegible]	1[illegible]87	.[illegible]3	13[illegible]	1[illegible].37	1.[illegible]3	.[illegible]93	1.[illegible]7	.[illegible]129	1[illegible][illegible].1	[illegible]2.1	7.51
D-1.[illegible]3	1[illegible]87	.19	[illegible]	11.[illegible]9	1.[illegible]3	.187	.24	.[illegible]3[illegible]	[illegible]1.7	[illegible].[illegible]	1[illegible].[illegible]7
--CYCLE 7 (GRAMS/MILE)--						.[illegible]54	.46	.[illegible]69	[illegible]6.7	[illegible]3.[illegible]	1[illegible].[illegible]1
I 562	1[illegible]87	.16	92	1[illegible].29	.35	.[illegible]44[illegible]	.47	.[illegible]49	47.5	[illegible].[illegible]	1[illegible].11
A [illegible].72	[illegible]99	.27	519	12.[illegible]2	1.[illegible]3	.[illegible]49[illegible]	.[illegible]91	.[illegible]61	64.6	1[illegible].[illegible]	[illegible].[illegible]7
D-1.[illegible]1	1[illegible]86	.26	58	1[illegible].[illegible]7	1.17	.457	.[illegible]3[illegible]	.[illegible]27	5[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]9
--CYCLE 8 (GRAMS/MILE)--						.136	.[illegible]9	.[illegible]44	[illegible]1.[illegible]	[illegible]3.4	[illegible].66
I 514	1[illegible]87	.17	[illegible]3	[illegible].67	.[illegible]3	.[illegible]34	.[illegible]7	.[illegible]67	[illegible]3.7	4.7	11.79
A [illegible].[illegible]2	[illegible]99	.27	421	11.[illegible]4	1.47	.575	1.[illegible]3	.[illegible]44	72.[illegible]	11.7	[illegible].[illegible]5
D-1.[illegible]5	[illegible]38	.16	5[illegible]	1[illegible].52	.[illegible]7	.[illegible]23[illegible]	.[illegible]25	.[illegible]12	[illegible]5.[illegible]	4.[illegible]	1[illegible].35
--CYCLE 9 (GRAMS/MILE)--						.138	.[illegible]1	.[illegible]35	16.[illegible]	[illegible]1.[illegible]	[illegible].[illegible]3
A [illegible].5[illegible]	1[illegible]87	.13	16[illegible]	[illegible].53	1.[illegible]3	.[illegible]51	.[illegible]3[illegible]	.[illegible]15[illegible]	[illegible]5.[illegible]	1[illegible].3	[illegible].23
D-1.1[illegible]	1[illegible]87	.16	1[illegible]7	[illegible].[illegible]9	1.[illegible]9	.527	.5[illegible]	.[illegible]56	51.4	1[illegible].7	[illegible].45
--CYCLE 1[illegible] (GRAMS/MILE)--						.197	.1[illegible]	.[illegible]2[illegible]	1[illegible].5	3[illegible].[illegible]	1[illegible].[illegible]9
A [illegible].67	1[illegible]87	.13	11[illegible]	11.[illegible]3	1.59	.[illegible]15	.[illegible]7[illegible]	.[illegible]67	[illegible]4.[illegible]	16.5	[illegible].[illegible]2
C [illegible]6.1	1[illegible]87	.[illegible]3	47	[illegible].[illegible]2	1.4[illegible]	5.[illegible]75[illegible]	[illegible].35	.[illegible]71	5[illegible][illegible].[illegible]	116.7	[illegible].[illegible]9
D-1.[illegible]2	1[illegible]87	.[illegible]6	44	11.[illegible]3	1.16	.[illegible]46	.[illegible]4[illegible]	.[illegible]11	[illegible]3.[illegible]	[illegible].[illegible]	[illegible].[illegible]7
--CYCLE 11 (GRAMS/MILE)--						.[illegible]69	1.34	.[illegible]51	[illegible]6.[illegible]	133.[illegible]	15.[illegible]
A [illegible].53	1[illegible]87	.[illegible]3	[illegible]15	[illegible].1[illegible]	1.[illegible]6	.[illegible]63	1.43	.[illegible]67	[illegible]2.[illegible]	19.5	[illegible].33
C [illegible]4.4	1[illegible]87	.21	31	1[illegible].[illegible]3	1.43	.[illegible]65	1.[illegible]5	.[illegible]3[illegible]	1[illegible]1.[illegible]	19.[illegible]	7.[illegible]1
D-1.[illegible]1	1[illegible]87	.15	3	1[illegible].[illegible]3	1.[illegible]3	.[illegible]17	.[illegible]3[illegible]	.[illegible]31	[illegible]5.[illegible]	[illegible].4	1[illegible].[illegible]3
--CYCLE 1[illegible] (GRAMS/MILE)--						.[illegible]99	.49	.[illegible]3[illegible]	3[illegible].[illegible]	45.[illegible]	13.[illegible]
I 547	1[illegible]87	.15	57	[illegible].[illegible]3	.[illegible]3	.515	.[illegible]5[illegible]	.[illegible]69[illegible]	53.[illegible]	1[illegible].4	11.[illegible]3
A [illegible].57	1[illegible]87	.13	7[illegible]	[illegible].[illegible]1	1.[illegible]4	1.1[illegible]3	.[illegible]6	.[illegible]74	174.[illegible]	[illegible][illegible].5	[illegible].[illegible]9

```
P-1.21 1227  .13  33 12.11  .97   .229   .73   .220   64.7   12.7 15.42
     --CYCLE 13 (GRAMS/MILE)--    .283   .89   .213   88.7   45.2  7.99

A 2.17 1227  .21  58  9.98 1.47 1.231  1.45   .201   96.3   88.9  6.85
C 86.7 1227  .15  52 10.85 1.45   .536   .54   .128   61.1   18.9  7.47
P-1.00 1227  .18   7  9.74  .93   .239   .30   .229   24.7    4.9 10.57
     --CYCLE 14 (GRAMS/MILE)--    .241   .31   .212   24.3   30.6 10.33

I  534 1227  .16  71  9.56  .71   .269   .89   .219   87.9    5.4 11.32
A 3.61 1227  .19  79  7.98 1.51   .697   .74   .155   53.4   14.1  5.22
P-1.03 1227  .15   3 10.66 1.24   .206   .21   .202   93.0    4.5 10.25
     --CYCLE 15 (GRAMS/MILE)--    .156   .19   .210   14.5   83.7  5.28

I  541 1227  .15  83  9.39  .73   .162   .16   .204   16.6    3.9 11.99
A 1.78 1227  .18 172  8.86 1.17   .546   .66   .259   51.9   11.1  7.74
C 19.5 1227  .22  42 10.83 1.37   .657   .89   .228   70.4   13.3  7.45
P-1.22 1227  .17   7  9.75  .91   .219   .25   .202   22.3    4.4 10.71
     --CYCLE 16 (GRAMS/MILE)--    .211   .26   .218   21.5   32.9 10.38

I  524 1227  .15   6  9.34  .72   .217   .22   .209   21.3    4.4 11.67
A 2.22 1227  .18  87 10.43 1.56   .723   .88   .263   79.7   14.3  6.69
C 85.6 1227  .18  37 10.74 1.01   .739   .33   .227   30.3   14.2  6.67
P-1.21 1227  .19   4  9.54  .85   .230   .29   .221   23.7    4.7 10.34
     --CYCLE 17 (GRAMS/MILE)--    .254   .32   .218   27.6   33.7 10.86

I  530 1227  .16  82  8.85  .77   .237   .27   .229   41.3    3.8 11.62
A 2.21 1227  .26 239  8.25 1.33   .751  1.31   .217   65.1   15.2  6.22
P-1.21 1227  .18   3  9.62  .85   .235   .40   .227   33.9    6.3 10.13
I  520 1227  .16   3  9.24  .78   .229   .10   .220    8.7    1.3 11.35
     --CYCLE 13 (GRAMS/MILE)--    .215   .32   .231   19.2   39.7  7.85


TEST STOP:  17: 9:09
TEST LENGTH: 1489.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     0  NOX=     0 COCD=   .00

SPAN CHECK
 FID=   121  COD=  1724  NOX=   195 COCD=  4.07

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    25  COD=    62  NOX=    25 COCD=  1.50

BACKGROUND BAG
 FID=     9  COD=     6  NOX=     0 COCD=   .08

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX    CO2   FUEL
IDLE       4.454   5.17    .274   454   93.3
ACCEL     14.396  22.10   3.340  1665  335.0
DECEL      5.693   7.30    .155   606  116.7
```

23-3

CUTST	19.717	22.75	1.453	9303	407.4
CYCLE	6.650	9.10	.934	705	199.1
TOTAL	31.767	64.59	5.925	5048	939.4

EQUIVALENT MASS BAG RESULTS

GMS/MI	5.971	3.63	.697	677.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.667	1.57	1.351	696.0
.766	1.80	1.207	
.476	1.12	0.750	

***** TEST VARIABLES *****

RELATIVE HUMIDITY	49
HUM. CORR. FACTOR	.919
CVS REVOLUTIONS	93966
AVG.INLET DEPR. (IN.H2O)	12.1
AVG.PRESSURE DIFF. (IN.H2O)	22.7
AVG.CVS TEMPERATURE (DEG.F)	93
MAX.INLET DEPR. (IN.H2O)	12.7
MIN.INLET DEPR. (IN.H2O)	11.9
MAX.CVS TEMPERATURE (DEG.F)	112
MIN.CVS TEMPERATURE (DEG.F)	83
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	6380
AVG MODAL CO2 RATIO	6.72
FUEL ECONOMY (MI/GAL)	14.67

(.263 / .229)

12.25

5.21

(24) HOT 73#2

-7B fuel bar, 10% deeper, approximately .049 F/A part throttle curve. Trim 12-7/8 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting and gasket. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at 1.5" Hg. .400 EGR manifold orifice.

A/F = 20.3.

HC	CO	NOX	ECON.
.078	.39	1.062	16.78
.048	.242	.660	7.12

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10- 7-76   14:32
CONSOLE SWS:  4 5
TEST CODE? 1
NEW DATA ?  N
WET BULB ?     60
DRY BULB ?     75
BAROMETER?   2943
INERT WT.?   3500
TRANS.   ?      3
CYLINDERS?      6
RUN NO.  ? 1,2
VEH. MAKE? DART
VEH. I.D.? 5000
REMARKS  ? CARB SONIC                    IDLE SET: ASIS
REMARKS  ? ENGINE 225 CID                ODOMETER: 9515
REMARKS  ? M-73 EPA                      NOTES: STEADY STATES

ZERO CHECK
 FID=     2  COR=    .00 CO2R=-00.01   NO= -0005 CO2D=    .1

SPAN CHECK
 FID=    97  COR=   9.14 CO2R= 16.40   NO=   205 CO2D=   4.10

REPEAT Z/S CHECKS? N

TEST START :   14:40:33.3
CRANK TIME :   1.0

MODE  ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.   D/E
 T/A/S   HC    CO   NO   CO2  CONC     HC      CO      NO      CO2    VOL.   E/E

CRANK   118   .10   10 12.36   .32    .002     .01    .005     2.0      .3 15.00
I  543  134   .11   31 13.54   .31    .037     .21    .009    36.9     5.7 15.42
A 3.10  217   .11  269 13.30  1.71    .060     .23    .092    40.9     6.0  7.73
C 25.7  286   .13  175 13.43  1.40    .540    1.73    .333   268.3    38.6  9.55
D-1.03  000   .00   52 13.10   .33    .000     .00    .007    23.1     2.9 14.99
     --CYCLE  1 (GRAMS/MILE)--        .092     .31    .058    49.4     7.7 15.30

I  558  117   .06   72 12.25   .32    .065     .20    .040    72.9    11.4 14.73
A 2.14  103   .11  787 13.60  2.06    .045    1.11   1.070   816.3    30.6  0.03
C 52.5  240   .10  235 13.00  2.22   1.230    3.47   1.233   599.9    37.8  4.71
D-1.01  134   .10   41 13.13   .07    .005     .35    .001    71.9    10.6 13.54
     --CYCLE  2 (GRAMS/MILE)--        .191     .69    .315   107.9   140.0 17.01

I  559   99   .06  105 12.94   .33    .716     .07    .019    64.0     3.0 15.59
A 2.72  126   .03  453 13.33  2.10    .105     .35    .000    25.5    17.4  6.51
```

C 36.4	347	.15	84	11.76	1.63	.179	.58	.044	64.1	13.5	7.66
D-1.00	142	.09	58	13.30	.86	.028	.11	.010	27.0	4.0	15.12
--CYCLE 3 (GRAMS/MILE)--						.046	.14	.049	88.1	31.5	15.33

24-1

I 555	103	.06	130	12.98	.83	.007	.03	.009	9.3	1.4	15.64
A 3.29	998	.13	589	13.63	2.19	.089	.39	.237	64.0	9.1	6.99
D-1.00	191	.17	64	13.27	1.24	.044	.07	.015	38.6	4.7	10.76
--CYCLE 4 (GRAMS/MILE)--						.019	.09	.035	14.1	15.0	11.64
I 562	97	.06	137	12.97	.84	.002	.12	.027	34.8	5.1	15.44
A 3.14	171	.10	609	13.58	2.46	.113	.44	.485	94.2	13.5	5.47
C 35.9	539	.20	45	11.99	1.55	.398	.99	.033	93.6	15.1	7.74
D-1.00	992	.11	49	12.99	.38	.059	.15	.010	27.6	4.1	14.76
--CYCLE 5 (GRAMS/MILE)--						.079	.27	.063	33.9	37.7	15.65
I 557	144	.06	97	13.04	.93	.010	.03	.007	9.3	1.4	15.71
A 2.35	229	.12	165	13.51	1.50	.102	.36	.274	63.9	9.1	9.01
C 25.5	353	.16	46	13.57	1.00	.066	.28	.012	37.7	5.4	11.31
D-1.02	103	.06	68	12.70	.35	.016	.06	.003	17.0	2.6	14.94
--CYCLE 6 (GRAMS/MILE)--						.026	.10	.013	17.1	13.5	14.09
I 556	96	.06	99	13.00	.93	.021	.09	.019	28.3	4.4	15.66
A 3.13	134	.10	206	13.60	1.49	.034	.15	.029	86.7	3.9	9.13
C 28.9	103	.13	100	12.51	1.22	.122	.68	.073	85.9	14.3	12.05
D-1.03	154	.15	69	13.29	.93	.021	.14	.009	13.3	2.7	14.99
--CYCLE 7 (GRAMS/MILE)--						.026	.14	.010	28.3	25.7	12.94
I 559	96	.06	97	13.01	.94	.033	.14	.030	47.1	7.0	15.49
A 2.73	285	.09	221	13.65	1.72	.038	.24	.039	57.9	8.6	7.94
D-1.01	202	.11	48	13.13	1.07	.070	.26	.017	48.1	7.1	10.07
--CYCLE 8 (GRAMS/MILE)--						.025	.09	.013	22.4	22.2	9.64
I 560	39	.06	28	13.68	.33	.016	.07	.014	24.2	3.6	15.66
A 2.96	171	.15	181	12.01	1.33	.289	.52	.095	65.9	10.6	9.03
D-1.03	112	.06	98	13.03	.97	.019	.03	.015	23.4	3.5	15.03
--CYCLE 9 (GRAMS/MILE)--						.016	.09	.017	15.1	17.6	13.35
A 2.62	212	.10	234	13.74	1.76	.104	.33	.115	71.1	10.0	7.91
D-1.00	225	.11	76	13.16	.93	.075	.05	.025	46.2	6.9	13.43
--CYCLE 10 (GRAMS/MILE)--						.024	.08	.010	15.6	16.9	14.19
A 2.78	202	.10	207	13.78	1.34	.108	.33	.145	78.3	8.9	7.45
C 27.4	341	.17	71	12.87	1.27	1.159	3.38	.243	465.7	69.3	10.21
D-1.02	179	.10	61	13.23	.92	.030	.20	.010	22.3	3.4	14.82
--CYCLE 11 (GRAMS/MILE)--						.173	.59	.053	74.5	32.6	21.13
A 2.62	133	.09	313	13.68	1.72	.038	.29	.152	69.5	9.3	7.95
C 25.2	233	.13	50	13.36	1.16	.138	.52	.030	83.6	12.1	11.58
D-1.01	130	.06	42	12.87	.87	.030	.11	.010	31.2	4.7	14.79
--CYCLE 12 (GRAMS/MILE)--						.034	.12	.025	24.6	26.6	17.84
I 563	101	.06	95	12.99	.84	.040	.16	.038	54.9	3.9	15.46
A 2.59	199	.08	244	12.11	1.76	.111	.39	.137	71.5	11.4	6.33
D-1.01	100	.08	47	13.08	.89	.058	.03	.021	69.1	8.9	14.70
--CYCLE 13 (GRAMS/MILE)--						.027	.09	.026	24.9	28.4	9.31
A 2.13	133	.13	171	13.55	1.44	.091	.47	.036	71.5	10.2	9.41
C 26.7	284	.15	58	13.46	1.26	.111	.33	.020	53.3	7.7	10.67
D-1.00	127	.06	58	12.79	.85	.022	.07	.009	23.0	3.5	15.25
--CYCLE 14 (GRAMS/MILE)--						.039	.19	.015	19.8	21.4	16.40
I 561	103	.06	92	12.96	.84	.021	.09	.019	28.4	4.2	15.43
A 3.69	179	.10	591	11.69	1.03	.057	.21	.139	39.2	6.5	6.06
D-1.03	137	.17	69	11.61	.93	.023	.20	.010	28.9	3.5	10.48
--CYCLE 15 (GRAMS/MILE)--						.014	.07	.009	11.9	14.2	6.74

```
I  .564   97   .06  100 12.94   .34    .018     .05     .013    17.1     2.5  15.46
A 2.19   169   .19  144 13.49  1.30    .070     .33     .062    58.5     8.4  10.31
C 21.3   158   .83   49 13.14  1.23    .043     .15     .011    39.4     5.9  10.76
D-1.09    97   .05   53 12.39   .84    .017     .05     .008    20.9     3.1  15.04
      --CYCLE 16 (GRAMS/MILE)--       .013     .03     .010    18.1    19.9  10.81
```

24-2

```
      --CYCLE 16 (GRAMS/MILE)--
```

```
I  564   90   .05   71 12.93   .33    .015     .06     .010    22.4     3.3  15.53
A 2.13   162   .08  226 13.34  1.39    .033     .07     .106    71.9    10.4   9.60
C 25.7   833   .10   75 12.17  1.34    .129     .44     .041    69.5    11.0   9.03
D-1.28   153   .06   53 13.23   .94    .026     .03     .009    23.3     3.4  14.87
      --CYCLE 17 (GRAMS/MILE)--       .034     .11     .029    25.2    23.2  13.74

I  562   97   .06   77 12.95   .33    .032     .13     .009    44.9     6.7  15.60
A 2.69   198   .11  148 13.59  1.55    .067     .05     .051    43.9     6.9   8.77
D-1.31   114   .06   44 12.92   .39    .007     .11     .012    32.0     4.3  14.59
I  560   91   .06   69 12.88   .33    .006     .03     .005     9.3     1.4  15.59
      --CYCLE 18 (GRAMS/MILE)--       .013     .07     .013    13.0    10.2   7.13
```

```
TEST STOP:  15: 9:53
TEST LENGTH: 1373.9

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     0  NOX=     0 CO2D=   .71

SPAN CHECK
 FID=   101  COD=  1739  NOX=   194 CO2D=  4.09

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=     6  COD=    15  NOX=    27 CO2D=  1.34

BACKGROUND BAG
 FID=     4  COD=     0  NOX=     0 CO2D=   .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE     HC      CO      NOX     CO2    FUEL
IDLE        .355    1.50    .289     465    73.2
ACCEL      1.720    6.59   3.431    1332   133.7
DECEL       .676    2.73    .227     567    84.0
CRUISE     3.913   13.10   2.874    1871   277.3
CHOKE       .985    3.65   1.542     658    95.7
TOTAL      6.664   23.96   6.221    4892   623.2

EQUIVALENT MASS BAG RESULTS
GMS/MI      .339    3.23    .353   566.3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
```

24-3

	HC	CO	NOX	CO2
	.079	.39	1.069	507.9
	.090	.45	1.220	
	.056	.28	.758	

***** TEST VARIABLES *****

RELATIVE HUMIDITY	40
HUM. CORR. FACTOR	.919
CVS REVOLUTIONS	26668
AVG.INLET DEPR. (IN.H2O)	10.1
AVG.PRESSURE DIFF. (IN.H2O)	20.9
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H2O)	10.2
MIN.INLET DEPR. (IN.H2O)	10.0
MAX.CVS TEMPERATURE (DEG.F)	95
MIN.CVS TEMPERATURE (DEG.F)	87
AVG.CVS FLOW (CU.FT/REV)	.345
TOTAL CVS VOL. (STD.CU.FT.)	5979
AVG NODAL COR RATIO	9.65
FUEL ECONOMY (MI/GAL)	16.73
	14.61 mi/gal.
	6.21 K/l

$\left(\frac{.263}{.229}\right)$

(25) HOT 73#1

-7B fuel bar, 10% deeper, approximately .049 F/A part throttle curve. Trim 12-7/8 turns open. Throttle stroke = .272" (1.421"). Idle flow approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Original transition casting and gasket. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. Selected spring to open #1 pintle at 1.5" Hg. .400 EGR manifold orifice. New ignition wires.

HC	CO	NOX	ECON.
.078	.5	1.1	16.66

A/F = 20.3

```
[illegible] LABORATORY
1973 EPA MASS TEST
BENCH #6
10- 7-76   13:46
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? N
VEH BULB ?     66
DEV BULB ?     75
BAROMETER?   29.43
INERT WT.?   3500
TRANS.   ?      3
CYLINDERS?      6
DYN NO.  ? 1,2
VEH. MAKE? DART
VEH. I.D.? 5030
REMARKS  ? CARB SONIC                    ILP SET: ASIS
REMARKS  ? ENGINE 225 CID                ODOMETER: 9507
REMARKS  ? M-73 EPA                      NOTES:  2 STEADY STATES

ZERO CHECK
 FID=     0  COP=    .00 CO2P=-00.01   NO= -0006 CO2D=    .01

SPAN CHECK
 FID=   102  COP=  8.14 CO2P= 16.55   NO=   202 CO2D=  4.05

REPEAT Z/S CHECKS? N

TEST START :  14: 2:39.6
CRANK TIME :   2.2

MODE    ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/E
 P/A/S    HC    CO   NO   CO2  CONC     HC      CO      NO      CO2    VOL.  F/E

CRANK    113   .12   39 13.05   .77    .003    .02    .001     4.3     .6 16.95
I  536   115   .12   52 12.92   .77    .029    .21    .013    34.9    5.2 16.78
A 3.12   186   .11  343 13.11  1.63    .055    .22    .102    41.0    6.0  8.04
C 25.7   268   .22  193 13.13  1.38    .527   2.30    .368   267.8   38.6  9.55
D-1.07   173   .10   58 12.35   .85    .025    .12    .023    19.3    2.9 15.12
      --CYCLE  1 (GRAMS/MILE)--        .093    .45    .066    48.4   53.4 16.13

I  526   101   .06  109 11.65   .74    .052    .24    .057    63.9   10.6 15.74
A 2.12   184   .13  766 13.31  2.19    .274   1.38   1.149   909.5   30.4  6.05
C 53.4   196   .12  893 12.37  2.79    .356   3.53   1.313   594.8   89.2  4.01
D-1.01   363   .16   48 12.47  1.02    .007    .01    .003    75.8   11.6 10.93
      --CYCLE  2 (GRAMS/MILE)--        .135    .76    .339   105.3  141.2 13.13

I  543   119   .03   77 12.56   .76    .020    .02    .013    22.1    3.4 16.53
A 2.76   223   .17  435 13.48  2.26    .135    .74    .388    99.9   13.3  6.51
C 36.3   355   .13  133 11.65  1.63    .134    .49    .063    63.9   17.6  6.93
D-1.73   160   .10   55 12.88   .73    .230    .13    .011    86.8    3.9 15.54
      --CYCLE  3 (GRAMS/MILE)--        .949    .19    .051    97.9   21.1 15.76

I  550   113   .06  135 12.76   .77    .007    .03    .009     3.0     1.3 16.59
```

A 3.45	195	.16	572	13.36	2.14	.036	.32	.054	68.4	9.8	8.24
D-1.00	107	.17	69	13.10	.98	.024	.25	.014	30.6	4.5	13.37
--CYCLE 4 (GRAMS/MILE)--						.016	.09	.037	13.5	14.8	10.16

25-1

I 551	97	.06	107	12.64	.77	.023	.11	.038	31.1	4.8	10.46
A 3.15	176	.15	672	13.27	2.34	.112	.64	.430	88.1	13.0	5.67
C 35.9	437	.13	55	11.82	1.55	.364	.91	.841	93.4	15.3	7.63
D-1.00	305	.13	53	12.71	.38	.060	.17	.011	27.5	4.0	14.44
--CYCLE 5 (GRAMS/MILE)--						.075	.24	.069	32.0	37.1	10.15
I 548	147	.08	79	12.72	.77	.009	.03	.005	8.6	1.3	10.52
A 2.36	203	.13	169	13.25	1.43	.033	.53	.274	68.3	9.9	9.07
C 25.7	196	.13	55	13.33	1.03	.059	.26	.015	33.4	5.6	10.84
D-1.11	167	.10	57	12.61	.94	.024	.11	.009	19.0	2.9	13.41
--CYCLE 6 (GRAMS/MILE)--						.023	.12	.014	16.9	18.6	14.40
I 545	105	.06	98	12.63	.77	.022	.10	.019	27.6	4.2	16.46
A 3.15	179	.13	137	13.20	1.41	.039	.17	.025	25.2	3.7	9.36
C 22.3	164	.15	99	12.82	1.19	.113	.73	.070	93.3	14.7	12.27
D-1.09	158	.13	61	12.97	.93	.021	.10	.009	17.3	2.3	13.05
--CYCLE 7 (GRAMS/MILE)--						.026	.15	.017	22.3	25.4	13.42
I 547	91	.06	81	12.63	.77	.009	.13	.006	47.1	6.6	16.47
A 2.74	191	.11	238	13.32	1.64	.075	.29	.021	55.3	7.8	9.19
D-1.01	173	.13	55	12.94	1.05	.053	.32	.019	47.8	7.0	13.39
--CYCLE 8 (GRAMS/MILE)--						.029	.18	.013	19.4	21.6	10.14
I 545	94	.06	73	12.67	.77	.016	.07	.013	28.4	3.4	10.45
A 2.96	178	.17	179	11.96	1.31	.091	.53	.059	64.6	10.4	9.13
D-1.00	160	.06	65	12.71	.89	.017	.08	.014	22.1	3.3	15.52
--CYCLE 9 (GRAMS/MILE)--						.016	.13	.016	14.5	17.2	10.76
A 2.68	191	.09	242	13.40	1.69	.088	.28	.117	68.3	9.8	7.93
D-1.14	144	.10	74	12.77	.94	.047	.22	.024	44.0	6.7	13.59
--CYCLE 10 (GRAMS/MILE)--						.019	.07	.019	15.2	16.5	14.33
A 2.79	204	.10	298	13.43	1.74	.095	.31	.142	66.3	9.5	7.78
C 27.4	324	.16	73	12.68	1.04	1.027	3.64	.249	450.9	63.9	10.03
D-1.00	174	.03	63	12.98	.38	.023	.05	.010	21.7	3.3	14.55
--CYCLE 11 (GRAMS/MILE)--						.153	.56	.053	78.1	81.7	21.39
A 2.60	201	.09	313	13.36	1.62	.093	.23	.143	65.3	9.4	8.05
C 24.9	292	.13	56	12.94	1.13	.167	.56	.033	31.1	10.1	11.45
D-1.00	139	.09	41	12.69	.35	.029	.14	.009	20.4	4.6	14.93
--CYCLE 12 (GRAMS/MILE)--						.039	.13	.025	23.6	26.0	13.57
I 541	100	.06	81	11.68	.77	.041	.19	.033	52.1	8.3	15.17
A 2.57	203	.11	271	13.39	1.67	.097	.35	.130	67.6	9.7	8.02
D-1.02	114	.08	43	12.74	.82	.047	.22	.018	55.2	8.4	15.54
--CYCLE 13 (GRAMS/MILE)--						.025	.18	.024	23.1	26.4	10.57
A 2.17	191	.17	165	13.36	1.32	.090	.54	.078	65.2	9.6	9.89
C 26.5	289	.22	45	13.22	1.25	.119	.57	.013	53.3	7.9	10.42
D-1.01	119	.10	45	12.62	.38	.019	.11	.007	21.6	3.3	15.73
--CYCLE 14 (GRAMS/MILE)--						.030	.16	.014	18.7	20.3	17.29
I 545	102	.06	87	12.66	.76	.023	.11	.020	25.6	4.0	14.23
A 3.54	193	.09	525	13.24	1.71	.045	.15	.131	74.7	5.1	7.74
D-1.03	159	.11	64	12.96	1.00	.027	.12	.011	22.9	3.4	12.71
--CYCLE 15 (GRAMS/MILE)--						.013	.05	.009	11.1	13.1	7.13
I 546	131	.06	69	12.64	.77	.019	.06	.003	15.6	2.4	16.42
A 2.12	178	.13	115	13.25	1.03	.069	.35	.040	55.3	8.0	10.61
C 21.2	151	.11	47	12.78	1.00	.044	.21	.014	30.0	5.0	12.54
D-1.00	193	.08	58	12.65	.38	.016	.03	.008	20.3	3.1	15.43
--CYCLE 16 (GRAMS/MILE)--						.019	.09	.010	17.4	19.5	13.34

I	530	96	.06	66	12.65	.76	.015	.07	.010	20.6	3.1	16.64
A	0.00	148	.12	017	11.73	1.27	.073	.36	.115	65.7	18.3	9.23
C	55.4	245	.15	75	12.97	1.31	.121	.57	.037	67.3	13.1	9.90
D	-1.00	137	.00	54	13.06	.99	.033	.24	.010	24.4	3.6	13.19
	--CYCLE 17 (GRAMS/MILE)--						.033	.10	.023	23.3	27.6	14.35
I	542	192	.06	75	12.61	.77	.031	.15	.024	41.6	6.4	16.33
A	0.00	199	.10	257	13.22	1.44	.005	.35	.024	45.5	6.6	9.13
D	-1.00	113	.09	45	12.61	.74	.026	.14	.010	30.3	4.6	15.21
I	536	96	.06	56	12.59	.76	.006	.03	.004	8.0	1.3	16.57
	--CYCLE 18 (GRAMS/MILE)--						.017	.09	.016	16.8	19.2	3.71

TEST STOP: 14:05:59
TEST LENGTH: 1374.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 1 COD= -0001 NOX= 0 CO2D= .01

SPAN CHECK
FID= 192 COD= 1734 NOX= 197 CO2D= 4.08

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 3 COD= 23 NOX= 28 CO2D= 1.35

BACKGROUND BAG
FID= 6 COD= 1 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.339	1.64	.285	489	67.5
ACCEL	1.672	7.76	3.496	1034	121.4
DECEL	.741	3.43	.224	556	74.2
CRUISE	3.552	14.19	2.223	1742	273.9
CHOKE	.947	4.38	1.599	637	84.4
TOTAL	6.304	26.80	6.233	4861	621.4

.073 lbs/ft³

%
EQUIVALENT MASS BAG RESULTS

GMS/MI	.841	3.63	.831	541.4

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.877	.504	1.100	531.6

HC

***** TEST VARIABLES *****

RELATIVE HUMIDITY 49

25-3

[illegible]. CORR. FACTOR	.912
CVS DEVIATIONS	06638
AVG.INLET DEPT. (IN.H2O)	12.6
AVG.PLENSURE DIFF. (IN.H2O)	20.5
AVG.CVS TEMPERATURE (DEG.F)	82
MAX.INLET DEPT. (IN.H2O)	13.0
MIN.INLET DEPT. (IN.H2O)	11.9
MAX.CVS TEMPERATURE (DEG.F)	86
MIN.CVS TEMPERATURE (DEG.F)	34
AVG.CVS FLOW (CU.FT/REV)	.945
TOTAL CVS VOL. (STD.CU.FT.)	5966
AVG MODAL CO2 RATIO	9.73
FUEL ECONOMY (MI/GAL)	16.66

(26) HOT 73#2

Pump with spoiler. -7B fuel bar, 10% deeper, .052 F/A part throttle curve. Trim 2-7/8 turns open. Throttle stroke = .272" (1.421"). Idle flow adjusted approximately 1/6 turn richer than original. Original transition casting and gasket. Hose removed from air pump. Catalyst. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. A selected spring to open #1 pintle at 1.5" Hg. .400 EGR manifold orifice.

A/F = 19.2.

HC	CO	NOX	CO2
.117	.76	1.017	17.92
.072	.47	.632	7.62

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
12- 1-76 13:53
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ? 63
DRY BULB ? 73
BAROMETER? 2917
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? DART
VEH. I.D.? 5C80
REMARKS ? CARBL ; HOLLEY SONIC
REMARKS ? ENG; 225 CID
REMARKS $ M-EPA

IDLE SET; AS IS
ODOMETER; 9372
NOTES; W/ ********MODAL
BEFORE CONV.

ZERO CHECK
FID= 3 COR=-00.01 CO2R=-00.09 NO= -0002 CO2D= .05

SPAN CHECK OUT OF LIMITS
FID= 101 COR= 8.34 CO2R= 16.47 NO= 283 CO2D= .01*

ZERO CHECK
FID= 3 COR=-00.01 CO2R=-00.32 NO= 0 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 101 COR= 8.21 CO2R= 16.14* NO= 194 CO2D= 4.33*

ZERO CHECK
FID= 2 COR=-00.01 CO2R=-00.08 NO= -0002 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 102 COR= 8.31 CO2R= 16.77 NO= 195 CO2D= 4.41*

ZERO CHECK
FID= 1 COR=-00.00 CO2R=-00.08 NO= -0002 CO2D= .01

(26) - 1

```
CRANK CHECK
 FID=   101  COD=  3.38 COCD= 16.73   NO=   100 COCD=  4.13

REPEAT C/S CHECKS? N

TEST START :  14:41:41.0
CRANK TIME :  1.0

MODE    ---TAILPIPE CONC---  COCD  ------ MASS (GRAMS) ------    EXH.   D/D
 C/A/F    HC    CO    NO   CO2  CONC    HC      CO      NO      CO2     VOL.   F/E

CRANK    137   .06   26  10.34   .55   .022     .23    .000     1.6      .2  22.93
I  633   103   .06   54  12.92   .55   .019     .07    .011    25.2     3.8  23.07
A 3.10   236   .09  355  13.32  1.69   .063     .17    .111    42.2     5.9   3.19
C 25.3   307   .33  269  13.37  1.36   .576    3.91    .491   253.3    35.2  12.00
D-1.03   213   .19   37  13.63   .63   .391     .13    .094    14.2     2.8  21.63
      --CYCLE  1 (GRAMS/MILE)--        .291     .57    .070    45.5    47.2  17.96

I  706   204   .05   71  13.21   .57   .073     .19    .007    43.2     7.1  23.17
A 2.15   437   .32  775  13.00  2.05   .633    2.91   1.217   213.2    29.4   6.22
C 53.5   242   .09  413  13.22  2.76   .962    2.41   1.739   535.1    31.1   5.24
D-1.00   563   .18   32  13.76   .79   .091     .43    .012    51.5     7.2  19.66
      --CYCLE  2 (GRAMS/MILE)--        .249     .78    .406   119.3   104.9  18.22

I  705   254   .05   73  10.87   .58   .037     .05    .012    16.3     3.2  13.74
A 2.79   284   .06  530  14.29  2.11   .177     .25    .361    94.3    12.7   6.77
C 36.3   343   .16   93  14.00  1.03   .143     .45    .033    61.2     3.5   3.59
D-1.00   258   .03   29  13.76   .62   .034     .07    .004    10.3     2.7  22.19
      --CYCLE  3 (GRAMS/MILE)--        .250     .11    .055    25.7    27.3  16.79

I  703   210   .04  137  13.62   .53   .029     .01    .007     6.5      .2  23.43
A 3.42   283   .10  683  14.27  2.23   .102     .09    .302    65.2     8.3   6.37
D-1.00   257   .15   41  13.96   .74   .040     .16    .007    23.1     3.2  17.36
      --CYCLE  4 (GRAMS/MILE)--        .023     .06    .045    10.6    12.2  13.03

I  702   133   .04   85  13.67   .53   .038     .04    .017    23.4     2.3  23.57
A 3.10   308   .10  659  10.02  2.51   .276     .50    .523    95.5    15.1   4.37
C 35.2   455   .13   54  13.44  1.50   .283     .55    .037    99.1    10.2   2.00
D-1.00   398   .12   33  13.84   .61   .051     .09    .005    10.1     2.6  22.35
      --CYCLE  5 (GRAMS/MILE)--        .031     .16    .079    38.4    34.2  17.15

I  700   259   .04   72  13.86   .57   .011     .01    .003     6.4      .2  24.39
A 2.31   298   .09  164  14.12  1.43   .102     .25    .075    62.2     8.6   9.54
C 25.3   252   .10   42  13.80  1.23   .066     .13    .010    33.5     5.4  11.00
D-1.02   201   .03   30  13.79   .61   .019     .05    .003    12.2     1.7  22.40
      --CYCLE  6 (GRAMS/MILE)--        .028     .07    .018    16.2    16.6  15.03

I  706   202   .03   79  11.71   .58   .034     .03    .014    20.8     3.4  20.19
A 3.13   333   .21  246  14.17  1.51   .061     .25    .048    27.2     3.7   9.39
C 22.2   231   .16  119  13.88  1.16   .144     .67    .031    99.9    12.7  11.22
D-1.04   299   .52   34  13.99   .64   .025     .31    .003    12.3     1.3  21.70
      --CYCLE  7 (GRAMS/MILE)--        .035     .17    .020    20.2    21.6  14.54

I  700   244   .04   68  13.75   .58   .055     .06    .015    32.5     4.6  23.71
A 2.74   402   .13  221  14.27  1.73   .152     .36    .091    57.3     7.3   3.30
D-1.01   260   .13   34  10.10   .00   .034     .08    .010    41.2     6.6  13.15
      --CYCLE  8 (GRAMS/MILE)--        .039     .10    .016    17.5    18.2  11.01

I  634   212   .04   66  13.76   .57   .024     .03    .008    16.6     2.3  24.14
A 2.00   491   .03  152  13.99  1.36   .284     .71    .075    67.1     9.3  10.24
D-1.05   314   .17   58  13.83   .63   .036     .14    .007    17.7     2.4  22.23
      --CYCLE  9 (GRAMS/MILE)--        .038     .10    .010    13.4    14.3  11.56

A 2.53   339   .11  214  14.39  1.70   .173     .34    .107    60.3     8.3   3.33
D-1.11   286   .11   57  13.71   .79   .073     .19    .016    27.2     5.2  17.35
```

	--CYCLE 10 (GRAMS/MILE)--					.234	.07	.016	14.0	14.6	15.58
A	0.71	343	.13	340	14.44	1.30	.156	.42	.167	68.6	9.2	3.52
C	67.4	317	.10	69	13.44	1.01	.086	2.39	.234	442.8	63.5	11.11
D	-1.03	290	.09	54	13.98	.64	.031	.06	.006	15.7	2.2	21.72
	--CYCLE 11 (GRAMS/MILE)--					.156	.34	.054	70.2	74.3	22.60
A	0.64	236	.09	327	14.34	1.70	.130	.27	.161	68.7	9.2	8.44
C	64.9	233	.17	46	13.94	1.33	.126	.61	.027	78.2	10.3	12.79
D	-1.01	261	.15	32	13.74	.65	.040	.16	.006	23.3	3.3	21.14
	--CYCLE 12 (GRAMS/MILE)--					.040	.14	.006	22.7	23.3	19.26
I	701	229	.03	55	12.64	.58	.063	.06	.017	37.3	5.3	21.79
A	0.57	343	.11	261	14.26	1.71	.157	.34	.131	69.2	9.4	8.34
D	-1.01	233	.11	30	13.80	.64	.072	.22	.010	43.1	6.0	21.56
	--CYCLE 13 (GRAMS/MILE)--					.039	.08	.021	29.9	21.2	12.14
A	0.15	307	.12	155	14.10	1.41	.143	.33	.079	69.6	9.5	18.00
C	26.7	246	.03	44	13.37	1.23	.033	.10	.017	52.4	7.3	11.03
D	-1.00	259	.06	25	13.50	.59	.029	.05	.003	15.9	2.3	23.03
	--CYCLE 14 (GRAMS/MILE)--					.035	.08	.013	19.4	19.1	17.63
I	702	234	.03	75	11.51	.58	.038	.03	.013	19.5	3.3	19.34
A	3.63	334	.05	473	14.13	1.34	.085	.28	.123	37.9	5.1	7.63
D	-1.03	228	.24	39	14.21	.78	.032	.17	.005	15.7	2.2	25.21
	--CYCLE 15 (GRAMS/MILE)--					.022	.04	.019	9.6	10.5	8.04
I	693	214	.02	73	13.73	.53	.017	.01	.006	11.7	1.6	23.76
A	0.83	365	.12	129	13.99	1.26	.140	.31	.054	56.6	7.8	11.13
C	21.3	222	.06	43	13.73	.93	.054	.12	.011	35.5	5.0	14.76
D	-1.00	251	.05	34	13.74	.59	.025	.03	.004	14.0	2.1	23.29
	--CYCLE 16 (GRAMS/MILE)--					.030	.06	.010	15.3	16.5	14.65
I	699	233	.03	34	13.33	.57	.024	.02	.004	15.4	2.1	24.06
A	0.10	335	.13	239	12.42	1.31	.172	.62	.134	67.6	10.5	8.43
C	25.0	290	.08	96	14.07	1.27	.172	.65	.046	65.5	9.0	11.03
D	-1.01	277	.42	27	13.85	.66	.042	.32	.003	16.3	2.3	22.93
	--CYCLE 17 (GRAMS/MILE)--					.055	.21	.025	22.0	23.9	15.41
I	698	249	.03	68	13.36	.57	.052	.04	.014	37.3	4.3	24.32
A	0.68	439	.13	179	14.39	1.54	.142	.28	.063	43.4	6.6	9.15
D	-1.01	259	.09	25	13.69	.63	.041	.09	.004	22.7	3.2	21.73
I	681	234	.03	48	13.32	.55	.010	.01	.002	6.3	.9	24.63
	--CYCLE 18 (GRAMS/MILE)--					.033	.06	.011	14.4	15.3	10.13

TEST STOP: 15: 5: 1
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 3 COD= 3 NOX= -0002 CO2D= .01

SPAN CHECK
FID= 100 COD= 1744 NOX= 192 CO2D= 4.10

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 11 COD= 40 NOX= 24 CO2D= 1.27

BACKGROUND BAG
FID= 9 COD= 11 NOX= 0 CO2D= .07

(26) - 3

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.504	.61	.171	[illegible]	47.6
ACCEL	3.186	8.75	3.343	1079	177.9
DECEL	.396	2.96	.114	415	53.9
CRUISE	3.606	11.37	2.693	1793	252.2
CHOKE	1.398	7.36	1.778	603	84.4
TOTAL	8.111	24.15	6.397	3913	536.5
	12.7	48.2	6.46	4000	558

10-21-76

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.281	3.88	.917	560.4
	1.6	6.43	.868	533

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.117	.76	1.217	493.3
.134	.87	1.168	
.083	.54	.726	

CORRECTED

g/km

***** TEST VARIABLES *****

RELATIVE HUMIDITY	58
MAN. CORR. FACTOR	.986
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H2O)	11.3
AVG.PRESSURE DIFF. (IN.H2O)	20.3
AVG.CVS TEMPERATURE (DEG.F)	88
MAX.INLET DEPR. (IN.H2O)	12.9
MIN.INLET DEPR. (IN.H2O)	11.3
MAX.CVS TEMPERATURE (DEG.F)	90
MIN.CVS TEMPERATURE (DEG.F)	83
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	5951
AVG MODAL CO2 RATIO	11.39
FUEL ECONOMY (MI/GAL)	17.92
	15.60
	6.63

(.263 / .229)

(27) HOT 73#1

Pump with spoiler. -7B fuel bar, 10% deeper, .0523 F/A part throttle curve. Trim 2-7/8 turns open. Throttle stroke set to .272" (1.421"). (.057" bleed jet in cold enrichment line.) Original transition casting and gasket. Idle flow adjustment approximately 1/6 turn richer than original. Hose removed from air pump. Catalyst. Vacuum spark advance via lower ported signal, through OSAC and individual solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir.

A selected spring to open #1 pintle at 1.5" Hg.
.400 EGR manifold orifice.
A/F = 19.2.

HC	CO	NOx	Econ.
.116	.68	.973	18.12

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10- 1-76   10:25
CONSOLE SNS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?     63
DRY BULB ?     73
BAROMETER?  29.17
INERT WT.?  3500
TRANS.   ?      C
CYLINDERS?      6
EVAL NO.  ? 1
VEH. MAKE? DART
VEH. I.D.? 5G3C
REMARKS  ? CARB SONIC                    IDLESET: ASIC
REMARKS  ? ENGINE 225 CID                ODOMETER:
REMARKS  ? H-73 EPA                      NOTES:

ZERO CHECK
 FID=     0  COR=   .00 CO2R=   .00   NO=     4 CO2D=   .21

SPAN CHECK OUT OF LIMITS
 FID=    93  COR=  3.26 CO2R= 10.56   NO=   135*CO2D=  4.14

ZERO CHECK
 FID=     0  COR=   .00 CO2R=   .00   NO=     0 CO2D=   .21

SPAN CHECK OUT OF LIMITS
 FID=   101  COR=  3.27 CO2R= 12.99*  NO=   199 CO2D=  4.14

ZERO CHECK
 FID=     0  COR=   .00 CO2R=   .15   NO=     0 CO2D=   .22

SPAN CHECK
 FID=   100  COR=  3.23 CO2R= 16.49   NO=   201 CO2D=  4.13

REPEAT Z/S CHECKS? N

TEST START :  10:54:26.4
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/D
 P/A/S   HC    CO   NO   CO2   CONC    HC      CO      NO      CO    VOL.  F/E

CRANK   122   .12   16  17.07   .59   .021     .21    .020     1.7     .2  23.23
I  639  146   .13   53  17.07   .53   .021     .13    .023    20.2    3.6  20.43
A 3.24  360   .13  248  17.07  1.67   .033     .22    .062    41.0    4.7  10.00
C 25.4  278   .21  164  17.07  1.33   .405    2.06    .260   262.7   29.7  12.37
D-1.03  234   .22   41  17.07   .65   .023     .10    .004    14.7    1.7  26.20
      --CYCLE  1 (GRAMS/MILE)--       .071     .34    .045    46.2    39.2  16.24

I  700  233   .11   67  17.07   .53   .064     .20    .020    58.0    5.6  20.43
A 8.15  335   .35  713  17.07  2.27   .400    2.01    .023   215.5   24.4   7.50
C 53.0  230   .13  393  17.07  2.33   .773    3.14   1.427   601.4   62.0   0.23
D-1.00  768   .24   30  17.07   .75   .033     .49    .010    55.0    6.2  20.76
      --CYCLE  2 (GRAMS/MILE)--       .064     .30    .313   100.9   104.3  13.55
```

CO2 readings NG.

I	710	331	.13	33	17.07	.60	.032	.08	.009	17.5	2.8 28.45
A	2.76	350	.16	481	17.07	2.12	.185	.57	.275	94.8	10.7 8.05
C	36.8	375	.22	103	17.07	1.70	.134	.53	.048	64.5	7.3 10.94
D	-1.09	402	.13	35	17.07	.65	.045	.14	.004	20.3	2.3 26.26
		--CYCLE	3	(GRAMS/MILE)--			.253	.18	.044	26.3	22.3 16.33
I	709	252	.13	96	17.07	.59	.029	.03	.004	6.6	.7 28.93
A	3.37	294	.16	648	17.07	2.19	.194	.33	.259	63.9	7.2 7.76
D	-1.09	299	.23	47	17.07	.81	.242	.22	.087	25.3	2.9 21.27
		--CYCLE	4	(GRAMS/MILE)--			.221	.03	.035	12.9	10.9 12.97
I	707	246	.12	90	17.07	.60	.033	.11	.013	24.1	2.7 28.45
A	3.14	313	.16	714	17.07	2.42	.168	.55	.398	92.2	10.4 7.28
C	35.3	459	.23	51	17.07	1.54	.236	.30	.029	92.8	10.5 11.03
D	-1.08	462	.20	35	17.07	.67	.053	.16	.004	20.9	2.4 25.48
		--CYCLE	5	(GRAMS/MILE)--			.464	.21	.059	38.7	26.8 16.97
I	706	284	.13	114	17.07	.59	.011	.03	.005	6.6	.7 28.93
A	2.34	382	.17	196	17.07	1.43	.133	.42	.274	68.7	7.1 11.53
C	25.0	233	.16	48	17.07	1.23	.051	.23	.011	33.4	4.3 13.33
D	-1.03	234	.16	36	17.07	.65	.017	.08	.003	13.1	1.5 26.26
		--CYCLE	6	(GRAMS/MILE)--			.223	.10	.012	16.1	13.7 15.12
I	705	241	.12	33	17.07	.60	.029	.10	.011	21.4	2.4 28.45
A	3.15	495	.44	167	17.07	1.50	.174	.44	.027	96.5	3.9 11.33
C	28.1	399	.19	111	17.07	1.17	.163	.65	.061	91.9	10.3 14.59
D	-1.07	363	.64	41	17.07	.71	.099	.34	.004	14.3	1.6 24.24
		--CYCLE	7	(GRAMS/MILE)--			.239	.23	.014	20.5	17.4 14.29
I	715	273	.12	54	17.07	.60	.051	.15	.011	22.5	2.7 28.45
A	2.73	384	.20	223	17.07	1.66	.121	.41	.078	55.6	6.3 10.27
D	-1.01	260	.16	35	17.07	.88	.068	.25	.039	41.1	4.6 17.55
		--CYCLE	8	(GRAMS/MILE)--			.231	.11	.012	17.4	14.7 11.27
I	707	253	.12	59	17.07	.59	.024	.03	.006	17.1	1.9 23.93
A	2.05	423	.46	166	17.07	1.35	.155	1.14	.066	66.3	7.5 10.64
D	-1.05	327	.17	61	17.07	.64	.031	.11	.006	17.2	1.9 26.67
		--CYCLE	9	(GRAMS/MILE)--			.203	.18	.011	13.4	11.4 11.51
A	2.62	366	.15	273	17.07	1.73	.141	.39	.117	69.5	7.9 9.77
D	-1.03	268	.15	55	17.07	.30	.056	.21	.010	37.6	4.2 21.34
		--CYCLE	10	(GRAMS/MILE)--			.096	.23	.017	14.3	10.1 15.53
A	2.70	269	.15	282	17.07	1.78	.121	.33	.119	67.6	7.6 9.59
C	27.4	333	.19	67	17.07	1.22	.243	3.15	.130	444.3	50.2 13.99
D	-1.02	370	.29	45	17.07	.67	.034	.13	.004	16.4	1.9 25.47
		--CYCLE	11	(GRAMS/MILE)--			.144	.49	.040	70.4	59.7 22.46
A	2.61	346	.15	275	17.07	1.69	.130	.38	.113	67.8	7.7 10.16
C	25.8	278	.17	51	17.07	1.13	.124	.51	.025	30.7	9.1 15.11
D	-1.01	247	.15	28	17.07	.70	.034	.14	.004	25.1	2.8 24.39
		--CYCLE	12	(GRAMS/MILE)--			.033	.14	.019	23.1	19.6 13.89
I	709	251	.12	52	17.07	.59	.053	.17	.012	38.4	4.3 23.93
A	2.55	373	.22	282	17.07	1.72	.145	.57	.113	69.3	7.8 9.99
D	-1.01	393	.26	33	17.07	.68	.077	.44	.009	45.9	5.2 25.10
		--CYCLE	13	(GRAMS/MILE)--			.237	.16	.019	29.5	17.4 11.29
A	2.15	318	.21	165	17.07	1.41	.122	.54	.069	69.5	7.9 10.11
C	26.7	268	.13	50	17.07	1.06	.082	.36	.016	53.7	6.1 13.55
D	-1.00	389	.17	27	17.07	.62	.036	.11	.003	16.7	1.9 27.53
		--CYCLE	14	(GRAMS/MILE)--			.032	.13	.018	13.7	15.9 17.33
I	710	319	.13	76	17.07	.59	.034	.10	.009	19.7	2.2 23.93
A	3.62	505	.16	509	17.07	1.73	.193	.91	.119	35.0	4.0 9.27

```
D-1.77  448  .61  46 17.97  .95    .347    .43    .085   19.6    2.2 20.67
     --CYCLE 15 (GRAMS/MILE)--     .304    .10    .017    8.8    8.3  7.99

I  733  640  .11  69 17.97  .59    .316    .05    .095   11.9    1.3 23.93
A 8.87  393  .22 139 17.97 1.25    .284    .46    .245   56.2    6.3 13.66
C 21.1  618  .13  58 17.97  .98    .344    .13    .211   37.7    4.2 17.49
D-1.99  273  .13  35 17.97  .64    .224    .08    .083   15.7    1.3 26.67
     --CYCLE 16 (GRAMS/MILE)--     .294    .10    .099   10.1   13.7 14.39

I  699  837  .10  47 17.97  .59    .291    .07    .085   15.9    1.3 23.93
A 2.06  399  .13 213 17.97 1.31    .113    .45    .099   67.7    7.7 13.03
C 25.6  867  .21  77 17.97 1.31    .109    .53    .031   67.6    7.6 13.03
D-1.09  356  .13  26 17.97  .72    .335    .12    .083   17.8    2.0 23.71
     --CYCLE 17 (GRAMS/MILE)--     .336    .16    .017   22.5   19.1 15.14

I  729  243  .12  58 17.97  .59    .243    .14    .211   31.8    3.6 23.93
A 2.55  347  .32 153 17.97 1.53    .292    .57    .244   48.2    5.4 11.16
D-1.21  213  .16  31 17.97  .67    .229    .14    .095   24.1    2.7 25.43
I  723  235  .12  44 17.97  .53    .203    .03    .202    6.5     .7 29.43
     --CYCLE 18 (GRAMS/MILE)--     .223    .12    .203   14.7   10.5  9.38


TEST STOP:  11:17:46
TEST LENGTH: 1373.0

***** BAG BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     4  NOX=     0 CO2D=    .01

SPAN CHECK
 FID=    99  COD=  1718  NOX=   193 CO2D=  4.10

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    10  COD=    37  NOX=    23 CO2D=  1.26

BACKGROUND BAG
 FID=     7  COD=    11  NOX=     0 CO2D=    .07

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2    EXVOL
IDLE        .450    1.48    .130    329     37.2
ACCEL      2.510   12.87   2.975   1270    143.6
DECEL       .506    3.75    .100    443     49.3
CRUISE     3.051   12.12   2.092   1335    207.5
CHOKE      1.057    5.55   1.282    612     69.2
TOTAL      6.917   23.22   5.287   3374    433.3

EQUIVALENT MASS BAG RESULTS
GMS/MI      .992    3.76    .706  516.5


***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
```

HC	CO	NOX	CO2
.116	.63	.573	433.4

27-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	53
HUM. CORR. FACTOR	.936
CVS REVOLUTIONS	26668
AVG.INLET DEPR. (IN.H2O)	11.9
AVG.PRESSURE DIFF. (IN.H2O)	20.7
AVG.CVS TEMPERATURE (DEG.F)	89
MAX.INLET DEPR. (IN.H2O)	12.2
MIN.INLET DEPR. (IN.H2O)	11.8
MAX.CVS TEMPERATURE (DEG.F)	92
MIN.CVS TEMPERATURE (DEG.F)	82
AVG.CVS FLOW (CU.FT/REV)	.845
TOTAL CVS VOL. (STD.CU.FT.)	5941
AVG MODAL CO2 RATIO	13.66
FUEL ECONOMY (MI/GAL)	13.12

(28)

HOT 73#1

Pump with spoiler. -7B fuel bar, 10% deeper, .056 F/A part throttle curve. Trim 1-1/2 turns open. Idle flow adjusted 1/6 turns leaner. Throttle stroke set to .272" (1.421"). .057 bleed jet in cold enrichment line. Hose removed from air pump. Catalyst. Transition casting and gasket reworked. Vacuum spark advance via lower ported signal, through OSAC and independent solenoid. EGR via upper ported signal, including check valve, .013 jet and reservoir. A selected spring to open #1 pintle at 1.5" Hg. .400 EGR manifold orifice.

A/F = 17.7.

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
9-30-76 9: 9
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 65
DRY BULB ? 75
BAROMETER? 2900
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
DYN NO. ? 2
VEH. MAKE? 75 CRT
VEH. I.D.? 5C3C
REMARKS ? CARB; HOLLEY SONIC
REMARKS ? ENG; 225 CID
REMARKS ? H-EPA

IDLE SET;
ODOMETER: 9337
NOTES; W/ TRACES & MODAL BEFORE CATALYST

ZERO CHECK
FID= 0 COF= .00 CODE=-00.01 NO= 10 CODE= .01

28-1

SPAN CHECK OUT OF LIMITS
FID= 192 COR= 3.23 CO2R= 16.32 NO= 136*CO2D= 4.11

ZERO CHECK OUT OF LIMITS
FID= -3899 COR= .00 CO2R= .33 NO= 16*CO2D= .33

ZERO CHECK OUT OF LIMITS
FID= -3899 COR= .00 CO2R= .00 NO= 11*CO2D= .01

ZERO CHECK
FID= -3899 COR= .00 CO2R=-99.91 NO= 1 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 194 COR= 3.30 CO2R= 16.35* NO= 139 CO2D= 4.11

ZERO CHECK
FID= -3899 COR= .00 CO2R= .00 NO= 4 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 193 COR= 3.29 CO2R= 16.31 NO= 136*CO2D= 4.12

ZERO CHECK
FID= 0 COR= .00 CO2R= .00 NO= 3 CO2D= .01

SPAN CHECK OUT OF LIMITS
FID= 192 COR= 3.36 CO2R= 16.65 NO= 133*CO2D= 4.11

ZERO CHECK
FID= 0 COR= .00 CO2R=-99.91 NO= 5 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 192 COR= 3.37 CO2R= 16.61 NO= 134*CO2D= 4.11

ZERO CHECK
FID= 0 COR= .00 CO2R=-99.91 NO= 4 CO2D= .00

SPAN CHECK
FID= 192 COR= 3.34 CO2R= 16.64 NO= 199 CO2D= 4.12

REPEAT Z/S CHECKS? N

TEST START : 9:26:29.2
CRANK TIME : 1.0

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	FYW. VOL.	D/E F/E
CRANK	110	.10	20	13.18	.61	.001	.01	.000	1.7	.2	21.61
I 707	117	.10	79	13.28	.61	.023	.13	.017	27.4	4.0	21.79
A 3.09	272	.23	399	14.37	1.73	.075	.43	.125	42.1	5.7	8.45
C 25.4	296	.40	291	14.44	1.37	.502	4.57	.335	259.2	34.7	13.54
D-1.00	227	.26	49	14.10	.72	.024	.13	.006	15.8	2.2	20.14
--CYCLE 1 (GRAMS/MILE)--						.083	.71	.071	46.9	46.7	16.74
I 734	139	.06	36	13.74	.62	.069	.17	.035	53.9	7.5	20.16
A 2.15	401	.61	938	14.45	2.26	.562	5.75	1.482	214.1	28.6	6.39
C 53.2	273	.16	505	14.83	2.79	1.238	4.96	2.143	501.6	77.0	5.39
D-1.00	331	.15	46	14.14	.91	.152	.40	.021	59.7	8.2	17.46
--CYCLE 2 (GRAMS/MILE)--						.242	1.39	.491	122.5	121.2	13.59
I 733	227	.09	110	13.93	.67	.023	.03	.015	13.3	2.5	22.11
A 2.72	453	.27	554	14.33	2.13	.275	1.15	.330	95.4	12.4	6.96
C 35.7	393	.23	130	14.63	1.63	.156	.62	.060	61.9	8.2	3.98
D-1.00	351	.15	53	14.26	.69	.050	.14	.009	21.6	2.9	20.67
--CYCLE 3 (GRAMS/MILE)--						.203	.96	.069	96.3	96.5	16.93

I	737	854	.23	167	14.13	.63	.012	.03	.000	7.0	1.0	88.51
A	3.31	527	.37	703	14.00	2.19	.214	1.01	.322	63.6	8.3	6.70
D	-1.01	309	.47	61	14.23	.80	.051	.53	.011	05.1	3.4	17.85
		--CYCLE	4	(GRAMS/MILE)--			.237	.21	.046	12.0	12.6	12.64
I	750	831	.26	103	14.07	.64	.049	.03	.003	05.7	3.5	21.07
A	3.16	498	.29	317	14.33	2.44	.249	1.15	.540	92.7	12.0	6.10
C	35.4	393	.12	33	14.39	1.53	.030	.70	.056	90.4	10.1	9.59
D	-1.00	299	.15	53	14.34	.63	.041	.14	.008	21.3	2.0	21.00
		--CYCLE	5	(GRAMS/MILE)--			.275	.23	.084	30.7	30.5	16.91
I	739	933	.03	104	14.23	.63	.011	.03	.005	7.3	.0	22.67
A	2.29	896	.32	004	12.00	1.44	.132	.06	.103	61.2	9.1	9.31
C	24.0	003	.01	75	14.69	1.17	.049	.33	.020	36.0	4.0	12.56
D	-1.00	196	.13	75	14.13	.70	.013	.06	.003	14.0	1.0	22.06
		--CYCLE	6	(GRAMS/MILE)--			.003	.13	.013	15.3	16.3	15.24
I	744	044	.03	102	14.41	.65	.027	.03	.013	23.3	3.1	00.17
A	3.03	402	.45	173	14.47	1.46	.004	.58	.033	06.1	3.5	9.01
C	19.6	077	.21	143	14.47	1.17	.166	.05	.007	91.7	12.0	12.37
D	-1.00	334	.63	70	14.23	.74	.033	.42	.003	14.0	2.7	19.03
		--CYCLE	7	(GRAMS/MILE)--			.043	.25	.021	00.3	00.0	14.05
I	731	014	.03	96	12.94	.64	.056	.14	.008	35.0	5.3	00.00
A	2.69	472	.43	266	14.69	1.64	.167	1.03	.106	55.1	7.0	9.06
D	-1.01	029	.15	53	14.47	.94	.063	.03	.013	40.1	5.6	15.39
		--CYCLE	3	(GRAMS/MILE)--			.039	.19	.022	17.7	17.0	10.94
I	703	103	.03	85	14.30	.63	.024	.07	.010	13.3	0.5	00.73
A	2.03	430	.71	132	14.42	1.32	.134	2.04	.033	65.1	7.7	10.00
D	-1.04	007	.27	03	14.21	.71	.030	.03	.010	19.1	2.0	00.01
		--CYCLE	9	(GRAMS/MILE)--			.033	.31	.015	13.7	13.0	11.10
A	2.53	441	.51	237	14.30	1.69	.102	1.49	.141	68.1	0.0	0.76
D	-1.03	093	.23	78	14.33	.86	.075	.41	.023	40.4	5.4	16.72
		--CYCLE	10	(GRAMS/MILE)--			.036	.05	.020	14.5	14.3	15.00
A	2.67	360	.42	306	14.03	1.79	.155	1.21	.143	69.0	0.0	0.37
C	27.3	303	.24	114	14.57	1.03	.332	4.70	.374	443.3	59.4	11.35
D	-1.00	064	.27	44	14.10	.73	.032	.00	.006	10.0	0.5	10.30
		--CYCLE	11	(GRAMS/MILE)--			.142	.00	.070	71.0	70.6	00.05
A	2.64	333	.33	519	14.54	1.65	.167	.06	.050	66.3	0.0	0.01
C	24.6	000	.40	07	14.61	1.07	.144	1.37	.054	76.5	10.1	13.65
D	-1.01	021	.13	46	14.06	.72	.033	.15	.009	05.7	3.5	10.53
		--CYCLE	12	(GRAMS/MILE)--			.047	.33	.042	02.5	02.4	10.17
I	731	216	.03	112	14.26	.64	.059	.15	.035	41.5	5.6	22.28
A	2.61	382	.23	353	14.34	1.73	.174	.71	.101	71.5	9.3	9.34
D	-1.01	234	.20	60	14.24	.72	.075	.43	.022	48.4	6.6	10.73
		--CYCLE	13	(GRAMS/MILE)--			.041	.17	.032	21.5	21.5	11.03
A	2.15	334	.39	268	14.48	1.34	.144	1.10	.130	65.0	0.0	10.31
C	06.4	303	.41	74	14.62	1.06	.107	.06	.029	53.6	7.1	11.60
D	-1.01	047	.12	54	14.11	.67	.030	.10	.007	13.0	2.5	21.06
		--CYCLE	14	(GRAMS/MILE)--			.037	.29	.020	10.7	13.3	17.41
I	735	006	.03	137	14.20	.63	.009	.03	.002	21.1	2.0	00.63
A	3.00	470	.07	610	14.63	1.00	.104	.47	.173	40.1	5.3	7.33
D	-1.03	309	.47	67	14.27	.77	.033	.36	.000	17.0	2.3	10.53
		--CYCLE	15	(GRAMS/MILE)--			.005	.10	.023	10.5	10.5	7.50
I	731	210	.03	96	14.04	.03	.013	.05	.000	10.6	1.7	00.67
A	2.10	070	.35	151	14.57	1.06	.100	.36	.060	56.5	7.5	11.56
C	00.7	010	.17	33	14.53	.00	.051	.00	.023	37.3	4.0	14.33

```
D-1.00  136  .10  63 14.20  .69    .021    .03    .003    16.9     2.3 20.53
     --CYCLE 16 (GRAMS/MILE)--     .025    .17    .014    16.4    16.4 13.96

                                                          28-3
I  709  137  .03  75 14.14  .63    .021    .06    .010    16.9     2.3 22.44
A 2.10  243  .26 276 14.48 1.32    .115    .73    .138    67.9     9.1 10.97
C 25.1  271  .32 102 14.76 1.30    .116    .02    .059    66.9     8.9 11.35
D-1.00  286  .34  57 14.48  .32    .033    .37    .003    20.1     2.7 17.66
     --CYCLE 17 (GRAMS/MILE)--     .033    .27    .009    22.9    22.3 14.77

I  709  194  .06  98 14.29  .63    .043    .11    .003    33.9     4.6 22.69
A 2.60  426  .32 193 14.71 1.52    .129    .65    .063    47.1     6.2  9.21
D-1.01  201  .10  49 14.09  .73    .035    .12    .013    26.2     3.6 19.29
I  727  203  .03  62 14.17  .62    .009    .02    .003     6.9      .9 22.35
     --CYCLE 18 (GRAMS/MILE)--     .029    .12    .014    15.2    15.2  9.54


TEST STOP:    9:49:49
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     7  NOX= -0000 CO2D=    .01

SPAN CHECK OUT OF LIMITS
 FID=    97  COD=  1774* NOX=   193 CO2D=  4.07

ZERO CHECK
 FID=     3  COD=     6  NOX= -0000 CO2D=    .01

SPAN CHECK
 FID=    98  COD=  1758  NOX=   193 CO2D=  4.09

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    16  COD=    90  NOX=    24 CO2D=  1.25

BACKGROUND BAG
 FID=    11  COD=    17  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FXVOL
IDLE        .431   1.27    .265     351    48.6
ACCEL      3.237  22.26   4.477    1267   169.0
DECEL       .851   4.56    .203     465    63.0
CRUISE     3.439  19.34   3.303    1814   239.2
CHOKE      1.257  11.25   2.050     613    82.3
TOTAL      8.203  47.42   8.247    3896   518.9

EQUIVALENT MASS BAG RESULTS
GMS/MI     1.963   0.39   1.102   519.5



***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
```

	HC	CO	NOX	CO2	
	.194	1.91	1.049	479.3	284
	.223	2.19	1.204	g/mi	CORRECTED
	.139	1.36	.748	g/km	

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	1.020
CVS REVOLUTIONS	26656
AVG.INLET DEPR. (IN.H20)	11.3
AVG.PRESSURE DIFF. (IN.H20)	20.5
AVG.CVS TEMPERATURE (DEG.F)	76
MAX.INLET DEPR. (IN.H20)	11.9
MIN.INLET DEPR. (IN.H20)	11.7
MAX.CVS TEMPERATURE (DEG.F)	83
MIN.CVS TEMPERATURE (DEG.F)	72
AVG.CVS FLOW (CU.FT/REV)	.045
TOTAL CVS VOL. (STD.CU.FT.)	5937
AVG MODAL CO2 RATIO	11.41
FUEL ECONOMY (MI/GAL)	13.36
	15.98 CORRECTED ✓
	6.79 km/l.

Hot '73 #1 (29)

Pump with spoiler.
-7B fuel bar, 10% deeper, .0535 F/A Part Throttle curve. Trim 2 turns open.
Idle flow adjusted 1/6 turn leaner.
Throttle stroke set to .272" (1-421") - .057 bleed jet in cold enrichment.
Hose removed from air pump.
Transition casting & gasket reworked.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sd.
EGR via upper ported sig., inc. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice. A/F = 18.6

HC	CO	NOX	ECON
.118	1.11	1.004	17.88

```
VOLLEY CARBURETOR EMISSION LABORATORY
1973 FPA MASS TEST
BENCH #2
 9-29-76    8:21
CONSOLE SUS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    61
DRY BULB ?    76
BAROMETER?  2918
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB SONIC 42462              IDLE 750
REMARKS  ? ENGINE 225 CID                ODOMETER
REMARKS  ? H 73 FPA                      NOTES PPE MODEL CONV

ZERO CHECK
 FID=     4  COD=    .00 CO2D=    .34   NO= -0006 CO2D=    .01

SPAN CHECK
 FID=    97  COD=   3.33 CO2D= 16.76    NO=    191 CO2D=   4.06

REPEAT Z/S CHECKS? N

TEST START :   3:29:13.9
CRANK TIME :   1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.   D/D
 R/A/S   HC    CO   NO   CO2   CONC    HC      CO      NO      CO2    VOL.   F/E
                                  %
CRANK   134   .11   23  13.08   .61   .000    .01    .000     1.7     .2  21.44
I  697  168   .11   75  13.18   .61   .034    .15    .015    27.9    4.1  21.61
A 3.02  834   .29  345  14.21  1.67   .079    .54    .098    41.9    5.7   3.51
C 25.4  276   .37  219  14.41  1.33   .483   3.51    .390   265.9   35.5  13.44
D-1.00  275   .35   43  13.96   .69   .029    .25    .005    15.7    2.9  22.23
     --CYCLE  1 (GRAMS/MILE)--        .283    .60    .263    47.9   47.7  16.53

I  773  135   .09   81  13.39   .63   .075    .24    .033    54.7    3.9  22.35
A 2.14  373   .41  328  14.50  2.23   .540   3.94   1.188   213.9   29.1   6.36
C 53.3  239   .13  459  14.39  2.23   .954   3.76   1.976   607.1   81.5   5.07
D-1.00  397   .17   35  14.37   .79   .153    .44    .014    53.7    7.9  13.19
     --CYCLE  2 (GRAMS/MILE)--        .838   1.12    .416   125.3  196.3  13.16

I  787  205   .10   78  14.22   .63   .083    .33    .009    13.6    2.5  22.57
A 2.75  322   .21  524  15.16  2.19   .189    .34    .318    94.9   12.1   7.22
C 35.9  297   .09  129  15.21  1.69   .121    .01    .054    64.9    8.3   3.33
D-1.00  216   .13   47  11.37   .69   .033    .15    .009    21.3    3.6  17.14
```

	--CYCLE 3 (GRAMS/MILE)--					.[illegible]	.[illegible]	.[illegible]	[illegible].7	[illegible].5	[illegible]
I	741	135	.09	223	14.37	.64	.[illegible]	.03	.011	7.9	1.[illegible] [illegible].47
A	3.33	[illegible]	.[illegible]	566	15.19	[illegible].17	.101	.65	.[illegible]	64.3	[illegible].[illegible] 6.97
D	-1.[illegible]	[illegible]73	.42	49	14.43	.83	.047	.43	.[illegible]	[illegible]6.2	3.5 17.45
	--CYCLE 4 (GRAMS/MILE)--						.[illegible]04	.15	.[illegible]	13.[illegible]	[illegible].[illegible] [illegible].51
I	740	163	.09	85	14.33	.64	.[illegible]09	.10	.015	[illegible]6.1	3.5 [illegible].39
A	3.10	[illegible]30	.21	753	15.[illegible]	[illegible].46	.179	.74	.469	[illegible]4.[illegible]	[illegible].[illegible] 6.11
C	35.[illegible]	[illegible]66	.21	[illegible]9	14.24	1.56	.227	.[illegible]	.[illegible]	[illegible]4.9	[illegible].[illegible] [illegible].13
D	-1.[illegible]	316	.20	46	13.[illegible]	.63	.046	.2[illegible]	.[illegible]	[illegible]1.4	3.[illegible] [illegible].[illegible]
	--CYCLE 5 (GRAMS/MILE)--						.[illegible]64	.27	.[illegible]	31.6	31.5 16.45
I	732	219	.12	86	14.[illegible]	.63	.[illegible]11	.[illegible]	.[illegible]	7.[illegible]	1.[illegible] [illegible].[illegible]
A	2.29	249	.19	197	14.66	1.48	.[illegible]02	.52	.[illegible]	63.[illegible]	3.[illegible] [illegible].91
C	[illegible]5.[illegible]	[illegible]32	.26	67	14.46	1.13	.[illegible]56	.43	.[illegible]	37.[illegible]	5.[illegible] 12.25
D	-1.[illegible]	162	.11	54	13.[illegible]	.71	.[illegible]16	.[illegible]	.[illegible]	14.4	[illegible].[illegible] 19.42
	--CYCLE 6 (GRAMS/MILE)--						.[illegible]05	.14	.[illegible]	16.[illegible]	16.[illegible] 14.91
I	735	163	.10	84	14.13	.64	.[illegible]25	.[illegible]	.[illegible]	[illegible]3.1	3.[illegible] [illegible].[illegible]
A	3.10	[illegible]59	.42	152	14.53	1.43	.[illegible]45	.47	.[illegible]	[illegible]6.[illegible]	3.6 [illegible].[illegible]
C	19.[illegible]	166	.16	106	14.41	1.13	.[illegible]02	.66	.[illegible]	[illegible]3.[illegible]	10.5 10.[illegible]
D	-1.[illegible]	[illegible]42	.71	58	14.[illegible]	.76	.[illegible]25	.[illegible]	.[illegible]	15.5	[illegible].1 13.55
	--CYCLE 7 (GRAMS/MILE)--						.[illegible]26	.[illegible]	.[illegible]	[illegible]1.1	[illegible].[illegible] 17.37
I	729	161	.10	69	14.07	.64	.[illegible]39	.16	.[illegible]	[illegible]6.[illegible]	5.[illegible] [illegible].[illegible]
A	2.74	[illegible]70	.21	251	14.[illegible]	1.63	.[illegible]97	.51	.[illegible]	57.[illegible]	7.[illegible] [illegible].[illegible]
D	-1.[illegible]	194	.13	46	14.41	.91	.[illegible]50	.[illegible]	.[illegible]	41.1	5.5 15.[illegible]
	--CYCLE 8 (GRAMS/MILE)--						.[illegible]05	.13	.[illegible]	17.[illegible]	17.[illegible] [illegible].[illegible]
I	741	157	.10	67	14.16	.63	.[illegible]27	.[illegible]	.[illegible]	13.7	2.5 [illegible].43
A	[illegible].[illegible]	[illegible]67	.55	174	14.64	1.32	.113	1.[illegible]	.[illegible]	65.7	[illegible].7 11.[illegible]
D	-1.[illegible]	183	.13	69	14.11	.79	.[illegible]23	.11	.[illegible]	10.[illegible]	[illegible].6 [illegible].16
	--CYCLE 9 (GRAMS/MILE)--						.[illegible]21	.24	.[illegible]	13.3	13.3 11.15
A	2.56	276	.23	291	15.[illegible]	1.73	.[illegible]22	.69	.[illegible]	70.4	[illegible].[illegible] [illegible].69
D	-1.[illegible]	[illegible]32	.13	66	14.38	.82	.[illegible]46	.24	.[illegible]	39.1	5.[illegible] 17.54
	--CYCLE 10 (GRAMS/MILE)--						.[illegible]28	.12	.[illegible]	14.[illegible]	14.[illegible] 15.13
A	2.70	277	.30	296	15.[illegible]	1.[illegible]	.[illegible]20	.33	.[illegible]	7[illegible].[illegible]	[illegible].[illegible] [illegible].37
C	27.4	264	.13	[illegible]8	14.52	1.26	.797	3.66	.[illegible]	463.[illegible]	61.7 11.52
D	-1.[illegible]	188	.13	66	14.[illegible]	.73	.[illegible]22	.11	.[illegible]	18.1	[illegible].4 [illegible].[illegible]
	--CYCLE 11 (GRAMS/MILE)--						.125	.[illegible]	.[illegible]	7[illegible].[illegible]	7[illegible].[illegible] [illegible].4[illegible]
A	2.63	[illegible]81	.20	317	15.[illegible]	1.71	.[illegible]23	.59	.[illegible]	[illegible]9.[illegible]	[illegible].[illegible] [illegible].73
C	[illegible]4.[illegible]	[illegible]42	.23	67	14.65	1.13	.[illegible]04	.[illegible]	.[illegible]	[illegible]8.[illegible]	13.6 13.[illegible]
D	-1.[illegible]	188	.15	41	14.14	.78	.[illegible]38	.17	.[illegible]	[illegible]5.4	3.5 [illegible].[illegible]
	--CYCLE 12 (GRAMS/MILE)--						.[illegible]37	.21	.[illegible]	23.4	23.[illegible] 13.62
I	728	169	.10	73	14.36	.64	.[illegible]47	.19	.[illegible]	48.1	5.7 [illegible].44
A	2.55	264	.22	249	15.17	1.71	.115	.64	.111	69.9	[illegible].[illegible] [illegible].87
D	-1.[illegible]	165	.13	41	14.27	.72	.[illegible]54	.23	.[illegible]	49.[illegible]	6.6 19.[illegible]
	--CYCLE 13 (GRAMS/MILE)--						.[illegible]29	.15	.[illegible]	21.5	21.[illegible] 11.[illegible]
A	2.12	[illegible]02	.25	165	14.[illegible]	1.36	.[illegible]84	.72	.[illegible]	67.3	[illegible].[illegible] 10.[illegible]
C	[illegible]6.4	[illegible]15	.17	69	14.[illegible]	1.39	.[illegible]76	.46	.[illegible]	55.[illegible]	7.[illegible] 11.46
D	-1.[illegible]	132	.12	33	14.15	.67	.[illegible]02	.18	.[illegible]	17.[illegible]	[illegible].5 [illegible].1[illegible]
	--CYCLE 14 (GRAMS/MILE)--						.[illegible]26	.16	.[illegible]	13.[illegible]	13.5 17.1[illegible]
I	704	166	.10	91	14.33	.63	.[illegible]23	.1[illegible]	.[illegible]	21.4	[illegible].[illegible] [illegible].75
A	3.63	[illegible]06	.15	479	15.16	1.[illegible]	.[illegible]79	.[illegible]	.119	[illegible]9.[illegible]	4.9 7.[illegible]
D	-1.[illegible]	[illegible]49	.37	54	14.70	.[illegible]0	.[illegible]29	.29	.[illegible]	18.1	2.4 18.[illegible]
	--CYCLE 15 (GRAMS/MILE)--						.[illegible]18	.[illegible]	.[illegible]	1[illegible].4	10.[illegible] 7.57
I	732	164	.10	77	14.[illegible]	.64	.[illegible]14	.[illegible]	.[illegible]	13.1	1.[illegible] [illegible].[illegible]
A	[illegible].[illegible]	[illegible]28	.18	163	14.33	1.23	.[illegible]74	.43	.[illegible]	55.7	7.[illegible] 1[illegible].1[illegible]

C	51.2	149	.10	57	14.71	.93	.036	.26	.014	37.3	5.0	15.81
D	-1.02	167	.11	55	14.19	.65	.018	.08	.006	16.3	2.0	21.33
	--CYCLE 16 (GRAMS/MILE)--						.019	.11	.011	16.4	16.0	14.16

29-2

I	735	133	.10	65	14.44	.64	.021	.03	.003	17.4	2.3	20.56
A	2.18	217	.21	251	14.73	1.29	.093	.61	.111	67.7	3.9	11.40
C	25.5	221	.21	105	14.02	1.31	.037	.61	.047	68.5	3.9	11.39
D	-1.39	204	.35	43	14.46	.79	.023	.30	.006	19.4	2.0	13.54
	--CYCLE 17 (GRAMS/MILE)--						.031	.21	.023	23.0	20.6	14.73

I	723	153	.09	72	14.46	.63	.035	.14	.016	34.3	4.6	20.95
A	2.60	275	.29	159	15.30	1.54	.033	.59	.049	40.3	6.0	9.04
D	-1.21	154	.13	37	14.24	.72	.026	.15	.006	25.5	2.5	20.34
I	727	161	.09	112	14.46	.62	.027	.03	.005	7.0	.9	23.39
	--CYCLE 18 (GRAMS/MILE)--						.020	.18	.013	15.4	15.2	9.42

TEST STOP: 9:58:39
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 5 NOX= -.001 CO2D= .02

SPAN CHECK
FID= 98 COD= 1762 NOX= 191 CO2D= 4.85

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 8 COD= 49 NOX= 25 CO2D= 1.25

BACKGROUND BAG
FID= 5 COD= 7 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.419	1.58	.199	357	49.4
ACCEL	2.378	15.30	3.583	1036	166.8
DECEL	.703	4.26	.150	463	63.2
CRUISE	3.061	15.60	2.852	1869	248.9
CHOKE	1.239	8.65	1.741	626	85.1
TOTAL	6.559	36.74	6.703	3974	523.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	.874	4.90	.894	529.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2	
.113	1.11	1.004	493.9	
.136	1.27	1.153		CORRECTED $\left(\frac{.263}{.229}\right)$
.085	0.79	0.716		g/km

29-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	48
MIN. CORR. FACTOR	.996
CVS REVOLUTIONS	26662
AVG.INLET DEPR. (IN.H2O)	11.9
AVG.PRESSURE DIFF. (IN.H2O)	21.3
AVG.CVS TEMPERATURE (DEG.F)	83
MAX.INLET DEPR. (IN.H2O)	12.2
MIN.INLET DEPR. (IN.H2O)	11.7
MAX.CVS TEMPERATURE (DEG.F)	86
MIN.CVS TEMPERATURE (DEG.F)	79
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	6998
AVG MODAL CO2 RATIO	11.35
FUEL ECONOMY (MI/GAL)	17.38
	15.57 CORRECTED
	6.62 ✓ KM/L

Throttle Stroke = .272" from wide open.
Idle adj. turned in leaner by 1/6 turn.
.057" bleed jet in cold enrichment line.
Hose disconnected from air pump. Catalyst.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig., inc. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.
A/F = 19.5

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
9-27-76   15:12
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 63
DRY BULB ? 75
BAROMETER? 29.07
INERT WT.? 3500
TRANS.   ? S
CYLINDERS? 6
RUN NO.  ? 1
VEH. MAKE? EPA DART
VEH. I.D.? 5000
REMARKS  ? CARB SONIC 42460            IDLE 750 CO .06
REMARKS  ? H 73 EPA ENGINE 225 CID       ODOMETER
REMARKS  ? H 73 EPA                    NOTES PRE MODEL CONV

ZERO CHECK
 FID=     3  COR=    .03 CO2R=    .03   NO=      4 CO2D=    .01

SPAN CHECK OUT OF LIMITS
 FID=    96  COR=   8.39 CO2R= 16.65    NO=    212*CO2D=   4.07

ZERO CHECK
 FID=     0  COR=    .03 CO2R=    .01   NO=      2 CO2D=    .01

SPAN CHECK
 FID=    99  COR=   8.38 CO2D= 16.45    NO=    192 CO2D=   4.12

REPEAT Z/S CHECKS? N

TEST START :  15:17:59.6
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/F
 D/A/S   HC   CO   NO  CO2  CONC     HC      CO      NO      CO2    VOL.  F/E

CRANK   213  .12   30 13.06  .63   .003     .01    .000     1.7     .2 20.73
I  725  188  .12   67 13.06  .62   .038     .16    .015    27.3    4.1 21.06
A 3.10  349  .35  437 13.36 1.66   .172     .69    .137    41.7    6.0  8.05
```

C	25.6	316	.38	105	13.43	1.39	.537	4.75	.389	263.6	37.9	9.66
D-1.03		355	.61	42	13.23	.78	.040	.46	.005	15.8	2.3	18.99
--CYCLE 1 (GRAMS/MILE)--							.193	.81	.073	46.7	50.5	16.49
I	713	804	.13	66	13.05	.61	.077	.06	.027	52.3	7.7	21.39
A	2.14	433	.33	747	12.75	2.23	.654	4.19	1.233	216.1	38.7	5.59
C	53.6	885	.13	397	13.53	2.03	.930	3.81	1.266	621.9	88.9	4.61
D-1.03		534	.13	31	12.92	.83	.039	.54	.015	61.0	9.1	15.57
--CYCLE 2 (GRAMS/MILE)--							.867	1.16	.405	196.3	138.5	17.91
I	722	858	.11	73	13.06	.68	.034	.10	.010	13.1	2.7	21.76
A	2.73	344	.11	464	13.43	2.15	.933	.58	.333	96.1	13.3	6.25
C	36.4	361	.24	93	13.23	1.75	.171	.76	.047	66.4	9.7	7.58
D-1.01		339	.16	37	12.39	.72	.064	.13	.027	22.5	3.4	17.98
--CYCLE 3 (GRAMS/MILE)--							.067	.21	.054	27.1	29.5	15.71
I	725	843	.13	114	13.08	.68	.013	.03	.006	6.9	1.2	28.97
A	2.39	315	.17	551	13.26	2.29	.150	.54	.032	66.8	9.7	5.79
D-1.01		330	.27	46	13.42	.87	.053	.35	.009	27.2	3.9	15.43
--CYCLE 4 (GRAMS/MILE)--							.029	.10	.040	13.5	14.7	18.14
I	716	821	.13	74	13.09	.68	.040	.12	.014	24.9	3.7	21.66
A	2.13	343	.19	565	13.14	2.55	.043	.56	.424	97.6	14.9	5.15
C	36.1	414	.19	61	12.99	1.58	.239	.39	.046	96.9	14.3	3.17
D-1.01		439	.23	37	13.00	.71	.066	.22	.006	22.3	3.3	18.31
--CYCLE 5 (GRAMS/MILE)--							.035	.24	.065	39.9	35.5	16.03
I	733	854	.13	95	13.09	.68	.013	.04	.005	6.9	1.9	21.30
A	2.33	343	.27	213	13.27	1.53	.161	.37	.126	64.9	9.4	8.67
C	25.7	252	.24	55	13.09	1.26	.072	.46	.017	39.4	5.9	12.39
D-1.03		239	.15	45	12.31	.69	.024	.18	.005	13.3	2.1	18.57
--CYCLE 6 (GRAMS/MILE)--							.036	.22	.018	16.7	19.4	14.46
I	723	216	.12	36	12.39	.68	.035	.13	.015	22.2	3.3	22.79
A	2.20	398	.16	195	13.06	1.53	.079	.21	.042	27.3	4.0	8.54
C	22.3	273	.20	130	12.92	1.20	.191	.93	.096	94.2	14.2	10.77
D-1.02		313	.49	47	13.07	.77	.035	.37	.006	15.5	2.3	16.97
--CYCLE 7 (GRAMS/MILE)--							.045	.22	.021	21.2	23.7	13.79
I	732	291	.12	60	12.38	.68	.050	.21	.017	35.2	5.3	20.44
A	2.76	393	.15	243	13.14	1.71	.123	.42	.107	57.5	8.5	7.69
D-1.02		340	.22	49	13.09	.84	.073	.45	.016	40.0	6.2	13.93
--CYCLE 8 (GRAMS/MILE)--							.033	.14	.019	13.8	19.9	12.87
I	713	243	.12	57	12.96	.68	.026	.11	.003	13.1	2.7	28.98
A	2.06	341	.66	187	12.95	1.36	.167	2.17	.098	66.9	10.0	9.59
D-1.05		232	.25	84	12.90	.68	.031	.23	.010	18.3	2.7	18.97
--CYCLE 9 (GRAMS/MILE)--							.030	.33	.016	13.8	15.4	11.02
A	2.59	315	.13	259	13.33	1.78	.160	.48	.141	71.6	10.4	7.49
D-1.07		237	.17	67	12.99	.84	.068	.33	.021	39.5	5.9	15.46
--CYCLE 10 (GRAMS/MILE)--							.030	.11	.022	14.8	16.2	14.91
A	2.77	273	.13	336	13.33	1.79	.142	.48	.134	71.9	10.4	7.75
C	27.7	341	.22	86	12.94	1.29	1.173	5.89	.313	472.8	70.2	10.03
D-1.03		337	.46	42	12.34	.76	.047	.43	.006	18.7	2.8	16.39
--CYCLE 11 (GRAMS/MILE)--							.132	.80	.263	74.9	33.5	22.98
A	2.68	312	.12	319	13.14	1.67	.151	.39	.166	67.2	9.9	7.37
C	25.3	287	.22	61	12.97	1.17	.175	.91	.049	83.9	12.5	11.09
D-1.01		283	.13	31	12.67	.69	.042	.16	.006	24.7	3.9	13.36
--CYCLE 12 (GRAMS/MILE)--							.049	.19	.029	23.4	26.1	13.57
I	714	221	.13	58	12.71	.68	.066	.22	.016	40.4	6.1	20.59
A	2.58	347	.13	271	12.97	1.79	.131	.63	.150	71.7	10.7	7.29
D-1.04		249	.21	33	12.66	.71	.039	.59	.015	47.8	7.3	17.93

30-1

