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Platinum Gasaver
AKA - PB 92104413

EPA-AA-TEB-511-91-1



Second EPA Evaluation of the Platinum Gasaver Device
Under Section 511 of the Motor Vehicle
Information and Cost Savings Act

July 1991

NOTICE

Technical Reports do not necessarily represent final EPA decisions or positions. They are intended to present technical analysis of issues using data which are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical development which may form the basis for a final EPA decision, position or regulatory action.

Test and Evaluation Branch
Emission Control Technology Division
Office of Mobile Sources
U.S. Environmental Protection Agency

EPA Evaluation of the Platinum Gasaver Device Under Section 511 of the Motor Vehicle Information and Cost Savings Act

The Motor Vehicle Information and Cost Savings Act requires that EPA evaluate fuel economy retrofit devices and publish a summary of each evaluation in the Federal Register.

EPA evaluations are originated upon the application of the manufacturer of a retrofit device, upon the request of the Federal Trade Commission, or upon the motion of the EPA Administrator. These studies are designed to determine whether the retrofit device increases fuel economy and to determine whether the representations made with respect to the device are accurate. The results of such studies are set forth in a series of reports, of which this is one.

In 1981 EPA evaluated the device at the request of a distributor¹. However, the applicant failed to conduct the required screening tests following the test protocols for this voluntary program. EPA completed the evaluation based on the information available and our technical assessment of the technology. EPA judged that there was no technical basis or appropriate test data to support the claims for a fuel economy improvement or emission reduction due to the device. Therefore, EPA issued a report concluding that the device would not have an emission or fuel economy benefit.

This second evaluation of the Platinum Gasaver device was conducted upon the request of the Federal Trade Commission. The unit is a vapor bleed device. It functions by bleeding a mixture of air and "platinum concentrate" through a "T" connection that is installed in the Positive Crankcase Ventilation (PCV) line. The device consists of a liquid reservoir, proprietary liquids, an orifice, and connecting tubing to the PCV line. During vehicle operation, air is drawn through the controlling orifice by engine manifold vacuum. The device is claimed to reduce emissions, improve fuel economy, raise the octane of gasoline, and extend engine life.

¹ "EPA Evaluation of the Platinum Gasaver Device under Section 511 of the Motor Vehicle Information and Cost Savings Act," EPA-AA-TEB-511-81-14 or PB 81-226706. This document is available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

1. Title:

Request for Evaluation of Platinum Gasaver Under Section 511 of the Motor Vehicle Information and Cost Savings Act

The information contained in sections two through five which follow, was extracted from various documents.

2. Identification Information:

a. Marketing Identification of the Product:

Platinum Gasaver (from packaging and installation instruction booklet (pack & inst))

b. Patent Protection:

Patent #4,295,816 (pack & inst)

c. Manufacturer of the Product:

(1) National Fuelsaver Corporation (pack & inst)
60 Plain Street
Clinton, Massachusetts 01510

(2) B. Joel Robinson (pack & inst plus related correspondence)

3. Description of Product:

a. Purpose:

The device is claimed to reduce emissions, improve fuel economy, raise the octane of gasoline, and extend engine life. (pack & inst plus related correspondence)

b. Applicability:

for a gasoline vehicle getting at least 9 miles per gallon, vehicles getting less than 9 miles per gallon require more platinum concentrate so that the platinum will correlate to the fuel (pack & inst)

c. Theory of Operation:

Air bubbling through the solution transports a minute amount of platinum to engine where the platinum is theorized to enhance the combustion process.

d. Construction and Operation:

The system consists of a molded plastic container containing the platinum solution plus the connecting tubing

e. Specific Claims for the Product:

The device is claimed to reduce emissions, improve fuel economy, raise the octane of gasoline, and extend engine life. (pack & inst plus related correspondence.) No specific numeric claims for these improvements are given; however, the packaging prominently states that the "Device may increase gas mileage by 22%" or "Device increases gas mileage by 22%." Ads have appeared in magazines and newspapers that state either these same numbers or "Device increases gas mileage by 22% to 40%."

f. Cost And Marketing Information:

The unit retails for approximately \$130. EPA has in the past received correspondence stating that the unit sells for \$100 to \$170. The refills of "platinum concentrate" cost \$80 to \$90 and last from 12,000 to 18,000 miles. The units are apparently principally sold by independent distributors.

