

Exhaust Emissions from a Passenger Car Equipped with the
"Wilford Smog Suppressor"

October 1970

Leonard D. Verrelli
Division of Motor Vehicle Research and Development
National Air Pollution Control Administration
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Device Tested

The design characteristics of the Wilford Smog Suppressor provided an opportunity to evaluate the effects of applying back pressure to the exhaust system and its relationship to reduced emissions. The testing was required as part of an evaluation of retro-fit devices to aid in reducing emissions in used vehicles.

The Wilford Smog Suppressor consists of a spring (calibrated) controlled flapper valve that varies the back pressure depending on engine rpm. It is clamped to the end of the exhaust pipe with the valve opening downward.

The device was mounted on a 1963 Ford Galaxie test bed, with a 289 cubic inch engine and automatic transmission. There is extensive emissions background data available on this vehicle as a result of previous testing that would denote any improvements made by the device.

Test Procedure

The device was tested under the 1970 Federal test procedure as stated in the Federal Register, Volume 33, Number 108, Part II, dated June 4, 1968, Subpart H, para. 85.7 b.

Emission Results

The data shown in Table I compare tests run both with and without the Wilford Smog Suppressor.

Because of the increase of unburned hydrocarbons during the cold cycle and the lack of any meaningful reduction in both CO and NO it appears that the Wilford Smog Suppressor has no beneficial effect on emissions.

Conclusions

The "Wilford Smog Suppressor" does not improve exhaust emission rates when evaluated using the 1970 Federal test procedure.

Table I

1963 Ford Galaxie

1970 Federal Test Procedure	HC GPM	CO GPM	NO GPM
Without device	4.01	53.85	1.62
With Wilford Smog Suppressor	6.87	50.16	1.83