```
      --CYCLE 13 (GRAMS/MILE)--      .045     .13    .024   21.3   84.1  11.71

A 2.16  269   .13  173  12.93  1.49    .131     .43    .004   69.1   10.3   9.24
C 26.7  254   .16   55  12.98  1.34    .106     .45    .025   57.1    9.5   9.63
D-1.00  257   .15   33  12.49   .66    .035     .14    .005   17.3    2.7  18.00
      --CYCLE 14 (GRAMS/MILE)--      .036     .14    .016   19.9   21.6  16.34

I  722  234   .09   63  12.61   .61    .031     .09    .010   20.5    3.1  80.67
A 3.72  277   .29  512  12.68  1.37    .279     .17    .156   38.0    5.3   6.74
D-1.03  267   .42   47  12.83   .87    .033     .39    .007   19.5    2.9  14.75
      --CYCLE 15 (GRAMS/MILE)--      .023     .09    .003   10.4   11.9   7.59

I  716  177   .08   59  12.63   .62    .017     .05    .006   12.6    1.9  23.37
A 2.11  257   .13  173  12.79  1.29    .113     .40    .030   57.9    3.7   9.91
C 21.4  253   .01   51  12.75  1.22    .073     .41    .016   23.9    5.9  12.58
D-1.00  246   .12   38  12.45   .64    .030     .13    .005   15.8    2.5  19.45
      --CYCLE 16 (GRAMS/MILE)--      .031     .13    .014   16.7   19.0  13.73

I  717  287   .09   42  12.54   .61    .023     .08    .006   16.4    2.5  20.56
A 2.09  317   .27  296  12.77  1.29    .156     .90    .109   66.6   10.1   9.90
C 25.9  272   .21   92  12.99  1.38    .142     .74    .052   71.4   10.7   9.35
D-1.01  358   .67   37  12.65   .79    .051     .65    .006   19.2    2.9  16.22
      --CYCLE 17 (GRAMS/MILE)--      .058     .31    .023   23.1   26.9  14.57

I  721  285   .12   57  12.69   .61    .021     .17    .015   32.9    5.1  22.69
A 2.65  323   .16  138  12.83  1.58    .118     .39    .074   49.3    7.5   9.15
D-1.01  291   .13   33  12.59   .73    .044     .17    .007   26.3    4.0  17.93
I  714  196   .10   49  12.57   .61    .012     .03    .002    6.9    1.1  88.61
      --CYCLE 18 (GRAMS/MILE)--      .030     .10    .013   15.5   17.6   9.49


TEST STOP:  15:41:18
TEST LENGTH: 1373.0


***** BAG DATA RESULTS *****

ZERO CHECK
 FID=     3  COD=     5  NOX= -0004 CO2D=    .01

SPAN CHECK
 FID=    97  COD=  1741  NOX=   196 CO2D=  4.07

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=     8  COD=    51  NOX=    26 CO2D=  1.29

BACKGROUND BAG
 FID=     4  COD=     6  NOX=     0 CO2D=   .07

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FUEL
IDLE       .534    1.79    .173     344   51.0
ACCEL     3.142   14.39   3.979    1298  190.1
DECEL     1.073    5.76    .153     467   70.1
CRUISE    3.967   19.08   2.986    1984  293.4
CHOKE     1.530   10.42   1.761     619   91.0
TOTAL     8.796   41.14   7.216    4913  695.7
```

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.161	5.49	.960	535.1

30-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2	
.155	1.13	1.085	530.7	
.179	1.36	1.246		
.111	.845	.774	g/km	

CORRECTED

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	.973
CVS REVOLUTIONS	26668
AVG.INLET DEPR. (IN.H2O)	11.9
AVG.PRESSURE DIFF. (IN.H2O)	20.9
AVG.CVS TEMPERATURE (DEG.F)	77
MAX.INLET DEPR. (IN.H2O)	12.0
MIN.INLET DEPR. (IN.H2O)	11.7
MAX.CVS TEMPERATURE (DEG.F)	88
MIN.CVS TEMPERATURE (DEG.F)	83
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	5941
AVG MODAL CO2 RATIO	10.32
FUEL ECONOMY (MI/GAL)	17.63
	15.35 mi/gal
	6.53 km/l

Hot '73 #2

(31)

Throttle stroke = .272" from wide open.
.057" bleed jet in cold enrichment line.
Hose removed from air pump.
Transition casting & gasket reworked.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig., inc. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.157	1.29	1.026	18.03

Reset idle back up from 750
to 800 in neutral - from prior run #1.

A/F = 19.2

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-24-76   12:49
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ?  N
WET BULB ?    62
DRY BULB ?    75
BAROMETER?  2953
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1
VEH. MAKE? DART
VEH. I.D.? 5030
REMARKS  ? CARB SONIC 42460          IDLE
REMARKS  ? ENGINE 225 CID             ODOMETER
REMARKS  ? H 73 EPA                  NOTES PRE MODEL CONV

ZERO CHECK
 FID=     4  COR=   .00 CO2R=   .20   NO=     7 CO2D=   .01

SPAN CHECK OUT OF LIMITS
 FID=    94* COR=  8.23 CO2R= 16.45   NO=   190 CO2D=  4.05

ZERO CHECK
 FID=     0  COR=   .00 CO2R=   .02   NO=     5 CO2D=   .01

SPAN CHECK
 FID=   101  COR=  8.23 CO2R= 16.50   NO=   190 CO2D=  4.08

REPEAT Z/S CHECKS? N

TEST START :  11: 0:53.1
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/E
 P/A/S   HC   CO  NO  CO2  CONC    HC      CO      NO     CO2    VOL.  F/E

CRANK    84  .09  42 12.33  .61   .021     .01   .001     1.7     .2 21.11
I  742  101  .09  78 13.03  .61   .022     .12   .016    97.3    4.1 21.36
```

A 3.4	675	.30	344	13.59	1.63	.073	.57	.100	42.9	5.3	2.34
C 25.3	333	.47	192	13.59	1.39	.534	4.75	.354	253.4	26.9	10.36
D-1.23	899	.49	74	13.55	.66	.031	.35	.008	15.0	2.1	20.53
--CYCLE 1 (GRAMS/MILE)--						.239	.77	.064	45.9	43.3	17.00
I 744	193	.29	129	13.49	.62	.031	.05	.005	53.8	3.3	20.15
A 2.14	317	.45	242	13.55	2.23	.479	4.91	1.313	913.5	32.4	6.89
C 53.4	247	.13	466	13.65	2.71	.097	3.57	1.569	590.7	39.4	5.84
D-1.00	311	.15	56	13.65	.77	.134	.43	.025	57.5	3.0	16.43
--CYCLE 2 (GRAMS/MILE)--						.224	1.16	.443	121.0	109.0	18.77
I 737	287	.19	127	13.47	.62	.026	.09	.017	13.0	2.6	21.73
A 2.77	236	.11	555	13.39	2.15	.157	.49	.396	97.5	13.6	6.46
C 36.2	359	.27	138	13.67	1.00	.150	.31	.062	62.2	9.8	3.44
D-1.00	206	.15	60	13.74	.67	.033	.15	.009	21.1	3.0	20.51
--CYCLE 3 (GRAMS/MILE)--						.049	.20	.063	26.5	27.9	16.15
I 732	205	.10	157	13.51	.62	.010	.03	.008	7.1	1.0	21.79
A 3.34	279	.16	721	13.94	2.21	.184	.48	.336	65.1	9.1	6.23
D-1.00	237	.34	66	13.67	.79	.241	.40	.010	25.0	3.5	17.30
--CYCLE 4 (GRAMS/MILE)--						.023	.10	.047	13.0	13.6	19.61
I 730	200	.10	113	13.46	.60	.035	.10	.020	25.8	3.6	21.71
A 3.13	306	.13	705	13.72	2.44	.198	.61	.479	94.1	13.2	5.68
C 35.7	403	.26	93	13.79	1.51	.275	1.14	.263	99.0	13.7	3.87
D-1.00	276	.17	63	11.53	.69	.049	.23	.012	21.3	2.7	16.71
--CYCLE 5 (GRAMS/MILE)--						.074	.23	.077	31.1	33.0	16.70
I 733	213	.09	110	13.62	.62	.010	.03	.006	7.1	1.0	21.97
A 2.31	243	.23	207	13.80	1.46	.184	.67	.393	69.7	9.8	9.45
C 25.5	284	.22	71	13.68	1.03	.055	.42	.200	33.9	5.5	11.12
D-1.03	198	.13	63	13.58	.63	.013	.29	.006	13.2	2.0	19.97
--CYCLE 6 (GRAMS/MILE)--						.025	.16	.017	16.3	17.2	14.37
I 731	133	.10	106	13.57	.62	.029	.11	.017	22.5	3.0	21.39
A 3.15	349	.37	259	13.29	1.53	.069	.49	.253	27.6	4.0	9.69
C 28.2	241	.20	131	13.53	1.16	.155	.36	.083	91.0	13.1	11.66
D-1.03	299	.07	72	13.53	.70	.030	.46	.008	14.7	2.1	13.79
--CYCLE 7 (GRAMS/MILE)--						.033	.26	.009	99.0	99.4	13.99
I 733	213	.09	103	13.54	.63	.054	.15	.027	35.6	5.1	21.49
A 2.74	395	.16	287	13.66	1.67	.180	.42	.118	56.7	8.0	8.13
D-1.01	240	.24	71	13.64	.91	.063	.46	.021	41.1	5.8	14.99
--CYCLE 8 (GRAMS/MILE)--						.032	.14	.022	17.3	18.9	18.93
I 726	244	.09	103	13.53	.62	.031	.09	.014	17.3	2.6	21.70
A 2.83	284	.16	165	13.57	1.34	.132	1.05	.030	66.7	9.5	12.13
D-1.02	214	.21	105	13.52	.69	.023	.19	.014	13.8	2.7	19.59
--CYCLE 9 (GRAMS/MILE)--						.026	.20	.015	13.8	14.8	11.14
A 2.59	255	.13	311	13.84	1.76	.125	.43	.159	71.6	10.0	7.86
D-1.09	227	.17	103	13.61	.92	.061	.31	.029	39.0	5.5	16.62
--CYCLE 10 (GRAMS/MILE)--						.025	.19	.025	14.7	15.5	15.23
A 2.71	238	.13	281	13.94	1.32	.137	.41	.140	69.9	9.7	7.66
C 27.3	270	.20	104	13.54	1.25	.369	4.33	.350	468.0	65.7	10.23
D-1.22	243	.45	73	13.48	.69	.030	.36	.009	17.1	2.5	19.54
--CYCLE 11 (GRAMS/MILE)--						.133	.63	.067	73.0	77.3	21.62
A 2.59	263	.13	313	13.84	1.79	.125	.45	.156	69.5	9.7	3.14
C 24.3	226	.24	78	13.64	1.13	.126	.99	.045	37.3	11.4	10.09
D-1.01	193	.16	63	13.48	.72	.034	.20	.012	26.0	3.7	13.72
--CYCLE 12 (GRAMS/MILE)--						.033	.21	.023	27.4	24.3	12.57
I 730	239	.11	98	13.47	.63	.069	.22	.027	41.4	5.9	21.33
A 2.55	329	.13	293	13.88	1.75	.159	.43	.144	71.4	9.9	7.93

31-1

```
D-1.91  999  .00  63 13.51  .79    .066    .45    .002   47.4    0.3 19.53
     --CYCLE 13 (GRAMS/MILE)--     .033    .15    .026   21.4   22.6 11.34

A 0.15  253  .10 197 13.69 1.41    .123    .52    .100   79.2    9.9  9.71
C 96.9  233  .13  78 13.56 1.27    .239    .46    .093   54.6    7.3 19.69
D-1.92  224  .13  69 13.53  .66    .022    .12    .009   17.9    0.6 20.50
     --CYCLE 14 (GRAMS/MILE)--     .030    .15    .018   19.9   20.2 16.99

I  739  212  .10 128 13.54  .63    .032    .10    .019   21.4    3.6 21.49
A 3.62  202  .12 559 13.59 1.36    .059    .21    .152   33.9    5.4  7.31
D-1.93  236  .44  77 13.57  .76    .023    .25    .010   17.2    2.4 17.30
     --CYCLE 15 (GRAMS/MILE)--     .016    .09    .024   19.2   17.9  7.74

I  739  235  .09  97 13.39  .63    .019    .35    .009   18.3    1.9 21.25
A 2.10  209  .32 168 13.59 1.25    .091    .35    .066   50.6    9.1 19.30
C 21.0  131  .22  33 13.79  .93    .045    .37    .021   35.7    5.9 14.73
D-1.92  194  .11  74 13.49  .65    .022    .09    .009   16.2    2.3 23.60
     --CYCLE 16 (GRAMS/MILE)--     .023    .19    .014   16.0   17.3 14.17

I  726  215  .12  77 13.38  .62    .026    .03    .010   16.3    2.4 21.43
A 2.05  257  .27 244 13.39 1.38    .103    .99    .100   67.6    9.7 13.38
C 95.5  240  .42 121 13.60 1.32    .115   1.35    .061   63.2    9.3 19.30
D-1.92  265  .30  65 13.67  .75    .034    .20    .009   13.0    2.6 17.93
     --CYCLE 17 (GRAMS/MILE)--     .040    .35    .027   22.9   24.6 14.69

I  739  136  .11 111 13.57  .63    .044    .13    .023   34.0    4.9 21.54
A 2.53  243  .22 165 13.74 1.50    .038    .43    .057   47.6    6.7  9.16
D-1.91  169  .16  64 13.47  .70    .033    .19    .010   25.3    3.6 19.04
I  703  196  .11  73 13.69  .62    .013    .04    .004    7.0    1.5 21.97
     --CYCLE 13 (GRAMS/MILE)--     .009    .19    .013   15.9   16.2  9.55
```

3/1-2

```
TEST STOP:  11:24:13
TEST LENGTH: 1373.9

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     9  COD=     2  NOX=     0 CO2D=    .01

SPAN CHECK
 FID=   192  COD=  1750  NOX=   190 CO2D=  4.38

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    10  COD=    57  NOX=    25 CO2D=  1.24

BACKGROUND BAG
 FID=     6  COD=     3  NOX=     0 CO2D=    .00

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FUEL
IDLE       .499    1.64    .273    351   50.9
ACCEL     2.465   14.19   4.956   1237  131.5
DECEL      .767    5.05    .235    454   65.7
CRUISE    3.409   18.89   3.063   1821  258.6
CHOKE     1.218   10.55   1.850    696   97.0
TOTAL     7.141   39.77   7.632   3913  556.7
```

EQUIVALENT MASS BAG RESULTS

GMS/MI	.952	5.30	1.018	521.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.157	1.29	1.006	489.3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	43
HUM. CORR. FACTOR	.947
CVS REVOLUTIONS	20668
AVG.INLET DEPR. (IN.H2O)	18.1
AVG.PRESSURE DIFF. (IN.H2O)	21.1
AVG.CVS TEMPERATURE (DEG.F)	90
MAX.INLET DEPR. (IN.H2O)	18.2
MIN.INLET DEPR. (IN.H2O)	18.1
MAX.CVS TEMPERATURE (DEG.F)	98
MIN.CVS TEMPERATURE (DEG.F)	74
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	6898
AVG MORAL CO2 RATIO	18.31
FUEL ECONOMY (MI/GAL)	18.83

(32)

Throttle stroke set to .272" from wide open.
.057" bleed jet in cold enrichment line.
Hose removed from air pump. Catalyst.
Transition casting & gasket reworked.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.

EGR via upper ported sig., inc. check valve.
.013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.196	1.26	.942	18.23

A/F = 19.2

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 9-24-76     9:30
CONSOLE SYS:  4  5
TEST CODE? 1
NEW DATA ? N
WET BULB ?     62
DRY BULB ?     75
BAROMETER?  2953
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1
VEH. MAKE? DART
VEH. I.D.? 5888
REMARKS  ? CARB SONIC 4846C
REMARKS  ? ENGINE 225 CID
REMARKS  ? M-73 EPA

IDLESET RPM
ODOMETER 9285
NOTES:

ZERO CHECK
 FID=     0  COR=    .00 CO2R=    .00   NO= -0004 CO2R=    .01

SPAN CHECK OUT OF LIMITS
 FID=    97  COR=   3.24 CO2R= 16.51   NO=   816*CO2R=   4.03

ZERO CHECK
 FID= -0004  COR=    .00 CO2R=    .00   NO= -0005 CO2R=    .01

SPAN CHECK OUT OF LIMITS
 FID=   102  COR=   3.25 CO2R= 16.49   NO=   809*CO2R=   4.03

ZERO CHECK
 FID=     1  COR=    .00 CO2R=    .00   NO= -0001 CO2R=    .01

SPAN CHECK
 FID=   103  COR=   3.29 CO2R= 16.48   NO=   196 CO2R=   4.03

REPEAT Z/S CHECKS? N

TEST START :  9:49:49.8
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2R  ------ MASS (GRAMS) ------   EXH.   D/F
 F/A/S   HC    CO   NO   CO2  CONC    HC     CO     NO     CO2    VOL.   F/F

CRANK   139  .10   42 12.94  .57   .002    .01   .000    1.5     .0 00.00
I  631  146  .10   99 13.10  .57   .027    .13   .018   25.3    3.3 00.00
A 3.00  238  .12  400 13.57 1.09   .070    .24   .124   42.4    6.8  3.03
C 25.5  296  .39  836 13.47 1.33   .587   4.69   .384  953.3   36.4 17.13
D-1.00  253  .32   55 13.56  .65   .026    .22   .006   14.7    2.1 27.36
      --CYCLE  1 (GRAMS/MILE)--    .037    .73   .071   45.1   43.5 17.19

I  685  227  .20   31 12.51  .57   .077    .23   .030   49.2    7.6 21.05
A 2.15  400  .48  707 13.39 2.01   .593   4.33  1.107  911.7   38.5  6.03
C 53.4  249  .13  447 13.23 2.75  1.043   3.96  1.033  583.6   35.0  4.31
D-1.00  652  .23   39 13.05  .75   .059    .61   .016   55.6    8.1 17.67
      --CYCLE  2 (GRAMS/MILE)--    .064   1.88   .412  109.7  130.1 13.77
```

I	692	317	.12	73	13.43	.58	.038	.10	.009	17.1	2.5	23.16
A	2.76	317	.12	504	13.70	2.07	.204	.52	.340	93.3	13.2	6.62
C	36.0	339	.27	112	13.61	1.65	.149	.80	.051	63.2	9.0	8.25
D	-1.06	441	.25	48	12.24	.64	.069	.26	.003	20.2	3.2	19.13
		--CYCLE	3	(GRAMS/MILE)--			.061	.22	.054	25.3	27.8	16.55
I	687	304	.11	147	10.98	.58	.017	.04	.009	6.5	1.1	18.93
A	3.35	382	.19	702	13.67	2.14	.164	.55	.318	62.6	8.3	6.39
D	-1.04	294	.27	54	13.72	.79	.051	.32	.010	24.9	3.5	17.37
		--CYCLE	4	(GRAMS/MILE)--			.031	.12	.045	12.5	13.5	13.09
I	693	220	.11	104	13.52	.58	.036	.12	.018	23.6	3.4	23.31
A	3.16	327	.15	672	13.54	2.46	.216	.67	.464	94.4	13.5	5.50
C	35.9	397	.25	86	13.29	1.50	.257	1.09	.053	91.0	13.2	3.86
D	-1.02	390	.22	44	13.54	.63	.054	.21	.006	19.9	2.3	21.49
		--CYCLE	5	(GPAMS/MILE)--			.075	.28	.073	30.5	32.9	16.99
I	694	233	.12	95	13.58	.57	.010	.04	.004	6.4	.9	23.82
A	2.33	289	.27	170	12.10	1.47	.142	.89	.088	62.9	10.0	8.23
C	25.4	266	.32	64	13.59	1.19	.069	.56	.017	37.4	5.3	11.42
D	-1.00	239	.18	50	13.48	.64	.022	.11	.005	13.0	1.9	21.06
		--CYCLE	6	(GRAMS/MILE)--			.032	.21	.015	16.8	13.1	15.06
I	685	247	.12	93	13.57	.58	.036	.12	.015	21.0	3.0	23.40
A	3.13	335	.32	222	13.62	1.43	.062	.40	.043	26.7	3.3	9.20
C	28.8	282	.16	123	13.44	1.17	.131	.70	.084	82.5	13.3	11.49
D	-1.03	513	1.03	59	13.38	.73	.054	.72	.006	14.8	2.1	18.33
		--CYCLE	7	(GRAMS/MILE)--			.038	.26	.020	20.7	22.2	14.14
I	688	258	.11	77	13.65	.58	.059	.17	.013	32.8	4.6	23.53
A	2.69	359	.20	227	13.68	1.64	.133	.52	.091	55.6	7.8	8.34
D	-1.01	267	.21	59	13.54	.91	.077	.41	.018	41.8	5.9	14.83
		--CYCLE	8	(GRAMS/MILE)--			.036	.15	.017	17.3	13.3	11.29
I	675	242	.11	67	13.50	.58	.029	.09	.008	17.1	2.4	23.23
A	2.05	294	.45	152	13.39	1.33	.137	1.41	.074	66.1	9.5	10.07
D	-1.05	281	.54	71	13.49	.65	.035	.45	.009	17.6	2.5	20.75
		--CYCLE	9	(GRAMS/MILE)--			.027	.26	.012	13.4	14.5	11.37
A	2.57	300	.17	291	13.78	1.71	.143	.55	.145	69.5	9.7	8.06
D	-1.05	266	.13	75	13.59	.80	.071	.32	.021	38.0	5.4	16.83
		--CYCLE	10	(GRAMS/MILE)--			.029	.12	.022	14.3	15.8	15.33
A	2.63	357	.25	298	13.75	1.78	.163	.79	.147	68.4	9.6	7.72
C	27.2	290	.22	97	13.44	1.23	.925	4.72	.324	453.4	65.1	10.93
D	-1.02	277	.31	57	13.53	.66	.032	.24	.007	16.4	2.3	20.50
		--CYCLE	11	(GPAMS/MILE)--			.150	.77	.064	71.8	77.0	21.91
A	2.61	305	.13	354	13.69	1.65	.142	.41	.172	67.2	9.5	8.38
C	24.9	260	.25	72	13.49	1.11	.148	.96	.043	31.0	11.6	12.04
D	-1.01	246	.17	51	13.39	.70	.044	.20	.010	25.3	3.6	19.13
		--CYCLE	12	(GRAMS/MILE)--			.044	.21	.030	23.1	24.7	13.38
I	630	254	.11	67	13.43	.58	.068	.28	.019	33.2	5.5	23.16
A	2.58	358	.19	265	13.58	1.65	.168	.60	.130	67.4	9.6	8.23
D	-1.01	264	.16	49	13.38	.70	.089	.36	.017	47.5	6.9	19.11
		--CYCLE	13	(GRAMS/MILE)--			.043	.15	.022	20.4	21.9	11.84
A	2.11	275	.24	130	13.57	1.36	.130	.76	.039	67.7	9.6	9.93
C	26.2	274	.29	71	13.47	1.21	.100	.71	.027	52.1	7.5	11.13
D	-1.02	320	.16	43	13.23	.60	.037	.13	.005	16.3	2.4	22.13
		--CYCLE	14	(GRAMS/MILE)--			.036	.21	.016	18.1	19.5	17.67
I	683	269	.11	82	13.43	.57	.035	.10	.012	19.3	2.8	23.56
A	2.64	371	.11	470	13.33	1.79	.096	.19	.103	36.5	5.3	7.45

D-1.73	343	.58	64	13.53	.39	.043	.49	.093	13.1	2.6	16.51
--CYCLE 15 (GRAMS/MILE)--						.023	.10	.029	9.9	12.7	7.96
I 676	936	.11	73	13.43	.59	.008	.06	.006	10.2	1.7	22.71
A 2.29	877	.35	139	13.44	1.24	.109	.93	.074	56.1	3.1	13.34
C 21.2	193	.15	79	13.35	.84	.049	.86	.021	30.9	5.9	14.98
D-1.29	955	.13	54	13.42	.61	.007	.13	.006	15.2	2.0	22.00
--CYCLE 16 (GRAMS/MILE)--						.027	.13	.014	15.9	17.2	14.35
I 677	951	.11	66	13.34	.57	.008	.07	.008	15.3	2.3	23.22
A 2.26	875	.39	237	13.32	1.07	.109	1.23	.117	66.1	9.6	13.47
C 25.7	836	.20	91	13.42	1.34	.116	.66	.047	69.9	12.2	12.31
D-1.29	347	.39	44	13.46	.69	.042	.32	.006	17.1	2.5	19.51
--CYCLE 17 (GRAMS/MILE)--						.040	.31	.024	22.5	24.4	14.93
I 635	871	.12	74	13.47	.53	.008	.13	.017	31.5	4.5	23.22
A 2.57	311	.24	198	13.47	1.47	.132	.53	.063	46.6	6.7	9.16
D-1.01	907	.13	45	13.27	.63	.036	.15	.008	24.7	3.6	19.51
I 674	936	.11	58	13.33	.57	.011	.03	.003	6.4	.9	23.39
--CYCLE 18 (GRAMS/MILE)--						.033	.12	.013	14.6	15.7	9.96

TEST STOP: 10:13: 9
TEST LENGTH: 1373.9

***** BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 1 NOX= 0 CO2D= .01

SPAN CHECK
FID= 96 COD= 1732 NOX= 191 CO2D= 4.06

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 13 COD= 67 NOX= 93 CO2D= 1.24

BACKGROUND BAG
FID= 13 COD= 19 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.554	1.69	.196	384	47.7
ACCEL	2.919	16.92	3.713	1261	133.3
DECEL	1.066	5.66	.172	448	63.5
CRUISE	3.583	19.19	2.995	1719	260.5
CYCLE	1.393	12.33	1.671	599	86.7
TOTAL	3.969	48.47	7.821	3345	554.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.375	5.66	.944	518.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.196	1.26	.940	434.2
.223	1.45	1.082	

32-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	48
HUM. CORR. FACTOR	.947
CVS REVOLUTIONS	26663
AVG.INLET DEPR. (IN.H2O)	12.1
AVG.PRESSURE DIFF. (IN.H2O)	21.3
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H2O)	12.1
MIN.INLET DEPR. (IN.H2O)	12.0
MAX.CVS TEMPERATURE (DEG.F)	94
MIN.CVS TEMPERATURE (DEG.F)	87
AVG.CVS FLOW (CU.FT/REV)	.245
TOTAL CVS VOL. (STD.CU.FT.)	5991
AVG MODAL CO2 RATIO	15.33
FUEL ECONOMY (MI/GAL)	18.23 15.87

CORRECTED

Cold '75 #1

Pump with spoiler.
-7B fuel bar, 10% deeper, .0537 F/A Part Throttle curve. Trim 2-3/4 turns open.
Throttle stroke set to .272" (1-421) Power valve 10°.
.057" bleed jet in cold enrichment hose. Air pump & catalyst.
EGR & spk. signals dumped at idle.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig., inc. check valve, .013 jet reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.684	2.99	1.087	16.86

2 stalls.

CO_2 = 519.1

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
 9- 3-76   13:43
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   61
DRY BULB ? S
   72
BAROMETER? S
 2936
INERT WT.? 3560
TRANS.   ? A
CYLINDERS? 6
RUN NO.  ? 5
VEH. MAKE? 75 DART
VEH. I.D.? 5C88
REMARKS  ? CARB; HOLLEY SONIC          IDLE SET:
REMARKS  ? ENG; 225 CID                 ODOMETER:
REMARKS  ? C-EPA-75                     NOTES:

ZERO CHECK
 FID=     0  COR=    .00 CO2R=    .00   NO=      1 CO2R=    .00

SPAN CHECK
 FID=   104  COR=   7.33 CO2R= 15.37    NO=    195 CO2R=   4.14

REPEAT Z/S CHECKS? N

TEST START :  14:32:58.7
CRANK TIME :  1.3

MODE   ---TAILPIPE CONC---  CO2R  ------ MASS (GRAMS) ------   EXH.   A/F
 D/A/S   HC    CO    NO    CO2  CONC     HC      CO      NO      CO2     VOL.   F/F
```

CRANK	346	.06	32	.35	.05	.016	.02	.002	.2	.9	7.00
I 1297	922	3.57	45	7.84	.64	.325	3.49	.017	29.3	7.2	12.25
A 3.04	1003	4.85	32	9.99	1.55	.704	22.99	.062	73.5	14.3	6.39
C 23.6	979	2.08	170	10.34	1.73	3.235	46.97	.599	334.6	68.5	6.27
D-1.02	615	.36	88	11.59	1.11	.128	.59	.019	25.5	4.3	10.35
--CYCLE 1 (GRAMS/MILE)--						1.238	21.98	.194	142.5	95.2	9.17
I 913	404	.06	144	10.60	.99	.329	.36	.116	85.9	15.6	10.71
A 2.13	615	.38	512	12.04	2.32	1.391	5.41	1.139	269.4	43.2	4.27
C 53.2	269	.08	335	11.76	3.38	1.543	3.17	2.025	715.9	117.5	3.49
D-1.02	394	.13	25	10.85	1.01	.253	.61	.017	73.3	13.1	10.74
--CYCLE 2 (GRAMS/MILE)--						.946	2.63	.915	313.9	189.4	14.35
I 717	253	.06	94	9.99	.63	.044	.07	.017	18.3	3.6	15.71
A 2.75	277	.08	394	11.79	2.33	.231	.45	.336	103.9	17.0	5.06
C 35.9	386	.32	90	11.58	1.82	.217	1.21	.053	68.3	11.5	6.36
D-1.01	220	.11	20	10.32	.71	.045	.15	.004	22.1	4.1	14.54
--CYCLE 3 (GRAMS/MILE)--						.149	.52	.114	59.2	36.2	15.04
I 719	237	.05	191	9.75	.62	.016	.02	.013	6.9	1.4	15.73
A 3.36	358	.10	476	11.71	2.31	.104	.36	.271	67.3	11.2	5.07
D-1.01	267	.19	20	11.11	.38	.062	.30	.005	27.3	4.7	12.63
--CYCLE 4 (GRAMS/MILE)--						.075	.19	.090	28.1	17.2	12.12
I 706	214	.05	92	9.70	.62	.052	.08	.023	24.9	5.0	15.66
A 3.14	389	.10	398	11.50	2.78	.335	.58	.360	134.7	17.6	4.14
C 35.3	574	.18	50	10.69	1.73	.524	1.11	.048	103.3	18.6	6.18
D-1.01	489	.50	19	10.83	.78	.103	.71	.004	24.2	4.3	13.95
--CYCLE 5 (GRAMS/MILE)--						.232	.69	.121	71.4	45.5	15.05
I 703	276	.06	66	9.79	.62	.017	.03	.005	6.9	1.3	15.81
A 2.31	374	.35	149	11.36	1.53	.200	1.26	.034	64.3	10.9	7.42
C 25.4	368	.52	50	11.57	1.32	.123	1.17	.017	40.9	6.3	8.77
D-1.02	290	.32	23	11.03	.81	.040	.38	.003	16.2	2.8	13.62
--CYCLE 6 (GRAMS/MILE)--						.098	.71	.028	32.9	21.9	13.89
I 737	212	.06	68	9.33	.63	.046	.09	.015	22.3	4.4	15.69
A 3.07	459	.41	159	11.21	1.50	.103	.62	.035	26.5	4.6	7.47
C 19.7	334	.30	108	11.23	1.24	.270	1.63	.092	96.8	16.5	9.06
D-1.02	415	.54	37	11.16	.81	.057	.51	.005	16.1	2.3	13.73
--CYCLE 7 (GRAMS/MILE)--						.122	.73	.038	41.3	28.2	13.45
I 725	211	.05	40	9.92	.64	.071	.11	.014	35.4	6.9	15.58
A 2.73	399	.19	162	11.19	1.74	.195	.62	.033	57.7	12.8	6.43
D-1.01	272	.23	29	11.02	1.03	.106	.60	.012	45.5	3.8	10.78
--CYCLE 8 (GRAMS/MILE)--						.095	.34	.023	35.5	24.8	13.51
I 736	190	.06	33	9.96	.63	.033	.07	.006	18.2	3.5	15.83
A 2.06	457	.53	114	11.16	1.39	.262	2.24	.069	67.6	11.7	8.83
D-1.01	433	.62	37	10.77	.76	.076	.74	.007	22.1	3.6	14.17
--CYCLE 9 (GRAMS/MILE)--						.095	.78	.021	27.1	18.3	10.64
A 2.56	334	.16	175	9.99	1.77	.223	.72	.123	79.5	13.6	5.64
D-1.01	290	.15	51	10.56	.92	.111	.39	.022	42.6	7.3	11.43
--CYCLE 10 (GRAMS/MILE)--						.336	.23	.037	89.9	21.4	14.55
A 2.65	265	.20	215	11.52	1.85	.151	.77	.129	69.4	11.6	6.23
C 27.3	327	.17	59	12.37	1.36	1.392	4.87	.264	489.4	86.9	7.99
D-1.01	267	.39	25	10.96	.73	.044	.43	.004	19.9	3.3	14.95
--CYCLE 11 (GRAMS/MILE)--						.407	1.56	.102	143.2	101.9	20.36
A 2.61	234	.28	244	11.15	1.79	.136	.31	.149	63.7	11.9	6.43
C 24.9	271	.24	35	11.92	1.23	.292	1.21	.027	97.1	15.2	7.96
D-1.01	257	.21	17	10.49	.81	.066	.36	.005	23.6	5.3	10.95
--CYCLE 12 (GRAMS/MILE)--						.104	.49	.047	47.3	32.4	17.63

I	723	180	.06	32	9.91	.63	.070	.16	.013	40.5	7.9	15.73
A	2.61	330	.10	201	11.20	1.82	.203	.41	.130	72.7	12.5	6.15
D	-1.20	275	.30	21	10.25	.73	.123	.90	.010	48.4	9.1	14.04
	--CYCLE 13 (GRAMS/MILE)--						.101	.38	.039	41.4	29.5	11.19
A	2.16	335	.13	133	11.15	1.42	.196	.71	.082	69.1	12.0	7.85
C	26.4	329	.34	36	11.59	1.33	.150	1.04	.017	55.8	9.3	8.71
D	-1.01	188	.08	18	10.27	.70	.032	.09	.003	18.6	3.5	14.67
	--CYCLE 14 (GRAMS/MILE)--						.097	.47	.026	36.8	24.7	16.72
I	716	175	.06	47	9.95	.62	.034	.08	.010	20.5	4.0	16.05
A	3.63	270	.09	320	11.21	1.33	.083	.19	.103	36.4	6.3	6.13
D	-1.02	340	.54	23	11.04	.37	.056	.61	.004	19.2	3.4	12.69
	--CYCLE 15 (GRAMS/MILE)--						.044	.22	.039	19.5	13.6	7.73
I	723	183	.06	29	9.95	.63	.022	.05	.004	12.5	2.4	15.81
A	2.07	354	.39	98	11.09	1.27	.170	1.26	.049	56.2	9.3	8.73
C	21.1	239	.21	38	11.41	1.05	.078	.46	.013	39.4	6.7	10.87
D	-1.01	194	.08	23	10.53	.74	.031	.09	.004	17.9	3.3	14.23
	--CYCLE 16 (GRAMS/MILE)--						.077	.48	.018	32.3	22.2	13.53
I	713	179	.06	29	9.94	.63	.023	.06	.003	16.7	3.2	15.78
A	2.33	371	.30	136	11.10	1.35	.217	1.18	.034	68.7	11.9	8.22
C	25.5	325	.35	63	11.42	1.42	.182	1.40	.039	71.9	12.2	8.04
D	-1.01	207	.15	19	11.23	.33	.039	.17	.003	20.2	3.5	13.53
	--CYCLE 17 (GRAMS/MILE)--						.119	.72	.033	45.5	30.3	14.19
I	720	174	.06	32	9.96	.63	.055	.13	.011	33.4	6.5	15.33
A	2.65	349	.12	104	11.22	1.60	.145	.34	.045	49.3	8.5	7.01
D	-1.01	234	.44	16	10.50	.75	.056	.71	.004	26.5	4.9	14.00
I	4	627	.04	31	8.98	.37	.040	.02	.002	6.1	1.3	24.27
	--CYCLE 18 (GRAMS/MILE)--						.076	.30	.016	29.6	21.1	9.39

TEST STOP: 14:56:35
TEST LENGTH: 1393.3

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 5 COD= 0 NOX= 0 CO2D= .01

SPAN CHECK
FID= 95 COD= 1703 NOX= 198 CO2D= 4.02

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 73 COD= 519 NOX= 47 CO2D= 1.63

COLD STAB SAMP
FID= 27 COD= 59 NOX= 14 CO2D= 1.16

COLD TRAN AMB
FID= 17 COD= 13 NOX= 0 CO2D= .06

COLD STAB AMB
FID= 13 COD= 8 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

SOAK TIME : 600

TEST START : 15: 6: 8.8
CRANK TIME : 1.2

MODE P/A/S	TAILPIPE CONC HC	CO	NO	CO2	COND CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/B F/E
CRANK	276	.08	72	.43	.35	.010	.02	.003	.2	.7	8.60
I 820	460	.58	123	10.84	.49	.038	.75	.026	22.0	3.9	22.12
A 3.01	264	.21	339	11.57	1.64	.037	.47	.118	40.5	6.8	7.25
C 25.1	239	.13	206	11.35	1.42	.534	2.71	.483	263.2	45.6	7.99
D-1.00	166	.11	23	10.72	.72	.024	.11	.004	16.1	2.9	14.39
--CYCLE 1 (GRAMS/MILE)--						.206	1.12	.176	96.4	59.9	16.78
I 730	146	.06	70	9.17	.62	.030	.22	.049	52.8	11.1	14.79
A 2.14	224	.21	762	11.67	2.32	.397	2.51	1.419	213.8	36.2	5.23
C 53.1	147	.09	339	11.04	3.00	.795	3.27	1.925	631.3	110.4	3.68
D-1.00	521	.17	28	10.39	.94	.324	.71	.018	68.3	12.7	11.05
--CYCLE 2 (GRAMS/MILE)--						.443	1.36	.945	269.8	170.4	17.61
I 730	130	.06	86	9.93	.63	.031	.07	.016	18.1	3.5	15.76
A 0.75	216	.03	322	11.46	2.19	.173	.43	.271	97.1	16.3	5.21
C 36.0	309	.21	75	11.26	1.78	.173	.79	.044	66.6	11.4	6.33
D-1.01	238	.16	25	9.01	.71	.055	.25	.006	21.9	4.7	12.69
--CYCLE 3 (GRAMS/MILE)--						.120	.43	.093	56.5	36.0	15.79
I 719	172	.06	131	9.93	.63	.011	.03	.009	6.9	1.3	15.76
A 3.30	269	.10	396	11.31	2.16	.139	.35	.216	62.8	10.6	5.24
D-1.01	346	.42	29	10.92	.96	.088	.72	.003	29.5	5.2	11.33
--CYCLE 4 (GRAMS/MILE)--						.066	.31	.065	27.3	17.1	12.39
I 721	163	.06	60	9.99	.64	.040	.11	.015	25.4	4.9	15.61
A 3.17	220	.09	521	11.59	2.57	.174	.49	.433	96.3	16.2	4.47
C 35.9	472	.21	54	10.78	1.63	.400	1.20	.043	96.6	17.3	6.61
D-1.01	359	.10	26	8.83	.75	.089	.17	.007	23.2	5.1	11.77
--CYCLE 5 (GRAMS/MILE)--						.195	.54	.140	67.1	43.4	16.11

TEST STOP: 15:14:56
TEST LENGTH: 506.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= 98 COD= 1740 NOX= 199 CO2D= 4.11

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 24 COD= 29 NOX= 48 CO2D= 1.54

HOT TRAN AMB
FID= 20 COD= 5 NOX= 0 CO2D= .03

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.763	9.05	.133	165	33.7

32a-4

ACCEL	2.765	29.72	2.165	619	103.2
DECEL	.591	2.27	.049	173	30.6
CRUISE	5.568	52.38	2.725	1273	216.1
CHOKE	6.269	84.68	1.951	369	154.1
TOTAL	9.687	93.42	5.128	2230	383.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.691	25.95	1.424	619.3

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.417	.79	.082	212	41.4
ACCEL	2.283	10.62	1.164	777	135.2
DECEL	.337	5.89	.035	339	61.2
CRUISE	2.397	11.78	.470	330	153.6
CHOKE	.000	.00	.000	0	.0
TOTAL	5.933	29.08	1.801	2209	391.4

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.521	7.46	.462	566.3

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.260	1.20	.108	125	25.5
ACCEL	.971	4.23	2.456	515	86.0
DECEL	.580	1.95	.043	159	30.6
CRUISE	1.902	7.97	2.500	1063	184.7
CHOKE	1.220	6.77	2.393	619	107.2
TOTAL	3.713	15.36	5.109	1862	326.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.331	4.27	1.419	517.2

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.629	10.40	.922	563.8

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.820	9.96	1.543	533.2
COLD STABILIZED	.493	1.55	.635	548.4
HOT TRANSIENT	.139	.47	1.506	464.3
WEIGHTED TOTAL	.684	2.99	1.037	519.1

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.656	11.416	8.645
RELATIVE HUMIDITY	54	54	54
HUM. CORR. FACTOR	.950	.950	.950
CVS REVOLUTIONS	10260	16370	9930
AVG.INLET DEPR. (IN.H2O)	12.3	12.1	12.2
AVG.PRESSURE DIFF. (IN.H2O)	21.4	21.2	21.1
AVG.CVS TEMPERATURE (DEG.F)	95	95	92
MAX.INLET DEPR. (IN.H2O)	12.5	12.2	12.3
MIN.INLET DEPR. (IN.H2O)	12.0	12.0	12.1
MAX.CVS TEMPERATURE (DEG.F)	95	97	99
MIN.CVS TEMPERATURE (DEG.F)	73	94	85
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243
TOTAL CVS VOL. (STD.CU.FT.)	2297	3711	2196

AVG MODAL CO2 RATIO	5.84	9.43	6.52
FUEL ECONOMY (MI/GAL)	15.86	16.29	19.05

Pump with spoiler.
-7B fuel bar, 10% deeper, .0537 F/A Part Throttle curve. Trim 2-3/4 turns open.
Throttle stroke set to 1.421". Power valve 10°.
.057" bleed jet in cold enrichment hose. Catalyst & Air Pump.
EGR & spk. sigs. dumped at idle.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig, incl. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.116	.44	.826	18.34

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-27-76   15:55
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    65
DRY BULB ?    75
BAROMETER?  2924
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,2
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ?

ZERO CHECK
 FID= -0001  COR=   .00 CO2P=-00.01   NO= -0001 CO2D=   .00

SPAN CHECK
 FID=   101  COR=  7.96 CO2P= 15.78   NO=   193 CO2D=  4.19

REPEAT Z/S CHECKS? N

TEST START :  15:59:47.3
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/R
 D/A/S   HC   CO   NO  CO2  CONC    HC     CO     NO     CO2   VOL.  F/F

CRANK   257  .06    7  9.44  .68  .005    .01   .000    1.3    .4 13.33
I  719  179  .06   48  9.18  .62  .052    .12   .016   23.1   5.0 14.81
A 2.99  229  .11  260 11.16 1.64  .080    .26   .102   41.1   7.1  6.90
C 25.4  247  .19  115 11.05 1.37  .554   2.37   .290  262.0  45.8  8.07
D-1.02  194  .13   12 10.24  .69  .028    .14   .002   15.6   2.9 14.94
      --CYCLE  1 (GRAMS/MILE)--    .096    .45   .055   46.5  62.1 16.76

I  683  155  .06   46  9.69  .61  .080    .24   .027   52.8  10.5 15.99
A 2.15  321  .27  483 11.53 2.37  .558   3.37  1.005  226.0  37.3  4.36
C 53.1  191  .10  317 11.05 2.37  .942   3.50  1.954  603.5 106.3  3.35
D-1.02  475  .13   11  9.39  .79  .277    .55   .007   57.9  11.9 11.39
      --CYCLE  2 (GRAMS/MILE)--    .248   1.02   .336  126.7 166.5 13.06

I  715  139  .03   71  9.32  .63  .033    .10   .014   13.4   3.6 15.59
A 2.74  291  .10  338 11.28 2.21  .241    .56   .314   93.7  16.9  5.10
```

C 36.1	312	.13	48	11.08	1.66	.167	.51	.029	62.8	10.9	6.67
D-1.01	239	.10	16	10.02	.69	.049	.14	.004	21.6	4.2	14.52
--CYCLE 3 (GRAMS/MILE)--						.065	.17	.048	26.9	35.6	15.97

33-1

I 700	223	.23	198	9.79	.62	.015	.04	.015	6.9	1.4	15.81
A 3.31	279	.13	357	11.46	2.38	.159	.50	.223	63.9	11.6	4.92
D-1.00	366	.13	19	10.35	.30	.093	.20	.005	25.0	4.7	12.94
--CYCLE 4 (GRAMS/MILE)--						.034	.10	.033	13.4	17.6	12.19
I 719	197	.06	81	9.87	.63	.045	.11	.022	25.3	4.9	15.67
A 3.15	214	.09	411	11.46	2.63	.176	.50	.380	99.7	16.3	4.36
C 35.4	400	.13	31	10.41	1.55	.333	.74	.029	93.0	17.3	6.72
D-1.00	312	.10	16	10.36	.70	.062	.13	.004	21.8	4.1	14.83
--CYCLE 5 (GRAMS/MILE)--						.033	.20	.059	32.0	43.1	16.27
I 713	195	.06	25	9.90	.62	.013	.03	.002	6.9	1.3	15.97
A 2.29	293	.31	115	11.18	1.50	.152	1.12	.069	63.5	11.0	7.45
C 35.4	249	.13	27	11.03	1.32	.088	.33	.011	41.2	7.2	8.39
D-1.02	223	.08	15	10.12	.69	.029	.07	.002	13.9	2.6	14.68
--CYCLE 6 (GRAMS/MILE)--						.037	.21	.011	16.7	22.1	14.41
I 709	175	.06	56	9.36	.62	.037	.09	.013	22.1	4.3	15.90
A 3.17	353	.19	171	11.03	1.54	.034	.32	.045	27.6	4.2	7.16
C 33.0	243	.13	67	11.21	1.20	.102	.96	.059	93.7	16.1	9.34
D-1.02	262	.35	20	10.87	.75	.034	.31	.003	15.1	2.7	14.49
--CYCLE 7 (GRAMS/MILE)--						.046	.22	.016	21.1	23.0	13.95
I 715	166	.05	31	9.00	.63	.061	.12	.013	35.2	7.5	14.29
A 2.69	265	.11	141	11.24	1.69	.126	.35	.075	56.6	9.7	6.65
D-1.00	171	.15	17	10.79	.94	.063	.37	.007	42.9	7.5	11.48
--CYCLE 8 (GRAMS/MILE)--						.033	.11	.013	17.8	24.3	10.97
I 706	163	.05	37	9.94	.63	.028	.06	.007	18.3	3.5	15.78
A 2.03	336	.26	128	11.35	1.40	.193	1.00	.082	68.8	11.7	8.11
D-1.01	196	.08	46	10.24	.69	.034	.09	.009	18.5	3.5	14.84
--CYCLE 9 (GRAMS/MILE)--						.034	.15	.013	14.1	18.7	10.98
A 2.56	284	.12	194	11.28	1.76	.121	.48	.129	70.7	12.1	6.41
D-1.10	199	.09	60	10.46	.35	.072	.22	.024	39.9	7.4	12.31
--CYCLE 10 (GRAMS/MILE)--						.026	.09	.029	14.7	19.5	15.91
A 2.70	214	.08	176	9.93	1.39	.146	.37	.135	71.7	13.9	5.25
C 37.2	332	.16	60	10.73	1.30	1.374	4.46	.279	471.9	84.5	8.29
D-1.01	217	.20	33	10.69	.73	.034	.21	.007	17.9	3.2	14.64
--CYCLE 11 (GRAMS/MILE)--						.227	.67	.056	74.9	101.7	91.91
A 2.59	214	.10	233	11.19	1.76	.127	.40	.156	70.5	12.2	6.36
C 24.3	296	.16	34	10.93	1.13	.215	.73	.023	84.1	14.8	9.26
D-1.01	336	.09	10	8.52	.71	.094	.17	.003	25.3	5.7	12.00
--CYCLE 12 (GRAMS/MILE)--						.053	.18	.025	24.0	32.7	13.15
I 693	179	.05	42	9.92	.63	.070	.13	.013	40.3	7.9	15.75
A 2.55	315	.11	177	11.27	1.31	.192	.45	.121	72.6	12.4	6.23
D-1.00	274	.22	11	10.13	.72	.123	.66	.006	43.2	9.1	14.14
--CYCLE 13 (GRAMS/MILE)--						.051	.17	.010	21.5	29.5	11.91
A 2.14	239	.23	127	11.23	1.44	.142	.92	.085	70.7	12.1	7.23
C 26.4	257	.13	22	9.56	1.32	.142	.67	.014	55.9	11.3	7.24
D-1.31	201	.06	13	9.99	.67	.034	.07	.002	17.9	3.5	14.73
--CYCLE 14 (GRAMS/MILE)--						.042	.22	.013	19.3	26.9	16.65
I 726	177	.05	100	9.95	.63	.035	.07	.022	21.9	4.1	15.79
A 3.56	388	.28	223	11.27	2.21	.102	.13	.079	49.3	6.9	5.61
D-1.02	230	.47	20	10.73	.30	.036	.50	.004	17.9	3.2	13.41
--CYCLE 15 (GRAMS/MILE)--						.093	.19	.014	19.6	14.2	7.46

```
I  707  164  .05  29  9.87  .63    .020    .04    .004   12.6   2.5  15.63
A 2.07  418  .23 104 11.10 1.31    .208    .77    .058   58.5  12.2   8.47
C 21.1  193  .10  26 11.22 1.08    .067    .23    .010   41.0   7.1  10.39
D-1.71  160  .06  16  7.75  .69    .033    .08    .004   16.9   4.2  11.23
     --CYCLE 16 (GRAMS/MILE)--     .244    .15    .010   17.2  23.9  13.34

                                                          33-2
I  711  152  .05  19  9.93  .63    .024    .05    .003   16.9   3.3  15.34
A 2.05  275  .21 122 11.03 1.34    .162    .93    .081   68.3  12.0   8.27
C 25.5  309  .35  67 11.31 1.39    .133   1.40    .045   71.1  12.1   8.14
D-1.01  199  .13  15 10.87  .76    .031    .15    .003   18.7   3.3  14.30
     --CYCLE 17 (GRAMS/MILE)--     .053    .33    .013   23.4  30.7  14.49

I  712  176  .05  40  9.95  .64    .057    .11    .015   34.2   6.6  15.56
A 2.57  351  .15 101  9.34 1.61    .179    .51    .058   50.3  10.4   5.32
D-1.01  177  .09  10 10.16  .70    .041    .14    .003   24.9   4.7  14.51
I  713  163  .06  31  9.98  .63    .011    .03    .002    7.0   1.4  15.84
     --CYCLE 18 (GRAMS/MILE)--     .038    .11    .010   15.5  23.1   9.36


TEST STOP:  16:22: 7
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     0  COD=     0  NOX=     0 CO2D=   .01

SPAN CHECK
 FID=   100  COD=  1701  NOX=   198 CO2D=  4.12

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    15  COD=    25  NOX=    19 CO2D=  1.24

BACKGROUND BAG
 FID=    12  COD=     3  NOX=     0 CO2D=   .26

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       .587    1.34    .194    348    69.2
ACCEL     3.145   12.87   3.202   1325   229.6
DECEL     1.158    4.21    .097    459    88.5
CRUISE    4.263   16.45   2.647   1335   333.4
CHOKE     1.356    6.99   1.441    627   110.4
TOTAL     9.153   34.86   6.140   4017   720.6

EQUIVALENT MASS BAG RESULTS
GMS/MI    1.220    4.65    .819  535.6


***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
                    HC      CO      NOX      CO2
                   .116     .44     .826   492.9
```

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	1.016
CVS REVOLUTIONS	26660
AVG.INLET DEPR. (IN.H2O)	12.2
AVG.PRESSURE DIFF. (IN.H2O)	21.1
AVG.CVS TEMPERATURE (DEG.F)	87
MAX.INLET DEPR. (IN.H2O)	12.4
MIN.INLET DEPR. (IN.H2O)	12.0
MAX.CVS TEMPERATURE (DEG.F)	90
MIN.CVS TEMPERATURE (DEG.F)	77
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5924
AVG MODAL CO2 RATIO	8.12
FUEL ECONOMY (MI/GAL)	18.34

Pump with spoiler.
-7B fuel bar, 10% deeper, .0537 F/A Part Throttle curve. Trim 2-3/4 turns open.
Throttle stroke set to 1.421". Power valve 10°.
.057" bleed jet in cold enrichment hose.
Air pump hose disconnected. Catalyst.
EGR & spk. sigs. dumped at idle.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig., incl. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.156	1.26	.744	19.29

ODOM: 8957

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-27-76   15:22
CONSOLE SUS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    65
DRY BULB ?    75
BAROMETER?  2924
INERT WT.?  3500
TRANS.   ?     A
CYLINDERS?     6
RUN NO.  ? 1,2,2
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?                                   ODOM: 8957
REMARKS  ?
REMARKS  ?

ZERO CHECK
 FID= -0003  COR=   .01 CO2R=-00.02   NO= -0003 CO2D=   .00

SPAN CHECK
 FID=   104  COR=  7.77 CO2R= 15.75   NO=   193 CO2D=  4.17

REPEAT Z/S CHECKS? N

TEST START :  15:26:15.9
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/P
 P/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO     CO2    VOL.  F/F

CRANK   144  .10  26 12.93  .60  .002    .01   .000     1.7     .3 21.55
I  739  138  .10  86 13.00  .62  .023    .14   .020    28.2    4.2 22.97
A 3.07  242  .26 276 13.80 1.67  .069    .50   .039    41.7    5.8  8.26
C 25.4  286  .29 147 13.59 1.33  .504   3.44   .291   253.2   36.0 10.22
D-1.02  331  .11  44 13.26  .66  .035    .08   .005    15.0    2.2 20.09
     --CYCLE  1 (GRAMS/MILE)--    .085    .56   .054    45.3   48.4 17.15

I  730  170  .06  88 12.31  .61  .069    .19   .040    52.5    8.2 20.18
A 2.15  363  .32 684 13.55 2.30  .555   3.29  1.174   219.0   31.2  5.89
C 53.2  209  .11 371 13.54 2.32  .374   3.09  1.741   598.5   85.3  4.80
D-1.00  547  .15  32 13.12  .80  .232    .43   .015    58.9    8.7 16.40
     --CYCLE  2 (GRAMS/MILE)--    .231    .93   .396   103.3  133.4 13.40

I  716  229  .08  93 13.39  .62  .029    .07   .013    13.1    2.6 21.69
A 2.74  302  .10 431 13.34 2.15  .100    .44   .296    96.3   13.4  6.44
```

C	36.0	332	.21	91	13.73	1.63	.142	.60	.044	62.0	8.7	8.42
D	-1.01	387	.12	35	13.17	.66	.059	.12	.006	20.7	3.0	19.95
		--CYCLE	3	(GRAMS/MILE)--			.057	.16	.048	26.3	27.8	16.33

34-1

I	743	222	.06	278	13.30	.65	.011	.02	.016	7.3	1.1	20.46
A	3.35	232	.13	469	11.53	2.21	.149	.50	.278	64.3	10.8	5.22
D	-1.01	270	.35	41	13.56	.75	.044	.39	.008	23.6	3.4	18.03
		--CYCLE	4	(GRAMS/MILE)--			.027	.12	.040	12.7	15.2	12.86
I	714	139	.08	109	13.35	.62	.034	.10	.022	25.0	3.6	21.53
A	3.14	269	.13	498	13.65	2.51	.179	.63	.371	95.8	13.6	5.44
C	35.4	337	.18	57	13.44	1.49	.245	.77	.041	90.0	12.9	9.22
D	-1.01	419	.15	38	13.39	.66	.061	.15	.006	22.7	3.2	20.29
		--CYCLE	5	(GRAMS/MILE)--			.069	.22	.059	30.9	33.1	16.85
I	712	236	.06	103	13.51	.62	.011	.02	.006	6.9	1.0	21.79
A	2.30	272	.26	177	13.81	1.49	.113	.76	.086	63.5	8.9	9.27
C	25.3	246	.27	55	13.70	1.20	.064	.47	.016	37.6	5.3	11.42
D	-1.02	262	.12	49	13.31	.66	.025	.08	.005	13.3	1.9	20.17
		--CYCLE	6	(GRAMS/MILE)--			.029	.13	.015	16.2	17.1	14.93
I	763	175	.06	95	13.42	.63	.023	.03	.017	22.7	3.3	21.30
A	3.16	253	.24	112	9.48	1.51	.070	.44	.034	27.1	5.5	6.23
C	28.2	273	.25	117	13.51	1.16	.173	1.03	.034	91.3	13.0	11.65
D	-1.02	425	.55	45	13.48	.68	.041	.36	.005	13.3	2.0	19.82
		--CYCLE	7	(GRAMS/MILE)--			.042	.26	.019	20.6	23.3	14.13
I	700	216	.06	67	13.49	.62	.053	.12	.018	34.9	5.0	21.76
A	2.72	422	.27	271	13.65	1.71	.169	.73	.122	57.9	8.2	7.98
D	-1.01	239	.21	42	13.60	.89	.089	.39	.013	40.0	5.7	15.28
		--CYCLE	8	(GRAMS/MILE)--			.040	.16	.020	17.7	18.8	10.99
I	706	208	.06	64	10.88	.62	.033	.07	.011	18.2	3.2	17.55
A	2.05	336	.47	171	13.70	1.34	.154	1.45	.093	66.4	9.3	10.22
D	-1.09	223	.12	67	13.50	.66	.028	.10	.009	17.8	2.6	20.45
		--CYCLE	9	(GRAMS/MILE)--			.029	.22	.014	13.7	15.1	11.26
A	2.56	284	.22	311	13.96	1.74	.135	.71	.167	70.4	9.7	8.02
D	-1.10	277	.12	91	13.43	.81	.075	.22	.028	38.3	5.5	16.58
		--CYCLE	10	(GRAMS/MILE)--			.028	.12	.026	14.5	15.2	15.21
A	2.70	299	.15	240	14.15	1.85	.141	.48	.127	70.8	9.7	7.65
C	27.3	336	.19	82	13.44	1.26	1.253	4.15	.299	461.5	66.3	10.67
D	-1.01	329	.19	65	13.44	.66	.039	.15	.003	16.3	2.3	20.36
		--CYCLE	11	(GRAMS/MILE)--			.191	.64	.058	73.1	78.3	21.52
A	2.61	290	.16	314	13.98	1.73	.138	.51	.167	70.2	9.7	8.08
C	24.8	282	.20	62	13.87	1.14	.158	.75	.039	81.9	11.4	12.17
D	-1.01	309	.10	35	13.38	.70	.055	.12	.007	25.3	3.6	19.11
		--CYCLE	12	(GRAMS/MILE)--			.047	.18	.028	23.7	24.7	18.41
I	710	204	.06	72	13.55	.62	.058	.13	.023	40.6	5.8	21.85
A	2.54	314	.15	207	14.03	1.78	.153	.49	.113	72.2	9.9	7.93
D	-1.00	270	.13	41	13.44	.71	.091	.32	.016	48.0	6.9	18.93
		--CYCLE	13	(GRAMS/MILE)--			.040	.13	.020	21.4	22.6	11.32
A	2.11	268	.24	128	14.04	1.43	.129	.78	.069	71.3	9.3	9.32
C	26.0	223	.18	51	13.76	1.26	.082	.45	.021	53.9	7.5	12.92
D	-1.01	367	.10	35	13.22	.64	.045	.09	.005	17.3	2.5	20.66
		--CYCLE	14	(GRAMS/MILE)--			.034	.17	.013	19.0	19.9	16.99
I	702	223	.06	121	13.50	.62	.033	.07	.020	21.0	3.0	21.77
A	3.57	357	.13	299	13.92	1.97	.097	.26	.091	39.3	5.6	7.02
D	-1.02	412	.48	45	13.59	.72	.047	.37	.006	16.3	2.3	13.93
		--CYCLE	15	(GRAMS/MILE)--			.024	.09	.016	10.3	12.9	7.66

```
I  705  224  .06  88 13.56  .62     .020     .04     .009    12.5     1.8 21.87
A 2.07  269  .20 150 13.85 1.28     .106     .53     .067    57.8     8.1 10.82
C 21.0  167  .11  50 13.76  .95     .042     .19     .014    36.4     5.1 14.48
D-1.01  204  .08  41 13.46  .65     .023     .06     .005    16.1     2.3 20.71
     --CYCLE 16 (GRAMS/MILE)--      .025     .11     .013    16.4    17.3 14.08

                                                    34-2
I  690  191  .06  57 13.60  .61     .022     .05     .007    16.5     2.3 22.30
A 2.05  350  .31 196 13.84 1.33     .165     .99     .104    69.2     9.7 10.41
C 25.6  245  .22  97 14.01 1.35     .116     .70     .051    70.0     9.6 10.38
D-1.01  344  .27  41 13.76  .71     .042     .23     .006    17.7     2.5 19.33
     --CYCLE 17 (GRAMS/MILE)--      .046     .26     .022    23.1    24.1 14.64

I  709  202  .06  74 13.63  .62     .047     .11     .019    33.6     4.3 21.93
A 2.53  231  .22 116 14.05 1.55     .093     .49     .043    49.1     6.7  9.96
D-1.01  176  .08  37 13.56  .69     .031     .09     .007    24.9     3.5 19.65
I  698  193  .06  84 13.62  .61     .009     .02     .005     7.0     1.0 22.33
     --CYCLE 18 (GRAMS/MILE)--      .024     .10     .010    15.3    16.0  9.55


TEST STOP:  15:49:36
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     0  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=    97  COD=  1693  NOX=   198 CO2D=  4.13

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    13  COD=    57  NOX=    17 CO2D=  1.18

BACKGROUND BAG
 FID=     9  COD=     9  NOX=     0 CO2D=   .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       .486    1.24    .246    347    51.1
ACCEL     2.819   13.96   3.487   1303   185.5
DECEL     1.052    3.73    .160    444    63.9
CRUISE    3.657   15.69   2.641   1936   261.2
CHOKE     1.262    7.64   1.619    611    87.8
TOTAL     8.814   34.62   6.535   3930   561.7

EQUIVALENT MASS BAG RESULTS
GMS/MI    1.068    4.62    .871  523.9


***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
                    HC      CO      NOX      CO2
                   .156    1.26     .744   457.6
```

34-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	1.316
CVS REVOLUTIONS	26662
AVG.INLET DEPR. (IN.H2O)	12.2
AVG.PRESSURE DIFF. (IN.H2O)	21.3
AVG.CVS TEMPERATURE (DEG.F)	83
MAX.INLET DEPR. (IN.H2O)	12.4
MIN.INLET DEPR. (IN.H2O)	12.0
MAX.CVS TEMPERATURE (DEG.F)	88
MIN.CVS TEMPERATURE (DEG.F)	79
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5967
AVG MODAL CO2 RATIO	10.61
FUEL ECONOMY (MI/GAL)	19.29

(35) Cold '75 #1

Pump with spoiler.
-7B fuel bar 10% deeper, .0537 F/A Part Throttle curve. Trim 2-3/4 turns open.
.057" bleed jet in cold enrichment supply hose.
Throttle stroke set to 1.421". Power valve reworked to 10°.
EGR & spk. sigs. dumped at idle.
Air pump supply hose disconnected. Catalyst.
Vac. spk. adv. via lower ported sig., thru OSAC & ind. sol.
EGR via upper ported sig., inc. check valve, .013 jet & reservoir.
A selected spring to open #1 pintle @ 1.5" Hg.
.400 EGR man. orifice.

HC	CO	NOx	ECON.
.579	4.59	.904	17.63

```
VOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
 8-27-76   14: 9
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   65
DRY BULB ? S
   75
BAROMETER? S
 2924
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1,2,2
VEH. MAKE? 75 DART
VEH. I.D.? 5C80                    ODOM: 8946
REMARKS  ? EPA SONIC
REMARKS  ?
REMARKS  ?

ZERO CHECK
 FID=     0  COR=    .00 CO2R=    .00   NO= -0007 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=   100  COR=  7.92 CO2R= 15.72   NO=   209*CO2D=  4.10

ZERO CHECK
 FID= -0005  COR=    .00 CO2R=-00.01   NO= -0004 CO2D=    .00

SPAN CHECK
 FID=   105  COR=  7.92 CO2R= 15.73   NO=   192 CO2D=  4.09

REPEAT Z/S CHECKS? N

TEST START :  14:30:26.5
CRANK TIME :  2.9
```

33-1

MODE R/A/S	TAILPIPE CONC HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/F F/F
CRANK	286	.11	30	.39	.26	.029	.08	.003	.4	2.1	6.50
I 1023	998	5.70	152	8.91	.53	.254	9.75	.043	23.9	5.9	16.31
A 3.04	998	5.72	84	11.24	1.08	.447	17.23	.042	53.2	9.1	10.41
C 25.3	973	2.61	147	12.19	1.67	2.413	43.35	.407	313.1	58.4	7.32
D-1.02	595	.31	135	13.53	1.06	.100	.35	.025	23.9	3.4	12.76
--CYCLE 1 (GRAMS/MILE)--						.901	19.65	.145	116.6	70.2	11.24
I 399	401	.11	204	12.52	1.00	.261	.43	.149	36.9	13.3	12.52
A 2.15	576	.47	707	13.67	2.74	1.035	5.63	1.427	259.8	36.7	4.99
C 52.9	329	.13	390	13.63	3.16	1.526	4.37	2.032	663.5	94.7	4.31
D-1.00	479	.35	53	13.53	.39	.213	1.27	.027	65.1	9.3	15.20
--CYCLE 2 (GRAMS/MILE)--						.844	3.22	1.010	299.9	153.9	15.71
I 733	273	.09	154	13.26	.62	.035	.08	.022	13.0	2.6	21.39
A 2.74	342	.17	500	13.93	2.31	.239	.80	.392	193.2	14.3	6.03
C 35.9	453	.38	122	13.51	1.74	.211	1.18	.063	65.9	9.4	7.76
D-1.01	241	.17	57	13.35	.69	.036	.17	.010	21.2	3.1	19.63
--CYCLE 3 (GRAMS/MILE)--						.145	.62	.135	57.3	29.4	15.35
I 738	244	.10	269	7.10	.64	.023	.06	.029	7.2	2.0	11.99
A 3.36	317	.29	543	13.43	2.42	.156	.96	.388	73.0	10.0	5.57
D-1.01	328	.46	59	13.20	.81	.053	.56	.012	25.3	3.7	16.30
--CYCLE 4 (GRAMS/MILE)--						.066	.44	.095	28.5	15.7	11.33
I 753	212	.09	132	12.96	.64	.040	.11	.028	25.7	3.8	20.25
A 3.11	331	.21	542	13.63	2.61	.227	.97	.413	98.9	14.0	5.22
C 35.3	471	.25	66	13.14	1.62	.330	1.13	.052	97.4	14.3	9.11
D-1.01	318	.25	42	13.21	.69	.049	.26	.007	21.5	3.1	19.14
--CYCLE 5 (GRAMS/MILE)--						.179	.70	.140	67.6	35.3	15.94
I 729	226	.09	86	13.16	.63	.011	.03	.005	7.0	1.9	20.89
A 2.31	309	.31	133	11.76	1.52	.162	1.03	.106	64.3	10.6	7.74
C 25.1	305	.44	66	13.33	1.17	.079	.77	.019	36.5	5.3	11.39
D-1.02	186	.10	50	13.11	.69	.019	.07	.006	13.9	2.0	19.00
--CYCLE 6 (GRAMS/MILE)--						.069	.50	.035	31.2	18.9	14.76
I 733	179	.09	105	13.03	.62	.029	.10	.019	22.1	3.3	21.02
A 3.15	413	.72	169	13.26	1.58	.084	.97	.038	29.1	4.1	9.39
C 27.1	259	.30	123	13.09	1.13	.172	1.34	.092	92.0	13.6	11.09
D-1.02	360	.53	42	13.22	.71	.037	.36	.005	14.3	2.1	18.62
--CYCLE 7 (GRAMS/MILE)--						.092	.71	.039	49.1	23.2	13.83
I 719	139	.09	71	11.67	.63	.054	.17	.023	35.1	5.3	13.52
A 2.76	303	.16	235	13.59	1.77	.127	.44	.109	59.2	8.4	7.69
D-1.01	258	.25	51	13.19	.95	.078	.51	.017	42.3	6.2	13.38
--CYCLE 8 (GRAMS/MILE)--						.066	.29	.038	35.0	20.4	10.71
I 719	167	.09	65	13.06	.62	.022	.03	.010	13.0	2.7	21.06
A 2.95	435	.67	148	13.15	1.40	.215	2.23	.092	68.7	10.1	9.39
D-1.03	231	.17	79	13.21	.67	.030	.15	.011	17.9	2.6	19.72
--CYCLE 9 (GRAMS/MILE)--						.068	.63	.026	26.3	15.4	12.38
A 2.59	324	.21	276	13.51	1.79	.162	.71	.155	71.7	10.2	7.55
D-1.11	343	.40	81	11.70	.81	.105	.82	.028	37.9	6.3	14.44
--CYCLE 10 (GRAMS/MILE)--						.069	.39	.047	23.1	16.5	14.94
A 2.67	316	.25	233	13.35	1.36	.152	.31	.126	70.4	9.3	7.45
C 27.1	287	.27	86	13.20	1.29	.963	6.32	.324	468.4	68.5	12.23
D-1.01	318	.40	51	13.24	.79	.038	.33	.007	17.2	2.5	13.91
--CYCLE 11 (GRAMS/MILE)--						.296	1.91	.117	142.6	38.8	21.11
A 2.53	273	.23	321	13.67	1.75	.139	.75	.175	79.1	9.9	7.81
C 24.7	269	.37	63	13.37	1.16	.157	1.46	.041	32.3	12.0	11.53

```
D-1.01  210  .16  32 10.93  .66    .043    .22    .007   23.5    4.2 16.56
      --CYCLE 12 (GRAMS/MILE)--     .085    .62    .057   45.2   26.0 18.36

I  703  164  .09  63 13.03  .62    .048    .19    .021   40.1    5.9 21.02
A 2.56  296  .26 216 13.63 1.30    .149    .38    .122   72.4   10.3  7.57
D-1.00  251  .24  44 13.15  .72    .087    .56    .017   43.2    7.1 18.26
      --CYCLE 13 (GRAMS/MILE)--     .073    .41    .041   41.2   23.3 11.25

A 2.14  246  .21 198 13.46 1.43    .121    .70    .110   70.2   10.1  9.41
C 26.1  292  .44  58 13.61 1.22    .105   1.06    .023   51.7    7.3 11.16
D-1.01  236  .11  35 10.32  .66    .038    .12    .006   17.7    3.3 15.64
      --CYCLE 14 (GRAMS/MILE)--     .068    .48    .036   35.8   20.7 17.21

I  704  219  .09 102 13.10  .62    .033    .09    .017   20.8    3.1 21.13
A 3.56  282  .27 402 13.51 1.97    .078    .50    .125   39.7    5.7  6.86
D-1.02  455  .54  48 13.27  .74    .053    .43    .006   16.5    2.4 17.93
      --CYCLE 15 (GRAMS/MILE)--     .042    .26    .038   19.7   11.1  7.63

I  701  235  .09  85 13.19  .63    .021    .06    .009   12.7    1.9 20.94
A 2.03  331  .34 134 13.36 1.29    .135    .93    .061   57.6    3.3 10.36
C 21.0  184  .12  55 13.37 1.03    .051    .22    .017   39.1    5.7 12.98
D-1.01  133  .10  38 13.40  .66    .021    .03    .005   16.3    2.3 20.30
      --CYCLE 16 (GRAMS/MILE)--     .059    .33    .024   32.2   18.2 13.69

I  702  185  .08  55 11.17  .62    .026    .08    .009   16.6    2.9 18.02
A 2.08  432  .38 208 12.38 1.36    .222   1.31    .120   70.0   10.5  9.47
C 25.3  306  .39  91 13.51 1.39    .153   1.31    .051   71.5   10.2  9.72
D-1.01  310  .33  44 13.54  .73    .039    .28    .006   17.9    2.6 13.55
      --CYCLE 17 (GRAMS/MILE)--     .113    .76    .048   45.1   26.1 14.23

I  717  193  .09  69 13.23  .62    .046    .14    .018   33.3    4.3 21.42
A 2.54  331  .25 129 13.74 1.54    .119    .56    .048   48.3    6.8  8.92
D-1.01  170  .09  35 12.65  .67    .031    .11    .007   24.0    3.7 18.38
I    4  288  .05  23  9.53  .38    .018    .02    .002    6.3    1.3 25.03
      --CYCLE 18 (GRAMS/MILE)--     .052    .21    .019   28.7   16.6  9.74


TEST STOP:  14:53:57
TEST LENGTH: 1383.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     3  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=   101  COD=  1740  NOX=   193 CO2D=  4.08

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    58  COD=   749  NOX=    35 CO2D=  1.57

COLD STAB SAMP
 FID=    20  COD=   116  NOX=    11 CO2D=  1.12

COLD TRAN AMB
 FID=    16  COD=    46  NOX=     0 CO2D=   .07

COLD STAB AMB
 FID=    11  COD=    22  NOX=     0 CO2D=   .08

REPEAT BAG READS ? N
```

33-2

SOAK TIME : 600

TEST START : 15: 3:30.4
CRANK TIME : 1.2

MODE F/A/S	TAILPIPE CONC HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/F F/E
CRANK	166	.10	60	.40	.06	.009	.04	.004	.2	1.1	5.71
I 825	646	1.03	144	13.43	.39	.081	.37	.020	17.7	2.5	34.44
A 3.03	287	.13	479	14.14	1.67	.090	.26	.150	41.7	5.7	8.47
C 25.4	263	.23	176	13.90	1.34	.467	2.70	.344	256.1	35.6	10.37
D-1.02	257	.13	49	10.39	.68	.036	.13	.008	15.4	2.9	15.23
--CYCLE 1 (GRAMS/MILE)--						.137	1.11	.146	92.8	47.7	17.60
I 754	164	.09	94	13.43	.62	.062	.23	.040	53.5	7.7	21.66
A 2.14	340	.32	867	13.89	2.25	.496	3.14	1.421	814.4	109.8	6.17
C 52.9	210	.13	379	13.94	2.87	.969	3.90	1.762	617.2	84.5	4.86
D-1.00	609	.18	32	13.50	.81	.255	.51	.015	59.7	8.5	16.67
--CYCLE 2 (GRAMS/MILE)--						.467	2.16	.899	260.5	130.5	18.20
D-1.00	609	.18	32	13.50	.81	.255	.51	.015	59.7	8.5	16.67
--CYCLE 2 (GRAMS/MILE)--						.467	2.16	.899	260.5	130.5	18.20
I 717	242	.11	107	13.83	.63	.030	.09	.015	13.3	2.6	21.95
A 2.75	293	.13	418	14.33	2.17	.192	.61	.303	97.7	13.2	6.57
C 35.9	331	.27	82	12.21	1.65	.135	.33	.045	62.3	9.9	7.40
D-1.01	327	.13	46	13.67	.66	.047	.14	.007	20.7	2.9	20.71
--CYCLE 3 (GRAMS/MILE)--						.126	.43	.103	55.4	23.6	16.03
I 723	220	.11	213	13.79	.65	.011	.04	.010	7.3	1.0	21.22
A 3.30	294	.22	403	14.19	2.29	.131	.66	.222	66.9	9.1	6.22
D-1.01	399	.26	54	13.92	.78	.066	.29	.010	24.4	3.4	17.35
--CYCLE 4 (GRAMS/MILE)--						.058	.27	.060	27.4	13.5	10.40
I 725	209	.10	163	13.94	.64	.037	.12	.032	25.9	3.6	21.79
A 3.12	471	.25	548	14.02	2.59	.312	1.12	.409	98.3	13.5	5.43
C 35.3	455	.21	51	13.01	1.54	.307	.95	.039	99.9	13.3	8.45
D-1.01	376	.13	54	12.04	.67	.062	.16	.010	21.0	3.4	17.97
--CYCLE 5 (GRAMS/MILE)--						.199	.65	.136	66.1	34.3	16.31

TEST STOP: 15:12:13
TEST LENGTH: 506.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 0 COD= 0 NOX= 0 CO2D= .01

SPAN CHECK
FID= 100 COD= 1715 NOX= 194 CO2D= 4.10

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 16 COD= 50 NOX= 38 CO2D= 1.46

HOT TRAN AMB
FID= 10 COD= 8 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

35-4

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.642	10.56	.275	161	28.9
ACCEL	2.104	25.64	2.579	585	84.1
DECEL	.461	2.41	.091	157	22.6
CRUISE	4.430	50.07	2.554	1150	168.8
CHOKE	4.538	76.91	2.098	765	122.1
TOTAL	7.686	88.69	5.489	2053	304.4

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.135	24.64	1.525	570.3

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.307	.94	.131	212	32.6
ACCEL	1.347	11.37	1.377	791	114.7
DECEL	.618	4.03	.129	307	47.2
CRUISE	1.691	12.49	.563	842	122.5
CHOKE	.000	.00	.000	0	.0
TOTAL	4.453	29.34	2.206	2152	316.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.142	7.52	.566	551.8

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.229	1.38	.123	123	18.5
ACCEL	1.212	5.79	2.484	519	71.3
DECEL	.466	1.22	.050	141	21.1
CRUISE	1.829	8.43	2.199	1022	143.8
CHOKE	1.230	7.36	1.987	599	35.2
TOTAL	3.735	16.82	4.846	1805	254.6

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.037	4.67	1.346	501.4

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.318	10.27	.977	541.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.344	13.93	1.201	487.6
COLD STABILIZED	.467	2.90	.581	520.6
HOT TRANSIENT	.215	.83	1.293	447.9
WEIGHTED TOTAL	.579	4.59	.904	493.9

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.079	11.784	9.113
RELATIVE HUMIDITY	59	59	59
HUM. CORR. FACTOR	1.016	1.016	1.016
CVS REVOLUTIONS	10070	16880	9930
AVG.INLET DEPR. (IN.H20)	12.2	12.2	12.3
AVG.PRESSURE DIFF. (IN.H20)	21.2	21.1	21.3
AVG.CVS TEMPERATURE (DEG.F)	85	88	82
MAX.INLET DEPR. (IN.H20)	12.4	12.2	12.5

MIN.INLET DEPR. (IN.H2O)	11.9	12.1	12.0
MAX.CVS TEMPERATURE (DEG.F)	91	89	88
MIN.CVS TEMPERATURE (DEG.F)	73	36	76
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243
TOTAL CVS VOL. (STD.CU.FT.)	2246	3744	2226
AVG MODAL CO2 RATIO	7.17	11.92	8.62
FUEL ECONOMY (MI/GAL)	17.28	16.35	19.73

Hot '73 (36)

OEM carburetor & ignition.

.035" plug gap.

#2 catalyst.

Air pump hose disconnected.