4. Product Installation, Operation, Safety and Maintenance:

a. Installation - Instructions, Equipment, and Skills Required:

The installation instructions are given in Attachment B. As noted in the test report, "The instructions were generally clear. Only simple tools and minimal mechanical skills were needed for

installation. Installation was performed by EPA technicians and required approximately one hour per vehicle." Although the note on the device packaging states that it "takes only 10 minutes to install", one hour is more reasonable since the unit must be installed away from hot spots, must be installed upright, and should be located so as to minimize the length of the tubing. Also, some popular vehicles have PCV lines that are metal and/or difficult to readily cut the PCV line and install the connecting "T".

b. Operation:

Operation is automatic, bubbles pass through the unit when the engine is running at loads which open the PCV valve.

c. Effects on Vehicle Safety:

No problems were observed in testing by EPA.

d. Maintenance:

The manufacturer's installation instructions, Attachment B, specify that a vial of platinum concentrate must be added to the gasaver solution.

5. Effects on Emissions and Fuel Economy:

a. Unregulated Emissions:

There was no information available regarding unregulated emissions.

b. Regulated Emissions and Fuel Economy:

The test results given on the packaging, in the installation booklet, and in testimonials from purchasers of the device represent relatively uncontrolled test programs and thus cannot be relied upon to demonstrate that the device has a fuel economy benefit.

Furthermore, emissions cannot be evaluated based on the results of the Inspection/Maintenance (I/M) hot running tests that are used in many areas of the country. These are usually tailpipe emission tests of a vehicle in neutral. These test procedures, equipment, and pass/fail points were designed to identify 'gross emitting' vehicles and thus are not capable of accurately detecting changes in emissions and fuel economy levels. Therefore, I/M tests cannot be used to show that a device has a general effect on the emissions and/or fuel economy of a vehicle when driven under realistic road loads and operating modes.

The following Section is EPA's analysis and conclusions for the device.

6. Testing by EPA:

A detailed report of the testing performed by the EPA is given in EPA report, EPA-AA-TEB-91-2, "Emissions and Fuel Economy Effects of the Platinum Gasaver, a Retrofit Device" provided as Attachment A. A brief description of this testing effort is given below:

"Three typical vehicles were tested at EPA's Motor Vehicle Emission Laboratory. The basic test sequence included 2,000 miles of mileage accumulation, replicate Federal Test Procedures (FTP) and replicate Highway Fuel Economy Tests (HFET). This test sequence was conducted both without and with the Platinum Gasaver installed."

7. Conclusion:

"The overall conclusion from these tests is that the Platinum Gasaver did not significantly change vehicle emissions or fuel economy for either the FTP or HFET. The device clearly did not produce the large -- greater than 20 percent -- fuel economy benefits claimed by the manufacturer. Therefore, users of the device would not be expected to realize either an emission or fuel economy benefit. Vehicle operation and performance were unchanged by the device".

Appendix A

Test Plan for EPA Testing of the Platinum Gasaver

Test Plan

The following is the test plan which will be used by the EPA in collecting data on the fuel economy and emission effects of the Platinum Gasaver device of National Fuelsaver Corporation (a retrofit device under Section 511 of the Motor Vehicle Information and Cost Savings Act). This testing is being conducted at the request of the FTC.

1. Representative vehicles will be identified and obtained by the EPA. Representativeness will be based upon the applicability of Platinum Gasaver as detailed in the manufacturer's literature; i.e., 1989 year or older, domestic, gasoline fueled and for engine size and manufacturer; i.e., small, medium, large engines from different manufacturers.

2. Vehicles will each be checked and adjusted to ensure that they are operating in accordance with vehicle manufacturer's specifications.

3. The test fuel will be commercial unleaded summer-grade gasoline from EPA storage facilities. This fuel is routinely used by EPA and its specifications are known.