HC	CO	NOx	CO_2	ECON.
.158	4.32	.694	437.4	19.94

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 3-19-76   15:23
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    74
BAROMETER?  2951
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB HOLLEY OE                    IDEL SET BY REQUESTOR
REMARKS  ? ENGIE 225 CID                     ODOMETER
REMARKS  ? H-EPA                             NOTES

ZERO CHECK
 FID=     0  COR=    .01 CO2R=-00.01   NO= -0009 CO2D=    .02

SPAN CHECK
 FID=    97  COR=   7.92 CO2R= 15.57   NO=   194 CO2D=   4.16

REPEAT Z/S CHECKS? N

TEST START :  15:36:55.1
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/P
 P/A/S   HC   CO  NO  CO2  CONC    HC      CO      NO     CO2    VOL.  F/F

CRANK   205  .20  96 12.52  .63   .003    .02    .001     1.7     .3 19.87
I  933  268  .19 146 12.40  .64   .760    .23    .036    29.1    4.5 19.33
```

A	2.95	335	.61	179	12.09	1.63	.123	1.32	.003	41.9	6.6	[illegible]
C	25.0	263	.29	140	12.21	1.33	.530	3.93	.311	256.0	41.1	9.03
D-1.02		263	.19	142	12.42	.66	.030	.15	.013	15.1	2.3	18.92
	--CYCLE 1 (GRAMS/MILE)--						.097	.76	.057	45.7	54.9	16.86
											36-1	
I	940	281	.08	294	12.29	.63	.119	.23	.137	55.0	9.6	19.51
A	2.11	333	1.26	298	12.02	2.03	.512	13.03	.504	195.3	31.4	5.99
C	52.2	327	.36	325	11.36	2.75	1.541	11.42	1.686	591.0	96.2	4.71
D-1.00		546	.19	164	11.95	.81	.260	.61	.096	60.2	9.7	14.75
	--CYCLE 2 (GRAMS/MILE)--						.324	3.37	.322	120.2	145.9	18.33
I	922	380	.08	351	11.92	.64	.057	.08	.058	18.9	3.1	18.63
A	2.73	348	.39	350	12.01	2.00	.248	1.87	.275	99.6	14.6	6.01
C	35.3	296	.19	134	12.16	1.54	.158	.71	.081	59.2	11.3	6.60
D-1.01		318	.13	189	11.99	.66	.053	.16	.035	21.8	3.4	18.00
	--CYCLE 3 (GRAMS/MILE)--						.069	.38	.060	25.3	32.3	16.71
I	902	327	.06	440	11.61	.64	.018	.03	.029	7.3	1.2	18.14
A	3.29	360	.81	306	11.73	2.02	.173	2.62	.162	59.5	9.8	5.81
D-1.01		278	.13	182	11.67	.79	.057	.18	.023	25.1	4.2	14.77
	--CYCLE 4 (GRAMS/MILE)--						.033	.38	.029	12.3	15.2	12.93
I	937	275	.08	295	11.58	.63	.059	.11	.068	25.7	4.3	18.33
A	3.11	356	.94	346	11.65	2.21	.246	4.38	.264	85.3	14.1	5.27
C	35.2	318	.11	154	11.23	1.36	.223	.52	.119	83.2	14.3	8.26
D-1.01		375	.13	199	11.39	.67	.066	.15	.039	21.3	3.6	17.00
	--CYCLE 5 (GRAMS/MILE)--						.079	.69	.065	28.7	36.3	17.63
I	883	323	.06	316	6.31	.64	.035	.05	.038	7.3	2.2	9.96
A	2.31	298	.22	273	11.28	1.33	.143	.71	.145	57.4	9.8	8.48
C	25.1	198	.11	113	11.23	1.08	.058	.22	.036	34.5	5.9	10.30
D-1.02		263	.10	147	11.33	.66	.030	.08	.018	13.5	2.3	17.17
	--CYCLE 6 (GRAMS/MILE)--						.035	.14	.032	15.0	20.3	16.10
I	914	281	.06	261	11.24	.63	.054	.09	.055	22.9	3.9	17.84
A	3.11	327	.35	126	11.12	1.37	.065	.50	.029	24.8	4.3	8.12
C	19.8	244	.11	176	11.03	1.01	.168	.51	.133	80.2	14.0	10.90
D-1.02		322	.10	91	11.14	.73	.041	.16	.013	15.0	2.6	15.26
	--CYCLE 7 (GRAMS/MILE)--						.044	.17	.031	19.1	24.9	15.37
I	869	326	.08	187	9.96	.61	.107	.18	.068	34.7	6.7	16.34
A	2.68	364	.29	299	11.44	1.58	.162	.87	.102	53.9	9.1	7.24
D-1.01		299	.12	187	11.37	.94	.106	.29	.042	42.8	7.3	10.10
	--CYCLE 8 (GRAMS/MILE)--						.059	.18	.028	17.5	23.1	11.07
I	861	304	.08	200	11.07	.61	.047	.08	.034	18.1	3.2	18.15
A	2.02	328	.19	155	11.29	1.04	.171	.66	.089	62.1	10.6	9.10
D-1.01		271	.13	175	11.34	.68	.042	.14	.030	18.6	3.2	16.68
	--CYCLE 9 (GRAMS/MILE)--						.035	.12	.020	13.2	16.9	11.79
A	2.59	310	.24	236	11.52	1.74	.181	.94	.152	71.2	11.9	6.62
D-1.07		286	.11	169	9.95	.79	.101	.26	.066	37.2	7.2	12.76
	--CYCLE 10 (GRAMS/MILE)--						.038	.16	.029	14.5	19.1	15.17
A	2.67	312	.22	221	11.33	1.77	.178	.35	.139	68.5	11.7	6.40
C	27.2	291	.16	166	10.93	1.11	1.058	3.92	.665	415.4	74.2	9.64
D-1.01		339	.10	259	10.79	.69	.051	.10	.043	17.3	3.1	15.64
	--CYCLE 11 (GRAMS/MILE)--						.172	.65	.113	66.8	89.0	23.52
A	2.56	317	.32	246	10.93	1.65	.187	1.27	.160	67.5	12.0	6.56
C	24.5	322	.15	148	10.56	1.00	.197	.66	.106	72.7	13.3	10.56
D-1.01		336	.11	150	10.69	.65	.091	.16	.035	23.7	4.3	16.45
	--CYCLE 12 (GRAMS/MILE)--						.062	.28	.040	21.9	29.6	19.73
I	843	364	.09	188	9.49	.62	.148	.25	.084	40.8	8.3	15.31
A	2.58	354	.26	198	10.69	1.72	.221	1.09	.136	70.6	12.7	6.22

```
D-1.00  303  .11 118 10.33  .69    .131    .32    .056   47.1    8.8 14.97
     --CYCLE 13 (GRAMS/MILE)--     .067    .22    .037   21.1   29.8 11.35
```

36-2

```
A 2.12  280  .20 191 10.51 1.35    .170    .82    .128   67.6   12.4  7.79
C 25.8  262  .13  84 10.25 1.24    .129    .47    .046   53.5   10.1  8.27
D-1.01  369  .11 150 10.44  .64    .053    .12    .026   17.5    3.2 16.31
     --CYCLE 14 (GRAMS/MILE)--     .048    .19    .027   18.5   25.7 17.37

I  874  332  .08 242 10.54  .62    .063    .10    .051   21.2    3.9 17.00
A 3.61  349  .54 265 10.71 1.68    .106   1.11    .089   34.5    6.2  6.37
D-1.02  303  .20  74  7.99  .79    .064    .29    .017   17.9    4.3 10.11
     --CYCLE 15 (GRAMS/MILE)--     .031    .20    .021    9.8   14.4  7.93

I  797  262  .09 178 10.61  .60    .029    .07    .021   12.2    2.2 17.68
A 2.10  322  .32 172 10.57 1.11    .147    .93    .087   51.1    9.3  9.44
C 22.5  215  .16 118 10.47  .95    .071    .36    .043   36.6    6.7 11.02
D-1.01  359  .10 144 10.70  .65    .052    .10    .023   16.3    2.9 16.46
     --CYCLE 16 (GRAMS/MILE)--     .040    .20    .023   15.5   21.2 14.70

I  868  337  .06 197 10.54  .63    .052    .07    .033   17.2    3.2 16.73
A 2.06  334  .26 230 10.60 1.19    .213    .97    .141   62.2   11.3  8.91
C 25.1  259  .13 153 10.57 1.20    .145    .49    .095   62.3   11.5  8.21
D-1.21  400  .15  97  8.64  .76    .093    .21    .022   18.9    4.2 11.37
     --CYCLE 17 (GRAMS/MILE)--     .066    .23    .039   21.5   38.2 15.71

I  843  421  .09 174 10.15  .61    .130    .19    .059   33.3    6.3 16.64
A 2.55  362  .25 152 10.75 1.50    .152    .71    .070   47.7    8.6  7.17
D-1.01  307  .13 120 10.62  .66    .065    .19    .028   23.9    4.4 16.09
I  853  399  .09 102 10.39  .61    .025    .04    .007    6.9    1.3 17.03
     --CYCLE 18 (GRAMS/MILE)--     .050    .15    .022   14.9   20.5  9.66
```

```
TEST STOP:  16: 0:15
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     7  NOX=     0 CO2D=   .02

SPAN CHECK
 FID=    98  COD=  1729  NOX=   196 CO2D=  4.11

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    13  COD=   191  NOX=    16 CO2D=  1.12

BACKGROUND BAG
 FID=     9  COD=    28  NOX=     0 CO2D=   .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FUEL
IDLE       1.005   1.87    .780     352   63.2
ACCEL      3.384  34.70  2.733    1211  206.5
DECEL      1.372   3.64    .619     452   81.0
CRUISE     4.278  23.18  3.328    1745  298.7
CHOKE      1.361  18.96  1.270     593   94.3
TOTAL     10.338  63.39  7.453    3761  649.4
```

36-3

EQUIVALENT MASS BAG RESULTS
GMS/MI 1.333 8.45 .994 521.4

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.158	4.32	.694	437.4

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	.996
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.4
AVG.PRESSURE DIFF. (IN.H20)	21.5
AVG.CVS TEMPERATURE (DEG.F)	82
MAX.INLET DEPR. (IN.H20)	12.6
MIN.INLET DEPR. (IN.H20)	12.2
MAX.CVS TEMPERATURE (DEG.F)	87
MIN.CVS TEMPERATURE (DEG.F)	77
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	6030
AVG MODAL CO2 RATIO	9.23
FUEL ECONOMY (MI/GAL)	19.94

OEM carburetor & ignition.
.035" plug gap.
#2 catalyst.
Air pump hose disconnected.

Hot '73

(31)

HC	CO	NOx	CO_2	ECON.
.195	7.58	.644	440.9	19.56

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 3-19-76   14:35
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    74
BAROMETER?  2951
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB HOLLEY OE                IDLE SET AS IS
REMARKS  ? ENGIEE 225 CID                ODOMETER
REMARKS  ? H-EPA                         NOTES

ZERO CHECK
 FID=     1  COR=   .01 CO2R=-00.04   NO= -0007 CO2D=   .01

SPAN CHECK OUT OF LIMITS
 FID=    97  COR=  7.80 CO2R= 15.65   NO=   181*CO2D=  4.12

ZERO CHECK OUT OF LIMITS
 FID=     0  COR=   .03 CO2R=-00.01   NO= -0014*CO2D=   .02

ZERO CHECK
 FID=     0  COR=   .02 CO2R=-00.03   NO= -0007 CO2D=   .01

SPAN CHECK
 FID=    97  COR=  7.81 CO2R= 15.64   NO=   193 CO2D=  4.11

REPEAT Z/S CHECKS? N

TEST START :  14:51:36.0
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/F
 T/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO    CO2     VOL.  F/E

CRANK   320  .17  92 11.50  .66   .005    .02   .001    1.3     .3 17.42
I  950  317  .16 138 11.56  .66   .077    .26   .050   29.3    5.9 17.52
A 3.23  340  .35 191 11.42 1.52   .107    .74   .066   38.1    6.4  7.51
C 24.6  267  .40 144 11.57 1.26   .525   5.29   .310  240.5   40.1  9.18
D-1.02  263  .09 147 11.74  .64   .031    .07   .019   14.5    2.4 18.34
     --CYCLE  1 (GRAMS/MILE)--     .099    .35   .060   43.3    54.2 17.72
```

I 1673	311	.16	230	11.71	.75	.163	.56	.133	64.9	10.7	15.61
A 2.10	348	1.58	219	11.61	1.86	.502	15.35	.348	177.3	29.5	6.24
C 52.3	366	.58	289	12.23	2.66	1.601	17.07	1.392	565.8	99.3	4.60
D-1.00	669	.20	135	12.30	.31	.306	.62	.063	59.6	9.4	15.19
--CYCLE 2 (GRAMS/MILE)--						.343	4.48	.259	115.7	133.8	18.72

37-1

I 881	442	.08	281	12.31	.64	.063	.08	.044	18.7	2.9	19.23
A 2.72	427	.49	345	12.61	2.02	.289	2.23	.257	90.4	13.9	6.24
C 35.6	413	.30	141	12.27	1.57	.190	.93	.071	59.6	9.4	7.82
D-1.01	427	.16	143	12.35	.67	.069	.17	.025	21.0	3.3	18.43
--CYCLE 3 (GRAMS/MILE)--						.081	.45	.053	25.3	29.4	16.62
I 857	396	.08	288	11.81	.64	.023	.03	.018	7.2	1.2	18.45
A 3.25	447	1.39	257	12.03	1.97	.191	3.99	.121	54.3	8.7	6.43
D-1.01	335	.18	78	12.17	.33	.068	.24	.017	26.0	4.1	14.66
--CYCLE 4 (GRAMS/MILE)--						.037	.57	.021	11.7	14.0	13.15
I 887	327	.08	214	12.05	.64	.066	.11	.048	25.8	4.1	18.83
A 3.11	415	1.20	337	12.18	2.25	.276	5.37	.247	95.6	13.6	5.41
C 35.2	380	.13	169	12.28	1.36	.240	.55	.118	32.1	12.9	9.03
D-1.01	553	.13	157	12.54	.68	.088	.15	.028	21.2	3.3	18.44
--CYCLE 5 (GRAMS/MILE)--						.099	.82	.059	28.6	33.9	17.56
I 871	406	.06	243	12.43	.64	.022	.03	.015	7.1	1.1	19.42
A 2.38	365	.21	221	12.48	1.34	.157	.61	.105	56.9	8.8	9.31
C 25.0	284	.15	106	12.30	1.17	.080	.28	.033	36.6	5.8	10.51
D-1.02	336	.10	139	12.34	.69	.036	.07	.016	13.9	2.2	17.83
--CYCLE 6 (GRAMS/MILE)--						.039	.13	.022	15.3	17.8	15.84
I 861	342	.08	199	12.13	.63	.060	.09	.038	22.5	3.6	19.25
A 3.08	366	.44	176	12.47	1.42	.071	.57	.033	25.6	4.0	8.78
C 19.7	230	.16	127	12.10	1.13	.159	.74	.097	88.5	14.1	10.71
D-1.02	336	.20	73	12.29	.75	.045	.16	.009	15.1	2.4	16.39
--CYCLE 7 (GRAMS/MILE)--						.045	.21	.024	20.2	24.0	14.46
I 832	397	.08	146	11.94	.61	.108	.15	.044	34.2	5.5	19.57
A 2.66	393	.31	203	12.41	1.60	.161	.86	.092	53.9	8.4	7.76
D-1.01	425	.13	106	12.12	.93	.138	.28	.038	41.6	6.6	13.03
--CYCLE 8 (GRAMS/MILE)--						.054	.17	.023	17.3	20.5	11.22
I 842	424	.08	170	11.94	.62	.061	.08	.027	18.1	2.9	19.26
A 2.02	370	.30	170	12.36	1.27	.177	.97	.090	62.7	9.8	9.73
D-1.01	392	.13	122	12.32	.67	.042	.13	.019	13.0	2.8	13.39
--CYCLE 9 (GRAMS/MILE)--						.037	.16	.018	13.2	15.5	11.71
A 2.56	324	.29	229	12.56	1.71	.163	1.01	.131	69.0	10.6	7.35
D-1.02	321	.12	121	12.20	.82	.096	.24	.040	38.7	6.1	14.89
--CYCLE 10 (GRAMS/MILE)--						.035	.17	.023	14.4	16.7	15.27
A 2.67	330	.34	225	12.51	1.77	.194	1.17	.126	67.5	10.4	7.07
C 26.3	337	.15	161	12.11	1.11	1.077	3.23	.567	409.5	65.3	10.81
D-1.01	443	.12	194	12.13	.69	.059	.11	.028	17.0	2.7	17.58
--CYCLE 11 (GRAMS/MILE)--						.177	.60	.096	65.9	78.4	23.87
A 2.57	384	.32	229	12.37	1.64	.194	1.09	.128	66.3	10.3	7.54
C 24.1	387	.12	112	11.85	1.00	.222	.46	.071	72.0	11.7	11.35
D-1.01	475	.12	126	11.97	.65	.088	.15	.026	23.3	3.8	13.42
--CYCLE 12 (GRAMS/MILE)--						.067	.23	.030	21.5	25.8	20.07
I 843	446	.08	168	11.75	.61	.143	.17	.050	39.8	6.5	19.26
A 2.51	404	.32	193	12.23	1.63	.212	1.13	.112	68.0	10.7	7.02
D-1.00	494	.12	98	11.34	.69	.134	.30	.040	46.7	7.6	17.16
--CYCLE 13 (GRAMS/MILE)--						.272	.21	.028	22.6	24.9	11.63
A 2.03	397	.30	171	12.16	1.34	.205	1.04	.057	66.4	10.5	9.07
C 25.7	390	.13	81	12.09	1.08	.129	.47	.033	54.5	8.7	9.45

```
D-1.01  369  .12 119 12.17  .64    .050    .11    .018   17.3    2.7 19.02
     --CYCLE 14 (GRAMS/MILE)--      .051    .21    .020   18.4   22.0 17.39
                                                                37-2
I  849  404  .09 164 11.98  .62    .067    .10    .030   21.0    3.4 19.32
A 3.52  454  .74 256 12.27 1.75    .124   1.35    .077   35.3    5.6  7.01
D-1.02  425  .40  67 12.16  .72    .054    .34    .009   16.2    2.6 16.89
     --CYCLE 15 (GRAMS/MILE)--      .033    .24    .015    9.7   11.5  7.93

I  795  315  .09 147 12.09  .60    .030    .06    .015   12.2    1.9 20.15
A 2.03  303  .18 147 12.19 1.19    .126    .50    .067   53.5    8.5 10.24
C 20.8  274  .12 138 12.17  .97    .079    .23    .044   37.1    5.9 12.55
D-1.01  359  .09 167 12.21  .65    .045    .08    .023   16.2    2.6 13.73
     --CYCLE 16 (GRAMS/MILE)--      .037    .12    .020   15.9   13.9 14.43

I  364  363  .06 182 12.16  .63    .048    .06    .026   17.3    2.7 19.30
A 2.04  406  .21 205 12.28 1.20    .195    .63    .108   62.3    9.8 10.23
C 25.1  355  .13 146 12.14 1.15    .165    .41    .075   59.6    9.5 12.56
D-1.01  477  .13  95 12.19  .76    .070    .14    .015   13.9    3.0 16.84
     --CYCLE 17 (GRAMS/MILE)--      .064    .17    .030   21.0   25.0 16.11

I  835  464  .08 159 11.93  .61    .122    .14    .046   33.1    5.4 19.56
A 2.54  403  .29 135 12.35 1.49    .145    .70    .053   47.3    7.3  8.29
D-1.01  435  .12  91 12.23  .69    .084    .16    .019   25.0    3.9 17.72
I  359  374  .06 129 12.16  .61    .020    .03    .003    6.9    1.1 19.93
     --CYCLE 18 (GRAMS/MILE)--      .049    .14    .017   14.9   17.7  9.67


TEST STOP:  15:14:56
TEST LENGTH: 1373.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     7  NOX=     0 CO2D=   .02

SPAN CHECK
 FID=    99  COD=  1700  NOX=   197 CO2D=  4.07

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    19  COD=   330  NOX=    15 CO2D=  1.15

BACKGROUND BAG
 FID=    14  COD=    41  NOX=     0 CO2D=   .08

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       1.077   1.96    .603    360    58.4
ACCEL      3.495  39.38  2.263   1180   186.7
DECEL      1.551   3.52    .458    450    71.4
CRUISE     4.467  29.61  2.816   1706   272.6
CHOKE      1.410  22.30    .929    567    94.4
TOTAL     10.591  74.47  6.139   3696   589.1

EQUIVALENT MASS BAG RESULTS
GMS/MI     1.412   9.93    .819  492.8
```

37-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.195	7.58	.644	440.9

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	.996
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.3
AVG.PRESSURE DIFF. (IN.H20)	21.2
AVG.CVS TEMPERATURE (DEG.F)	88
MAX.INLET DEPR. (IN.H20)	12.6
MIN.INLET DEPR. (IN.H20)	12.2
MAX.CVS TEMPERATURE (DEG.F)	93
MIN.CVS TEMPERATURE (DEG.F)	82
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5965
AVG MODAL CO2 RATIO	10.16
FUEL ECONOMY (MI/GAL)	19.56

OEM carburetor & ignition.
.035" plug gap.
#2 catalyst.
Air pump hose disconnected.

HC	CO	NO_x	CO_2	ECON.
.568	10.91	.762	465.1	18.32

2 stalls <u>at idle</u>.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
 3-19-76   13:21
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   64
DRY BULB ? S
   74
BAROMETER? S
 2951
INERT WT.? 3500
TRANS.   ? A
CYLINDERS? 6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB HOLLEY 4E                    IDLE SET BY REQUESTOR
REMARKS  ? ENGINE 225CID                     ODOMETER
REMARKS  ? C-EPA                             NOTES-DISCONNECT IAP PUMP

ZERO CHECK
 FID=     0  COR=    .00 CO2R=-00.00   NO= -0007 CO2D=    .00

SPAN CHECK
 FID=    96  COR=   8.04 CO2R= 15.85   NO=   193 CO2D=   4.14

REPEAT Z/S CHECKS? N

TEST START :  13:41:51.9
CRANK TIME :  1.5

MODE   ---TAILPIPE CONC--- CO2D  ------ MASS (GRAMS) ------   EXH.  D/P
```

38-1

F/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	154	.17	34	.43	.04	.005	.04	.001	.2	.6	12.00
I 1036	995	6.57	198	7.46	.59	.333	15.01	.040	26.3	6.9	12.96
A 3.00	928	4.22	590	9.33	1.43	.343	10.51	.240	36.4	7.5	6.52
C 24.9	1330	4.32	57	8.93	1.33	2.360	99.06	.174	259.3	56.7	6.64
D-1.02	1962	6.15	42	7.84	.61	.131	7.04	.008	14.1	3.5	12.35
--CYCLE 1 (GRAMS/MILE)--						1.035	34.07	.129	93.5	75.2	11.03
I 377	397	4.03	90	9.17	.52	.331	12.31	.047	45.3	9.6	17.63
A 2.13	799	2.13	263	10.16	2.21	1.396	23.59	.577	214.3	40.7	4.60
C 52.2	432	.27	491	11.22	3.07	2.415	10.16	2.468	663.3	114.1	3.65
D-1.02	504	.33	202	11.20	.38	.279	1.23	.103	65.6	11.3	10.73
--CYCLE 2 (GRAMS/MILE)--						1.242	14.66	.393	274.7	175.3	16.01
I 909	403	.19	475	11.33	.65	.065	.21	.034	10.3	3.3	17.43
A 2.74	421	1.04	219	9.62	2.00	.375	6.24	.215	99.3	13.2	4.31
C 35.4	473	.24	129	10.49	1.76	.290	.90	.087	68.0	10.5	5.96
D-1.01	368	.24	233	11.13	.66	.065	.29	.045	20.9	3.6	16.94
--CYCLE 3 (GRAMS/MILE)--						.221	2.14	.120	55.3	37.6	15.33
I 916	364	.13	496	11.21	.65	.023	.06	.034	7.4	1.3	17.25
A 3.27	383	.52	347	11.08	2.15	.208	1.90	.223	63.7	11.1	5.15
D-1.01	248	.16	153	11.06	.34	.057	.25	.033	26.7	4.7	13.17
--CYCLE 4 (GRAMS/MILE)--						.080	.61	.278	27.2	17.9	12.24
I 940	301	.13	394	11.06	.64	.072	.21	.095	26.4	4.6	17.23
A 3.10	377	.78	415	10.95	2.31	.292	4.06	.354	89.6	15.8	4.74
C 35.3	330	.13	163	9.49	1.46	.340	.78	.166	39.9	13.3	6.50
D-1.01	419	.17	341	11.15	.65	.074	.20	.066	20.7	3.6	17.15
--CYCLE 5 (GRAMS/MILE)--						.216	1.46	.180	69.9	42.3	16.76
I 910	365	.12	633	10.93	.64	.023	.05	.044	7.3	1.3	17.16
A 2.31	344	.13	248	10.59	1.38	.184	.65	.146	59.9	10.9	7.67
C 24.9	258	.23	125	10.25	1.26	.096	.57	.051	49.7	7.6	8.13
D-1.01	225	.13	198	10.92	.65	.026	.10	.025	13.3	2.3	16.30
--CYCLE 6 (GRAMS/MILE)--						.084	.35	.068	31.9	22.1	14.97
I 939	278	.08	463	10.86	.63	.056	.11	.102	23.1	4.1	17.24
A 3.10	315	.27	167	10.61	1.39	.071	.41	.042	25.3	4.6	7.63
C 19.6	236	.11	272	9.90	.99	.179	.56	.227	79.2	15.4	10.00
D-1.02	270	.25	130	10.83	.76	.037	.23	.010	15.6	2.8	14.32
--CYCLE 7 (GRAMS/MILE)--						.088	.33	.100	36.7	26.9	15.35
I 896	261	.06	344	10.76	.62	.031	.15	.113	35.4	6.4	17.35
A 2.69	316	.23	257	10.73	1.55	.149	.73	.133	57.3	9.6	6.92
D-1.00	242	.11	130	10.63	.98	.096	.29	.057	44.7	8.1	10.35
--CYCLE 8 (GRAMS/MILE)--						.084	.30	.079	34.2	24.1	10.93
I 905	267	.06	381	10.79	.62	.043	.09	.068	18.4	3.3	17.40
A 2.02	328	.27	192	10.65	1.25	.133	1.05	.113	62.3	11.4	8.52
D-1.01	217	.11	186	10.79	.69	.036	.12	.034	13.9	3.4	15.64
--CYCLE 9 (GRAMS/MILE)--						.067	.32	.056	25.7	18.1	11.56
A 2.56	304	.22	231	9.50	1.73	.215	1.05	.180	71.0	14.4	5.49
D-1.10	275	.11	204	10.78	.89	.092	.25	.076	38.3	6.9	13.43
--CYCLE 10 (GRAMS/MILE)--						.079	.33	.065	29.0	21.3	15.21
A 2.67	282	.23	232	10.39	1.84	.174	.96	.158	71.2	12.6	5.92
C 26.8	263	.16	207	10.66	1.11	.971	3.98	.841	416.2	75.4	9.52
D-1.00	339	.12	279	11.10	.63	.049	.12	.045	17.0	3.2	16.32
--CYCLE 11 (GRAMS/MILE)--						.306	1.29	.268	129.3	92.9	23.39
A 2.53	300	.27	242	11.04	1.65	.174	1.05	.154	67.6	11.8	6.69
C 24.4	223	.12	149	10.06	1.01	.154	.56	.113	73.5	14.1	9.96
D-1.01	296	.11	197	11.03	.70	.065	.16	.048	25.6	4.5	15.76

```
      --CYCLE 12 (GRAMS/MILE)--      .101     .45     .031    42.3    30.4 19.48

I  881  297  .06 247 10.92  .62      .105     .17     .097    41.3     7.2 17.61
A 2.54  345  .27 185 12.96 1.63      .205    1.12     .121    68.3    10.1  6.52
D-1.00  253  .10 127 10.96  .70      .104     .28     .058    47.9     8.4 15.66
      --CYCLE 13 (GRAMS/MILE)--      .106     .40     .071    40.4    27.8 11.43

A 2.13  254  .26 206  9.91 1.33      .162    1.11     .144    66.7    13.8  7.45
C 25.8  226  .15 102 10.97 1.26      .106     .47     .053    54.5     9.6  8.71
D-1.01  247  .11 164 11.17  .64      .037     .11     .027    17.5     3.8 17.45
      --CYCLE 14 (GRAMS/MILE)--      .078     .44     .057    35.6    25.6 17.33

I  870  276  .06 239 10.82  .62      .051     .09     .049    21.2     3.3 17.45
A 3.54  308  .68 260 11.26 1.31      .096    1.42     .089    37.0     6.3  6.22
D-1.01  216  .20  84 11.16  .71      .030     .19     .013    16.2     2.8 15.72
      --CYCLE 15 (GRAMS/MILE)--      .045     .43     .039    19.1    12.9  7.77

I  891  219  .09 181 11.12  .60      .023     .06     .021    12.3     2.1 13.53
A 2.07  247  .23 155 10.99 1.20      .116     .73     .080    54.7     9.6  9.16
C 20.6  176  .11 128 10.24  .93      .058     .25     .047    36.0     6.3 11.01
D-1.01  266  .09 199  9.36  .65      .042     .09     .034    16.3     3.2 15.17
      --CYCLE 16 (GRAMS/MILE)--      .061     .29     .047    30.6    21.7 14.43

I  877  291  .03 189 11.17  .62      .042     .08     .030    17.0     2.9 13.02
A 2.24  327  .21 252 11.26 1.22      .173     .75     .146    62.3    10.8  9.33
C 25.0  267  .17 156 11.09 1.21      .144     .62     .093    63.3    11.0  9.17
D-1.01  305  .24  98 11.30  .79      .051     .27     .013    10.3     3.4 14.30
      --CYCLE 17 (GRAMS/MILE)--      .105     .44     .074    41.0    23.1 15.57

I  862  302  .03 224 11.11  .62      .037     .16     .021    33.0     5.0 17.92
A 2.54  349  .29 140 11.23 1.47      .133     .77     .061    46.0     8.1  7.64
D-1.01  283  .13 125  9.50  .67      .070     .21     .033    24.4     5.0 14.13
I    2  232  .05 110 10.63  .38      .016     .02     .007     6.5     1.2 27.97
      --CYCLE 18 (GRAMS/MILE)--      .080     .30     .044    28.6    20.1  9.69


TEST STOP:  14: 5:12
TEST LENGTH: 1371.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     0  NOX=     0 CO2D=    .02

SPAN CHECK
 FID=    96  COD=  1745  NOX=   194 CO2D=   4.04

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    46  COD=  1815  NOX=    25 CO2D=   1.42

COLD STAB SAMP
 FID=    15  COD=    90  NOX=    14 CO2D=   1.03

COLD TRAN AMB
 FID=     8  COD=    21  NOX=     0 CO2D=    .05

COLD STAB AMB
 FID=     3  COD=    18  NOX=     0 CO2D=    .06

REPEAT BAG READS ? N

SOAK TIME :  600
```

TEST STAPT : 14:14:45.3
CRANK TIME : 1.0

MODE P/A/S	TAILPIPE CONC HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/B F/F
CRANK	55	.01	21	.06	.06	.012	.01	.005	.2	4.5	1.17
I 593	1072	.53	49	6.88	.25	.178	.57	.009	11.5	3.2	27.52
A 3.02	1086	.46	176	10.12	1.64	.422	1.20	.075	41.6	7.9	6.17
C 25.3	656	.24	121	9.98	1.35	1.626	4.80	.330	261.7	50.6	7.39
D-1.02	477	.13	71	10.16	.65	.066	.12	.011	15.8	2.8	15.63
--CYCLE 1 (GRAMS/MILE)--						.638	1.64	.120	91.7	69.2	17.22
I 343	357	.08	145	9.45	.60	.133	.28	.024	52.6	10.7	15.75
A 2.11	434	1.37	233	10.15	1.98	.774	16.45	.458	191.5	36.4	5.13
C 52.3	364	.38	273	10.35	2.74	1.964	13.80	1.622	590.7	110.2	3.78
D-1.00	585	.20	113	10.43	.80	.317	.73	.067	59.8	11.1	13.04
--CYCLE 2 (GRAMS/MILE)--						.981	8.69	.620	248.5	168.4	13.23
I 891	357	.09	235	10.41	.63	.060	.10	.044	18.6	3.4	16.52
A 2.71	353	.40	267	10.50	2.05	.296	2.26	.247	93.2	17.1	5.12
C 35.4	343	.17	114	10.10	1.56	.193	.65	.071	68.2	11.5	6.47
D-1.01	379	.17	144	10.45	.66	.072	.22	.030	21.1	3.9	15.33
--CYCLE 3 (GRAMS/MILE)--						.173	.90	.109	53.6	36.9	16.37
I 887	271	.10	307	5.34	.64	.035	.09	.044	7.3	2.6	3.34
A 3.27	358	.75	270	10.44	2.06	.193	2.79	.164	68.9	11.3	5.97
D-1.00	977	.15	74	10.28	.81	.066	.24	.019	25.7	4.3	12.69
--CYCLE 4 (GRAMS/MILE)--						.033	.86	.063	26.1	13.7	12.53
I 898	312	.09	185	10.23	.63	.074	.14	.049	25.9	4.9	16.32
A 3.10	336	.96	300	10.36	2.23	.266	5.12	.262	96.3	16.2	4.63
C 35.1	352	.16	139	9.94	1.34	.276	.84	.119	92.3	16.0	7.42
D-1.01	556	.15	149	10.26	.66	.107	.29	.032	21.0	3.9	15.55
--CYCLE 5 (GRAMS/MILE)--						.201	1.75	.123	60.9	41.0	17.43

TEST STOP: 14:23:33
TEST LENGTH: 506.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 0 COD= 4 NOX= 0 CO2D= .02

SPAN CHECK
FID= 100 COD= 1720 NOX= 195 CO2D= 4.06

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 31 COD= 526 NOX= 22 CO2D= 1.36

HOT TRAN AMB
FID= 17 COD= 74 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FYVOL

IDLE	.883	28.33	.302	126	26.4
ACCEL	2.614	51.30	1.594	495	93.3
DECEL	.655	9.00	.281	148	26.6
CRUISE	5.904	101.99	2.895	1030	201.6
CHOKE	5.503	164.05	1.088	597	125.6
TOTAL	10.057	190.62	5.071	1849	347.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.794	52.95	1.409	513.6

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.527	.95	.606	216	38.2
ACCEL	2.038	11.79	1.572	748	135.3
DECEL	.734	2.42	.486	316	56.7
CRUISE	1.708	7.01	1.424	763	139.9
CHOKE	.000	.00	.000	0	.0
TOTAL	5.008	22.17	4.088	2043	370.0

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.234	5.68	1.043	523.3

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.539	1.20	.233	116	29.4
ACCEL	1.957	27.82	1.206	474	33.9
DECEL	.629	1.50	.160	143	26.6
CRUISE	4.060	19.30	2.142	995	133.3
CHOKE	3.260	22.65	.972	574	116.3
TOTAL	7.185	49.81	3.741	1728	333.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.996	13.84	1.039	479.9

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.790	17.67	1.120	509.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.188	35.14	.939	443.6
COLD STABILIZED	.366	2.27	.748	495.2
HOT TRANSIENT	.485	9.04	.744	424.2
WEIGHTED TOTAL	.568	10.91	.762	465.1

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.339	12.846	9.440
RELATIVE HUMIDITY	59	59	59
HUM. CORR. FACTOR	.996	.996	.996
CVS REVOLUTIONS	9330	16370	9920
AVG.INLET DEPR. (IN.H20)	12.5	12.4	12.5
AVG.PRESSURE DIFF. (IN.H20)	21.6	21.5	21.6
AVG.CVS TEMPERATURE (DEG.F)	79	81	79
MAX.INLET DEPR. (IN.H20)	12.7	12.5	12.6
MIN.INLET DEPR. (IN.H20)	12.2	12.3	12.1
MAX.CVS TEMPERATURE (DEG.F)	86	82	85
MIN.CVS TEMPERATURE (DEG.F)	71	79	73
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243

TOTAL CVS VOL. (STD.CU.FT.)	2249	3824	2256
AVG MODAL CO2 RATIO	6.27	10.46	6.71
FUEL ECONOMY (MI/GAL)	17.65	17.74	20.16

38-5

Hot '73

(39)

OEM carb. & ignition. .035" plug gap.
#2 catalyst.

HC	CO	NO_x	CO_2	ECON.
.155	.42	.899	443.9	19.93

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-18-76   10:56
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    74
BAROMETER?  2948
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 76 DART
VEH. I.D.? 5C80
REMARKS  ? CARB HOLLEY 6E                    IDLE SET AS IS
REMARKS  ? ENGINE 225 CID                    ODOMETER
REMARKS  ? H-EPA                             NOTES TRACES PPE CONV MPAL

ZERO CHECK
 FID=     2  COR=   .02 CO2R=   .00   NO= -0009 CO2D=   .21

SPAN CHECK
 FID=    99  COR=  7.98 CO2R= 15.78   NO=   201 CO2D=  4.17

REPEAT Z/S CHECKS? N

TEST START :  11: 3:43.0
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/F
 R/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO     CO2    VOL.  F/E

CRANK   157  .06  23  7.62  .65   .003    .01    .001    1.3     .4 11.72
I  999  205  .06 113  7.27  .64   .073    .15    .047   29.2    7.7 11.36
A 2.99  297  .35 131  9.36 1.55   .117    .93    .057   38.9    8.9  6.04
C 25.9  245  .13  97  9.12 1.38   .673   2.59    .294  265.1   56.1  6.61
D-1.01  307  .03  72  8.96  .71   .052    .09    .014   16.2    3.5 12.63
     --CYCLE  1 (GRAMS/MILE)--     .123    .58    .055   46.3   75.3 16.60

I  999  203  .03 175  7.50  .65   .144    .14    .137   56.4   14.5 11.54
A 2.11  227  .86 204  9.96 2.29   .474  12.03    .469  220.0   42.6  4.35
C 52.2  217  .21 233  9.53 2.86  1.314   8.56   1.589  619.5  123.6  3.33
D-1.00  302  .06 110  7.83  .85   .229    .31    .092   62.8   15.5  9.21
     --CYCLE  2 (GRAMS/MILE)--     .283   2.91    .305  126.6  196.2 17.57

I  919  196  .03 246  8.11  .66   .044    .05    .061   19.2    4.6 12.29
A 2.75  216  .13 262  9.70 2.11   .200   1.12    .263   95.1   18.9  4.60
C 35.5  231  .11 122  9.00 1.55   .144    .46    .084   59.2   12.7  5.81
D-1.20  214  .05 163  8.10  .70   .055    .09    .047   21.9    5.2 11.57
     --CYCLE  3 (GRAMS/MILE)--     .059    .23    .061   26.1   41.4 16.40
```

I	923	193	.02	367	8.08	.66	.017	.01	.035	7.4	1.8	12.24
A	3.23	199	.37	212	8.91	2.09	.131	1.63	.153	61.1	13.4	4.22
D	-1.21	166	.05	75	8.00	.88	.054	.11	.027	27.7	6.7	9.09
		--CYCLE	4	(GRAMS/MILE)--			.027	.23	.029	12.3	21.8	12.56
I	919	132	.03	176	8.12	.66	.056	.06	.060	26.6	6.3	12.32
A	3.11	232	.62	273	9.31	2.42	.207	3.73	.269	92.7	13.2	4.04
C	35.2	223	.05	120	8.35	1.41	.215	.33	.128	85.3	19.7	5.92
D	-1.00	236	.04	157	7.89	.69	.061	.07	.045	21.7	5.3	11.43
		--CYCLE	5	(GRAMS/MILE)--			.072	.56	.067	30.2	49.6	16.94
I	915	223	.02	266	8.06	.65	.019	.01	.025	7.3	1.7	12.40
A	2.28	213	.10	197	8.85	1.37	.136	.42	.135	58.4	12.7	6.46
C	24.9	146	.05	81	9.02	1.10	.253	.12	.033	34.8	7.4	8.13
D	-1.01	164	.03	135	6.85	.71	.032	.04	.029	14.3	4.0	9.65
		--CYCLE	6	(GRAMS/MILE)--			.032	.03	.030	15.3	25.9	15.94
I	893	201	.02	206	7.46	.65	.059	.04	.067	23.3	6.0	11.43
A	3.12	230	.13	114	9.27	1.48	.062	.25	.034	26.5	5.5	6.26
C	19.7	173	.05	139	8.57	1.00	.150	.29	.133	78.5	17.7	8.57
D	-1.00	231	.00	52	9.27	.32	.039	.10	.010	16.5	3.4	11.30
		--CYCLE	7	(GRAMS/MILE)--			.041	.09	.032	19.3	32.7	15.23
I	936	201	.02	181	8.06	.65	.036	.06	.085	36.5	8.7	12.40
A	2.71	206	.11	157	9.27	1.60	.113	.41	.095	53.7	11.2	5.79
D	-1.01	194	.05	90	8.21	.98	.093	.17	.050	43.8	10.3	8.39
		--CYCLE	8	(GRAMS/MILE)--			.040	.08	.031	17.9	33.2	10.96
I	835	201	.01	168	7.25	.65	.050	.02	.046	18.9	5.0	11.15
A	1.83	252	.17	95	9.19	1.24	.159	.72	.059	61.1	12.8	7.41
D	-1.05	166	.03	124	8.20	.66	.034	.04	.023	17.7	4.2	12.42
		--CYCLE	9	(GRAMS/MILE)--			.032	.10	.019	13.8	22.0	11.92
A	2.57	217	.18	163	9.40	1.69	.148	.83	.123	68.0	14.8	5.56
D	-1.15	179	.05	87	8.56	.86	.080	.15	.048	40.4	9.1	9.95
		--CYCLE	10	(GRAMS/MILE)--			.030	.13	.023	14.5	23.1	15.23
A	2.64	222	.18	151	9.53	1.81	.152	.83	.114	68.8	13.9	5.27
C	26.8	211	.06	141	8.43	1.10	.954	1.83	.703	403.3	90.3	7.59
D	-1.01	224	.03	155	8.26	.69	.043	.04	.033	17.8	4.0	11.97
		--CYCLE	11	(GRAMS/MILE)--			.153	.36	.113	65.2	110.2	24.28
A	2.56	273	.20	169	8.37	1.74	.219	1.06	.147	69.7	16.1	4.81
C	24.3	209	.05	105	8.71	1.00	.161	.26	.089	71.2	15.3	8.72
D	-1.01	198	.03	121	8.14	.69	.057	.06	.033	24.6	5.3	11.88
		--CYCLE	12	(GRAMS/MILE)--			.058	.13	.037	22.1	37.7	19.67
I	882	233	.02	156	8.06	.64	.113	.07	.093	41.4	9.9	12.59
A	2.52	263	.17	126	9.54	1.79	.191	.81	.099	71.9	14.5	5.34
D	-1.00	295	.04	77	9.25	.73	.165	.15	.047	43.9	11.4	11.30
		--CYCLE	13	(GRAMS/MILE)--			.063	.14	.031	21.6	35.9	11.17
A	2.12	265	.10	132	8.52	1.40	.202	.51	.111	68.7	15.6	6.09
C	26.1	264	.03	60	9.31	1.33	.147	.30	.037	55.0	11.4	7.16
D	-1.01	212	.03	114	8.21	.69	.045	.04	.027	18.4	4.3	11.91
		--CYCLE	14	(GRAMS/MILE)--			.053	.11	.023	18.9	31.3	17.06
I	901	198	.02	167	8.21	.65	.050	.03	.046	21.8	5.1	12.65
A	3.53	245	.34	196	10.00	1.82	.084	.79	.074	36.4	7.8	5.49
D	-1.02	162	.06	54	9.42	.81	.029	.09	.011	18.0	3.7	11.63
		--CYCLE	15	(GRAMS/MILE)--			.022	.12	.017	10.2	15.3	7.72
I	797	168	.03	100	8.62	.64	.024	.03	.016	12.9	2.9	13.47
A	2.10	197	.16	93	9.48	1.27	.111	.61	.053	56.6	11.5	7.46
C	29.6	144	.05	63	9.23	.96	.054	.13	.023	36.3	7.6	9.61

```
D-1.01  171  .03 125  7.51  .69    .036    .04    .029   16.9    4.3  10.33
     --CYCLE 16 (GRAMS/MILE)--     .038    .11    .017   16.4   26.3  14.10

I  999  199  .01 143  7.49  .65    .044    .01    .035   17.4    4.5  11.52
A 2.05  253  .11 156  9.06 1.25    .169    .50    .115   64.2   13.7   7.25
C 25.1  223  .08 125  9.18 1.19    .140    .34    .036   68.9   12.8   7.71
D-1.01  223  .06  60  9.43  .81    .044    .09    .013   19.9    4.1  11.64
     --CYCLE 17 (GRAMS/MILE)--     .053    .13    .033   21.6   35.0  15.75

I  999  233  .02 145  8.17  .64    .092    .05    .063   34.2    7.1  12.77
A 2.55  245  .08  99  9.49 1.46    .111    .24    .049   45.6    9.3   6.50
D-1.01  193  .04  67  8.93  .72    .053    .07    .020   25.7    5.6  12.40
I  991  196  .02 120  8.40  .65    .016    .01    .009    7.2    1.7  12.92
     --CYCLE 18 (GRAMS/MILE)--     .036    .25    .019   15.2   24.6   9.72


TEST STOP:  11:27: 3
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     0  NOX=     0 CO2D=   .01

SPAN CHECK
 FID=    97  COD=  1749  NOX=   195 CO2D=  4.12

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    16  COD=    26  NOX=    22 CO2D=  1.15

BACKGROUND BAG
 FID=    12  COD=    10  NOX=     1 CO2D=   .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE   HC      CO     NOX     CO2   EXVOL
IDLE        .896    .76    .816    362    99.1
ACCEL      2.986  27.47  2.428   1257   259.0
DECEL      1.207   1.75   .608    472   110.4
CRUISE     4.007  15.20  3.203   1760   377.2
CHOKE      1.542  15.99  1.018    628   132.9
TOTAL      9.096  45.18  7.055   3851   835.6

EQUIVALENT MASS BAG RESULTS
GMS/MI     1.213   6.02   .941  513.5

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
                    HC      CO      NOX     CO2
                   .155     .42     .399   443.9

***** TEST VARIABLES *****
```

39-2

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	.997
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.2
AVG.PRESSURE DIFF. (IN.H20)	21.1
AVG.CVS TEMPERATURE (DEG.F)	89
MAX.INLET DEPR. (IN.H20)	12.4
MIN.INLET DEPR. (IN.H20)	12.0
MAX.CVS TEMPERATURE (DEG.F)	94
MIN.CVS TEMPERATURE (DEG.F)	79
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5950
AVG MODAL CO2 RATIO	7.00
FUEL ECONOMY (MI/GAL)	19.93

Hot '73 (40)

OEM carb. & ignition .035 plug gap
#2 catalyst.

HC	CO	NO_x	CO_2	ECON.
.116	.55	.937	453.7	19.51

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-18-76   10: 5
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    74
BAROMETER?  2948
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 76 DART
VEH. I.D.? 5C80
REMARKS  ?  CARB HOLLEY OE              IDLE SET AS IS
REMARKS  ?  ENGINE 225 CID              ODOMETER
REMARKS  ?  H-EPA                        NOTES TRACES,PRE CONV MODEL

ZERO CHECK
 FID=     0  COR=   .01 CO2R=   .00   NO=     3 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   102  COR=  7.94 CO2R= 15.90   NO=   176*CO2D=  4.07

ZERO CHECK
 FID=     0  COR=   .03 CO2R=   .03   NO= -0008 CO2D=   .03

SPAN CHECK OUT OF LIMITS
 FID=   102  COR=  7.91 CO2R= 15.77   NO=   216*CO2D=  4.08

ZERO CHECK
 FID=     0  COR=   .03 CO2R=   .01   NO=     0 CO2D=   .02

SPAN CHECK
 FID=   102  COR=  7.89 CO2R= 15.82   NO=   200 CO2D=  4.08

REPEAT Z/S CHECKS? N

TEST START :  10:23:55.5
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/P
 D/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO     CO2    VOL.  F/F

CRANK  203  .08  53  7.60  .66   .004    .01   .001    1.7     .4 11.52
I  911  222  .06 158  7.68  .64   .078    .17   .061   28.5    7.2 12.00
A 2.99  278  .23 139 10.00 1.55   .101    .56   .055   38.3    7.4  6.45
C 25.0  203  .18 140 10.20 1.32   .467   2.79   .355  248.4   47.0  7.73
D-1.02  192  .06 241  9.31  .73   .032    .08   .044   16.3    3.4 12.75
     --CYCLE  1 (GRAMS/MILE)--     .091    .48   .069   44.4   65.4 17.51
```

I	936	209	.04	279	8.79	.66	.126	.16	.186	56.2	12.3	13.32
A	2.11	266	1.08	219	10.78	2.37	.519	14.32	.471	222.5	39.8	4.55
C	52.2	224	.29	251	10.40	2.91	1.245	10.85	1.539	611.5	113.5	3.57
D	-1.00	308	.06	150	8.35	.83	.213	.33	.114	61.0	14.1	10.06
		--CYCLE	2	(GRAMS/MILE)--			.280	3.42	.308	126.8	179.8	17.42
I	934	236	.04	310	8.71	.66	.049	.06	.071	19.2	4.2	13.21
A	2.73	243	.23	293	10.32	2.11	.210	1.34	.279	94.4	17.7	4.89
C	35.5	240	.09	102	9.75	1.61	.142	.36	.067	61.1	12.1	6.06
D	-1.01	201	.06	182	7.32	.70	.057	.11	.057	21.9	5.8	10.46
		--CYCLE	3	(GRAMS/MILE)--			.061	.25	.063	26.2	39.3	16.23
I	927	221	.03	351	8.66	.66	.018	.02	.031	7.4	1.6	13.12
A	3.27	247	.52	259	10.23	2.14	.142	2.01	.164	62.1	11.7	4.78
D	-1.01	150	.06	83	9.66	.89	.041	.11	.025	27.3	5.6	10.35
		--CYCLE	4	(GRAMS/MILE)--			.027	.23	.029	13.0	13.9	12.35
I	937	195	.04	251	8.68	.66	.056	.08	.080	26.5	5.9	13.15
A	3.11	218	.68	272	10.36	2.44	.185	3.89	.255	93.1	17.3	4.23
C	35.1	227	.06	126	9.02	1.49	.200	.36	.123	84.2	18.0	6.44
D	-1.01	243	.05	179	8.35	.79	.060	.03	.049	21.3	5.0	11.93
		--CYCLE	5	(GRAMS/MILE)--			.067	.59	.067	39.1	46.3	16.98
I	920	232	.03	267	8.40	.66	.019	.02	.024	7.3	1.7	12.73
A	2.29	226	.26	216	9.24	1.32	.129	.27	.136	55.8	11.6	7.80
C	25.8	178	.06	90	9.44	1.17	.062	.17	.036	36.5	7.5	8.07
D	-1.02	176	.04	150	8.34	.72	.029	.04	.027	14.4	3.3	11.58
		--CYCLE	6	(GRAMS/MILE)--			.032	.07	.030	15.2	24.1	16.06
I	901	207	.03	224	8.29	.65	.055	.05	.065	23.1	5.4	12.77
A	3.12	266	.20	124	9.46	1.42	.068	.34	.035	25.4	5.2	6.67
C	19.7	210	.06	102	9.03	1.09	.139	.42	.101	85.3	18.3	8.21
D	-1.02	231	.19	55	9.75	.81	.036	.20	.010	16.2	3.2	12.84
		--CYCLE	7	(GRAMS/MILE)--			.046	.14	.023	29.1	32.1	14.65
I	893	206	.03	147	8.28	.65	.035	.08	.067	36.2	8.4	12.74
A	2.69	264	.17	144	9.34	1.61	.144	.62	.086	53.8	11.1	5.30
D	-1.01	206	.05	109	8.84	.95	.093	.15	.054	42.3	9.2	9.31
		--CYCLE	8	(GRAMS/MILE)--			.043	.11	.028	17.6	23.8	11.07
I	916	207	.03	206	8.23	.66	.045	.04	.050	19.1	4.5	12.47
A	2.01	227	.10	175	9.51	1.21	.122	.40	.114	59.3	12.8	7.86
D	-1.01	159	.06	113	9.03	.76	.034	.09	.026	20.3	4.3	11.95
		--CYCLE	9	(GRAMS/MILE)--			.027	.07	.025	13.2	23.8	11.37
A	2.57	219	.12	162	9.56	1.75	.152	.56	.124	78.1	14.2	5.46
D	-1.09	211	.05	144	8.64	.85	.092	.15	.069	39.8	8.9	10.16
		--CYCLE	10	(GRAMS/MILE)--			.033	.09	.026	14.7	23.1	15.07
A	2.67	232	.12	157	9.61	1.80	.156	.54	.116	68.2	13.7	5.34
C	26.9	222	.06	138	8.67	1.11	.935	2.09	.675	426.8	98.6	7.74
D	-1.01	237	.04	201	8.37	.71	.047	.05	.044	17.5	4.0	11.79
		--CYCLE	11	(GRAMS/MILE)--			.153	.36	.111	65.7	108.3	24.11
A	2.57	246	.13	177	9.49	1.70	.167	.59	.133	68.3	13.9	5.59
C	24.4	203	.05	119	8.75	1.21	.153	.26	.102	72.3	15.9	8.66
D	-1.01	212	.03	142	8.02	.69	.062	.06	.046	24.7	5.9	11.62
		--CYCLE	12	(GRAMS/MILE)--			.052	.12	.037	22.0	35.7	19.36
I	913	224	.02	186	8.19	.66	.111	.07	.101	42.3	10.1	12.41
A	2.55	252	.13	145	9.59	1.73	.173	.60	.110	69.3	14.0	5.54
D	-1.00	134	.06	80	8.16	.75	.107	.24	.051	50.3	11.9	10.33
		--CYCLE	13	(GRAMS/MILE)--			.052	.12	.035	21.7	36.8	11.15
A	2.13	222	.12	121	9.37	1.41	.155	.57	.093	69.4	14.3	6.65

```
C 26.2  259  .06  57  9.15 1.35    .153    .03    .033    57.3    10.1   6.78
D-1.01  210  .04 131  8.24  .69    .045    .06    .031    13.5     4.3  11.94
     --CYCLE 14 (GRAMS/MILE)--     .047    .12    .021    19.3    30.7  16.71

I  912  217  .02 202  8.23  .66    .055    .03    .056    22.1     5.2  12.55
A 3.63  243  .01 226  9.79 1.73    .034    .72    .096    35.9     7.1   5.51
D-1.02  175  .06  59  9.60  .36    .033    .09    .012    19.2     3.9  11.16
     --CYCLE 15 (GRAMS/MILE)--     .023    .11    .021    17.3    16.1   7.63

I  913  159  .03 104  8.64  .65    .023    .03    .016    13.1     2.9  13.29
A 2.29  189  .10 104  9.45 1.26    .107    .33    .065    56.4    11.5   7.56
C 23.7  140  .05  75  9.27  .99    .054    .13    .032    37.7     7.3   9.36
D-1.01  176  .03 156  8.50  .71    .034    .04    .033    17.5     4.0  11.97
     --CYCLE 16 (GRAMS/MILF)--     .029    .08    .019    16.6    26.2  13.93

I  906  198  .02 132  8.29  .66    .040    .03    .041    17.8     4.1  12.56
A 2.06  225  .06 166  9.00 1.25    .152    .32    .124    64.4    13.3   7.20
C 25.3  195  .04 123  9.07 1.16    .122    .17    .095    59.9    12.7   7.82
D-1.01  236  .06 110  9.02  .81    .049    .08    .025    19.9     4.3  11.14
     --CYCLE 17 (GRAMS/MILE)--     .048    .08    .037    21.6    34.9  15.85

I  915  199  .02 204  8.27  .66    .031    .05    .091    35.6     8.3  12.53
A 2.57  251  .08  93  9.37 1.53    .122    .26    .050    48.1     9.9   6.13
D-1.01  185  .04  90  8.87  .74    .052    .08    .023    26.5     5.3  12.08
I  907  196  .02 141  8.35  .66    .016    .01    .013     7.4     1.7  12.65
     --CYCLE 18 (GRAMS/MILE)--     .036    .05    .024    15.7    25.7   9.31



TEST STOP:  10:47:15
TEST LENGTH: 1373.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     1  NOX=     0 CO2D=   .01

SPAN CHECK
 FID=   103  COD=  1753  NOX=   200 CO2D=  4.12

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    15  COD=    23  NOX=    22 CO2D=  1.13

BACKGROUND BAG
 FID=    12  COD=     7  NOX=     0 CO2D=   .07

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FYUEL
IDLE        .362     .91    .956    364    94.0
ACCEL      2.333   23.29   2.496   1255   246.3
DECEL      1.116    2.03    .746    476   107.8
CRUISE     3.779   17.38   3.145   1761   355.5
CHOKE      1.323   13.08   1.174    612   117.6
TOTAL      8.643   49.11   7.342   3357   782.3

EQUIVALENT MASS BAG RESULTS
GMS/MI     1.152   6.55    .979   514.2
```

40-2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.116	.55	.937	453.7

***** TEST VARIABLES *****

RELATIVE HUMIDITY	59
HUM. CORR. FACTOR	.997
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.2
AVG.PRESSURE DIFF. (IN.H20)	21.1
AVG.CVS TEMPERATURE (DEG.F)	92
MAX.INLET DEPR. (IN.H20)	12.6
MIN.INLET DEPR. (IN.H20)	12.1
MAX.CVS TEMPERATURE (DEG.F)	97
MIN.CVS TEMPERATURE (DEG.F)	89
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5918
AVG MODAL CO2 RATIO	7.30
FUEL ECONOMY (MI/GAL)	19.51

Cold '75 (41)

OEM carb. & ignition. .035" plug gap.
#2 catalyst.

HC	CO	NO_x	CO_2	ECON.
.346	2.88	1.091	499.9	

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #?
 8-18-76    8:11
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 64
DRY BULB ? 74
BAROMETER? 2948
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1,2,3
VEH. MAKE? 76 DART
VEH. I.D.? 5C30
REMARKS  ? CARB HOLLEY OE                    IDLE SET AS IS
REMARKS  ? ENGINE 225 CID                    ODOMETER
REMARKS  ? C-EPA                             NOTES TRACES,PRE CONV MODAL

ZERO CHECK
 FID= -0001  COR=   .01 CO2R=-00.01   NO=     0 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   196* COR=  7.82 CO2R= 14.10*  NO=   179*CO2D=  4.10

ZERO CHECK
 FID= -0001  COR=   .06 CO2R=   .00   NO=     3 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   191  COR=  7.71*CO2R= 15.66   NO=   194 CO2D=  4.07

ZERO CHECK
 FID= -0002  COR=   .01 CO2R=   .02   NO=     0 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   196* COR=  7.86 CO2R= 15.71   NO=   196 CO2D=  4.11

ZERO CHECK
 FID= -0001  COR=   .00 CO2R=   .00   NO= -0006 CO2D=   .02

SPAN CHECK
 FID=   193  COR=  7.87 CO2R= 15.56   NO=   207 CO2D=  4.10

REPEAT Z/S CHECKS? N

TEST START :   8:11:46.0
CRANK TIME :  1.3
```

41-1

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/B F/E
CRANK	88	.19	46	.53	.05	.003	.04	.002	.2	.6	10.60
I 1088	745	3.56	59	7.46	.79	.337	10.83	.029	35.7	9.2	9.56
A 2.99	521	3.10	319	7.69	1.60	.260	12.41	.175	40.6	10.2	4.81
C 25.0	716	3.10	38	7.75	1.79	3.021	88.02	.177	345.8	86.1	4.33
D-1.02	717	4.31	15	7.01	.89	.177	7.17	.004	18.3	5.0	8.76
--CYCLE 1 (GRAMS/MILE)--						1.055	32.35	.108	122.4	111.2	9.40
I 993	385	2.16	84	7.12	.80	.356	13.45	.036	69.7	18.9	8.90
A 2.87	397	1.77	144	8.94	2.69	1.091	32.44	.432	257.5	55.6	3.34
C 52.3	228	.53	262	9.24	3.58	1.775	27.77	2.248	760.9	158.9	2.58
D-1.00	254	.16	196	7.70	.99	.226	.96	.192	72.4	18.2	7.78
--CYCLE 2 (GRAMS/MILE)--						.955	20.73	.822	322.3	251.6	13.50
I 937	204	.06	471	7.51	.69	.052	.10	.131	20.1	5.2	10.88
A 2.71	223	.18	308	8.73	2.28	.252	1.34	.375	101.9	22.5	3.83
C 35.2	334	.03	79	7.47	1.96	.314	.51	.082	74.3	19.2	3.91
D-1.01	1013	.00	24	1.09	.26	.709	.20	.019	3.1	14.3	4.23
--CYCLE 3 (GRAMS/MILE)--						.368	.54	.168	56.9	61.2	15.46
I 999	1013	1.35	152	3.98	.27	.054	.43	.009	2.2	1.1	19.90
A 3.28	870	.75	221	8.87	2.39	.646	3.75	.191	69.9	15.2	3.72
D-1.01	955	.06	27	6.05	.83	.410	.20	.013	27.5	8.8	6.83
--CYCLE 4 (GRAMS/MILE)--						.309	1.23	.056	27.6	25.0	11.37
I 991	948	.62	130	8.01	.60	.243	1.20	.041	24.3	5.9	13.35
A 3.10	475	.37	423	8.95	2.58	.494	2.59	.435	98.4	21.2	3.47
C 35.1	382	.04	137	7.73	1.54	.434	.31	.171	99.8	23.2	5.02
D-1.01	304	.04	298	7.40	.71	.096	.08	.093	22.2	5.8	10.42
--CYCLE 5 (GRAMS/MILE)--						.349	1.16	.220	66.1	56.1	16.00
I 923	278	.02	507	7.36	.67	.027	.01	.054	7.5	2.0	10.99
A 2.39	290	.12	239	7.89	1.40	.207	.58	.188	59.5	14.6	5.64
C 25.0	291	.05	99	8.12	1.33	.141	.16	.053	41.6	9.9	6.11
D-1.01	206	.03	195	7.68	.74	.038	.04	.039	14.8	3.7	10.38
--CYCLE 6 (GRAMS/MILE)--						.106	.20	.086	31.7	30.2	14.71
I 938	221	.01	346	7.37	.67	.068	.02	.118	24.2	6.3	11.00
A 3.09	272	.17	134	9.08	1.50	.085	.36	.046	26.8	6.4	5.39
C 19.6	208	.05	174	7.78	1.08	.216	.35	.100	35.4	21.2	7.14
D-1.02	253	.37	101	8.64	.39	.049	.49	.022	17.9	4.8	9.71
--CYCLE 7 (GRAMS/MILE)--						.107	.31	.099	39.5	37.9	14.26
I 913	171	.02	222	6.76	.66	.089	.07	.127	37.1	10.6	10.24
A 2.70	240	.13	161	8.02	1.64	.156	.61	.115	55.1	13.3	4.89
D-1.00	222	.05	124	7.97	1.08	.129	.20	.079	48.9	11.8	7.31
--CYCLE 8 (GRAMS/MILE)--						.096	.22	.082	36.2	35.7	10.39
I 921	192	.00	294	7.26	.66	.048	.00	.091	19.3	5.1	11.00
A 2.91	213	.29	138	8.31	1.31	.160	1.43	.112	64.6	15.0	6.34
D-1.00	155	.04	103	8.02	.76	.037	.06	.027	20.5	4.9	10.55
--CYCLE 9 (GRAMS/MILE)--						.063	.38	.057	26.8	25.1	11.06
A 2.55	221	.18	148	8.29	1.36	.189	1.04	.140	75.1	17.5	4.46
D-1.13	218	.03	168	7.70	.92	.112	.11	.099	43.4	10.9	8.37
--CYCLE 10 (GRAMS/MILE)--						.277	.29	.061	30.4	28.4	13.91
A 2.67	236	.16	162	8.24	1.35	.191	.87	.144	78.5	16.5	4.45
C 26.9	194	.06	150	7.91	1.25	1.072	2.23	.913	456.2	110.7	6.25
D-1.00	138	.04	233	7.79	.75	.042	.06	.053	13.5	4.6	10.30
--CYCLE 11 (GRAMS/MILE)--						.335	.81	.286	139.8	133.9	21.77
A 2.58	205	.11	194	8.21	1.63	.160	.53	.167	67.7	15.0	4.39

```
C 24.4  166  .03  98  7.93 1.10    .157    .51    .102   79.6   19.3  7.19
D-1.01  165  .03 146  7.60  .73    .054    .07    .053   26.2    6.7 10.41
     --CYCLE 12 (GRAMS/MILE)--     .095    .30    .092   44.5   41.8 13.86

                                                                41-2
I  909  182  .01 210  7.27  .66    .102    .04    .129   43.0   11.4 11.02
A 2.54  242  .13 153  8.20 1.76    .199    .77    .139   71.3   16.8  4.66
D-1.00  167  .03 118  7.56  .76    .107    .13    .083   51.2   13.1  9.95
     --CYCLE 13 (GRAMS/MILE)--     .105    .24    .090   42.4   41.3 10.97

A 2.10  187  .06 141  8.00 1.35    .147    .32    .123   66.7   16.1  5.93
C 25.9  225  .06  67  8.03 1.36    .153    .27    .050   58.1   13.9  5.94
D-1.01  167  .02 136  7.25  .71    .042    .03    .037   19.1    5.1 10.21
     --CYCLE 14 (GRAMS/MILE)--     .033    .16    .054   36.9   35.1 16.90

I  912  181  .00 218  7.22  .66    .053    .00    .070   22.3    6.8 10.94
A 3.60  206  .25 186  8.40 1.77    .093    .67    .032   35.6    8.2  4.75
D-1.01  164  .06  70  8.34  .90    .038    .09    .018   22.3    4.7  9.27
     --CYCLE 15 (GRAMS/MILE)--     .044    .20    .044   22.1   18.9  7.54

I  905  138  .01 112  7.57  .65    .023    .01    .020   13.1    3.3 11.65
A 2.96  170  .13 101  8.24 1.29    .113    .53    .074   53.1   13.6  6.39
C 20.5  146  .05  96  7.94 1.01    .067    .15    .040   33.6    9.4  7.96
D-1.01  141  .01 159  7.52  .74    .032    .02    .040   18.3    4.7 10.14
     --CYCLE 16 (GRAMS/MILE)--     .060    .20    .047   32.8   31.2 13.51

I  913  172  .00 179  7.23  .66    .040    .00    .046   17.8    4.8 10.95
A 2.05  203  .06 159  7.67 1.23    .159    .32    .138   63.7   16.0  6.24
C 25.1  176  .03 119  7.90 1.22    .133    .15    .093   63.1   15.4  6.48
D-1.00  183  .06 102  8.04  .83    .044    .11    .027   20.6    4.9  9.70
     --CYCLE 17 (GRAMS/MILE)--     .097    .15    .079   42.4   41.1 15.53

I  916  178  .00 198  7.24  .66    .033    .00    .102   35.7    9.5 10.97
A 2.57  214  .06 193  8.10 1.53    .121    .27    .064   48.3   11.5  5.29
D-1.00  146  .02  94  7.59  .71    .047    .04    .033   25.6    6.5 10.69
I    3  529  .00  72  6.51  .40    .052    .00    .008    6.8    2.0 16.23
     --CYCLE 18 (GRAMS/MILE)--     .073    .08    .053   29.8   29.6  9.41


TEST STOP:   9:35: 6
TEST LENGTH: 1370.8


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     0  NOX=     0 CO2D=   .01

SPAN CHECK
 FID=    99  COD=  1722  NOX=   196 CO2D=  4.16

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    25  COD=   582  NOX=    35 CO2D=  1.66

COLD STAB SAMP
 FID=    12  COD=    29  NOX=    21 CO2D=  1.10

COLD TRAN AMB
 FID=     3  COD=    12  NOX=     0 CO2D=   .06

COLD STAB AMB
 FID=     3  COD=    10  NOX=     0 CO2D=   .07

REPEAT BAG READS ? B
```

SOAK TIME : 600

TEST STAPT : 9:44:39.3
CRANK TIME : 1.0

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	69	.00	29	.10	.06	.012	.00	.006	.2	3.7	1.43
I 549	1013	.48	50	5.60	.33	.253	.82	.014	15.1	5.2	16.97
A 3.03	1013	.35	161	8.44	1.63	.465	1.08	.081	41.0	9.4	5.18
C 25.0	628	.19	119	8.11	1.45	2.040	4.15	.426	278.6	66.3	5.59
D-1.00	358	.06	60	8.03	.72	.069	.09	.013	16.4	3.9	11.15
--CYCLE 1 (GRAMS/MILE)--						.790	1.71	.150	97.5	88.5	16.15
I 863	275	.03	128	6.71	.63	.211	.16	.108	54.5	15.7	10.65
A 2.10	332	1.06	191	8.98	2.34	.781	16.78	.495	223.3	48.0	3.84
C 52.3	233	.25	273	9.02	2.96	1.536	11.09	2.020	628.9	134.6	3.05
D-1.00	347	.06	124	6.91	.90	.313	.43	.123	65.9	18.4	7.63
--CYCLE 2 (GRAMS/MILE)--						.789	7.90	.763	270.2	216.7	16.94
I 914	247	.03	251	7.61	.68	.061	.05	.068	19.8	5.0	11.19
A 2.74	265	.44	265	8.90	2.16	.271	3.03	.288	96.2	20.9	4.12
C 35.4	255	.13	106	8.44	1.69	.132	.63	.083	63.3	14.6	4.99
D-1.01	239	.06	137	7.91	.72	.064	.11	.040	22.3	5.4	10.99
--CYCLE 3 (GRAMS/MILE)--						.160	1.06	.136	56.1	45.9	15.60
I 913	229	.03	326	7.59	.67	.021	.02	.033	7.4	1.9	11.33
A 3.26	257	.72	195	8.78	2.13	.171	3.22	.143	61.7	13.6	4.12
D-1.01	224	.06	76	8.52	.91	.064	.15	.026	28.2	6.4	9.36
--CYCLE 4 (GRAMS/MILE)--						.071	.94	.056	27.1	21.9	12.93
I 926	190	.03	201	7.66	.67	.063	.07	.074	26.9	6.8	11.43
A 3.12	248	.81	254	8.66	2.52	.253	5.66	.291	95.1	21.2	3.44
C 35.1	270	.06	130	7.53	1.42	.237	.50	.152	84.7	21.7	5.30
D-1.01	258	.04	132	7.32	.72	.072	.08	.041	21.7	5.7	10.46
--CYCLE 5 (GRAMS/MILE)--						.189	1.75	.155	63.4	55.4	16.53

TEST STOP: 9:53:27
TEST LENGTH: 506.8

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= -0001 NOX= 0 CO2D= .02

SPAN CHECK
FID= 99 COD= 1728 NOX= 194 CO2D= 4.99

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 26 COD= 67 NOX= 31 CO2D= 1.50

HOT TRAN AMB
FID= 13 COD= 9 NOX= 0 CO2D= .03

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

41-4

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	1.044	26.19	.293	152	49.9
ACCEL	2.733	50.52	1.643	563	184.7
DECEL	1.609	3.49	.321	149	52.9
CRUISE	5.544	116.61	2.673	1274	237.4
CHOKE	5.235	162.35	.905	768	185.7
TOTAL	19.930	201.63	4.945	2143	505.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	3.036	56.01	1.374	595.2	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.584	.15	.755	227	61.0
ACCEL	1.971	8.40	1.531	763	181.3
DECEL	.771	1.45	.616	345	85.6
CRUISE	1.938	3.83	1.464	823	201.8
CHOKE	.000	.00	.000	0	.0
TOTAL	5.264	13.83	4.366	2158	529.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.350	3.55	1.119	553.2	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.626	1.11	.303	124	33.2
ACCEL	1.945	29.77	1.309	517	113.0
DECEL	.582	.85	.243	155	39.9
CRUISE	4.045	16.37	2.682	1056	237.2
CHOKE	3.836	23.08	1.143	629	152.1
TOTAL	7.199	48.10	4.537	1852	428.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.000	13.36	1.260	514.4	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.876	17.06	1.210	551.2	

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.541	10.95	1.153	510.4
COLD STABILIZED	.221	.60	1.096	513.7
HOT TRANSIENT	.437	1.14	1.031	456.2
WEIGHTED TOTAL	.346	2.33	1.091	499.9

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.773	12.112	8.859
RELATIVE HUMIDITY	59	59	59
HUM. CORR. FACTOR	.997	.997	.997
CVS REVOLUTIONS	9930	16930	9990
AVG.INLET DEPR. (IN.H20)	12.3	12.1	12.3
AVG.PRESSURE DIFF. (IN.H20)	21.3	21.0	21.2
AVG.CVS TEMPERATURE (DEG.F)	86	89	83
MAX.INLET DEPR. (IN.H20)	12.5	12.2	12.4
MIN.INLET DEPR. (IN.H20)	11.9	12.0	12.0
MAX.CVS TEMPERATURE (DEG.F)	86	92	87

MIN.CVS TEMPERATURE (DEG.F)	76	87	78
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243
TOTAL CVS VOL. (STD.CU.FT.)	2206	3770	2218
AVG MODAL CO2 RATIO	4.16	7.05	4.97
FUEL ECONOMY (MI/GAL)	16.77	17.05	19.32

41-5

(42)

OEM carb. & ignition. .035" plug gap.

HC	CO	NO_x	CO_2	ECON.
.115	.67	.767	402.0	19.5

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 3-10-76   10:13
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    73
BAROMETER?  2938
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?  CARB:OEM                        IDLE SET:AS IS
REMARKS  ? TEST: H 73 EPA                   ODOMETER--
REMARKS  ? ENGINE 225 CID                    NOTES: MODAL/ CATYLIST

ZERO CHECK
 FID=     0  COR=   .01 CO2R=   .00   NO=      7 CO2D=   .02

SPAN CHECK
 FID=    99  COR=  7.83 CO2R= 15.32   NO=    187 CO2D=  4.09

REPEAT Z/S CHECKS? N

TEST START :  10:24:42.8
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/R
 P/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO    CO2     VOL.  F/F

CRANK  599  .10  23  9.50  .58   .009    .01   .000    1.5     .3 16.38
I  653  364  .09  52  9.41  .55   .092    .15   .015   25.0    5.1 16.80
A 3.00  327  .34 154 10.88 1.63   .115    .80   .060   40.4    7.2  6.67
C 24.7  303  .22 108 10.62 1.39   .707   3.46   .280  262.2   47.6  7.64
D-1.02  397  .18  33 10.26  .63   .052    .16   .005   14.1    2.7 16.29
     --CYCLE  1 (GRAMS/MILE)--     .130    .61   .048   45.8   62.9 16.90

I  643  233  .06  54  9.41  .54   .110    .22   .028   46.1    9.5 17.43
A 2.10  290 1.09 217 10.86 2.34   .556  14.19   .463  220.2   39.1  4.64
C 51.8  290  .32 272 10.84 2.85  1.511  11.22  1.576  597.4  106.4  3.80
D-1.00  707  .13  26  8.78  .80   .444    .55   .018   58.4   12.8 10.99
     --CYCLE  2 (GRAMS/MILE)--     .350   3.40   .278  122.9  167.8 17.01
```

I	628	349	.08	36	9.51	.54	.055	.08	.015	15.7	3.2	17.61
A	2.71	308	.41	278	10.74	2.06	.250	2.24	.251	92.1	16.5	5.21
C	35.0	353	.17	96	10.12	1.64	.205	.66	.062	62.1	11.8	6.18
D	-1.01	663	.12	27	9.44	.60	.125	.15	.006	18.7	3.8	15.73
	--CYCLE	3	(GRAMS/MILE)--				.084	.42	.044	25.2	35.4	16.74
											42-1	
I	633	387	.08	200	9.45	.53	.023	.03	.013	5.9	1.2	17.85
A	3.23	335	.79	244	10.81	2.21	.187	2.97	.152	63.9	11.4	4.89
D	-1.01	269	.13	32	10.19	.77	.060	.19	.008	24.0	4.5	13.23
	--CYCLE	4	(GRAMS/MILE)--				.036	.43	.023	12.5	17.2	12.55
I	632	283	.08	80	9.39	.54	.062	.12	.019	21.6	4.5	17.39
A	3.11	311	1.00	306	10.77	2.42	.250	5.42	.274	91.7	16.4	4.45
C	34.6	330	.13	115	9.81	1.37	.261	.69	.101	82.0	16.1	7.16
D	-1.01	513	.11	30	9.86	.65	.110	.16	.007	20.2	4.4	13.63
	--CYCLE	5	(GRAMS/MILE)--				.091	.85	.054	29.7	41.4	17.46
I	622	360	.08	115	9.29	.53	.022	.03	.008	5.9	1.2	17.53
A	2.29	272	.12	161	10.07	1.49	.159	.47	.105	62.4	12.0	6.80
C	24.7	260	.13	73	9.99	1.15	.088	.29	.027	35.6	6.9	8.69
D	-1.02	234	.09	34	9.09	.68	.040	.08	.005	13.5	2.9	13.37
	--CYCLE	6	(GRAMS/MILE)--				.041	.12	.019	15.6	22.9	15.49
I	613	293	.08	79	9.16	.53	.057	.10	.017	18.8	4.0	17.29
A	2.95	253	.25	139	10.50	1.43	.058	.38	.035	25.3	4.6	7.34
C	19.2	242	.13	113	10.00	1.16	.205	.74	.107	99.9	17.3	8.62
D	-1.02	334	.20	28	10.12	.77	.047	.19	.004	15.2	2.9	13.16
	--CYCLE	7	(GRAMS/MILE)--				.049	.19	.022	19.9	28.8	14.72
I	603	297	.08	53	9.16	.53	.090	.16	.018	29.3	6.2	17.28
A	2.68	269	.16	163	10.31	1.71	.140	.56	.094	56.5	10.6	6.03
D	-1.01	479	.12	44	9.43	.92	.195	.33	.020	40.5	8.3	10.25
	--CYCLE	8	(GRAMS/MILE)--				.057	.14	.018	16.8	25.0	11.53
I	611	409	.08	67	9.06	.52	.063	.08	.012	14.9	3.2	17.42
A	2.02	230	.29	130	10.57	1.35	.164	1.14	.085	65.4	11.9	7.83
D	-1.01	289	.12	73	9.67	.66	.049	.14	.014	17.4	3.5	14.65
	--CYCLE	9	(GRAMS/MILE)--				.037	.19	.015	13.0	18.6	11.81
A	2.55	268	.19	194	10.37	1.76	.171	.81	.137	69.9	13.0	5.89
D	-1.03	364	.17	65	9.24	.78	.134	.42	.027	36.0	7.5	11.85
	--CYCLE	10	(GRAMS/MILE)--				.041	.16	.022	14.1	20.5	15.49
A	2.67	293	.30	200	10.59	1.87	.184	1.27	.139	70.1	12.8	5.66
C	26.5	317	.15	93	9.85	1.22	1.332	4.24	.435	437.9	85.8	8.07
D	-1.01	311	.11	54	9.46	.68	.051	.12	.010	16.4	3.3	13.93
	--CYCLE	11	(GRAMS/MILE)--				.209	.75	.078	69.9	101.9	22.44
A	2.50	266	.21	204	10.29	1.65	.160	.85	.137	65.6	12.3	6.24
C	24.0	282	.13	77	9.69	1.19	.230	.71	.070	93.4	16.6	8.20
D	-1.01	455	.11	21	9.06	.62	.104	.17	.005	21.9	4.7	14.61
	--CYCLE	12	(GRAMS/MILE)--				.066	.23	.028	22.8	33.6	18.99
I	593	381	.09	45	9.98	.52	.134	.21	.018	33.3	7.2	17.27
A	2.53	337	.40	160	10.12	1.76	.221	1.76	.116	70.1	13.4	5.76
D	-1.00	394	.11	30	9.02	.67	.193	.34	.016	44.3	9.5	13.46
	--CYCLE	13	(GRAMS/MILE)--				.072	.31	.020	19.7	30.0	12.05
A	2.11	294	.23	142	10.11	1.38	.184	.97	.099	67.0	12.8	7.33
C	25.7	302	.13	56	9.59	1.25	.156	.45	.032	52.3	10.5	7.67
D	-1.01	558	.10	24	8.44	.55	.092	.11	.004	14.3	3.4	15.07
	--CYCLE	14	(GRAMS/MILE)--				.058	.20	.013	17.9	26.7	17.99
I	612	406	.09	76	8.91	.52	.074	.11	.015	17.2	3.7	17.13
A	3.52	303	.34	207	10.53	1.39	.102	.77	.073	37.5	6.9	5.57
D	-1.02	237	.11	30	9.65	.76	.047	.12	.005	16.7	3.3	12.70

```
      --CYCLE 15 (GRAMS/MILE)--     .030     .13     .013     9.5    13.9   8.19
I  609  315  .09  37  8.99  .54     .035     .07     .011    10.7     2.3  16.65
A 2.06  226  .15 101 10.06 1.29     .120     .54     .060    56.7    10.9   7.32
C 20.4  253  .20  76 10.06 1.03     .092     .49     .031    38.5     7.4   9.77
D-1.01  329  .11  24  9.25  .61     .050     .11     .004    14.8     3.1  15.16
      --CYCLE 16 (GRAMS/MILE)--     .040     .16     .014    16.1    23.6  14.23

I  634  378  .09  40  8.93  .54     .057     .09     .007    14.3     3.1  16.54
A 2.03  341  .21 140 10.02 1.31     .214     .89     .093    66.6    12.8   7.65
C 24.7  292  .12  88  9.70 1.26     .193     .50     .061    64.1    12.8   7.70
D-1.01  340  .13  21  9.67  .82     .066     .18     .005    19.9     4.0  11.79
      --CYCLE 17 (GRAMS/MILE)--     .069     .22     .023    22.0    32.7  15.36

I  597  366  .09  45  8.81  .52     .103     .18     .015    27.6     6.0  16.94
A 2.71  323  .17 126  9.95 1.64     .156     .55     .063    50.8     9.8   6.07
D-1.01  504  .12  16  9.03  .68     .127     .20     .004    24.0     5.1  13.23
I  603  418  .09  13  8.79  .51     .026     .04     .001     5.7     1.2  17.24
      --CYCLE 18 (GRAMS/MILE)--     .056     .13     .012    14.4    22.3  10.00



TEST STOP:  10:48: 2
TEST LENGTH: 1373.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     6  NOX=     0 CO2D=    .02

SPAN CHECK
 FID=    99  COD=  1694  NOX=   195 CO2D=   4.11

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    12  COD=    33  NOX=    19 CO2D=   1.21

BACKGROUND BAG
 FID=     9  COD=     7  NOX=     1 CO2D=    .07

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE      1.016    1.70    .211     294    61.8
ACCEL     3.390   36.59   2.449    1272   234.5
DECEL     1.976    3.74    .167     431    89.7
CRUISE    4.969   23.47   2.782    1805   339.3
CHOKE     1.641   13.99    .951     610   111.5
TOTAL    11.352   65.50   5.609    3802   725.4

EQUIVALENT MASS BAG RESULTS
GMS/MI    1.514    8.73    .748   506.9



***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
                    HC       CO       NOX      CO2
```

.115 .67 .767 [illegible]

41-3

***** TEST VAPIABLES *****

PELATIVE HUMIDITY	62
HUM. COPP. FACTOR	1.006
CVS PEVOLUTIONS	26650
AVG.INLET DEPP. (IN.H2Ø)	12.1
AVG.PPESSUPE DIFF. (IN.H2O)	2Ø.7
AVG.CVS TEMPERATUPE (DEG.F)	95
MAX.INLET DEPP. (IN.H2O)	12.5
MIN.INLET DEPP. (IN.H2O)	11.9
MAX.CVS TEMPERATUPE (DEG.F)	99
MIN.CVS TEMPERATUPE (DEG.F)	87
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5866
AVG MODAL C02 PATIO	7.95
FUEL ECONOMY (MI/GAL)	19.15

(43)

OEM carb. & ignition. .035" plug gap.

HC	CO	NO_x	CO_2	ECON
.116	.63	.733	451.1	19.6

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-10-76    9:33
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    64
DRY BULB ?    73
BAROMETER?  2938
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB OLLEY OF                    IDLE SET AS IS
REMARKS  ? ENGINE 225 CID                   ODOMETER
REMARKS  ? H-EPA                            NOTES

ZERO CHECK
 FID= -0002  COR=   .00 CO2R=-00.01   NO=     1 CO2D=   .01

SPAN CHECK
 FID=    99  COR=  7.91 CO2R= 15.39   NO=   139 CO2D=  4.13

REPEAT Z/S CHECKS? N

TEST START :   9:43:33.4
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/F
 D/A/S   HC   CO  NO  CO2  CONC     HC      CO      NO     CO2    VOL.  F/F

CRANK   122  .11  23  9.41  .57   .002     .01    .000     1.6     .3 16.51
```

I	695	115	.10	66	9.52	.57	.029	.17	.019	25.7	5.2	16.70
A	3.00	191	.43	151	11.22	1.67	.067	1.01	.059	41.6	7.1	6.72
C	25.0	202	.23	103	10.75	1.33	.467	3.53	.265	262.9	47.2	7.79
D	-1.01	318	.16	33	10.40	.61	.040	.14	.005	13.9	2.6	17.05
		--CYCLE	1	(GRAMS/MILE)--			.081	.65	.046	46.1	62.5	16.81
											43-1	
I	649	201	.06	58	9.24	.54	.096	.23	.031	46.7	9.8	17.11
A	2.12	265	1.21	203	11.41	2.33	.489	15.02	.416	222.5	37.6	4.90
C	52.0	233	.26	290	11.15	2.87	1.201	9.02	1.663	608.0	105.2	3.89
D	-1.00	692	.11	26	9.04	.78	.413	.44	.017	57.2	12.2	11.60
		--CYCLE	2	(GRAMS/MILE)--			.293	3.20	.284	124.6	164.8	17.75
I	644	347	.06	94	9.93	.54	.053	.07	.016	16.0	3.1	18.05
A	2.72	294	.35	285	11.28	2.14	.236	1.99	.254	95.6	16.4	5.27
C	35.3	321	.12	86	10.33	1.64	.182	.46	.054	62.1	11.6	6.30
D	-1.00	546	.11	28	9.51	.60	.102	.14	.006	13.8	3.8	15.85
		--CYCLE	3	(GRAMS/MILE)--			.076	.34	.044	25.7	34.9	16.51
I	648	353	.06	169	9.93	.54	.020	.03	.011	6.8	1.2	18.39
A	3.09	336	.75	243	11.18	2.23	.185	2.77	.149	65.8	11.2	4.99
D	-1.00	252	.11	36	10.40	.84	.060	.18	.010	26.3	4.9	12.38
		--CYCLE	4	(GRAMS/MILE)--			.035	.40	.023	13.0	17.3	12.17
I	670	253	.06	78	9.90	.54	.053	.09	.018	22.1	4.3	18.00
A	3.12	275	.36	299	11.35	2.51	.219	4.61	.265	95.6	16.3	4.52
C	35.2	297	.10	120	9.74	1.42	.246	.56	.111	85.4	16.9	6.36
D	-1.00	529	.09	26	8.90	.58	.102	.12	.006	18.1	3.9	15.34
		--CYCLE	5	(GRAMS/MILE)--			.083	.72	.053	29.5	41.4	17.17
I	624	377	.06	106	9.75	.53	.022	.03	.007	5.9	1.2	18.40
A	2.31	306	.18	132	9.29	1.53	.202	.80	.097	65.0	13.5	6.09
C	25.0	239	.09	47	10.20	1.18	.081	.21	.018	36.8	7.0	3.64
D	-1.01	301	.09	28	9.71	.63	.037	.07	.004	12.7	2.5	15.43
		--CYCLE	6	(GRAMS/MILE)--			.046	.15	.017	16.0	24.1	15.05
I	637	239	.06	72	9.76	.54	.045	.09	.015	19.3	3.8	18.07
A	3.03	266	.32	109	10.84	1.54	.064	.52	.029	27.5	4.9	7.04
C	19.5	224	.12	104	10.47	1.20	.190	.69	.098	94.0	17.3	8.72
D	-1.01	334	.17	24	10.59	.67	.040	.14	.003	13.4	2.4	15.81
		--CYCLE	7	(GRAMS/MILE)--			.045	.19	.019	20.6	28.5	14.25
I	622	261	.06	52	9.65	.54	.077	.14	.017	30.3	6.1	17.97
A	2.67	252	.21	133	10.84	1.67	.123	.69	.100	56.1	12.0	6.49
D	-1.00	349	.10	28	9.92	.95	.141	.27	.013	42.5	9.3	10.44
		--CYCLE	8	(GRAMS/MILE)--			.046	.15	.017	17.2	24.3	11.33
I	606	313	.06	54	8.10	.52	.055	.09	.011	15.2	3.6	15.59
A	2.02	227	.26	129	10.56	1.37	.137	1.06	.087	67.5	12.3	7.71
D	-1.00	272	.13	67	10.18	.64	.043	.14	.012	17.2	3.3	15.91
		--CYCLE	9	(GRAMS/MILE)--			.031	.17	.015	13.3	19.2	11.59
A	2.56	267	.16	196	10.72	1.78	.169	.68	.138	71.7	12.9	6.02
D	-1.04	318	.10	64	9.66	.82	.120	.25	.027	38.5	7.7	11.78
		--CYCLE	10	(GRAMS/MILE)--			.038	.12	.022	14.7	20.6	14.98
A	2.67	287	.15	192	10.90	1.85	.177	.62	.131	70.3	12.6	5.84
C	26.3	311	.13	83	10.47	1.23	1.257	3.54	.373	447.4	82.5	8.51
D	-1.00	275	.15	48	10.91	.69	.040	.15	.008	16.9	3.0	15.81
		--CYCLE	11	(GRAMS/MILE)--			.196	.57	.068	71.3	98.0	22.09
A	2.55	290	.35	195	11.25	1.75	.171	1.39	.128	70.3	12.1	6.43
C	24.4	272	.15	70	10.42	1.16	.204	.76	.059	82.5	15.3	8.97
D	-1.00	364	.10	30	10.13	.67	.031	.15	.007	23.8	4.5	15.19
		--CYCLE	12	(GRAMS/MILE)--			.061	.31	.026	23.6	31.9	18.31
I	605	321	.06	46	9.89	.53	.105	.15	.017	34.3	6.7	18.66

A	2.52	272	.20	174	11.06	1.80	.163	.33	.120	72.4	12.6	6.14
D	-1.00	296	.11	31	10.04	.68	.127	.32	.015	45.4	8.7	14.76
	--CYCLE 13 (GRAMS/MILE)--						.053	.17	.020	20.3	28.1	11.87

43-2

A	2.11	264	.17	135	10.87	1.42	.160	.69	.091	69.7	12.4	7.65
C	26.1	327	.11	57	10.26	1.31	.157	.38	.032	55.5	10.4	7.83
D	-1.00	428	.09	19	7.23	.57	.035	.12	.004	15.2	4.1	12.68
	--CYCLE 14 (GRAMS/MILE)--						.054	.16	.017	18.7	26.9	17.18
I	612	343	.06	80	9.61	.52	.059	.03	.015	17.4	3.5	13.43
A	3.55	275	.27	216	11.26	1.85	.086	.59	.075	37.2	6.4	6.09
D	-1.02	313	.20	29	10.69	.83	.051	.22	.005	18.5	3.3	12.38
	--CYCLE 15 (GRAMS/MILE)--						.026	.12	.013	9.7	13.2	8.04
I	616	274	.09	73	9.78	.54	.029	.06	.009	11.0	2.2	17.79
A	2.06	203	.20	84	10.74	1.31	.104	.69	.048	58.3	10.5	8.20
C	20.7	207	.13	51	9.96	.97	.072	.30	.020	36.7	7.1	10.28
D	-1.01	289	.13	26	10.11	.60	.040	.12	.004	14.7	2.8	16.85
	--CYCLE 16 (GRAMS/MILE)--						.033	.16	.011	16.1	22.6	14.24
I	609	285	.11	37	9.66	.53	.040	.10	.006	14.2	2.3	18.23
A	2.05	251	.22	135	10.81	1.39	.147	.96	.083	66.9	11.9	8.32
C	24.9	274	.13	92	9.59	1.37	.190	.65	.071	70.1	14.1	6.99
D	-1.03	455	.15	26	10.25	.72	.074	.16	.005	17.6	3.3	14.24
	--CYCLE 17 (GRAMS/MILE)--						.060	.24	.023	22.5	32.2	15.03
I	600	316	.09	51	9.68	.53	.037	.17	.016	23.3	5.7	18.26
A	2.55	322	.18	112	10.74	1.60	.142	.53	.055	50.0	9.0	6.71
D	-1.03	373	.11	21	9.73	.67	.086	.17	.005	23.8	4.7	14.52
I	597	336	.09	20	9.57	.52	.019	.03	.001	5.8	1.2	18.40
	--CYCLE 18 (GRAMS/MILE)--						.045	.12	.010	14.4	20.5	10.04

TEST STOP: 10: 6:53
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 2 NOX= 0 CO2D= .02

SPAN CHECK
FID= 96 COD= 1737 NOX= 195 CO2D= 4.10

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 8 COD= 29 NOX= 17 CO2D= 1.17

BACKGROUND BAG
FID= 5 COD= 5 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.793	1.54	.239	300	60.6
ACCEL	3.045	35.27	2.323	1303	289.6
DECEL	1.693	3.38	.155	435	96.1
CRUISE	4.248	28.14	2.763	1941	334.7
CHOKE	1.190	20.15	.795	615	109.9

TOTAL	9.769	60.24	5.454	3879	711.0

43-3

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.303	8.03	.727	517.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.116	.63	.733	451.1

***** TEST VARIABLES *****

RELATIVE HUMIDITY	62
HUM. CORR. FACTOR	1.006
CVS REVOLUTIONS	26660
AVG.INLET DEPR. (IN.H20)	11.9
AVG.PRESSURE DIFF. (IN.H20)	20.7
AVG.CVS TEMPERATURE (DEG.F)	89
MAX.INLET DEPR. (IN.H20)	12.2
MIN.INLET DEPR. (IN.H20)	11.7
MAX.CVS TEMPERATURE (DEG.F)	94
MIN.CVS TEMPERATURE (DEG.F)	80
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5936
AVG MODAL CO2 RATIO	3.17
FUEL ECONOMY (MI/GAL)	19.60

Cold '75

(44)

OEM carb. & ignition. .035" plug gap.

HC	CO	NO_x	CO_2	ECON.
.380	6.52	.859	511.4	16.96

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
 3-10-76    7:51
CONSOLE SWS: 4
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 64
DRY BULB ? 73
BAROMETER? 2938
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1,2,3
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?XXXXXXXXXXXXXXXXXXXXXXXXXXXX OE          IDLE SET AX IS
REMARKS  ? ENGINE 225 CID                          ODOMETER
REMARKS  ? C-EPA                                   NOTES

ZERO CHECK OUT OF LIMITS
 FID= -0001  COR=   .03 CO2R=   .00   NO=    15*CO2D=   .02

ZERO CHECK
 FID= -0002  COR=   .02 CO2R=-00.01   NO=     9 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   102  COR=  7.88 CO2R= 15.72   NO=   191 CO2D=  4.43*

ZERO CHECK
 FID= -0003  COR=   .02 CO2R=   .00   NO=     8 CO2D=   .02

SPAN CHECK OUT OF LIMITS
 FID=   101  COR=  7.85 CO2R= 15.82   NO=   208*CO2D=  4.14

ZERO CHECK
 FID= -0003  COR=   .02 CO2R=   .00   NO=     7 CO2D=   .02

SPAN CHECK
 FID=   101  COR=  7.86 CO2R= 15.79   NO=   191 CO2D=  4.10

REPEAT Z/S CHECKS? N

TEST START :   8:40:56.2
CRANK TIME :  1.6

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/R
 F/A/S   HC    CO  NO  CO2  CONC    HC      CO      NO     CO2    VOL.  F/E

CRANK   118  .10  40   .43  .04   .004    .02    .001     .2     .7 12.00
```

I	0	957	5.17	45	8.33	.75	.370	13.46	.019	34.1	7.9	11.11
A	3.01	904	4.18	381	9.15	1.62	.381	11.39	.179	40.8	8.6	5.65
C	24.8	914	3.87	25	9.35	1.79	3.175	90.47	.097	343.5	70.9	5.22
D	-1.00	1036	6.11	6	7.82	.67	.191	7.56	.001	15.2	3.8	11.67
		--CYCLE	1	(GRAMS/MILE)--			1.145	34.28	.083	120.5	91.3	9.32

44-1

I	0	769	3.42	22	8.56	.67	.492	14.74	.016	58.0	13.1	12.78
A	2.10	676	2.35	151	10.17	2.76	1.651	38.62	.410	262.6	49.8	3.68
C	52.1	368	.72	267	11.85	3.53	2.183	23.75	1.762	743.5	121.1	3.36
D	-1.00	463	.42	59	11.36	1.01	.237	1.73	.040	73.7	12.5	11.25
		--CYCLE	2	(GRAMS/MILE)--			1.282	23.29	.619	316.1	196.6	13.54

I	721	309	.31	167	10.77	.59	.046	.31	.028	17.1	3.1	18.25
A	2.72	318	.44	340	12.37	2.35	.256	2.39	.305	105.4	16.4	5.26
C	35.1	438	.23	112	11.57	1.85	.251	.89	.071	70.2	11.7	6.25
D	-1.01	259	.13	94	11.31	.64	.043	.15	.018	20.0	3.4	17.67
		--CYCLE	3	(GRAMS/MILE)--			.166	1.04	.117	59.1	34.6	14.86

I	729	255	.11	226	10.86	.58	.014	.04	.014	6.5	1.2	18.72
A	3.29	351	.69	268	12.23	2.44	.193	2.56	.164	71.2	11.2	4.99
D	-1.01	269	.13	77	11.54	.87	.060	.27	.019	27.2	4.6	13.26
		--CYCLE	4	(GRAMS/MILE)--			.274	.80	.255	29.1	16.9	11.35

I	729	243	.11	153	10.70	.58	.050	.15	.035	23.4	4.2	18.45
A	3.10	306	1.10	262	12.18	2.76	.249	6.09	.237	105.2	16.6	4.41
C	35.1	378	.06	109	10.63	1.54	.312	.39	.100	92.9	16.9	6.99
D	-1.01	269	.12	74	10.68	.60	.045	.13	.014	18.7	3.4	17.80
		--CYCLE	5	(GRAMS/MILE)--			.182	1.83	.187	66.6	41.1	15.73

I	714	260	.10	180	10.63	.57	.015	.04	.011	6.4	1.2	18.65
A	2.27	289	.15	154	11.33	1.56	.159	.56	.094	66.1	11.3	7.26
C	24.9	319	.09	97	11.23	1.33	.112	.21	.038	41.6	7.1	8.44
D	-1.02	257	.18	93	11.42	.69	.030	.14	.012	13.9	2.3	16.55
		--CYCLE	6	(GRAMS/MILE)--			.081	.24	.040	32.9	21.9	14.21

I	711	223	.06	134	10.54	.58	.042	.08	.028	20.8	3.8	18.17
A	3.10	232	.22	131	11.90	1.56	.051	.33	.032	27.8	4.5	7.63
C	19.5	211	.10	136	11.59	1.25	.168	.54	.121	97.7	16.3	9.27
D	-1.02	280	.36	80	12.81	.71	.030	.26	.009	14.3	2.2	18.04
		--CYCLE	7	(GRAMS/MILE)--			.075	.31	.049	41.2	26.7	13.74

I	697	204	.05	93	11.15	.57	.055	.09	.028	31.9	5.5	19.56
A	2.72	269	.19	183	12.31	1.82	.126	.60	.095	61.0	9.6	6.76
D	-1.01	236	.12	64	12.05	.95	.078	.27	.024	42.4	6.8	12.68
		--CYCLE	8	(GRAMS/MILE)--			.067	.25	.038	34.7	21.9	10.84

I	687	203	.04	96	11.27	.55	.028	.04	.015	16.3	2.8	20.13
A	2.05	240	.36	128	12.82	1.43	.124	1.26	.074	70.3	10.6	8.97
D	-1.01	218	.24	86	9.82	.67	.038	.28	.017	18.0	3.5	14.66
		--CYCLE	9	(GRAMS/MILE)--			.249	.40	.027	26.8	16.9	11.04

A	2.54	272	.16	186	12.42	1.85	.154	.61	.117	74.3	11.6	6.71
D	-1.05	213	.06	79	11.95	.82	.065	.14	.027	33.5	6.2	14.57
		--CYCLE	10	(GRAMS/MILE)--			.056	.19	.037	28.9	17.8	14.70

A	2.65	247	.21	190	12.71	1.95	.136	.78	.116	73.9	11.2	6.52
C	26.8	260	.12	98	11.90	1.31	.983	3.05	.412	475.8	77.2	9.99
D	-1.00	193	.11	81	12.19	.65	.024	.09	.011	16.0	2.5	18.75
		--CYCLE	11	(GRAMS/MILE)--			.293	1.01	.138	145.1	99.9	20.99

A	2.56	251	.25	188	12.54	1.77	.134	.90	.112	71.0	10.9	7.08
C	24.2	237	.10	77	11.71	1.22	.167	.47	.060	87.1	14.4	9.60
D	-1.00	211	.06	48	11.53	.68	.042	.08	.011	24.2	4.1	16.96
		--CYCLE	12	(GRAMS/MILE)--			.088	.37	.047	46.7	29.3	17.92

I	663	200	.04	67	10.21	.54	.065	.09	.024	35.1	6.6	18.93

```
A 2.55  267  .18 162 12.37 1.87    .154    .70    .104    75.3    11.7   6.61
D-1.00  199  .06  42 11.47  .69    .076    .18    .018    46.3     7.8  16.62
     --CYCLE 13 (GRAMS/MILE)--     .076    .25    .037    40.2    26.2  11.59
                                                                44-2

A 2.10  215  .13 136 12.17 1.47    .121    .53    .085    72.4    11.5   8.23
C 25.3  320  .09  56 11.75 1.36    .149    .28    .029    57.8     9.5   8.64
D-1.01  222  .05  37 10.93  .58    .030    .05    .006    15.6     2.8  18.84
     --CYCLE 14 (GRAMS/MILE)--     .077    .22    .031    37.4    23.7  16.65

I  659  228  .03  83 10.99  .54    .036    .03    .014    18.1     3.2  20.35
A 3.55  258  .50 206  9.49 2.01    .104   1.36    .093    40.6     8.3   4.72
D-1.02  253  .21  43 12.33  .74    .032    .13    .006    16.6     2.6  16.66
     --CYCLE 15 (GRAMS/MILE)--     .044    .40    .029    19.3    14.0   7.71

I  663  205  .04  74 10.97  .55    .020    .03    .008    11.3     2.0  19.59
A 2.07  191  .11 107 12.05 1.32    .080    .34    .055    59.1     9.5   9.13
C 20.5  165  .06  69 11.82 1.01    .051    .15    .024    38.6     6.3  11.70
D-1.00  183  .06  31 11.33  .62    .023    .05    .004    15.2     2.6  18.27
     --CYCLE 16 (GRAMS/MILE)--     .047    .15    .023    31.9    20.4  13.98

I  642  199  .03  41 10.76  .54    .025    .03    .006    14.5     2.6  19.93
A 2.05  253  .13 126 11.84 1.36    .145    .53    .079    70.3    11.5   8.71
C 24.9  262  .08  86 11.84 1.44    .155    .32    .057    74.3    12.1   8.22
D-1.01  280  .13  31 11.84  .72    .040    .12    .005    17.7     2.9  16.44
     --CYCLE 17 (GRAMS/MILE)--     .094    .26    .037    45.3    29.1  14.48

I  654  222  .03  60 10.83  .54    .056    .05    .017    29.1     5.2  22.06
A 2.55  261  .13 100 11.92 1.67    .109    .36    .046    52.6     8.5   7.14
D-1.00  256  .06  28 10.90  .64    .051    .08    .006    23.1     4.1  17.03
I    0  235  .01  17 10.58  .30    .010    .00    .001     4.9      .9  35.27
     --CYCLE 18 (GRAMS/MILE)--     .058    .13    .018    28.1    18.7   9.93



TEST STOP:   9: 4:16
TEST LENGTH: 1370.9


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD= -0002  NOX=     0 CO2D=    .01

SPAN CHECK
 FID=    97  COD=  1717  NOX=   198 CO2D=   4.06

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    36  COD=  1544  NOX=    25 CO2D=   1.66

COLD STAB SAMP
 FID=     7  COD=    25  NOX=    15 CO2D=   1.14

COLD TRAN AMB
 FID=     5  COD=    14  NOX=     0 CO2D=    .06

COLD STAB AMB
 FID=     3  COD=    11  NOX=     0 CO2D=    .06

REPEAT BAG READS ? N

SOAK TIME :  600

TEST START :   9:13:50.0
CRANK TIME :  1.0
```

MODE P/A/S	TAILPIPE CONC HC	CO	NO	CO2	CO2D CONC	MASS (GRAMS) HC	CO	NO	CO2	EXH. VOL.	D/R F/F
										44-3	
CRANK	48	.00	37	.11	.06	.008	.00	.007	.2	3.4	1.57
I 535	1034	.58	39	7.98	.29	.163	.62	.007	13.3	3.2	27.52
A 2.96	1036	.43	199	11.57	1.69	.364	1.02	.078	42.9	7.2	6.85
C 24.9	676	.18	115	11.09	1.49	1.439	2.93	.314	288.2	50.2	7.44
D-1.01	585	.11	13	11.33	.63	.070	.00	.002	14.4	2.5	17.93
--CYCLE 1 (GRAMS/MILE)--						.582	1.36	.113	99.8	66.4	16.91
I 607	335	.03	44	10.67	.52	.135	.03	.020	45.4	8.2	22.52
A 2.11	349	1.20	214	12.93	2.44	.601	13.91	.410	235.5	35.2	5.30
C 52.2	298	.25	285	12.71	3.03	1.400	8.12	1.530	648.9	98.5	4.19
D-1.00	590	.08	27	10.08	.84	.344	.31	.018	62.1	11.9	12.00
--CYCLE 2 (GRAMS/MILE)--						.639	6.23	.549	275.6	153.8	16.80
I 654	328	.04	92	11.28	.55	.045	.04	.014	16.4	2.8	20.14
A 2.72	290	.30	302	12.80	2.21	.215	1.50	.249	100.3	15.1	5.77
C 35.4	396	.10	75	11.74	1.76	.209	.36	.045	67.2	11.1	6.67
D-1.00	593	.10	32	11.17	.62	.098	.11	.006	19.6	3.4	18.02
--CYCLE 3 (GRAMS/MILE)--						.158	.56	.087	56.5	32.4	15.71
I 646	335	.03	176	11.15	.54	.020	.01	.010	6.2	1.1	22.27
A 3.27	331	.54	274	12.92	2.29	.162	1.78	.149	67.3	17.8	5.64
D-1.00	287	.06	36	11.66	.95	.062	.10	.009	26.3	4.4	13.72
--CYCLE 4 (GRAMS/MILE)--						.063	.53	.047	27.3	15.5	12.05
I 650	242	.03	87	11.18	.55	.047	.04	.019	22.3	3.9	19.96
A 3.11	266	.73	311	13.06	2.57	.190	3.51	.247	98.7	14.6	5.09
C 35.2	354	.05	101	10.88	1.49	.280	.27	.089	90.9	16.1	7.30
D-1.00	462	.06	33	10.54	.60	.078	.07	.006	18.9	3.5	17.57
--CYCLE 5 (GRAMS/MILE)--						.165	1.09	.100	64.2	38.1	16.63

TEST STOP: 9:22:38
TEST LENGTH: 506.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 1 COD= 0 NOX= 0 CO2D= .01

SPAN CHECK
FID= 99 COD= 1753 NOX= 190 CO2D= 4.11

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 14 COD= 57 NOX= 30 CO2D= 1.48

HOT TRAN AMB
FID= 5 COD= 10 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.977	28.73	.114	139	30.1
ACCEL	2.730	61.54	1.295	585	132.3
DECEL	.626	9.35	.092	155	27.6

CRUISE	5.922	128.50	2.030	1250	220.6
CHOKE	6.264	176.76	.723	754	154.7
TOTAL	18.255	220.61	3.530	2129	381.0

44-4

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.849	61.28	.981	591.4

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.353	.47	.152	199	33.3
ACCEL	1.607	8.85	1.103	815	130.5
DECEL	.558	1.92	.155	302	50.3
CRUISE	1.735	5.02	.740	873	142.3
CHOKE	.000	.00	.000	0	.0
TOTAL	4.302	16.26	2.150	2178	357.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.103	4.17	.551	558.4

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.417	.78	.076	104	22.6
ACCEL	1.532	21.71	1.133	544	82.0
DECEL	.653	.69	.040	142	25.6
CRUISE	3.378	11.73	1.979	1095	175.9
CHOKE	2.830	18.69	.837	640	109.7
TOTAL	5.981	34.91	3.227	1886	306.1

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.661	9.70	.397	523.8

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.616	17.47	.734	555.8

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.947	29.22	.831	508.6
COLD STABILIZED	.201	.45	.786	540.9
HOT TRANSIENT	.291	.93	1.017	457.2
WEIGHTED TOTAL	.380	6.52	.859	511.4

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.374	11.708	8.996
RELATIVE HUMIDITY	62	62	62
HUM. CORR. FACTOR	1.006	1.006	1.006
CVS REVOLUTIONS	9840	16830	9920
AVG.INLET DEPR. (IN.H20)	12.1	11.8	12.0
AVG.PRESSURE DIFF. (IN.H20)	20.9	20.7	21.0
AVG.CVS TEMPERATURE (DEG.F)	87	90	81
MAX.INLET DEPR. (IN.H20)	12.2	12.0	12.2
MIN.INLET DEPR. (IN.H20)	11.9	11.7	11.7
MAX.CVS TEMPERATURE (DEG.F)	96	92	89
MIN.CVS TEMPERATURE (DEG.F)	78	87	73
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243
TOTAL CVS VOL. (STD.CU.FT.)	2198	3752	2241
AVG MODAL CO2 RATIO	5.58	10.47	7.07
FUEL ECONOMY (MI/GAL)	15.92	16.36	19.31

(45)

Engine is OEM, including new plugs (.035")
(#2 catalyst)

HC	CO	NO_x	ECON.
.154	.52	.899	19.42

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8- 6-76   10:37
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    66
DRY BULB ?    73
BAROMETER?  2928
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?    6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?  CARB OEM                    IDLE SET:AS IS
REMARKS  ?  ENGINE 225 CID              ODOMETER----
REMARKS  ?  TEST H 73 EPA

ZERO CHECK
 FID=     1  COR=   .00 CO2R=   .00   NO= -0005 CO2D=   .02

SPAN CHECK
 FID=    97  COR=  7.91 CO2R= 15.77   NO=   196 CO2D=  4.10

REPEAT Z/S CHECKS? N

TEST START :  10:49:  .0
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/E
 B/A/S   HC    CO   NO   CO2  CONC    HC      CO      NO      CO2    VOL.  E/E

CRANK   362  .06   17  9.23  .54   .006     .01    .000     1.5     .3 17.09
```

I	625	280	.06	69	9.29	.53	.068	.10	.020	23.9	5.0	17.51
A	3.07	309	.29	194	11.07	1.66	.109	.69	.090	41.4	7.2	6.67
C	25.1	293	.17	119	10.73	1.41	.705	2.71	.329	268.5	48.3	7.61
D	-1.01	386	.16	35	10.56	.63	.050	.14	.005	14.3	2.6	16.76
		--CYCLE	1	(GRAMS/MILE)--			.125	.49	.058	46.6	63.4	16.66
										45-1		
I	641	214	.05	48	9.11	.53	.101	.16	.027	45.6	9.7	17.19
A	2.11	255	1.04	258	11.62	2.36	.465	12.77	.550	224.2	37.2	4.92
C	52.2	278	.26	309	11.33	2.94	1.442	9.09	1.373	621.6	105.9	3.85
D	-1.00	510	.11	46	9.04	.82	.310	.46	.034	59.9	12.8	11.84
		--CYCLE	2	(GRAMS/MILE)--			.310	3.00	.331	126.8	165.6	17.49
I	672	266	.05	109	10.01	.54	.040	.05	.010	16.0	3.1	18.28
A	2.76	267	.41	313	11.35	2.10	.218	2.25	.303	97.9	16.6	5.16
C	35.5	260	.13	106	10.98	1.67	.141	.51	.067	63.9	11.1	6.57
D	-1.00	493	.13	40	10.11	.61	.087	.16	.008	19.0	3.6	16.57
		--CYCLE	3	(GRAMS/MILE)--			.065	.40	.053	26.1	34.4	16.22
I	663	300	.05	219	9.98	.54	.017	.02	.015	6.1	1.2	18.15
A	3.35	274	.50	313	11.56	2.31	.149	1.83	.199	66.6	11.1	5.00
D	-1.00	247	.10	42	10.99	.81	.054	.15	.011	25.2	4.5	13.46
		--CYCLE	4	(GRAMS/MILE)--			.029	.27	.030	13.1	16.3	12.29
I	631	228	.04	115	9.49	.54	.050	.06	.029	22.0	4.5	17.25
A	3.11	246	.64	336	10.73	2.56	.209	3.66	.334	96.5	17.4	4.19
C	35.4	278	.06	112	9.85	1.44	.229	.33	.108	85.9	16.8	6.84
D	-1.00	340	.06	34	9.48	.60	.063	.09	.007	18.6	3.9	15.80
		--CYCLE	5	(GRAMS/MILE)--			.074	.55	.064	29.7	42.5	17.13
I	642	281	.05	134	9.90	.53	.016	.02	.009	5.9	1.1	18.68
A	2.29	242	.06	154	10.62	1.51	.137	.27	.102	63.6	11.6	7.03
C	25.3	239	.06	88	12.20	1.11	.077	.13	.033	34.7	6.6	9.11
D	-1.01	306	.06	39	10.06	.68	.039	.05	.006	13.6	2.6	14.79
		--CYCLE	6	(GRAMS/MILE)--			.036	.06	.020	15.7	21.9	15.54
I	647	265	.04	91	9.87	.54	.048	.05	.019	19.1	3.7	18.30
A	3.03	220	.13	145	11.16	1.51	.050	.21	.038	26.7	4.6	7.39
C	19.7	181	.08	134	10.23	1.17	.152	.45	.131	90.9	17.1	3.74
D	-1.02	190	.13	39	11.04	.72	.023	.12	.006	14.3	2.5	15.33
		--CYCLE	7	(GRAMS/MILE)--			.036	.11	.026	20.1	28.0	14.67
I	626	249	.05	64	9.82	.54	.072	.10	.022	38.0	5.9	18.19
A	2.72	254	.11	157	11.06	1.79	.129	.33	.093	59.5	10.4	6.13
D	-1.01	257	.06	42	10.12	.91	.097	.13	.013	40.3	7.7	11.12
		--CYCLE	8	(GRAMS/MILE)--			.040	.09	.019	17.3	24.3	11.31
I	625	273	.04	71	9.76	.53	.040	.04	.012	15.2	3.0	18.42
A	2.06	242	.25	150	11.30	1.40	.138	.96	.100	68.3	11.7	8.07
D	-1.00	230	.06	94	10.44	.67	.037	.08	.018	17.8	3.3	15.58
		--CYCLE	9	(GRAMS/MILE)--			.029	.14	.017	13.5	18.0	11.46
A	2.55	235	.13	211	9.79	1.82	.165	.61	.173	72.7	14.3	5.38
D	-1.07	266	.08	84	10.30	.81	.092	.19	.034	37.6	7.2	12.72
		--CYCLE	10	(GRAMS/MILE)--			.034	.11	.028	14.7	21.4	15.00
A	2.69	251	.16	226	11.25	1.90	.151	.65	.159	71.5	12.3	5.92
C	26.3	268	.08	96	10.40	1.24	1.089	2.19	.456	446.8	92.9	8.39
D	-1.01	376	.13	70	10.65	.73	.059	.14	.013	17.8	3.2	14.59
		--CYCLE	11	(GRAMS/MILE)--			.173	.40	.084	71.5	98.4	22.15
A	2.53	263	.26	233	11.28	1.75	.153	1.02	.159	69.6	11.9	6.45
C	24.3	271	.15	97	10.68	1.21	.295	.76	.277	85.4	15.4	8.33
D	-1.01	392	.06	29	10.00	.67	.063	.11	.008	23.7	4.6	14.93
		--CYCLE	12	(GRAMS/MILE)--			.257	.25	.032	23.3	31.9	19.13
I	619	267	.05	64	9.00	.53	.095	.12	.027	34.0	7.3	16.92

A	2.53	291	.29	190	11.06	1.81	.180	1.21	.137	72.3	12.6	6.11
D-	1.00	323	.11	41	10.09	.67	.135	.31	.020	44.5	8.5	15.76
		--CYCLE 13 (GRAMS/MILE)--					.055	.22	.025	20.1	23.4	11.93
										45-2		
A	2.11	233	.18	177	11.12	1.33	.136	.69	.118	67.2	11.7	3.06
C	25.9	275	.08	59	10.03	1.32	.143	.28	.036	55.3	10.6	7.64
D-	1.00	316	.06	25	9.40	.57	.043	.07	.004	15.2	3.1	16.49
		--CYCLE 14 (GRAMS/MILE)--					.044	.14	.021	18.4	25.4	17.57
I	608	296	.05	85	9.68	.52	.050	.06	.017	17.3	3.4	18.62
A	3.60	257	.24	265	11.50	1.90	.080	.50	.097	37.9	6.4	6.05
D-	1.00	242	.13	36	10.17	.75	.037	.15	.006	16.6	3.2	13.56
		--CYCLE 15 (GRAMS/MILE)--					.022	.09	.016	9.6	13.0	9.21
I	623	242	.05	83	9.02	.54	.031	.04	.013	11.0	2.6	14.59
A	2.06	219	.13	118	10.92	1.28	.108	.46	.068	56.3	10.0	8.53
C	20.6	211	.12	62	10.46	.95	.068	.26	.023	35.8	6.6	11.01
D-	1.00	231	.06	28	9.85	.59	.032	.06	.005	14.4	2.9	16.69
		--CYCLE 16 (GRAMS/MILE)--					.032	.11	.014	15.7	22.1	14.65
I	615	261	.06	46	9.77	.53	.036	.06	.007	14.1	2.8	18.43
A	2.03	246	.36	128	10.91	1.26	.137	1.35	.083	64.2	11.4	8.66
C	24.9	204	.06	108	10.33	1.24	.118	.23	.073	63.4	11.2	8.33
D-	1.01	409	.09	24	10.31	.69	.063	.09	.004	16.9	3.1	14.94
		--CYCLE 17 (GRAMS/MILE)--					.047	.23	.022	21.1	29.1	16.91
I	613	311	.05	53	9.76	.53	.095	.10	.019	23.3	6.2	16.53
A	2.60	266	.13	126	10.80	1.62	.117	.41	.065	50.3	9.0	6.67
D-	1.00	298	.06	22	9.85	.63	.064	.10	.006	22.4	4.4	15.63
I	606	295	.05	23	9.69	.52	.017	.02	.002	5.8	1.2	18.63
		--CYCLE 18 (GRAMS/MILE)--					.039	.09	.012	14.2	20.8	10.20

TEST STOP: 11:12:20
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 3 COD= 0 NOX= 0 CO2D= .02

SPAN CHECK
FID= 96 COD= 1754 NOX= 196 CO2D= 4.09

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 9 COD= 24 NOX= 20 CO2D= 1.18

BACKGROUND BAG
FID= 5 COD= 4 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.783	1.00	.256	296	61.0
ACCEL	2.932	29.94	2.959	1307	227.4
DECEL	1.363	2.63	.213	432	83.3
CRUISE	4.369	16.93	3.206	1951	333.2
CHOKE	1.594	16.57	1.011	619	118.3

TOTAL	9.352	50.49	6.533	3896	704.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.247	6.73	.871	518.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.154	.52	.899	455.7

***** TEST VARIABLES *****

RELATIVE HUMIDITY	70
HUM. CORR. FACTOR	1.057
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.0
AVG.PRESSURE DIFF. (IN.H20)	20.7
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H20)	12.2
MIN.INLET DEPR. (IN.H20)	11.8
MAX.CVS TEMPERATURE (DEG.F)	95
MIN.CVS TEMPERATURE (DEG.F)	79
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5899
AVG MODAL CO2 RATIO	8.17
FUEL ECONOMY (MI/GAL)	19.42

Engine is OEM, including new plugs (.035")
(#2 catalyst)

HC	CO	NOx	ECON.
.115	.78	.853	19.28

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8- 6-76    9:33
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    66
DRY BULB ?    73
BAROMETER?  2928
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ?

ZERO CHECK OUT OF LIMITS
 FID=     0  COR=    .00 CO2R=-00.01    NO= -0021*CO2D=    .02

ZERO CHECK
 FID=     0  COR=    .00 CO2R=-00.01    NO=      2 CO2D=    .02

SPAN CHECK
 FID=    98  COR=   7.86 CO2R= 15.94    NO=    183 CO2D=   4.10

REPEAT Z/S CHECKS? N

TEST START :  10: 7:42.1
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    EXH.  D/P
```

46-1

P/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	220	.08	19	9.40	.57	.004	.01	.000	1.6	.3	16.49
I 649	219	.06	66	9.29	.54	.055	.12	.019	24.3	5.1	16.91
A 2.99	299	.27	162	11.27	1.66	.105	.64	.067	41.3	7.2	6.67
C 25.0	330	.24	122	10.74	1.46	.929	3.95	.348	277.6	49.9	7.36
D-1.01	583	.16	29	10.39	.62	.075	.14	.004	14.0	2.6	16.76
--CYCLE 1 (GRAMS/MILE)--						.156	.65	.059	47.9	65.2	16.11
I 648	282	.06	56	9.09	.53	.134	.19	.031	45.5	9.7	17.15
A 2.12	342	1.21	243	11.60	2.42	.640	15.23	.531	229.4	38.2	4.79
C 52.2	277	.39	306	11.36	3.05	1.481	14.04	1.912	642.5	109.2	3.72
D-1.00	614	.10	29	8.66	.82	.400	.44	.022	59.7	13.3	12.56
--CYCLE 2 (GRAMS/MILE)--						.354	3.99	.333	130.3	170.3	16.35
I 660	312	.05	118	10.03	.54	.047	.05	.021	15.8	3.0	13.24
A 2.72	294	.40	303	11.33	2.17	.237	2.17	.286	96.6	16.5	5.22
C 35.3	308	.12	122	10.77	1.71	.174	.46	.080	64.2	11.5	6.32
D-1.01	593	.12	28	10.07	.61	.105	.14	.006	18.9	3.6	16.51
--CYCLE 3 (GRAMS/MILE)--						.075	.38	.052	26.1	34.6	16.22
I 643	340	.05	223	9.93	.54	.019	.02	.015	6.0	1.2	13.43
A 3.30	270	.83	253	11.47	2.35	.150	3.10	.164	67.4	11.3	4.33
D-1.01	255	.08	35	10.54	.30	.057	.12	.009	24.7	4.5	13.19
--CYCLE 4 (GRAMS/MILE)--						.030	.43	.025	13.1	17.0	12.04
I 640	247	.05	79	9.95	.54	.050	.07	.019	21.5	4.2	13.43
A 3.10	286	1.27	252	10.04	2.62	.265	7.92	.273	98.4	18.9	3.34
C 35.3	315	.09	120	10.04	1.46	.258	.50	.115	86.9	16.7	6.98
D-1.01	501	.10	29	9.62	.61	.093	.12	.006	18.8	3.8	15.77
--CYCLE 5 (GRAMS/MILE)--						.099	1.15	.055	30.1	43.5	16.49
I 640	340	.06	152	9.90	.54	.019	.02	.010	6.0	1.2	13.33
A 2.29	235	.17	170	10.95	1.50	.128	.62	.108	62.9	11.1	7.30
C 25.0	254	.06	74	10.26	1.11	.081	.15	.027	34.5	6.5	9.16
D-1.02	244	.09	31	10.30	.66	.029	.07	.004	13.1	2.5	15.61
--CYCLE 6 (GRAMS/MILE)--						.034	.12	.020	15.5	21.2	15.63
I 643	251	.05	91	9.82	.54	.047	.06	.020	19.4	3.8	17.85
A 3.02	238	.15	123	11.12	1.52	.054	.23	.033	26.8	4.6	7.32
C 19.5	198	.13	116	10.08	1.19	.171	.81	.117	91.9	17.6	8.47
D-1.01	249	.12	30	10.80	.73	.032	.10	.004	14.5	2.6	14.79
--CYCLE 7 (GRAMS/MILE)--						.040	.16	.023	20.4	28.7	14.44
I 638	256	.06	61	9.79	.54	.074	.12	.021	29.8	5.9	13.13
A 2.72	223	.16	180	10.93	1.76	.113	.54	.106	58.3	10.3	6.21
D-1.00	296	.09	38	10.10	.91	.111	.23	.017	40.1	7.7	11.10
--CYCLE 8 (GRAMS/MILE)--						.040	.12	.019	17.1	23.9	11.41
I 623	285	.06	62	9.62	.53	.043	.06	.011	15.3	3.1	13.15
A 2.05	264	.23	124	10.93	1.37	.152	.39	.083	66.5	11.7	7.93
D-1.02	257	.10	94	10.33	.67	.042	.11	.018	17.8	3.3	15.42
--CYCLE 9 (GRAMS/MILE)--						.032	.14	.015	13.3	18.1	11.66
A 2.54	267	.20	197	10.99	1.72	.159	.79	.136	68.6	12.0	6.39
D-1.02	290	.09	73	8.92	.84	.120	.25	.035	38.9	8.4	10.62
--CYCLE 10 (GRAMS/MILE)--						.037	.14	.023	14.3	20.5	15.33
A 2.69	233	.17	206	11.16	1.99	.141	.69	.145	71.3	12.3	5.87
C 26.9	294	.12	96	10.23	1.25	1.220	3.35	.465	448.9	84.7	8.13
D-1.01	306	.15	47	10.56	.71	.047	.16	.008	17.3	3.2	14.87
--CYCLE 11 (GRAMS/MILE)--						.188	.56	.083	71.7	100.2	22.01
A 2.55	269	.17	220	10.90	1.71	.158	.67	.151	67.9	12.0	6.37
C 24.4	307	.13	69	10.19	1.17	.235	.72	.062	92.5	15.6	8.71
D-1.01	403	.03	22	9.62	.66	.093	.12	.006	23.3	4.7	14.59

```
      --CYCLE 12 (GRAMS/MILE)--      .065     .20     .029    23.2    32.3  18.74

I  617  330  .06  32  9.67  .53      .110     .13     .012    34.0     6.8  18.25
A 2.53  260  .20 196  9.71 1.79      .190     .93     .159    71.2    14.1   5.43
D-1.00  310  .08  34  9.95  .60      .135     .23     .017    45.8     8.9  14.42
      --CYCLE 13 (GRAMS/MILE)--      .057     .17     .025    20.1    29.8  11.96

A 2.10  280  .22 161 10.90 1.40      .165     .87     .111    68.1    12.1   7.79
C 25.8  274  .10  59 10.20 1.28      .136     .34     .034    53.7    10.2   7.97
D-1.01  352  .06  19  9.21  .57      .055     .07     .003    15.1     3.2  16.19
      --CYCLE 14 (GRAMS/MILE)--      .048     .17     .020    18.3    25.4  17.61

I  628  289  .06  75  9.69  .53      .050     .07     .015    17.6     3.5  13.23
A 3.58  254  .39 239 11.25 1.84      .078     .80     .036    36.5     6.3   6.11
D-1.02  246  .34  25 10.91  .81      .038     .36     .005    18.0     3.2  13.47
      --CYCLE 15 (GRAMS/MILE)--      .022     .16     .014     9.6    12.9   8.19

I  634  238  .05  73  9.79  .55      .025     .04     .009    11.1     2.2  17.50
A 2.12  255  .12 104  9.60 1.30      .145     .46     .069    57.6    11.6   7.38
C 20.6  296  .19  58 10.89  .95      .092     .40     .021    35.7     6.3  11.46
D-1.01  270  .06  23 10.04  .59      .036     .06     .004    14.3     2.8  17.02
      --CYCLE 16 (GRAMS/MILE)--      .040     .13     .014    15.8    22.9  14.49

I  651  283  .05  49  9.81  .55      .041     .05     .008    14.9     2.9  17.52
A 2.04  244  .18 155 10.97 1.32      .142     .72     .105    67.3    11.8   8.31
C 24.9  242  .13 101 10.71 1.41      .153     .60     .075    71.8    12.9   7.69
D-1.00  517  .15  20 10.48  .71      .031     .16     .004    17.3     3.2  14.76
      --CYCLE 17 (GRAMS/MILE)--      .056     .22     .026    22.8    30.9  14.36

I  609  312  .06  51  9.70  .54      .037     .11     .017    28.7     5.7  17.96
A 2.53  269  .11 110 10.79 1.60      .116     .32     .056    49.6     8.9   6.74
D-1.00  280  .08  18  8.19  .67      .077     .15     .006    23.8     5.6  12.22
I  617  276  .06  17  9.67  .52      .016     .02     .001     5.8     1.2  18.60
      --CYCLE 18 (GRAMS/MILE)--      .039     .08     .011    14.4    21.3  10.11


TEST STOP:  10:31:
TEST LENGTH: 1373.0


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     0  NOX=     0 CO2D=   .02

SPAN CHECK
 FID=    97  COD=  1732  NOX=   197 CO2D=  4.08

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=     8  COD=    38  NOX=    19 CO2D=  1.19

BACKGROUND BAG
 FID=     5  COD=     8  NOX=     0 CO2D=   .06

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FYVOL
IDLE        .320    1.14    .229    293    59.7
ACCEL      3.126   37.60  2.663   1306   231.0
```

46-3

DECEL	1.625	3.04	.179	435	86.9
CRUISE	4.929	25.30	3.257	1890	341.1
CHOKE	1.941	20.27	1.001	634	113.0
TOTAL	10.500	67.08	6.333	3920	718.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.400	8.94	.844	523.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.115	.73	.853	458.9

***** TEST VARIABLES *****

RELATIVE HUMIDITY	70
HUM. CORR. FACTOR	1.057
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H20)	12.0
AVG.PRESSURE DIFF. (IN.H20)	20.6
AVG.CVS TEMPERATURE (DEG.F)	92
MAX.INLET DEPR. (IN.H20)	12.3
MIN.INLET DEPR. (IN.H20)	11.8
MAX.CVS TEMPERATURE (DEG.F)	96
MIN.CVS TEMPERATURE (DEG.F)	80
AVG.CVS FLOW (CU.FT/REV)	.243
TOTAL CVS VOL. (STD.CU.FT.)	5879
AVG MODAL CO2 RATIO	8.05
FUEL ECONOMY (MI/GAL)	19.28

(47)

Engine is OEM, including new plugs (.035")
(#2 catalyst)

HC	CO	NOx	ECON.
.378	4.23	.933	17.63

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
 3- 6-76     7:35
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 66
DRY BULB ? 73
BAROMETER? 2928
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ? CARB; HOLLEY OEM          IDLE SET;
REMARKS  ? ENG; 225 CID               ODOMETER;
REMARKS  ? C-FPA-75                   NOTES; W/ MODAL BEFORE COV.

ZERO CHECK
 FID=      0  COR=    .00 CO2R=-00.01   NO=      7 CO2D=    .02

SPAN CHECK OUT OF LIMITS
 FID=     98  COR=   7.88 CO2R= 15.89   NO=    186*CO2D=   4.11

ZERO CHECK
 FID= -0003  COR=    .00 CO2R=    .00   NO=      3 CO2D=    .02

SPAN CHECK
 FID=    100  COR=   7.90 CO2R= 15.87   NO=    197 CO2D=   4.10

REPEAT Z/S CHECKS? N

TEST START :   8:41: 9.7
CRANK TIME :   1.2

MODE    ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    EXH.   D/P
 D/A/S    HC    CO  NO  CO2  CONC     HC      CO      NO     CO2     VOL.   F/E

CRANK    107  .13  33   .46  .04    .003     .02    .001      .1      .5 11.50
I 1125   937 4.81  49  8.79  .70    .361   12.48    .022    35.9     7.9 11.14
A 3.01   716 3.80 374  9.33 1.55    .283   10.12    .173    39.0     8.1  6.02
```

C 25.0	914	4.02	30	9.36	1.63	2.882	85.29	.111	312.1	64.4	5.74
D-1.02	1046	6.29	3	7.85	.61	.175	7.09	.001	13.9	3.4	12.87
--CYCLE 1 (GRAMS/MILE)--						1.029	31.95	.085	111.4	24.3	10.06
								47-1			
I 647	678	2.39	37	9.20	.63	.379	8.64	.024	54.3	11.4	14.60
A 2.10	695	2.27	185	11.10	2.73	1.337	33.75	.478	259.3	45.1	4.07
C 52.1	346	.90	254	11.38	3.44	2.079	36.39	1.783	723.1	122.7	3.31
D-1.00	444	.27	80	9.95	.93	.285	1.21	.060	67.5	13.1	10.70
--CYCLE 2 (GRAMS/MILE)--						1.133	22.22	.651	306.7	192.2	13.99
I 727	253	.19	182	9.89	.57	.040	.20	.033	16.4	3.2	17.35
A 2.73	301	.61	325	10.03	2.36	.296	4.04	.374	104.4	22.1	4.25
C 35.5	457	.24	124	10.36	1.82	.285	1.01	.090	68.3	12.7	5.69
D-1.01	363	.29	80	10.43	.61	.062	.33	.016	18.9	3.5	17.10
--CYCLE 3 (GRAMS/MILE)--						.190	1.55	.143	57.8	39.5	14.95
I 726	278	.13	267	9.87	.57	.017	.05	.019	6.3	1.2	17.33
A 3.28	301	.59	298	11.19	2.33	.171	2.26	.198	67.2	11.6	4.80
D-1.01	276	.22	91	10.73	.77	.058	.31	.022	23.8	4.3	13.94
--CYCLE 4 (GRAMS/MILE)--						.063	.73	.066	27.0	17.1	12.24
I 732	243	.10	157	9.81	.55	.052	.15	.040	22.4	4.4	17.52
A 3.13	263	1.09	296	11.23	2.67	.223	6.26	.293	100.5	17.3	4.21
C 35.2	344	.16	116	10.02	1.54	.297	.93	.117	91.6	17.6	6.51
D-1.01	308	.15	82	10.16	.64	.057	.19	.013	19.8	3.8	15.38
--CYCLE 5 (GRAMS/MILE)--						.175	2.09	.130	65.1	43.1	16.03
I 716	256	.09	184	9.75	.55	.015	.04	.013	6.2	1.2	17.41
A 2.31	280	.13	161	9.16	1.54	.186	.58	.125	64.3	13.6	5.95
C 24.9	252	.19	101	10.70	1.22	.034	.42	.039	37.6	6.8	8.77
D-1.02	181	.11	89	9.92	.67	.023	.09	.013	13.3	2.6	14.81
--CYCLE 6 (GRAMS/MILE)--						.079	.29	.049	31.1	24.1	14.95
I 713	198	.06	116	9.71	.55	.038	.09	.026	19.7	3.9	17.36
A 3.08	261	.32	146	10.83	1.51	.061	.50	.040	26.7	4.8	7.17
C 19.6	194	.15	145	10.58	1.21	.162	.84	.141	93.3	17.0	8.74
D-1.02	218	.26	77	11.04	.70	.026	.21	.011	13.9	2.4	15.77
--CYCLE 7 (GRAMS/MILE)--						.074	.42	.056	39.4	28.1	14.29
I 696	188	.06	100	9.67	.55	.057	.14	.035	30.8	6.2	17.27
A 2.68	252	.19	175	10.59	1.78	.133	.67	.108	59.0	10.8	5.95
D-1.01	251	.11	64	8.79	.93	.111	.33	.033	41.1	9.8	9.46
--CYCLE 8 (GRAMS/MILE)--						.077	.29	.045	33.6	25.9	11.16
I 694	196	.06	103	9.67	.54	.030	.06	.019	15.7	3.1	17.58
A 2.23	296	.30	140	10.90	1.38	.120	1.17	.095	67.1	11.9	7.90
D-1.01	173	.13	93	10.30	.64	.027	.14	.017	17.2	3.2	16.09
--CYCLE 9 (GRAMS/MILE)--						.045	.35	.033	25.6	18.2	11.60
A 2.56	254	.23	169	10.62	1.81	.163	.99	.127	72.0	13.1	5.87
D-1.23	193	.09	83	9.91	.81	.069	.22	.035	37.6	7.3	12.23
--CYCLE 10 (GRAMS/MILE)--						.060	.31	.041	28.1	20.4	15.02
A 2.67	243	.32	201	10.84	1.88	.150	1.33	.145	70.6	12.6	5.77
C 26.3	218	.12	104	10.08	1.25	.922	3.41	.513	449.7	86.1	8.06
D-1.01	160	.10	78	10.47	.69	.024	.10	.014	16.8	3.1	15.17
--CYCLE 11 (GRAMS/MILE)--						.280	1.24	.172	137.7	101.8	22.83
A 2.57	219	.22	198	10.65	1.71	.132	.99	.140	68.1	12.3	6.23
C 24.2	196	.12	82	9.34	1.14	.160	.66	.078	80.5	16.6	8.19
D-1.01	175	.08	41	9.82	.65	.039	.12	.011	23.0	4.5	15.11
--CYCLE 12 (GRAMS/MILE)--						.095	.43	.059	44.0	33.5	18.97
I 665	193	.05	67	9.69	.54	.065	.11	.027	34.7	6.9	17.93
A 2.55	251	.20	166	10.62	1.30	.160	.96	.124	71.7	13.0	5.99
D-1.00	192	.10	39	9.78	.67	.033	.29	.020	44.5	9.8	14.60

	--CYCLE 13 (GRAMS/MILE)--					.079	.32	.044	38.7	28.7	12.00
								47-8			
A	2.11	191	.15	144	10.56	1.38	.115	.61	.101	67.1	12.3	7.65
C	25.9	278	.11	64	10.24	1.26	.136	.36	.037	52.9	10.0	8.13
D	-1.01	242	.06	34	7.51	.57	.046	.09	.008	15.1	3.9	13.19
	--CYCLE 14 (GRAMS/MILE)--					.076	.27	.037	34.7	26.1	17.91
I	671	211	.05	87	9.62	.53	.036	.06	.018	17.6	3.5	18.17
A	3.61	230	.30	243	10.92	1.79	.071	.62	.088	35.7	6.3	6.10
D	-1.02	272	.16	44	10.78	.81	.043	.17	.008	17.9	3.2	13.31
	--CYCLE 15 (GRAMS/MILE)--					.039	.22	.029	18.2	13.0	8.27
I	671	205	.05	67	9.66	.54	.022	.04	.008	10.9	2.2	17.56
A	2.09	232	.16	117	10.59	1.27	.117	.54	.069	56.3	10.3	8.34
C	20.6	173	.13	91	10.77	.98	.056	.30	.034	36.9	6.6	10.99
D	-1.01	172	.06	29	10.01	.66	.026	.07	.005	16.0	3.1	15.17
	--CYCLE 16 (GRAMS/MILE)--					.057	.24	.030	30.9	22.1	14.37
I	696	161	.06	63	9.69	.54	.023	.06	.011	14.6	2.9	17.62
A	2.02	260	.21	134	10.57	1.31	.155	.85	.094	66.9	12.2	8.07
C	24.9	240	.13	96	9.45	1.37	.167	.61	.078	69.6	14.2	6.90
D	-1.01	340	.12	33	10.37	.74	.056	.13	.006	18.0	3.4	14.01
	--CYCLE 17 (GRAMS/MILE)--					.103	.42	.048	43.4	32.7	15.03
I	651	225	.06	57	9.65	.54	.063	.11	.019	28.7	5.7	17.87
A	2.55	266	.25	115	10.56	1.57	.116	.73	.059	48.6	9.9	6.73
D	-1.01	229	.08	27	9.87	.65	.051	.12	.007	23.1	4.5	15.20
I	0	339	.03	42	9.23	.30	.017	.01	.002	4.8	1.0	30.77
	--CYCLE 18 (GRAMS/MILE)--					.063	.25	.022	27.0	20.1	10.32

TEST STOP: 9: 4:29
TEST LENGTH: 1370.4

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 0 NOX= 0 CO2D= .02

SPAN CHECK
FID= 97 COD= 1691 NOX= 195 CO2D= 4.10

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 28 COD= 967 NOX= 28 CO2D= 1.66

COLD STAB SAMP
FID= 9 COD= 24 NOX= 16 CO2D= 1.11

COLD TRAN AMB
FID= 5 COD= 14 NOX= 0 CO2D= .05

COLD STAB AMB
FID= 4 COD= 10 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

SOAK TIME : 599

TEST START : 9:14: 4.8
CRANK TIME : 3.4

MODE	---TAILPIPE CONC---	CO2D	------ MASS (GRAMS) ------		EXH.	D/F

#7-3

R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/F
CRANK	388	.17	16	.43	.05	.035	.10	.002	.4	1.8	8.60
I 538	1047	.52	52	8.34	.33	.177	.59	.010	14.9	3.4	25.27
A 3.02	1032	.34	171	10.75	1.72	.389	.86	.075	42.8	7.7	6.25
C 25.1	639	.15	134	10.02	1.41	1.617	2.55	.396	268.2	51.7	7.11
D-1.01	775	.13	20	9.65	.61	.105	.12	.003	13.8	2.8	15.92
--CYCLE 1 (GRAMS/MILE)--						.645	1.17	.135	94.5	67.4	16.87
I 625	363	.05	43	9.33	.52	.165	.15	.023	44.8	9.3	17.94
A 2.12	334	1.08	242	11.28	2.35	.624	13.58	.528	222.9	38.1	4.80
C 52.3	319	.39	282	11.17	2.90	1.707	14.05	1.764	632.3	109.3	3.74
D-1.02	665	.11	30	8.95	.76	.391	.43	.021	55.6	12.0	11.78
--CYCLE 2 (GRAMS/MILE)--						.802	7.84	.649	265.4	168.6	17.23
I 655	337	.06	116	9.87	.54	.051	.06	.021	15.9	3.1	17.96
A 2.72	293	.31	310	11.24	2.17	.239	1.70	.296	97.0	16.7	5.16
C 35.6	318	.11	118	10.46	1.73	.138	.44	.081	65.3	12.0	6.05
D-1.01	568	.15	33	10.03	.62	.103	.18	.007	19.3	3.7	16.18
--CYCLE 3 (GRAMS/MILE)--						.161	.66	.112	54.8	35.5	16.12
I 649	334	.06	171	9.79	.54	.019	.02	.012	6.0	1.2	18.15
A 3.35	320	.86	254	11.26	2.33	.190	3.26	.167	67.1	11.5	4.83
D-1.01	323	.18	34	10.64	.79	.071	.26	.009	24.5	4.4	13.47
--CYCLE 4 (GRAMS/MILE)--						.075	.99	.052	27.1	17.1	12.02
I 662	258	.06	93	9.83	.54	.055	.09	.023	22.0	4.3	17.87
A 3.11	282	1.11	270	11.31	2.63	.234	6.25	.262	99.2	16.9	4.30
C 35.3	276	.08	111	9.77	1.45	.231	.45	.109	96.5	17.1	6.74
D-1.01	384	.08	37	9.35	.60	.072	.10	.008	18.5	3.8	15.58
--CYCLE 5 (GRAMS/MILE)--						.164	1.91	.111	69.9	42.2	16.63

TEST STOP: 9:22:52
TEST LENGTH: 508.4

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 0 NOX= 0 CO2D= .02

SPAN CHECK
FID= 96 COD= 1734 NOX= 194 CO2D= 4.10

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 17 COD= 60 NOX= 29 CO2D= 1.44

HOT TRAN AMB
FID= 5 COD= 8 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.852	21.55	.139	135	29.6
ACCEL	2.310	56.43	1.515	571	102.1
DECEL	.636	9.12	.116	144	23.9
CRUISE	5.543	123.63	2.101	1195	217.4
CHOKE	5.419	157.40	.809	715	140.7

47-4

TOTAL	9.340	210.73	3.871	2045	376.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.595	58.54	1.075	568.0	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.367	.72	.177	184	36.7
ACCEL	1.678	10.35	1.312	774	141.9
DECEL	.623	2.08	.187	297	59.0
CRUISE	1.694	6.61	.920	820	157.3
CHOKE	.000	.00	.000	0	.0
TOTAL	4.352	19.76	2.596	2076	394.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.116	5.07	.666	532.2	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.502	1.02	.090	104	23.2
ACCEL	1.666	25.65	1.328	529	90.9
DECEL	.742	1.10	.048	132	26.7
CRUISE	3.743	17.49	2.350	1052	190.1
CHOKE	3.111	17.96	1.038	608	114.8
TOTAL	6.653	45.26	3.815	1817	330.8

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.848	12.57	1.060	504.7	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.621	13.16	.858	532.1	

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.703	18.05	.973	508.2
COLD STABILIZED	.248	.44	.870	519.0
HOT TRANSIENT	.379	1.02	1.023	440.0
WEIGHTED TOTAL	.378	4.23	.933	495.2

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.614	12.018	9.236
RELATIVE HUMIDITY	70	70	70
HUM. CORR. FACTOR	1.057	1.057	1.057
CVS REVOLUTIONS	9830	16870	9970
AVG.INLET DEPR. (IN.H20)	12.0	11.8	12.0
AVG.PRESSURE DIFF. (IN.H20)	20.8	20.5	20.9
AVG.CVS TEMPERATURE (DEG.F)	88	95	87
MAX.INLET DEPR. (IN.H20)	12.3	11.9	12.1
MIN.INLET DEPR. (IN.H20)	11.7	11.7	11.9
MAX.CVS TEMPERATURE (DEG.F)	98	97	94
MIN.CVS TEMPERATURE (DEG.F)	76	93	80
AVG.CVS FLOW (CU.FT/REV)	.243	.243	.243
TOTAL CVS VOL. (STD.CU.FT.)	2184	3703	2220
AVG MODAL CO2 RATIO	5.56	9.39	6.43
FUEL ECONOMY (MI/GAL)	16.47	17.04	20.04

STD Cond

(48)

HOT 73#2

Pump with spoiler. -7B fuel bar, 10% deeper, .0545 F/A part throttle curve. Trim 2-3/4 open. New wide open throttle stop (.087" from open). Power valve reworked to 10°. New start fuel solenoid. No temperature compensation on main bias. EGR and spark signals dumped at idle. Air pump and catalyst. Vacuum spark advance through OSAC, via lower ported signal through independent solenoid. EGR signal via original, upper ported signal, including check valve, .056" jet and reservoir. .016" bleed jet omitted. A selected spring to open #1 pintle at 1.5" Hg. .400" EGR orifice.

HC	CO	NOx	Econ.
.116	.21	.632	20.11

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 5-26-76   22:25
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    59
DRY BULB ?    70
BAROMETER?  2932
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?     6
RUN NO.  ? 1,2,3
VEH. MAKE? 75DART
VEH. I.D.? 5030
REMARKS  ? CARB  HOLLEY                    IDLE SET AS IS
REMARKS  ? ENGINE 225 CID                  ODOMETER
REMARKS  ? H-EPA                           NOTES

ZERO CHECK
 FID=     3  COR=    .00 CO2R=    .00   NO= -0006 CO2R=    .00

SPAN CHECK
 FID=    99  COR=  8.02 CO2R= 15.88   NO=   226 CO2R=  4.14

REPEAT Z/S CHECKS?  N

TEST START :  22:56:24.6
CRANK TIME :  1.0

CODE   ---TAILPIPE CONC---  CO2R  ------ MASS (GRAMS) ------   EXH.  E/P
 P/A/S   HC    CO   NO   CO2  CONC    HC     CO     NO     CO2   VOL.  E/T

CRANK   116   .21    5  8.06   .62   .000    .73   .000    1.6    .4 13.00
I  634  120   .21   41  8.15   .62   .033    .45   .013   97.0   6.5 13.15
A 3.14  178   .25  331 10.31  1.59   .061    .61   .120   39.3   7.4  6.47
C 26.6  247   .26  134  9.73  1.29   .570   4.10   .300  941.0  47.3  7.54
D-1.03  213   .22   17  9.17   .78   .035    .24   .003   15.9   3.3 10.74
     --CYCLE  1 (GRAMS/MILE)--      .095    .79   .061   43.4   05.4 17.75

I  685  151   .29   95  8.49   .62   .038    .78   .015   58.3   11.9 13.69
A 2.13  185   .31  446 10.11  2.19   .353   4.04   .370  026.9   39.5  4.60
```

C 55.2	207	.24	156	9.59	2.56	1.097	3.56	.347	537.5	108.2	3.75
D-1.00	734	.27	12	7.99	.79	.504	1.29	.038	57.9	14.0	10.10
--CYCLE 2 (GRAMS/MILE)--						.273	1.96	.232	114.0	173.6	19.67
I 720	234	.28	29	3.62	.63	.057	.27	.006	18.3	4.1	13.68
A 0.73	259	.23	248	9.93	2.38	.219	1.31	.014	39.0	17.2	4.99
C 37.4	396	.26	47	9.64	1.52	.172	.98	.027	57.3	11.5	6.34
D-1.00	206	.22	16	8.73	.69	.052	.34	.004	21.4	4.7	12.65
--CYCLE 3 (GRAMS/MILE)--						.067	.39	.033	24.8	37.5	17.24
I 710	174	.28	54	3.64	.66	.015	.11	.004	7.3	1.6	13.29
A 3.41	249	.28	237	9.84	2.23	.162	.99	.197	64.3	13.7	4.66
D-1.00	230	.28	28	9.31	.76	.043	.35	.005	23.4	4.9	12.25
--CYCLE 4 (GRAMS/MILE)--						.039	.19	.023	12.6	20.1	12.92
I 706	154	.29	33	3.64	.64	.043	.37	.011	25.5	5.7	13.59
A 3.00	195	.23	351	10.06	2.42	.169	1.34	.311	99.1	17.7	4.14
C 37.1	563	.30	32	9.12	1.33	.483	1.73	.028	32.8	17.5	6.62
D-1.00	314	.23	14	8.76	.67	.071	.35	.003	20.9	4.6	13.07
--CYCLE 5 (GRAMS/MILE)--						.102	.51	.047	29.5	45.5	17.31
I 705	215	.21	61	3.62	.63	.017	.11	.005	7.0	1.6	13.63
A 2.35	283	.32	95	9.33	1.42	.163	1.25	.056	60.1	11.3	6.99
C 36.7	310	.27	29	9.73	1.19	.112	.68	.011	37.0	7.3	8.17
D-1.33	207	.28	13	8.37	.70	.031	.22	.003	13.9	3.0	12.69
--CYCLE 6 (GRAMS/MILE)--						.044	.36	.019	15.7	23.7	15.10
I 705	176	.28	49	3.57	.64	.044	.34	.013	22.7	5.1	13.39
A 3.03	218	.22	125	9.91	1.46	.059	.37	.032	25.3	5.0	6.79
C 31.1	282	.24	42	9.83	1.14	.035	1.49	.040	32.1	10.3	7.90
D-1.33	207	.49	24	8.53	.74	.030	.43	.004	14.7	3.0	12.33
--CYCLE 7 (GRAMS/MILE)--						.044	.36	.019	20.9	38.0	14.33
I 703	142	.28	26	3.54	.63	.055	.58	.010	35.3	3.0	13.57
A 0.79	207	.23	295	9.87	1.55	.114	.77	.105	59.0	10.0	6.37
D-1.31	266	.24	19	9.24	.94	.117	.71	.030	49.0	9.0	9.63
--CYCLE 8 (GRAMS/MILE)--						.033	.27	.017	17.3	27.9	11.10
I 702	161	.28	24	3.53	.63	.033	.27	.005	18.4	4.0	13.54
A 0.00	262	.31	109	9.37	1.25	.155	1.23	.066	61.7	10.1	7.00
D-1.00	143	.21	23	8.31	.69	.029	.23	.005	13.6	4.1	10.77
--CYCLE 9 (GRAMS/MILE)--						.029	.24	.010	13.2	20.7	11.03
A 0.57	139	.28	153	9.73	1.54	.114	.39	.007	61.7	10.3	6.39
D-1.33	229	.24	23	8.75	.31	.113	.66	.010	37.9	8.4	10.80
--CYCLE 10 (GRAMS/MILE)--						.031	.21	.014	13.3	20.6	16.39
A 0.74	209	.21	203	9.95	1.63	.123	.84	.123	61.5	12.1	6.04
C 33.2	504	.27	37	9.09	1.21	2.307	8.63	.174	440.1	93.4	7.51
D-1.00	284	.25	40	9.17	.75	.054	.32	.008	13.4	3.9	12.23
--CYCLE 11 (GRAMS/MILE)--						.331	1.30	.041	69.3	109.4	20.21
A 0.63	261	.21	252	9.71	1.55	.157	.75	.156	60.3	12.3	6.07
C 35.6	433	.26	31	8.93	1.00	.359	1.40	.026	77.0	10.6	7.24
D-1.31	230	.28	9	7.71	.70	.070	.45	.003	24.7	6.0	11.31
--CYCLE 12 (GRAMS/MILE)--						.077	.36	.005	21.9	35.1	10.57
I 720	133	.28	30	3.54	.63	.031	.69	.015	40.5	9.1	13.57
A 0.69	216	.21	124	9.73	1.59	.134	.88	.070	64.0	10.7	6.10
D-1.31	259	.23	14	8.31	.78	.135	.80	.007	42.4	10.6	10.24
--CYCLE 13 (GRAMS/MILE)--						.047	.30	.013	22.4	39.5	11.71
A 0.15	216	.25	115	9.75	1.09	.133	1.04	.073	63.7	10.6	7.56
C 36.9	396	.27	25	9.37	1.33	.099	1.00	.014	59.4	10.2	7.03
D-1.00	230	.20	15	8.63	.67	.047	.29	.003	13.9	4.0	10.90
--CYCLE 14 (GRAMS/MILE)--						.059	.31	.010	17.9	27.4	17.75

48-1

I	713	179	.20	39	8.56	.63	.042	.31	.009	21.1	4.3	13.59
A	3.65	219	.22	339	10.07	1.79	.071	.50	.113	35.6	6.3	5.66
D	-1.33	158	.21	24	9.19	.75	.026	.24	.004	16.7	3.5	12.25
		--CYCLE 15 (GRAMS/MILE)--					.013	.14	.017	9.3	15.1	3.00
I	729	148	.20	22	8.53	.63	.021	.19	.003	18.6	2.2	13.66
A	2.14	138	.29	91	8.37	1.19	.106	1.10	.052	52.8	11.5	7.46
C	21.9	136	.25	32	9.66	.95	.065	.59	.011	35.3	7.1	10.17
D	-1.38	153	.21	16	8.66	.69	.023	.25	.003	16.5	3.7	12.74
		--CYCLE 16 (GRAMS/MILE)--					.029	.28	.009	15.7	25.1	14.43
I	726	146	.20	19	8.57	.63	.027	.25	.004	16.7	3.3	13.60
A	2.10	194	.26	155	9.31	1.22	.116	1.25	.095	69.1	19.9	3.34
C	26.3	241	.25	46	9.65	1.27	.154	1.38	.033	65.4	13.1	7.69
D	-1.38	219	.27	17	9.44	.75	.041	.35	.003	13.5	3.3	12.59
		--CYCLE 17 (GRAMS/MILE)--					.045	.36	.018	21.7	32.8	15.43
I	708	149	.20	24	8.56	.63	.056	.51	.009	34.3	7.7	13.59
A	2.63	255	.26	99	9.75	1.47	.114	.73	.045	46.1	9.1	6.63
D	-1.61	156	.27	10	8.37	.72	.042	.49	.003	25.1	5.5	12.69
I	721	142	.20	9	8.54	.62	.011	.10	.001	6.2	1.6	13.77
		--CYCLE 18 (GRAMS/MILE)--					.030	.25	.003	15.3	23.3	9.53

TEST STOP: 23:19:44
TEST LENGTH: 1373.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 1 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= 99 COD= 1711 NOX= 194 CO2D= 4.10

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 9 COD= 12 NOX= 16 CO2D= 1.15

BACKGROUND BAG
FID= 6 COD= 4 NOX= 0 CO2D= .07

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.689	5.22	.193	343	73.3
ACCEL	8.585	19.32	2.313	1291	276.1
DECEL	1.477	3.13	.237	453	100.1
CRUISE	5.735	30.25	1.529	1715	350.2
CHOKE	1.161	10.25	1.343	535	116.3
TOTAL	17.366	68.43	4.549	3717	767.2

EQUIVALENT MASS BAG RESULTS
GMS/MI 1.339 6.46 .637 495.6

48-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.116	.21	.632	440.5

***** TEST VARIABLES *****

RELATIVE HUMIDITY	53
HUM. CORR. FACTOR	.927
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H2O)	12.5
AVG.PRESSURE DIFF. (IN.H2O)	21.8
AVG.CVS TEMPERATURE (DEG.F)	92
MAX.INLET DEPR. (IN.H2O)	12.8
MIN.INLET DEPR. (IN.H2O)	12.2
MAX.CVS TEMPERATURE (DEG.F)	99
MIN.CVS TEMPERATURE (DEG.F)	87
AVG.CVS FLOW (CU.FT/REV)	.244
TOTAL CVS VOL. (STD.CU.FT.)	5974
AVG NORAL CO2 RATIO	7.59
FUEL ECONOMY (MI/GAL)	20.11

Pump with spoiler. -7B fuel bar, 10% deeper, approximately .0545" F/A part throttle curve. Trim 2-3/4 turns open. New wide open throttle stop (.087" from open). Power valve reworked to 10°. New start fuel solenoid. No temperature compensation on main bias. EGR and spark signals dumped at idle. Air pump and catalyst. Vacuum spark advance through OSAC, via lower ported signal, through independent solenoid. EGR signal via original, upper ported signal, including check valve, .056" jet and reservoir. .016" bleed jet omitted. A selected spring to open #1 pintle at 1.5" Hg. .344" EGR orifice.

HC	CO	NOx	Econ.
.077	.23	.712	20.5

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
5-26-76 22: 3
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 59
DRY BULB ? 72
BAROMETER? 2932
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1,2,3
VEH. MAKE? 75DART
VEH. I.D.? 5C3C
REMARKS ? CARB HOLLEY SONIC
REMARKS ? ENGINE 225 CID
REMARKS ? H-EPA

IDLE SET 750-N
ODOMETER 8176
NOTES

HC	CO	NOX	ECON
.077	.23	.712	20.5

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .26 CO2R=-00.04 NO= 15*CO2D= .00

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .00 CO2R=-00.03 NO= 12*CO2D= .00

ZERO CHECK
FID= 0 COR= .00 CO2R=-00.02 NO= 3 CO2D= .02

SPAN CHECK OUT OF LIMITS
FID= 99 COR= 8.09 CO2R= 15.92 NO= 190 CO2D= 4.50*

ZERO CHECK
FID= -0003 COR= .00 CO2R=-00.01 NO= 6 CO2D= .03

SPAN CHECK
FID= 133 COR= 8.12 CO2R= 15.98 NO= 139 CO2D= 4.13

REPEAT S/S CHECKS? N

TEST START : 21:51:23.8
CRANK TIME : 1.7

CODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH.	D/D
D/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E

CRANK	245	.00	0	7.64	.62	.[illegible]	[illegible]	[illegible]	1.6	.2	12.73
I 681	246	.00	36	7.72	.59	.273	.00	.219	26.7	6.5	13.08
A 3.19	272	.00	286	9.25	1.54	.124	.02	.112	37.3	7.3	6.21
C 26.5	279	.04	102	9.19	1.24	.669	.65	.246	232.9	43.9	7.41
D-1.03	262	.01	9	8.54	.67	.244	.01	.222	15.2	3.4	12.75
--CYCLE 1 (GRAMS/MILE)--						.128	.29	.249	41.7	67.2	18.36
									49-1		
I 638	221	.00	6	7.99	.59	.131	.03	.094	58.3	12.1	13.54
A 2.19	262	.02	431	9.66	2.08	.511	2.39	.942	194.7	33.9	4.64
C 55.3	236	.02	194	9.11	2.42	1.259	.71	1.053	518.4	103.1	3.75
D-1.32	338	.00	2	7.61	.75	.230	.09	.201	54.3	13.9	12.15
--CYCLE 2 (GRAMS/MILE)--						.283	.43	.253	103.2	173.1	21.14
I 692	227	.00	13	8.11	.63	.242	.00	.203	17.4	4.1	13.52
A 2.81	233	.00	253	9.32	2.02	.212	.02	.236	80.7	19.6	4.61
C 37.3	274	.02	49	8.79	1.44	.159	.03	.129	54.1	11.9	6.17
D-1.32	256	.01	1	8.09	.64	.059	.02	.020	19.7	4.7	12.64
--CYCLE 3 (GRAMS/MILE)--						.063	.01	.036	94.1	39.3	17.93
I 691	225	.00	28	8.07	.62	.216	.00	.202	6.7	1.6	13.45
A 3.42	243	.03	377	9.32	1.99	.137	.00	.213	54.4	11.3	4.91
D-1.32	246	.04	7	8.00	.71	.298	.43	.222	25.1	5.4	12.99
--CYCLE 4 (GRAMS/MILE)--						.233	.26	.229	11.5	12.3	14.23
I 690	199	.00	33	8.13	.59	.255	.00	.220	23.3	5.7	13.73
A 3.00	196	.00	432	8.65	2.17	.173	.00	.491	38.9	13.5	3.99
C 36.9	336	.03	15	8.54	1.33	.299	.13	.214	33.4	18.2	6.43
D-1.32	256	.00	1	8.28	.64	.259	.00	.000	20.1	4.7	12.94
--CYCLE 5 (GRAMS/MILE)--						.279	.02	.257	27.6	47.0	18.99
I 697	217	.00	26	8.12	.62	.217	.00	.202	6.7	1.6	13.53
A 2.34	224	.01	116	9.36	1.34	.129	.04	.263	57.2	11.7	6.99
C 26.3	139	.01	19	8.83	1.14	.272	.02	.207	35.5	7.5	7.96
D-1.32	132	.00	1	8.42	.63	.223	.00	.222	13.6	3.1	12.33
--CYCLE 6 (GRAMS/MILE)--						.232	.01	.210	15.2	24.2	16.39
I 693	172	.00	46	8.11	.63	.244	.00	.210	21.4	5.1	13.52
A 3.25	244	.13	164	9.58	1.36	.259	.23	.240	24.2	4.9	6.99
C 21.1	194	.00	49	9.09	1.03	.173	.00	.245	34.7	13.2	8.06
D-1.32	167	.02	3	8.73	.70	.225	.00	.222	13.2	3.0	12.54
--CYCLE 7 (GRAMS/MILE)--						.240	.23	.213	19.2	31.2	15.43
I 696	162	.00	11	8.12	.63	.262	.00	.224	33.1	7.9	13.53
A 2.39	215	.00	132	9.24	1.40	.123	.00	.277	48.7	11.7	5.53
D-1.31	178	.00	9	8.69	.68	.277	.00	.224	38.4	9.2	9.27
--CYCLE 8 (GRAMS/MILE)--						.235	.00	.211	16.3	23.2	15.11
I 702	162	.00	12	8.11	.59	.232	.00	.202	17.2	4.1	13.75
A 2.38	208	.06	122	9.48	1.28	.118	.24	.274	59.2	12.1	7.00
D-1.32	146	.00	56	8.36	.65	.229	.00	.211	17.5	4.2	12.76
--CYCLE 9 (GRAMS/MILE)--						.224	.23	.219	18.5	23.2	15.53
A 2.63	193	.00	173	9.42	1.52	.119	.00	.199	61.2	12.5	6.22
D-1.32	131	.00	63	8.45	.77	.273	.03	.226	30.1	8.2	12.29
--CYCLE 10 (GRAMS/MILE)--						.226	.03	.213	13.2	23.3	17.21
A 2.75	197	.00	143	9.31	1.61	.122	.03	.201	68.2	12.6	5.72
C 23.6	263	.02	33	8.71	1.15	1.214	.61	.153	417.6	22.4	7.52
D-1.32	206	.05	6	8.69	.71	.239	.06	.221	17.5	3.9	12.24
--CYCLE 11 (GRAMS/MILE)--						.133	.29	.233	66.1	123.2	24.26
A 2.67	232	.00	223	9.11	1.52	.132	.00	.144	68.2	12.2	5.99
C 25.2	227	.01	23	8.34	1.24	.179	.25	.219	72.2	16.1	8.52
D-1.31	164	.00	1	8.16	.65	.244	.00	.222	23.2	5.4	12.55
--CYCLE 12 (GRAMS/MILE)--						.247	.21	.222	21.2	34.5	22.22

```
I  696  157  .00   2  8.10  .66     .070     .00     .001    38.3     9.1  13.52
A 2.65  256  .01 191  9.29 1.53     .160     .04     .122    61.3    19.7   6.97
D-1.01  168  .00   1  7.92  .69     .093     .00     .001    46.4    11.3  11.48
      --CYCLE 13 (GRAMS/MILE)--     .043     .01     .016    19.5    33.0  12.54

A 2.19  169  .00 139  9.19 1.05     .139     .00     .072    61.9    13.1   7.23
C 27.4  232  .01  13  8.35 1.16     .122     .04     .007    49.4    13.3   7.63
D-1.02  254  .00   1  7.99  .68     .050     .00     .000    16.7     4.0  12.39
      --CYCLE 14 (GRAMS/MILE)--     .037     .00     .011    17.0    27.9  19.14

I  697  134  .00  39  8.00  .68     .043     .00     .000    22.9     4.3  13.43
A 3.64  222  .00 360  9.65 1.67     .267     .00     .122    33.7     6.7   5.78
D-1.23  148  .00   2  8.46  .70     .024     .00     .000    15.6     3.6  12.10
      --CYCLE 15 (GRAMS/MILE)--     .013     .00     .013     9.3    15.1   8.64

I  699  146  .00   9  8.12  .68     .021     .00     .001    12.1     2.9  13.53
A 2.15  172  .00 107  9.39 1.13     .094     .00     .068    52.6    11.2   7.79
C 22.2  139  .00  23  8.03  .98     .049     .00     .003    34.8     7.3  13.23
D-1.00  133  .00   1  8.11  .64     .025     .00     .000    15.6     3.7  12.67
      --CYCLE 16 (GRAMS/MILE)--     .025     .00     .009    15.2    25.0  15.38

I  699  147  .00   3  8.12  .68     .027     .00     .001    15.9     3.8  13.50
A 2.39  216  .00 132  8.51 1.13     .144     .00     .090    60.3    13.6   7.21
C 26.3  139  .00  23  8.03 1.22     .124     .00     .010    60.1    13.4   7.32
D-1.00  151  .00   1  7.74  .69     .022     .00     .000    17.0     3.3  12.67
      --CYCLE 17 (GRAMS/MILE)--     .043     .01     .015    22.7    34.6  16.64

I  691  146  .00  20  8.12  .59     .054     .00     .003    31.3     7.6  13.73
A 2.65  223  .00  94  9.29 1.33     .092     .00     .043    43.6     9.1   6.73
D-1.01  143  .00   1  8.35  .68     .040     .00     .000    24.5     5.7  12.93
I  697  144  .00   1  8.16  .59     .011     .00     .000     6.6     1.6  13.23
      --CYCLE 18 (GRAMS/MILE)--     .026     .00     .007    14.0    23.9  19.35



TEST STOP:  22:14:43
TEST LENGTH: 1373.8


***** MASS BAG RESULTS *****

ZERO CHECK OUT OF LIMITS
 FID=     3  COD= -0032* NOX=     0 CO2D=    .00

ZERO CHECK
 FID=     2  COD=     0  NOX=     0 CO2D=    .00

SPAN CHECK
 FID=    93  COD=  1711  NOX=   193 CO2D=  4.16

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=     9  COD=    13  NOX=    13 CO2D=  1.10

BACKGROUND BAG
 FID=     7  COD=     4  NOX=     0 CO2D=    .06

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX    CO2  FUEL
IDLE        .710    .00    .070   399   72.9
```

49-2

ACCEL	2.637	3.46	2.216	1145	638.2
DECEL	1.258	.63	.249	432	188.7
CRUISE	4.333	2.74	1.599	1635	359.3
CYCLE	1.541	3.49	1.214	553	113.6
TOTAL	3.694	6.43	4.634	3541	772.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.158	.86	.618	472.1

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.377	.23	.718	432.4

***** TEST VARIABLES *****

RELATIVE HUMIDITY	53
HUM. CORR. FACTOR	.927
CVS REVOLUTIONS	26652
AVG.INLET DEPR. (IN.H2O)	12.4
AVG.PRESSURE DIFF. (IN.H2O)	21.3
AVG.CVS TEMPERATURE (DEG.F)	92
MAX.INLET DEPR. (IN.H2O)	12.8
MIN.INLET DEPR. (IN.H2O)	12.1
MAX.CVS TEMPERATURE (DEG.F)	93
MIN.CVS TEMPERATURE (DEG.F)	35
AVG.CVS FLOW (CU.FT/REV)	.244
TOTAL CVS VOL. (STD.CU.FT.)	5996
AVG MODAL CO2 RATIO	7.56
FUEL ECONOMY (MI/GAL)	20.58

Pump with spoiler. -7B fuel bar, 10% deeper, approximately .0545 F/A part throttle curve. Trim 2-3/4 turns open. New wide open throttle stop (.087" from open). Power valve reworked to 10^0. New start fuel solenoid. No temperature compensation on main bias. EGR and spark signals dumped at idle. Air pump and catalyst. Vacuum spark advance through OSAC, via lower ported signal, through independent solenoid. EGR signal via original, upper ported signal, including check valve, .056" jet and reservoir. .016" bleed jet omitted. A selected spring to open #1 pintle at 1.5" Hg. .282" manifold orifice.

HC	CO	NOx	Econ.
.077	.23	.869	21.27

HC	CO	NOX	ECON.
.077	.23	.869	21.27

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
DEMCH #2
 5-25-76     3:33
CONSOLE SNS:  4  5
TEST CODE? 1
NEW DATA ? N
WET BULB ?     61
DRY BULB ?     76
BAROMETER?  2998
INERT WT.?  3500
TRANS.   ?      3
CYLINDERS?      6
DYN NO.  ? 103
VEH. MAKE? EPA PART
VEH. I.D.? 5030
REMARKS  ? CARB :CONIC                    IDLE SET:750"
REMARKS  ? ENGINE 225CID                  NOTES:TRACES-NORAL/CATYLIST
REMARKS  ? TEST:1973 EPA

ZERO CHECK
 FID=      3   CO=-00.01 CO2P=-03.38    NO= -0005 CO2P=    .00

SPAN CHECK
 FID=     99   CO=  3.01 CO2P= 15.30    NO=   833 CO2P=   1.17

REPEAT S/C CHECKS? N

TEST START :   3:45: 9.5
DRAIN TIME :   1.0

 CODE   ---TAILPIPE CONC---  CO2P   ------ MASS (GRAMS) ------    DYN.   F/C
  F/A/C   HC    CO   NO   CO2   CONC     HC      CO      NO      CO2     VOL.   F/T

DRAIN   113  .25   10   2.44  .57   .0082    .21   .0005     1.5     .3  14.21
 1  641  103  .25   07   2.41  .54   .0076    .09   .0003    54.2    5.7  15.00
 A 2.25  170  .10  033   2.71 1.43   .0069    .27   .0115    36.3    3.1   5.39
 C 26.1  132  .11  140   9.06 1.16   .0074   1.54   .0398   219.9   40.4   8.59
```

P-1.[illegible]	151	.[illegible]	14	9.85	.62	.021	.29	.002	13.5	2.9	14.92
--CYCLE 1 (GRAMS/MILE)--						.054	.27	.057	39.5	59.5	19.86
I .65[illegible]	131	.04	86	8.71	.54	.067	.14	.013	46.3	10.4	15.85
A 2.10	154	.13	491	10.33	1.07	.060	1.49	.353	175.9	34.7	5.07
C 54.3	126	.06	238	9.39	2.36	.030	2.00	1.125	406.0	120.0	3.93
P-1.01	305	.00	7	3.10	.70	.000	.37	.004	53.0	10.6	11.09
--CYCLE 2 (GRAMS/MILE)--						.154	.54	.074	104.0	159.6	21.07
I .65[illegible]	135	.05	46	8.75	.59	.033	.06	.002	16.3	3.6	15.63
A 2.70	170	.05	369	9.84	1.75	.140	.00	.000	70.5	10.0	5.37
C 37.1	173	.00	05	9.73	1.40	.000	.04	.004	50.0	10.5	6.05
P-1.20	210	.06	10	3.73	.61	.045	.03	.003	10.0	4.0	14.39
--CYCLE 3 (GRAMS/MILE)--						.241	.00	.045	00.0	34.3	12.04
I .64[illegible]	141	.04	103	8.76	.55	.000	.00	.007	6.0	1.4	15.61
A 2.45	176	.05	519	10.14	1.97	.093	.12	.021	56.3	10.3	5.15
P-1.70	163	.13	21	9.56	.67	.035	.10	.004	00.0	4.0	14.97
--CYCLE 4 (GRAMS/MILE)--						.213	.25	.229	11.0	10.4	14.76
I .65[illegible]	144	.04	47	7.23	.55	.030	.07	.017	00.3	5.5	13.93
A 2.10	171	.05	411	10.07	2.00	.130	.07	.225	04.3	10.3	4.46
C 30.7	175	.00	00	3.26	1.07	.141	.23	.017	75.7	10.5	6.03
P-1.00	150	.05	10	3.74	.53	.033	.07	.000	13.0	4.3	15.77
--CYCLE 5 (GRAMS/MILE)--						.346	.11	.249	00.3	40.3	10.54
I .66[illegible]	140	.03	07	8.79	.54	.000	.01	.000	6.0	1.4	16.00
A 2.30	153	.03	175	10.00	1.00	.030	.03	.003	55.0	10.0	7.77
C 26.1	100	.06	56	10.14	1.05	.033	.10	.010	33.1	6.3	9.06
P-1.33	109	.05	17	9.10	.61	.016	.04	.000	10.3	2.6	14.97
--CYCLE 6 (GRAMS/MILE)--						.319	.00	.015	14.0	00.0	17.13
I .65[illegible]	141	.03	43	3.70	.55	.031	.04	.011	00.0	4.5	15.54
A 3.11	147	.04	110	9.71	1.33	.034	.06	.006	03.0	4.7	7.31
C 00.6	115	.05	03	9.60	1.06	.004	.03	.003	03.3	10.7	9.03
P-1.03	101	.04	10	9.20	.65	.010	.04	.000	13.1	2.3	14.17
--CYCLE 7 (GRAMS/MILE)--						.303	.06	.010	10.7	00.7	15.70
I .65[illegible]	132	.03	10	8.07	.55	.043	.07	.007	31.3	7.5	14.41
A 2.75	151	.04	036	9.93	1.47	.071	.13	.113	49.0	9.6	6.76
P-1.01	100	.04	10	9.10	.73	.040	.10	.007	70.0	7.3	10.00
--CYCLE 8 (GRAMS/MILE)--						.000	.04	.017	15.6	04.3	10.50
I .65[illegible]	136	.00	06	3.63	.54	.004	.00	.005	15.0	3.5	15.73
A 2.10	140	.06	135	10.00	1.10	.031	.06	.375	57.3	11.1	2.43
P-1.00	100	.03	30	9.15	.66	.023	.10	.007	17.5	3.7	13.76
--CYCLE 9 (GRAMS/MILE)--						.217	.05	.010	10.0	10.3	10.37
A 2.60	150	.04	224	10.00	1.51	.036	.15	.130	59.3	11.6	6.60
P-1.03	134	.04	00	9.05	.74	.040	.10	.000	34.4	7.5	11.06
--CYCLE 10 (GRAMS/MILE)--						.213	.03	.013	10.6	10.3	17.70
A 2.71	154	.03	319	9.34	1.53	.036	.11	.133	50.3	11.4	6.43
C 03.1	107	.06	59	9.13	1.10	.607	1.63	.000	405.1	25.0	7.07
P-1.00	175	.13	11	9.06	.64	.000	.15	.030	15.7	3.3	14.47
--CYCLE 11 (GRAMS/MILE)--						.103	.06	.054	03.0	00.0	04.03
A 2.53	101	.03	057	9.77	1.47	.031	.11	.140	53.6	11.0	6.05
C 05.5	131	.04	30	9.45	1.00	.033	.10	.003	70.6	14.4	9.45
P-1.01	143	.04	7	9.03	.03	.037	.07	.000	04.3	5.1	13.03
--CYCLE 12 (GRAMS/MILE)--						.000	.05	.004	03.4	31.1	01.54
I .64[illegible]	145	.00	10	3.00	.54	.003	.06	.033	35.1	7.4	14.03
A 2.00	100	.00	105	9.04	1.40	.100	.03	.113	03.4	10.1	6.47
P-1.01	140	.04	3	3.33	.06	.007	.13	.004	44.3	9.3	13.33
--CYCLE 13 (GRAMS/MILE)--						.030	.04	.017	13.7	00.0	13.06

50-1

```
A 0.17  153  .06 135  9.74 1.03    .091    .04    .020   61.0   10.1  7.09
C 07.0  107  .04  00  9.45 1.14    .060    .13    .014   40.7    0.0  9.00
D-1.00  177  .00   7  9.57  .53    .033    .00    .021   15.5    3.5 14.72
      --CYCLE 14 (GRAMS/MILE)--     .004    .05    .013   10.7   05.5 10.51

I  643  100  .00  30  3.63  .54    .033    .00    .007   17.5    4.0 15.04
A 3.69  140  .01 371 10.00 1.00    .047    .00    .101   33.0    0.5  5.07
D-1.03  135  .04  01  9.46  .07    .002    .04    .003   15.0    3.1 14.13
      --CYCLE 15 (GRAMS/MILE)--     .013    .01    .017    0.0   13.7  7.00

I  640  135  .00  07  3.60  .55    .017    .00    .003   11.3    0.5 15.30
A 0.11  133  .01  00  9.64 1.10    .004    .03    .004   40.4    0.0  3.63
C 00.5  113  .00  40  9.44  .00    .033    .00    .015   34.7    7.1 10.00
D-1.00  100  .00   7  3.04  .50    .000    .00    .001   14.4    3.4 17.07
      --CYCLE 16 (GRAMS/MILE)--     .019    .00    .003   14.7   00.0 15.01

I  644  133  .00  10  7.75  .54    .005    .00    .000   14.0    3.0 14.00
A 0.13  160  .00 155  9.71 1.13    .003    .31    .000   60.0   11.0  3.04
C 06.6  103  .00  42  9.62 1.01    .074    .00    .006   01.4   10.3  7.06
D-1.30  153  .00  10  9.24  .64    .004    .00    .000   15.5    3.0 14.44
      --CYCLE 17 (GRAMS/MILE)--     .000    .04    .016   00.0   31.1 17.03

I  644  147  .00  00  3.60  .54    .044    .00    .006   03.0    0.5 15.00
A 0.01  174  .01 151 10.01 1.33    .000    .03    .001   41.0    0.1  7.53
D-1.01  114  .00   4  3.50  .00    .003    .00    .001   00.4    5.1 17.74
I  633  141  .00   5  3.57  .53    .000    .00    .000    0.0    1.3 16.17
      --CYCLE 18 (GRAMS/MILE)--     .000    .00    .000   13.0   01.0 11.10
```

TEST STOP: 4: 3:00
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 PIP= 0 COP= 0 MOX= 3 COMP= .00

SPAN CHECK
 PIP= 05 COP= 1713 MOX= 005 COMP= 4.13

REPEAT Z/S CHECKS ?

SAMPLE BAG
 PIP= 5 COP= 13 MOX= 00 COMP= 1.03

BACKGROUND BAG
 PIP= 3 COP= 4 MOX= 0 COMP= .00

REPEAT BAG READS ?

***** NORAL SUMMARY *****

COMPOSITE GRAMS

MODE	TYPE	HC	CO	NOX	CO2	FUEL
IDLE		.474	.07	.101	330	70.0
ACCEL		1.007	4.01	3.167	1110	217.0
DECEL		.741	1.50	.050	456	77.0
CRUISE		0.030	0.50	1.030	1531	307.7
CRUISE		.734	3.00	1.004	503	104.0
TOTAL		5.154	13.00	5.000	3400	000.7

EQUIVALENT MASS BAG RESULTS

CVS/PI .077 1.74 .370 416.5

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.077	.23	.369	416.5

***** TEST VARIABLES *****

RELATIVE HUMIDITY	40
HUM. CORR. FACTOR	.925
CVS REVOLUTIONS	26650
AVG.INLET DEPR. (IN.H2O)	12.8
AVG.PRESSURE DIFF. (IN.H2O)	22.7
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H2O)	12.9
MIN.INLET DEPR. (IN.H2O)	11.9
MAX.CVS TEMPERATURE (DEG.F)	93
MIN.CVS TEMPERATURE (DEG.F)	89
AVG.CVS FLOW (CU.FT/REV)	.244
TOTAL CVS VOL. (STD.CU.FT.)	5911
AVG NORAL CO2 RATIO	3.33
FUEL ECONOMY (MI/GAL)	21.27

OEM condition except air pump hose disconnected.