4. All mileage accumulation will be with this same commercial unleaded summer-grade gasoline.

5. Baseline mileage accumulation. Each vehicle will accumulate 2,000 miles on an established road route using commercial unleaded summer-grade fuel. The vehicle will then be baseline tested.

6. Baseline tests. Duplicate, valid Federal Test Procedure (FTP) and Highway Fuel Economy Test (HFET) procedures will be performed on each test vehicle after baseline mileage accumulation. Basic vehicle driveability will be checked.

7. The Platinum Gasaver device will then be installed in accordance with the written installation instructions provided with the device.

8. The installations will be performed by EPA personnel. The vehicles may be checked, as necessary, for correct operation prior to initiation of these device tests.

9. Device Mileage Accumulation. Each vehicle will undergo mileage accumulation on the road sufficient to bring the total mileage with the device to 2,000 miles (commercial unleaded summer-grade fuel). For each vehicle, the mileage accumulation procedure will be the same as that used prior to baseline testing.

10. Device Tests. After mileage accumulation, the testing sequence performed for the baseline test will be repeated with the Platinum Gasaver installed.

11. Data Analysis. Test results will be analyzed to determine if there is a statistically significant difference between the data sets (vehicles without and with Platinum Gasaver).

12. Additional testing may be undertaken by EPA to further investigate items noted during the course of the test program.

Platinum Gasaver Detailed In-House Test Plan

I. Introduction

Comparative exhaust emission and fuel economy data are to be obtained on late model vehicles both without and with the Platinum Gasaver. All mileage accumulation will be done using commercial unleaded summer-grade gasoline from EPA storage facilities as needed.

II. Test Vehicles

Three vehicles will be tested.

III. Required Testing

A. Vehicle Prep

Prior to start of testing, each vehicle is to be tuned to manufacturer's specifications and parts replaced as required to ensure proper operation of the vehicle for 5,000 miles.

Parts

Air filter	check
Distributor cap	check
Fuel filter	check
Ignition wires	check
Oil	change use the same 10W30 oil in all test vehicles
Oil filter	change, use OEM
PCV filter	check
PCV valve	check
Rotor	check
Spark plugs	check
Tires	check

Adjustments (if adjustable)

Air/fuel mixture
Choke
Curb idle
Fast idle
Ignition timing

Checks

Compression

Record all items adjusted/checked/replaced. Record manufacturer's specifications and measured values for all items as appropriate.

B. Test Schedule

All vehicles will be tested using the same test schedule:

1. Check tire pressure set for road.
2. Drain and pressure check fuel system. Then refuel with commercial unleaded summer-grade gasoline from EPA fuel supply.
3. 2,000 miles of mileage accumulation on an established road route using commercial unleaded summer-grade gasoline from the EPA storage facilities.
4. Drain and refuel (approximately 3 gallons).
5. Sun analyzer vehicle specification check.
6. Set tire pressure for dyno.
7. Drain and refuel to 40% fill for prep.
8. LA-4 prep.
9. Overnight soak
10. Drain and 40% fill with chilled fuel. Heat build with no evaps. Then FTP and HFET tests with commercial unleaded summer-grade gasoline.
11. Repeat steps 7 to 10.
12. Remove test tires from vehicle and store.
13. Install Platinum Gasaver per manufacturer's written instruction.
14. Mileage accumulation to 2,000 miles with Platinum Gasaver using commercial unleaded summer-grade gasoline from EPA supplies. For each vehicle, the mileage accumulation route with the device will be the same as that used prior to baseline testing.
15. Install test tires.
16. Drain and refuel (approximately 3 gallons).
17. Sun analyzer vehicle specification check.
18. Duplicate FTP and HFET tests with the Platinum Gasaver installed (steps 7 to 10 completed twice).

C. General

The same driver and dynamometer should be used to test a given vehicle whenever possible. Driveability should be evaluated on the road and during testing. Written driveability comments are needed. To ensure only the proper fuel is used, the vehicles should be equipped with locking gas caps. Mileage accumulation will be performed by EPA drivers using an established road route. All fuel will be from EPA supplies.