Catalyst removed.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
12- 5-75    10:45
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   59
DRY BULB ? S
   76
BAROMETER? S
 2928
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 5 W/O AIR &CONV
VEH. MAKE? 75 CAPT
VEH. I.D.? 5C30
REMARKS  ?
REMARKS  ?
REMARKS  ? RUN #5 W/O CONV. & AIR

ZERO CHECK OUT OF LIMITS
 FID=     0  COP=    .03 CO2P=    .00    NO=     13*CO2D=    .00

ZERO CHECK
 FID=     0  COP=    .00 CO2P=    .00    NO=      4 CO2D=    .00

SPAN CHECK
 FID=   100  COP=   7.92 CO2P= 16.12    NO=    194 CO2D=   4.07
```

51-1

REPEAT Z/S CHECKS? N

TEST START : 10:53:53.9
CRANK TIME : 1.9

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/P F/E
CRANK	31	.00	0	.16	.04	.003	.00	.000	.2	2.2	4.00
I	776	917	4.64	101	10.23	.35	.312	10.66	.034	36.9	7.0	12.04
A	3.05	999	4.02	495	11.45	1.46	.288	7.79	.140	34.9	5.9	7.84
C	25.4	995	5.45	153	11.27	1.32	1.995	73.54	.302	239.0	40.9	8.54
D	-1.10	980	5.24	61	10.87	.68	.124	4.46	.008	14.5	2.6	15.99
--CYCLE 1 (GRAMS/MILE)--						.756	26.79	.134	90.4	58.5	12.29
I	699	866	3.42	88	11.26	.49	.289	7.69	.029	39.8	6.8	22.98
A	2.15	771	2.36	247	12.98	2.19	1.103	22.73	.348	196.5	29.2	5.90
C	53.6	509	.27	334	13.59	2.90	2.071	7.67	1.337	594.9	93.1	4.69
D	-1.01	760	.37	99	13.04	.73	.284	2.19	.036	51.6	7.6	17.86
--CYCLE 2 (GRAMS/MILE)--						1.041	11.19	.486	242.4	126.7	18.36
I	648	453	.27	125	13.45	.51	.246	.19	.012	14.2	2.2	26.37
A	2.78	417	.27	363	13.47	2.03	.261	1.19	.224	89.3	12.2	6.48
C	36.6	411	.15	271	13.15	1.70	.182	.45	.118	61.6	9.0	7.74
D	-1.04	480	.45	143	13.28	.57	.058	.37	.017	17.0	2.5	23.39
--CYCLE 3 (GRAMS/MILE)--						.152	.61	.103	58.6	26.4	17.48
I	659	471	.32	85	13.25	.51	.018	.08	.003	5.4	.8	25.98
A	3.33	403	.43	366	13.52	2.02	.157	1.13	.140	55.7	8.0	6.69
D	-1.03	323	.16	244	13.37	.87	.059	.20	.044	25.9	3.7	15.37
--CYCLE 4 (GRAMS/MILE)--						.065	.39	.052	24.2	12.5	13.89
I	652	329	.11	118	13.32	.52	.046	.10	.016	19.9	2.9	25.62
A	3.15	368	.59	401	13.53	2.25	.208	2.25	.223	81.0	11.6	6.01
C	36.2	405	.05	210	12.98	1.40	.236	.20	.120	79.9	11.9	9.27
D	-1.07	430	.10	278	12.91	.58	.060	.03	.034	17.1	2.6	22.26
--CYCLE 5 (GRAMS/MILE)--						.153	.73	.109	55.0	28.9	19.51
I	647	411	.06	91	13.09	.50	.016	.02	.003	5.3	.8	26.13
A	2.35	347	.23	222	12.92	1.35	.140	.62	.088	55.1	8.2	9.57
C	26.0	273	.04	203	12.97	1.08	.066	.06	.047	32.6	4.9	12.01
D	-1.24	283	.10	227	13.20	.57	.023	.05	.018	11.1	1.6	23.16
--CYCLE 6 (GRAMS/MILE)--						.063	.19	.040	26.7	15.5	17.46
I	639	313	.06	101	13.08	.51	.040	.06	.013	17.7	2.6	25.65
A	3.21	296	.19	214	13.06	1.41	.052	.23	.037	24.4	3.6	9.26
C	20.1	241	.10	256	12.86	.97	.130	.36	.136	73.2	11.0	13.26
D	-1.17	413	.18	325	12.69	.77	.046	.13	.035	14.9	2.3	16.48
--CYCLE 7 (GRAMS/MILE)--						.069	.20	.057	33.4	19.5	16.93
I	624	329	.05	108	11.51	.51	.074	.08	.024	27.4	4.6	22.57
A	2.74	326	.13	223	13.01	1.59	.120	.32	.081	50.7	7.5	8.23
D	-1.06	287	.09	158	12.91	.39	.030	.17	.043	38.0	5.7	14.51
--CYCLE 8 (GRAMS/MILE)--						.070	.15	.038	29.8	17.9	12.65
I	624	290	.06	83	13.06	.51	.030	.04	.003	14.1	2.1	25.61
A	2.08	293	.20	236	13.15	1.26	.125	.57	.090	59.1	8.7	13.44
D	-1.07	265	.33	171	12.82	.66	.033	.32	.021	16.3	2.5	19.42
--CYCLE 9 (GRAMS/MILE)--						.048	.24	.033	23.1	13.3	12.92
A	2.62	302	.10	243	13.24	1.64	.135	.30	.109	68.5	9.1	8.27
D	-1.01	294	.10	136	12.30	.75	.072	.17	.033	33.3	5.0	17.07
--CYCLE 10 (GRAMS/MILE)--						.053	.12	.036	24.6	14.1	17.33
A	2.70	338	.22	266	13.40	1.74	.148	.65	.115	68.2	9.2	7.72

C 27.7	260	.11	195	13.05	1.09	.726	2.07	.536	335.3	57.0	11.96
D-1.03	349	.39	226	13.05	.68	.040	.30	.026	16.0	2.4	19.19
--CYCLE 11 (GRAMS/MILE)--						.235	.77	.173	113.9	63.3	25.61

51-2

A 2.62	334	.17	212	13.24	1.55	.142	.49	.089	59.5	8.7	8.54
C 25.3	265	.06	207	13.08	1.06	.138	.25	.106	72.0	10.6	12.34
D-1.02	364	.10	175	12.84	.54	.050	.09	.024	18.7	2.8	23.35
--CYCLE 12 (GRAMS/MILE)--						.085	.21	.056	38.5	22.1	21.33

I 592	366	.04	61	12.96	.59	.092	.06	.013	30.7	4.6	25.92
A 2.61	350	.12	218	13.07	1.64	.153	.36	.097	62.3	9.2	7.97
D-1.01	345	.08	107	11.63	.62	.112	.17	.034	39.9	6.6	18.76
--CYCLE 13 (GRAMS/MILE)--						.090	.15	.037	34.1	22.4	13.69

A 2.13	317	.12	190	13.06	1.24	.136	.35	.080	59.1	8.7	10.53
C 26.3	263	.04	157	12.91	1.15	.091	.09	.054	47.3	7.1	11.23
D-1.03	443	.13	132	13.14	.51	.042	.09	.012	13.3	1.9	25.76
--CYCLE 14 (GRAMS/MILE)--						.069	.14	.037	30.7	17.8	20.33

I 585	403	.06	65	13.00	.43	.046	.05	.007	15.5	2.3	27.08
A 3.70	353	.19	195	13.44	1.59	.277	.23	.042	31.0	4.5	8.45
D-1.04	330	.18	386	13.73	.99	.044	.16	.051	19.3	2.7	15.26
--CYCLE 15 (GRAMS/MILE)--						.043	.12	.026	16.9	9.5	8.98

I 581	362	.06	81	12.94	.49	.025	.03	.006	9.5	1.4	26.41
A 2.12	235	.20	175	13.13	1.15	.101	.48	.061	49.4	7.2	11.46
C 21.5	263	.06	179	13.10	.39	.062	.11	.041	32.5	4.8	14.72
D-1.10	233	.32	156	12.83	.60	.024	.22	.016	14.1	2.1	21.33
--CYCLE 16 (GRAMS/MILE)--						.054	.22	.032	27.0	15.6	16.35

I 583	356	.06	74	12.98	.49	.033	.04	.007	12.6	1.9	26.49
A 2.08	330	.17	186	13.11	1.13	.137	.48	.076	57.8	8.5	11.11
C 25.6	242	.04	170	13.19	1.16	.099	.11	.068	56.8	8.3	11.37
D-1.06	408	.06	233	12.98	.69	.048	.06	.027	16.1	2.4	18.31
--CYCLE 17 (GRAMS/MILE)--						.081	.17	.046	36.7	21.1	17.38

I 570	407	.06	70	13.13	.49	.073	.03	.012	24.9	3.7	26.98
A 2.64	372	.20	193	13.16	1.49	.113	.43	.057	44.2	6.5	8.83
D-1.04	322	.10	107	12.99	.57	.045	.09	.015	19.2	2.9	22.79
I 36	365	.08	54	11.38	.31	.016	.02	.002	5.2	.9	36.71
--CYCLE 18 (GRAMS/MILE)--						.065	.16	.022	24.9	13.9	11.63

TEST STOP: 11:17:14
TEST LENGTH: 1371.8

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= 97 COD= 1743 NOX= 204 CO2D= 4.01

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 120 COD= 2268 NOX= 34 CO2D= 1.60

COLD STAB SAMP
FID= 49 COD= 163 NOX= 13 CO2D= .92

COLD TRAN AMB
FID= 32 COD= 21 NOX= 0 CO2D= .05

COLD STAB AMB
FID= 26 COD= 13 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

SOAK TIME : 613

TEST START : 11:27: 1.7
CRANK TIME : 2.4

MODE	---TAILPIPE CONC---			CO2D	------ MASS (GRAMS) ------				EXH.	D/P
P/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	131	.01	22	5.30	.10	.001	.00	.000	.6	.2	53.00
I 497	857	.81	74	8.45	.34	.142	.90	.012	14.8	3.4	24.33
A 3.05	999	.59	194	12.69	1.49	.266	1.06	.051	35.8	5.4	8.52
C 25.7	587	.37	215	13.22	1.25	.952	4.04	.343	226.7	33.1	10.58
D-1.04	652	.08	251	12.87	.55	.058	.05	.022	12.0	1.8	22.98
--CYCLE 1 (GRAMS/MILE)--						.394	1.68	.119	80.5	43.9	19.64
I 579	627	.06	53	12.38	.48	.137	.12	.016	39.0	6.1	25.79
A 2.15	514	1.45	318	13.50	1.96	.633	12.02	.335	175.9	25.1	6.39
C 53.5	412	.33	321	13.90	2.54	1.440	7.76	1.104	513.8	71.3	5.47
D-1.02	848	.31	96	12.58	.63	.285	.70	.032	44.6	6.9	19.97
--CYCLE 2 (GRAMS/MILE)--						.707	5.72	.427	214.3	109.4	21.37
I 565	741	.09	60	13.28	.43	.071	.06	.006	13.4	2.0	27.50
A 2.76	498	.27	325	13.84	1.93	.282	1.07	.191	82.3	11.5	7.17
C 36.3	412	.09	257	13.77	1.45	.149	.22	.092	52.7	7.4	9.50
D-1.10	789	.18	183	13.73	.53	.036	.13	.020	15.3	2.2	25.91
--CYCLE 3 (GRAMS/MILE)--						.163	.41	.033	45.7	23.1	19.46
I 573	973	.12	61	13.74	.47	.034	.03	.002	5.8	.7	29.23
A 3.38	609	.64	304	13.74	1.97	.223	1.62	.112	54.5	7.7	6.97
D-1.02	480	.16	250	13.73	.78	.076	.17	.039	23.1	3.3	17.60
--CYCLE 4 (GRAMS/MILE)--						.094	.50	.043	23.0	11.6	14.46
I 566	586	.08	59	13.69	.48	.074	.07	.007	13.3	2.6	28.52
A 3.17	487	1.07	272	13.68	2.10	.265	3.91	.145	78.6	11.1	6.25
C 36.1	362	.06	236	13.65	1.25	.180	.20	.115	71.6	10.1	10.92
D-1.02	736	.15	187	13.59	.54	.085	.12	.021	16.6	2.4	24.71
--CYCLE 5 (GRAMS/MILE)--						.168	1.19	.080	51.4	26.2	20.52

TEST STOP: 11:35:49
TEST LENGTH: 507.4

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 2 NOX= 0 CO2D= .00

SPAN CHECK
FID= 97 COD= 1788 NOX= 206 CO2D= 4.01

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 80 COD= 670 NOX= 23 CO2D= 1.40

HOT TRAN AMB
FID= 24 COD= 19 NOX= 0 CO2D= .05

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.716	18.73	.095	116	21.7
ACCEL	2.018	35.08	1.076	457	67.4
DECEL	.586	7.30	.139	126	19.0
CRUISE	4.434	81.85	1.877	965	144.9
CHOKE	4.115	126.87	.960	562	94.5
TOTAL	7.803	142.96	3.137	1665	253.0

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.163	39.71	.835	462.6

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.433	.47	.096	163	24.8
ACCEL	1.539	5.55	1.030	677	99.4
DECEL	.659	2.03	.354	271	40.9
CRUISE	1.311	3.05	.983	700	103.6
CHOKE	.000	.00	.000	0	.0
TOTAL	3.992	11.11	2.463	1811	268.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.024	2.35	.633	464.3

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.503	1.18	.043	91	14.9
ACCEL	1.674	19.63	.875	428	62.9
DECEL	.589	1.17	.133	112	16.5
CRUISE	2.728	12.22	1.653	865	122.0
CHOKE	2.239	18.19	.829	505	75.1
TOTAL	5.493	34.24	2.794	1496	214.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.526	9.51	.751	415.4

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.397	12.28	.717	450.6

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	2.059	41.22	.951	468.2
COLD STABILIZED	1.120	4.44	.577	421.1
HOT TRANSIENT	1.692	12.21	.794	413.4
WEIGHTED TOTAL	1.473	14.16	.714	428.7

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.254	14.093	9.000
RELATIVE HUMIDITY	36	36	36
HUM. CORR. FACTOR	.890	.890	.890
CVS REVOLUTIONS	9930	16860	9930
AVG.INLET DEPR. (IN.H20)	22.6	22.6	22.5

51-5

AVG.PRESSURE DIFF. (IN.H2O)	36.2	36.2	36.2
AVG.CVS TEMPERATURE (DEG.F)	88	87	86
MAX.INLET DEPP. (IN.H2O)	23.2	23.4	23.3
MIN.INLET DEPP. (IN.H2O)	22.8	22.8	22.8
MAX.CVS TEMPERATURE (DEG.F)	95	96	95
MIN.CVS TEMPERATURE (DEG.F)	76	79	76
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2089	3590	2119
AVG MODAL CO2 RATIO	8.26	13.46	9.63
FUEL ECONOMY (MI/GAL)	16.45	22.55	20.26

Composite F/E 19.5 MPG

OEM condition except air pump hose disconnected
and catalyst removed.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
12- 4-75   14:59
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   59
DRY BULB ? S
   74
BAROMETER? S
 2942
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 4 W/O AISP & CONV
VEH. MAKE? 75 DART
VEH. I.D.?
REMARKS  ?
REMARKS  ?
REMARKS  ? #4 W/O AIR & CONV.

ZERO CHECK
 FID=     0  COR=    .01 CO2R=    .00   NO=      4 CO2D=    .00

SPAN CHECK
 FID=   103  COR=   7.94 CO2R= 16.14   NO=    193 CO2D=   4.06

REPEAT Z/S CHECKS? N

TEST START :  15:13:27.3
CRANK TIME :  2.4

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/B
 D/A/S   HC    CO   NO   CO2  CONC    HC      CO      NO      CO2    VOL.  F/E

CRANK   267  .00    0   .24  .04   .023     .00    .000      .2    1.8  6.00
I  766  919 5.52   39  9.64  .32   .313   12.66    .039    34.7    7.0 11.76
A 3.09  978 4.66  561 11.14 1.48   .284    9.20    .164    34.6    6.0  7.53
C 25.5  970 5.96  193 11.02 1.39  1.965   31.24    .389   236.0   41.3  3.48
D-1.05  970 6.78   63 10.10  .55   .111    5.23    .007    12.2    2.3 18.24
```

52-1

--CYCLE 1 (GRAMS/MILE)--						.749	39.09	.164	88.3	53.4	12.00
I	715	944	6.91	63	9.53	.43	.335	16.48	.022	35.7	7.2	22.16
A	2.14	887	2.66	252	12.97	2.23	1.313	26.49	.371	203.0	30.2	5.82
C	53.6	563	.25	320	13.52	2.97	2.368	7.08	1.340	691.3	85.8	4.55
D	-1.01	741	.98	87	13.16	.66	.251	2.24	.029	47.2	6.9	19.94
--CYCLE 2 (GRAMS/MILE)--							1.185	14.52	.490	246.4	130.2	17.78
I	657	523	.66	118	13.43	.50	.052	.45	.012	14.2	2.0	26.96
A	2.77	450	.34	354	13.44	2.09	.290	1.47	.227	91.6	13.2	6.43
C	36.6	456	.11	194	12.95	1.62	.199	.32	.084	59.9	8.9	7.99
D	-1.02	501	.51	117	13.32	.54	.059	.40	.014	16.5	2.4	24.67
--CYCLE 3 (GRAMS/MILE)--							.167	.73	.094	59.6	26.5	17.38
I	660	448	.37	93	13.35	.51	.017	.12	.004	5.5	.8	26.18
A	3.44	339	.54	384	13.65	2.12	.161	1.51	.159	59.8	8.5	6.44
D	-1.02	390	.18	250	13.37	.76	.064	.20	.041	23.0	3.3	17.59
--CYCLE 4 (GRAMS/MILE)--							.067	.50	.056	24.5	12.6	13.60
I	654	365	.13	119	13.06	.52	.053	.13	.017	20.2	3.0	25.12
A	3.17	417	.98	351	12.89	2.29	.256	4.05	.215	83.7	12.5	5.63
C	36.3	410	.10	172	12.86	1.40	.244	.40	.102	91.1	12.2	8.19
D	-1.02	423	.21	199	12.84	.54	.051	.17	.024	16.4	2.5	23.35
--CYCLE 5 (GRAMS/MILE)--							.168	1.33	.099	55.9	30.2	18.96
I	646	391	.13	97	12.84	.51	.016	.04	.004	5.5	.8	25.13
A	2.35	352	.13	239	12.86	1.48	.155	.42	.125	60.0	9.0	8.69
C	25.3	260	.09	231	12.83	1.06	.060	.14	.053	31.6	4.7	12.15
D	-1.15	293	.23	222	12.87	.63	.026	.14	.010	12.0	1.8	20.43
--CYCLE 6 (GRAMS/MILE)--							.966	.19	.047	28.2	16.4	16.70
I	639	326	.11	117	12.86	.51	.041	.09	.015	17.3	2.6	25.22
A	3.27	309	.19	237	12.85	1.49	.058	.24	.044	25.5	3.8	8.62
C	20.2	254	.16	235	12.81	1.02	.145	.62	.134	77.5	11.7	12.56
D	-1.15	384	.18	234	12.80	.67	.037	.12	.023	13.1	2.0	19.10
--CYCLE 7 (GRAMS/MILE)--							.072	.27	.055	34.2	20.1	16.52
I	633	329	.09	103	12.79	.50	.066	.12	.021	27.3	4.1	25.53
A	2.74	320	.15	256	12.80	1.63	.126	.40	.100	53.2	8.0	7.85
D	-1.02	281	.12	174	12.80	.80	.072	.21	.044	34.6	5.2	16.00
--CYCLE 8 (GRAMS/MILE)--							.068	.19	.042	29.5	17.4	12.73
I	627	297	.09	92	12.79	.50	.031	.06	.010	14.1	2.1	25.53
A	2.10	331	.25	231	12.77	1.23	.136	.76	.104	60.8	9.2	9.93
D	-1.10	315	.47	202	12.75	.58	.035	.35	.022	15.0	2.3	21.99
--CYCLE 9 (GRAMS/MILE)--							.052	.30	.035	23.0	13.6	19.87
A	2.61	340	.16	242	12.75	1.70	.166	.52	.117	65.7	9.9	7.58
D	-1.01	322	.12	153	12.74	.69	.074	.19	.035	31.0	4.7	18.46
--CYCLE 10 (GRAMS/MILE)--							.061	.13	.039	24.8	14.6	17.11
A	2.73	339	.20	250	12.74	1.80	.164	.65	.121	65.3	9.9	7.68
C	27.7	277	.13	225	12.72	1.06	.769	2.43	.622	373.3	56.6	12.00
D	-1.03	365	.29	247	12.71	.64	.041	.22	.028	15.1	2.3	19.86
--CYCLE 11 (GRAMS/MILE)--							.250	.85	.197	116.3	68.8	26.11
A	2.62	335	.17	222	12.72	1.61	.155	.53	.102	62.3	9.5	7.93
C	25.3	239	.13	185	12.75	1.01	.123	.48	.095	69.2	10.5	12.62
D	-1.02	332	.11	184	12.72	.57	.048	.11	.027	19.5	3.0	22.32
--CYCLE 12 (GRAMS/MILE)--							.084	.29	.057	38.7	22.9	21.63
I	577	364	.06	62	12.74	.49	.032	.11	.014	30.3	4.6	26.00
A	2.62	357	.19	233	12.72	1.67	.169	.61	.110	63.9	9.7	7.62
D	-1.04	338	.12	114	12.75	.58	.107	.22	.031	37.3	5.6	21.93
--CYCLE 13 (GRAMS/MILE)--							.092	.24	.040	33.7	19.9	13.73

```
A 2.16  293  .23 181 12.72 1.23   .134   .71   .032   61.4    9.3   9.94
C 26.8  283  .06 246 12.81  .97   .034   .12   .073   40.1    6.0  13.21
D-1.06  437  .13 214 12.78  .59   .042   .09   .021   13.1    2.0  25.56
      --CYCLE 14 (GPAMS/MILE)--    .067   .24   .045   29.4   17.3  21.09
                                                        52-2
I  599  410  .08  65 12.78  .43   .043   .06   .009   15.7    2.4  26.63
A 3.73  364  .26 209 12.77 1.76   .092   .44   .053   34.3    5.2   7.26
D-1.04  504  .29 415 12.78  .70   .057   .22   .046   15.2    2.3  18.26
      --CYCLE 15 (GPAMS/MILE)--    .050   .19   .027   16.7    9.3   9.01

I  598  443  .10  78 12.78  .48   .021   .05   .005    9.3    1.4  26.63
A 2.13  303  .18 179 12.78 1.18   .114   .46   .067   51.0    7.7  19.33
C 21.5  237  .19 162 12.77  .32   .053   .23   .036   30.0    4.5  15.57
D-1.06  284  .13 161 12.78  .55   .028   .09   .016   13.2    2.0  22.32
      --CYCLE 16 (GPAMS/MILE)--    .058   .22   .032   26.5   15.6  16.64

I  587  355  .08  68 12.78  .43   .032   .05   .006   12.4    1.9  26.63
A 2.07  318  .22 183 12.78 1.21   .140   .65   .080   59.6    9.0  19.57
C 25.3  264  .10 224 12.77 1.08   .104   .27   .088   53.4    8.1  11.72
D-1.03  407  .10 252 12.78  .61   .043   .07   .026   14.2    2.2  20.95
      --CYCLE 17 (GPAMS/MILE)--    .082   .27   .052   35.3   21.1  19.29

I  586  411  .09  64 12.77  .43   .074   .11   .012   24.4    3.7  26.60
A 2.65  351  .13 183 12.75 1.45   .112   .28   .053   43.2    6.5   9.79
D-1.03  347  .12 111 12.78  .53   .047   .11   .015   18.4    2.8  24.11
I   34  486  .11  36 12.76  .27   .016   .02   .001    4.4     .7  47.26
      --CYCLE 18 (GPAMS/MILE)--    .064   .13   .022   23.2   13.7  12.06



TEST STOP:  15:36:47
TEST LENGTH: 1371.9


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=    17  NOX= -0001 CO2D=    .00

SPAN CHECK
 FID=    97  COD=  1796  NOX=   201 CO2D=   4.00

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=   100  COD=  2139  NOX=    33 CO2D=  1.55

COLD STAB SAMP
 FID=    48  COD=   133  NOX=    15 CO2D=   .94

COLD TRAN AMB
 FID=    27  COD=    12  NOX=     0 CO2D=   .05

COLD STAB AMB
 FID=    26  COD=     2  NOX=     0 CO2D=   .05

REPEAT BAG READS ? N

SOAK TIME :  600

TEST START :  15:46:21.6
CRANK TIME :  1.5

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    EXH.  D/B
 P/A/S   HC    CO   NO   CO2  CONC     HC      CO      NO      CO2     VOL.  F/E
```

```
CRANK   120  .03   8  3.58  .11    .001    .00    .000     .4     .2 32.55
I  555  894 1.08  43  7.67  .29    .139   1.14    .007    12.6    3.2 26.45
A 3.08  962  .26 188 12.49 1.66    .299    .53    .056    39.8    6.1  7.52
C 25.7  549  .31 220 13.13 1.24    .392   3.33    .355   225.2   33.1 10.59
D-1.04  513  .10 226 12.91  .53    .043    .06    .019    11.4    1.7 24.36
     --CYCLE  1 (GRAMS/MILE)--     .379   1.42    .121    90.4   44.3 19.73

I  556  518  .10  51 12.29  .45    .144    .19    .014    36.7    5.8 27.31
A 2.14  471 1.17 373 13.47 2.14    .636  10.63    .501   192.3   27.6  6.29
C 53.6  333  .22 342 13.65 2.53   1.414   5.40   1.242   526.3   74.4  5.29
D-1.01  939  .41  96 12.64  .62    .277    .91    .032    44.1    6.7 22.39
     --CYCLE  2 (GRAMS/MILE)--     .636   4.76    .497   222.8  114.5 27.37

I  535  644  .11  65 13.16  .49    .062    .07    .006    13.4    2.0 27.42
A 2.77  462  .26 329 13.56 2.04    .233   1.07    .200    87.8   12.5  6.65
C 36.4  334  .19 243 11.32 1.42    .166    .55    .105    51.9    8.8  7.97
D-1.02  791  .29 119 12.92  .50    .087    .21    .013    14.9    2.2 25.64
     --CYCLE  3 (GRAMS/MILE)--     .166    .53    .090    46.7   25.6 18.93

I  582  828  .17  56 13.04  .47    .030    .04    .002     5.0     .7 27.74
A 3.38  469  .63 345 13.72 2.04    .183   1.65    .134    56.5    8.0  6.73
D-1.03  373  .13 209 13.37  .75    .059    .15    .033    22.4    3.2 17.83
     --CYCLE  4 (GRAMS/MILE)--     .076    .51    .047    23.3   11.9 14.27

I  577  509  .11  64 13.02  .47    .067    .10    .008    18.0    2.7 27.70
A 3.17  427  .83 373 13.65 2.19    .238   3.11    .207    30.4   11.4  6.20
C 36.1  349  .11 201 13.30 1.24    .180    .38    .103    72.7   10.5 10.73
D-1.02  726  .20 193 12.92  .52    .092    .16    .023    15.3    2.4 24.65
     --CYCLE  5 (GRAMS/MILE)--     .157   1.04    .095    51.9   27.0 20.45



TEST STOP:  15:55: 9
TEST LENGTH:  506.5


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD= -0008  NOX=     0 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=    97  COD=  1362* NOX=   201 CO2D=  4.07

ZERO CHECK
 FID=     2  COD= -0003  NOX=     0 CO2D=    .00

SPAN CHECK
 FID=    99  COD=  1746  NOX=   200 CO2D=  4.10

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
 FID=    77  COD=   512  NOX=    31 CO2D=  1.39

HOT TRAN AMB
 FID=    23  COD=     6  NOX=     0 CO2D=    .00

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT
MODE TYPE    HC      CO     NOX     CO2   FUVOL
IDLE        .794  29.86    .885    111    21.8
```

52-3

ACCEL	2.304	42.72	1.136	473	72.3
DECEL	.536	8.24	.115	115	17.4
CRUISE	4.776	89.04	1.916	978	148.3
CHOKE	4.344	151.30	.984	557	95.3
TOTAL	3.410	169.86	3.252	1677	257.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.336	47.18	.903	465.3

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.437	.71	.095	161	24.2
ACCEL	1.722	6.66	1.145	706	106.7
DECEL	.657	2.12	.354	252	38.3
CRUISE	1.333	4.34	1.102	675	102.2
CHOKE	.000	.00	.000	0	.0
TOTAL	4.154	13.84	2.693	1793	271.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.065	3.55	.691	459.8

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.443	1.54	.033	86	14.5
ACCEL	1.629	16.99	1.099	457	65.5
DECEL	.548	1.49	.119	109	16.3
CRUISE	2.651	9.72	1.805	876	126.9
CHOKE	2.143	15.93	.953	513	77.7
TOTAL	5.271	29.74	3.061	1527	223.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.464	8.26	.850	424.3

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.437	13.84	.773	451.4

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	2.284	40.35	.945	458.3
COLD STABILIZED	1.084	3.33	.678	429.9
HOT TRANSIENT	1.636	9.47	.394	420.2
WEIGHTED TOTAL	1.466	12.94	.792	432.7

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.488	13.853	9.164
RELATIVE HUMIDITY	41	41	41
HUM. CORR. FACTOR	.981	.981	.981
CVS REVOLUTIONS	9840	16860	9920
AVG.INLET DEPR. (IN.H20)	22.6	22.7	22.5
AVG.PRESSURE DIFF. (IN.H20)	30.3	30.3	30.2
AVG.CVS TEMPERATURE (DEG.F)	85	86	86
MAX.INLET DEPR. (IN.H20)	23.4	23.5	23.3
MIN.INLET DEPR. (IN.H20)	21.5	22.1	22.0
MAX.CVS TEMPERATURE (DEG.F)	95	95	94
MIN.CVS TEMPERATURE (DEG.F)	76	79	79
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2114	3614	2123

AVG MODAL CO2 RATIO	7.93	13.44	9.25	
FUEL ECONOMY (MI/GAL)	16.78	20.23	20.14	52-5

Composite F/E 19.4 MPG

OEM condition except air pump hose disconnected
and catalyst removed.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
12- 3-75     7:59
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 56
DRY BULB ? 73
BAROMETER? 2946
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1,2
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? C-75 #3 W/O AIR & CONV.

ZERO CHECK
 FID=     0  COR=   .01 CO2R=   .00   NO= -0004 CO2D=   .00

SPAN CHECK
 FID=   103  COR=  7.83 CO2R= 16.17   NO=   203 CO2D=  4.23

REPEAT Z/S CHECKS? NN

TEST START :   8:24:28.3
CRANK TIME :  1.6

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.  D/F
 P/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO    CO2     VOL.  F/F

CRANK    26  .03   0   .16  .05   .003    .02   .000     .2    2.4  3.23
I  769   881 4.22 125 10.43  .34   .289   9.33   .039   36.2    6.7 12.42
A 3.05   970 4.07 535 11.23 1.42   .274   7.73   .144   33.7    5.8  7.94
C 25.4   967 5.45 167 11.22 1.34  1.971  74.76   .324  941.8   41.6  8.37
D-1.08   970 6.63  56 10.12  .57   .110   5.07   .006   12.2    2.3 17.77
     --CYCLE  1 (GRAMS/MILE)--     .735  26.92   .142   90.2   58.7 12.32
```

53-1

I	708	904	3.96	89	11.03	.46	.239	8.52	.027	37.3	6.5	23.98
A	2.13	778	2.35	256	13.07	2.06	1.043	21.21	.327	185.4	27.4	6.34
C	53.4	466	.41	395	13.52	2.91	1.929	11.42	1.556	591.9	84.5	4.65
D	-1.01	653	.92	93	13.00	.71	.239	2.26	.032	50.3	7.5	18.31
	--CYCLE	2	(GRAMS/MILE)--				.972	12.06	.540	240.2	125.9	18.43
I	655	454	.42	127	13.45	.49	.044	.28	.012	13.8	2.0	27.45
A	2.75	406	.30	385	13.40	1.92	.239	1.19	.216	83.5	12.0	6.98
C	36.4	376	.13	225	12.93	1.54	.156	.39	.089	56.8	8.5	8.40
D	-1.05	467	.44	136	13.20	.52	.053	.33	.015	15.7	2.3	25.38
	--CYCLE	3	(GRAMS/MILE)--				.137	.61	.092	47.2	24.8	18.74
I	661	412	.30	94	13.23	.49	.016	.08	.003	5.3	.8	27.10
A	3.34	417	.81	395	13.42	1.91	.157	2.06	.142	53.6	7.7	7.03
D	-1.02	304	.29	239	13.21	.75	.049	.32	.037	22.6	3.3	17.61
	--CYCLE	4	(GRAMS/MILE)--				.062	.68	.051	22.6	11.8	14.54
I	655	354	.19	119	13.21	.50	.049	.18	.016	19.3	2.8	26.42
A	3.15	390	.90	444	13.45	2.17	.216	2.99	.235	79.0	11.3	6.20
C	36.2	342	.16	220	12.96	1.49	.214	.67	.131	85.8	12.8	8.70
D	-1.02	484	.26	117	12.75	.60	.064	.23	.015	17.9	2.7	21.25
	--CYCLE	5	(GRAMS/MILE)--				.151	1.13	.110	56.1	29.6	18.93
I	651	408	.16	87	13.13	.48	.015	.04	.003	5.1	.7	27.46
A	2.33	301	.23	234	12.89	1.31	.118	.61	.087	53.5	8.0	9.84
C	25.2	254	.11	193	12.79	1.03	.059	.17	.042	31.3	4.7	12.42
D	-1.04	244	.15	206	12.82	.52	.018	.08	.015	10.1	1.5	24.65
	--CYCLE	6	(GRAMS/MILE)--				.054	.23	.038	25.6	15.0	13.16
I	632	297	.12	106	13.02	.48	.036	.10	.012	16.7	2.5	27.13
A	3.15	399	.36	216	13.26	1.31	.050	.40	.034	22.9	3.3	12.12
C	20.0	245	.18	226	12.69	.96	.133	.66	.116	78.6	11.0	13.22
D	-1.04	379	.23	257	12.96	.68	.037	.15	.024	13.2	2.0	19.06
	--CYCLE	7	(GRAMS/MILE)--				.065	.33	.048	32.1	13.8	17.52
I	618	306	.11	97	12.91	.48	.058	.14	.017	25.8	3.9	26.98
A	2.74	318	.22	231	12.97	1.52	.113	.53	.078	48.9	7.3	8.53
D	-1.04	235	.13	126	12.50	.81	.075	.23	.031	34.6	5.3	15.43
	--CYCLE	8	(GRAMS/MILE)--				.063	.23	.033	28.1	16.5	13.36
I	615	351	.10	71	12.72	.48	.035	.07	.007	13.3	2.0	26.50
A	2.87	397	.39	210	12.87	1.19	.126	1.07	.082	55.7	8.4	10.82
D	-1.14	354	.18	148	12.48	.58	.040	.14	.016	14.7	2.3	21.52
	--CYCLE	9	(GRAMS/MILE)--				.051	.33	.027	21.5	12.7	13.76
A	2.60	339	.19	232	13.03	1.54	.147	.55	.096	59.8	8.9	8.46
D	-1.01	345	.15	137	12.73	.67	.078	.23	.030	30.6	4.6	19.00
	--CYCLE	10	(GRAMS/MILE)--				.058	.20	.032	23.2	13.5	18.26
A	2.71	342	.27	249	13.07	1.60	.146	.78	.101	59.0	8.7	8.17
C	27.5	275	.20	208	12.88	1.05	.741	3.63	.533	367.1	55.0	12.27
D	-1.03	294	.31	222	12.90	.61	.031	.22	.023	14.5	2.2	21.15
	--CYCLE	11	(GRAMS/MILE)--				.235	1.19	.169	113.8	65.9	26.77
A	2.62	338	.37	215	13.11	1.45	.138	1.02	.084	56.7	8.3	9.84
C	25.2	240	.24	139	12.90	.96	.117	.79	.088	66.7	10.0	13.44
D	-1.02	297	.13	167	12.54	.57	.044	.13	.024	19.7	3.0	22.00
	--CYCLE	12	(GRAMS/MILE)--				.077	.50	.050	36.7	21.4	22.62
I	589	364	.10	61	12.56	.48	.032	.15	.013	30.1	4.6	26.17
A	2.61	312	.23	214	12.96	1.56	.133	.69	.090	60.4	9.0	8.31
D	-1.01	404	.16	193	12.66	.60	.116	.31	.030	33.6	5.0	21.12
	--CYCLE	13	(GRAMS/MILE)--				.096	.29	.034	33.1	19.5	13.99
A	2.15	309	.31	187	12.96	1.22	.129	.87	.074	57.3	8.5	10.62

```
C 26.7  230   .12 229 12.80 1.02    .035    .25    .060   41.2     6.2 12.55
D-1.03  496   .15 126 12.65  .49    .046    .09    .011   12.5     1.9 25.92
     --CYCLE 14 (GRAMS/MILE)--      .067    .31    .037   28.5    16.6 21.67

I  590  449   .11  57 12.58  .46    .050    .03    .006   14.8     2.3 27.35
A 3.64  377   .35 207 13.19 1.56    .032    .52    .043   30.5     4.5  9.46
D-1.04  344   .13 243 12.90  .72    .039    .11    .027   15.7     2.3 17.92
     --CYCLE 15 (GRAMS/MILE)--      .044    .18    .020   15.6     9.1  9.63

I  535  322   .11  67 12.54  .43    .023    .05    .005    9.4     1.4 26.13
A 2.11  302   .26 156 12.82 1.10    .108    .63    .053   48.4     7.3 11.53
C 21.3  245   .24 162 12.74  .88    .059    .30    .037   32.5     4.9 14.43
D-1.03  230   .12 139 12.70  .55    .023    .08    .013   13.3     2.0 22.68
     --CYCLE 16 (GRAMS/MILE)--      .055    .29    .028   26.6    15.7 16.56

I  637  337   .10  55 12.46  .40    .037    .07    .005   12.7     2.0 25.43
A 2.06  328   .30 187 12.83 1.13    .135    .83    .073   56.0     8.4 11.35
C 25.7  238   .10 186 12.82 1.08    .095    .27    .070   53.9     8.1 11.76
D-1.10  434   .13 200 12.56  .61    .047    .10    .021   14.4     2.2 20.59
     --CYCLE 17 (GRAMS/MILE)--      .081    .32    .043   35.1    20.7 18.57

I  575  433   .11  54 12.50  .47    .079    .13    .009   24.1     3.7 26.60
A 2.61  373   .22 164 12.78 1.38    .114    .45    .048   41.3     6.2  9.26
D-1.05  305   .11 121 12.41  .55    .044    .11    .017   19.0     3.0 22.16
I   38  369   .11  45 12.35  .29    .015    .03    .002    4.8      .8 37.41
     --CYCLE 18 (GRAMS/MILE)--      .065    .19    .019   22.9    13.8 12.17
```

53-2

```
TEST STOP:   8:47:48
TEST LENGTH: 1371.3

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     3  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=    97  COD=  1734* NOX=   200 CO2D=  4.04

ZERO CHECK
 FID=     2  COD=     4  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=    99  COD=  1755  NOX=   203 CO2D=  4.05

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=   100  COD=  2253  NOX=    36 CO2D=  1.61

COLD STAB SAMP
 FID=    49  COD=   199  NOX=    15 CO2D=   .95

COLD TRAN AMB
 FID=    26  COD=    50  NOX=     0 CO2D=   .06

COLD STAB AMB
 FID=    27  COD=    28  NOX=     0 CO2D=   .05

REPEAT BAG READS ? N

SOAK TIME :  613

TEST START :   8:57:36.8
```

CRANK TIME : 2.6

53-3

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	139	.05	33	4.83	.11	.002	.00	.000	.7	.3	43.91
I 530	848	.81	69	7.32	.34	.161	1.04	.013	14.7	3.9	21.53
A 3.09	965	.66	174	11.78	1.44	.268	1.23	.046	34.6	5.7	8.18
C 25.7	524	.29	234	12.66	1.23	.372	3.25	.371	222.9	34.0	10.29
D-1.04	504	.16	157	12.52	.64	.052	.11	.016	13.7	2.1	19.56
--CYCLE 1 (GRAMS/MILE)--						.377	1.57	.124	79.6	45.9	19.93
I 609	479	.11	53	11.85	.47	.146	.23	.015	38.2	6.2	25.21
A 2.15	465	1.27	359	12.96	2.02	.613	11.27	.450	180.7	26.9	6.42
C 53.6	372	.25	332	13.14	2.48	1.362	6.16	1.157	503.9	74.8	5.28
D-1.01	779	.34	94	12.17	.65	.279	.32	.032	46.2	7.3	18.72
--CYCLE 2 (GRAMS/MILE)--						.667	5.13	.460	215.0	115.2	21.46
I 583	645	.12	69	12.55	.50	.068	.09	.007	14.0	2.2	25.12
A 2.77	441	.31	323	13.10	1.91	.261	1.24	.182	82.1	12.1	6.86
C 36.4	376	.13	244	12.80	1.45	.146	.37	.090	52.7	8.0	8.33
D-1.02	753	.23	152	12.21	.54	.094	.19	.013	16.1	2.5	22.61
--CYCLE 3 (GRAMS/MILE)--						.158	.52	.093	45.9	24.7	19.29
I 577	815	.15	61	12.47	.49	.032	.04	.002	5.2	.8	25.45
A 3.39	529	.77	321	13.15	1.99	.201	2.05	.121	55.0	8.1	6.61
D-1.02	406	.16	200	12.69	.75	.067	.18	.032	22.3	3.4	16.92
--CYCLE 4 (GRAMS/MILE)--						.284	.63	.043	22.9	12.3	14.38
I 570	479	.12	69	12.49	.49	.269	.12	.009	19.0	3.0	25.31
A 3.15	411	.64	397	13.26	2.13	.230	2.41	.212	78.5	11.4	6.23
C 36.1	336	.11	219	12.69	1.26	.135	.41	.114	73.7	11.2	10.07
D-1.02	651	.18	216	12.23	.55	.036	.16	.027	17.0	2.7	21.84
--CYCLE 5 (GRAMS/MILE)--						.158	.86	.101	52.3	28.3	20.40

TEST STOP: 9: 6:24
TEST LENGTH: 507.6

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= 4 NOX= 0 CO2D= .00

SPAN CHECK
FID= 96 COD= 1753 NOX= 203 CO2D= 4.05

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 93 COD= 561 NOX= 33 CO2D= 1.39

HOT TRAN AMB
FID= 27 COD= 15 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.690	18.40	.097	112	21.2
ACCEL	1.930	35.18	1.063	435	64.2

DECEL	.515	8.21	.105	119	18.1
CRUISE	4.270	97.24	2.100	976	147.3
CHOKE	3.980	126.64	.967	547	92.6
TOTAL	7.405	149.03	3.365	1642	250.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	2.057	41.40	.935	456.2

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.430	.86	.079	157	24.0
ACCEL	1.546	8.94	.943	650	96.9
DECEL	.639	1.97	.280	251	38.3
CRUISE	1.289	6.15	.948	665	100.0
CHOKE	.000	.00	.000	0	.0
TOTAL	3.904	17.91	2.251	1724	259.1

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.001	4.59	.577	441.9

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.479	1.51	.047	92	16.3
ACCEL	1.574	18.20	1.011	431	64.2
DECEL	.573	1.46	.124	115	18.1
CRUISE	2.566	10.18	1.733	858	127.9
CHOKE	2.115	17.13	.911	505	79.0
TOTAL	5.196	31.35	2.915	1496	226.4

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.443	8.71	.810	415.6

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.340	13.32	.715	437.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	2.217	40.69	.979	470.3
COLD STABILIZED	1.088	5.12	.648	433.6
HOT TRANSIENT	1.708	10.27	.910	409.4
WEIGHTED TOTAL	1.491	13.87	.783	434.7

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.220	13.618	9.122
RELATIVE HUMIDITY	33	33	33
HUM. CORR. FACTOR	.861	.861	.861
CVS REVOLUTIONS	9830	16970	9940
AVG.INLET DEPR. (IN.H20)	21.9	22.3	22.3
AVG.PRESSURE DIFF. (IN.H20)	29.7	30.1	30.1
AVG.CVS TEMPERATURE (DEG.F)	90	88	88
MAX.INLET DEPR. (IN.H20)	22.6	22.9	23.2
MIN.INLET DEPR. (IN.H20)	21.4	21.8	21.6
MAX.CVS TEMPERATURE (DEG.F)	96	96	96
MIN.CVS TEMPERATURE (DEG.F)	82	81	82
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2099	3612	2123
AVG MODAL CO2 RATIO	8.13	14.02	8.13

FUEL ECONOMY (MI/GAL) 16.37 19.93 22.59

Composite F/E 19.2 MPG

53-5

OEM condition except air pump hose disconnected
and catalyst removed.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
10- 2-75     8:59
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   58
DRY BULB ? S
   72
BAROMETER? S
 2918
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 2,3
VEH. MAKE? 7 5 DART
VEH. I.D.? 5C80
REMARKS  ? CARB; HOLLEY              IDLE SET;...AS SI
REMARKS  ? ENG; 225 CID              ODOMETER;...
REMARKS  ? C-75 #2 W/O AIR PUMP & CONV.

ZERO CHECK OUT OF LIMITS
 FID=     1  COP=    .01 CO2P=    .00    NO=     11*CO2D=    .00

ZERO CHECK
 FID=     1  COP=    .01 CO2P=    .00    NO= -0005 CO2D=    .00

SPAN CHECK
 FID=   101  COP=   7.93 CO2P= 16.00    NO=    100 CO2D=   4.00

REPEAT Z/S CHECKS? N
```

TEST START : 9:44:17.3
CRANK TIME : 1.6

54-1

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/P F/E
CRANK	147	.00	0	.15	.02	.007	.00	.000	.1	1.0	7.50
I 801	940	5.23	96	9.37	.78	.298	11.34	.032	33.0	6.8	12.01
A 3.10	939	4.39	569	11.21	1.47	.236	8.56	.164	34.3	5.0	7.63
C 25.7	962	5.89	172	10.97	1.30	1.915	79.03	.341	231.4	40.7	8.44
D-1.04	906	6.29	66	10.17	.55	.102	4.65	.007	11.3	2.2	13.16
--CYCLE 1 (GRAMS/MILE)--						.719	23.92	.151	86.3	56.7	12.37
I 794	938	3.97	132	11.19	.48	.275	8.77	.043	33.3	6.7	23.31
A 2.15	796	2.76	273	12.70	2.16	1.026	27.00	.402	155.2	20.7	5.83
C 53.6	411	.34	406	13.34	2.90	1.703	9.48	1.672	584.5	84.6	4.69
D-1.01	589	.87	93	12.37	.71	.214	2.13	.034	49.4	7.4	13.13
--CYCLE 2 (GRAMS/MILE)--						.894	13.16	.597	241.1	103.4	18.25
I 658	368	.27	139	13.12	.48	.035	.17	.013	13.2	1.9	27.33
A 2.78	346	.32	423	13.26	2.00	.293	1.29	.255	84.2	12.3	6.63
C 36.6	342	.12	271	12.88	1.53	.139	.33	.110	55.1	8.3	8.37
D-1.02	462	.40	133	12.76	.49	.050	.29	.020	14.7	2.2	26.04
--CYCLE 3 (GRAMS/MILE)--						.120	.53	.111	46.4	24.7	19.06
I 653	333	.27	94	12.92	.47	.014	.07	.003	5.1	.3	27.49
A 3.33	373	.70	413	13.26	2.00	.151	1.33	.166	56.0	8.1	6.63
D-1.02	309	.21	254	12.99	.73	.049	.23	.040	21.9	3.3	17.73
--CYCLE 4 (GRAMS/MILE)--						.060	.60	.059	23.1	12.2	14.36
I 646	299	.13	132	12.80	.47	.040	.12	.013	12.2	2.7	27.23
A 3.17	352	.90	474	13.14	2.23	.206	3.55	.276	91.5	12.0	5.80
C 36.2	311	.11	227	12.71	1.32	.176	.42	.127	75.9	11.5	9.63
D-1.02	393	.24	274	12.78	.52	.046	.19	.031	15.5	2.3	24.53
--CYCLE 5 (GRAMS/MILE)--						.138	1.19	.126	53.1	28.6	19.93
I 639	330	.17	96	12.80	.47	.012	.04	.004	5.0	.3	27.23
A 2.34	277	.17	225	12.69	1.35	.112	.46	.091	54.5	8.3	9.40
C 25.9	240	.11	223	12.56	1.27	.057	.18	.053	31.7	4.9	11.74
D-1.04	186	.13	191	12.67	.54	.014	.07	.015	10.3	1.6	23.46
--CYCLE 6 (GRAMS/MILE)--						.058	.18	.041	26.0	15.5	17.96
I 631	273	.16	112	12.80	.47	.032	.13	.013	15.9	2.4	27.23
A 3.13	282	.30	264	13.00	1.45	.058	.36	.047	24.4	3.6	8.97
C 28.2	219	.13	270	12.50	.98	.119	.66	.146	72.9	11.1	12.76
D-1.06	339	.22	291	12.63	.62	.030	.13	.026	11.3	1.8	22.37
--CYCLE 7 (GRAMS/MILE)--						.050	.33	.059	31.9	19.8	17.67
I 619	235	.12	106	12.70	.45	.051	.15	.019	24.2	3.7	28.22
A 2.75	269	.22	263	12.75	1.54	.100	.55	.097	49.9	7.6	8.23
D-1.02	232	.15	223	12.62	.78	.058	.25	.056	33.5	5.1	16.13
--CYCLE 8 (GRAMS/MILE)--						.354	.24	.044	27.6	16.4	13.53
I 621	254	.11	91	12.70	.45	.024	.07	.008	10.6	1.9	23.22
A 2.10	247	.25	249	12.74	1.23	.107	.73	.107	58.2	8.3	13.36
D-1.03	197	.16	243	12.72	.53	.020	.11	.004	13.6	2.1	24.33
--CYCLE 9 (GRAMS/MILE)--						.039	.23	.036	21.6	10.8	13.73
A 2.62	262	.20	232	12.92	1.61	.113	.61	.126	61.6	9.2	8.22
D-1.01	229	.16	172	12.70	.66	.050	.24	.033	29.6	4.5	19.24
--CYCLE 10 (GRAMS/MILE)--						.043	.22	.042	23.4	13.7	13.19
A 2.73	292	.30	321	13.05	1.69	.124	.39	.132	69.9	9.0	7.72
C 27.6	253	.13	264	12.85	1.00	.647	3.10	.671	347.5	52.2	12.75
D-1.03	317	.20	512	12.94	.54	.030	.13	.042	13.3	1.9	23.53
--CYCLE 11 (GRAMS/MILE)--						.205	1.06	.213	108.0	63.1	22.04

```
A 2.62  293  .22 256 12.93 1.51   .124   .63   .108   53.0    8.7  8.56
C 25.2  233  .20 227 12.83  .97   .113   .65   .110   65.9    9.9 13.23
D-1.02  265  .13 190 12.52  .53   .036   .13   .026   18.0    2.8 23.62
     --CYCLE 12 (GRAMS/MILE)--    .072   .36   .062   36.4   21.3 22.97

I  586  297  .11  71 12.50  .45   .062   .15   .015   27.6    4.3 27.78
A 2.61  312  .23 273 12.78 1.61   .141   .70   .123   61.1    9.2  7.94
D-1.01  291  .15 123 12.43  .55   .079   .27   .034   35.5    5.5 22.20
     --CYCLE 13 (GRAMS/MILE)--    .072   .29   .044   31.9   19.0 14.55

A 2.15  273  .27 215 12.83 1.23   .117   .78   .092   58.3    8.8 10.43
C 26.3  227  .11 209 12.68 1.04   .072   .23   .066   42.5    6.5 12.19
D-1.03  314  .23 138 12.63  .47   .029   .14   .012   12.2    1.9 26.87
     --CYCLE 14 (GRAMS/MILE)--    .056   .30   .044   29.0   17.1 21.35

I  584  321  .13  70 12.42  .45   .036   .10   .008   14.6    2.3 27.60
A 3.72  303  .31 245 12.94 1.67   .071   .49   .057   32.2    4.8  7.75
D-1.04  344  .47 434 13.05  .67   .036   .33   .045   14.4    2.1 19.48
     --CYCLE 15 (GRAMS/MILE)--    .037   .24   .023   15.7    9.2  9.57

I  578  320  .13  85 12.34  .45   .021   .06   .006    8.7    1.4 27.42
A 2.19  253  .24 193 12.64 1.14   .094   .59   .072   48.7    7.4 11.09
C 21.5  195  .12 206 12.55  .84   .045   .19   .047   32.4    4.7 14.94
D-1.03  130  .13 232 12.47  .53   .017   .08   .022   12.5    1.9 23.53
     --CYCLE 16 (GRAMS/MILE)--    .045   .23   .037   25.7   15.4 17.17

I  577  297  .13  75 12.37  .46   .027   .08   .007   11.7    1.8 26.39
A 2.08  271  .31 209 12.63 1.16   .115   .83   .098   56.6    8.7 10.89
C 25.7  235  .15 271 12.79 1.05   .039   .38   .102   51.0    7.7 12.13
D-1.03  347  .15 343 12.66  .62   .037   .11   .037   14.4    2.2 20.42
     --CYCLE 17 (GRAMS/MILE)--    .069   .37   .060   34.3   22.4 19.38

I  569  356  .13  71 12.37  .45   .062   .15   .012   22.7    3.5 27.49
A 2.62  285  .21 222 12.82 1.39   .087   .43   .067   41.3    6.2  9.22
D-1.02  234  .16 136 12.35  .52   .039   .15   .019   17.9    2.3 23.75
I   38  403  .17  57 11.02  .25   .014   .04   .002    4.0     .7 44.98
     --CYCLE 18 (GRAMS/MILE)--    .052   .20   .026   22.0   13.3 12.65



TEST STOP:  10: 7:37
TEST LENGTH: 1371.1


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     4  COD=     3  NOX=     0 CO2D=-00.01

SPAN CHECK
 FID=    97  COD=  1786  NOX=   201 CO2D=  4.01

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=   100  COD=  2216  NOX=    38 CO2D=  1.56

COLD STAB SAMP
 FID=    67  COD=   167  NOX=    13 CO2D=   .94

COLD TRAN AMB
 FID=    34  COD=     8  NOX=     0 CO2D=   .04

COLD STAB AMB
 FID=    44  COD=     6  NOX=     0 CO2D=   .05
```

REPEAT BAG READS ? N

54-3

SOAK TIME : 600

TEST START : 10:17:12.9
CRANK TIME : 3.0

MODE P/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/B F/E
CRANK	150	.06	29	4.93	.12	.002	.01	.000	.8	.3	41.17
I 515	870	1.11	50	7.59	.34	.158	1.37	.009	14.6	3.7	22.32
A 3.08	983	.43	189	12.08	1.50	.273	.80	.052	35.5	5.7	8.05
C 25.7	520	.42	305	12.89	1.21	.828	4.50	.483	216.8	32.5	10.64
D-1.04	468	.13	299	12.71	.53	.039	.07	.025	11.2	1.7	23.98
--CYCLE 1 (GRAMS/MILE)--						.361	1.88	.158	77.5	43.9	20.33
I 546	476	.12	64	11.93	.45	.137	.23	.018	36.2	5.9	26.51
A 2.15	440	1.76	377	12.92	2.02	.575	15.48	.490	178.6	26.7	6.40
C 53.5	336	.29	367	13.38	2.55	1.229	7.14	1.334	517.7	74.7	5.25
D-1.01	813	.48	106	12.21	.61	.271	1.08	.035	43.8	6.8	20.02
--CYCLE 2 (GRAMS/MILE)--						.614	6.65	.521	215.4	114.0	21.22
I 563	623	.13	75	12.73	.48	.062	.09	.007	13.3	2.0	26.52
A 2.77	412	.26	371	13.23	2.01	.251	1.07	.225	35.6	12.4	6.61
C 36.4	350	.12	283	12.99	1.44	.133	.31	.109	52.1	7.7	9.02
D-1.02	637	.33	197	12.70	.52	.073	.05	.022	15.4	2.3	24.42
--CYCLE 3 (GRAMS/MILE)--						.144	.43	.101	46.2	24.5	19.17
I 575	595	.19	75	12.75	.48	.022	.05	.003	5.1	.8	26.56
A 3.33	426	.62	352	13.37	2.10	.174	1.70	.143	57.7	8.3	6.37
D-1.02	421	.20	243	12.96	.73	.066	.21	.033	21.6	3.2	17.75
--CYCLE 4 (GRAMS/MILE)--						.073	.55	.051	23.4	12.3	14.16
I 571	424	.13	79	12.63	.48	.059	.13	.011	18.2	2.9	26.31
A 3.15	393	.95	401	13.34	2.26	.224	3.26	.227	80.4	11.6	5.90
C 36.2	308	.12	252	13.02	1.27	.163	.43	.133	73.1	10.3	10.25
D-1.02	572	.20	231	12.53	.53	.069	.16	.023	16.0	2.5	23.64
--CYCLE 5 (GRAMS/MILE)--						.143	1.11	.111	52.1	27.7	20.33

TEST STOP: 10:26: 1
TEST LENGTH: 503.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 4 COD= -0001 NOX= 0 CO2D= .00

SPAN CHECK
FID= 96 COD= 1790 NOX= 203 CO2D= 4.04

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 102 COD= 622 NOX= 35 CO2D= 1.39

HOT TRAN AMB
FID= 53 COD= 3 NOX= 0 CO2D= .06

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.651	20.97	.109	108	19.9
ACCEL	1.377	42.29	1.262	451	67.9
DECEL	.461	7.48	.130	113	17.5
CRUISE	3.933	89.30	2.250	947	145.1
CHOKE	3.391	139.89	.988	545	93.0
TOTAL	6.922	160.03	3.753	1620	250.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.923	44.45	1.043	450.0

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.341	.96	.093	147	22.7
ACCEL	1.361	8.10	1.206	666	100.3
DECEL	.475	2.14	.401	237	36.2
CRUISE	1.142	5.39	1.194	641	97.0
CHOKE	.000	.00	.000	0	.0
TOTAL	3.319	16.59	2.893	1690	256.1

EQUIVALENT MASS BAG RESULTS

GMS/MI	.851	4.25	.742	433.4

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.439	1.38	.049	93	15.5
ACCEL	1.497	22.32	1.137	438	64.8
DECEL	.519	1.78	.143	107	16.5
CRUISE	2.353	12.38	2.053	860	125.7
CHOKE	2.012	22.46	1.077	494	76.4
TOTAL	4.808	38.35	3.392	1493	222.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.336	10.65	.942	414.7

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	1.205	14.30	.359	431.7

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.996	40.21	1.263	456.4
COLD STABILIZED	1.179	4.72	.804	424.8
HOT TRANSIENT	1.574	11.47	.993	405.6
WEIGHTED TOTAL	1.455	13.39	.912	426.1

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.437	13.726	9.252
RELATIVE HUMIDITY	43	43	43
HUM. CORR. FACTOR	.899	.899	.899
CVS REVOLUTIONS	9320	16360	9950
AVG.INLET DEPR. (IN.H2O)	21.4	21.3	21.7
AVG.PRESSURE DIFF. (IN.H2O)	29.2	29.5	29.5
AVG.CVS TEMPERATURE (DEG.F)	93	93	89
MAX.INLET DEPR. (IN.H2O)	22.3	22.4	22.4

MIN.INLET DEPR. (IN.H2O)	20.7	21.3	21.0
MAX.CVS TEMPERATURE (DEG.F)	96	96	97
MIN.CVS TEMPERATURE (DEG.F)	32	31	31
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2079	3573	2129
AVG MODAL CO2 RATIO	3.89	13.92	9.19
FUEL ECONOMY (MI/GAL)	16.36	20.34	20.71

54-5

Composite F/E 19.6 MPG

(33) RAN ON BENCH #2
12-5-75

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.: 5	
DATE:	12/ 5/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	DODGE DART	BAROMETER (IN. HG.):	29.280
VEHICLE YEAR:	75	WET BULB TEMP (DEG. F):	59.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	76.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	48.68903
CARBURETOR & NO.:	HOLLEY 0E	KH:	0.88995
VEHICLE TEST WT.:		R:	35.8
IDLE RPM:		SPARK VAC.:	

P1	=	24.100 IN. H20	V0	=	0.239 CU. FT./REV.
N	=	14331.0 REV.	DF	=	5.446
PP	=	698.687 MM HG	V MIX	=	3013.579 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	174.731	8.599	0.840
CO	835.968	83.060	8.110
CO2	22928.540	3582.678	349.802

MPG = 24.298

ANOTHER CASE?? NO

(36) RAN ON BENCH #2
12-4-75

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	4
DATE:	12/ 5/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	DART	BAROMETER (IN. HG.):	29.380
VEHICLE YEAR:	75	WET BULB TEMP (DEG. F):	58.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	73.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	48.95494
CARBURETOR & NO.:	HOLLEY 6E	KH:	0.89094
VEHICLE TEST WT.:		R:	39.9
IDLE RPM:		SPARK VAC.:	

P1	=	22.000 IN. H20	V0	=	0.239 CU. FT./REV.
N	=	14743.0 REV.	DF	=	5.753
PP	=	705.151 MM HG	V MIX	=	3140.280 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	179.471	9.203	0.899
CO	756.285	78.302	7.645
CO2	21969.530	3577.153	349.263

MPG = 24.370

ANOTHER CASE?? YES

(37) RAN ON BENCH #2
12-3-75

IGHWAY FUEL ECONOMY TEST EVALUATION

EST NO.:		RUN NO.: 3	
ATE:	12/ 3/75	W/O:	
EST DESCRIPTION:		% CO SETTING:	
EHICLE MAKE:	DODGE DART	BAROMETER (IN. HG.):	29.460
EHICLE YEAR:	75	WET BULB TEMP (DEG. F):	56.0
NGINE CID:		DRY BULB TEMP (DEG. F):	73.0
RANSMISSION:		GRAINS OF H20/LB. DRY AIR:	40.44331
ARBURETOR & NO.:	OE	KH:	0.86028
EHICLE TEST WT.:		R:	33.1
DLE RPM:		SPARK VAC.:	

P1	=	22.500 IN. H20	VO	=	0.239 CU. FT./REV.
N	=	14747.0 REV.	DF	=	5.944
PP	=	706.249 MM HG	V MIX	=	3134.618 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
C	150.141	7.685	0.750
O	509.138	52.619	5.138
O2	21217.770	3448.522	336.704

PG = 25.562

NOTHER CASE?? YES

(38) RAN ON BENCH #2
12-2-75

IGHWAY FUEL ECONOMY TEST EVALUATION

EST NO.:		RUN NO.: 2	
ATE:	12/ 2/75	W/O:	
EST DESCRIPTION:		% CO SETTING:	
EHICLE MAKE:	DODGE DART	BAROMETER (IN. HG.):	29.180
EHICLE YEAR:		WET BULB TEMP (DEG. F):	58.0
NGINE CID:		DRY BULB TEMP (DEG. F):	72.0
RANSMISSION:		GRAINS OF H20/LB. DRY AIR:	51.06993
ARBURETOR & NO.:		KH:	0.89890
EHICLE TEST WT.:		R:	42.8
DLE RPM:		SPARK VAC.:	

P1	=	22.500 IN. H20	V0	=	0.239 CU. FT./REV.
N	=	14793.0 REV.	DF	=	5.907
PP	=	699.136 MM HG	V MIX	=	3107.097 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
C	161.549	8.197	0.800
O	639.676	65.529	6.398
O2	21301.560	3415.635	333.493

PG = 25.641

ANOTHER CASE?? YES

OEM,
After 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10-30-75    14:38
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   60
DRY BULB ? 72
BAROMETER? 2968
INERT WT.? F500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 8
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP #8

ZERO CHECK OUT OF LIMITS
 FID=     0  COR=    .00 CO2R=    .00    NO=     11*CO2D=    .00

ZERO CHECK
 FID=     0  COR=    .01 CO2R=    .00    NO=      8 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=    96  COR=   7.79 CO2R=  15.97    NO=    220*CO2D=   3.96

ZERO CHECK OUT OF LIMITS
 FID=     0  COR=    .03 CO2R=    .04    NO=     11*CO2D=    .00

ZERO CHECK
 FID=     0  COR=    .03 CO2R=    .01    NO=     10 CO2D=    .00

SPAN CHECK
 FID=   100  COR=   7.88 CO2R=  16.01    NO=    199 CO2D=   4.11

REPEAT Z/S CHECKS? N

TEST START :  14:59:14.5
CRANK TIME :  2.5

MODE   ---TAILPIPE CONC--- CO2D  ------ MASS (GRAMS) ------    EXH.  D/R
 R/A/S   HC    CO   NO   CO2   CONC     HC      CO      NO     CO2     VOL.  F/E
```

CRANK	14	.00	0	.24	.03	.001	.00	.000	.2	1.4	8.00
I 725	766	.43	23	6.07	.32	.166	.63	.005	13.9	4.4	18.97
A 3.10	725	.66	206	9.71	1.53	.260	1.60	.076	36.9	7.3	6.35
C 25.6	166	.04	197	9.95	1.26	.365	.59	.444	231.4	44.8	7.90
D-1.12	113	.00	86	9.92	.59	.014	.00	.011	12.9	2.5	16.81
--CYCLE	1 (GRAMS/MILE)--					.107	.38	.071	39.4	60.5	19.75
I 666	47	.00	83	8.61	.51	.022	.00	.040	42.3	9.5	16.88
A 2.14	85	.05	372	11.42	2.15	.138	.55	.622	196.7	33.3	5.31
C 53.4	64	.00	286	10.43	2.52	.301	.00	1.381	519.3	96.1	4.14
D-1.01	39	.00	76	8.04	.66	.022	.00	.044	47.8	11.5	12.20
--CYCLE	2 (GRAMS/MILE)--					.064	.07	.278	107.5	150.3	21.50
I 685	20	.00	139	9.07	.51	.003	.00	.022	14.5	3.1	17.78
A 2.77	41	.02	357	10.61	1.92	.031	.10	.274	84.0	15.3	5.53
C 36.5	32	.00	190	9.58	1.39	.016	.00	.099	51.5	10.4	6.89
D-1.02	23	.00	91	8.68	.54	.004	.00	.017	16.7	3.7	15.78
--CYCLE	3 (GRAMS/MILE)--					.007	.01	.055	22.2	32.5	19.60
I 690	17	.00	125	9.01	.52	.001	.00	.008	5.6	1.2	17.33
A 3.39	35	.00	427	10.93	1.99	.017	.00	.212	56.1	9.9	5.49
D-1.02	20	.00	164	9.79	.73	.004	.00	.036	22.1	4.4	13.41
--CYCLE	4 (GRAMS/MILE)--					.003	-00.02	.034	11.2	15.5	14.91
I 688	15	.00	133	9.04	.52	.003	.00	.029	20.2	4.3	17.40
A 3.15	39	.03	452	11.20	2.26	.027	.14	.322	82.4	14.2	4.96
C 36.2	25	.00	189	9.02	1.18	.018	.00	.141	69.3	14.8	7.64
D-1.02	16	.00	146	8.29	.54	.003	.00	.029	16.9	3.9	15.09
--CYCLE	5 (GRAMS/MILE)--					.007	.02	.069	25.2	37.2	21.03
I 687	15	.00	121	8.95	.51	.001	.00	.007	5.6	1.2	17.57
A 2.35	22	.00	215	9.77	1.26	.011	.00	.113	52.8	10.4	7.75
C 25.7	21	.00	175	9.82	.98	.006	.00	.052	30.0	5.9	10.02
D-1.04	15	.00	131	9.44	.63	.002	.00	.017	12.4	2.5	14.98
--CYCLE	6 (GRAMS/MILE)--					.003	-00.02	.025	13.4	20.1	18.38
I 683	15	.00	114	9.02	.52	.003	.00	.022	18.2	3.9	17.35
A 3.16	30	.01	231	10.39	1.43	.007	.02	.054	24.9	4.6	7.27
C 20.1	19	.00	227	9.54	.90	.013	.00	.158	68.5	13.9	10.60
D-1.04	31	.00	116	10.16	.67	.004	.00	.014	13.0	2.5	15.16
--CYCLE	7 (GRAMS/MILE)--					.004	.00	.033	16.6	24.9	18.00
I 687	15	.00	104	9.00	.52	.004	.00	.032	28.1	6.0	17.31
A 2.73	47	.02	204	10.12	1.61	.023	.07	.102	52.1	9.9	6.29
D-1.03	24	.00	134	8.96	.76	.008	.00	.047	32.7	7.0	11.80
--CYCLE	8 (GRAMS/MILE)--					.005	.01	.024	15.1	23.0	13.18
I 676	15	.00	95	8.92	.50	.002	.00	.015	14.2	3.1	17.84
A 2.09	27	.00	199	10.04	1.13	.014	.00	.105	54.5	10.5	8.88
D-1.05	16	.00	135	9.82	.61	.002	.00	.021	16.1	3.2	16.10
--CYCLE	9 (GRAMS/MILE)--					.002	-00.02	.019	11.3	16.7	14.01
A 2.60	35	.00	215	10.03	1.55	.020	.00	.127	61.2	11.8	6.47
D-1.01	22	.00	87	9.19	.70	.007	.00	.029	32.1	6.7	13.13
--CYCLE	10 (GRAMS/MILE)--					.004	-00.02	.021	12.4	18.5	18.06
A 2.71	33	.00	257	10.32	1.68	.019	.00	.150	62.3	11.6	6.14
C 27.6	18	.00	150	9.41	1.03	.066	.00	.564	364.9	74.8	9.14
D-1.03	23	.12	141	10.43	.70	.003	.12	.022	16.8	3.1	14.90
--CYCLE	11 (GRAMS/MILE)--					.012	.02	.098	59.2	89.6	27.16
A 2.62	28	.00	237	10.20	1.52	.015	.00	.134	59.6	11.3	6.71
C 25.1	16	.00	148	9.27	.91	.010	.00	.097	62.9	13.1	10.19
D-1.02	12	.00	95	8.76	.54	.002	.00	.020	19.0	4.2	15.93
--CYCLE	12 (GRAMS/MILE)--					.004	-00.02	.034	18.9	28.6	23.50

```
I  670   14  .00  93  8.92  .51    .005     .00    .032   31.8    6.9 17.49
A 2.60   39  .00 247 10.30 1.58    .022     .00    .143   61.5   11.5  6.52
D-1.01   16  .00  87  8.99  .59    .007     .00    .036   38.8    8.3 15.24
     --CYCLE 13 (GRAMS/MILE)--     .004 -00.02    .028   17.6   26.7 13.97

A 2.14   21  .00 194 10.18 1.18    .011     .00    .105   57.0   10.8  8.63
C 26.7   19  .00 163  9.32 1.00    .008     .00    .070   41.5    8.6  9.32
D-1.03   20  .00  75  8.37  .51    .003     .00    .012   13.4    3.1 16.43
     --CYCLE 14 (GRAMS/MILE)--     .003 -00.02    .025   14.9   22.5 22.05

I  672   14  .00  91  8.90  .51    .002     .00    .017   16.7    3.6 17.45
A 3.68   27  .00 316 10.40 1.66    .008     .00    .096   32.6    6.0  6.27
D-1.04   32  .00 237 10.65  .71    .004     .00    .033   15.3    2.8 15.00
     --CYCLE 15 (GRAMS/MILE)--     .002 -00.02    .019    8.6   12.4  9.34

I  675   14  .00  89  8.96  .52    .002     .00    .010   10.2    2.2 17.25
A 2.10   26  .00 171  9.79 1.07    .012     .00    .078   46.2    9.1  9.15
C 21.4   19  .00 137  9.27  .81    .006     .00    .042   29.6    6.2 11.44
D-1.03   12  .00  99  9.10  .55    .002     .00    .014   13.3    2.8 16.25
     --CYCLE 16 (GRAMS/MILE)--     .003 -00.02    .019   13.2   20.3 17.70

I  670   14  .00  70  8.90  .50    .002     .00    .010   12.9    2.8 17.80
A 2.07   25  .01 209 10.07 1.09    .013     .03    .111   55.3   10.6  9.15
C 25.8   23  .00 200  9.41 1.00    .012     .00    .104   50.5   10.4  9.41
D-1.03   23  .00 152  9.00  .65    .004     .00    .026   15.7    3.4 13.85
     --CYCLE 17 (GRAMS/MILE)--     .004     .00    .033   17.9   27.1 19.32

I  672   15  .00  85  8.91  .51    .004     .00    .025   26.8    5.8 17.47
A 2.63   30  .00 164  9.90 1.40    .012     .00    .069   42.9    8.4  7.07
D-1.02   16  .00  71  8.98  .59    .003     .00    .016   20.5    4.4 15.22
I  671   13  .00  70  8.79  .50    .001     .00    .004    5.4    1.2 17.60
     --CYCLE 18 (GRAMS/MILE)--     .003 -00.02    .015   12.8   19.8 11.59


TEST STOP:  15:22:34
TEST LENGTH: 1374.5


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     0  COD=     1  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=   101  COD=  1734* NOX=   224*CO2D=  4.06

ZERO CHECK
 FID=     0  COD=     3  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=   101  COD=  1741  NOX=   201 CO2D=  4.07

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    39  COD=    30  NOX=    25 CO2D=  1.12

BACKGROUND BAG
 FID=    35  COD=     3  NOX=     0 CO2D=   .05

REPEAT BAG READS ? N


***** MODAL SUMMARY *****
```

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.222	.63	.276	267	60.6
ACCEL	.661	2.50	2.895	1119	206.6
DECEL	.100	.12	.444	376	80.0
CRUISE	.821	.59	3.154	1519	299.0
CHOKE	.966	3.36	1.197	534	103.3
TOTAL	1.804	3.84	6.769	3281	646.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	.241	.51	.903	437.4

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.151	.69	.967	426.7

***** TEST VARIABLES *****

RELATIVE HUMIDITY	50
HUM. CORR. FACTOR	.928
CVS REVOLUTIONS	26660
AVG.INLET DEPR. (IN.H20)	18.9
AVG.PRESSURE DIFF. (IN.H20)	27.8
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H20)	19.7
MIN.INLET DEPR. (IN.H20)	17.7
MAX.CVS TEMPERATURE (DEG.F)	98
MIN.CVS TEMPERATURE (DEG.F)	84
AVG.CVS FLOW (CU.FT/REV)	.239
TOTAL CVS VOL. (STD.CU.FT.)	5773
AVG MODAL CO2 RATIO	8.70
FUEL ECONOMY (MI/GAL)	20.71

(60)

OEM,
After 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
10-29-75    12:43
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   60
DRY BULB ? S
   72
BAROMETER? S
 2952
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 7
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP #7 AFTER 4000 MILE RUN

ZERO CHECK
 FID=     0  COR=-00.01 CO2R=    .01    NO=      8 CO2D=    .00

SPAN CHECK
 FID=   102  COR=  7.84 CO2R= 15.88    NO=    204 CO2D=  4.00

REPEAT Z/S CHECKS? N

TEST START :  12:53:22.2
CRANK TIME :  1.7
```

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	24	.01	0	.11	.04	.004	.01	.000	.2	3.0	2.75
I 837	607	2.80	85	8.09	.94	.295	9.17	.043	41.6	9.9	8.61
A 3.07	962	2.75	735	9.12	1.43	.348	6.70	.273	34.9	7.4	6.38
C 25.7	522	1.45	173	10.67	1.40	1.206	22.54	.411	260.7	47.2	7.62
D-1.04	221	.37	105	11.43	.66	.027	.30	.013	14.6	2.5	17.32
--CYCLE 1 (GRAMS/MILE)--						.522	10.76	.206	97.8	69.9	14.25
I 663	112	.02	86	9.58	.55	.052	.06	.041	46.9	9.4	17.11
A 2.10	163	.17	259	11.62	2.41	.294	2.07	.481	222.0	36.9	4.82
C 53.5	89	.02	266	10.89	2.98	.472	.71	1.449	610.3	108.2	3.65

D-1.01	69	.05	92	8.77	.77	.041	.20	.056	55.3	12.2	11.39
--CYCLE 2 (GRAMS/MILE)--						.239	.85	.563	259.6	166.7	18.47
											60-1
I 694	39	.01	213	9.10	.54	.006	.01	.035	15.3	3.2	16.85
A 2.79	59	.01	346	10.76	2.14	.048	.06	.291	93.2	16.7	5.03
C 36.5	57	.00	171	9.66	1.56	.032	.00	.099	57.5	11.5	6.19
D-1.02	32	.01	132	8.45	.60	.006	.01	.028	18.1	4.1	14.10
--CYCLE 3 (GRAMS/MILE)--						.026	.02	.126	51.1	35.6	17.74
I 706	31	.01	196	9.01	.54	.002	.00	.012	5.8	1.3	16.69
A 3.36	52	.02	360	11.04	2.16	.027	.07	.192	60.7	10.6	5.11
D-1.02	34	.01	170	10.33	.79	.007	.01	.038	23.8	4.5	13.08
--CYCLE 4 (GRAMS/MILE)--						.010	.02	.067	25.1	16.3	13.81
I 697	29	.01	190	8.98	.54	.006	.01	.043	20.9	4.5	16.63
A 3.17	52	.02	384	11.25	2.46	.039	.10	.297	89.7	15.4	4.57
C 36.2	44	.00	167	9.26	1.34	.035	.00	.137	77.9	16.2	6.91
D-1.02	28	.00	145	8.48	.57	.005	.00	.029	17.4	4.0	14.88
--CYCLE 5 (GRAMS/MILE)--						.024	.03	.141	57.2	40.1	19.28
I 696	25	.00	167	8.86	.53	.002	.00	.011	5.8	1.3	16.72
A 2.36	36	.00	223	9.76	1.37	.020	.00	.126	56.6	11.2	7.12
C 25.9	41	.00	169	9.75	1.04	.013	.00	.053	31.7	6.3	9.38
D-1.04	22	.00	134	9.04	.59	.003	.00	.017	11.5	2.5	15.32
--CYCLE 6 (GRAMS/MILE)--						.009	.00	.053	27.1	21.2	17.56
I 696	24	.00	144	8.89	.53	.005	.00	.029	18.4	4.0	16.77
A 3.18	39	.00	276	10.21	1.45	.009	.00	.066	25.1	4.7	7.05
C 20.3	32	.01	198	9.61	1.00	.024	.05	.151	75.5	15.2	9.61
D-1.20	46	.01	117	10.21	.71	.006	.01	.015	13.8	2.6	14.39
--CYCLE 7 (GRAMS/MILE)--						.011	.02	.067	34.0	26.5	16.89
I 686	24	.00	115	8.85	.53	.007	.00	.036	28.5	6.2	16.70
A 2.74	46	.00	208	10.03	1.61	.023	.00	.105	52.2	10.0	6.23
D-1.06	31	.00	110	9.24	.83	.011	.00	.042	36.1	7.5	11.13
--CYCLE 8 (GRAMS/MILE)--						.011	.00	.047	29.9	23.8	12.76
I 687	22	.00	119	8.84	.52	.003	.00	.019	14.7	3.2	17.00
A 2.10	36	.03	176	10.12	1.27	.020	.11	.103	60.7	11.6	7.98
D-1.03	26	.00	108	9.75	.63	.004	.00	.018	16.4	3.3	15.48
--CYCLE 9 (GRAMS/MILE)--						.007	.03	.036	23.6	18.0	12.91
A 2.62	47	.00	227	8.17	1.67	.035	.00	.176	65.1	15.4	4.89
D-1.01	25	.00	102	8.87	.71	.009	.00	.036	32.2	7.0	12.51
--CYCLE 10 (GRAMS/MILE)--						.011	.00	.054	24.9	22.4	17.32
A 2.73	42	.00	244	10.29	1.76	.025	.00	.149	64.5	12.1	5.85
C 27.6	32	.02	150	9.45	1.08	.123	.52	.593	384.5	78.5	8.67
D-1.03	26	.00	122	9.83	.67	.004	.00	.019	15.8	3.1	14.67
--CYCLE 11 (GRAMS/MILE)--						.039	.13	.195	119.2	93.7	25.89
A 2.61	35	.00	227	10.11	1.59	.020	.00	.134	61.4	11.7	6.36
C 25.3	24	.00	127	9.37	.97	.016	.00	.089	67.5	13.9	9.67
D-1.04	19	.00	114	9.18	.64	.004	.00	.027	22.4	4.7	14.34
--CYCLE 12 (GRAMS/MILE)--						.010	.00	.064	38.8	30.3	21.99
I 670	20	.00	96	8.85	.52	.007	.00	.035	33.0	7.2	17.02
A 2.60	44	.00	196	10.03	1.66	.027	.00	.124	65.2	12.6	6.04
D-1.02	20	.00	84	9.00	.62	.008	.00	.037	40.4	8.7	14.52
--CYCLE 13 (GRAMS/MILE)--						.011	.00	.050	35.6	28.4	13.30
A 2.16	31	.01	163	10.06	1.32	.018	.04	.099	63.0	12.1	7.62
C 26.9	26	.00	153	9.32	1.07	.012	.00	.070	43.8	9.1	8.71
D-1.03	20	.00	72	8.41	.54	.003	.00	.012	14.0	3.2	15.57
--CYCLE 14 (GRAMS/MILE)--						.008	.01	.046	31.0	24.4	20.38

```
I  668   19  .00  91  8.86  .53    .003     .00    .017    17.1     3.7 16.72
A 3.72   34  .00 282 10.58 1.85    .011     .00    .093    35.8     6.5  5.72
D-1.04   41  .00 185 10.47  .71    .006     .00    .026    15.1     2.8 14.75
     --CYCLE 15 (GRAMS/MILE)--     .005     .00    .035    17.5    13.1  8.86
                                                                  60-2
I  671   19  .00  88  8.89  .52    .002     .00    .010    10.2     2.2 17.10
A 2.15   32  .00 153 10.01 1.14    .015     .00    .074    49.8     9.6  8.78
C 21.6   26  .00 120  9.53  .83    .008     .00    .038    30.8     6.2 11.48
D-1.08   13  .00 117  9.45  .59    .003     .00    .017    14.3     2.9 16.03
     --CYCLE 16 (GRAMS/MILE)--     .007     .00    .036    26.9    21.0 16.71

I  669   19  .00  86  8.86  .52    .003     .00    .013    13.6     3.0 17.04
A 2.08   28  .00 172  9.96 1.20    .016     .00    .101    60.3    11.7  8.31
C 25.8   27  .00 140  9.58 1.11    .015     .00    .080    56.1    11.3  8.55
D-1.03   31  .00 117  9.54  .66    .005     .00    .019    15.8     3.2 14.47
     --CYCLE 17 (GRAMS/MILE)--     .010     .00    .054    37.4    29.1 17.82

I  666   21  .00  76  8.87  .53    .006     .00    .023    27.5     6.0 16.74
A 2.63   39  .00 158  9.91 1.48    .017     .00    .069    44.7     8.7  6.70
D-1.02   20  .00  72  8.99  .60    .004     .00    .016    20.7     4.4 14.98
I   36   18  .00  62  7.83  .27    .001     .00    .003     4.3     1.1 29.00
     --CYCLE 18 (GRAMS/MILE)--     .007     .00    .029    24.9    20.2 11.40


TEST STOP:  13:16:42
TEST LENGTH: 1371.2


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     7  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=   100  COD=  1725* NOX=   204 CO2D=  4.01

ZERO CHECK
 FID=     0  COD=     7  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=   100  COD=  1755  NOX=   201 CO2D=  4.06

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    52  COD=   564  NOX=    39 CO2D=  1.61

COLD STAB SAMP
 FID=    30  COD=    33  NOX=    18 CO2D=   .96

COLD TRAN AMB
 FID=    22  COD=    20  NOX=     0 CO2D=   .04

COLD STAB AMB
 FID=    27  COD=    22  NOX=     0 CO2D=   .04

REPEAT BAG READS ? N

SOAK TIME :  626

TEST START :  13:26:42.8
CRANK TIME :  1.7

MODE   ---TAILPIPE CONC--- CO2D  ------ MASS (GRAMS) ------    EXH.  D/P
 R/A/S   HC   CO  NO  CO2  CONC    HC      CO      NO     CO2    VOL.  F/E
```

```
CRANK    11  .00  32  4.09  .06    .000     .00    .000      .2      .1 68.17
I  533  743  .32  41  6.84  .36    .180     .52    .010    17.5     4.9 19.00
A 3.10  597  .06 189  9.89 1.55    .210     .14    .068    36.7     7.2  6.38
C 25.8  162  .05 176 10.11 1.22    .340     .71    .379   224.1    42.8  8.29
D-1.07   83  .00  97  8.92  .55    .011     .00    .013    12.3     2.7 15.93
     --CYCLE  1 (GRAMS/MILE)--     .206     .38    .131    80.8    57.7 20.21

I  637   53  .00  52  8.48  .49    .024     .00    .024    40.7     9.3 17.31
A 2.15   76  .06 289 11.21 2.13    .125     .66    .487   194.4    33.5  5.26
C 53.5   64  .00 252 10.41 2.52    .300     .00   1.216   516.8    95.8  4.13
D-1.01   45  .00  67  7.97  .65    .025     .00    .038    46.6    11.3 12.26
     --CYCLE  2 (GRAMS/MILE)--     .132     .18    .490   221.8   149.8 21.71

I  667   20  .00 102  8.95  .51    .003     .00    .016    14.4     3.1 17.57
A 2.77   38  .00 302 10.46 1.91    .029     .00    .233    83.0    15.3  5.48
C 36.5   34  .00 173  9.53 1.39    .017     .00    .090    51.0    10.3  6.86
D-1.02   23  .00  82  8.18  .54    .004     .00    .016    16.3     3.8 15.15
     --CYCLE  3 (GRAMS/MILE)--     .015     .00    .099    45.7    32.6 19.86

I  668   17  .00  89  8.83  .51    .001     .00    .005     5.5     1.2 17.31
A 3.40   35  .00 325 10.89 2.02    .017     .00    .164    56.4    10.0  5.39
D-1.02   21  .00 129  9.62  .72    .004     .00    .028    21.5     4.3 13.36
     --CYCLE  4 (GRAMS/MILE)--     .006     .00    .055    23.2    15.5 14.98

I  660   16  .00 100  8.93  .51    .003     .00    .022    19.9     4.3 17.51
A 3.17   66  .11 354 11.18 2.23    .046     .52    .255    82.9    14.3  5.01
C 36.1   26  .00 201  8.95 1.17    .019     .00    .150    68.7    14.8  7.66
D-1.02   20  .00 106  7.84  .54    .004     .00    .022    16.8     4.1 14.25
     --CYCLE  5 (GRAMS/MILE)--     .020     .14    .125    52.3    37.5 21.00


TEST STOP:  13:35:33
TEST LENGTH:  509.4


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=    10  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=    99  COD=  1715* NOX=   202 CO2D=  4.00

ZERO CHECK
 FID=     0  COD=     8  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=   101  COD=  1757  NOX=   202 CO2D=  4.02

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
 FID=    41  COD=    62  NOX=    36 CO2D=  1.40

HOT TRAN AMB
 FID=    27  COD=    18  NOX=     0 CO2D=   .04

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT
MODE TYPE   HC      CO      NOX     CO2   EXVOL
```

IDLE	.365	9.27	.174	131	31.4
ACCEL	.757	8.99	1.536	500	87.0
DECEL	.087	.53	.164	129	27.2
CRUISE	1.745	23.26	2.096	1006	183.1
CHOKE	2.226	40.85	1.262	621	116.2
TOTAL	2.954	42.05	3.969	1767	328.6

EQUIVALENT MASS BAG RESULTS

GMS/MI	.821	11.68	1.102	490.8

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.039	.00	.196	173	37.8
ACCEL	.256	.15	1.418	704	137.9
DECEL	.070	.01	.300	268	55.9
CRUISE	.210	.57	1.074	690	140.5
CHOKE	.000	.00	.000	0	.0
TOTAL	.576	.73	2.987	1836	372.0

EQUIVALENT MASS BAG RESULTS

GMS/MI	.148	.19	.766	470.7

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.211	.52	.078	98	22.9
ACCEL	.426	1.32	1.207	453	80.3
DECEL	.049	.00	.117	114	26.3
CRUISE	.676	.71	1.835	861	163.7
CHOKE	.888	2.03	.982	526	100.4
TOTAL	1.362	2.55	3.237	1526	293.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	.378	.71	.899	423.8

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.350	2.70	.872	462.0

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.952	10.17	1.165	483.9
COLD STABILIZED	.227	.36	.846	446.1
HOT TRANSIENT	.495	.86	1.087	423.6
WEIGHTED TOTAL	.450	2.52	.978	447.8

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.979	13.783	9.448
RELATIVE HUMIDITY	50	50	50
HUM. CORR. FACTOR	.930	.930	.930
CVS REVOLUTIONS	9830	16860	9980
AVG.INLET DEPR. (IN.H20)	18.4	18.7	18.8
AVG.PRESSURE DIFF. (IN.H20)	27.4	27.7	27.7
AVG.CVS TEMPERATURE (DEG.F)	87	90	89
MAX.INLET DEPR. (IN.H20)	18.9	19.3	19.4
MIN.INLET DEPR. (IN.H20)	17.8	18.3	18.2
MAX.CVS TEMPERATURE (DEG.F)	97	96	97
MIN.CVS TEMPERATURE (DEG.F)	77	84	85
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239

TOTAL CVS VOL. (STD.CU.FT.)	2135.	3639	2157
AVG MODAL CO2 RATIO	6.26	9.70	6.98
FUEL ECONOMY (MI/GAL)	17.63	19.83	20.80

60-5

Composite FE 19.7 MPG

(61)

OEM condition,
after 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
10-28-75    12:26
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 62
DRY BULB ? 75
BAROMETER? 2927
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 6
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ?  EVAP #6 AFTER 4000 MILE RUN