TABLE OF CONTENTS

Contents of GASAVER KIT	3
Installation Instructions	4
Metering device replaces catalytic converter (excerpt from DESIGN NEWS)	6
Homogeneous Catalysis of Gasoline Combustion By Platinum and Rhenium (presentation to the American Chemical Society)	8
Excerpts from Mobil research referred to on page 15	20
Fleet Tests Data	21 & 22

NATIONAL FUELSAVER CORP.

PACKING CONTENTS and INSTALLATION INSTRUCTIONS

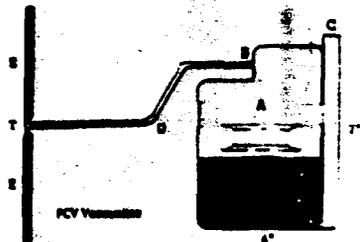
For a vehicle getting at least 9 miles per gallon.

Do NOT pour the GASAVER concentrate into the GASAVER instrument without following the instructions below.

If your vehicle is under warranty, check with your dealer that this will not jeopardize the warranty.

- 1 GASAVER Instrument, filled with GASAVER Solution
- 1 Plastic "T" Connector
- 3 Vials of GASAVER Concentrate (Each vial contains enough platinum for 6,000 miles of driving.)
- 1 Plastic Self-locking Releasable Strap

- A. GASAVER Instrument
- B. Horizontal Opening
- C. Vertical Opening
- D. GASAVER tubing
- E. PCV Rubber Vacuum line of vehicle
- T. "T" Connector



2

3

1. Horizontal opening "B" appears to be closed. IT IS NOT. We have gone to great expense to create an opening there equal to 1/200 inch. Do not disturb.
2. Locate the PCV rubber vacuum line going from the PCV valve to the base of the carburetor. Cut that vacuum line at a convenient spot and insert the two legs of the plastic "T" into the ends of the tube created by the cut.
3. Connect one end of the vacuum line "D" to the third leg of the "T".
4. Remove BOTH legs of the "T" from the GASAVER instrument and throw them away. YOU MUST REMOVE THE CAP COVERING OPENING "C" AS WELL AS THE CAP AT "B".
5. Find a safe and convenient location for the GASAVER instrument "A" under the hood of your car. Keep it away from the hot parts of the engine and exhaust, and avoid sharp corners that might puncture the instrument. Usually there is a suitable spot behind a headlight next to a canister, windshield washer container, or battery. (Do NOT attach to a warm or hot part of the car such as the radiator or radiator overflow tank.)
6. Secure the GASAVER instrument "A" using the self-locking strap provided for this purpose. Make sure that the instrument's horizontal opening "B" faces the "T" (point "T") in the vacuum line "E" to which the GASAVER tubing "D" has been attached.
7. Attach second end of GASAVER tubing to Horizontal opening "B" on GASAVER instrument, making the GASAVER tubing "D" as short and as straight as possible.

8. TURN ON ENGINE. After about 30 seconds you should see bubbling in the GASAVER instrument. A bubbling rate of 20 to 30 bubbles in 10 seconds is correct. If otherwise contact your supplier.
9. With your engine still running, slowly and carefully pour one (1) of the vials of GASAVER concentrate into the GASAVER instrument "A" through the vertical opening "C".
10. Your PLATINUM GASAVER is now fully operational, although it may take from 200 to 1,000 miles for it to become fully effective. Even though NONE of the GASAVER solution in the instrument is consumed during the normal course of driving, the platinum is used up every 6,000 miles. It is necessary, therefore, to add one (1) of the vials of the GASAVER concentrate to the instrument each 6,000 miles of driving, to keep this PLATINUM GASAVER process effective and operational.

(Vertical opening "C" does not have to be covered. However, if you wish to cover it with nylon stocking material, you may. Just make sure that the bubbling rate remains 20 to 30 bubbles each 10 seconds.)