ZERO CHECK
 FID=     1  COR=    .00 CO2R=-00.01    NO=      7 CO2D=    .00

SPAN CHECK
 FID=   101  COR=   7.95 CO2R= 16.05    NO=    202 CO2D=   4.06

REPEAT Z/S CHECKS? N

TEST START :   12:47:35.5
CRANK TIME :   1.4

MODE    ---TAILPIPE CONC---  CO2D   ------ MASS (GRAMS) ------    EXH.   D/R
 R/A/S    HC    CO   NO   CO2  CONC     HC      CO      NO      CO2     VOL.   F/E

CRANK     50   .00    0   .03   .03    .016     .00    .000      .1      6.6   1.00
I  626   470   .68   66  6.97   .40    .109    1.06    .016    17.1      4.7  17.43
A 3.08   932  1.89  495  9.23  1.65    .706    9.63    .394    73.9     15.5   5.59
C 25.5   451  1.22  270 10.30  1.56   1.161   21.14    .730   280.5     52.6   6.60
D-1.04   453  1.87   67 11.53   .65    .052    1.44    .008    14.0      2.3  17.74
     --CYCLE  1 (GRAMS/MILE)--        .568    9.24    .319   107.1     81.7  13.44

I  658   131   .03   83  9.79   .57    .059     .09    .040    46.9      9.3  17.18
A 2.14   161   .35  252 11.65  2.55    .302    4.41    .496   230.9     38.3   4.57
C 53.6    88   .01  265 10.74  2.95    .464     .35   1.468   599.0    107.6   3.64
D-1.01    49   .00   98  8.75   .78    .029     .00    .061    55.2     12.2  11.22
     --CYCLE  2 (GRAMS/MILE)--        .237    1.35    .573   258.9    167.3  18.45

I  698    35   .00  197  8.99   .53    .005     .00    .032    14.8      3.2  16.96
```

A	2.77	63	.00	352	10.63	2.11	.051	.00	.297	90.5	16.4	5.04
C	36.5	69	.00	171	9.74	1.64	.040	.00	.104	59.4	11.8	5.94
D	-1.02	31	.00	106	8.83	.59	.006	.00	.021	17.5	3.8	14.97
	--CYCLE	3	(GRAMS/MILE)--				.028	.00	.126	50.6	35.2	17.93

61-1

I	709	31	.00	185	8.90	.54	.002	.00	.012	5.7	1.2	16.48
A	3.34	50	.01	347	10.81	2.14	.026	.03	.189	59.2	10.6	5.05
D	-1.07	32	.00	124	9.58	.76	.007	.00	.029	22.9	4.6	12.61
	--CYCLE	4	(GRAMS/MILE)--				.010	.01	.064	24.4	16.4	14.22

I	699	29	.00	184	8.89	.53	.006	.00	.042	20.5	4.5	16.77
A	3.17	59	.02	359	11.25	2.42	.044	.10	.282	89.0	15.3	4.63
C	36.2	54	.00	159	9.18	1.38	.044	.00	.137	79.8	16.8	6.65
D	-1.05	28	.00	121	8.31	.57	.005	.00	.025	17.1	4.0	14.58
	--CYCLE	5	(GRAMS/MILE)--				.028	.03	.135	57.3	40.5	19.21

I	698	27	.00	165	8.76	.52	.002	.00	.010	5.5	1.2	16.85
A	2.33	41	.00	213	9.58	1.36	.022	.00	.122	55.0	11.1	7.04
C	25.8	42	.00	183	9.54	1.07	.013	.00	.061	31.9	6.4	8.93
D	-1.12	27	.00	164	8.44	.55	.003	.00	.021	10.7	2.5	15.07
	--CYCLE	6	(GRAMS/MILE)--				.010	.00	.055	26.5	21.2	17.95

I	700	28	.00	146	8.77	.51	.005	.00	.029	17.6	3.9	17.20
A	3.20	41	.00	222	9.85	1.40	.010	.00	.054	24.2	4.7	7.04
C	20.3	39	.00	233	9.46	.97	.029	.00	.179	73.3	14.9	9.76
D	-1.10	58	.00	122	9.95	.70	.008	.00	.017	13.6	2.6	14.21
	--CYCLE	7	(GRAMS/MILE)--				.013	.00	.071	33.0	26.2	17.43

I	688	29	.00	127	8.75	.52	.009	.00	.040	28.0	6.2	16.83
A	2.76	51	.00	203	9.87	1.62	.025	.00	.106	52.2	10.2	6.10
D	-1.06	38	.00	109	9.28	.87	.014	.00	.043	37.2	7.7	10.67
	--CYCLE	8	(GRAMS/MILE)--				.012	.00	.049	30.1	24.1	12.68

I	691	26	.00	118	8.71	.52	.004	.00	.019	14.4	3.2	16.77
A	2.10	43	.00	204	10.19	1.28	.024	.00	.119	60.0	11.4	7.96
D	-1.06	28	.00	124	9.81	.64	.004	.00	.021	16.4	3.2	15.33
	--CYCLE	9	(GRAMS/MILE)--				.008	.00	.041	23.3	17.8	13.08

A	2.60	61	.00	224	9.98	1.65	.037	.00	.142	63.9	12.4	6.05
D	-1.01	37	.00	103	9.07	.72	.013	.00	.037	32.7	7.0	12.60
	--CYCLE	10	(GRAMS/MILE)--				.013	.00	.046	24.8	19.3	17.43

A	2.73	58	.00	251	10.18	1.75	.035	.00	.158	64.4	12.2	5.82
C	27.7	31	.00	151	9.36	1.09	.121	.00	.617	385.0	79.4	8.51
D	-1.03	26	.00	124	9.81	.70	.004	.00	.021	16.6	3.3	14.01
	--CYCLE	11	(GRAMS/MILE)--				.041	.00	.204	119.5	94.9	25.86

A	2.62	43	.00	225	10.00	1.60	.025	.00	.139	62.1	12.0	6.25
C	25.3	26	.00	153	9.23	.97	.018	.00	.110	66.8	14.0	9.52
D	-1.02	22	.00	139	8.95	.67	.005	.00	.035	23.0	4.9	13.37
	--CYCLE	12	(GRAMS/MILE)--				.012	.00	.073	38.9	30.9	21.87

I	673	23	.00	95	8.74	.52	.008	.00	.035	32.2	7.1	16.81
A	2.60	60	.00	209	10.03	1.69	.037	.00	.134	64.7	12.5	5.93
D	-1.01	26	.00	90	9.15	.64	.011	.00	.040	41.2	8.7	14.30
	--CYCLE	13	(GRAMS/MILE)--				.014	.00	.054	35.4	28.3	13.34

A	2.15	36	.00	170	9.92	1.27	.021	.00	.103	60.6	11.8	7.81
C	26.8	37	.00	123	9.43	1.14	.017	.00	.061	46.9	9.6	8.27
D	-1.03	23	.00	68	8.28	.52	.004	.00	.011	13.5	3.1	15.92
	--CYCLE	14	(GRAMS/MILE)--				.011	.00	.045	31.0	24.5	20.34

I	670	20	.00	88	8.73	.51	.004	.00	.017	16.5	3.7	17.12
A	3.70	37	.00	279	10.42	1.79	.012	.00	.092	34.7	6.4	5.82
D	-1.04	40	.00	185	10.53	.70	.005	.00	.026	15.1	2.8	15.04
	--CYCLE	15	(GRAMS/MILE)--				.005	.00	.035	17.0	12.8	9.10

I	671	22	.00	94	8.81	.53	.002	.00	.011	10.3	2.3	16.62
A	2.11	29	.00	160	9.92	1.18	.014	.00	.081	50.7	9.9	8.41
C	21.5	32	.00	117	9.33	.92	.011	.00	.042	33.4	6.9	10.14
D	-1.03	20	.00	98	9.16	.60	.003	.00	.015	14.1	3.0	15.27
	--CYCLE 16 (GRAMS/MILE)--						.008	.00	.038	27.8	22.0	16.17
I	667	21	.00	83	8.77	.52	.003	.00	.012	13.3	2.9	16.87
A	2.08	32	.00	152	9.75	1.22	.019	.00	.093	59.9	11.9	7.99
C	25.8	33	.00	135	9.46	1.13	.018	.00	.079	55.5	11.3	8.38
D	-1.04	34	.00	119	9.62	.66	.005	.00	.019	15.7	3.1	14.58
	--CYCLE 17 (GRAMS/MILE)--						.012	.00	.052	37.0	29.2	17.99
I	671	21	.00	83	8.74	.51	.006	.00	.025	26.6	5.9	17.14
A	2.63	47	.00	161	9.82	1.50	.021	.00	.074	45.7	9.0	6.55
D	-1.08	34	.00	66	8.85	.61	.008	.00	.016	21.1	4.6	14.51
I	33	22	.00	61	7.58	.25	.001	.00	.003	3.9	1.0	30.32
	--CYCLE 18 (GRAMS/MILE)--						.009	.00	.030	24.9	20.4	11.39

TEST STOP: 13:11: 5
TEST LENGTH: 1380.5

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 4 NOX= 0 CO2D= .00

SPAN CHECK
FID= 97 COD= 1736 NOX= 202 CO2D= 3.98

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 58 COD= 415 NOX= 36 CO2D= 1.56

COLD STAB SAMP
FID= 32 COD= 23 NOX= 16 CO2D= .96

COLD TRAN AMB
FID= 29 COD= 7 NOX= 0 CO2D= .03

COLD STAB AMB
FID= 30 COD= 6 NOX= 0 CO2D= .03

REPEAT BAG READS ? N

SOAK TIME : 600

TEST START : 13:20:38.8
CRANK TIME : 1.4

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	13	.00	28	3.63	.06	.000	.00	.000	.2	.1	60.50
I	523	836	.52	43	6.68	.36	.184	.77	.010	15.5	4.5	18.56
A	3.05	723	.02	180	9.58	1.64	.278	.05	.073	38.9	7.8	5.84
C	25.8	204	.02	152	9.66	1.30	.469	.31	.367	234.8	46.9	7.43
D	-1.07	131	.00	69	9.32	.60	.017	.00	.009	12.8	2.6	15.53
	--CYCLE 1 (GRAMS/MILE)--						.263	.31	.128	84.0	62.0	19.45
I	625	63	.00	54	8.24	.49	.029	.00	.026	39.7	9.3	16.82
A	2.13	85	.06	269	11.06	2.16	.141	.78	.470	194.5	33.9	5.12

C	53.5	84	.01	254	10.39	2.67	.416	.33	1.321	544.2	101.1	3.89
D	-1.02	55	.00	67	8.04	.73	.033	.00	.043	51.5	12.4	11.01
	--CYCLE	2	(GRAMS/MILE)--				.172	.31	.516	230.5	156.7	20.87

61-3

I	673	25	.00	113	8.84	.51	.004	.00	.018	14.4	3.1	17.33
A	2.76	43	.00	310	10.47	1.95	.033	.00	.249	84.5	15.6	5.37
C	36.4	49	.00	184	9.51	1.49	.027	.00	.105	54.5	11.1	6.38
D	-1.13	42	.00	84	8.49	.55	.008	.00	.017	16.9	3.8	15.16
	--CYCLE	3	(GRAMS/MILE)--				.020	.00	.108	47.3	33.6	19.20

I	674	24	.00	100	8.78	.52	.001	.00	.006	5.6	1.2	16.88
A	3.40	41	.02	331	10.87	2.12	.021	.07	.179	59.3	10.5	5.13
D	-1.05	22	.00	133	9.54	.72	.005	.00	.030	21.7	4.4	13.26
	--CYCLE	4	(GRAMS/MILE)--				.008	.02	.060	24.0	16.1	14.42

I	664	20	.00	106	8.84	.52	.004	.00	.024	20.1	4.4	17.00
A	3.16	50	.02	350	11.25	2.33	.036	.10	.261	84.6	14.5	4.83
C	36.1	34	.00	160	9.00	1.26	.026	.00	.128	72.3	15.5	7.14
D	-1.02	33	.00	114	7.90	.54	.007	.00	.024	16.6	4.1	14.36
	--CYCLE	5	(GRAMS/MILE)--				.020	.03	.121	53.8	38.5	20.50

TEST STOP: 13:29:26
TEST LENGTH: 506.4

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 0 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= 100 COD= 1754 NOX= 202 CO2D= 4.05

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 47 COD= 49 NOX= 32 CO2D= 1.46

HOT TRAN AMB
FID= 27 COD= 4 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.198	1.15	.142	105	29.5
ACCEL	1.128	14.18	1.658	544	96.0
DECEL	.100	1.44	.144	127	26.9
CRUISE	1.710	21.50	2.439	1019	188.8
CHOKE	2.405	37.78	1.683	663	129.2
TOTAL	3.136	38.27	4.383	1794	341.1

EQUIVALENT MASS BAG RESULTS

GMS/MI	.871	10.63	1.217	498.3

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.044	.00	.202	168	37.3
ACCEL	.300	.00	1.418	698	135.3
DECEL	.088	.00	.322	271	56.6
CRUISE	.227	.00	1.147	693	142.6

CHOKE	.000	.00	.000	0	.0
TOTAL	.659	.00	3.089	1830	371.7

61-4

EQUIVALENT MASS BAG RESULTS

GMS/MI	.169	.00	.792	469.3

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.222	.77	.084	95	22.7
ACCEL	.509	1.00	1.232	462	82.4
DECEL	.069	.00	.122	119	27.3
CRUISE	.937	.64	1.920	906	174.6
CHOKE	1.117	1.91	.955	536	105.3
TOTAL	1.737	2.41	3.359	1583	306.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	.483	.67	.933	439.6

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.400	2.38	.918	467.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.945	7.64	1.100	471.9
COLD STABILIZED	.189	.51	.762	446.8
HOT TRANSIENT	.663	.84	.969	434.4
WEIGHTED TOTAL	.475	2.07	.888	448.6

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.287	13.789	9.061
RELATIVE HUMIDITY	48	48	48
HUM. CORR. FACTOR	.950	.950	.950
CVS REVOLUTIONS	10020	16860	9920
AVG.INLET DEPR. (IN.H20)	18.3	18.5	18.5
AVG.PRESSURE DIFF. (IN.H2O)	27.2	27.3	27.4
AVG.CVS TEMPERATURE (DEG.F)	92	90	91
MAX.INLET DEPR. (IN.H2O)	18.9	18.9	19.1
MIN.INLET DEPR. (IN.H2O)	17.6	18.1	18.0
MAX.CVS TEMPERATURE (DEG.F)	98	97	96
MIN.CVS TEMPERATURE (DEG.F)	87	84	85
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2138	3608	2119
AVG MODAL CO2 RATIO	6.17	9.64	6.59
FUEL ECONOMY (MI/GAL)	18.22	19.80	20.26

Composite FE 18.5 MPG

(62)

OEM,
after 4000 mi. durability.

```
CHANNEL ? E


HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10-27-75    14:58
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 60
DRY BULB ? 72
BAROMETER? 29.37
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 6
VEH. MAKE? DODGE DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     0  COR=    .09 CO2R=    .00    NO=     10 CO2D=    .00

SPAN CHECK
 FID=    97  COR=   7.76 CO2R= 15.65    NO=    202 CO2D=   4.09

REPEAT Z/S CHECKS? N

TEST START :  15:17:45.0
CRANK TIME :  2.6

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------    EXH.  D/R
 R/A/S   HC    CO   NO   CO2  CONC    HC      CO      NO      CO2    VOL.  F/E

CRANK  1030  .00   10  1.52  .05   .020     .00    .000      .3     .4 30.40
I  691 1004  .54   37  6.28  .34   .226     .82    .009     15.0    4.6 18.47
A 3.09  907  .66  203  9.92 1.59   .333    1.63    .077     38.5    7.5  6.24
C 25.6  291  .05  251  9.81 1.22   .632     .73    .561    225.3   44.3  8.04
D-1.04  144  .00  127  9.87  .62   .019     .00    .017     13.6    2.7 15.94
     --CYCLE  1 (GRAMS/MILE)--     .164     .42    .088     39.0   59.5 19.81

I  665  116  .00   89  8.54  .51   .054     .00    .043     42.3    9.6 16.75
A 2.15  130  .13  321 11.54 2.23   .218    1.58    .554    204.6   34.2  5.15
C 53.2  101  .00  260 10.64 2.69   .492     .00   1.303    548.1   99.4  3.96
D-1.01   69  .00   77  8.35  .71   .040     .00    .045     50.7   11.7 11.76
     --CYCLE  2 (GRAMS/MILE)--     .107     .21    .259    112.8  154.9 20.45
```

I	682	49	.00	132	9.09	.53	.008	.00	.021	14.9	3.2	17.15
A	2.76	67	.04	331	10.82	2.02	.051	.21	.261	87.6	15.6	5.36
C	36.4	58	.02	228	9.65	1.42	.030	.07	.120	52.1	10.4	6.80
D	-1.02	43	.00	106	8.90	.57	.008	.00	.020	17.1	3.7	15.61
	--CYCLE	3	(GRAMS/MILE)--				.013	.04	.056	22.9	32.9	18.97
I	687	35	.00	127	8.99	.53	.002	.00	.008	5.7	1.2	16.96
A	3.21	50	.01	322	10.68	1.72	.021	.03	.141	48.2	8.7	6.21
D	-1.02	46	.00	205	10.62	1.08	.013	.00	.061	32.6	5.9	9.74
	--CYCLE	4	(GRAMS/MILE)--				.005	.00	.028	11.5	15.9	14.43
I	684	35	.00	111	9.11	.54	.008	.00	.025	20.8	4.4	16.87
A	3.14	57	.01	390	11.60	2.40	.040	.05	.285	87.1	14.5	4.83
C	35.9	41	.00	166	9.12	1.26	.031	.00	.129	72.9	15.4	7.25
D	-1.02	32	.00	118	8.21	.55	.006	.00	.024	16.9	4.0	14.68
	--CYCLE	5	(GRAMS/MILE)--				.011	.01	.062	26.4	38.3	20.07
I	679	29	.00	120	8.95	.52	.002	.00	.007	5.6	1.2	17.23
A	2.35	63	.08	206	9.85	1.34	.033	.28	.112	55.1	10.8	7.35
C	26.1	49	.00	163	9.76	1.08	.015	.00	.053	32.6	6.5	9.04
D	-1.04	27	.00	106	8.74	.57	.003	.00	.013	11.0	2.4	15.33
	--CYCLE	6	(GRAMS/MILE)--				.007	.04	.025	13.9	20.9	17.65
I	683	29	.00	107	8.99	.53	.006	.00	.021	18.3	3.9	16.96
A	3.20	47	.00	228	10.41	1.33	.010	.00	.049	22.8	4.2	7.83
C	20.0	38	.01	188	10.12	1.04	.028	.05	.141	77.9	14.8	9.74
D	-1.15	50	.20	140	10.49	.69	.006	.16	.017	13.2	2.4	15.20
	--CYCLE	7	(GRAMS/MILE)--				.007	.03	.030	17.6	25.4	16.91
I	674	29	.00	103	9.03	.53	.009	.00	.032	28.5	6.1	17.04
A	2.72	93	.15	197	10.19	1.58	.044	.48	.097	51.3	9.7	6.45
D	-1.03	36	.00	117	9.12	.82	.013	.00	.044	35.5	7.5	11.13
	--CYCLE	8	(GRAMS/MILE)--				.009	.06	.023	15.4	23.3	12.83
I	671	26	.00	97	8.93	.53	.004	.00	.016	14.9	3.2	16.85
A	2.09	39	.00	193	10.16	1.20	.021	.00	.106	57.1	10.9	8.47
D	-1.10	25	.00	119	9.76	.65	.004	.00	.020	16.8	3.3	15.02
	--CYCLE	9	(GRAMS/MILE)--				.004	-00.02	.019	11.8	17.4	13.37
A	2.58	47	.00	237	10.08	1.63	.028	.00	.144	63.0	12.1	6.18
D	-1.01	27	.00	109	8.95	.68	.009	.00	.036	30.5	6.6	13.18
	--CYCLE	10	(GRAMS/MILE)--				.005	-00.02	.024	12.5	18.6	18.00
A	2.74	53	.02	245	10.25	1.76	.031	.08	.149	64.0	12.0	5.82
C	27.6	30	.00	164	9.40	1.04	.110	.00	.620	365.2	75.0	9.04
D	-1.03	33	.00	140	9.87	.67	.005	.00	.022	15.7	3.1	14.75
	--CYCLE	11	(GRAMS/MILE)--				.020	.01	.105	59.3	90.1	27.10
A	2.61	48	.00	225	10.12	1.57	.027	.00	.130	60.2	11.5	6.45
C	25.2	26	.00	152	9.52	.95	.017	.00	.102	65.7	13.3	10.02
D	-1.02	25	.00	93	8.99	.55	.005	.00	.020	19.5	4.2	16.05
	--CYCLE	12	(GRAMS/MILE)--				.007	-00.02	.034	19.4	29.0	22.86
I	666	24	.00	91	8.93	.52	.008	.00	.033	32.9	7.1	17.17
A	2.59	51	.00	221	10.09	1.64	.031	.00	.136	64.0	12.2	6.15
D	-1.01	22	.00	77	8.86	.61	.009	.00	.033	39.6	8.6	14.52
	--CYCLE	13	(GRAMS/MILE)--				.006	-00.02	.027	18.2	28.0	13.51
A	2.15	33	.00	200	10.24	1.24	.018	.00	.112	58.7	11.1	8.26
C	26.8	31	.00	167	9.59	1.08	.014	.00	.075	44.5	8.9	8.80
D	-1.03	20	.00	65	8.42	.54	.003	.00	.010	13.9	3.2	15.59
	--CYCLE	14	(GRAMS/MILE)--				.005	-00.02	.026	15.6	23.2	21.05
I	670	21	.00	81	8.86	.53	.004	.00	.015	17.0	3.7	16.72
A	3.67	40	.00	264	10.62	1.79	.012	.00	.083	34.3	6.2	5.93

```
D-1.04   51  .00 181 10.37  .73    .007    .00    .026   15.6    2.9 14.21
     --CYCLE 15 (GRAMS/MILE)--     .003 -00.02    .017    8.9   12.8  9.02

I  669   22  .00  86  8.96  .52    .002    .00    .009   10.1    2.2 17.25
A 2.19   43  .04 156 10.01 1.10    .020    .12    .073   48.2    9.3  9.02
C 21.9   47  .18 127  9.95  .78    .013    .33    .036   28.8    5.6 12.77
D-1.03   20  .00  65  8.68  .53    .003    .00    .009   12.7    2.8 16.38
     --CYCLE 16 (GRAMS/MILE)--     .005    .06    .017   13.3   19.9 17.46

I  667   20  .00  82  8.84  .52    .003    .00    .012   13.5    3.0 17.00
A 2.10   36  .00 175  9.87 1.16    .020    .00    .100   58.0   11.3  8.51
C 25.7   33  .00 186  9.87 1.08    .017    .00    .100   54.3   10.6  9.06
D-1.03   37  .00 112  9.32  .66    .006    .00    .018   15.6    3.2 14.12
     --CYCLE 17 (GRAMS/MILE)--     .006 -00.02    .031   18.9   28.1 18.36

I  671   22  .00  82  8.86  .52    .006    .00    .024   26.9    5.9 17.04
A 2.60   43  .00 176  9.94 1.42    .017    .00    .074   42.8    8.3  7.00
D-1.04   33  .00  83  8.90  .61    .007    .00    .019   20.9    4.5 14.59
I  669   22  .00  71  8.79  .52    .001    .00    .004    5.6    1.2 16.90
     --CYCLE 18 (GRAMS/MILE)--     .004 -00.02    .016   12.8   19.9 11.53


TEST STOP:  15:41: 5
TEST LENGTH: 1374.6


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     0  COD=     3  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=   101  COD=  1763  NOX=   199 CO2D=  4.07

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    38  COD=    64  NOX=    24 CO2D=  1.19

BACKGROUND BAG
 FID=    28  COD=    17  NOX=     0 CO2D=   .04

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       .363     .82    .279     272    60.8
ACCEL      .976    4.46   2.682    1146   210.2
DECEL      .167     .16    .456     391    82.8
CRUISE    1.398    1.18   3.240    1567   304.3
CHOKE     1.502    4.76   1.260     540   103.3
TOTAL     2.904    6.62   6.656    3377   658.2

EQUIVALENT MASS BAG RESULTS
GMS/MI     .387     .88    .887   450.2



***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
```

HC	CO	NOX	CO2
.374	1.18	.924	455.1

62-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	50
HUM. CORR. FACTOR	.931
CVS REVOLUTIONS	26660
AVG.INLET DEPR. (IN.H20)	18.3
AVG.PRESSURE DIFF. (IN.H20)	27.3
AVG.CVS TEMPERATURE (DEG.F)	90
MAX.INLET DEPR. (IN.H20)	19.1
MIN.INLET DEPR. (IN.H20)	17.8
MAX.CVS TEMPERATURE (DEG.F)	97
MIN.CVS TEMPERATURE (DEG.F)	78
AVG.CVS FLOW (CU.FT/REV)	.239
TOTAL CVS VOL. (STD.CU.FT.)	5729
AVG MODAL CO2 RATIO	8.46
FUEL ECONOMY (MI/GAL)	19.37

(63)

OEM,
after 4000 mi. durability.

HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
~~BENCH #2~~
10-24-75 10:58
~~CONSOLE~~ SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 63
DRY BULB ? 75
BAROMETER? 2947
INERT WT.? 3500
TPANS. ? 0
CYLINDERS? 8
RUN NO. ? 1
VEH. MAKE? 7 5 DART
VEH. I.D.? 5C80
REMARKS ?
REMARKS ?
REMARKS ? EVAP #4

* Not Valid

OEM
AFTER 4000 MI DURABILITY

ZERO CHECK OUT OF LIMITS
FID= 1 COR= .00 CO2R= .00 NO= -0012*CO2D= .00

ZERO CHECK OUT OF LIMITS
FID= 0 COR= .01 CO2R= .00 NO= 16*CO2D= .00

ZERO CHECK
FID= 0 COR= .00 CO2R= .00 NO= 9 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 100 COR= 8.06 CO2R= 15.94 NO= 210*CO2D= 4.05

ZERO CHECK
FID= 0 COR= .01 CO2R= .00 NO= 9 CO2D= .00

SPAN CHECK
FID= 101 COR= 8.00 CO2R= 15.95 NO= 206 CO2D= 4.16

REPEAT Z/S CHECKS? N

TEST START : 11: 5:54.9
CRANK TIME : 1.3

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	19	.00	0	.03	.02	.004	.00	.000	.1	4.3	1.50
I 455	637	.90	63	6.85	.37	.143	1.36	.015	16.3	4.6	18.51
A 2.79	990	1.67	330	8.87	1.59	1.290	14.64	.460	122.3	26.6	5.58
C 25.6	658	1.28	284	10.54	1.52	1.664	21.78	.769	281.9	51.6	6.93
D-1.12	569	1.77	72	11.54	.67	.069	1.44	.009	14.7	2.5	17.22
--CYCLE 1 (GRAMS/MILE)--						.880	10.90	.348	120.9	89.5	11.78

I	500	201	.04	97	9.95	.59	.094	.13	.049	49.3	9.6	16.86
A	2.15	214	.31	274	11.83	2.52	.397	3.87	.543	231.9	37.8	4.69
C	53.5	113	.01	244	11.09	3.05	.601	.36	1.389	624.0	108.6	3.64
D	-1.02	61	.00	92	8.78	.79	.037	.00	.060	56.7	12.5	11.11
	--CYCLE	2	(GRAMS/MILE)--				.314	1.21	.567	267.2	168.5	17.90
I	521	49	.00	190	9.17	.54	.008	.00	.032	15.3	3.2	16.98
A	2.76	74	.01	329	10.89	2.15	.060	.05	.286	93.6	16.6	5.07
C	36.5	89	.00	192	9.96	1.75	.054	.00	.125	64.4	12.5	5.70
D	-1.02	46	.00	106	9.37	.62	.009	.00	.021	18.7	3.8	15.13
	--CYCLE	3	(GRAMS/MILE)--				.036	.02	.129	53.3	36.1	17.00
I	525	42	.00	193	9.07	.54	.003	.00	.013	5.8	1.2	16.80
A	3.38	67	.08	348	11.26	2.29	.036	.29	.201	64.2	11.0	4.92
D	-1.07	39	.00	160	9.68	.74	.009	.00	.037	22.3	4.5	13.08
	--CYCLE	4	(GRAMS/MILE)--				.013	.08	.070	25.7	16.7	13.46
I	522	36	.00	190	9.06	.54	.008	.00	.044	20.9	4.5	16.78
A	3.17	68	.01	343	11.58	2.48	.050	.05	.272	90.8	15.1	4.65
C	36.1	55	.00	174	9.33	1.35	.044	.00	.148	78.2	16.2	6.91
D	-1.05	35	.00	149	8.40	.57	.007	.00	.031	17.3	4.0	14.74
	--CYCLE	5	(GRAMS/MILE)--				.030	.01	.138	57.6	39.7	19.14
I	524	33	.00	161	8.93	.53	.002	.00	.011	5.8	1.2	16.85
A	2.35	47	.00	227	9.73	1.38	.026	.00	.134	56.9	11.3	7.05
C	25.8	55	.00	164	9.64	1.04	.017	.00	.054	31.6	6.3	9.27
D	-1.21	35	.00	140	8.61	.59	.004	.00	.019	11.5	2.6	14.59
	--CYCLE	6	(GRAMS/MILE)--				.013	.00	.056	27.1	21.4	17.49
I	518	33	.00	144	8.92	.53	.006	.00	.030	18.3	4.0	16.83
A	3.18	44	.00	238	10.12	1.47	.010	.00	.060	25.4	4.8	6.89
C	20.2	38	.00	258	9.48	.97	.028	.00	.201	73.2	14.9	9.77
D	-1.06	48	.00	152	9.89	.68	.006	.00	.020	13.1	2.6	14.54
	--CYCLE	7	(GRAMS/MILE)--				.013	.00	.080	33.3	26.3	17.25
I	519	32	.00	124	8.87	.53	.010	.00	.040	28.4	6.2	16.75
A	2.76	61	.00	204	10.03	1.66	.031	.00	.110	53.3	10.3	6.04
D	-1.04	42	.00	105	9.15	.84	.016	.00	.042	36.4	7.7	10.89
	--CYCLE	8	(GRAMS/MILE)--				.014	.00	.049	30.3	24.1	12.61
I	516	29	.00	114	8.84	.52	.005	.00	.019	14.7	3.2	17.00
A	2.09	42	.00	226	9.93	1.18	.022	.00	.129	56.2	10.9	8.42
D	-1.10	33	.00	127	9.27	.60	.005	.00	.022	15.6	3.2	15.45
	--CYCLE	9	(GRAMS/MILE)--				.008	.00	.044	22.2	17.4	13.73
A	2.61	60	.00	211	10.12	1.72	.037	.00	.141	66.8	12.7	5.89
D	-1.02	35	.00	111	8.94	.72	.012	.00	.041	32.4	7.0	12.42
	--CYCLE	10	(GRAMS/MILE)--				.013	.00	.047	25.4	19.7	16.97
A	2.72	45	.00	242	10.38	1.75	.026	.00	.150	63.8	11.9	5.93
C	27.7	30	.00	153	9.45	1.08	.115	.00	.628	383.2	78.3	8.67
D	-1.03	30	.00	151	9.70	.62	.004	.00	.023	14.6	2.9	15.66
	--CYCLE	11	(GRAMS/MILE)--				.037	.00	.205	118.4	93.0	26.11
A	2.62	41	.00	219	10.24	1.60	.024	.00	.135	62.5	11.8	6.40
C	25.3	26	.00	148	9.34	.95	.017	.00	.106	66.2	13.7	9.83
D	-1.05	24	.00	102	8.58	.55	.005	.00	.023	19.5	4.4	15.32
	--CYCLE	12	(GRAMS/MILE)--				.012	.00	.068	38.0	29.8	22.44
I	513	27	.00	89	8.87	.52	.009	.00	.033	32.8	7.1	17.08
A	2.61	64	.00	184	10.07	1.70	.040	.00	.122	66.1	12.7	5.92
D	-1.01	29	.00	77	8.85	.62	.012	.00	.035	40.1	8.7	14.27
	--CYCLE	13	(GRAMS/MILE)--				.016	.00	.049	35.6	28.5	13.26
A	2.15	34	.00	158	10.07	1.29	.019	.00	.097	60.8	11.7	7.81

```
C 26.8   32  .00 137  9.34 1.08    .014     .00     .065    44.0     9.1  8.65
D-1.03   21  .00  76  8.35  .52    .003     .00     .012    13.6     3.1 16.06
     --CYCLE 14 (GRAMS/MILE)--     .009     .00     .045    30.4    23.9 20.82

I  511   24  .00  81  8.84  .51    .004     .00     .015    16.6     3.6 17.33
A 3.73   42  .00 234 10.57 1.81    .013     .00     .080    35.7     6.5  5.84
D-1.04   48  .02 211 10.86  .73    .007     .02     .031    15.9     2.8 14.88
     --CYCLE 15 (GRAMS/MILE)--     .006     .00     .032    17.5    13.0  8.82

I  508   25  .00  87  8.95  .53    .003     .00     .010    10.4     2.2 16.91
A 2.11   31  .00 140  9.91 1.17    .015     .00     .073    51.0     9.9  8.47
C 21.5   25  .00 111  9.32  .84    .008     .00     .037    30.9     6.4 11.10
D-1.03   22  .00 120  9.33  .59    .003     .00     .018    14.1     2.9 15.81
     --CYCLE 16 (GRAMS/MILE)--     .007     .00     .036    27.3    21.5 16.48

I  503   24  .00  79  8.87  .52    .003     .00     .012    13.5     2.9 17.08
A 2.09   35  .00 163  9.85 1.22    .020     .00     .102    60.8    11.9  8.07
C 25.8   34  .00 142  9.54 1.09    .018     .00     .082    54.4    11.0  8.68
D-1.03   39  .00 127  9.37  .65    .006     .00     .021    15.3     3.1 14.42
     --CYCLE 17 (GRAMS/MILE)--     .012     .00     .056    36.9    29.0 18.04

I  507   25  .00  78  8.89  .53    .007     .00     .024    27.3     5.9 16.77
A 2.64   54  .00 157  9.95 1.51    .023     .00     .073    45.8     8.9  6.60
D-1.07   32  .00  66  9.15  .58    .007     .00     .015    20.2     4.3 15.78
I   27   25  .00  60  7.71  .25    .001     .00     .003     3.9     1.0 30.84
     --CYCLE 18 (GRAMS/MILE)--     .010     .00     .030    24.9    20.0 11.40
```

63-2

```
TEST STOP:  11:29:38
TEST LENGTH: 1394.3


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     2  NOX= -0001 CO2D=   .00

SPAN CHECK
 FID=    99  COD=  1768  NOX=   201 CO2D=  4.11

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    83  COD=   439  NOX=    37 CO2D=  1.59

COLD STAB SAMP
 FID=    43  COD=     9  NOX=    19 CO2D=   .99

COLD TRAN AMB
 FID=    23  COD=     8  NOX=     0 CO2D=   .03

COLD STAB AMB
 FID=    39  COD=     4  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N

TEST HOLD-ENGINE DID NOT START

TEST HOLD-ENGINE DID NOT START

SOAK TIME :  602

TEST START :  11:39:48.9
CRANK TIME : 26.7
```

63-3

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	607	.05	29	6.61	.37	.188	.10	.010	21.7	6.3	17.86
I 443	319	.00	22	7.70	.46	.078	.00	.006	19.9	5.0	16.74
A 3.06	248	.04	185	9.83	1.55	.088	.10	.071	37.1	7.3	6.34
C 25.8	115	.02	182	10.03	1.22	.239	.28	.405	220.5	42.4	8.22
D-1.04	79	.00	110	8.94	.58	.010	.00	.015	12.4	2.7	15.41
--CYCLE 1 (GRAMS/MILE)--						.168	.13	.141	86.5	63.7	19.02
I 488	51	.00	60	8.60	.50	.023	.00	.029	41.5	9.3	17.20
A 2.13	79	.08	268	11.49	2.15	.128	.87	.466	197.5	33.2	5.34
C 53.4	78	.00	239	10.64	2.63	.373	.00	1.222	537.7	97.5	4.05
D-1.02	52	.00	70	8.70	.75	.030	.00	.044	53.9	11.9	11.61
--CYCLE 2 (GRAMS/MILE)--						.154	.24	.489	230.7	151.9	20.87
I 511	23	.00	100	9.06	.52	.004	.00	.016	14.8	3.1	17.42
A 2.77	43	.00	291	10.77	1.94	.032	.00	.231	84.7	15.2	5.55
C 36.4	39	.00	187	9.78	1.43	.020	.00	.102	52.7	10.4	6.84
D-1.02	34	.00	75	8.62	.55	.006	.00	.015	17.0	3.8	15.39
--CYCLE 3 (GRAMS/MILE)--						.017	.00	.101	47.0	32.5	19.34
I 509	22	.00	87	8.98	.52	.001	.00	.006	5.6	1.2	17.27
A 3.40	43	.00	323	11.13	2.10	.022	.00	.173	58.9	10.2	5.30
D-1.05	23	.00	112	9.70	.76	.005	.00	.027	22.9	4.6	12.78
--CYCLE 4 (GRAMS/MILE)--						.008	.00	.057	24.3	16.0	14.29
I 510	19	.00	89	8.95	.53	.004	.00	.021	20.5	4.4	16.91
A 3.16	49	.01	326	11.33	2.29	.034	.05	.243	83.4	14.2	4.95
C 36.2	36	.00	162	9.08	1.23	.027	.00	.129	71.3	15.2	7.38
D-1.02	29	.00	93	7.96	.57	.006	.00	.021	17.4	4.2	13.96
--CYCLE 5 (GRAMS/MILE)--						.020	.01	.115	53.5	38.0	20.60

TEST STOP: 11:48:37
TEST LENGTH: 531.7

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 1 NOX= 0 CO2D= .00

SPAN CHECK
FID= 99 COD= 1744 NOX= 203 CO2D= 4.09

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 51 COD= 47 NOX= 31 CO2D= 1.41

HOT TRAN AMB
FID= 38 COD= 4 NOX= 0 CO2D= .03

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.259	1.49	.153	108	27.3
ACCEL	1.833	18.90	1.762	603	107.1
DECEL	.130	1.44	.159	130	27.2
CRUISE	2.363	22.14	2.431	1048	188.9

CHOKE	3.660	43.22	1.845	716	136.9
TOTAL	4.585	43.97	4.505	1889	350.5

63-4

EQUIVALENT MASS BAG RESULTS

GMS/MI	1.274	12.21	1.251	524.7

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.051	.00	.198	172	37.4
ACCEL	.308	.00	1.406	705	135.2
DECEL	.091	.02	.324	262	55.4
CRUISE	.218	.00	1.174	684	139.7
CHOKE	.000	.00	.000	0	.0
TOTAL	.668	.02	3.102	1823	367.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	.171	.00	.796	467.3

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.298	.10	.087	124	29.4
ACCEL	.304	1.02	1.184	461	80.0
DECEL	.058	.00	.122	124	27.2
CRUISE	.658	.28	1.857	882	165.5
CHOKE	.755	1.35	1.001	550	106.2
TOTAL	1.319	1.40	3.250	1591	302.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	.366	.39	.903	442.0

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.452	2.63	.919	472.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.907	8.40	1.201	501.8
COLD STABILIZED	.315	.15	.926	463.4
HOT TRANSIENT	.520	.85	1.012	446.2
WEIGHTED TOTAL	.700	2.05	1.006	466.6

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.088	13.350	9.372
RELATIVE HUMIDITY	52	52	52
HUM. CORR. FACTOR	.968	.968	.968
CVS REVOLUTIONS	10280	16860	10410
AVG.INLET DEPR. (IN.H20)	18.2	18.8	18.9
AVG.PRESSURE DIFF. (IN.H20)	27.2	27.6	27.7
AVG.CVS TEMPERATURE (DEG.F)	87	91	90
MAX.INLET DEPR. (IN.H20)	18.9	19.3	19.5
MIN.INLET DEPR. (IN.H20)	17.7	18.4	18.3
MAX.CVS TEMPERATURE (DEG.F)	96	96	96
MIN.CVS TEMPERATURE (DEG.F)	80	84	84
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2230	3625	2242
AVG MODAL CO2 RATIO	6.28	9.79	7.01
FUEL ECONOMY (MI/GAL)	17.03	19.09	19.75

(64)

OEM,
after 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10-23-75    15:47
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? N
WET BULB ?    62
DRY BULB ?    76
BAROMETER?  2922
INERT WT.?  3500
TRANS.   ?     0
CYLINDERS?    6
RUN NO.  ? 5
VEH. MAKE? DODGE DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     3  COR=    .00 CO2R=    .00    NO=     5 CO2D=-00.01

SPAN CHECK
 FID=    97  COR=   7.89 CO2R= 15.98    NO=   201 CO2D=  4.04

REPEAT Z/S CHECKS? N

TEST START :  15:52:34.7
CRANK TIME :  1.0
```

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	8	.00	0	.02	.03	.003	.00	.000	.1	7.5	.67
I 574	740	.44	27	5.34	.27	.160	.64	.006	12.2	4.4	19.07
A 3.08	712	.41	204	9.89	1.64	.270	1.05	.081	39.7	7.7	6.03
C 25.8	163	.03	291	9.75	1.22	.354	.44	.659	223.9	44.3	7.99
D-1.08	98	.00	196	8.90	.58	.013	.00	.027	12.6	2.7	15.34
--CYCLE 1 (GRAMS/MILE)--						.107	.28	.103	38.5	66.8	20.28
I 646	50	.00	78	8.54	.51	.023	.00	.038	42.2	9.5	16.76
A 2.14	82	.09	273	11.66	2.37	.144	1.06	.500	216.4	35.8	4.92
C 53.5	61	.01	251	10.78	2.86	.311	.34	1.336	581.6	104.1	3.77
D-1.01	35	.00	86	8.46	.75	.021	.00	.054	53.4	12.2	11.29
--CYCLE 2 (GRAMS/MILE)--						.067	.19	.257	119.2	161.7	19.37

I	671	18	.00	116	9.11	.54	.003	.00	.019	15.3	3.2 16.87
A	2.75	39	.03	309	10.77	2.09	.031	.16	.256	90.5	16.2 5.15
C	36.5	38	.00	205	9.91	1.72	.023	.00	.129	63.0	12.3 5.76
D	-1.05	20	.00	79	8.81	.59	.004	.00	.016	17.7	3.9 14.93
	--CYCLE	3	(GRAMS/MILE)--				.008	.02	.056	24.9	35.6 17.51
I	675	15	.00	110	8.99	.54	.001	.00	.007	5.8	1.2 16.65
A	3.39	39	.05	329	11.11	2.17	.020	.17	.178	60.9	10.6 5.10
D	-1.05	25	.00	156	9.95	.78	.006	.00	.036	23.4	4.5 12.76
	--CYCLE	4	(GRAMS/MILE)--				.004	.02	.029	12.0	16.4 13.84
I	673	14	.00	112	9.04	.54	.003	.00	.026	21.2	4.5 16.45
A	3.15	44	.06	334	11.54	2.44	.032	.29	.253	88.5	14.8 4.73
C	36.1	23	.00	174	9.08	1.29	.018	.00	.140	74.2	15.8 7.04
D	-1.04	17	.00	98	8.33	.57	.003	.00	.020	17.1	4.0 14.61
	--CYCLE	5	(GRAMS/MILE)--				.007	.04	.058	26.8	39.1 19.70
I	667	13	.00	98	8.92	.53	.001	.00	.006	5.7	1.2 16.83
A	2.34	24	.00	210	9.86	1.39	.013	.00	.120	56.9	11.1 7.09
C	25.9	32	.00	154	9.53	1.06	.010	.00	.051	32.0	6.5 8.99
D	-1.08	12	.00	123	8.91	.62	.002	.00	.016	11.9	2.6 14.37
	--CYCLE	6	(GRAMS/MILE)--				.003	-00.02	.026	14.2	21.4 17.39
I	662	13	.00	93	8.95	.54	.003	.00	.019	18.5	4.0 16.59
A	3.21	28	.00	200	10.26	1.50	.007	.00	.050	25.8	4.9 6.84
C	20.2	18	.00	204	9.40	.96	.013	.00	.154	71.7	14.7 9.79
D	-1.10	27	.00	127	10.20	.75	.004	.00	.018	14.3	2.7 13.61
	--CYCLE	7	(GRAMS/MILE)--				.003	-00.02	.032	17.4	26.3 17.21
I	660	15	.00	85	8.95	.54	.005	.00	.027	28.8	6.2 16.57
A	2.74	32	.00	214	10.20	1.66	.016	.00	.111	53.5	10.1 6.14
D	-1.02	18	.00	103	9.07	.84	.007	.00	.040	36.1	7.7 10.80
	--CYCLE	8	(GRAMS/MILE)--				.004	-00.02	.024	15.8	24.0 12.59
I	655	13	.00	77	8.87	.54	.002	.00	.013	15.1	3.3 16.44
A	2.10	27	.00	182	10.25	1.27	.015	.00	.105	60.0	11.3 8.07
D	-1.15	16	.00	112	9.78	.67	.003	.00	.019	17.2	3.4 14.60
	--CYCLE	9	(GRAMS/MILE)--				.003	-00.02	.018	12.3	18.0 12.87
A	2.61	34	.00	211	10.07	1.71	.021	.00	.136	65.7	12.6 5.89
D	-1.01	17	.00	93	8.67	.73	.006	.00	.035	32.7	7.3 11.88
	--CYCLE	10	(GRAMS/MILE)--				.004	-00.02	.023	13.1	19.9 17.12
A	2.72	29	.00	227	10.38	1.76	.017	.00	.137	63.5	11.8 5.90
C	27.7	21	.00	150	9.18	1.07	.081	.00	.602	373.4	78.5 8.58
D	-1.03	19	.00	155	9.17	.64	.003	.00	.025	15.2	3.2 14.33
	--CYCLE	11	(GRAMS/MILE)--				.013	-00.02	.102	60.3	93.5 26.69
A	2.62	32	.00	210	10.12	1.62	.019	.00	.129	63.0	12.0 6.25
C	25.4	21	.00	148	9.20	.96	.014	.00	.105	66.3	13.9 9.59
D	-1.02	15	.00	106	8.54	.65	.004	.00	.027	22.4	5.1 13.14
	--CYCLE	12	(GRAMS/MILE)--				.005	-00.02	.035	20.2	31.0 21.93
I	660	14	.00	72	8.78	.54	.005	.00	.027	33.6	7.4 16.26
A	2.62	44	.00	206	10.03	1.72	.027	.00	.134	66.2	12.7 5.83
D	-1.01	17	.00	80	8.76	.64	.007	.00	.037	40.8	9.0 13.69
	--CYCLE	13	(GRAMS/MILE)--				.005	-00.02	.026	18.7	29.1 13.13
A	2.15	26	.00	161	10.04	1.30	.015	.00	.097	61.3	11.8 7.73
C	26.8	21	.00	147	9.15	1.04	.009	.00	.068	42.7	9.0 8.80
D	-1.04	15	.00	72	8.28	.54	.002	.00	.012	14.0	3.3 15.33
	--CYCLE	14	(GRAMS/MILE)--				.004	-00.02	.024	15.7	24.0 20.91
I	651	15	.00	71	8.75	.53	.003	.00	.014	17.2	3.8 16.51
A	3.70	33	.00	258	10.49	1.80	.010	.00	.085	35.1	6.5 5.83

HC	CO	NOX	CO2
.186	.73	.932	437.0

64-3

***** TEST VARIABLES *****

RELATIVE HUMIDITY	46
HUM. CORR. FACTOR	.944
CVS REVOLUTIONS	26640
AVG.INLET DEPR. (IN.H2Ø)	18.Ø
AVG.PRESSURE DIFF. (IN.H2O)	27.Ø
AVG.CVS TEMPERATURE (DEG.F)	9Ø
MAX.INLET DEPR. (IN.H2O)	18.8
MIN.INLET DEPR. (IN.H2O)	17.3
MAX.CVS TEMPERATURE (DEG.F)	96
MIN.CVS TEMPERATURE (DEG.F)	79
AVG.CVS FLOW (CU.FT/REV)	.239
TOTAL CVS VOL. (STD.CU.FT.)	5699
AVG MODAL CO2 RATIO	8.ØØ
FUEL ECONOMY (MI/GAL)	2Ø.23

```
D-1.04   40  .00 175 10.37  .75    .006    .00    .027   16.2    3.0 13.83
     --CYCLE 15 (GRAMS/MILE)--     .003 -00.02    .017    9.1   13.3  8.81

I  661   17  .00  73  8.81  .54    .002    .00    .009   10.6    2.3 16.02
A 2.13   21  .00 147  9.82 1.20    .010    .00    .076   51.7   10.2  8.18
C 21.6   19  .00 116  9.48  .87    .006    .00    .038   31.7    6.5 10.90
D-1.03   13  .00 102  9.07  .60    .002    .00    .016   14.1    3.0 15.12
     --CYCLE 16 (GRAMS/MILE)--     .003 -00.02    .019   14.4   21.9 16.24

I  654   15  .00  72  8.79  .54    .002    .00    .011   14.0    3.1 15.98
A 2.08   25  .00 172  9.85 1.22    .014    .00    .103   59.9   11.7  8.07
C 25.8   23  .00 172  9.45 1.08    .012    .00    .096   53.5   10.9  8.67
D-1.03   29  .00 120  9.14  .69    .005    .00    .021   16.4    3.5 13.25
     --CYCLE 17 (GRAMS/MILE)--     .005 -00.02    .031   19.2   29.2 18.08

I  658   18  .00  71  8.74  .53    .005    .00    .022   27.6    6.1 16.49
A 2.65   32  .00 170  9.91 1.53    .014    .00    .078   46.3    9.0  6.48
D-1.06   21  .00  79  9.07  .62    .005    .00    .018   21.5    4.6 14.63
I  653   16  .00  62  8.65  .52    .001    .00    .004    5.6    1.3 16.63
     --CYCLE 18 (GRAMS/MILE)--     .003 -00.02    .016   13.5   20.9 10.97
```

64-2

```
TEST STOP:  16:15:54
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     10  NOX= -0002 CO2D=    .00

SPAN CHECK
 FID=    99  COD=   1758  NOX=    198 CO2D=   4.15

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    36  COD=     38  NOX=     24 CO2D=   1.13

BACKGROUND BAG
 FID=    31  COD=      9  NOX=      0 CO2D=    .02

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       .222     .64    .248     274    69.1
ACCEL      .696    2.74   2.628    1205   220.9
DECEL      .101     .00    .465     397    85.5
CRUISE     .852     .78   3.378    1614   316.5
CHOKE      .968    3.19   1.312     547   112.1
TOTAL     1.871    4.16   6.720    3489   692.0

EQUIVALENT MASS BAG RESULTS
GMS/MI     .249     .55    .896   465.3



***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
```

OEM,
after 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
10-23-75   10:29
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 62
DRY BULB ? 73
BAROMETER? 29.18
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 4
VEH. MAKE? DODGE DART
VEH. I.D.? 5C-80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     4  COR=    .00 CO2R=    .00    NO=      8 CO2D=    .02

SPAN CHECK OUT OF LIMITS
 FID=    98  COR=   7.86 CO2R=  15.92    NO=    215*CO2D=    .02*

ZERO CHECK
 FID=     4  COR=    .00 CO2R=    .00    NO=      9 CO2D=    .02
```

SPAN CHECK
FID= 98 COR= 7.88 CO2R= 15.95 NO= 200 CO2D= 3.98 65-1

REPEAT Z/S CHECKS? N

TEST START : 10:51:20.0
CRANK TIME : 1.2

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	48	.00	0	.34	.00	.000	.00	.000	.0	.03	27.67
I 1227	511	2.77	58	7.78	.91	.240	8.74	.029	38.6	9.6	8.55
A 3.04	537	1.98	752	9.44	1.53	.194	4.81	.290	36.0	7.4	6.17
C 25.6	468	1.37	165	10.53	1.53	1.159	22.83	.436	275.8	50.6	6.88
D-1.09	340	.54	67	10.31	.62	.041	.45	.009	13.2	2.5	16.63
--CYCLE 1 (GRAMS/MILE)--						.454	10.23	.212	101.0	70.0	13.99
I 664	95	.02	97	9.37	.51	.039	.06	.043	41.2	8.5	18.39
A 2.14	166	.30	226	11.96	2.63	.307	3.73	.446	233.8	37.7	4.55
C 53.6	66	.05	229	11.32	3.08	.341	1.74	1.264	619.4	105.6	3.68
D-1.03	40	.00	93	8.90	.76	.023	.00	.056	53.0	11.5	11.71
--CYCLE 2 (GRAMS/MILE)--						.197	1.54	.502	263.1	163.3	18.15
I 695	28	.00	199	9.15	.49	.004	.00	.030	13.5	2.8	18.67
A 2.76	46	.00	367	10.72	2.07	.035	.00	.301	87.1	15.7	5.18
C 36.3	51	.00	292	10.34	1.87	.031	.00	.192	67.3	12.6	5.53
D-1.02	25	.00	124	9.54	.59	.004	.00	.023	17.7	3.6	16.17
--CYCLE 3 (GRAMS/MILE)--						.021	.00	.151	51.5	34.6	17.63
I 703	23	.00	186	8.99	.47	.001	.00	.011	5.0	1.1	19.13
A 3.37	42	.01	348	11.14	2.14	.021	.03	.188	59.7	10.3	5.21
D-1.02	24	.00	157	9.46	.74	.005	.00	.037	22.2	4.5	12.80
--CYCLE 4 (GRAMS/MILE)--						.008	.01	.065	24.1	15.9	14.38
I 692	21	.00	183	9.00	.48	.004	.00	.038	18.5	4.0	18.75
A 3.14	47	.02	345	11.55	2.42	.034	.10	.266	88.1	14.7	4.75
C 36.3	40	.00	158	9.31	1.34	.031	.00	.131	76.7	15.9	6.95
D-1.02	22	.00	138	8.23	.52	.004	.00	.026	15.3	3.6	15.83
--CYCLE 5 (GRAMS/MILE)--						.020	.03	.128	55.2	38.2	19.98
I 694	20	.00	160	8.90	.47	.001	.00	.009	5.0	1.1	18.94
A 2.34	32	.00	218	9.75	1.36	.017	.00	.123	54.5	10.8	7.17
C 25.9	30	.00	161	9.44	1.02	.009	.00	.052	30.1	6.2	9.25
D-1.15	17	.00	143	9.19	.54	.002	.00	.016	10.3	2.2	17.02
--CYCLE 6 (GRAMS/MILE)--						.007	.00	.051	25.6	20.2	18.52
I 687	20	.00	149	8.90	.46	.003	.00	.027	15.9	3.4	19.35
A 3.18	29	.00	238	10.08	1.36	.006	.00	.056	23.4	4.5	7.41
C 20.2	25	.02	177	9.65	.98	.018	.10	.137	73.8	14.8	9.85
D-1.14	42	.00	140	10.23	.67	.005	.00	.018	12.9	2.4	15.27
--CYCLE 7 (GRAMS/MILE)--						.008	.02	.061	32.3	25.1	17.79
I 685	20	.00	129	8.87	.47	.005	.00	.037	25.2	5.5	18.89
A 2.74	42	.00	225	10.09	1.59	.020	.00	.114	50.9	9.7	6.35
D-1.04	34	.00	122	9.26	.80	.012	.00	.045	34.0	7.1	11.58
--CYCLE 8 (GRAMS/MILE)--						.010	.00	.050	28.2	22.3	13.54
I 679	19	.00	115	8.82	.47	.003	.00	.017	12.9	2.8	18.77
A 2.09	32	.04	203	10.25	1.20	.016	.14	.111	55.8	10.5	8.54
D-1.05	19	.00	127	9.69	.57	.003	.00	.019	14.4	2.9	17.00
--CYCLE 9 (GRAMS/MILE)--						.006	.04	.038	21.3	16.2	14.25
A 2.60	51	.00	222	10.17	1.61	.029	.00	.135	61.4	11.6	6.32
D-1.01	24	.00	105	8.91	.65	.007	.00	.035	29.2	6.3	13.71
--CYCLE 10 (GRAMS/MILE)--						.009	.00	.044	23.2	18.0	18.60

A	2.70	39	.00	242	10.40	1.72	.022	.00	.147	62.8	11.7	6.05
C	27.7	24	.00	140	9.42	1.06	.089	.00	.551	367.8	75.4	8.89
D	-1.03	20	.00	129	9.49	.58	.003	.00	.019	13.7	2.8	16.36
	--CYCLE 11 (GRAMS/MILE)--						.029	.00	.184	113.9	89.8	27.13
A	2.60	35	.00	173	10.20	1.57	.020	.00	.104	60.9	11.5	6.50
C	25.4	22	.00	141	9.35	.95	.014	.00	.099	64.9	13.4	9.84
D	-1.05	16	.00	97	8.68	.53	.003	.00	.020	18.0	4.0	16.38
	--CYCLE 12 (GRAMS/MILE)--						.010	.00	.057	36.9	28.9	23.12
I	671	19	.00	91	8.84	.48	.006	.00	.031	29.6	6.5	18.42
A	2.62	59	.00	195	10.26	1.73	.036	.00	.126	65.8	12.4	5.93
D	-1.01	30	.00	84	8.89	.58	.012	.00	.035	36.7	8.0	15.33
	--CYCLE 13 (GRAMS/MILE)--						.014	.00	.049	33.9	26.8	13.95
A	2.15	26	.00	169	10.16	1.24	.014	.00	.098	58.3	11.1	8.19
C	26.9	28	.00	134	9.49	1.06	.012	.00	.062	43.3	8.8	8.95
D	-1.03	18	.00	65	8.43	.49	.003	.00	.010	12.6	2.9	17.20
	--CYCLE 14 (GRAMS/MILE)--						.007	.00	.043	29.3	22.8	21.58
I	665	17	.00	81	8.79	.47	.003	.00	.014	15.1	3.3	18.72
A	3.68	40	.02	240	10.81	1.83	.012	.04	.079	35.2	6.3	5.91
D	-1.04	32	.00	146	10.30	.69	.004	.00	.021	14.8	2.8	14.93
	--CYCLE 15 (GRAMS/MILE)--						.005	.01	.029	16.7	12.4	9.24
I	665	18	.00	88	8.90	.49	.002	.00	.009	9.5	2.1	18.16
A	2.12	25	.00	154	9.94	1.16	.012	.00	.077	49.5	9.6	8.57
C	21.7	23	.00	107	9.43	.84	.007	.00	.035	30.3	6.2	11.23
D	-1.03	15	.00	108	9.33	.58	.002	.00	.016	13.6	2.8	16.09
	--CYCLE 16 (GRAMS/MILE)--						.006	.00	.035	26.4	20.7	17.08
I	671	17	.00	81	8.86	.49	.002	.00	.011	12.4	2.7	18.08
A	2.09	30	.01	163	9.94	1.20	.017	.04	.096	58.3	11.3	8.28
C	25.7	27	.00	150	9.69	1.08	.014	.00	.083	53.1	10.6	8.89
D	-1.07	31	.00	110	9.44	.64	.005	.00	.018	15.1	3.1	14.75
	--CYCLE 17 (GRAMS/MILE)--						.010	.01	.053	35.6	27.7	18.70
I	657	20	.00	80	8.81	.47	.005	.00	.022	24.3	5.3	18.74
A	2.64	39	.00	157	9.95	1.47	.016	.00	.071	44.4	8.6	6.77
D	-1.02	23	.00	66	8.84	.55	.005	.00	.015	19.3	4.2	15.79
I	40	18	.00	63	7.85	.20	.001	.00	.002	3.1	.8	39.25
	--CYCLE 18 (GRAMS/MILE)--						.007	.00	.028	23.3	18.9	12.18

TEST STOP: 11:14:40
TEST LENGTH: 1370.3

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 2 NOX= 0 CO2D=-00.01

SPAN CHECK
FID= 99 COD= 1744 NOX= 191 CO2D= 4.03

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 64 COD= 617 NOX= 35 CO2D= 1.70

COLD STAB SAMP
FID= 42 COD= 13 NOX= 18 CO2D= .98

COLD TRAN AMB
FID= 41 COD= 10 NOX= 0 CO2D= .03

COLD STAB AMB
FID= 41 COD= 7 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

SOAK TIME : 599

TEST START : 11:24:12.3
CRANK TIME : 1.0

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	8	.00	21	2.53	.05	.000	.00	.000	.1	.1	50.60
I 540	778	.38	37	6.45	.37	.180	.59	.009	15.8	4.7	17.43
A 3.06	471	.03	203	9.84	1.66	.177	.08	.081	39.1	7.7	5.93
C 25.8	131	.03	161	9.79	1.29	.290	.45	.381	229.8	45.3	7.60
D-1.04	74	.00	81	9.28	.58	.009	.00	.011	12.3	2.5	16.00
--CYCLE 1 (GRAMS/MILE)--						.182	.31	.134	82.5	60.3	19.84
I 638	42	.00	59	8.42	.50	.019	.00	.029	40.9	9.4	16.84
A 2.15	68	.06	254	11.17	2.17	.114	.79	.452	197.3	34.1	5.12
C 53.6	64	.01	234	10.36	2.62	.310	.33	1.208	530.4	98.8	3.95
D-1.01	41	.00	69	8.16	.72	.024	.00	.044	51.0	12.1	11.33
--CYCLE 2 (GRAMS/MILE)--						.130	.31	.481	227.7	154.3	21.14
I 659	17	.00	106	8.89	.52	.003	.00	.017	14.5	3.2	17.10
A 2.77	36	.00	314	10.49	2.00	.028	.00	.259	85.8	15.8	5.25
C 36.4	36	.00	170	9.44	1.43	.019	.00	.094	51.9	10.6	6.60
D-1.05	27	.00	69	8.44	.57	.005	.00	.014	17.0	3.9	14.81
--CYCLE 3 (GRAMS/MILE)--						.015	.00	.107	47.0	33.4	19.34
I 666	16	.00	91	8.76	.53	.001	.00	.006	5.6	1.2	16.53
A 3.35	37	.06	349	11.12	2.06	.018	.20	.180	56.9	9.9	5.40
D-1.02	20	.00	157	9.69	.75	.004	.00	.036	22.2	4.4	12.92
--CYCLE 4 (GRAMS/MILE)--						.006	.05	.062	23.5	15.5	14.70
I 661	14	.00	101	8.86	.52	.003	.00	.023	20.0	4.3	17.04
A 3.15	46	.03	299	11.40	2.30	.032	.14	.222	83.8	14.2	4.96
C 36.1	26	.00	158	8.92	1.24	.020	.00	.128	71.9	15.6	7.19
D-1.02	28	.00	98	8.03	.57	.006	.00	.021	17.1	4.1	14.09
--CYCLE 5 (GRAMS/MILE)--						.017	.04	.109	53.5	38.2	20.59

TEST STOP: 11:33:
TEST LENGTH: 506.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 3 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= 98 COD= 1790 NOX= 196 CO2D= 4.06

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 48 COD= 47 NOX= 32 CO2D= 1.44

HOT TRAN AMB

FID= 40 COD= 5 NOX= 0 CO2D= .04

65-4

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.288	8.80	.150	117	25.9
ACCEL	.591	8.67	1.489	505	85.8
DECEL	.077	.45	.151	121	25.7
CRUISE	1.563	24.58	2.023	1039	184.6
CHOKE	1.980	40.62	1.252	639	116.2
TOTAL	2.520	42.49	3.813	1782	322.0

EQUIVALENT MASS BAG RESULTS

GMS/MI	.700	11.80	1.059	495.0	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.031	.00	.180	153	33.4
ACCEL	.238	.22	1.339	681	129.7
DECEL	.065	.00	.286	245	51.4
CRUISE	.163	.10	1.018	663	135.2
CHOKE	.000	.00	.000	0	.0
TOTAL	.497	.31	2.823	1742	349.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	.127	.08	.724	446.7	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.206	.59	.084	97	22.9
ACCEL	.368	1.20	1.195	463	81.6
DECEL	.049	.00	.126	120	27.0
CRUISE	.639	.77	1.812	884	170.2
CHOKE	.789	1.90	.964	535	103.7
TOTAL	1.261	2.56	3.217	1563	301.8

EQUIVALENT MASS BAG RESULTS

GMS/MI	.350	.71	.893	434.2	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.307	2.67	.839	453.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.804	10.99	1.056	500.7
COLD STABILIZED	.182	.19	.863	448.2
HOT TRANSIENT	.354	.78	.979	425.7
WEIGHTED TOTAL	.357	2.58	.934	452.9

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.537	13.483	9.185
RELATIVE HUMIDITY	54	54	54
HUM. CORR. FACTOR	.965	.965	.965

CVS REVOLUTIONS	9820	16860	9910
AVG.INLET DEPR. (IN.H20)	18.1	18.4	18.5
AVG.PRESSURE DIFF. (IN.H20)	26.9	27.2	27.3
AVG.CVS TEMPERATURE (DEG.F)	95	93	92
MAX.INLET DEPR. (IN.H20)	19.0	19.0	19.2
MIN.INLET DEPR. (IN.H20)	17.4	18.0	17.8
MAX.CVS TEMPERATURE (DEG.F)	101	101	98
MIN.CVS TEMPERATURE (DEG.F)	89	87	87
AVG.CVS FLOW (CU.FT/REV)	.239	.239	.239
TOTAL CVS VOL. (STD.CU.FT.)	2078	3578	2106
AVG MODAL CO2 RATIO	6.13	10.15	6.67
FUEL ECONOMY (MI/GAL)	17.05	19.75	20.73

65-5

Composite F/E 18.9 MPG

OEM,
after 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BRNCH #2
10-22-75    15:14
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? S
   63
DRY BULB ? S
   74
BAROMETER? S
 2915
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 4
VEH. MAKE? 75 DART
VEH. I.D.? 4C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP #4 AFTER 4000 MILE RUN

ZERO CHECK
 FID=     3  COR=    .00 CO2R=    .01    NO=      8 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=    97  COR=  7.71*CO2R= 15.60    NO=    194 CO2D=   4.06

ZERO CHECK
 FID=     3  COR=    .00 CO2R=    .01    NO=      9 CO2D=    .00

SPAN CHECK
 FID=    96  COR=   7.95 CO2R=  15.81    NO=    193 CO2D=   4.06

REPEAT Z/S CHECKS? N

TEST START :  15:45:29.3
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC--- CO2D  ------ MASS (GRAMS) ------    EXH.  D/R
 R/A/S   HC   CO  NO  CO2  CONC    HC     CO     NO    CO2     VOL.  F/E
```

CRANK	23	.00	1	.25	.03	.001	.00	.000	.1	.6	8.33
I 622	821	.59	56	5.96	.33	.185	.89	.014	14.2	4.6	18.06
A 3.05	611	.13	204	9.59	1.59	.226	.35	.082	37.5	7.6	6.03
C 25.8	182	.05	198	10.02	1.26	.390	.72	.460	227.3	43.8	7.95
D-1.04	82	.00	111	9.23	.61	.011	.00	.016	13.0	2.7	15.13
--CYCLE	1 (GRAMS/MILE)--					.108	.26	.076	38.9	59.2	20.06
									66-1		
I 662	50	.00	89	8.54	.52	.023	.00	.045	42.2	9.5	16.42
A 2.15	80	.05	272	11.50	2.28	.134	.56	.494	203.9	34.2	5.04
C 53.6	69	.00	233	10.51	2.64	.333	.00	1.216	535.9	98.4	3.98
D-1.01	42	.01	85	8.70	.75	.024	.04	.053	53.0	11.7	11.61
--CYCLE	2 (GRAMS/MILE)--					.069	.08	.241	111.3	153.9	20.76
I 672	22	.00	126	9.08	.54	.003	.00	.021	15.0	3.2	16.81
A 2.77	39	.00	308	10.68	2.01	.030	.00	.253	85.7	15.5	5.31
C 36.5	38	.00	162	9.64	1.52	.020	.00	.094	54.9	11.0	6.34
D-1.02	20	.00	83	8.56	.58	.004	.00	.017	17.1	3.9	14.76
--CYCLE	3 (GRAMS/MILE)--					.008	-00.02	.051	23.0	33.5	18.93
I 673	18	.00	110	8.94	.52	.001	.00	.007	5.5	1.2	17.19
A 3.39	40	.00	325	11.17	2.11	.020	.00	.175	58.6	10.1	5.29
D-1.05	21	.00	153	9.52	.71	.004	.00	.035	21.3	4.3	13.41
--CYCLE	4 (GRAMS/MILE)--					.003	-00.02	.029	11.4	15.6	14.63
I 666	17	.00	121	9.00	.53	.004	.00	.028	20.6	4.4	16.98
A 3.16	44	.01	334	11.43	2.34	.031	.05	.256	85.7	14.5	4.88
C 36.2	25	.00	186	9.10	1.23	.018	.00	.149	71.2	15.1	7.40
D-1.05	19	.00	132	8.17	.57	.004	.00	.028	17.1	4.0	14.33
--CYCLE	5 (GRAMS/MILE)--					.008	.01	.062	25.9	38.0	20.41
I 671	16	.00	115	8.91	.53	.001	.00	.007	5.7	1.2	16.81
A 2.34	29	.00	211	9.77	1.35	.015	.00	.121	54.6	10.8	7.24
C 25.9	26	.00	181	9.37	.98	.008	.00	.058	29.2	6.0	9.56
D-1.16	20	.00	110	8.79	.61	.003	.00	.015	11.7	2.6	14.43
--CYCLE	6 (GRAMS/MILE)--					.004	-00.02	.027	13.5	20.6	18.31
I 674	16	.00	105	8.94	.54	.003	.00	.022	18.3	3.9	16.56
A 3.18	23	.00	218	10.15	1.49	.005	.00	.056	25.3	4.8	6.81
C 20.1	19	.00	184	9.40	.93	.013	.00	.139	69.5	14.3	10.11
D-1.18	24	.00	123	10.24	.73	.003	.00	.017	14.1	2.7	14.03
--CYCLE	7 (GRAMS/MILE)--					.003	-00.02	.031	17.0	25.7	17.63
I 672	16	.00	95	8.92	.53	.005	.00	.031	28.6	6.2	16.83
A 2.75	37	.00	206	10.03	1.61	.018	.00	.109	52.1	10.0	6.23
D-1.04	23	.00	118	9.16	.81	.008	.00	.046	34.8	7.3	11.31
--CYCLE	8 (GRAMS/MILE)--					.004	-00.02	.025	15.4	23.5	12.90
I 662	16	.00	90	8.89	.53	.003	.00	.015	14.8	3.2	16.77
A 2.09	25	.01	183	10.30	1.28	.014	.04	.110	60.3	11.3	8.05
D-1.16	16	.00	98	9.61	.65	.003	.00	.017	16.6	3.3	14.78
--CYCLE	9 (GRAMS/MILE)--					.003	.00	.019	12.2	17.8	12.95
A 2.62	33	.00	217	10.11	1.69	.020	.00	.142	64.6	12.3	5.98
D-1.01	19	.00	98	8.61	.68	.006	.00	.035	30.3	6.8	12.66
--CYCLE	10 (GRAMS/MILE)--					.004	-00.02	.024	12.6	19.1	17.75
A 2.71	30	.00	240	10.40	1.70	.017	.00	.145	61.2	11.4	6.12
C 27.7	19	.00	148	9.31	1.05	.071	.00	.596	366.1	75.9	8.87
D-1.03	15	.00	127	9.62	.63	.002	.00	.020	14.8	3.0	15.27
--CYCLE	11 (GRAMS/MILE)--					.012	-00.02	.101	58.9	90.2	27.29
A 2.63	33	.00	209	10.18	1.61	.019	.00	.131	62.2	11.8	6.32
C 25.4	20	.00	154	9.28	.91	.013	.00	.107	62.7	13.0	10.20
D-1.02	14	.00	108	8.52	.57	.003	.00	.025	19.6	4.4	14.95
--CYCLE	12 (GRAMS/MILE)--					.005	-00.02	.035	19.3	29.3	23.01

I	661	16	.00	89	8.87	.53	.006	.00	.034	33.1	7.2	16.74
A	2.62	44	.00	208	10.08	1.67	.027	.00	.136	64.3	12.3	6.04
D-	1.04	17	.00	71	8.86	.62	.007	.00	.033	39.7	8.6	14.29
	--CYCLE 13 (GRAMS/MILE)--						.005	-00.02	.027	18.3	28.1	13.46
A	2.15	25	.00	166	9.96	1.30	.014	.00	.103	60.7	11.7	7.67
C	27.0	21	.00	143	9.37	1.08	.009	.00	.068	43.3	8.9	8.69
D-	1.03	12	.00	74	8.48	.54	.002	.00	.012	13.9	3.2	15.70
	--CYCLE 14 (GRAMS/MILE)--						.003	-00.02	.024	15.7	23.8	20.92
I	654	14	.00	80	8.82	.52	.003	.00	.016	16.8	3.7	16.96
A	3.70	32	.00	260	10.68	1.81	.010	.00	.088	35.3	6.4	5.90
D-	1.04	34	.00	194	10.53	.75	.005	.00	.030	16.2	3.0	14.04
	--CYCLE 15 (GRAMS/MILE)--						.002	-00.02	.018	9.1	13.0	8.84
I	655	15	.00	86	8.90	.53	.002	.00	.010	10.3	2.2	16.79
A	2.11	21	.00	169	10.06	1.17	.010	.00	.087	50.5	9.7	8.60
C	21.5	14	.00	121	9.27	.87	.005	.00	.043	31.8	6.6	10.66
D-	1.03	12	.00	105	9.01	.57	.002	.00	.016	13.4	2.9	15.81
	--CYCLE 16 (GRAMS/MILE)--						.002	-00.02	.021	14.1	21.4	16.57
I	654	14	.00	79	8.86	.53	.002	.00	.012	13.7	3.0	16.72
A	2.08	25	.00	171	9.89	1.23	.014	.00	.107	60.5	11.8	8.04
C	25.8	19	.00	156	9.43	1.08	.010	.00	.089	52.9	10.8	8.73
D-	1.03	26	.00	144	9.53	.66	.004	.00	.024	15.4	3.1	14.44
	--CYCLE 17 (GRAMS/MILE)--						.004	-00.02	.031	19.0	28.7	18.25
I	660	15	.00	81	8.25	.53	.005	.00	.027	26.9	6.3	15.57
A	2.65	42	.00	169	10.10	1.51	.018	.00	.077	44.8	8.6	6.69
D-	1.07	20	.00	75	9.04	.60	.004	.00	.017	20.6	4.4	15.08
I	656	15	.00	70	8.77	.52	.001	.00	.005	5.6	1.2	16.87
	--CYCLE 18 (GRAMS/MILE)--						.004	-00.02	.017	13.1	20.5	11.32

TEST STOP: 16: 8:49
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 4 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 98 COD= 1984* NOX= 203 CO2D= 4.05

ZERO CHECK
FID= 2 COD= 5 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 99 COD= 1975* NOX= 202 CO2D= 4.10

ZERO CHECK
FID= 2 COD= 3 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 99 COD= 1955* NOX= 204 CO2D= 4.10

ZERO CHECK
FID= 2 COD= 3 NOX= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 99 COD= 1847* NOX= 205 CO2D= 4.10

ZERO CHECK

66-3

```
 FID=     2  COD=     2  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=    99  COD=  1696* NOX=   201 CO2D=  4.10

ZERO CHECK
 FID=     2  COD=     1  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=    99  COD=  1757  NOX=   202 CO2D=  4.10

REPEAT Z/S CHECKS? N

SAMPLE  BAG
 FID=    56  COD=    34  NOX=    24 CO2D=  1.17

BACKGROUND BAG
 FID=    54  COD=     9  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   EXVOL
IDLE       .246     .89    .295     271    61.7
ACCEL      .642    1.00   2.669    1168   214.8
DECEL      .099     .04    .458     383    81.9
CRUISE     .890     .72   3.017    1545   303.9
CHOKE      .970    2.53   1.110     538   103.0
TOTAL     1.877    2.65   6.439    3366   662.2

EQUIVALENT MASS BAG RESULTS
GMS/MI     .250     .35    .859   448.8



***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)
                    HC       CO       NOX      CO2
                   .074      .62      .962    446.5


***** TEST VARIABLES *****

RELATIVE HUMIDITY                    55
HUM. CORR. FACTOR                   .979
CVS REVOLUTIONS                   26640
AVG.INLET DEPR. (IN.H20)           18.3
AVG.PRESSURE DIFF. (IN.H2O)        27.1
AVG.CVS TEMPERATURE (DEG.F)        91
MAX.INLET DEPR. (IN.H2O)           19.0
MIN.INLET DEPR. (IN.H2O)           17.4
MAX.CVS TEMPERATURE (DEG.F)        98
MIN.CVS TEMPERATURE (DEG.F)        85
AVG.CVS FLOW (CU.FT/REV)            .239
TOTAL CVS VOL. (STD.CU.FT.)       5670
AVG MODAL CO2 RATIO                8.30
FUEL ECONOMY (MI/GAL)             19.81
```

(67)

OEM,
after 4000 mi. durability.