Appendix C

Test Vehicle Description

<u>Make/Model</u>	<u>Chevrolet Celebrity</u>	<u>Ford Taurus</u>	<u>Dodge Van</u>
Model Year	1988	1988	1987
Vehicle ID	1G1AW51R6J6164308	1FABP50U5JG281067	2B4HB21T8HK 266892
Type	Four-door sedan	Four-door sedan	B250 Van Wagon
Initial Odom.	13423 miles	12149 miles	5320 miles
Engine Family	2.5L/I-4 J1G25V5TPG4	3.0L/V-6 JFM3.0V5FEGX	5.2L/V-8 HCR52T2BBF8
Fuel Metering	Fuel injected	Fuel injected	2 venturi
Evaporative Family	JAD-1C	AFU	HCRTJ
Emission Control System	EGR 3-way catalyst Closed-Loop	EGR 3-way catalyst Closed-Loop	EGR Oxidation Catalyst Air pump
Transmission	Automatic Lockup-3 speed	Automatic Lockup-4 speed	Automatic Lockup-3 speed
Tires	P185/75R14	P205/70R14	P225/75R15
Test Parameters			
Inertia Weight	3,000	3,500	5,000
hp @ 50 mph	6.3	6.6	16.1

Appendix D

Test Results

1988 Chevrolet Celebrity, 2.5 liter, 4 cylinder

FTP Emissions in Grams/Mile					HFET Emissions in Grams/Mile				
Test No.	HC	CO	NOx	MPG	Test No.	HC	CO	NOx	MPG
Baseline									
# 1	.14	2.28	.45	26.1	# 1	.04	.61	.27	40.9
# 2	.11	2.43	.52	25.8	# 2	.05	.74	.28	41.2
Platinum Gasaver									
# 1	.12	2.42	.63	26.1	# 1	.05	.91	.39	41.7
# 2	.12	1.92	.56	26.4	# 2	.04	.57	.35	42.0

1988 Ford Taurus, 3.0 liter, 6 cylinder

FTP Emissions in Grams/Mile					HFET Emissions in Grams/Mile				
Test No.	HC	CO	NOx	MPG	Test No.	HC	CO	NOx	MPG
Baseline									
# 1	.25	4.71	1.15	21.4	# 1	.02	.51	.89	36.5
# 2	.25	3.81	1.19	21.5	# 2	.02	.45	.93	37.1
Platinum Gasaver									
# 1	.27	5.78	1.09	22.1	# 1	.02	.43	.92	37.6
# 2	.34	5.68	1.04	21.9	# 2	.03	.87	.92	37.3

1987 Dodge Van, 5.2 liter, V-8

FTP Emissions in Grams/Mile					HFET Emissions in Grams/Mile				
Test No.	HC	CO	NOx	MPG	Test No.	HC	CO	NOx	MPG
Baseline									
# 1	.40	5.89	1.93	14.0	# 1	.12	.22	3.12	19.9
# 2	.47	6.17	1.70	13.9	# 2	.12	.34	2.94	20.3
Platinum Gasaver									
# 1	.40	4.79	1.88	14.2	# 1	.11	.25	2.95	20.0
# 2	.39	5.69	1.78	14.2	# 2	.11	.28	3.11	20.1

Appendix B

TABLE OF CONTENTS

Contents of GASAVER KIT	3
Installation Instructions	4
Metering device replaces catalytic converter (excerpt from DESIGN NEWS)	6
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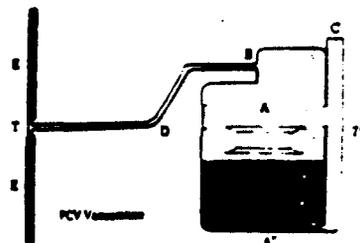
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3. Connect one end of the GASAVER tubing "D" to the third leg of the "T".
4. Remove BOTH bleed caps from the GASAVER instrument and throw them away. YOU MUST REMOVE THE CAP COVERING OPENING "C" AS WELL AS THE CAP AT "B".
5. Find a safe and convenient location for the GASAVER instrument "A" under the hood of your car. Keep it away from the hot parts of the engine and exhaust, and avoid sharp corners that might puncture the instrument. Usually there is a suitable spot behind a headlight next to a canister, windshield washer container, or battery. (Do NOT attach to a warm or hot part of the car such as the radiator or radiator overflow tank.)
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6

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(Vertical opening "C" does not have to be covered. However, if you wish to cover it with nylon stocking material, you may. Just make sure that the bubbling rate remains 20 to 30 bubbles each 10 seconds.)