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
10-21-75 13:39
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 61
DRY BULB ? 72
BAROMETER? 2903
INERT WT.? 3500
TRANS. ? 0
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS ?
REMARKS ?
REMARKS ? #3 EVAP TEST AFTER CHRY. 4000 MILE DRIVE

ZERO CHECK
FID= 2 COR= .00 CO2R= .01 NO= 8 CO2D= .00

SPAN CHECK
FID= 98 COR= 7.91 CO2R= 15.93 NO= 192 CO2D= 4.06

REPEAT Z/S CHECKS? N

TEST START : 13:55: 5.6
CRANK TIME : 2.7

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	29	.00	0	.20	.03	.003	.00	.000	.2	2.0	6.67
I 733	807	.55	30	5.78	.32	.197	.92	.008	15.0	5.0	18.06
A 3.04	732	.69	184	9.77	1.60	.294	1.86	.078	41.5	8.2	6.11
C 25.8	175	.05	185	9.89	1.26	.415	.80	.463	248.1	48.4	7.85
D-1.04	85	.01	122	9.93	.61	.012	.01	.017	14.3	2.8	16.28
--CYCLE 1 (GRAMS/MILE)--						.123	.48	.075	42.5	66.4	18.23
I 660	48	.00	85	8.66	.51	.024	.00	.044	45.4	10.1	16.98
A 2.12	86	.11	261	11.57	2.19	.152	1.31	.487	216.3	36.1	5.26

C	53.5	59	.01	244	10.84	2.71	.306	.35	1.335	594.8	105.9	4.00
D	1.01	34	.01	75	8.42	.69	.020	.04	.047	52.6	12.0	12.20
--CYCLE 2 (GRAMS/MILE)--							.067	.23	.255	121.2	164.1	19.03
											67-1	
I	678	22	.01	128	9.15	.53	.004	.01	.022	16.0	3.4	17.26
A	2.79	41	.01	314	10.87	2.05	.034	.06	.274	95.1	16.9	5.30
C	36.6	36	.01	185	9.83	1.48	.020	.04	.109	58.1	11.4	6.64
D	1.02	21	.00	82	8.69	.55	.004	.00	.017	18.1	4.0	15.52
--CYCLE 3 (GRAMS/MILE)--							.008	.01	.056	25.0	35.7	17.46
I	682	19	.00	124	9.07	.53	.001	.00	.008	6.1	1.3	17.11
A	3.38	42	.03	297	11.45	2.15	.022	.11	.167	64.6	10.9	5.33
D	1.04	18	.00	138	9.58	.72	.004	.00	.033	23.3	4.7	13.31
--CYCLE 4 (GRAMS/MILE)--							.004	.01	.028	12.5	16.9	13.28
I	676	17	.00	126	9.12	.53	.004	.00	.030	22.0	4.7	17.21
A	3.17	44	.02	315	11.71	2.42	.034	.10	.255	95.0	15.7	4.84
C	36.3	22	.00	183	9.00	1.23	.018	.00	.155	76.3	16.4	7.32
D	1.02	16	.00	138	8.42	.55	.003	.00	.030	18.1	4.1	15.04
--CYCLE 5 (GRAMS/MILE)--							.008	.01	.063	28.2	40.8	18.77
I	682	16	.00	114	9.00	.52	.001	.00	.008	6.0	1.3	17.31
A	2.33	26	.00	197	9.87	1.38	.015	.00	.120	60.3	11.8	7.15
C	25.8	24	.01	156	9.56	1.02	.008	.02	.053	32.8	6.6	9.37
D	1.05	15	.01	121	9.04	.60	.002	.01	.016	12.4	2.6	15.07
--CYCLE 6 (GRAMS/MILE)--							.003	.00	.026	14.9	22.3	16.61
I	669	16	.01	109	8.98	.53	.003	.01	.024	19.5	4.2	16.94
A	3.21	23	.01	230	8.23	1.54	.007	.02	.079	28.3	6.6	5.34
C	20.3	17	.01	179	9.32	.98	.014	.05	.151	78.9	16.3	9.51
D	1.04	39	.23	146	10.82	.66	.005	.18	.018	13.7	2.4	16.39
--CYCLE 7 (GRAMS/MILE)--							.004	.04	.036	18.7	29.6	15.94
I	667	16	.00	106	9.06	.53	.005	.00	.036	30.5	6.5	17.09
A	2.76	32	.00	211	10.20	1.65	.017	.00	.117	56.9	10.8	6.19
D	1.02	18	.00	127	9.08	.77	.007	.00	.049	35.3	7.5	11.79
--CYCLE 8 (GRAMS/MILE)--							.004	-00.02	.027	16.4	24.8	12.15
I	669	15	.00	99	8.98	.53	.003	.00	.017	15.9	3.4	16.94
A	2.10	27	.02	184	10.42	1.28	.016	.08	.114	64.7	12.0	8.14
D	1.10	22	.01	101	9.74	.61	.004	.01	.017	16.8	3.3	15.97
--CYCLE 9 (GRAMS/MILE)--							.003	.01	.020	13.0	18.7	12.18
A	2.64	33	.00	227	10.21	1.72	.022	.00	.157	71.0	13.4	5.94
D	1.01	16	.00	105	9.11	.69	.006	.00	.038	33.2	7.0	13.20
--CYCLE 10 (GRAMS/MILE)--							.004	-00.02	.026	13.9	20.4	16.16
A	2.75	30	.00	249	10.50	1.80	.019	.00	.166	70.2	12.9	5.83
C	27.8	18	.00	157	9.35	1.07	.072	.00	.667	398.2	82.2	8.74
D	1.03	16	.00	164	9.25	.63	.003	.00	.028	15.9	3.3	14.68
--CYCLE 11 (GRAMS/MILE)--							.013	-00.02	.115	64.6	98.4	24.90
A	2.64	27	.00	207	10.21	1.64	.017	.00	.136	67.4	12.7	6.23
C	25.4	19	.00	134	9.27	.93	.013	.00	.098	67.8	14.1	9.97
D	1.02	15	.00	108	8.59	.57	.003	.00	.026	20.8	4.7	15.07
--CYCLE 12 (GRAMS/MILE)--							.004	-00.02	.035	20.8	31.5	21.31
I	663	15	.00	94	8.16	.53	.006	.00	.040	35.1	8.3	15.40
A	2.60	31	.00	214	10.25	1.67	.020	.00	.143	68.6	12.9	6.14
D	1.01	19	.00	82	9.04	.65	.009	.00	.040	44.5	9.5	13.91
--CYCLE 13 (GRAMS/MILE)--							.005	-00.02	.030	19.8	30.7	12.44
A	2.15	29	.03	178	10.42	1.32	.017	.12	.113	66.2	12.3	7.89
C	26.9	15	.00	131	9.36	1.08	.007	.00	.065	46.9	9.7	8.67
D	1.03	13	.00	70	8.62	.54	.002	.00	.012	15.1	3.4	15.69
--CYCLE 14 (GRAMS/MILE)--							.004	.02	.025	17.1	25.3	19.21

I	659	14	.00	86	8.86	.53	.003	.00	.018	18.1	3.9	16.72
A	3.60	33	.01	266	10.85	1.88	.011	.02	.095	38.7	6.9	5.77
D	-1.04	40	.08	192	10.59	.68	.006	.07	.028	15.5	2.8	15.57
	--CYCLE 15 (GRAMS/MILE)--						.003	.01	.019	9.6	13.7	8.32
I	661	15	.00	93	8.95	.54	.002	.00	.011	11.0	2.4	16.59
A	2.13	26	.02	170	10.34	1.18	.013	.07	.088	53.9	10.1	8.76
C	21.5	14	.00	146	9.62	.83	.004	.00	.049	32.2	6.5	11.59
D	-1.03	12	.00	106	9.24	.59	.002	.00	.017	14.8	3.1	15.66
	--CYCLE 16 (GRAMS/MILE)--						.003	.01	.022	14.9	22.0	15.67
I	665	14	.00	86	8.94	.53	.002	.00	.014	14.5	3.1	16.87
A	2.09	23	.00	163	10.00	1.23	.014	.00	.105	64.6	12.5	8.13
C	25.7	18	.00	157	9.56	1.07	.010	.00	.092	56.1	11.3	8.93
D	-1.03	24	.00	103	9.43	.69	.004	.00	.019	17.3	3.5	13.67
	--CYCLE 17 (GRAMS/MILE)--						.004	-00.02	.031	20.3	30.5	17.04
I	660	15	.00	85	8.87	.53	.005	.00	.028	29.1	6.3	16.75
A	2.63	31	.00	166	10.01	1.51	.014	.00	.080	48.2	9.3	6.63
D	-1.02	16	.00	78	9.04	.61	.004	.00	.019	22.3	4.8	14.82
I	671	14	.00	75	8.79	.53	.001	.00	.005	6.1	1.3	16.60
	--CYCLE 18 (GRAMS/MILE)--						.003	-00.02	.018	14.1	21.7	10.49

TEST STOP: 14:18:25
TEST LENGTH: 1374.7

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 2 NOX= 0 CO2D= .00

SPAN CHECK
FID= 99 COD= 1758 NOX= 199 CO2D= 4.01

REPEAT Z/S CHECKS? N

SAMPLE BAG
FID= 22 COD= 42 NOX= 24 CO2D= 1.20

BACKGROUND BAG
FID= 15 COD= 12 NOX= 1 CO2D= .04

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.263	.95	.313	290	67.2
ACCEL	.738	3.75	2.773	1272	231.8
DECEL	.098	.33	.473	404	85.7
CRUISE	.888	1.26	3.237	1690	328.8
CHOKE	1.097	4.90	1.097	581	112.6
TOTAL	1.986	6.29	6.797	3656	713.6

EQUIVALENT MASS BAG RESULTS

GMS/MI	.265	.84	.906	487.5

67-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.279	.81	.968	489.8

***** TEST VARIABLES *****

RELATIVE HUMIDITY	54
HUM. CORR. FACTOR	.954
CVS REVOLUTIONS	26660
AVG.INLET DEPR. (IN.H2Ø)	16.Ø
AVG.PRESSURE DIFF. (IN.H2O)	25.8
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H2O)	16.3
MIN.INLET DEPR. (IN.H2O)	15.8
MAX.CVS TEMPERATURE (DEG.F)	97
MIN.CVS TEMPERATURE (DEG.F)	78
AVG.CVS FLOW (CU.FT/REV)	.257
TOTAL CVS VOL. (STD.CU.FT.)	6112
AVG MODAL CO2 RATIO	8.29
FUEL ECONOMY (MI/GAL)	18.04

OEM,
after 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #2
10-14-75    10:23
CONSOLE SWS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 61
DRY BULB ? 73
BAROMETER? 2921
INERT WT.? 3500
TRANS.   ? 0
CYLINDERS? 6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
```

REMARKS ?
REMARKS ? #2- EVAP AFTER 4000 MILE RUN

68-1

ZERO CHECK
FID= 3 COR= .00 CO2R= .00 NO= 0 CO2D= .00

SPAN CHECK
FID= 98 COR= 7.99 CO2R= 15.88 NO= 206 CO2D= 4.11

REPEAT Z/S CHECKS? N

TEST START : 10:27:27.0
CRANK TIME : 1.2

MODE R/A/S	---TAILPIPE CONC--- HC	CO	NO	CO2	CO2D CONC	------ MASS (GRAMS) ------ HC	CO	NO	CO2	EXH. VOL.	D/R F/E
CRANK	5	.00	0	.06	.02	.001	.00	.000	.1	2.1	3.00
I 728	468	2.23	90	7.87	.85	.226	7.25	.045	40.2	9.9	9.26
A 3.11	814	1.86	745	9.35	1.51	.326	5.01	.312	39.6	8.2	6.19
C 25.5	528	1.40	164	10.40	1.52	1.454	25.94	.472	302.8	56.2	6.84
D-1.04	220	.52	102	10.81	.65	.030	.47	.014	15.4	2.7	16.63
--CYCLE 1 (GRAMS/MILE)--						.566	10.74	.234	110.6	79.1	12.83
I 650	86	.00	94	9.08	.52	.042	.00	.048	46.8	10.0	17.46
A 2.12	126	.16	240	11.86	2.36	.235	2.01	.467	233.6	38.0	5.03
C 53.4	67	.00	240	10.83	2.92	.375	.00	1.403	641.0	114.2	3.71
D-1.01	36	.00	72	8.28	.74	.023	.00	.049	56.6	13.2	11.19
--CYCLE 2 (GRAMS/MILE)--						.187	.56	.546	271.7	175.4	17.70
I 677	22	.00	167	8.70	.51	.004	.00	.029	15.4	3.4	17.08
A 2.77	44	.00	312	10.78	2.08	.037	.00	.276	96.5	17.3	5.18
C 36.3	47	.00	228	10.17	1.88	.032	.00	.163	73.6	14.0	5.41
D-1.02	25	.00	104	7.72	.61	.006	.00	.026	19.8	4.9	12.66
--CYCLE 3 (GRAMS/MILE)--						.022	.00	.137	57.0	39.6	15.93
I 682	18	.00	157	8.64	.50	.001	.00	.010	5.8	1.3	17.28
A 3.39	41	.00	316	11.27	2.23	.023	.00	.185	67.0	11.5	5.05
D-1.02	21	.00	116	9.41	.75	.005	.00	.030	24.2	5.0	12.55
--CYCLE 4 (GRAMS/MILE)--						.008	.00	.063	26.9	17.7	12.89
I 672	16	.00	131	8.65	.51	.004	.00	.032	21.2	4.7	16.96
A 3.12	40	.00	324	11.24	2.35	.031	.00	.263	92.3	15.8	4.78
C 36.3	32	.00	157	9.04	1.42	.029	.00	.151	87.9	18.8	6.37
D-1.02	16	.00	107	8.10	.55	.003	.00	.024	18.1	4.3	14.46
--CYCLE 5 (GRAMS/MILE)--						.019	.00	.130	61.0	43.7	18.10
I 671	15	.00	134	8.48	.50	.001	.00	.009	5.8	1.3	16.96
A 2.30	26	.00	185	9.58	1.39	.016	.00	.116	60.8	12.3	6.89
C 25.9	32	.00	130	9.34	1.16	.012	.00	.051	37.2	7.7	8.05
D-1.12	15	.00	126	8.17	.57	.002	.00	.018	11.8	2.8	14.33
--CYCLE 6 (GRAMS/MILE)--						.008	.00	.050	29.6	24.0	16.03
I 670	14	.00	121	8.49	.50	.003	.00	.026	18.4	4.2	16.98
A 3.20	21	.00	247	10.03	1.40	.005	.00	.063	25.8	5.0	7.16
C 20.1	20	.00	156	9.26	1.02	.017	.00	.137	82.2	17.1	9.08
D-1.04	25	.00	114	9.96	.74	.004	.00	.017	15.4	3.0	13.47
--CYCLE 7 (GRAMS/MILE)--						.007	.00	.062	36.3	29.2	15.84
I 661	13	.00	111	8.52	.51	.004	.00	.038	29.4	6.7	16.71
A 2.74	29	.00	191	9.87	1.61	.015	.00	.106	55.7	10.9	6.13
D-1.02	21	.00	107	8.79	.88	.009	.00	.049	40.5	8.9	9.99
--CYCLE 8 (GRAMS/MILE)--						.007	.00	.049	32.2	26.4	11.86
I 657	12	.00	100	7.50	.50	.002	-00.29	.020	15.0	3.9	15.00
A 2.10	20	.00	184	9.89	1.24	.012	.00	.116	62.9	12.3	7.98

```
D-1.03   15  .00 132  9.70  .64    .003    .00    .024   17.7    3.5 15.17
     --CYCLE  9 (GRAMS/MILE)--     .004 -00.07    .041   24.5   19.7 12.48

                                                          68-2
A 2.57   30  .00 207  9.92 1.62    .019    .00    .138   67.2   13.1  6.12
D-1.01   17  .00  85  8.75  .76    .007    .00    .035   36.8    8.1 11.51
     --CYCLE 10 (GRAMS/MILE)--     .007    .00    .045   26.7   21.2 16.20

A 2.71   25  .00 234 10.21 1.72    .016    .00    .152   67.1   12.7  5.94
C 27.6   19  .00 122  9.25 1.09    .081    .00    .544  417.8   87.2  8.41
D-1.03   16  .00 124  9.66  .67    .003    .00    .022   17.2    3.4 14.42
     --CYCLE 11 (GRAMS/MILE)--     .025    .00    .184  128.7  103.3 24.01

A 2.61   24  .00 206  9.87 1.55    .015    .00    .134   65.2   12.7  6.37
C 25.1   14  .00 127  9.06  .99    .011    .00    .102   73.8   15.7  9.15
D-1.02   11  .00  83  8.16  .54    .003    .00    .020   20.2    4.8 15.11
     --CYCLE 12 (GRAMS/MILE)--     .007    .00    .066   40.8   33.2 20.89

I  649   10  .00  77  7.87  .49    .004    .00    .032   33.1    8.1 16.06
A 2.55   31  .00 183  9.87 1.63    .020    .00    .126   68.6   13.4  6.06
D-1.01   12  .00  79  8.62  .61    .006    .00    .039   42.6    9.5 14.15
     --CYCLE 13 (GRAMS/MILE)--     .008    .00    .050   37.0   31.1 12.77

A 2.15   19  .00 153  9.70 1.25    .012    .00    .100   64.1   12.7  7.77
C 26.7   14  .00 116  9.08 1.07    .007    .00    .060   47.2   10.0  8.49
D-1.03   16  .00  60  7.95  .49    .003    .00    .010   13.7    3.3 16.22
     --CYCLE 14 (GRAMS/MILE)--     .005    .00    .043   32.0   26.1 19.73

I  641   11  .00  73  8.40  .49    .002    .00    .015   17.1    3.9 17.14
A 3.63   22  .00 233 10.25 1.68    .007    .00    .079   35.3    6.6  6.10
D-1.04   22  .00 171 10.09  .73    .003    .00    .028   16.9    3.2 13.82
     --CYCLE 15 (GRAMS/MILE)--     .003    .00    .031   17.8   13.8  8.70

I  646   10  .00  77  8.48  .50    .001    .00    .009   10.5    2.4 16.96
A 2.13   17  .00 135  9.70 1.16    .009    .00    .074   54.1   10.7  8.37
C 21.5   14  .01 115  9.52  .90    .005    .02    .042   35.6    7.2 10.58
D-1.03   10  .00  85  8.95  .57    .002    .00    .014   14.6    3.1 15.70
     --CYCLE 16 (GRAMS/MILE)--     .004    .01    .036   29.4   23.5 15.31

I  641   10  .00  68  8.42  .49    .002    .00    .011   13.7    3.1 17.18
A 2.08   17  .00 150  9.67 1.20    .011    .00    .098   64.3   12.8  8.06
C 25.5   17  .00 120  9.34 1.07    .010    .00    .073   57.3   11.8  8.73
D-1.03   20  .00  81  9.78  .73    .004    .00    .015   18.6    3.7 13.40
     --CYCLE 17 (GRAMS/MILE)--     .007    .00    .051   39.5   31.5 16.87

I  637   10  .00  71  7.81  .49    .003    .00    .025   27.4    6.8 15.94
A 2.61   24  .00 152  9.77 1.44    .011    .00    .072   46.8    9.2  6.78
D-1.02   12  .00  66  8.48  .59    .003    .00    .017   21.9    5.0 14.37
I   33    9  .00  57  7.38  .26    .001    .00    .003    4.5    1.2 28.38
     --CYCLE 18 (GRAMS/MILE)--     .005    .00    .030   25.8   22.2 11.02


TEST STOP:  10:50:47
TEST LENGTH: 1370.6


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     2  COD=     13  NOX= -0003 CO2D=    .00

SPAN CHECK OUT OF LIMITS
 FID=    99  COD=  1864* NOX=   202 CO2D=   4.02

ZERO CHECK
 FID=     1  COD=      0  NOX= -0002 CO2D=    .00
```

68-3

SPAN CHECK
FID= 100 COD= 1772 NOX= 200 CO2D= 4.04

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
FID= 29 COD= 494 NOX= 35 CO2D= 1.66

COLD STAB SAMP
FID= 9 COD= 8 NOX= 16 CO2D= 1.04

COLD TRAN AMB
FID= 7 COD= 6 NOX= 0 CO2D= .04

COLD STAB AMB
FID= 6 COD= 5 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

SOAK TIME : 600

TEST START : 11: 0:21.8
CRANK TIME : 2.3

MODE	---TAILPIPE CONC---				CO2D	------ MASS (GRAMS) ------				EXH.	D/R
R/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	3	.00	29	2.33	.10	.000	.00	.001	.6	.5	23.30
I 543	588	.20	22	7.23	.41	.247	.57	.010	32.1	8.6	17.63
A 3.05	192	.00	177	9.68	1.61	.078	.00	.075	41.5	8.3	6.01
C 25.6	96	.02	147	9.68	1.27	.235	.33	.376	250.5	50.0	7.62
D-1.04	60	.00	96	9.67	.60	.008	.00	.014	14.1	2.8	16.12
--CYCLE 1 (GRAMS/MILE)--						.158	.25	.132	94.1	70.1	17.46
I 610	30	.00	48	8.20	.49	.015	.00	.025	43.8	10.3	16.76
A 2.13	57	.02	259	11.19	2.21	.105	.25	.500	218.9	37.8	5.04
C 53.5	51	.00	231	10.20	2.58	.268	.00	1.267	567.0	107.2	3.96
D-1.01	42	.00	52	7.79	.67	.026	.00	.034	51.1	12.6	11.63
--CYCLE 2 (GRAMS/MILE)--						.115	.07	.507	244.6	167.9	19.70
I 634	14	.00	83	8.40	.50	.002	.00	.015	15.1	3.5	16.80
A 2.73	31	.02	283	9.39	1.94	.028	.12	.268	89.9	18.5	4.84
C 36.6	28	.00	167	9.45	1.59	.017	.00	.109	62.5	12.8	5.94
D-1.02	29	.00	66	8.25	.54	.006	.00	.014	17.5	4.1	15.28
--CYCLE 3 (GRAMS/MILE)--						.015	.03	.113	51.4	38.8	17.67
I 642	14	.00	79	8.45	.50	.001	.00	.005	5.8	1.3	16.92
A 3.40	50	.11	289	10.73	2.08	.028	.41	.166	62.5	11.2	5.16
D-1.33	19	.00	159	9.89	.85	.005	.00	.044	27.5	5.4	11.64
--CYCLE 4 (GRAMS/MILE)--						.009	.11	.060	26.6	17.9	12.97
I 638	10	.00	79	8.49	.51	.002	.00	.020	21.2	4.8	16.65
A 3.13	31	.00	320	10.98	2.33	.024	.00	.263	91.5	16.1	4.71
C 36.1	20	.00	111	8.67	1.24	.017	.00	.097	77.1	17.2	6.99
D-1.02	18	.00	82	7.99	.58	.004	.00	.019	18.6	4.5	13.78
--CYCLE 5 (GRAMS/MILE)--						.013	.00	.111	57.9	42.6	19.06

TEST STOP: 11: 9:23
TEST LENGTH: 520.8

***** MASS BAG RESULTS *****

68-4

ZERO CHECK
FID= 2 COD= 2 NOX= -0002 CO2D= .00

SPAN CHECK
FID= 99 COD= 1742 NOX= 202 CO2D= 4.00

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 15 COD= 43 NOX= 29 CO2D= 1.42

HOT TRAN AMB
FID= 5 COD= 3 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.277	7.25	.165	130	31.4
ACCEL	.652	7.02	1.503	529	90.8
DECEL	.067	.47	.142	134	30.1
CRUISE	1.890	25.94	2.189	1105	203.2
CHOKE	2.313	40.68	1.358	678	127.1
TOTAL	2.887	40.68	3.998	1898	355.5

EQUIVALENT MASS BAG RESULTS

GMS/MI	.802	11.30	1.111	527.2	

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.023	-00.29	.188	175	41.5
ACCEL	.168	.00	1.375	738	144.5
DECEL	.049	.00	.308	288	62.4
CRUISE	.142	.02	1.009	751	156.8
CHOKE	.000	.00	.000	0	.0
TOTAL	.383	-00.26	2.879	1952	405.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	.098	-00.06	.738	500.5	

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.268	.57	.075	119	29.0
ACCEL	.263	.78	1.273	504	91.8
DECEL	.049	.00	.124	129	29.4
CRUISE	.537	.33	1.849	957	187.0
CHOKE	.689	1.14	1.001	601	118.2
TOTAL	1.117	1.67	3.321	1709	337.3

EQUIVALENT MASS BAG RESULTS

GMS/MI	.310	.46	.923	474.6	

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.301	2.42	.866	498.9

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.710	9.71	1.134	533.3

COLD STABILIZED	.170	.10	.818	519.3
HOT TRANSIENT	.338	.83	.973	470.2
WEIGHTED TOTAL	.327	2.29	.926	508.7

68-5

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	7.810	12.842	9.380
RELATIVE HUMIDITY	51	51	51
HUM. CORR. FACTOR	.945	.945	.945
CVS REVOLUTIONS	9820	16870	10200
AVG.INLET DEPR. (IN.H20)	15.7	15.6	15.6
AVG.PRESSURE DIFF. (IN.H2O)	25.7	25.5	25.5
AVG.CVS TEMPERATURE (DEG.F)	88	91	90
MAX.INLET DEPR. (IN.H2O)	16.0	15.8	15.7
MIN.INLET DEPR. (IN.H2O)	15.5	15.4	15.5
MAX.CVS TEMPERATURE (DEG.F)	97	97	96
MIN.CVS TEMPERATURE (DEG.F)	78	87	85
AVG.CVS FLOW (CU.FT/REV)	.257	.257	.257
TOTAL CVS VOL. (STD.CU.FT.)	2280	3897	2360
AVG MODAL CO2 RATIO	6.14	9.48	6.65
FUEL ECONOMY (MI/GAL)	16.10	17.06	18.77

Composite F/E

17.3 11.5 ÷

(69) RAN ON DAYS BENCH # 2 10-30-75 ONE OF THREE

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.: /	
DATE:	10/31/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE: DODGE DART		BAROMETER (IN. HG.):	29.740
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	60.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	71.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	59.90849
CARBURETOR & NO.: HOLLEY		KH:	0.93377
VEHICLE TEST WT.:		R:	52.8
IDLE RPM:		SPARK VAC.:	

P1	=	20.000	IN. H20	VO	=	0.239 CU. FT./REV.
N	=	14793.0	REV.	DF	=	6.093
PP	=	718.031	MM HG	V MIX	=	3179.564 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	19.832	1.030	0.101
CO	16.113	1.689	0.165
C02	21482.050	3541.538	345.786

MPG = 25.624

ANOTHER CASE?? YES

(79) RANDON DAYS
BENCH #2
10-30-75

TWO OF THREE

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	2
DATE:	10/31/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	DODGE DART	BAROMETER (IN. HG.):	29.740
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	60.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	71.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	59.90849
CARBURETOR & NO.:	HOLLEY	KH:	0.93377
VEHICLE TEST WT.:		R:	52.8
IDLE RPM:		SPARK VAC.:	

P1	=	21.200	IN. H20	V0	=	0.239	CU. FT./REV.
N	=	14800.0	REV.	DF	=	6.124	
PP	=	715.790	MM HG	V MIX	=	3165.430	CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	15.798	0.817	0.080
CO	15.997	1.669	0.163
CO2	21381.640	3509.316	342.640

MPG = 25.864

ANOTHER CASE?? YES

(71) RAN ON DAYS BENCH #2 10-30-75 THREE OF THREE

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	3
DATE:	10/31/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE:	DODGE DART	BAROMETER (IN. HG.):	29.740
VEHICLE YEAR:		WET BULB TEMP (DEG. F):	60.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	71.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	59.90849
CARBURETOR & NO.:	HOLLEY	KH:	0.93377
VEHICLE TEST WT.:		R:	52.8
IDLE RPM:		SPARK VAC.:	

P1	=	19.900	IN. H20	V0	=	0.239 CU. FT./REV.
N	=	14778.0	REV.	DF	=	6.295
PP	=	718.219	MM HG	V MIX	=	3188.665 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	21.054	1.096	0.107
CO	15.305	1.609	0.157
C02	20779.420	3435.508	335.433

MPG = 26.413

ANOTHER CASE?? NO

(72)

#3 AFTER 4000 mile

SHEET _____

TEST NO. _____ LAB NAME Holley Emission CAR NO. 5080

SYSTEM UNDER TEST _____ FUEL Indo. "O"

VEH. MFR. Chrysler MODEL Dart YEAR 75

BODY TYPE 4 DR SEDAN TRANS. Auto WEIGHT 3500

ODO. _____ AIR CONDITIONER Yes ACC. _____

ENG. MFR. Chrysler ENG. TYPE Slant Six NO. CYL. 6

DISPL. 225 Cid CARB. MAKE _____ MODEL & NO. VENTURI _____

ADV. H.P. _____ MANIF. HEAT _____

FUEL TANK LOCATION & CONFIGURATION _____

TANK VENT SYSTEM _____

TANK CAPACITY _____ FILL CAP TYPE _____

CARB. VENT SYS. _____

FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	10/22								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	9 40	80.0	59.8	10 43	73.2	84.0	11 35	79.5	90.9
	FINISH	10 37	79.8	84.6	11 31	72.4	90.9	12 30	80.0	89.4
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		#4						#13	
	TARE WT.		267.65						267.52	
	END WT.		268.25						268.49	.63
	DIFF.		.60							
CHARCOAL IDENT.		TOTAL EMISSION							.97 gms	

OBSERVER Mountain

#6

(73)

SHEET _____

TEST NO. _____ LAB NAME Holley Carb CAR NO. 5050

SYSTEM UNDER TEST _____ FUEL _____

VEH. MFR. Chev MODEL Nova YEAR 75

BODY TYPE 4 DR Sedan TRANS. Auto WEIGHT 3500

ODO. _____ AIR CONDITIONER Yes ACC. _____

ENG. MFR. Chev ENG. TYPE Strt 6 NO. CYL. 6

DISPL. 225 CID CARB. MAKE Holley MODEL & NO. VENTURI 1

ADV. H.P. _____ MANIF. HEAT _____

FUEL TANK LOCATION & CONFIGURATION _____

TANK VENT SYSTEM Canister

TANK CAPACITY _____ FILL CAP TYPE Non Vented

CARB. VENT SYS. Canister Recirc

FUEL PUMP TYPE Mech BLEED BACK _____ RETURN LINE Yes

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	7/29								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	11:30	78.0	59.7	12:35	72.0	56.8	1:34	78.0	70.0
	FINISH	12:20	78.0	56.6	1:32	78.0	70.0	2:35	75.5	92.5
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.	---	#87	---	---	---	---	---	71	---
	TARE WT.	---	267.11	---	---	---	---	---	260.61	---
	END WT.	---	267.91	---	---	---	---	---	260.81	---
	DIFF.	---	---	---	---	---	---	---	---	---
CHARCOAL IDENT.			.71		TOTAL EMISSION				.21	.92

OBSERVER Mike Cox

#7

(79)

SHEET _____

TEST NO. _____ LAB NAME _____ CAR NO. _____
SYSTEM UNDER TEST _____ FUEL _____
VEH. MFR. _____ MODEL _____ YEAR _____
BODY TYPE _____ TRANS. _____ WEIGHT _____
ODO. _____ AIR CONDITIONER _____ ACC. _____
ENG. MFR. _____ ENG. TYPE _____ NO. CYL. _____
DISPL. _____ CARB. MAKE _____ MODEL & NO. VENTURI _____
ADV. H.P. _____ MANIF. HEAT _____
FUEL TANK LOCATION & CONFIGURATION _____
TANK VENT SYSTEM _____
TANK CAPACITY _____ FILL CAP TYPE _____
CARB. VENT SYS. _____
FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	12/29								
		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
TANK FUEL TEMP.	START	1:[illegible]	71.0	57.7	12:52	71	56.3	1:13	74.6	60.1
	FINISH	12:40	76.2	56.1	1:40	71.2	59.4	2:45	78.1	63.5
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		46-8						21	
	TARE WT.		362.21						[illegible]	
	END WT.		362.37						[illegible]	
	DIFF.									
CHARCOAL IDENT.		.63			TOTAL EMISSION				.29	.97

OBSERVER [illegible]

(23)

SHEET _____

TEST NO. _____ LAB NAME _____ CAR NO. _____
SYSTEM UNDER TEST _____ FUEL _____
VEH. MFR. _____ MODEL _____ YEAR _____
BODY TYPE _____ TRANS. _____ WEIGHT _____
ODO. _____ AIR CONDITIONER _____ ACC. _____
ENG. MFR. _____ ENG. TYPE _____ NO. CYL. _____
DISPL. _____ CARB. MAKE _____ MODEL & NO. VENTURI _____
ADV. H.P. _____ MANIF. HEAT _____
FUEL TANK LOCATION & CONFIGURATION _____
TANK VENT SYSTEM _____
TANK CAPACITY _____ FILL CAP TYPE _____
CARB. VENT SYS. _____
FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE									
		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
TANK FUEL TEMP.	START	0925	71.0	60.1	1032	70.2	90.0	1050	71.0	[illegible]
	FINISH	1115	77.0	85.0	1118	[illegible]	[illegible]	1235	[illegible]	[illegible]
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		215						351	
	TARE WT.		269.4						261.40	
	END WT.		[illegible]						[illegible]	
	DIFF.		[illegible]						52	
CHARCOAL IDENT.		TOTAL EMISSION								[illegible]

OBSERVER [illegible]

#9

(76) SHEET _____

TEST NO. _____ LAB NAME _____ CAR NO. _____
SYSTEM UNDER TEST _____ FUEL _____
VEH. MFR. _____ MODEL _____ YEAR _____
BODY TYPE _____ TRANS. _____ WEIGHT _____
ODO. _____ AIR CONDITIONER _____ ACC. _____
ENG. MFR. _____ ENG. TYPE _____ NO. CYL. _____
DISPL. _____ CARB. MAKE _____ MODEL & NO. VENTURI _____
ADV. H.P. _____ MANIF. HEAT _____
FUEL TANK LOCATION & CONFIGURATION _____
TANK VENT SYSTEM _____
TANK CAPACITY _____ FILL CAP TYPE _____
CARB. VENT SYS. _____
FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	11/3/75 DATE									
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	9.55	78.1	58.9	11:02	72.6	86.4	11:22	75.1	91.8
	FINISH	10:50	77.2	86.1	11:52	73.0	89.5	12:50	75.0	[illegible]
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		#4						#5	
	TARE WT.		260.00						260.21	
	END WT.		263.50						262.07	
	DIFF.									
CHARCOAL IDENT.		.56			TOTAL EMISSION			.6	1.02	

OBSERVER Martin

(77)

OEM condition,
before 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH NO.
8-30-75          10:31
CONSOLE CHS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 60
DRY BULB ? 72
BAROMETER? 2920
INERT WT.? 3500
TRANS.   ? A
CYLINDERS? 6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C30
REMARKS  ?
REMARKS  ?
REMARKS  ?

ZERO CHECK
 FID=     1  COR=    .01 CO2R=    .00   NO=     1 CO2R=    .20

SPAN CHECK
 FID=    99  COR=   7.96 CO2R=  16.04   NO=   205 CO2R=   4.12

REPEAT Z/S CHECKS? N

TEST START :  10:47:57.1
CRANK TIME :  1.8

MODE   ---TAILPIPE CONC---  CO2R  ------ MASS (GRAMS) ------   EXH.  D/P
 Z/A/S   HC    CO    NO   CO2  CONC    HC      CO      NO      CO2    VOL.  F/E
.
CRANK    43   .87    8    .35   .00   .003    .76    .003      .1    3.6   0.50
```

77-1

I	364	695	.02	C9	6.63	.45	.212	1.68	.099	21.4	6.2	14.73
A	3.10	1003	2.14	556	9.04	1.61	.447	6.39	.254	42.5	9.1	5.62
C	85.7	612	1.68	133	10.00	1.41	1.502	26.48	.336	838.9	55.1	7.73
D	-1.23	208	.36	59	11.64	.75	.037	.37	.028	10.6	3.1	14.99
		--CYCLE	1	(GRAMS/MILE)--			.618	9.68	.172	121.5	70.1	13.98
I	700	136	.06	193	10.71	.71	.077	.23	.060	64.2	11.6	15.88
A	0.15	149	.16	237	11.66	2.41	.291	2.10	.476	240.6	39.8	4.84
C	57.1	107	.00	213	9.83	2.48	.566	.00	1.144	549.5	127.9	3.96
D	-1.21	51	.00	76	7.89	.69	.032	.20	.049	52.5	12.3	11.65
		--CYCLE	2	(GRAMS/MILE)--			.269	.65	.490	251.9	126.1	19.83
I	700	37	.00	133	7.55	.53	.007	.00	.038	16.9	4.1	14.25
A	0.75	55	.00	348	12.00	2.70	.040	.00	.314	86.7	17.3	4.90
C	36.7	73	.00	124	9.19	1.50	.047	.00	.078	50.9	10.5	6.13
D	-1.00	33	.00	89	8.58	.55	.007	.00	.012	12.3	4.1	15.30
		--CYCLE	3	(GRAMS/MILE)--			.101	.02	.185	53.9	28.9	17.14
I	697	32	.00	161	8.36	.53	.009	.00	.011	6.9	1.4	16.70
A	2.42	50	.00	378	10.26	2.16	.030	.00	.090	65.6	11.7	5.33
D	-1.00	30	.00	173	9.03	.74	.007	.00	.041	24.9	4.7	13.49
		--CYCLE	4	(GRAMS/MILE)--			.011	.00	.070	66.7	17.7	17.31
I	697	26	.00	172	7.87	.53	.006	.00	.040	22.7	4.8	16.75
A	2.14	54	.01	396	11.32	2.44	.044	.05	.338	87.7	16.5	4.64
C	75.5	44	.00	193	9.23	1.76	.037	.00	.111	75.3	17.7	6.79
D	-1.00	24	.00	87	8.56	.58	.005	.00	.019	19.8	4.3	14.76
		--CYCLE	5	(GRAMS/MILE)--			.026	.02	.139	69.9	43.5	17.79
I	697	23	.00	151	8.79	.52	.001	.00	.015	6.1	1.3	16.93
A	0.34	44	.00	224	9.63	1.46	.003	.00	.133	64.5	10.9	6.63
C	85.3	31	.00	157	9.43	.97	.010	.00	.050	38.9	6.5	9.68
D	-1.04	19	.00	103	8.03	.58	.000	.00	.017	10.1	2.7	15.14
		--CYCLE	6	(GRAMS/MILE)--			.011	.02	.054	89.5	23.4	16.19
I	633	21	.00	139	8.79	.52	.004	.00	.033	19.4	4.9	16.99
A	3.29	39	.03	228	9.91	1.46	.012	.05	.061	87.9	5.3	6.79
C	90.1	37	.00	150	9.41	1.11	.034	.00	.142	91.4	12.7	7.48
D	-1.04	39	.00	228	10.85	.71	.005	.00	.008	14.9	3.6	15.07
		--CYCLE	7	(GRAMS/MILE)--			.014	.01	.067	39.9	30.9	14.03
I	696	22	.00	127	8.20	.53	.008	.00	.047	33.9	7.7	15.49
A	2.76	37	.03	212	9.83	1.66	.021	.00	.102	53.1	11.4	5.00
D	-1.00	28	.00	107	9.01	.82	.012	.00	.044	38.9	8.9	17.99
		--CYCLE	8	(GRAMS/MILE)--			.010	.00	.055	38.6	26.9	11.71
I	693	19	.00	112	8.79	.52	.003	.00	.009	15.7	3.5	16.99
A	2.39	33	.00	193	10.03	1.29	.021	.00	.119	66.2	12.7	7.79
D	-1.03	25	.00	124	9.64	.62	.004	.00	.028	17.3	3.5	15.55
		--CYCLE	9	(GRAMS/MILE)--			.007	.00	.041	25.4	19.6	11.99
A	2.53	36	.00	231	9.89	1.66	.024	.00	.159	69.6	13.6	5.96
D	-1.00	23	.00	103	9.07	.73	.010	.00	.039	35.7	7.6	19.49
		--CYCLE	10	(GRAMS/MILE)--			.009	.00	.051	87.9	21.9	16.99
A	2.76	33	.00	246	10.16	1.91	.022	.00	.168	71.4	17.6	5.61
C	87.3	26	.00	145	9.39	1.14	.113	.00	.643	433.8	99.6	7.94
D	-1.23	30	.03	106	9.95	.66	.005	.03	.017	16.3	3.3	15.99
		--CYCLE	11	(GRAMS/MILE)--			.036	.01	.214	133.1	105.4	23.93
A	2.61	32	.00	208	9.87	1.63	.021	.00	.139	67.9	13.3	5.76
C	85.3	13	.00	133	9.99	.96	.013	.00	.106	71.1	15.2	9.43
D	-1.02	15	.00	116	9.37	.61	.004	.00	.009	99.6	4.9	14.54
		--CYCLE	12	(GRAMS/MILE)--			.019	.00	.070	41.5	33.4	99.57
I	676	15	.00	27	8.73	.59	.006	.00	.034	35.9	7.7	16.79

77-2

```
A 0.57   32   .03  196  9.79  1.62    .021    .00    .130    27.7    13.7    0.55
D-1.02   21   .00   53  8.92   .64    .013    .00    .048    44.5     9.5   13.94
      --CYCLE 13 (GRAMS/MILE)--       .009    .00    .057    37.7    30.7   10.53

A 0.13   30   .00  152  8.77  1.32    .021    .00    .121    66.5    13.1    7.50
C 00.0   37   .00  115  8.00  1.14    .015    .00    .001    50.3    12.5    3.10
D-1.03   14   .00   57  8.43   .57    .009    .00    .010    14.7     3.4   15.91
      --CYCLE 14 (GRAMS/MILE)--       .010    .00    .044    33.7    27.0   11.71

I  673   15   .00   76  8.63   .51    .003    .00    .015    17.0     4.0   17.00
A 0.07   07   .00  244 10.10  1.77    .030    .00    .027    37.1     7.1    5.00
D-1.04   33   .00  243 10.67   .74    .005    .00    .020    17.0     3.1   14.45
      --CYCLE 15 (GRAMS/MILE)--       .004    .00    .020    17.5    14.1    7.37

I  674   17   .00   81  8.00   .53    .000    .00    .010    11.0     2.4   15.64
A 0.13   03   .00  145  8.87  1.00    .015    .00    .035    55.7    12.0    7.03
C 01.1   19   .00  115  8.45   .00    .007    .00    .047    36.3     7.4   12.07
D-1.07   15   .00   30  8.31   .50    .009    .00    .014    15.1     3.1   15.79
      --CYCLE 16 (GRAMS/MILE)--       .007    .00    .030    32.7    27.0   14.76

I  670   15   .00   74  8.71   .50    .000    .00    .010    14.5     3.0   16.77
A 0.07   04   .00  164  9.09  1.23    .015    .00    .103    65.3    13.1    7.77
C 05.7   05   .00  138  9.40  1.11    .015    .00    .005    59.7    12.0    8.41
D-1.03   05   .00  113  9.09   .66    .004    .00    .021    16.0     3.0   13.77
      --CYCLE 17 (GRAMS/MILE)--       .010    .00    .050    40.0    32.1   10.55

I  670   15   .00   74  8.26   .50    .005    .00    .025    20.0     6.0   15.33
A 0.01   33   .00  100  8.71  1.47    .015    .00    .077    48.0     9.5    6.61
D-1.00   15   .00   77  8.75   .57    .003    .00    .013    21.0     4.7   15.35
I   30   14   .00   60  7.73   .25    .001    .00    .003     4.4     1.1   33.00
      --CYCLE 18 (GRAMS/MILE)--       .006    .00    .030    20.3    25.0   19.31
```

TEST STOP: 11:11:17
TEST LENGTH: 1371.3

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=   4 COD=   3 NOX=   0 CO2D=   .00

SPAN CHECK
 FID=   37 COD= 1779 NOX=   198 CO2D= 4.76

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=   37 COD=   475 NOX=   33 CO2D= 1.58

COLD STAB SAMP
 FID=   11 COD=   17 NOX=   19 CO2D= 1.01

COLD TRAN AMB
 FID=   18 COD=   18 NOX=   0 CO2D=   .03

COLD STAB AMB
 FID=   8 COD=   10 NOX=   0 CO2D=   .03

REPEAT BAG READS ? N

SOAK TIME : 1013

TEST START : 11:21: 4.5
CRANK TIME : 2.0

MODE	---TAILPIPE CONC---				CO2	------ MASS (GRAMS) ------				EXH.	D/E
T/A/S	HC	CO	NO	CO2	CONC	HC	CO	NO	CO2	VOL.	S/T
DRAIN	7	.20	17	9.27	.11	.003	.09	.220	.6	.5	23.64
I 542	203	.33	47	7.49	.41	.196	.62	.210	19.9	5.0	13.10
A 3.10	293	.09	109	9.66	1.00	.103	.36	.375	49.3	7.6	5.00
C 35.4	135	.01	167	9.71	1.29	.334	.17	.405	254.1	50.5	5.97
D-1.34	25	.08	39	9.66	.59	.011	.09	.212	13.3	2.3	14.37
--CYCLE 1 (GRAMS/MILE)--						.105	.22	.149	91.2	47.3	17.27
I 633	41	.28	44	8.29	.58	.201	.20	.207	44.5	10.4	16.00
A 2.15	63	.04	288	11.23	2.17	.105	.49	.543	214.6	33.4	5.17
C 57.1	55	.00	279	10.11	2.55	.232	.00	1.507	569.5	107.0	7.96
D-1.31	33	.08	38	9.18	.69	.028	.07	.255	59.4	10.4	11.80
--CYCLE 2 (GRAMS/MILE)--						.126	.14	.591	848.9	167.8	10.09
I 670	21	.26	97	8.76	.52	.093	.33	.217	16.7	3.5	16.35
A 2.73	34	.03	397	10.20	1.98	.023	.11	.220	39.2	17.3	5.37
C 36.1	30	.02	198	9.34	1.41	.213	.02	.119	56.4	11.0	6.69
D-1.10	20	.30	113	8.12	.54	.005	.00	.206	12.1	2.3	14.73
--CYCLE 3 (GRAMS/MILE)--						.015	.03	.101	53.9	26.4	13.14
I 666	13	.20	77	8.54	.51	.091	.35	.225	6.5	1.4	16.35
A 3.32	36	.03	316	10.57	2.03	.020	.00	.171	69.7	11.4	5.01
D-1.17	19	.20	136	9.29	.70	.004	.02	.037	22.9	4.7	13.14
--CYCLE 4 (GRAMS/MILE)--						.027	.36	.201	85.4	17.6	13.78
I 666	16	.20	33	8.67	.52	.004	.01	.209	88.5	4.9	16.67
A 3.19	39	.03	371	10.22	2.30	.031	.00	.306	91.2	10.4	4.70
C 35.6	32	.00	168	9.20	1.37	.003	.00	.145	36.4	17.0	6.70
D-1.00	19	.00	38	8.35	.57	.004	.00	.010	13.7	4.7	14.65
--CYCLE 5 (GRAMS/MILE)--						.019	.00	.137	60.3	43.5	13.15

TEST STOP: 11:09:52
TEST LENGTH: 567.2

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 3 COD= 3 NOX= 2 CO2D= .00

SPAN CHECK
FID= 88 COD= 1748 NOX= 200 CO2D= 4.96

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 19 COD= 47 NOX= 37 CO2D= 1.42

HOT TRAN AMB
FID= 8 COD= 6 NOX= 2 CO2D= .04

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.313	1.91	.174	139	31.2
ACCEL	.360	8.54	1.596	543	95.3
DECEL	.234	.37	.137	132	29.8

77-4

CRUISE	2.153	26.42	1.669	977	138.3
CHOKE	2.568	37.19	1.158	676	103.5
TOTAL	3.411	37.24	3.570	1797	344.4

EQUIVALENT MASS BAG RESULTS

GMS/MI	.947	10.35	.993	495.9

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.236	.00	.035	134	41.5
ACCEL	.040	.10	1.484	706	148.7
DECEL	.070	.03	.333	227	69.0
CRUISE	.037	.02	1.137	770	159.0
CHOKE	.032	.00	.080	7	.3
TOTAL	.555	.15	3.165	2033	418.7

EQUIVALENT MASS BAG RESULTS

GMS/MI	.148	.04	.312	514.9

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.025	.00	.079	137	25.6
ACCEL	.205	.03	1.397	581	93.7
DECEL	.045	.00	.145	126	23.6
CRUISE	.003	.17	2.139	957	187.0
CHOKE	.247	1.03	1.102	599	115.3
TOTAL	1.333	1.43	3.311	1603	331.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	.369	.39	1.058	479.2

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.369	2.26	.917	498.6

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.383	9.24	1.066	488.4
COLD STABILIZED	.176	.24	.958	508.5
HOT TRANSIENT	.373	.70	1.200	460.7
WEIGHTED TOTAL	.376	2.22	1.046	491.3

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.609	13.203	9.374
RELATIVE HUMIDITY	52	52	52
HUM. CORR. FACTOR	.932	.932	.930
CVS REVOLUTIONS	9930	16868	9940
AVG.INLET DEPR. (IN.H20)	15.4	15.1	15.3
AVG.PRESSURE DIFF. (IN.H20)	25.2	24.7	25.2
AVG.CVS TEMPERATURE (DEG.F)	95	93	93
MAX.INLET DEPR. (IN.H20)	15.5	15.2	15.7
MIN.INLET DEPR. (IN.H20)	15.2	15.0	15.1
MAX.CVS TEMPERATURE (DEG.F)	98	95	95
MIN.CVS TEMPERATURE (DEG.F)	77	92	93
AVG.CVS FLOW (CU.FT/REV)	.257	.257	.257
TOTAL CVS VOL. (STD.CU.FT.)	2303	3396	2313
AVG MODAL CO2 RATIO	6.54	2.43	6.63
FUEL ECONOMY (MI/GAL)	17.55	17.42	19.15

Composite F/E 17.6 MPG

(78)

OEM condition,
before 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST
BENCH #2
 8-29-75          4:47
SCALE CHK: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH BULB ? 61
DEV BULB ? 72
BAROMETER? 29.36
INERT WT.? 3500
TRANS.   ? 3
CYLINDERS? 6
RUN NO.  ? 3
VEH. MAKE? 75 DART
VEH. I.D.? 5C33
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     1  COR=    .00 CO2R=-20.01    NO=      3 CO2R=-20.20

SPAN CHECK OUT OF LIMITS
 FID=    95* COR=   7.97 CO2R= 16.16    NO=    193 CO2R=  4.12

ZERO CHECK
 FID=     2  COR=    .02 CO2R=   .20    NO=      0 CO2R=-20.01

SPAN CHECK
 FID=   101  COR=   7.97 CO2R= 16.11    NO=    196 CO2R=  4.24

REPEAT Z/S CHECKS? N

TEST START :  15:38:43.3
CRANK TIME :  3.2

MODE   ---TAILPIPE CONC---  CO2R  ------ MASS (GRAMS) ------   EXH.  D/P
 T/A/S   HC    CO   NO   CO2  CO%C    HC     CO     NO    CO2    VOL.  T/F

CRANK    03   .20    1    .12   .03   .054   .09   .003      0    3.9   4.20
I  672  1324   .55   .09  5.65   .30   .193   .01   .007   14.4    4.9  17.73
A 3.68  935   .67  .010  5.50  1.53   .370  1.66   .086   41.7    3.4   6.37
```

78-1

--CYCLE 1 (GRAMS/MILE)--

--CYCLE 5 (GRAMS/MILE)--

--CYCLE 7 (GRAMS/MILE)--

--CYCLE 9 (GRAMS/MILE)--

--CYCLE 11 (GRAMS/MILE)--

--CYCLE 13 (GRAMS/MILE)--

77-2

```
      --CYCLE 13 (GRAMS/MILE)--
A 2.12   26  .00 161  9.95 1.27
C 26.3   19  .00 173  3.31  .93
D-1.33   13  .00  76  7.93  .49
      --CYCLE 14 (GRAMS/MILE)--

I  600   15  .00  59  3.46  .49
A 3.60   08  .00 203 12.24 1.76
D-1.24   06  .00 206 10.06  .58
      --CYCLE 15 (GRAMS/MILE)--

I  607   17  .26  67  3.53  .56
A 2.73   01  .00 136  9.09 1.11
C 22.7   19  .00 113  3.15  .96
D-1.33   15  .00 115  9.30  .55
      --CYCLE 16 (GRAMS/MILE)--

I  648   15  .00  65  3.63  .51
A 2.26   01  .00 157  9.50 1.13
C 25.3   01  .00 166  9.35 1.09
D-1.27   00  .00 137  3.79  .67
      --CYCLE 17 (GRAMS/MILE)--

I  640   15  .00  63  3.60  .50
A 2.60   06  .00 150  9.76 1.46
D-1.20   13  .00  67  3.67  .57
I  607   17  .26  55  3.44  .49
      --CYCLE 18 (GRAMS/MILE)--


TEST STOP:  16: 2: 3
TEST LENGTH: 1375.2


***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     2  NOX=     0 CO2D=-00.01

SPAN CHECK
 FID=    93  COD=  1756  NOX=   199 CO2D=  4.18

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    20  COD=    39  NOX=    26 CO2D=  1.16

BACKGROUND BAG
 FID=    14  COD=    11  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N


***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2   FUEL
IDLE         .271    .91    .248    223   67.7
ACCEL        .239   2.00   3.209   1051  324.9
DECEL        .164    .24    .519    399   27.7
CRUISE      1.233    .13   4.134   1714  341.3
CHOKE       1.411   3.27   1.339    693  193.3
TOTAL       5.272   3.35   7.905   3648  771.9
```

EQUIVALENT MASS BAG RESULTS
GMS/MI .393 .45 1.954 426.3

78-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.343	.76	1.103	454.9

***** TEST VARIABLES *****

RELATIVE HUMIDITY	54
HUM. CORR. FACTOR	.950
CVS REVOLUTIONS	26680
AVG.INLET DEPR. (IN.H20)	15.7
AVG.PRESSURE DIFT. (IN.H20)	25.1
AVG.CVS TEMPERATURE (DEG.F)	98
MAX.INLET DEPR. (IN.H20)	15.5
MIN.INLET DEPR. (IN.H20)	15.2
MAX.CVS TEMPERATURE (DEG.F)	97
MIN.CVS TEMPERATURE (DEG.F)	75
AVG.CVS FLOW (CU.FT/REV)	.257
TOTAL CVS VOL. (STD.CU.FT.)	6212
AVG NORAL CO2 RATIO	3.29
FUEL ECONOMY (MI/GAL)	18.22

OEM condition,
before 4000 mi. durability.

```
HOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
BENCH #S
 9-29-75    10: 2
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 63
DRY BULB ? 73
BAROMETER? 2942
INERT WT.? 3500
TRANS.   ? 3
CYLINDERS? 6
RUN NO.  ? 1
VEH. MAKE? 75 DART
VEH. I.D.? 5C80
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID= -0001  COR=-00.02 CO2R=   .00   NO=     2 CO2D=-00.01

SPAN CHECK
 FID=    99  COR=  7.99 CO2R= 16.08   NO=   802 CO2D=  4.10

REPEAT Z/S CHECKS? N

TEST START :  10:12:59.3
CRANK TIME :  2.0

MODE   ---TAILPIPE CONC---  CORR  ------ MASS (GRAMS) ------   DIL.  D/F
 B/A/S   HC    CO   NO   CO2  CONC    HC     CO     NO     CO2    VOL.  F/F.

CRANK    59   .00    2   .03  .03   .030    .00    .002     .2   10.2  1.00
I  723   987 3.01   42  6.59  .57   .397   8.39    .018   87.1    7.9 11.50
A 3.12 1213 2.37  713  8.93 1.47   .415   6.55    .763   38.8    3.4  6.27
C 25.4   967 1.53  130 10.99 1.50  1.761  97.18   .588  334.9   53.9  7.13
D-1.04   039  .61   55 11.63  .35   .045    .64   .009   19.9    3.9 14.54
     --CYCLE  1 (GRAMS/MILE)--      .733  11.38   .853  108.4   85.6 12.23
```

I	770	168	.04	133	13.35	.70	.005	.10	.024	67.2	11.5	17.75
A	2.16	157	.13	226	11.69	2.46	.314	1.35	.491	245.4	46.8	4.20
C	53.1	92	.06	315	10.56	2.36	.522	.08	1.048	633.5	115.7	5.48
P-1	.21	61	.00	134	9.16	.70	.547	.12	.133	67.6	14.5	10.21
	--CYCLE	9	(GRAMS/MILE)--				.871	.44	.704	978.8	195.8	13.11
I	699	47	.00	193	9.56	.54	.513	.00	.133	16.7	3.6	16.47
A	2.70	78	.03	350	10.51	2.11	.964	.12	.318	90.2	19.1	4.55
C	36.8	57	.00	167	9.37	1.58	.536	.09	.114	69.5	10.5	5.14
P-1	.20	33	.00	111	8.55	.61	.503	.00	.055	19.2	4.2	14.67
	--CYCLE	7	(GRAMS/MILE)--				.939	.05	.143	54.9	31.8	10.51
I	696	35	.00	170	9.80	.54	.552	.00	.012	6.3	1.4	16.46
A	2.37	48	.00	414	10.39	2.17	.993	.03	.261	66.2	11.7	4.85
P-1	.28	34	.00	172	9.69	.74	.999	.00	.044	24.2	4.7	12.97
	--CYCLE	4	(GRAMS/MILE)--				.011	.00	.033	90.8	18.8	10.85
I	696	30	.00	168	9.84	.54	.007	.00	.045	23.3	5.8	16.27
A	2.14	50	.00	406	9.57	2.42	.955	.00	.463	90.1	21.6	3.53
C	35.8	40	.00	201	8.75	1.32	.936	.00	.105	38.6	13.8	6.63
P-1	.22	25	.00	135	9.15	.55	.005	.00	.042	19.2	4.7	14.55
	--CYCLE	5	(GRAMS/MILE)--				.999	.00	.092	61.1	49.8	13.86
I	691	26	.00	154	9.79	.53	.990	.00	.011	6.2	1.4	16.59
A	2.30	36	.00	228	9.49	1.37	.992	.00	.133	61.7	10.5	6.93
C	25.4	26	.00	169	9.37	1.07	.913	.00	.065	35.8	7.2	8.77
P-1	.24	22	.00	113	9.33	.59	.993	.00	.017	12.5	2.7	14.97
	--CYCLE	6	(GRAMS/MILE)--				.017	.00	.250	80.6	23.2	10.85
I	634	24	.00	139	9.75	.54	.005	.00	.031	22.4	4.5	16.20
A	2.25	34	.00	221	9.99	1.47	.999	.00	.063	27.2	5.4	6.99
C	19.3	29	.00	189	9.65	1.03	.994	.00	.171	85.8	17.2	9.37
P-1	.24	41	.04	141	10.26	.79	.996	.04	.099	15.2	3.8	14.25
	--CYCLE	7	(GRAMS/MILE)--				.011	.01	.274	39.1	29.7	15.11
I	675	23	.00	118	8.74	.54	.998	.00	.044	21.3	7.8	16.19
A	2.71	44	.00	211	9.37	1.62	.994	.00	.126	57.2	11.8	6.29
P-1	.32	26	.00	112	8.23	.36	.011	.00	.051	40.3	3.6	10.50
	--CYCLE	8	(GRAMS/MILE)--				.011	.00	.057	33.0	26.2	11.51
I	679	21	.00	111	8.70	.54	.994	.00	.022	16.5	3.7	16.11
A	2.26	33	.00	221	10.24	1.24	.999	.00	.132	64.1	10.3	8.10
P-1	.23	23	.00	96	9.34	.64	.994	.00	.019	10.2	3.7	14.59
	--CYCLE	9	(GRAMS/MILE)--				.997	.00	.044	25.3	19.7	10.05
A	2.63	33	.00	211	9.75	1.66	.996	.00	.156	78.8	13.9	5.37
P-1	.21	23	.00	97	8.56	.72	.009	.00	.041	35.4	8.8	11.39
	--CYCLE	10	(GRAMS/MILE)--				.009	.00	.050	27.0	21.2	15.98
A	2.71	48	.03	235	12.04	1.78	.027	.13	.170	73.7	13.6	5.64
C	27.4	23	.00	147	9.15	1.10	.100	.00	.694	420.6	88.7	8.04
P-1	.23	19	.00	136	9.62	.66	.993	.00	.025	16.9	3.4	14.53
	--CYCLE	11	(GRAMS/MILE)--				.032	.13	.228	130.3	105.7	23.73
A	2.61	32	.00	207	9.35	1.66	.019	.00	.144	66.3	13.1	6.16
C	25.1	23	.00	173	9.27	1.30	.015	.00	.114	74.5	15.5	8.27
P-1	.20	16	.00	95	8.76	.58	.004	.00	.024	21.9	4.8	15.19
	--CYCLE	12	(GRAMS/MILE)--				.012	.20	.272	41.3	33.4	20.38
I	665	17	.00	33	8.73	.53	.007	.00	.036	36.6	8.1	16.43
A	2.59	36	.00	193	9.92	1.64	.994	.00	.145	70.0	13.8	5.99
P-1	.21	13	.00	87	8.91	.63	.009	.00	.045	44.8	9.7	14.14
	--CYCLE	13	(GRAMS/MILE)--				.010	.00	.058	38.8	31.6	12.13
A	2.14	30	.02	169	10.12	1.27	.019	.03	.113	66.1	10.6	7.93
C	26.6	24	.00	137	9.43	1.16	.013	.00	.073	52.0	10.6	9.13

78-2

```
A 3.35  214  .39 175  8.78 1.56    .883    .64    .874    48.3    7.9   6.23
C 25.5   93  .01 170  8.52 1.21    .828    .16    .430   238.5   48.4   7.87
D-1.24   52  .00  87  8.54  .54    .828    .09    .214    19.9    8.8  15.53
      --CYCLE  1 (GRAMS/MILE)--     .127    .34    .147    86.5    24.6  19.97

                                                    79-3
I  645   31  .03  53  7.31  .51    .816    .08    .630    45.5    10.6  16.09
A 2.14   69  .03 382 11.89 2.15    .110    .76    .636   211.8    76.9   5.16
C 53.4   51  .01 879  9.35 2.46    .866    .35   1.588   543.8   180.4   4.00
D-1.21   30  .00  73  7.38  .64    .819    .08    .851    58.8    18.4  19.19
      --CYCLE  2 (GRAMS/MILE)--     .115    .93    .637   236.8   166.8  20.40

I  662   17  .00  86  8.64  .52    .833    .08    .819    16.1     3.6  16.60
A 2.74   35  .01 331 10.86 1.99    .899    .38    .333    88.7    17.8   5.39
C 30.1   35  .00 133  9.37 1.43    .898    .09    .116    56.8    11.6   6.69
D-1.20   20  .00  76  8.37  .55    .824    .03    .819    13.5     4.3  14.95
      --CYCLE  3 (GRAMS/MILE)--     .816    .20    .107    58.1    30.6  13.19

I  672   17  .00  86  8.54  .53    .831    .08    .806     6.3     1.4  16.11
A 3.39   37  .01 349 10.64 2.08    .920    .24    .897    61.6    11.9   5.39
D-1.20   19  .00 166  9.37  .69    .884    .03    .841    28.7     4.7  13.53
      --CYCLE  4 (GRAMS/MILE)--     .887    .81    .871    25.1    17.7  13.98

I  665   16  .00  84  8.60  .52    .834    .08    .805    26.1     5.3  16.54
A 3.15   37  .01 393 10.77 2.39    .838    .25    .349    89.8    16.5   4.67
C 35.7   14  .00 135  8.64 1.18    .898    .08    .164    34.7    16.7   7.35
D-1.53   19  .00 113  8.83  .54    .884    .03    .807    13.8     4.7  14.68
      --CYCLE  5 (GRAMS/MILE)--     .816    .09    .155    57.4    40.5  19.13
```

TEST STOP: 10:54:39
TEST LENGTH: 570.0

***** MASS BAG RESULTS *****

ZERO CHECK
FID= 2 COD= 2 NOX= 3 CO2D= .00

SPAN CHECK
FID= 131 COD= 1758 NOX= 283 CO2D= 4.87

REPEAT Z/S CHECKS? N

HOT TRAN SAMP
FID= 26 COD= 42 NOX= 36 CO2D= 1.79

HOT TRAN AMB
FID= 20 COD= 10 NOX= 0 CO2D= .04

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FXVOL
IDLE	.529	3.55	.195	137	39.9
ACCEL	.376	8.87	1.922	545	100.9
DECEL	.109	.73	.224	150	31.0
CRUISE	2.354	27.18	2.773	1083	200.3
CHOKE	3.246	44.26	1.487	699	136.2
TOTAL	3.368	44.54	5.115	1915	772.5

EQUIVALENT MASS BAG RESULTS
GMS/MI 1.074 12.37 1.421 530.8

79-4

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.248	.00	.213	198	40.0
ACCEL	.243	.22	1.578	757	147.2
DECEL	.100	.03	.357	283	62.2
CRUISE	.135	.09	1.264	764	150.2
SMOKE	.008	.00	.006	4	.8
TOTAL	.533	.32	3.405	2135	410.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	.137	.08	.873	514.2

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.174	.38	.088	118	25.0
ACCEL	.875	.69	1.553	495	98.7
DECEL	.348	.08	.153	122	28.6
CRUISE	.506	.51	2.283	919	183.2
SMOKE	.530	1.53	1.196	569	112.3
TOTAL	1.614	2.72	4.283	1643	327.2

EQUIVALENT MASS BAG RESULTS

GMS/MI	.418	.56	1.133	455.4

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS

GMS/MI	.370	2.75	1.059	501.3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	1.142	10.95	1.394	513.8
COLD STABILIZED	.241	.19	.913	482.7
HOT TRANSIENT	.255	.66	1.034	451.3
WEIGHTED TOTAL	.431	2.54	1.100	491.5

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.235	13.713	9.559
RELATIVE HUMIDITY	58	58	58
HUM. CORR. FACTOR	.983	.983	.983
CVS REVOLUTIONS	9840	16360	9920
AVG.INLET DEPR. (IN.H20)	15.3	15.3	15.4
AVG.PRESSURE DIFF. (IN.H20)	25.2	25.2	25.3
AVG.CVS TEMPERATURE (DEG.F)	89	90	89
MAX.INLET DEPR. (IN.H20)	15.4	15.6	15.8
MIN.INLET DEPR. (IN.H20)	15.1	15.1	15.2
MAX.CVS TEMPERATURE (DEG.F)	97	97	95
MIN.CVS TEMPERATURE (DEG.F)	80	82	82
AVG.CVS FLOW (CU.FT/REV)	.257	.257	.257
TOTAL CVS VOL. (STD.CU.FT.)	2380	3934	2313
AVG MODAL CO2 RATIO	6.15	9.45	6.76
FUEL ECONOMY (MI/GAL)	16.47	13.33	19.56

Composite F/E 17.3

(80)

OEM condition,
before 4000 mi. durability.

```
VOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST

8-06-75  14: 7
CONSOLE SYS: 4 5
TEST CODE? 1
NEW DATA ? Y
WET BULB ? 62
DRY BULB ? 71
BAROMETER? 29.32
INERT WT.? 3500
TRANS.   ? A
CYLINDERS? 6
RUN NO.  ? 2
VEH. MAKE? DODGE DART
VEH. I.D.? 5C-30
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     1  COR=    .00 CO2R=    .00   NO=     4 CO2D=-00.21

SPAN CHECK
 FID=    99  COR=   7.87 CO2R= 16.69   NO=   190 CO2D=  4.13

REPEAT Z/S CHECKS? N

TEST START :  14:12:53.2
CRANK TIME :  1.0

MODE   ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.   D/P
 P/A/S   HC    CO    NO   CO2  CONC     HC      CO      NO     CO2   VOL.   F/E

CRANK     5   .39     8    .15   .00   .030    .00    .000      .1    1.1   9.00
I  599   768   .07   39   5.74   .29   .173   1.03    .007    13.3    4.6  19.79
A 3.13   778   .16  196   9.60  1.56   .312    .44    .086    41.2    3.3   6.15
S 25.0   886   .32  836   9.98  1.39   .545    .36    .675   279.3   54.0   7.18
```

D-1.04	78	.00	117	9.87	.60	.011	.00	.217	14.3	2.8	16.47
--CYCLE 1 (GRAMS/MILE)--						.139	.04	.185	46.5	79.3	16.83
I .652	53	.00	67	9.67	.51	.007	.00	.037	46.0	10.7	17.27
A 2.10	74	.00	339	11.31	2.01	.137	.05	.710	201.6	37.0	5.29
C 33.6	50	.00	371	13.53	0.76	.035	.00	.000	617.7	110.7	3.33
D-1.01	33	.00	99	8.52	.74	.021	.00	.103	57.1	10.9	11.51
--CYCLE 2 (GRAMS/MILE)--						.767	.03	.411	105.9	177.1	17.57
I .674	22	.00	113	9.91	.54	.007	.00	.009	16.5	3.5	16.69
A 2.70	39	.00	379	13.37	2.07	.007	.00	.740	93.2	17.5	5.19
C 36.0	34	.00	210	9.46	1.46	.020	.00	.139	53.1	11.0	6.49
D-1.00	19	.00	126	8.01	.57	.014	.00	.004	17.7	4.0	15.11
--CYCLE 3 (GRAMS/MILE)--						.027	-.00	.100	84.0	27.1	17.48
I .633	17	.00	103	9.04	.54	.001	.00	.007	6.8	1.4	16.05
A 3.36	37	.01	398	11.01	2.00	.020	.01	.030	83.1	17.0	5.36
D-1.00	19	.00	102	9.33	.72	.004	.00	.042	93.6	4.9	10.96
--CYCLE 4 (GRAMS/MILE)--						.023	.01	.037	10.5	17.0	13.37
I .650	16	.00	109	9.99	.54	.004	.00	.009	93.1	5.0	16.35
A 3.14	39	.01	431	11.01	2.34	.030	.05	.765	00.7	16.0	5.79
C 35.7	27	.00	153	8.03	1.00	.007	.00	.141	71.0	17.4	0.66
D-1.00	14	.00	136	8.00	.57	.003	.00	.031	13.5	4.3	14.56
--CYCLE 5 (GRAMS/MILE)--						.023	.01	.075	00.7	10.7	17.43
I .671	14	.00	99	9.00	.53	.001	.00	.007	6.0	1.3	16.77
A 2.72	24	.00	174	9.67	1.40	.015	.00	.114	00.7	10.4	6.91
C 35.0	00	.00	151	9.45	1.07	.007	.00	.057	74.7	7.1	7.33
D-1.10	10	.01	103	9.00	.59	.002	.01	.015	10.7	0.7	14.95
--CYCLE 6 (GRAMS/MILE)--						.023	.00	.000	15.4	03.5	10.00
I .633	15	.01	95	9.97	.54	.003	.01	.022	00.0	4.4	16.44
A 3.11	00	.01	292	10.48	1.36	.005	.02	.060	25.7	4.7	7.71
C 19.7	16	.01	226	9.57	1.04	.013	.06	.004	34.6	17.1	0.00
D-1.04	04	.01	124	10.03	.67	.003	.01	.010	14.5	0.7	14.07
--CYCLE 7 (GRAMS/MILE)--						.003	.01	.041	10.0	00.0	15.55
I .673	14	.01	00	8.00	.54	.005	.02	.000	31.5	6.0	16.46
A 2.71	23	.01	216	9.00	1.65	.015	.04	.107	57.6	11.1	6.05
D-1.00	00	.01	126	9.01	.00	.000	.03	.053	37.0	7.0	11.06
--CYCLE 8 (GRAMS/MILE)--						.004	.01	.000	10.3	05.0	11.73
I .672	14	.00	73	8.04	.53	.000	.00	.014	10.3	3.5	16.67
A 2.05	04	.00	167	9.00	1.05	.015	.00	.100	64.0	10.4	7.00
D-1.03	14	.00	106	9.54	.64	.000	.00	.000	17.0	3.0	14.01
--CYCLE 9 (GRAMS/MILE)--						.003	-.00	.010	13.0	10.5	12.14
A 2.57	27	.00	218	9.00	1.65	.010	.00	.154	69.0	13.3	6.05
D-1.01	16	.00	105	8.07	.71	.006	.00	.040	34.6	7.5	10.51
--CYCLE 10 (GRAMS/MILE)--						.003	-.00	.006	17.0	03.0	16.06
A 2.74	28	.00	206	10.21	1.77	.013	.00	.106	69.0	13.0	5.77
C 27.3	13	.00	153	0.27	1.13	.070	.00	.743	406.2	77.7	0.00
D-1.03	16	.00	101	0.75	.65	.003	-.00	.021	16.5	7.3	15.00
--CYCLE 11 (GRAMS/MILE)--						.013	-.00	.127	69.3	105.0	03.50
A 2.53	24	.00	233	10.03	1.60	.015	.00	.164	67.4	13.0	6.19
C 25.0	14	.00	131	0.14	1.00	.011	.00	.100	73.0	15.0	0.14
D-1.00	10	.00	114	0.00	.63	.003	.00	.033	03.7	5.0	14.41
--CYCLE 12 (GRAMS/MILE)--						.034	-.00	.040	00.0	33.5	03.10
I .667	10	.00	77	0.02	.53	.005	.00	.030	35.6	7.0	16.64
A 2.53	23	.00	200	10.00	1.70	.010	.00	.150	70.7	13.7	5.00
D-1.01	16	.00	00	0.01	.04	.007	.00	.040	44.4	0.0	13.00
--CYCLE 13 (GRAMS/MILE)--						.024	-.00	.000	00.1	31.1	10.04

80-1

80-2

```
A 2.14   19   .00 131  9.96 1.31   .812    .73    .104   66.1   12.9  7.61
C 00.0   16   .00 154  9.35 1.37   .888    .87    .931   47.0    9.0  8.57
D-1.00   11   .00  70  9.96  .53   .838    .41    .914   14.7    3.1 10.53
      --CYCLE 14 (GRAMS/MILE)--    .867 -00.00   .209   17.3   00.7 10.23

I  800   12   .00  72  9.77  .54   .830    .07    .810   15.3    4.1 10.84
A 2.55   00   .00 303 10.51 1.32   .000    .00    .101   77.7    0.0  5.77
D-1.00   00   .00 211 10.09  .00   .883    .00    .833   15.7    3.3 15.17
      --CYCLE 15 (GRAMS/MILE)--    .000 -00.00   .003    0.0   14.0  9.34

I  663   13   .00  77  9.84  .54   .000    .00    .810   11.3    3.5 16.77
A 2.37   17   .00 165  9.36 1.17   .000    .00    .000   54.0   12.6  7.45
C 01.7   16   .00 101  9.77  .00   .005    .00    .847   00.0    0.0 15.75
D-1.03   11   .00 106  9.37  .60   .000    .00    .013   15.3    3.1 15.63
      --CYCLE 16 (GRAMS/MILE)--    .002 -00.00   .000   15.3   03.0 15.32

I  685   12   .00  71  8.83  .54   .002    .00    .812   15.1    3.3 16.35
A 2.56   18   .00 174  9.59 1.18   .011    .00    .117   67.0   12.7  8.13
C 25.4   17   .00 155  9.09 1.11   .011    .00    .130   59.7   10.4  8.37
D-1.03   10   .00 113  9.31  .63   .003    .00    .021   17.3    3.6 13.69
      --CYCLE 17 (GRAMS/MILE)--    .004 -00.00   .004   03.7   30.0 16.74

I  670   13   .00  69  8.73  .53   .004    .00    .004   00.0    0.5 16.47
A 0.00   03   .00 172  9.60 1.43   .011    .00    .000   47.3    9.6  0.51
D-1.00   15   .00  73  9.76  .58   .003    .00    .013   01.0    4.7 15.12
I  665   13   .00  64  8.65  .53   .001    .00    .005    0.0    1.4 10.32
      --CYCLE 13 (GRAMS/MILE)--    .003 -00.00   .010   14.0   00.7 10.53
```

```
TEST STOP:  14:36:13
TEST LENGTH: 1373.0

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     0  NOX=     0 CO2D=-00.21

SPAN CHECK
 FID=   100  COD=  1794  NOX=   199 CO2D=  4.16

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=    21  COD=    21  NOX=    26 CO2D=  1.18

BACKGROUND BAG
 FID=    17  COD=     6  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
MODE TYPE    HC      CO     NOX     CO2    FUVOL
IDLE        .235    1.06    .274    296     67.5
ACCEL       .097     .33   3.413   1269    277.3
DECEL       .091  -00.00    .522    417     99.3
CRUISE     1.007     .41   4.403   1793    353.1
CHOKE      1.285    2.07   1.663    617    119.9
TOTAL      2.238    3.88   3.697   3776    747.8

EQUIVALENT MASS BAG RESULTS
```

GMS/MI .271 .28 1.162 563.4

80-3

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.152	.41	1.136	491.4

***** TEST VARIABLES *****

RELATIVE HUMIDITY	61
HUM. CORR. FACTOR	.873
CVS REVOLUTIONS	96040
AVG.INLET DEPR. (IN.H20)	15.1
AVG.PRESSURE DIFF. (IN.H20)	2.2
AVG.CVS TEMPERATURE (DEG.F)	91
MAX.INLET DEPR. (IN.H20)	15.4
MIN.INLET DEPR. (IN.H20)	14.9
MAX.CVS TEMPERATURE (DEG.F)	97
MIN.CVS TEMPERATURE (DEG.F)	77
AVG.CVS FLOW (CU.FT/REV)	.257
TOTAL CVS VOL. (STD.CU.FT.)	6136
AVG.NORM.CO2 RATIO	3.25
FUEL ECONOMY (MI/GAL)	13.36

(81)

OEM condition,
before 4000 mi. durability.

```
VOLLEY CARBURETOR EMISSION LABORATORY
1975 EPA MASS TEST
[redacted]
9-CC-75          9:33
CONSOLE ID#: 4 5
TEST CODE? 1
VEH DATA ? Y
VEH BUILD ? 68
DRV BUILD ? 71
BAROMETER? 29.38
INERT WT.? 3500
TRANS.   ? 3
CYLINDERS? 6
RUN NO.  ? 4
VEH. MAKE? 75 DART
VEH. I.D.? 5CS9
REMARKS  ?
REMARKS  ?
REMARKS  ? EVAP

ZERO CHECK
 FID=     1  COR=   .01 CO2R=   .00   NO=     2 CO2D=   .00

CRAN CHECK
 FID=    99  COR=  7.95 CO2R= 15.91   NO=   189 CO2D=  4.18

REPEAT Z/S CHECKS? N

TEST START :  10: 6:35.3
CRANK TIME :  1.5

MODE    ---TAILPIPE CONC---  CO2D  ------ MASS (GRAMS) ------   EXH.   D/R
 P/A/S    HC    CO    NO    CO2  CONC     HC      CO      NO      CO2    VOL.   F/E

CRANK     11   .00     0    .03   .02   .003     .00    .000      .1     5.1   1.50
I  .815   505 2.73    74   7.41   .39   .268    9.84    .042    41.6    10.8   3.73
A 3.83    970 2.23   653   8.96  1.44   .332    5.91    .273    37.4     8.0   6.93
C 25.0    494   .98  212  10.49  1.54  1.339   18.12    .630   324.7    56.1   6.91
D-1.03    612 1.94   126  10.84   .61   .877    1.63    .817    14.3     2.6  17.77
      --CYCLE  1 (GRAMS/MILE)--        .572    9.39    .269   116.6    32.7  12.96

I  .654   160   .03    74  10.09   .53   .073     .10    .038    51.9     9.9  17.48
A 2.13    141   .09   326  11.57  2.56   .234    1.22    .667   246.3    41.2   4.63
C 53.1     93   .00   238  10.28  2.74   .464     .00   1.748   603.4   114.1   3.73
D-1.01     37   .00    84   7.95   .68   .023     .00    .063    58.0    12.6  11.69
      --CYCLE  2 (GRAMS/MILE)--        .236     .37    .697   265.8   177.9  15.14
```

I	694	34	.00	190	7.62	.54	.007	.00	.040	16.4	4.2	14.97
A	2.77	49	.00	396	10.32	2.11	.043	.00	.385	89.1	18.3	4.89
C	30.3	55	.00	174	9.47	1.59	.034	.00	.113	66.6	10.2	5.94
D	-1.00	00	.00	131	8.05	.57	.000	.00	.001	13.4	4.2	15.76
		--CYCLE	3	(GRAMS/MILE)--			.005	.00	.157	54.3	39.3	10.70
I	722	03	.00	174	8.89	.54	.000	.00	.013	6.3	1.4	16.46
A	2.30	43	.00	442	10.36	2.01	.005	.00	.279	66.9	11.9	4.91
D	-1.00	07	.00	166	9.26	.70	.006	.00	.042	23.3	4.3	13.00
		--CYCLE	4	(GRAMS/MILE)--			.009	.00	.092	26.7	19.6	19.00
I	700	05	.00	169	8.39	.54	.000	.00	.044	22.6	4.5	16.46
A	2.13	43	.01	358	11.23	2.44	.040	.00	.388	86.5	16.9	4.50
C	25.7	39	.00	226	8.73	1.23	.007	.00	.216	70.0	17.5	6.36
D	-1.00	00	.00	163	8.23	.54	.004	.00	.036	17.7	4.1	15.94
		--CYCLE	5	(GRAMS/MILE)--			.002	.00	.169	66.1	43.4	13.33
I	697	00	.00	159	8.77	.53	.001	.00	.012	6.2	1.4	16.55
A	2.33	35	.00	318	9.54	1.41	.002	.00	.140	63.9	12.7	6.77
C	25.5	34	.00	199	9.29	1.71	.010	.00	.071	33.4	6.9	9.25
D	-1.00	01	.00	172	8.69	.57	.003	.00	.025	12.1	2.7	15.00
		--CYCLE	6	(GRAMS/MILE)--			.013	.00	.264	89.5	27.0	16.13
I	695	00	.00	136	8.72	.53	.005	.00	.030	22.1	4.4	16.47
A	2.11	38	.00	344	10.03	1.44	.010	.00	.268	87.0	5.2	6.97
C	10.9	05	.00	246	8.61	.99	.002	.00	.033	21.9	13.7	9.79
D	-1.03	37	.01	169	10.00	.64	.005	.01	.007	13.6	2.6	16.36
		--CYCLE	7	(GRAMS/MILE)--			.010	.00	.091	36.6	30.6	15.71
I	676	01	.00	123	8.75	.53	.007	.00	.045	21.0	6.9	16.51
A	2.74	36	.00	207	9.76	1.66	.008	.00	.107	52.7	11.6	5.33
D	-1.01	07	.02	117	8.00	.38	.011	.02	.051	38.5	8.3	17.96
		--CYCLE	8	(GRAMS/MILE)--			.010	.00	.057	32.9	26.8	11.59
I	673	00	.00	113	8.78	.52	.003	.00	.021	15.9	3.5	16.88
A	2.86	34	.00	194	9.99	1.30	.022	.00	.133	67.2	13.0	7.68
D	-1.02	01	.00	123	9.53	.60	.004	.00	.023	16.9	3.4	15.98
		--CYCLE	9	(GRAMS/MILE)--			.007	.00	.046	25.6	19.9	11.83
A	2.53	37	.00	222	9.77	1.67	.025	.00	.164	78.6	14.7	5.35
D	-1.01	00	.00	108	8.62	.67	.003	.00	.050	32.9	7.4	18.84
		--CYCLE	10	(GRAMS/MILE)--			.009	.00	.055	26.6	21.3	16.26
A	2.73	35	.00	268	10.11	1.77	.023	.00	.191	78.5	13.5	5.71
C	27.3	00	.00	165	9.16	1.59	.005	.00	.771	413.4	33.2	7.33
D	-1.03	01	.00	145	9.39	.60	.003	.00	.024	15.4	3.2	15.65
		--CYCLE	11	(GRAMS/MILE)--			.031	.00	.253	129.3	104.8	23.99
A	2.68	33	.00	221	9.96	1.65	.022	.00	.157	69.1	13.4	6.04
C	24.9	21	.00	165	9.12	.96	.016	.00	.132	71.5	15.1	9.51
D	-1.01	14	.00	141	8.53	.58	.003	.00	.037	21.7	4.9	14.71
		--CYCLE	12	(GRAMS/MILE)--			.010	.00	.083	41.6	33.4	20.58
I	672	16	.00	98	8.76	.52	.006	.00	.037	35.2	7.8	16.35
A	2.53	35	.00	216	9.94	1.70	.024	.00	.159	71.4	13.5	5.85
D	-1.01	17	.00	99	8.92	.61	.008	.00	.044	40.6	9.2	14.62
		--CYCLE	13	(GRAMS/MILE)--			.010	.00	.061	38.5	33.9	19.36
A	2.15	35	.00	134	9.90	1.23	.016	.00	.105	65.6	10.8	7.73
C	26.5	21	.00	176	9.31	1.05	.010	.00	.098	46.4	9.6	8.87
D	-1.03	15	.00	112	8.28	.58	.002	.00	.020	14.5	3.4	15.94
		--CYCLE	14	(GRAMS/MILE)--			.007	.00	.069	32.5	25.8	19.47
I	674	16	.00	98	8.71	.52	.003	.00	.017	17.9	4.8	16.77
A	3.61	33	.01	304	10.37	1.89	.012	.00	.119	39.3	7.4	5.46

81-2

```
D-1.84   33   .69  261  10.79   .65    .005    .00    .038    15.1     2.7   16.49
      --CYCLE 15 (GRAMS/MILE)--        .035    .01    .045    13.7    14.2    8.94

I  675   17   .00   83   3.79   .53    .000    .00    .011    11.1     0.4   16.04
A 2.79   06   .10  100   3.79  1.17    .014    .00    .021    54.6    10.2    7.39
C 91.3   13   .16  146   3.37   .24    .007    .00    .050    37.3     7.7    8.96
D-1.76   14   .27  113   3.73   .55    .009    .01    .010    14.4     2.1   16.13
      --CYCLE 16 (GRAMS/MILE)--        .026    .02    .040    28.1    23.9   15.48

I  660   16   .00   78   3.76   .52    .003    .00    .017    14.9     3.0   16.25
A 2.33   05   .08  107   3.67  1.20    .010    .00    .016    65.5    17.1    7.93
C 95.4   07   .00  141   3.37  1.11    .016    .00    .029    62.9    10.4    8.37
D-1.77   09   .00  108   3.81   .63    .004    .00    .010    16.9     3.4   14.67
      --CYCLE 17 (GRAMS/MILE)--        .010    .00    .020    40.1    20.9   10.03

I  660   16   .00   77   3.75   .52    .005    .00    .026    28.1     6.4   16.33
A 2.61   31   .00  164   3.74  1.19    .015    .00    .024    42.6     9.7    6.54
D-1.71   13   .00   78   3.78   .58    .004    .00    .005    21.7     4.3   15.14
I  66    16   .00   65   3.80   .32    .001    .00    .035     5.5     1.3   25.00
      --CYCLE 18 (GRAMS/MILE)--        .006    .00    .034    26.9    20.9   10.55



TEST STOP:  10:29:55
TEST LENGTH: 1379.9

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     3  COD=     2  NOX=     0 CO2D=   .00

SPAN CHECK OUT OF LIMITS
 FID=    93  COD=  1727* NOX=   195 CO2D=  4.03

ZERO CHECK
 FID=     9  COD=     5  NOX=     0 CO2D=   .00

SPAN CHECK
 FID=    99  COD=  1746  NOX=   197 CO2D=  4.10

REPEAT Z/S CHECKS? N

COLD TRAN SAMP
 FID=    35  COD=   447  NOX=    44 CO2D=  1.54

COLD STAB SAMP
 FID=    14  COD=     7  NOX=    19 CO2D=   .92

COLD TRAN AMB
 FID=    15  COD=     8  NOX=     0 CO2D=   .03

COLD STAB AMB
 FID=    12  COD=     6  NOX=     0 CO2D=   .03

REPEAT BAG READS ? N

SOAK TIME :  599

TEST START :  12:39:29.2
CRANK TIME :  2.3

MODE   ---TAILPIPE CONC---  CORR  ------ MASS (GRAMS) ------   FXW.   D/E
 D/A/S   HC    CO    NO   CO2  CONC     HC      CO      NO     CO2    WGT.   E/E

CRANK     5   .28     0  1.17   .26    .000     .00    .003      .2     .5  14.97
```

81-3

CRANK	5	.[illegible]	2	1.13	.26	.[illegible]	.[illegible]	.[illegible]	[illegible]	.2	13.[illegible]	
I 543	773	.37	42	7.55	.43	.192	.59	.[illegible]12	13.8	4.9	12.[illegible]	
A 3.13	3[illegible]	.[illegible]0	135	9.[illegible]3	1.54	.1[illegible]	.[illegible]0	.[illegible]77	[illegible]9.7	7.[illegible]	[illegible].[illegible]	
C [illegible].4	119	.[illegible]3	213	[illegible].54	1.16	.[illegible]73	.[illegible]3	.[illegible]03	[illegible]09.1	4[illegible].4	[illegible].[illegible]	
D-1.[illegible]	[illegible]9	.[illegible]3	13[illegible]	[illegible].[illegible]9	.54	.[illegible]13	.[illegible]3	.[illegible]19	19.[illegible]	[illegible].3	19.[illegible]	
--CYCLE 1 (GRAMS/MILE)--						.167	.19	.176	[illegible]3.[illegible]	[illegible]9.4	19.[illegible]7	
I [illegible]09	33	.[illegible]0	44	5.33	.43	.[illegible]13	.[illegible]3	.[illegible]03	[illegible]9.[illegible]	[illegible].[illegible]	13.35	
A 2.15	7[illegible]	.35	365	11.[illegible]3	2.19	.193	.59	.[illegible]05	[illegible]35.7	7[illegible].[illegible]	[illegible].[illegible]	
C [illegible].[illegible]	49	.[illegible]3	3[illegible]7	10.[illegible]4	2.36	.[illegible]41	.[illegible]3	1.[illegible]77	501.5	1[illegible].[illegible]	[illegible].[illegible]	
D-1.[illegible]	3[illegible]	.[illegible]0	75	7.57	.[illegible]9	.[illegible]19	.[illegible]3	.[illegible]43	[illegible]7.5	1[illegible].1	19.[illegible]	
--CYCLE 2 (GRAMS/MILE)--						.112	.16	.[illegible]66	[illegible]3.1	15[illegible].7	[illegible].19	
I [illegible]09	19	.[illegible]3	129	7.47	.51	.[illegible]34	.[illegible]0	.[illegible]09	15.4	4.[illegible]	13.[illegible]	
A 2.77	36	.[illegible]0	333	10.25	1.92	.[illegible]30	.[illegible]0	.[illegible]93	[illegible]9.7	16.[illegible]	5.34	
C 36.2	33	.[illegible]0	211	9.52	1.36	.[illegible]13	.[illegible]0	.121	53.6	1[illegible].[illegible]	7.[illegible]	
D-1.[illegible]	20	.[illegible]0	85	8.35	.54	.[illegible]04	.[illegible]0	.[illegible]13	17.5	4.[illegible]	15.46	
--CYCLE 3 (GRAMS/MILE)--						.015	.[illegible]0	.127	48.[illegible]	35.[illegible]	13.57	
I 673	17	.[illegible]0	91	8.79	.51	.[illegible]31	.[illegible]0	.[illegible]36	5.[illegible]	1.[illegible]	17.24	
A 3.[illegible]3	45	.[illegible]6	349	10.[illegible]6	2.1[illegible]	.[illegible]25	.[illegible]6	.[illegible]07	67.7	11.[illegible]	5.[illegible]2	
D-1.[illegible]	[illegible]1	.[illegible]0	135	[illegible].05	.67	.[illegible]05	.[illegible]0	.[illegible]39	[illegible]1.7	4.5	13.71	
--CYCLE 4 (GRAMS/MILE)--						.[illegible]03	.[illegible]7	.[illegible]69	[illegible]5.4	17.[illegible]	13.[illegible]3	
I [illegible]75	16	.[illegible]0	[illegible]7	3.33	.52	.[illegible]04	.[illegible]3	.[illegible]24	[illegible]1.[illegible]	4.[illegible]	16.[illegible]3	
A [illegible].14	3[illegible]	.[illegible]3	434	11.[illegible]1	2.25	.[illegible]29	.[illegible]3	.[illegible]257	[illegible]9.5	15.5	4.[illegible]9	
C 35.[illegible]	[illegible]4	.[illegible]0	173	3.33	1.19	.[illegible]19	.[illegible]3	.153	74.[illegible]	16.[illegible]	7.42	
D-1.[illegible]	19	.[illegible]3	131	3.17	.53	.[illegible]04	.[illegible]1	.[illegible]23	17.[illegible]	4.1	15.[illegible]9	
--CYCLE 5 (GRAMS/MILE)--						.015	.[illegible]5	.156	56.1	4[illegible].[illegible]	13.67	

TEST STOP: 10:48:17
TEST LENGTH: 597.0

**** MASS BAG RESULTS *****

ZERO CHECK
FID= 0 COD= 0 NOX= 0 CO2D= .00

SPAN CHECK
FID= [illegible]9 COD= 1762 NOX= 203 CO2D= 4.12

REPEAT B/G CHECKS? N

HOT TRAN SAMP
FID= 21 COD= 39 NOX= 38 CO2D= 1.37

HOT TRAN AMB
FID= 12 COD= [illegible]10 NOX= 0 CO2D= .03

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS - COLD TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.364	10.04	.182	139	36.3
ACCEL	.774	7.19	1.923	546	96.3
DECEL	.116	1.63	.179	106	23.1
CRUISE	1.355	13.12	2.087	1052	282.4
CHOKE	2.421	36.88	1.673	697	133.3
TOTAL	3.129	36.97	4.934	1963	361.2

81-4

EQUIVALENT MASS BAG RESULTS
GMS/MI .764 10.07 1.334 916.7

COMPOSITE GRAMS - COLD STABILIZED

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.037	.28	.210	137	41.4
ACCEL	.039	.22	1.675	770	150.9
DECEL	.002	.01	.390	276	59.2
CRUISE	.178	.20	1.443	745	158.2
CHOKE	.000	.00	.000	0	.0
TOTAL	.514	.93	3.734	1928	409.5

EQUIVALENT MASS BAG RESULTS
GMS/MI .132 .21 .957 507.7

COMPOSITE GRAMS - HOT TRANSIENT

MODE TYPE	HC	CO	NOX	CO2	EXVOL
IDLE	.269	.59	.888	195	25.3
ACCEL	.347	.35	1.635	491	87.5
DECEL	.041	.10	.146	117	27.5
CRUISE	.543	.83	2.423	879	173.7
CHOKE	.743	1.13	1.351	553	123.3
TOTAL	1.144	1.44	4.096	1591	314.1

EQUIVALENT MASS BAG RESULTS
GMS/MI .313 .40 1.193 442.1

WEIGHTED TOTAL EQUIVALENT MASS BAG RESULTS
GMS/MI .334 2.23 1.110 491.6

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

NOT WEIGHTED	HC	CO	NOX	CO2
COLD TRANSIENT	.677	9.74	1.473	497.2
COLD STABILIZED	.139	.04	1.212	464.9
HOT TRANSIENT	.321	.68	1.298	446.1
WEIGHTED TOTAL	.380	1.99	1.134	466.4

***** TEST VARIABLES *****

	COLD TRANS.	COLD STAB.	HOT TRANS.
DILUTION FACTOR	8.412	14.488	9.710
RELATIVE HUMIDITY	61	61	61
HUM. CORR. FACTOR	.978	.978	.978
CVS REVOLUTIONS	9830	16870	9940
AVG.INLET DEPR. (IN.H20)	15.1	15.2	15.1
AVG.PRESSURE DIFF. (IN.H20)	24.9	25.0	24.9
AVG.CVS TEMPERATURE (DEG.F)	91	90	91
MAX.INLET DEPR. (IN.H20)	15.5	15.6	15.2
MIN.INLET DEPR. (IN.H20)	15.0	15.1	15.1
MAX.CVS TEMPERATURE (DEG.F)	97	93	96
MIN.CVS TEMPERATURE (DEG.F)	86	83	86
AVG.CVS FLOW (CU.FT/REV)	.257	.257	.257
TOTAL CVS VOL. (STD.CU.FT.)	2530	3923	2308
AVG MODAL CO2 RATIO	6.16	9.57	6.25
FUEL ECONOMY (MI/GAL)	17.31	19.86	19.80

Composite F/E 17.8 MPG

(82)

OEM condition,
before 4000 mi. durability.

HOLLEY CARBURETOR EMISSION LABORATORY
1973 EPA MASS TEST

[redacted]-75 15:14
CO [illegible]: 4 5
TEST CODE? 1
NEW DATA ? Y
VEH BULB ? 60
DEV BULB ? 72
BAROMETER? 29.44
INERT WT.? 3500
TRANS. ? A
CYLINDERS? 6
RUN NO. ? 1
VEH. MAKE? DODGE DART
VEH. I.D.? 5C-32
REMARKS ?
REMARKS ?
REMARKS ? EVAP.

ZERO CHECK
FID= 0 COR=-00.02 CO2R= .00 NO= 0 CO2D= .00

SPAN CHECK OUT OF LIMITS
FID= 93* COR= 8.07 CO2R= 15.56 NO= 196 CO2D= 4.09

ZERO CHECK
FID= 0 COR=-00.01 CO2R= .00 NO= 2 CO2D= .00

SPAN CHECK
FID= 100 COR= 8.01 CO2R= 15.65 NO= 194 CO2D= 4.09

REPEAT Z/S CHECKS? N

TEST START : 15:26:31.6
CRANK TIME : 1.9

MODE	---TAILPIPE CONC---			CO2D	------MASS (GRAMS) ------				EVH.	D/P
	R/A/S	HC	CO	NO	CO2 CONC	HC	CO	NO	CO2	VOL.	F/E
CRANK	94	.00	0	.27	.00	.003	.00	.000	.1	.7	13.50
I 726	845	.63	74	6.04	.32	.381	1.09	.613	15.2	4.9	19.33
A 3.23	957	.51	584	9.40	1.43	.305	1.36	.903	37.7	7.7	8.57

C 25.3	259	.05	306	9.71	1.26	.039	.00	.046	255.1	5.4	7.70	
D-1.04	109	.00	113	9.02	.57	.015	.00	.016	13.6	2.8	16.53	
--CYCLE 1 (GRAMS/MILE)--						.152	.47	.145	40.6	66.5	13.15	

82-1

I 678	75	.00	39	3.66	.57	.037	.00	.045	15.4	13.1	17.79	
A 2.16	127	.06	345	10.71	2.16	.023	.76	.670	216.5	33.7	5.03	
C 53.2	66	.02	280	10.19	2.47	.339	.00	1.534	554.2	104.9	4.11	
D-1.01	33	.00	85	7.96	.69	.009	.00	.058	43.9	11.7	12.34	
--CYCLE 2 (GRAMS/MILE)--						.050	.19	.397	115.9	165.4	88.26	
I 681	33	.00	138	9.12	.59	.005	.00	.003	16.3	3.4	17.56	
A 2.79	52	.00	373	10.94	2.04	.040	.00	.323	96.1	17.9	5.36	
C 36.1	38	.00	217	9.65	1.34	.022	.00	.117	53.3	10.7	7.28	
D-1.10	29	.00	126	8.31	.54	.006	.00	.005	17.3	3.9	16.31	
--CYCLE 3 (GRAMS/MILE)--						.019	.00	.065	24.4	34.5	17.34	
I 679	23	.00	118	8.95	.51	.002	.00	.003	6.9	1.3	17.57	
A 3.26	46	.01	323	10.71	1.81	.022	.03	.162	55.3	10.9	5.92	
D-1.00	26	.00	231	10.23	1.00	.011	.00	.079	28.9	6.2	18.03	
--CYCLE 4 (GRAMS/MILE)--						.005	.00	.030	12.6	17.5	13.96	
I 674	27	.00	101	9.09	.51	.006	.00	.003	21.6	4.6	17.61	
A 3.13	59	.00	439	11.39	2.39	.040	.00	.351	95.6	16.9	4.77	
C 36.8	33	.00	220	9.37	1.13	.022	.00	.132	74.5	16.8	7.53	
D-1.00	22	.00	135	9.15	.53	.004	.00	.028	17.7	4.1	15.33	
--CYCLE 5 (GRAMS/MILE)--						.013	.00	.072	27.9	41.1	13.99	
I 675	24	.00	112	8.87	.50	.002	.00	.007	5.9	1.3	17.74	
A 2.32	29	.00	217	9.70	1.32	.017	.00	.123	53.9	11.7	7.35	
C 25.5	27	.00	193	9.59	.97	.008	.00	.060	31.7	6.4	9.99	
D-1.04	21	.00	139	9.20	.57	.003	.00	.013	12.3	2.5	16.14	
--CYCLE 6 (GRAMS/MILE)--						.004	.00	.009	14.5	21.9	17.05	
I 667	23	.00	100	8.87	.51	.005	.00	.021	10.2	4.2	17.39	
A 3.38	31	.00	221	10.17	1.49	.008	.00	.050	27.9	5.3	6.83	
C 19.3	25	.00	207	9.35	.89	.018	.00	.153	73.1	15.1	10.51	
D-1.04	21	.00	209	10.08	.65	.004	.03	.023	13.7	2.6	15.51	
--CYCLE 7 (GRAMS/MILE)--						.005	.00	.035	17.9	27.2	16.73	
I 665	22	.00	91	8.35	.51	.007	.03	.030	29.9	6.5	17.35	
A 2.76	49	.04	226	10.02	1.59	.021	.14	.122	55.6	10.7	6.34	
D-1.02	24	.00	123	8.96	.77	.009	.00	.043	36.1	7.7	11.77	
--CYCLE 8 (GRAMS/MILE)--						.005	.12	.027	16.2	24.9	18.22	
I 661	22	.00	85	8.79	.59	.004	.00	.014	15.2	3.3	17.66	
A 2.37	36	.04	180	9.96	1.18	.021	.16	.107	61.9	11.8	8.45	
D-1.02	20	.00	104	9.33	.59	.003	.00	.018	16.6	3.4	15.81	
--CYCLE 9 (GRAMS/MILE)--						.004	.02	.019	12.4	18.6	12.77	
A 2.63	37	.00	230	10.07	1.66	.024	.00	.156	70.0	13.4	6.07	
D-1.01	27	.01	118	9.19	.64	.009	.02	.039	31.5	6.6	14.36	
--CYCLE 10 (GRAMS/MILE)--						.004	.00	.026	13.5	20.0	16.69	
A 2.71	32	.00	248	10.12	1.70	.020	.00	.161	67.4	12.8	5.96	
C 27.4	22	.00	165	9.04	1.01	.008	.00	.682	334.5	82.0	8.96	
D-1.03	21	.00	127	9.61	.61	.003	.00	.020	15.6	3.1	15.75	
--CYCLE 11 (GRAMS/MILE)--						.015	.00	.115	62.3	98.0	25.78	
A 2.60	29	.00	213	9.95	1.53	.018	.00	.134	64.5	12.5	6.51	
C 24.9	20	.00	149	9.14	.92	.014	.00	.109	68.4	14.4	9.93	
D-1.02	18	.00	93	8.56	.54	.004	.00	.022	20.6	4.6	15.56	
--CYCLE 12 (GRAMS/MILE)--						.005	.00	.035	20.5	31.6	21.67	
I 657	19	.00	76	8.79	.50	.007	.00	.029	33.9	7.4	17.69	
A 2.62	32	.00	220	9.99	1.59	.020	.00	.143	66.8	12.9	6.28	
D-1.01	19	.00	75	8.63	.54	.007	.00	.027	33.9	8.6	15.73	

```
        --CYCLE 13 (GRAMS/MILE)--      .005    .00     .005    18.6    23.9  13.25
A 0.15   86  .00 153  8.34 1.24        .016    .00     .168    63.7    10.5   7.01
C 86.5   81  .00 197  9.04  .54        .009    .00     .726    41.6     3.9   9.07
D-1.33   13  .00  70  8.87  .59        .003    .00     .210    14.9     3.3  16.54
        --CYCLE 14 (GRAMS/MILE)--      .004    .00     .006    15.9    64.6  23.00

I  654   13  .00  71  8.77  .58        .003    .00     .014    17.5     3.9  17.54
A 3.63   31  .02 271 10.34 1.72        .010    .04     .099    36.9     6.3   6.31
D-1.04   99  .02 353 11.06  .69        .014    .10     .250    16.1     2.3  16.03
        --CYCLE 15 (GRAMS/MILE)--      .004    .03     .021     9.3    13.4   3.59

I  653   23  .00  38  8.35  .51        .003    .00     .059    18.7     2.3  17.35
A 0.06   85  .00 153  9.00 1.09        .010    .00     .230    51.4    10.0   9.20
C 81.2   18  .00 185  9.24  .32        .006    .00     .042    31.7     6.6  11.55
D-1.33   16  .00  91  8.12  .54        .002    .00     .014    14.8     3.8  16.53
        --CYCLE 16 (GRAMS/MILE)--      .003    .00     .019    14.4    22.8  16.25

I  647   13  .00  70  8.79  .58        .003    .00     .011    14.1     3.1  17.58
A 0.03   86  .00 177  9.74 1.14        .015    .00     .168    61.3    10.8   8.54
C 85.5   83  .00 153  9.24 1.07        .011    .03     .092    55.3    11.6   8.97
D-1.33   82  .00 150  8.92  .68        .004    .00     .006    15.9     3.5  14.03
        --CYCLE 17 (GRAMS/MILE)--      .004    .02     .030    19.5    30.3  17.79

I  651   13  .00  69  8.76  .58        .005    .00     .002    23.1     6.2  17.58
A 0.03   87  .00 171  9.33 1.42        .010    .00     .079    46.6     9.1   6.99
D-1.30   13  .00  74  8.69  .54        .004    .00     .017    23.6     4.6  15.30
I  650   17  .00  68  8.69  .48        .001    .00     .004     5.7     1.3  17.59
        --CYCLE 18 (GRAMS/MILE)--      .003    .00     .016    17.5    21.2  19.98


TEST STOP:  15:49:51
TEST LENGTH: 1373.9

***** MASS BAG RESULTS *****

ZERO CHECK
 FID=     1  COD=     2  NOX= -0001 CO2D=    .02

SPAN CHECK
 FID=   100  COD=  1765  NOX=   206 CO2D=  4.11

REPEAT Z/S CHECKS? N

SAMPLE BAG
 FID=     6  COD=   749  NOX=     2 CO2D=   .13

BACKGROUND BAG
 FID=     7  COD=   638  NOX=     2 CO2D=   .16

REPEAT BAG READS ? Y

SAMPLE BAG
 FID=    18  COD=    35  NOX=    27 CO2D=  1.11

BACKGROUND BAG
 FID=    13  COD=     5  NOX=     0 CO2D=   .02

REPEAT BAG READS ? N

***** MODAL SUMMARY *****

COMPOSITE GRAMS
```

82-3

MODE TYPE	HC	CO	NOX	CO2	FUEL
IDLE	.295	1.09	.283	985	64.5
ACCEL	.846	2.44	3.296	1233	271.7
DECEL	.107	.21	.529	305	35.1
CRUISE	1.176	.73	3.280	1602	307.1
CRUISE	1.423	3.89	1.398	530	115.0
TOTAL	2.445	4.57	7.917	3534	793.9

EQUIVALENT MASS BAG RESULTS

GMS/MI	.326	.61	1.056	471.2

***** EPA MASS TEST RESULTS *****

MASS EMISSIONS (GRAMS/MILE)

HC	CO	NOX	CO2
.283	.82	1.132	463.9
.208	.84	1.16	

***** TEST VARIABLES *****

RELATIVE HUMIDITY	56
HUM. CORR. FACTOR	.931
CVS REVOLUTIONS	26668
AVG.INLET DEPR. (IN.H20)	15.1
AVG.PRESSURE DIFF. (IN.H20)	24.9
AVG.CVS TEMPERATURE (DEG.F)	90
MAX.INLET DEPR. (IN.H20)	15.3
MIN.INLET DEPR. (IN.H20)	15.0
MAX.CVS TEMPERATURE (DEG.F)	95
MIN.CVS TEMPERATURE (DEG.F)	80
AVG.CVS FLOW (CU.FT/REV)	.257
TOTAL CVS VOL. (STD.CU.FT.)	6228
AVG MODAL CO2 RATIO	8.55
FUEL ECONOMY (MI/GAL)	18.94
	18.34

.264

(83) RAN ON W/ BENCH # 9-30-75

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.:	1
DATE:	10/ 1/75	W/O:	
TEST DESCRIPTION:	EVAP	% CO SETTING:	
VEHICLE MAKE:	DART	BAROMETER (IN. HG.):	29.350
VEHICLE YEAR:	75	WET BULB TEMP (DEG. F):	61.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	72.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	63.84335
CARBURETOR & NO.:	OEM	KH:	0.95018
VEHICLE TEST WT.:		R:	53.6
IDLE RPM:		SPARK VAC.:	

P1	=	15.800 IN. H20	V0	=	0.257 CU. FT./REV.
N	=	14474.0 REV.	DF	=	6.080
PP	=	715.972 MM HG	V MIX	=	3341.732 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	14.961	0.816	0.080
CO	11.284	1.243	0.121
CO2	22000.000	3811.913	372.184

MPG = 23.818

ANOTHER CASE?? YES

(84) RAN ON NIGHT BENCH #2 9-30-75

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.: 2	
DATE:	10/ 1/75	W/O:	
TEST DESCRIPTION:	EVAP	% CO SETTING:	
VEHICLE MAKE:	DART	BAROMETER (IN. HG.):	29.350
VEHICLE YEAR:	75	WET BULB TEMP (DEG. F):	61.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	72.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	63.84335
CARBURETOR & NO.:	OEM	KH:	0.95018
VEHICLE TEST WT.:		R:	53.6
IDLE RPM:		SPARK VAC.:	

P1	=	15.900 IN. H20	V0	=	0.257 CU. FT./REV.
N	=	14465.0 REV.	DF	=	6.622
PP	=	715.786 MM HG	V MIX	=	3338.783 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	11.718	0.639	0.062
CO	9.438	1.039	0.101
C02	20115.100	3482.242	339.996

MPG = 26.077

ANOTHER CASE?? YES

(85) RAN ON NIGHT-
BENCH #2
9-30-75

HIGHWAY FUEL ECONOMY TEST EVALUATION

TEST NO.:		RUN NO.: 3	
DATE:	10/ 1/75	W/O:	
TEST DESCRIPTION:		% CO SETTING:	
VEHICLE MAKE: DART		BAROMETER (IN. HG.):	29.350
VEHICLE YEAR: 75		WET BULB TEMP (DEG. F):	61.0
ENGINE CID:		DRY BULB TEMP (DEG. F):	72.0
TRANSMISSION:		GRAINS OF H20/LB. DRY AIR:	63.84335
CARBURETOR & NO.: OEM		KH:	0.95018
VEHICLE TEST WT.:		R:	53.6
IDLE RPM:		SPARK VAC.:	

P1	=	15.900 IN. H20	V0	=	0.257 CU. FT./REV.
N	=	14406.0 REV.	DF	=	6.588
PP	=	715.786 MM HG	V MIX	=	3337.219 CU. FT.

	CONC - PPM	MASS - GMS	GMS/MI
HC	14.732	0.803	0.078
CO	10.380	1.142	0.112
C02	20130.350	3483.250	340.095

MPG = 26.064

ANOTHER CASE?? YES

(86)

SHEET _____

TEST NO. #C/ LAB NAME Holley Emission CAR NO. 5C80
SYSTEM UNDER TEST FUEL Indo. "O"
VEH. MFR. Chrysler MODEL Dart YEAR 75
BODY TYPE 4 DR SEDAN TRANS. Auto WEIGHT 3500
ODO. AIR CONDITIONER Yes ACC.
ENG. MFR. Chrysler ENG. TYPE Slant Six NO. CYL. 6
DISPL. 225 Cid CARB. MAKE MODEL & NO. VENTURI
ADV. H.P. MANIF. HEAT
FUEL TANK LOCATION & CONFIGURATION
TANK VENT SYSTEM
TANK CAPACITY FILL CAP TYPE
CARB. VENT SYS.
FUEL PUMP TYPE BLEED BACK RETURN LINE

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	9/26/75								
		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
TANK FUEL TEMP.	START	9:10	80.0	80.2	10:05	72.3	85.3	10:52	80.2	84.8
	FINISH	10:00	79.6	84.9	10:50	71.9	89.5	11:52	79.8	87.6
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		#13						#1	
	TARE WT.		268.53						268.16	
	END WT.		269.70						268.26	
	DIFF.		1.17						.10	
CHARCOAL IDENT.		TOTAL EMISSION								1.27 gpm

OBSERVER

(87)

SHEET _____

TEST NO. #5 LAB NAME Holley Emission CAR NO. 5C60

SYSTEM UNDER TEST _____ FUEL Indo. "O"

VEH. MFR. Chrysler MODEL Dart YEAR 75

BODY TYPE 4 DR SEDAN TRANS. Auto WEIGHT 3500

ODO. _____ AIR CONDITIONER Yes ACC. _____

ENG. MFR. Chrysler ENG. TYPE Slant Six NO. CYL. 6

DISPL. 225 Cid CARB. MAKE _____ MODEL & NO. VENTURI _____

ADV. H.P. _____ MANIF. HEAT _____

FUEL TANK LOCATION & CONFIGURATION _____

TANK VENT SYSTEM _____

TANK CAPACITY _____ FILL CAP TYPE _____

CARB. VENT SYS. _____

FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	9/29/75								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	9:15	79.2	58.7	10:12	71.6	85.3	11:42	80.1	87.9
	FINISH	10:12	80.1	84.4	10:52	73.5	89.8	12:02	81.0	90.2
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.	~~#68~~	#69	X	X	X	X	X	#87	
	TARE WT.	X	262.33	X	X	X	X	X	261.20	
	END WT.	X	272.43	X	X	X	X	X	267.41	
	DIFF.		1.10						6.21	
CHARCOAL IDENT.		TOTAL EMISSION								1.31 gain

OBSERVER Newton

(88)

SHEET _____

TEST NO. #6 LAB NAME Holley Emission CAR NO. 5C80
SYSTEM UNDER TEST _____ FUEL Indo. "O"
VEH. MFR. Chrysler MODEL Dart YEAR 75
BODY TYPE 4 Dr Sedan TRANS. Auto WEIGHT 3500
ODO. _____ AIR CONDITIONER Yes ACC. _____
ENG. MFR. Chrysler ENG. TYPE Slant Six NO. CYL. 6
DISPL. 225 Cid CARB. MAKE _____ MODEL & NO. VENTURI _____
ADV. H.P. _____ MANIF. HEAT _____
FUEL TANK LOCATION & CONFIGURATION _____
TANK VENT SYSTEM _____
TANK CAPACITY _____ FILL CAP TYPE _____
CARB. VENT SYS. _____
FUEL PUMP TYPE _____ BLEED BACK _____ RETURN LINE _____

TRAP METHOD

		DIURNAL			RUNNING			HOT SOAK		
	DATE	9/30/75								
TANK FUEL TEMP.		TIME	AMB.	TANK	TIME	AMB.	TANK	TIME	AMB.	TANK
	START	9:40	78.9	60.3	10:45	71.3	86.5	11:37	79.9	90.0
	FINISH	10:36	79.6	85.3	11:35	72.6	89.9	12:37	80.1	90.6
		TANK	CARB.	SYS.	TANK	CARB.	SYS.	TANK	CARB.	SYS.
TRAP WTS.	TRAP NO.		#8						#15	
	TARE WT.		261.72						273.72	
	END WT.		262.87						273.84	
	DIFF.		1.15						.12	
CHARCOAL IDENT.		TOTAL EMISSION							1.27 gm.	

OBSERVER J Martin

DATE 10-27-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 22
FUEL IND 30 OIL SAE 80
PLUGS
CORR. BAR. 29.06

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER
OBJECT OF TEST

OTHER EQUIPMENT

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS.	B.H.P. OBS.	B.H.P. CORR.	EGR TORQUE VAC	EGR TORQUE ORIFICE	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.	% O2		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1000	13.0	14.8		1.030	.5			3.5	.282	5.7		24		4		74	152	141	45
1600	13.3	22.2		1.031	.5			3.6	.282	9.0		36		4		75	153	151	46
2200	10.8	34.4		1.031	1.2			3.9	.282	13.2		41		4		75	161	164	46
1400	4.5	50.0		1.031	1.0			4.0	.282	12.9		26		4		75	161	165	46
1000	14.2	14.8		1.032	.4			3.4	.200	5.2		24		4		74	160	153	45
1600	13.2	22.2		1.032	.4			3.5	.200	9.1		36		4		74	160	156	47
2200	11.6	34.4		1.033	1.2			3.6	.200	15.0		41		4		75	161	166	48
1400	5.0	50.0		1.034	1.2			3.8	.200	12.8		26		4		76	162	166	46
1300	14.5	14.8		1.028	.4			NO EGR	NO EGR	5.0		24		4		70	156	155	44
1600	14.1	22.2		1.028	.3			"	"	9.2		36		4		70	157	159	47
2200	12.2	34.4		1.029	1.2			"	"	14.8		41		4		71	160	162	48
1400	6.5	50.0		1.028	.8			"	"	8.5		26		4		70	158	160	45
																			68
																			69

REMARKS

Requested By

HOLLEY CARBURETOR
DYNAMOMETER LOG

DATE 10-24-75 DYN. NO. L S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. ____ DISP. 225

RUN NO. 137 CURVE NO. 22
FUEL ____ OIL ____
PLUGS ____
CORR. BAR. 29.02

CARBURETOR
MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST ____
CLEANER ____

OTHER EQUIPMENT

DISTRIBUTOR
MAKE CHRY. SER. NO. ____
MODEL ____ LIST ____
TRANS. ____ INIT. SET ____

OBJECT OF TEST P.T. DISTRIBUTION

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	~~EGR~~ ~~TORQUE~~ VAC OBS.	~~EGR~~ ~~TORQUE~~ ORIFICE ~~CORR.~~	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.	% O2		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1000	10.2	14.8		1.046	.6			4.0	.564	6.3		24		4		70	158	145	46
1600	9.4	22.2		1.043	.7			4.6	.564	9.5		36		4		74	161	156	46
2200	8.3	34.4		1.043	1.5			8.5	.564	16.0		41		4		76	155	172	48
1400	3.8	50.0		1.044	1.3			4.0	.564	13.1		26		4		76	154	154	46
1000	10.0	14.8		1.031	.5			3.8	.488	6.0		24		4		75	148	138	46
1600	9.9	22.2		1.029	.6			4.3	.488	10.0		36		4		73	143	153	46
2200	8.3	34.4		1.032	.7			8.6	.488	16.0		41		4		76	162	170	46
1400	3.7	50.0		1.032	1.2			4.0	.488	12.6		26		4		76	156	170	46
1000	12.9	14.8		1.032	.4			3.5	.400	4.9		24		4		76	163	130	45
1600	11.9	22.2		1.034	.5			3.8	.400	9.0		36		4		78	155	146	46
2200	9.0	34.4		1.029	1.2			5.1	.400	15.5		41		4		73	160	164	46
1400	3.9	50.0		1.029	1.1			4.3	.400	12.6		26		4		73	160	160	46
1000	12.5	14.8		1.030	.41			3.5	.344	6.0		24		4		74	144	138	45
1600	12.6	22.2		1.032	.5			3.7	.344	9.2		36		4		76	155	147	46
2200	9.6	34.4		1.031	1.2			4.0	.344	15.5		41		4		75	145	160	46
1400	4.1	50.0		1.029	1.2			4.2	.344	12.8		26		4		73	150	135	46

REMARKS ____

Requested By ____

8-91

F/A EXHAUST CONCENTRATION DATA

89-2

10-27-75 DYN. NO. LS RUN NO. 137-22 CURVE NO. 1 WT. / EXH

Chevy Van 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS

CARBURETOR

Holley SER. NO. 11958

1985 LIST

Requested By

Request No.

OPERATOR

F/A	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO No	NET O_2	F/A
.564 orifice 1000	WEGR W VA.	ALL	1000	0.22	1.41 / 11.69	4.25	166		
1600	"	ALL	720	0.19	1.32 / 11.69	4.1	215		
2200	"	ALL	430	0.17	0.81 / 12.19	4.05	510		
1400	"	ALL	440	0.12	.51 / 11.82	3.95	719		
.488 orifice 1000	WEGR W VA.	ALL	640	0.15	1.32 / 12.96	4.0	443		
1600	"	ALL	720	0.18	1.32 / 12.94	4.1	498		
2200	"	ALL	550	0.15	0.85 / 13.37	3.9	480		
1400	"	ALL	480	0.12	0.54 / 13.11	4.1	581		
.400 orifice 1000	WEGR W VA.	ALL	380	0.12	0.65 / 13.37	4.2	485		
1600	"	ALL	560	0.1	0.89 / 12.7	4.2	320		
2200	"	ALL	520	0.15	0.89 / 13.67	3.9	525		
1400	"	ALL	410	0.12	0.73 / 13.65	3.95	615		
.344 orifice 1000	WEGR W VA	ALL	340	0.13	0.58 / 11.82	* 4.3	200		
1600	"	ALL	490	0.12	0.66 / 12.33	3.8	505		
2200	"	ALL	400	0.13	0.61 / 11.94	4.0	553		
1400	"	ALL	345	0.11	0.6 / 12.07	4.0	608		
.282 orifice 1000	WEGR W VA	ALL	440	0.12	0.38 / 10.84	* 5.0	166		
1600	"	ALL	370	0.12	0.47 / 12.07	3.85	525		
2200	"	ALL	370	0.14	0.45 / 11.82	4.0	952		
1400	"	ALL	380	0.1	0.43 / 11.34	4.1	918		

* FULL RICH

F/A EXHAUST CONCENTRATION DATA

89-3

DATE 10-28-75 DYN. NO. 1-S RUN NO. 137-22 CURVE NO. 2 INT-EXH

ENG. Slant 6 FUEL OIL

IGN. YR. 75 PLUGS

NO. CYLS 6 DISP. 225 REMARKS

CARBURETOR

MAKE Holley SER. NO. 41958

MODEL 1983 LIST Requested By

Request No.

OPERATOR

R.P.M. .200 orifice	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
1000	W/EGR W.V.A	ALL	230	0.15	0.27 / 12.07	4.15	221		
1600	"	ALL	280	0.1	0.32 / 12.05	4.2	395		
2200	"	ALL	280	0.12	0.29 / 12.05	3.85	1070		
1400	"	ALL	320	0.11	0.29 / 12.07	4.15	785		
→ 1000	W/OEGR W.V.A	ALL	480	0.12	0.15 / 10.84	* 4.3	249		
1600	"	ALL	400	0.12	0.12 / 10.84	4.1	705		
2200	"	ALL	390	0.15	0.1 / 11.2	3.9	1618		
1400	"	ALL	430	0.12	0.15 / 10.6	4.2	1725		

* FULL RICH

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-4-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 4
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER YES
OBJECT OF TEST W.O.T

OTHER EQUIPMENT

STOCK EM

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR		B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.	BACK PRESS		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.3	87.0		1.028						21.0		8		1.6		79	150	195	46
1600	.4	97.0		1.029						29.5		18		2.3		80	150	177	46
2000	.6	98.0		1.027						37.5		20		3.4		78	146	182	46
2400	.8	99.5		1.032						45.0		23		4.9		83	144	192	47
2800	1.1	99.0		1.034						53.5		22		6.8		86	168	210	47
3200	1.35	95.0		1.034						59.5		21		8.8		86	166	214	46
3600	1.6	87.0		1.034						64.5		21		10.8		86	157	180	47
4000	1.8	78.0		1.036						66.5		22		12.2		88	168	210	46
																			96

REMARKS

Requested By

OPERATOR

F/A EXHAUST CONCENTRATION DATA

90-1

DATE 10-6-75 DYN. NO. L-5 RUN NO. 137-4 CURVE NO. 1
ENGINE Plant 6 FUEL OIL
MODEL YEAR 1975 PLUGS
NO. CYLS 6 DISP. REMARKS WOT power run, 8 Pwds
CARBURETOR REQUESTED BY wired in place @ 11 PSI 3600 RP
MAKE Holley SER. NO. 41958 No vac. adv. Spk. @ TDC, 700 RPM
MODEL 1985 LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
1200		ALL	400	2.8		0.2			
		1	360	7.2					
		2	400	7.8					
		3	380	1.5					
		4	320	0.9		1.8			
		5	340	1.7		1.4			
		6	420	9.6		0.6			
1600		ALL	520	4.2		0.7			
		1	500	9.0					
		2	460	2.4					
		3	400	1.4					
		4	360	0.5		1.3			
		5	360	1.5					
		6	520	10.0+					
2000		ALL	350	3.7		0.5			
		1	260	3.6					
		2	290	3.8					
		3	280	3.5					
		4	190	0.6					
		5	190	0.5					
		6	800	2.7					

F/A EXHAUST CONCENTRATION DATA

90-2

DATE 10-7-75 DYN. NO. 1-5 RUN NO. 137-4 CURVE NO. 2
ENGINE Slant 6 FUEL OIL
MODEL YEAR 1975 PLUGS
NO. CYLS 6 DISP. REMARKS as curve 1
CARBURETOR REQUESTED BY
MAKE Holley SER. NO. 41958
MODEL 1985 LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
2400		ALL	360	7.1		0.4			
		1	500	10.0+					
		2	580	10.0+					
		3	350	4.2					
		4	300	3.5					
		5	280	1.8					
		6	440	10.0+					
2800		ALL	260	7.4		0.4			
		1	490	10.0+					
		2	360	6.0					
		3	260	5.3					
		4	260	4.7					
		5	280	3.5					
		6	430	10.0					
3200		ALL	260	7.9		0.25			
		1	310	9.2					
		2	270	6.0					
		3	220	6.2					
		4	210	5.3					
		5	200	3.5					
		6	330	9.9					

F/A EXHAUST CONCENTRATION DATA

90-3

DATE 10-7-75 DYN. NO. 1-5 RUN NO. 137-4 CURVE NO. 3
ENGINE Slant 6 FUEL OIL
MODEL YEAR 75 PLUGS
NO. CYLS 6 DISP. 225 REMARKS as sheet 1
CARBURETOR REQUESTED BY
MAKE SER. NO.
MODEL LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
3600		ALL	220	7.0		0.25			
		1	230	8.6					
		2	200	5.3					
		3	180	5.8					
		4	170	5.4					
		5	160	3.6					
		6.	260	9.4					
4000		ALL	200	7.5		0.2			
		1	170	7.5					
		2	140	4.3					
		3	150	6.9					
		4	160	6.7					
		5	130	3.2					
		6	190	6.9					

DATE 10-7-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 6

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 5
FUEL _____ OIL _____
PLUGS BL-11Y
CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST _____
CLEANER YES
OBJECT OF TEST W.O.T

OTHER EQUIPMENT

2° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO. _____
MODEL _____ LIST _____
TRANS. _____ INIT. SET _____

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	92.0		1.021	1.6					20.8		9½				72	125	145	46
1600	.3	98.5		1.021	2.2					29.0		20				72	159	150	46
2000	.6	99.0		1.026	3.4					38.0		21				77	156	161	47
2400	.8	100.0		1.027	4.7					45.0		23				78	150	168	48
2800	1.1	99.5		1.029	6.7					53.7		23½				80	150	176	48
3200	1.3	95.5		1.030	8.8					61.0		22				81	138	184	48
3600	1.6	88.5		1.033	10.7					65.0		22				84	140	197	48
4000	1.8	79.5		1.033	12.0					67.0		22½				84	143	195	44

REMARKS _____

Requested By _____

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-7-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 6
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER
OBJECT OF TEST W.O.T.

OTHER EQUIPMENT

4° BTDC

DISTRIBUTOR

MAKE CHRY SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	92.0		1.025	1.6					21.4		11				76	153	153	46
1600	.3	98.0		1.024	2.2					28.0		21				76	133	155	47
2000	.5	100.0		1.024	3.2					36.2		21½				75	132	161	47
2400	.7	100.0		1.027	4.7					44.0		24½				78	140	168	48
2800	1.1	100.0		1.027	6.5					51.5		25				78	153	174	48
3200	1.3	96.0		1.030	8.5					56.5		24½				81	158	182	46
3600	1.6	89.0		1.033	10.3					58.0		24				84	154	195	49
4000	1.7	80.0		1.032	11.8					58.0		24				83	161	200	49

REMARKS

Requested By

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-7-75 DYN. NO. L-5
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 7
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 411958
MODEL 1985 LIST
CLEANER YES
OBJECT OF TEST W.O.T.

OTHER EQUIPMENT

6° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	2	94.0		1.024	1.6					21.0		14				75	137	172	45
1600	.3	98.0		1.024	2.1					28.5		23				75	149	173	46
2000	.6	99.8		1.027	3.2					37.5		24				78	144	177	47
2400	.8	101.0		1.027	4.6					45.5		27				78	158	179	47
2800	1.1	100.0		1.028	6.5					53.0		27				79	145	181	47
3200	1.3	96.5		1.027	8.6					60.5		26½				78	142	189	47
3600	1.6	90.0		1.029	10.4					63.0		25				80	140	190	48
4000	1.7	80.0		1.033	11.8					67.0		24½				84	146	183	48

REMARKS

Requested By

DATE 10-7-75 DYN. NO. L-5

ENGINE CHRYSLER

MODEL SLANT 6 YR. 1975

NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 8

FUEL IND 30 OIL SAE 30

PLUGS BL 14

CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 41958

MODEL 1985 LIST

CLEANER YES

OBJECT OF TEST W.O.T.

OTHER EQUIPMENT

8° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO.

MODEL LIST

TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS.	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	95.0		1.024	1.5					21.0		15½				75	152	166	45
1600	.3	98.0		1.025	2.1					28.2		24½				76	146	170	46
2000	.6	100.5		1.025	3.2					36.5		25½				76	148	174	47
2400	.8	101.0		1.026	4.4					44.5		28½				77	140	176	47
2800	1.1	100.0		1.028	6.4					53.0		28½				79	141	184	47
3200	1.3	96.0		1.030	8.5					59.0		28½				81	159	190	47
3600	1.6	88.0		1.027	10.3					62.0		27				78	151	174	47
4000	1.7	80.0		1.030	11.7					66.0		26				81	138	185	47

REMARKS

Requested By

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-7-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 9
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.26

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER YES
OBJECT OF TEST W.O.T

OTHER EQUIPMENT

10° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	96.0		1.023	1.6					21.0		17½				74	128	165	45
1600	.3	98.0		1.026	2.2					28.5		26½				77	150	167	46
2000	.5	100.0		1.025	3.1					36.2		27½				76	145	173	47
2400	.8	100.5		1.027	4.5					44.2		30½				78	156	176	47
2800	1.1	100.0		1.028	6.4					53.0		30				79	162	185	47
3200	1.3	96.0		1.027	8.6					59.5		30				78	154	192	47
3600	1.6	88.0		1.027	10.4					65.0		29½				78	146	178	47
4000	1.7	79.5		1.030	11.7					65.0		28				81	145	188	47

9

REMARKS

Requested By

DATE 10-8-75 DYN. NO. 1.5

ENGINE CHRYSLER

MODEL SLANT 6 YR. 1975

NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 10 & 11

FUEL IND 30 OIL SAE30

PLUGS BL-11Y

CORR. BAR. 29.10

CARBURETOR

MAKE HOLLEY SER. NO. 411958

MODEL 1985 LIST

CLEANER YES

OBJECT OF TEST WOT

OTHER EQUIPMENT

6° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO.

MODEL LIST

TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	92.0		1.034	1.6					22.8		14½				80	131	186	45
1600	.3	96.5		1.033	2.2					30.7		23½				79	149	184	46
2000	.5	100.5		1.031	3.2					38.2		25				77	142	182	46
2400	.8	101.0		1.032	4.6					47.5		28				88	162	184	47
2800	1.1	101.5		1.037	6.5					57.0		27½				83	160	187	47
3200	1.3	96.0		1.035	8.6					64.5		26¾				81	163	200	47
3600	1.6	88.0		1.034	10.5					68.5		25½				80	140	141	48
4000	1.8	81.0		1.036	11.6					68.0		26				82	158	192	48
						2400 SET POINT @ 44.5 #/HR													
1200	.2	93.5		1.037	1.6					20.2		14½				83	141	171	47
1600	.3	99.0		1.039	2.2					28.2		24				85	144	171	47
2000	.6	99.5		1.037	3.1					35.5		24½				83	133	172	47
2400	.8	100.0		1.041	4.5					44.5		27½				87	147	163	48
2800	1.1	101.0		1.037	6.4					53.0		27				83	162	189	48
3200	1.3	97.0		1.036	8.4					59.5		26½				82	155	184	48
3600	1.6	90.0		1.039	10.2					64.5		26				85	153	186	48
4000	1.8	80.5		1.039	11.4					64.5		26				85	155	190	48

REMARKS FUEL PUMP PRESS AT CARB. = 4.5 PSI @ 700 RPM & 2.25 @ 4000 RPM

Requested By

90

DATE 10-8-75 DYN. NO. L-5

ENGINE CHRYSLER

MODEL SLANT 6 YR. 1975

NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. L2413

FUEL IND 30 OIL SAE 30

PLUGS BL-11Y

CORR. BAR. 29.10

CARBURETOR

MAKE HOLLEY SER. NO. 41958

MODEL 1965 LIST

CLEANER YES

OBJECT OF TEST LBT

OTHER EQUIPMENT

SET @ 2400 41.5 #/HR.

6° BTDC

DISTRIBUTOR

MAKE CHRY. SER. NO.

MODEL LIST

TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS.	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	-2	90.0		1.038	1.4					17.2		14½				84	150	166	46
1600	.3	97.0		1.044	2.1					25.5		24				90	140	175	47
2000	.6	97.5		1.041	3.1					31.2		24½				87	156	179	47
2400	.7	102.5		1.040	6.4					41.5		28				86	163	200	47
2800	1.1	101.0		1.041	6.2					49.0		27				87	163	185	47
3200	1.3	97.0		1.037	8.3					56.0		26				83	155	193	48
3600	1.6	89.0		1.040	10.1					59.5		26				86	154	188	48
4000	1.8	80.5		1.041	11.4					62.5		25½				87	148	182	48
								2400 @		38.5	#/HR								
1200	.2	81.0		1.040	1.5					15.5		15½				86	132	183	46
1600	.3	94.0		1.040	2.1					23.0		23½				86	144	183	47
2000	.5	94.5		1.038	3.0					29.0		24½				84	160	184	47
2400	.7	100.0		1.041	4.4					38.5		27½				87	152	200	47
2800	1.1	100.5		1.039	6.2					45.0		27				85	153	190	48
3200	1.3	96.5		1.039	8.4					52.0		27				85	142	160	48
3600	1.5	89.0		1.044	10.1					56.0		25½				90	149	184	48
4000	1.7	80.0		1.038	11.5					59.5		26				84	153	182	48

REMARKS

Requested By

OPERATOR

97

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-5-75 DYN. NO. ____
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 2
FUEL INDO 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.0

CARBURETOR

MAKE HOLLEY SER. NO. ____
MODEL 1945 LIST R-7319-A
CLEANER ____
OBJECT OF TEST W.O.T. POWER -

OTHER EQUIPMENT

TO ESTABLISH BASE LINE
NO VAC. ADV.

DISTRIBUTOR

MAKE CHRY. SER. NO. ____
MODEL ____ LIST ____
TRANS. ____ INIT. SET 700 @ 700 RPM

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR		B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.	BACK PRESS.		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.3	83.5		1.038						19.4		8		1.6		80	155	154	46
1600	.55	93.6		1.043						26.5		18		2.2		86	162	142	47
2000	.8	96.0		1.045						34.0		20		3.6		88	162	145	47
2400	1.2	97.0		1.045						44.5		22		5.2		88	152	175	48
2800	1.6	93.0		1.057						47.5		24		7.0		100	150	153	48
3200	2.0	88.3		1.059						52.0		22		9.2		102	150	158	48
3600	2.3	82.0		1.057						58.0		21		11.0		100	164	160	48
4000	2.6	72.0		1.057						64.0		21		12.2		100	150	165	48

86

REMARKS ____

Requested By ____

F/A EXHAUST CONCENTRATION DATA

DATE 10-6-75 DYN. NO. 1-S RUN NO. 137-2 CURVE NO. 1
ENGINE Slant 6 FUEL OIL
MODEL YEAR 1975 PLUGS BL-11Y WOT Power run
NO. CYLS 6 DISP. REMARKS A.P. valve weed in place
CARBURETOR REQUESTED BY @ 11 PSI, 3600 RPM
MAKE Holley SER. NO. Timing @ TDC, 700 RPM.
MODEL 1945 LIST R-7319-A REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
1200		ALL	250	3.6		1.0			
		1	420	8.2					
		2	420	6.2					
		3	310	1.7					
		4	330	0.2		2.0			
		5	260	0.15		1.8			
		6	270	0.1		4.0			
1600		ALL	280	2.5		1.0			
		1	410	7.2					
		2	470	7.4					
		3	320	1.5					
		4	280	0.5		1.5			
		5	260	0.9		0.9			
		6	270	0.15		2.3			
2000		ALL	180	3.2		0.6			
		1	220	5.7					
		2	300	6.7					
		3	210	1.4					
		4	200	1.1					
		5	200	0.4		0.6			
		6	210	0.6		1.2			

F/A EXHAUST CONCENTRATION DATA

99-1

DATE 10-6-75 DYN. NO. 1-3 RUN NO. 137-2 CURVE NO. 2
ENGINE Slant 6 FUEL OIL
MODEL YEAR 1975 PLUGS BL-11Y
NO. CYLS 6 DISP. REMARKS as sheet 1
CARBURETOR REQUESTED BY
MAKE Holley SER. NO.
MODEL 1945-1 LIST 7319 REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
2400		ALL	150	3.8		0.2			
		1	270	6.0					
		2	230	6.4					
		3	160	2.6					
		4	210	2.1					
		5	220	4.6					
		6	210	3.3					
2800		ALL	160	3.5		0.35			
		1	180	4.8					
		2	210	5.4					
		3	190	2.6					
		4	140	2.0					
		5	170	3.8					
		6	180	2.8					
3200		ALL	140	3.3		0.3			
		1	130	4.3					
		2	150	5.2					
		3	140	2.7					
		4	120	1.9					
		5	100	3.6					
		6	140	2.8					

F/A EXHAUST CONCENTRATION DATA

99-2

DATE 10-6-75 DYN. NO. 1-S RUN NO. 137-2 CURVE NO. 3
ENGINE Slant 6 FUEL OIL
MODEL YEAR 1975 PLUGS
NO. CYLS 6 DISP. 225 REMARKS as sheet 1
CARBURETOR REQUESTED BY
MAKE Holley SER. NO.
MODEL 1945 LIST 7319 REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
3600		ALL	90	3.4		0.25			
		1	100	4.4					
		2	120	5.3					
		3	120	3.4					
		4	110	3.0					
		5	90	3.7					
		6	130	2.8					
4000		ALL	90	4.2		0.2			
		1	80	5.0					
		2	110	5.9					
		3	110	4.5					
		4	120	5.0					
		5	130	4.7					
		6	120	3.7					

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-9-75 DYN. NO. LS
ENGINE CHRYSLER
MODEL SLANT 6 YR.
NO. CYLS. 6 DISP.

RUN NO. 137 CURVE NO. 14
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 28.92

CARBURETOR

MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER YES
OBJECT OF TEST W.O.T.

OTHER EQUIPMENT

6° BTDC
NO VAC ADV
MBT & LBT FUEL

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1200	.2	94.0		1.041	1.6					19.0		15				80	143	180	45
1600	.3	100.5		1.046	2.1					27.2		24				85	161	171	46
2000	.5	101.0		1.035	3.2					35.2		25				74	133	174	47
2400	.8	102.0		1.036	4.3					45.0		28				75	164	175	48
2800	1.1	101.0		1.039	6.4					53.0		28				78	142	178	48
3200	1.3	97.5		1.043	8.4					59.0		28				82	142	198	48
3600	1.6	88.5		1.038	10.2					62.5		26				77	142	174	48
4000	1.7	80.0		1.041	11.2					61.0		26				80	154	140	48

100

REMARKS

Requested By

F/A EXHAUST CONCENTRATION DATA

100-1

DATE 10-9-75 DYN. NO. 1-3 RUN NO. 137-14 CURVE NO. 1
ENGINE Slant 6 FUEL OIL
MODEL YEAR 75 PLUGS BL-11Y
NO. CYLS 6 DISP. REMARKS W.O.T. run, after MBT (6°)
CARBURETOR ~~REQUESTED BY~~ & LBT (45° @ 2400) No vac. adv
MAKE Holley SER. NO. 41958
MODEL 1985 LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
1200		ALL	330	2.4		1.4			
		1	550	7.2					
		2	400	0.6		1.5			
		3	340	0.35		1.6			
		4	420	1.6		1.5			
		5	460	1.8					
		6	640	8.5					
1600		ALL	320	3.5		0.8			
		1	460	7.0					
		2	430	2.2					
		3	360	1.0					
		4	420	8.5		1.2			
		5	410	2.8					
		6	640	10.0+					
2000		ALL	270	4.2		0.7			
		1	460	9.0					
		2	370	2.1					
		3	240	1.3					
		4	380	1.2					
		5	320	3.2					
		6	600	10.0+					

F/A EXHAUST CONCENTRATION DATA

100-2

DATE 10-9-76 DYN. NO. 1-5 RUN NO. 137-14 CURVE NO. 2
ENGINE Slant 6 FUEL OIL
MODEL YEAR 75 PLUGS BL-11Y
NO. CYLS 6 DISP. REMARKS as curve 1
CARBURETOR REQUESTED BY
MAKE Holley SER. NO. 41958
MODEL 1985 LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
2400		ALL	210	5.4		0.9			
		1	310	6.0					
		2	370	4.0					
		3	220	3.6					
		4	300	4.1					
		5	320	5.0					
		6	430	9.0					
2800		ALL	200	6.4		0.4			
		1	290	7.2					
		2	300	4.7					
		3	250	4.9					
		4	270	5.4					
		5	250	4.3					
		6	350	8.0					
3200		ALL	140	6.0		0.3			
		1	210	6.6					
		2	240	4.6					
		3	220	5.6					
		4	210	5.6					
		5	200	3.5					
		6	320	7.3					

F/A EXHAUST CONCENTRATION DATA

100-3

DATE 10-9-75 DYN. NO. 1-3 RUN NO. 137-14 CURVE NO. 3
ENGINE Slant 6 FUEL OIL
MODEL YEAR 75 PLUGS
NO. CYLS 6 DISP. REMARKS as curve #1

CARBURETOR REQUESTED BY
MAKE Holley SER. NO. 41958
MODEL 1985 LIST REQUEST NO.
CLEANER OPERATOR

RPM	IN HG.	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
3600		ALL	120	5.8		0.3			
		1	170	6.0					
		2	170	4.2					
		3	190	5.2					
		4	200	5.4					
		5	180	3.3					
		6	240	7.6					
4000		ALL	70	3.2		0.4			
		1	80	3.1					
		2	100	2.0					
		3	120	3.7					
		4	140	4.0					
		5	80	0.6					
		6	170	4.7					

HOLLEY CARBURETOR
DYNAMOMETER LOG

DATE 10/10/75 DYN. NO. 1-5
ENGINE CHRYSLER
MODEL 360 V8 YR. 1975
NO. CYLS. 6 DISP. 225

CARBURETOR
MAKE Holley SER. NO. 41958
MODEL _____ LIST 1985
CLEANER _____
OBJECT OF TEST _____

OTHER EQUIPMENT
* TDC @ 650 RPM
VALVE LASH: .010" INT, .020" EXH.

RUN NO. 137 CURVE NO. 15
FUEL INDO 30 OIL 5W-30
PLUGS NEW R84-11Y (.035")
CORR. BAR. 29.04

DISTRIBUTOR
MAKE CHRY SER. NO. _____
MODEL _____ LIST _____
TRANS. _____ INIT. SET _____

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	B P	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.			CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRES
650	5.7	7.5		1.033	3					5.3		* 0°				77	155	145	44
1200	10.0	42.5		1.035	6					92		22°				79	160	150	46
1740	8.0	57.0		1.036	1.2					162		29°				80	158	165	46
2500	8.0	62.0		1.039	2.6					25.7		34°				83	157	171	47
2800	4.5	7.5		1.042	5.0					350		22°				86	140	185	47
2800	2.5	52.5		1.043	6.0					390		22°				87	165	169	48
2800	1.7	59.0		1.044	6.2					320		23°				88	145	178	48
																			191

REMARKS _____

Requested By _____
Request No. _____
OPERATOR _____

MC-188

F/A EXHAUST CONCENTRATION DATA

101-1

10-10-75 GYN. NO. 1-S RUN NO. 137-15 CURVE NO. 1

ENG. Chevy 6 FUEL OIL

YR. 75 PLUGS New ROL 14Y (.035" Pole Gap: .010 in, .020 out

NO. CYLS 6 DISP. 225 REMARKS -3 Power valve spring.

CARBURETOR

MAKE Holley SER. NO. 411958 Reviewed By (Using recorder for 1st time)

MODEL 1985 LIST Request No.

OPERATOR

RPM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO NO	NET O_2	F/A
650		ALL	40	0.15	8.39	6.0	141		
No vacuum adv.		1	40	0.05	8.39	6.0	132		
		2	90	0.05	8.49	6.0	141		
		3	95	0.05	8.39	5.75	141		
		4	50	0.05	8.39	5.5	157		
		5	60	0.05	8.49	5.5	157		
		6	70	0.05	8.49	5.25	141		
1200 @ .2 Φ		ALL	70	0.05	9.69	4.5	1575		
Vacuum adv. included		1	50	0.05	9.69	4.8	1432		
		2	60	0.05	9.69	4.45	1876		
		3	60	0.05	9.57	4.8	1467		
		4	65	0.05	9.47	5.05	1916		
		5	75	0.05	9.47	5.05	1067		
		6	80	0.05	9.03	5.15	1397		
1745 @ .4 Φ		ALL	120	0.1	13.65	4.2	3356		
		1	120	0.1	13.55	4.5	3574		
		2	130	0.07	13.65	4.25	3435		
		3	120	0.08	13.65	4.3	3574		
		4	110	0.07	13.65	4.3	3151		
		5	110	0.08	13.65	4.7	3022		
		6	150	0.1	12.85	5.35	3427		

F/A EXHAUST CONCENTRATION DATA

101-2

DATE 10-10-75 DYN. NO. C-3 RUN NO. 137-15 CURVE NO. 2
ENGINE Slant 6 FUEL OIL
MODEL YR. 75 PLUGS
NO. CYLS 6 DISP. 225 REMARKS as sheet 1

CARBURETOR

MAKE Holley SER. NO. 41958
MODEL 1885 LIST

Requested By
Request No.
OPERATOR

CRAM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET ϵ_θ NO	NET O_2	F/A
2500 @ .6 ϕ		ALL	110	0.3	14.19	3.8	3967		
		1	150	0.1	13.38	5.2	4050+		
		2	160	0.15	14.05	4.0	3886		
		3	140	0.4	14.47	2.75	3886		
		4	170	0.4	14.19	2.6	3218		
		5	160	0.2	14.19	3.35	3886		
		6	200	0.15	13.38	5.3	4050+		
2800 .8 ϕ		ALL	70	0.15	14.47	3.9	3574		
		1	110	0.15	14.19	5.1	3574		
		2	90	0.15	14.19	5.1	3286		
		3	90	0.15	14.47	3.7	3727		
		4	80	0.2	14.47	4.0	2781		
		5	110	0.15	14.47	4.1	3356		
		6	130	0.15	14.19	5.0	4050		
		~~ALL~~	~~80~~	~~0.8~~	~~14.47~~	~~4.1~~	~~3086~~		
1.0 ϕ		~~1~~	~~155~~	~~0.9~~	~~14.47~~	~~2.8~~	~~3022~~		
		~~2~~	~~100~~	~~0.15~~	~~14.19~~	~~5.95~~	~~2781~~		
		~~3~~	~~80~~	~~0.15~~	~~14.62~~	~~5.1~~	~~4050~~		
		~~4~~	~~80~~	~~0.2~~	~~14.62~~	~~5.0~~	~~2960~~		
		~~5~~	~~100~~	~~0.32~~	~~14.47~~	~~5.0~~	~~3286~~		
		~~6~~	~~170~~	~~2.8~~	~~13.25~~	~~2.2~~	~~1723~~		

F/A EXHAUST CONCENTRATION DATA

101-3

DATE 10-10-75 DYN. NO. LS RUN NO. 137-15 CURVE NO. 3

ENGINE Slant 6 FUEL OIL

ECONOMY YR. 75 PLUGS As sheet 1

NO. CYLS 6 DISP. 225 REMARKS

CARBURETOR

MAKE Holley SER. NO. 41958 Requested By

MODEL 1985 LIST Request No.

OPERATOR

CONDITION	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO_2 NO	NET O_2	F/A
2800 @ 1.2 ϕ		ALL	40	0.1	12.34	3.8	1130		
		1	80	0.1	12.59	3.4	1611		
		2	60	0.1	12.08	4.2	317		
		3	60	0.1	11.83	4.0	675		
		4	40	0.15	11.83	3.8	675		
		5	60	0.15	11.83	4.0	675		
		6	90	0.15	12.85	2.75	2960		
2800 @ 1.0 ϕ		ALL	40	0.15	11.58	4.1	589		
		1	70	0.1	11.34	4.5	396		
		2	100	0.1	11.34	4.35	317		
		3	50	0.15	11.34	4.25	561		
		4	40	0.15	11.34	4.1	423		
		5	50	0.15	11.34	4.2	423		
		6	70	0.15	11.34	4.2	974		

F/A EXHAUST CONCENTRATION DATA

101-4

DATE 10-13-75 GVN. NO. 1-S RUN NO. 137-15 CURVE NO. 4

ENG. FAM. Chevy 6 FUEL _____ OIL _____

MODEL _____ YR. 75 PLUGS _____

NO. CYLS. 6 DISP. 225 REMARKS As chart #1

CARBURETOR

MAKE Holley SER. NO. 41958 Requested By _____

MODEL 1985 LIST _____ Request No. _____

CLASSIFICATION _____ OPERATOR _____

RPM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO/HC	NET O_2	F/A
1000+@ .4 ϕ		ALL	65	0.1	9.59	2.4	1294		
		1	55	0.1	10.15	5.0	1837		
		2	75	0.1	9.92	3.2	1362		
		3	120	0.05	9.47	2.7	764		
		4	70	0.05	9.3	4.2	764		
		5	100	0.1	8.9	4.1	423		
		6	100	0.05	9.03	3.3	854		
1500 @ .6 ϕ		ALL	125	0.1	9.92	2.25	2125		
		1	125	0.07	9.92	2.2	2564		
		2	170	0.05	9.8	2.7	1990		
		3	155	0.07	10.0	2.4	2162		
		4	140	0.05	9.92	2.7	1916		
		5	165	0.1	9.96	3.1	1502		
		6	190	0.1	9.96	2.9	1990		
2000 @ .8 ϕ		ALL	90	0.1	10.38	2.45	2089		
		1	150	0.1	10.85	1.6	2839		
		2	160	0.1	9.92	2.9	1761		
		3	100	0.1	9.92	2.75	1685		
		4	130	0.13	9.92	2.8	1916		
		5	160	0.1	10.5	2.1	2383		
		6	240	0.4	11.09	1.0	3022		
		.							

DATE 10-17-75 DYN. NO. 1-3
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR
DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 19
FUEL IND 30 OIL SAE30
PLUGS BBL-11Y
CORR. BAR. 29.12

CARBURETOR
MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER YES

OTHER EQUIPMENT
NEW 21M-21.5 FUEL BAR

DISTRIBUTOR
MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

OBJECT OF TEST

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS.	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.	VAC ADV.	% O_2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	9.4	50.0		1.028	.7					12.5		34		YES	1.0	74	130	160	46
1400	9.6	48.0		1.028	.7					12.6		18		NO	1.0	74	150	160	46
1400	9.0	50.0		1.029	.7					12.4		34		Y	2.0	75	153	160	46
1390	9.0	46.5		1.029	.7					12.0		18		N	2.0	75	150	160	46
1400	8.3	50.0		1.031	.8					11.9		34		Y	3.0	77	140	160	46
1370	8.4	45.5		1.030	.8					11.5		18		N	3.0	76	157	156	46
1400	7.8	50.0		1.036	.8					11.5		34		Y	4.0	82	151	165	46
1360	7.4	44.0		1.031	.8					11.8		18		N	4.0	75	151	160	46
1400	6.5	50.0		1.032	1.0					12.0		34		Y	5.0	76	156	160	46
1360	5.7	39.0		1.032	1.0					12.1		18		N	5.0	76	149	160	46
1410	.4	48.0		1.029	1.8					14.8		18		N	6.0	75	158	160	46
1400	.3	43.0		1.034	1.8					15.0		18		N	6.0	80	148	161	46

REMARKS

Requested By

F/A EXHAUST CONCENTRATION DATA

102-1

10-17-75 DYN. NO. 1-5 RUN NO. 137-19 CURVE NO. 1

Plant 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS New 21M-2V-5 fuel bar

CARBURETOR

Holley SER. NO. 41958

1985 LIST

Requested By

Request No.

OPERATOR

RPM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO/NO	NET O_2	F/A
1900 2400	W. V.A. @ MAN.	ALL	220	0.5	14.30	1.0	~~2545~~		
	W/O V.A. @ MAN.	ALL	180	0.4	14.30	1.0	~~299~~		
	W V.A @ EXH.	ALL	140	0.5	14.30	1.05	3170		
	W/O V.A. @ EXH.	ALL	110	0.4	14.30	1.05	917		
	W V.A.	1	220	0.4	14.25	1.05	2537		
	V	2	230	0.65	14.19	1.0	2628		
		3	210	0.75	14.46	0.9	3650		
		4	330	0.6	14.43	1.2	2149		
		5	220	0.4	14.44	1.0	2628		
		6	230	0.3	14.30	1.35	4171		
2900 @ 1400	W. V.A. @ MAN.	ALL	180	0.1	13.49	2.0	~~4446+~~		
	W/O V.A. @ MAN.	ALL	150	0.1	13.37	2.1	~~4446+~~		
	W. V.A. @ EXH.	ALL	110	0.1	13.11	2.3	4307		
	W/O V.A. @ EXH.	ALL	80	0.1	12.96	2.45	910		
	W. V.A.	1	190	0.1	1323	2.05	~~4446+~~		
		2	210	0.1	13.04	1.8	4446+		
		3	180	0.1	13.64	1.9	4446+		
		4	240	0.15	13.11	2.5	3526		
		5	170	0.1	13.11	2.8	3650		
		6	200	0.1	12.7	3.2	4307		

F/A EXHAUST CONCENTRATION DATA

102-2

DATE 10-17-75 DYN. NO. 15 RUN NO. 137-19 CURVE NO. 2

ENG. SIZE Slant 6 FUEL _____ OIL _____

CID _____ YR. 75 PLUGS _____

NO. CYLS 6 DISP. 225 REMARKS As sheet #1

CARBURETOR

MAKE Holley SER. NO. 41958 Requested By _____

MODEL 1985 LIST _____ Request No. _____

OPERATOR _____

CONDITION	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO/No	NET O_2	F/A
3% O2 @ 1400	W.V.A @ MAN.	ALL	180	0.1	12.97	3.0	~~444~~		
	W/O V.A. @ MAN	ALL	110	0.1	12.70	3.0	~~638~~		
	W.V.A. @ EXH.	ALL	100	0.1	12.58	3.25	3190		
	W/O V.A. @ EXH.	ALL	60	0.1	12.38	3.25	628		
	W.V.A.	1	170	0.1	12.70	3.0	4171		
		2	180	0.1	12.96	2.75	4446		
		3	170	0.1	12.96	2.8	~~3650~~		
		4	235	0.13	1258	3.3	2945		
		5	170	0.1	12.07	3.7	1975		
		6	190	0.12	14.31	4.25	1585		
4% O2 @ 1400	W.V.A. @ MAN	ALL	210	0.05	11.94	4.0	~~955~~		
10-20-75	W/O V.A @ MAN	ALL	200	0.08	1258	3.9	~~848~~		
	W.V.A. @ EXH.	ALL	120	0.05	12.07	4.02	871		
	W/O V.A. @ EXH.	ALL	100	0.1	1258	4.0	791		
	W.V.A.	1	200	0.07	11.82	3.8	1045		
		2	250	0.07	12.07	4.0	1320		
		3	200	0.07	12.18	3.9	1045		
		4	250	0.1	11.57	4.1	711		
		5	240	0.05	11.08	4.8	682		
		6	280	0.08	10.84	4.95	612		

F/A EXHAUST CONCENTRATION DATA

102-3

DATE 10-20-75 DYN. NO. 1-5 RUN NO. 137-19 CURVE NO. 3

ENGINE Chart 6 FUEL OIL

SC. YR. 75 PLUGS

NO. 6 DISP. 225 REMARKS as sheet #1

CARBURETOR

MAKE Holley SER. NO. 411958

MODEL 1985 LIST

Requested By

Report No.

OPERATOR

CONDITION	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
5% O_2 @ 1400	W.U.A. @ MAN	ALL	235	0.08	11.57	5.1	~~602~~		
	W/O U.A. @ MAN	ALL	210	0.07	11.57	5.1	~~425~~		
	W.U.A. @ EXH.	ALL	155	0.05	9.35	5.1	595		
	W/O U.A. @ EXH.	ALL	140	0.1	11.32	5.2	396		
	W U.A.	1	700	0.08	9.8	4.5	1320		
		2	285	0.05	9.23	5.4	602		
		3	250	0.05	9.35	5.1	602		
		4	330	0.05	8.77	5.5	707		
		5	280	0.08	10.84	6.0	541		
		6	310	0.08	10.6	6.0	682		
5% O_2 @ 1400	W.U.A. @ MAN.	ALL	320	0.15	9.23	6.2	247		
	W/O U.A. @ MAN.	ALL	440	0.2	8.77	7.0	~~1.1~~		
	W.U.A. @ EXH.	ALL	500	0.15	8.77	6.7	247		
	W/O U.A @ EXH	ALL	425	0.18	8.77	6.7	247		
	W.U.A.	1	625	0.15	8.8	6.7	156		
	1	2	850	0.18	8.38	7.2	156		
	2	3	650	0.18	8.17	6.8/8.0	186		
	3	4	650	0.18	8.17	8.0/10.0	247		
	4	5	650	0.1	9.23	6.5	186		
	5	6	600	0.08	9.68	6.2	247		
	6	6	500	0.05	10.37	5.2	654		

DATE 10-24-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

CARBURETOR
MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER YES
OBJECT OF TEST

HOLLEY CARBURETOR

DYNAMOMETER LOG

REPEAT

OTHER EQUIPMENT OF 137.19

RUN NO. 137 CURVE NO. 21
FUEL IND. 30 OIL SAE 30
PLUGS RBL-11Y (.035")
CORR. BAR.

DISTRIBUTOR
MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.	VAC ADV.	% O2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	9.3	50.0		1.033	.8					11.5		34		YES	1.0	75	150	165	46
1390	9.2	48.0		1.033	.8					11.8		19		NO	1.0	75	164	164	46
1400	9.0	50.0		1.042	.8					11.6		34		Y	2.0	86	154	161	46
1395	9.1	47.5		1.041	.8					11.8		19		N	2.0	85	160	161	46
1400	8.0	50.0		1.040	.8					11.8		34		Y	3.0	83	164	160	46
1375	7.9	45.0		1.041	.9					12.0		19		N	3.0	84	153	160	46
1400	7.1	50.0		1.042	.9					11.8		34		Y	4.0	85	155	160	46
1375	6.7	42.0		1.042	1.0					11.5		18		N	4.0	85	156	159	46
1400	6.0	50.0		1.042	1.0					11.9		34		Y	5.0	85	150	157	46
1350	5.2	37.0		1.042	1.2					11.8		18		N	5.0	85	163	157	46
1400	0.7	50.0		1.047	1.6					14.5		18			6.0	90	142	158	46

REMARKS

Requested By

101

F/A EXHAUST CONCENTRATION DATA

103-1

10-24-75 DYN. NO. 1-S RUN NO. 317-21 CURVE NO.

Plant 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS Repeat of void 317-19

CARBURETOR

Holley SER. NO. 41958

1985 LIST

Reviewed By

Report No.

OPERATOR

E. M	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO No	NET O_2	F/A
1400	W V.A.	ALL EXH.	230	0.25	14.46	1.0	3314		
↓	W/O V.A.	ALL	200	0.2	14.46	1.2	1918		
*	W V.A.	ALL	200	0.1	13.91	2.0	3482		
	W/O V.A	ALL	160	0.1	13.66	2.0	1818		
	W V.A	ALL	180	0.1	13.11	2.95	3145		
	W/O V.A.	ALL	160	0.13	12.84	3.2	1225		
	W V.A	ALL	180	0.1	11.86	4.0	1918		
	W/O V.A.	ALL	150	0.11	11.86	4.03	608		
	W V.A.	ALL	210	0.12	11.08	5.0	1085		
	W/O V.A	ALL	190	0.12	11.08	5.2	310		
	W/O V.A	ALL	365	0.18	7.76	6.25	304		

HOLLEY CARBURETOR

DYNAMOMETER LOG

DATE 10-21-75 DYN. NO. 1-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 20
FUEL UD 30 OIL SAE 30
PLUGS RBL 11Y (.035")
CORR. BAR. 28.77

CARBURETOR

MAKE HOLLEY SER. NO. 411958
MODEL 1985 LIST
CLEANER YES

OTHER EQUIPMENT

DISTRIBUTOR

MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

OBJECT OF TEST

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	EGR VAC.	EGR ORIFICE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.		% O2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	7.5	50		1.042	.8			—	—	11.6		34			4	77	159	167	46
1360	6.8	39		1.042	1.0			—	—	11.5		18			4	77	156	159	46
1400	3.9	50		1.042	1.2			4.1	.344	12.3		26			4	77	150	161	46
1370	3.8	42		1.042	1.2			4.0	.344	12.5		18			4	77	138	163	46
1410	6.2	51		1.045	1.2			3.8	.200	12.1		34			4	80	161	143	47
1370	5.8	38		1.049	1.2			3.8	.200	11.8		18			4	84	136	158	46
1400	7.7	50		1.040	0.8			—	—	11.0		34			4	77	155	172	46
1360	7.4	41		1.036	0.9			—	—	11.2		18			4	75	164	167	46
1400	6.1	50		1.038	1.0			?	.282	11.7		34			4	75	158	161	46
1370	5.0	38		1.037	1.1			?	.282	11.8		18			4	74	163	160	46
1400	4.0	50		1.038	1.1			4.1	.400	12.8		26			4	75	162	155	46
1370	3.8	43.5		1.038	1.2			4.0	.400	12.6		18			4	75	156	159	46
1400	7.2	50		1.042	.8			—	—	11.2		34			4	83	157	182	45
1355	7.0	39.5		1.048	1.0			—	—	11.0		18			4	89	162	176	46
1385	3.9	52		1.047	1.2			4.0	.488	12.5		26			4	88	152	168	46
1270	3.6	50		1.042	1.2			3.9	.488	12.2		18			4	85	164	160	46
1400	4.0	50		1.043	1.2			4.2	.564	12.6		25			4	86	160	152	46
1360	3.7	43		1.043	1.2			4.0	.564	12.8		18			4	86	155	160	46

REMARKS

Requested By

F/A EXHAUST CONCENTRATION DATA

104-1
INT.
EXH.

DATE 10-21-75 DYN. NO. 1-5 RUN NO. 137-20 CURVE NO. 1
ENGINE Plant 6 FUEL OIL
MODEL YR. 75 PLUGS RBL 11X (.035")
NO. CYLS. 6 DISP. 225 REMARKS
CARBURETOR
MAKE Holley SER. NO. #1958 Requested By
MODEL 1985 LIST Request No.
OPERATOR

CRUISE	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO_2	NET O_2	F/A
47.0 oz @1400 .120" ORIF	W/O EGR W U.A.	ALL	210	0.05	0.15 / 12.07	4.1	1818		
.344" ORIF	W/O EGR W/O VA	ALL	500	0.08	.17 / 11.55	4.2	525		
	W EGR W VA	ALL	320	0.08	.51 / 12.07	4.15	691		
(3)		1	310	0.05	.66 / 12.84	2.9	1252		
		2	310	0.06	.58 / 11.85	4.1	802		
		3	280	0.05	.51 / 11.85	4.1	608		
		4	340	0.08	.51 / 11.57	4.4	608		
		5	470	0.1	.58 / 10.75	5.6	221		
		6	430	0.06	.66 / 11.32	5.0	332		
	W EGR W/O VA.	ALL	640	0.1	.45 / 11.82	4.0	443		
49.0 oz @1400 .200" ORIF	W EGR W.V.A.	ALL	370	0.1	.26 / 11.32	4.1	1618		
	W. EGR. W/O V.A.	ALL	520	0.1	.28 / 11.32	4.0	498		
	W EGR W VA	1	370	0.1	.32 / 11.52	3.8	1818		
(1)		2	360	0.1	.29 / 11.57	3.75	2346		
		3	340	0.08	.26 / 11.32	4.0	1585		
		4	380	0.1	.26 / 11.0	4.4	1152		
		5	400	0.09	.30 / 10.37	5.5	443		
		6	430	0.09	.32 / 10.37	5.4	636		

F/A EXHAUST CONCENTRATION DATA

104-2
INT./EXH

10-22-75 DYN. NO. 1-S RUN NO. 137-20 CURVE NO. 2
Slant 6 FUEL OIL
YR. 75 PLUGS Ac 45ect 1
6 DISP. 225 REMARKS
CARBURETOR Requested By
MAKE Holley SER. NO. 41958 Request No.
MODEL 1285 LIST OPERATOR

CONDITION	IN. HG	CYL #	HC	CO	CO_2	O_2	NET EQ NO.	NET O_2	F/A
4% O2 2400 .282" EGR ORIF.	W/O EGR W/O V.A.	ALL	220	0.08	.12/13.11	4.0	2078		
	W/O EGR W/O V.A.	ALL	180	0.1	.12/13.11	4.1	719		
	W EGR. W V.A.	ALL	510	0.1	.48/13.27	4.0	1252		
	W EGR W/O V.A.	ALL	690	0.1	.46/12.84	3.9	415		
	W EGR W.VA	1	410	0.08	.63/13.79	3.3	1652		
	V	2	400	0.1	.53/13.37	3.6	2122		
		3	370	0.1	.48/12.99	4.0	1218		
		4	430	0.1	.48/12.33	4.5	1285		
		5	460	0.1	.52/11.57	5.6	345		
		6	490	0.1	.54/11.8	5.2	553		
7% O2 2400 .400" EGR ORIF.	W EGR W V.A.	ALL	410	0.1	.73/13.11	3.9	719		
	W EGR W/O V.A.	ALL	360	0.1	.62/13.37	3.75	505		
	W EGR W.V.A.	1	400	0.08	.93/13.91	2.9	985		
	"	2	400	0.1	.77/12.84	4.0	719		
		3	370	0.1	.67/12.84	3.95	581		
		4	420	0.1	.69/12.7	4.1	952		
		5	490	0.1	.73/11.85	5.3	285		
		6	490	0.1	.89/12.33	4.65	332		

F/A EXHAUST CONCENTRATION DATA

104-3 INT/EXH.

10-23-75 DYN. NO. 4-3 RUN NO. 137-20 CURVE NO. 3

Plant 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS as shot 1

CARBURETOR

MAKE Holley SER. NO. 41958

MODEL 1965 LIST

Requested By

Request No.

OPERATOR

EGR % 02	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO	NET O_2	F/A
3 1400 .488" TR ORIF	W/O EGR W VA.	ALL	210	0.1	.1/12.45	4.2	1752		
	W/O EGR W/O VA	ALL	180	0.08	.1/12.45	4.3	581		
(5)	W EGR W VA.	ALL	260	0.09	.58/12.84	3.9	717		
	W EGR W/O VA	ALL	630	0.15	.35/12.33	3.55	719		
	W EGR W VA.	1	300	0.15	.58/13.14	2.6	1385		
		2	380	0.12	.42/12.58	3.9	830		
		3	260	0.12	.42/12.58	4.05	636		
		4	340	0.13	.40/12.45	4.0	985		
		5	365	0.15	.45/11.82	5.2	310		
		6	365	0.12	.51/12.07	4.6	470		
4% 02 .504 ORIF	W EGR W VA.	ALL	380	0.1	.45/12.07	4.0	608		
	W EGR W/O VA.	ALL	310	0.1	.40/11.82	4.1	470		
(6)	W EGR W. VA.	1	400	0.09	.56/12.9	2.95	952		
		2	410	0.08	.54/11.69	4.1	664		
		3	370	0.1	.46/11.82	4.28	636		
		4	440	0.1	.47/11.57	4.45	830		
		5	490	0.1	.51/10.84	5.5	292		
		6	460	0.08	.60/11.44	4.85	443		

10-30-75

DATE 10-31-75 DYN. NO. L-3

ENGINE CHRYSLER

MODEL SLANT 6 YR. 1975

NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 23

FUEL IND 30 OIL

PLUGS

CORR. BAR. 10-30 29.391* 10-31 29.31

CARBURETOR

MAKE HOLLEY SER. NO. 41958

MODEL 1985 LIST

CLEANER

OTHER EQUIPMENT

NEW VENTURI SIGNAL

DRIVING EGR

DISTRIBUTOR

MAKE SER. NO.

MODEL LIST

TRANS. INIT. SET

OBJECT OF TEST

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	~~EGR~~ ~~TORQUE~~ DRIVE OBS.	~~EGR~~ ~~TORQUE~~ ~~CORR.~~	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.	% O2		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
*1400	7.0	50.0		1.023	1.0			—		11.9		26		4		76	155	170	46
*2200	12.7	34.4		1.025	1.2			—		14.6		41		4		78	152	170	48
*1400	2.9	50.0		1.025	1.3			.364	6.1	13.2		26		4		78	151	169	46
*2200	8.8	34.4		1.015	1.4			.364	12.9	15.8		41		4		71	153	172	48
*1400	2.7	50.0		1.017	1.3			.488	5.8	13.8		26		4		70	150	160	46
*2200	8.9	34.4		1.019	1.4			.488	17.9	15.6		41		4		72	155	160	48
*1400	3.0	50.0		1.019	1.3			.400	6.3	13.0		26		4		76	150	160	46
*2200	8.6	34.4		1.019	1.4			.400	17.9	15.9		41		4		76	160	165	48
1400	2.5	50.0		1.014	1.3			.344	4.95	13.5		26		4		70	151	161	46
2200	9.6	34.4		1.016	1.5			.344	4.0	15.4		41		4		72	160	165	48
1400	5.1	50.0		1.020	1.1			.282	4.0	13.0		26		4		76	160	162	46
2200	11.2	34.4		1.022	1.2			.282	3.8	14.7		41		4		78	161	163	48
1400	5.8	50.0		1.022	1.2			.200	3.8	12.8		26		4		78	155	159	46
2200	12.0	34.4		1.020	1.2			.200	3.6	14.8		41		4		76	157	165	48

501

REMARKS

Requested By

OPERATOR

F/A EXHAUST CONCENTRATION DATA

105-1

INT. / EXH.

10-30-31-75 DYN. NO. 1-S RUN NO. 137.23 CURVE NO.

Plant 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS New rear tire signal driving EGR

CARBURETOR

MAK. Holley SER. NO. 41958

MOD. 1985 LIST

Requested By

Report No.

OPERATOR 10-31-75 V

RPM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO_2	NET O_2	F/A
1400	W/O EGR W VA	ALL	280	0.11	0.15 / 12.07	4.05	1352	—	—
2200	"	ALL	350	0.15	0.12 / 11.32	3.9	1618	—	—
.364 orifice 1400	W EGR W VA	ALL	400	0.1	0.75 / 12.07	4.1	553		
2200	"	ALL	470	0.15	0.84 / 11.94	4.0	498		
.180 orifice 1400	W EGR W VA	ALL	420	0.1	0.71 / 11.94	4.05	581		
2200	"	ALL	500	0.13	0.82 / 11.82	4.1	485		
.400 orifice 1400	W EGR W VA	ALL	380	0.1	0.73 / 12.10	4.05	525		
2200	"	ALL	650	0.15	0.79 / 11.57	4.1	525		
				10-30-75 V					
.312 orifice 1400	W EGR W VA	ALL	500	0.13	0.58 / 9.71	3.8	480		
2200	"	ALL	430	0.15	0.58 / 11.57	4.1	581		
.282 orifice 1400	W EGR W VA	ALL	350	0.12	0.45 / 11.82	3.9	885		
2200	"	ALL	360	0.15	0.44 / 11.8	4.0	691		
.200 orifice 1400	W EGR W VA	ALL	330	0.12	0.29 / 11.85	4.1	1118		
2200	"	ALL	340	0.15	0.27 / 12.3	3.85	1252		

HOLLEY CARBURETOR
DYNAMOMETER LOG

DATE 11.11.75 DYN. NO. LS
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 24
FUEL IND 30 OIL SAE 30
PLUGS BL-11Y
CORR. BAR. 29.08

CARBURETOR
MAKE HOLLEY SER. NO. 41958
MODEL 1985 LIST
CLEANER NONE
OBJECT OF TEST P.T. DIST.

OTHER EQUIPMENT
VALVES SET .010" INT & .010 EXH
NEW PLUGS @ .035"

DISTRIBUTOR
MAKE CHRY. SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.	% O2		CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	8.7	50.0		1.032	.7					12.5		34		1		76	175	180	47
1400	8.15	50.0		1.032	.8					12.1		34		2		76	178	179	47
1400	7.2	50.0		1.031	.85					11.8		34		3		75	178	181	47
1400	6.6-6.9 SURGE	50.0		1.032	.9					11.7		34		4		76	177	180	47
1400	5.0	50.0		1.033	1.0					12.2		34		5		77	178	182	47
1375	1.5	46.5		1.031	1.5					13.7		18		6		75	165	175	47
1400	7.8	50.0		1.032	.85					13.0				1		76	166	168	47
1400	6.5	50.0		1.034	.9					12.9				2		78	167	170	47
1400	5.4	50.0		1.033	1.1					13.1				3		77	167	169	47
1400	3.3	50.0		1.034	1.3					14.0				4		78	167	170	47
1400	2.1	50.0		1.033	1.5					14.2				5		77	168	172	47
1360	1.6	44.0		1.032	1.5					14.0		16.5		6		76	167	170	47
																			101

REMARKS

Requested By

F/A EXHAUST CONCENTRATION DATA

106-1/NT. EXH.

11-16-75 DYN. NO. 1-5 RUN NO. 137-24 CURVE NO.

Chevy 6 FUEL OIL

YR. 75 PLUGS

6 DISP. 225 REMARKS Valve lash re-set to .010 intake & .010 exhaust

CARBURETOR

Holley SER. NO. 411958

1955 LIST

Requested By

Request No. New spark plugs, plug gap .032

OPERATOR

TIME	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO Vo	NET O_2	F/A
11:00	W/OEGR W/VA.	ALL	220	0.65	0.1 / 14.46	0.9	2212		
"	"	"	210	0.12	13.91	2.0	2569		
"	"	"	200	0.1	13.09	3.0	2212		
"	"	"	210	0.1	12.33	3.95	1552		
"	"	"	230	0.1	11.30	5.1	608		
"	"	"	280	0.17	10.87	5.6	310		
14:00	W/OEGR W/O VA	ALL	220	0.32	14.5	0.95	1485		
"	"	"	190	0.16	13.65	2.0	1318		
"	"	"	180	0.14	12.97	2.95	952		
"	"	"	200	0.15	12.07	4.1	602		
"	"	"	220	0.16	11.42	4.9	410		
"	"	"	260	0.18	10.84	5.6	285		

DATE 11-11-75 DYN. NO. F-3000K-S

ENGINE CHRYSLER

MODEL SLANT 6 YR. 1975

NO. CYLS. 6 DISP. 225

HOLLEY CARBURETOR

DYNAMOMETER LOG

RUN NO. 137 CURVE NO. 25

FUEL IND 30 OIL SAE 30

PLUGS BL-11Y

CORR. BAR. 29.08

CARBURETOR

MAKE HOLLEY SER. NO. 41958

MODEL 1985 LIST

CLEANER MODIFIED

OTHER EQUIPMENT

REPEAT 137-24, WITH PLUG GAP .035" VALVES SET @ .010 EXH. .010 INT.

DISTRIBUTOR

MAKE HEI SER. NO.

MODEL LIST

TRANS. INIT. SET

OBJECT OF TEST

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.		% O2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	9.1	50		1.030	.7					12.0		34			1	74	170	180	47
1400	8.35	50		1.029	.7					12.1		34			2	75	169	179	47
1400	7.7	50		1.029	.8					11.3		34			3	75	168	175	47
1400	6.9	50		1.028	.9					11.7		34			4	74	165	170	47
1400	5.5	50		1.029	1.0					12.0		34			5	75	169	175	47
1390	4.8	46.5		1.029	1.1					11.9		34			6	75	168	170	47
												NO VAC ADV.							
1400	8.0	50		1.030	.85					12.5		18			1	76	164	171	47
1400	6.7	50		1.031	1.0					12.7		18			2	77	164	172	47
1400	5.6	50		1.031	1.1					13.4		18			3	77	165	170	47
1400	4.1	50		1.030	1.2					13.8		18			4	76	162	169	47
1400	2.5	50		1.030	1.4					14.2		18			5	76	165	169	47
1390	2.0	44.0		1.029	1.45					14.0		17.5			6	75	166	170	47
																			1.01

REMARKS

Requested By

OPERATOR

F/A EXHAUST CONCENTRATION DATA

107-1

11-11-75 DYN. NO. LS RUN NO. 137-25 CURVE NO.

Plant 6 FUEL OIL

YR. 75 PLUGS gaped @ .055"

225 DISP. 225 REMARKS Repeat 137-24 run, with .055 plug gap

CARBURETOR

Holley SER. NO. 41958

1985 LIST

Requested By

Request No.

OPERATOR

RPM	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO/No	NET O_2	F/A
1400	W/O EGR W. VA	ALL	220	0.28	14.46	1.0	2870		
"	"	"	220	0.1	13.76	1.9	3055		
"	"	"	220	0.1	12.84	2.95	2435		
"	"	"	225	0.1	11.94	3.95	1818		
"	"	"	235	0.1	11.20	4.95	960		
"	"	"	280	0.1	10.60	6.0	415		
1400	W/O EGR W/O V.A	ALL	180	0.2	14.46	1.05	1395		
"	"	"	170	0.11	13.64	2.1	1518		
"	"	"	170	0.1	13.11	2.9	1352		
"	"	"	170	0.1	12.20	3.9	780		
"	"	"	195	0.14	11.32	4.95	395		
"	"	"	230	0.14	10.72	5.6	277		

HOLLEY CARBURETOR
DYNAMOMETER LOG

DATE 11-12-75 DYN. NO. L-3000K-S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

CARBURETOR
MAKE HOLLEY SER. NO. 41858
MODEL 1985 LIST
CLEANER MODIFIED
OBJECT OF TEST P.T. DIST.

OTHER EQUIPMENT
HIGH ENERGY IGNITION
PLUG GAP .055"
VALVES SET TO .010" + .010"

RUN NO. 137 CURVE NO. 26
FUEL IND 30 OIL SAE 30
PLUGS
CORR. BAR. 28.39

DISTRIBUTOR
MAKE SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL #/HP/HR	SPARK DEG. ADV.	SPARK VAC.		% O2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	8.8	50		1.056	.7					12.2		34			1	76	175	180	47
1400	7.9	50		1.060	.8					12.3		34			2	80	176	179	47
1400	7.6	50		1.057	.8					11.9		34			3	77	174	175	47
1400	6.8	50		1.058	.9					11.7		34			4	78	178	180	47
1400	5.2	50		1.058	1.0					12.0		34			5	78	174	175	47
1400	1.7	42		1.060	1.4					14.0		17.5			6	80	169	172	47
1400	7.5	50		1.056	.9					11.0		NO ADV.			1	76	165	170	47
1400	6.4	50		1.057	1.0					11.1					2	77	163	169	47
1400	5.2	50		1.056	1.1					13.0					3	76	168	170	47
1400	4.0	50		1.056	1.2					13.8					4	76	168	169	47
1400	2.4	50		1.056	1.3					14.0					5	76	168	170	47
1390	2.0	47		1.058	1.5					14.0					6	78	169	173	47
																			102

REMARKS

Requested By

OPERATOR

F/A EXHAUST CONCENTRATION DATA

108-1

11-12-75 DYN. NO. 1-S RUN NO. 137-26 CURVE NO.

Plant 6 FUEL OIL

YR. 75 PLUGS set @ .055"

6 DISP. 225 REMARKS High energy ignition.

Valves set @ .010 intake, .010 exh.

CARBURETOR

Holley SER. NO. 41958

1985 LIST

Requested By

Request No.

OPERATOR

E.G.M.	IN. HG	CYL #	HC	CO	CO_2	O_2	NET NO_x	NET O_2	F/A
1400	W/O EGR W.V.A.	ALL	200	0.2	14.46	1.0	2658		
"	"	"	230	0.1	13.64	2.0	2977		
"	"	"	240	0.08	12.84	3.0	2320		
"	"	"	240	0.1	11.94	4.05	1585		
"	"	"	255	0.1	11.20	5.1	1018		
"	"	"	290	0.11	10.37	5.85	235		
1400	W/O EGR W/O V.A.	ALL	210	0.34	14.19	1.0	1600		
"	"	"	190	0.1	13.49	2.1	1518		
"	"	"	180	0.1	12.70	3.05	1152		
"	"	"	180	0.1	11.94	4.0	691		
"	"	"	200	0.1	11.32	4.9	443		
"	"	"	240	0.11	10.70	5.75	280		

HOLLEY CARBURETOR
DYNAMOMETER LOG

DATE 11-17-75 DYN. NO. 1-3000K.S
ENGINE CHRYSLER
MODEL SLANT 6 YR. 1975
NO. CYLS. 6 DISP. 225

RUN NO. 137 CURVE NO. 28
FUEL IND. 30 OIL SAE 30
PLUGS RBL-11Y
CORR. BAR. 29.05

CARBURETOR
MAKE HOLLEY SER. NO. 411958
MODEL 1985 LIST
CLEANER MODIFIED
OBJECT OF TEST P.T. DIST.

OTHER EQUIPMENT
PLUGS @ .070"
VALVES SET TO .010" & .010"

DISTRIBUTOR
MAKE HEI SER. NO.
MODEL LIST
TRANS. INIT. SET

R.P.M.	MAN. VAC.	SCALE LOAD OBS.	SCALE LOAD CORR.	CORR. FACTOR	BACK PRESS	B.H.P. OBS.	B.H.P. CORR.	TORQUE OBS.	TORQUE CORR.	FUEL #/HR	FUEL # /HP/HR	SPARK DEG. ADV.	SPARK VAC.		% O2	CARB. AIR TEMP	WATER TEMP. ENG. OUT	OIL TEMP.	OIL PRESS.
1400	9.1	50		1.029	.6					12.5		34			1	73	140	149	47
1400	8.2	50		1.031	.7					12.4		34			2	75	140	150	47
1400	7.6	50		1.029	.7					12.2		34			3	73	140	150	47
1400	7.0	50		1.028	.8					12.2		34			4	72	139	149	47
1400	6.1	50		1.028	.95					12.1		34			5	72	141	151	47
1400	4.7	49		1.031	1.0					12.3		34			6	75	142	153	47
												NO VAC. ADV. ↓							
1400	7.9	50		1.030	.8					12.9		18			1	74	141	150	47
1400	6.3	50		1.031	.9					13.6		18			2	75	142	151	47
1400	5.9	50		1.031	.95					13.3		18			3	75	149	152	47
1400	4.2	50		1.030	1.1					13.7		18			4	74	148	150	47
1400	2.8	50		1.028	1.3					14.0		18			5	72	146	152	47
1390	2.3	49		1.029	1.4					14.1		18			6	73	150	151	47

REMARKS

Requested By

OPERATOR

F/A EXHAUST CONCENTRATION DATA

109-1

11-17-75 DYN. NO. 1-S RUN NO. 137 28 CURVE NO. _____

Plant 6 FUEL _____ OIL _____

_____ YR. 75 PLUGS set @ .070" (11 plugs)

6 DISP. 225 REMARKS Hot engine run in sustain

CARBURETOR

Holley SER. NO. 41958 Reviewed By Dabol Test ② .010 ± .010

1285 LIST _____ Request No. _____

OPERATOR _____

E.G.M.	IN. HG	CYL #	HC	CO	CO_2	O_2	NET CO N/O	NET O_2	F/A
1400	W/O EGR W/O VA	ALL	200	0.28	0.17 14.58	1.0	2613		
"	"	"	205	0.15	14.03	2.0	2865		
"	"	"	190	0.1	13.11	3.1	2212		
"	"	"	200	0.1	12.45	4.0	1870		
"	"	"	220	0.1	11.82	5.0	1270		
"	"	"	255	0.1	10.84	6.0	470		
1400	W/O EGR W/O V.A	ALL	185	0.3	14.19	1.0	1418		
"	"	"	175	0.11	13.62	2.1	1352		
"	"	"	175	0.11	13.11	2.7	1285		
"	"	"	180	0.1	12.19	4.05	774		
"	"	"	210	0.1	11.44	4.95	470		
"	"	"	280	0.15	10.6	6.0	265		

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-460/3-77-003		

4. TITLE AND SUBTITLE	5. REPORT DATE
Advanced Fuel Metering Demonstration Program. Sonic Carburetion Evaluation	February 1977
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
Warren Cowles and Patrick McCabe	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
Holley Carbuetor Division Colt Industries 11955 Nine Mile Road Warren, Michigan 48090	11. CONTRACT/GRANT NO. 68-03-2208
12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
Environmental Protection Agency 2565 Plymouth Road Ann Arbor, Michigan 48105	Final Report, 7/75-12/76
	14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

16. ABSTRACT

This report presents the results of a program intended to demonstrate the benefits of advanced fuel metering for light duty vehicles with spark ignition engines. The system selected for demonstration was a sonic carburetor which utilized a variable area throat with a venturi shaped flow cross section to maintain a standing sonic shock wave across the flow path. Fuel metering system employing this principle had been previously shown to provide improved fuel atomization and distribution. This type of system holds promise for the realization of the theoretical benefits of very lean air-fuel ratio operation. The sonic carburetor that was demonstrated included the customary auxiliary functions of cold enrichment, acceleration enrichment and power enrichment. The carburetor was adapted to a six cylinder, 1975 Dodge Dart. The emission control system included back pressure modulated EGR and an oxidation catalyst. The objective was to optimize the vehicle for best emissions and fuel economy with no degradation in driveability over the baseline. The results showed equivalent fuel economy, driveability and emissions except for carbon monoxide which was increased with the sonic carburetor. The reason for the non attainment of the expected improvements is believed to be the low power to weight ratio of the vehicle which caused much of the acceleration and high speed cruise operation to occur at larger throttle openings. Large throttle openings result in low manifold pressure and subsequent loss of sonic operation.

17. a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
air pollution exhaust emissions fuel consumption motor vehicles carburetion	sonic carburetion lean burn	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
	20. SECURITY CLASS *(This page)*	22. PRICE

EPA Form 2220-1 (9-73)