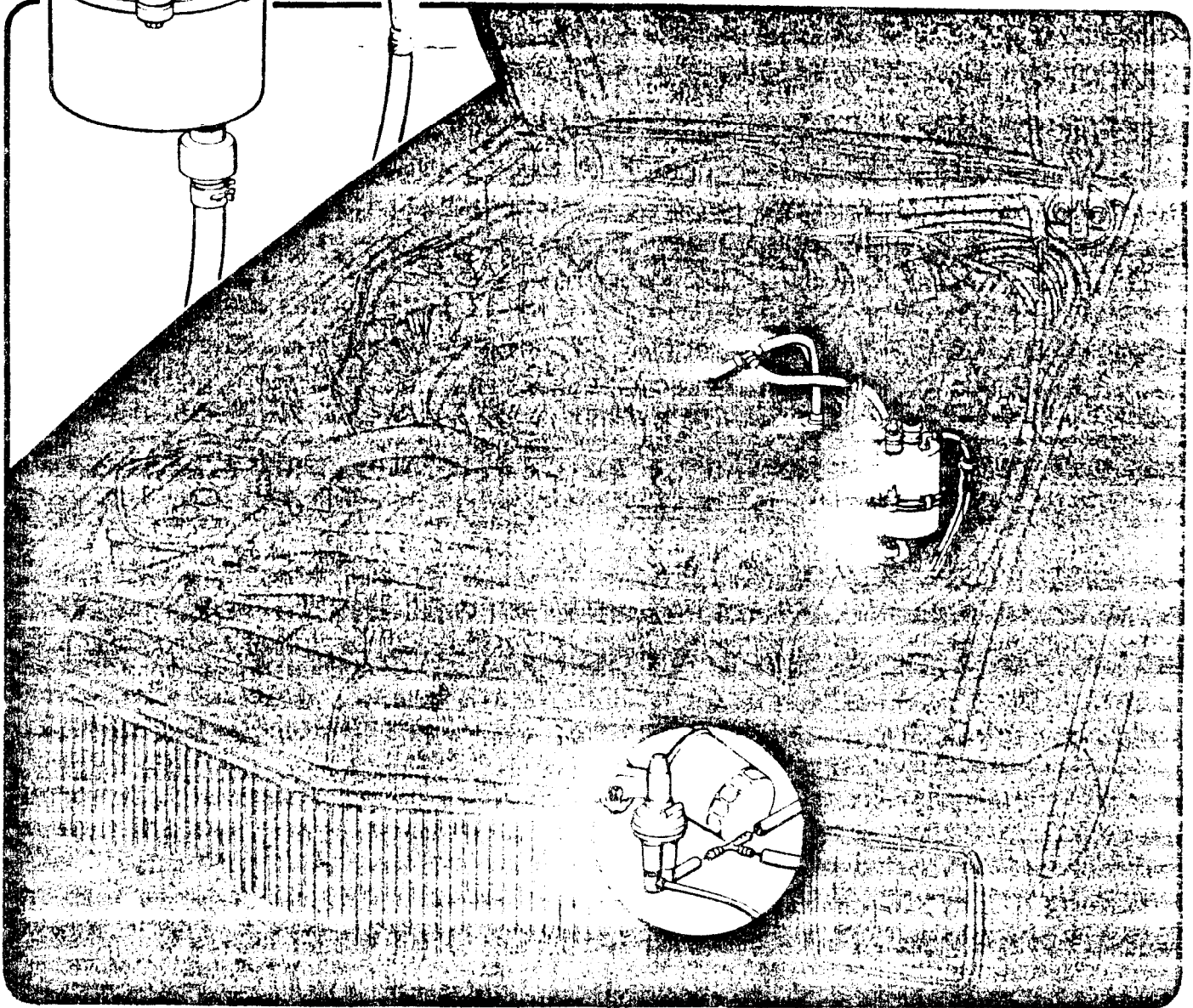
**AUTO
MISER**

Proper operation of the "AUTO-MISER" gasoline saving system can only be obtained by a complete understanding of the theory, operation, installation and diagnostic information included in these instructions.

Attention to these instructions will result in a cleaner, more responsive engine in all operating ranges. The conservative use of these increased responsiveness should result in fuel savings.

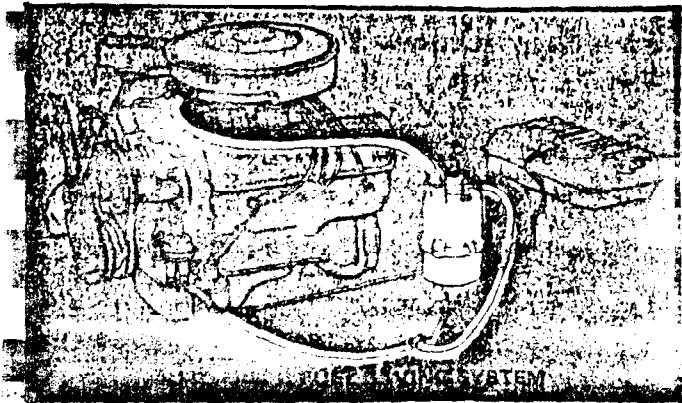


**AUTO-MISER IS A PRODUCT OF
AUTO-MISER INTERNATIONAL MANUFACTURING CORP.
2570 GRAVEL STREET
FORT WORTH, TEXAS 76118 817-284-1425**

THEORY OF OPERATION

Vaporized gasoline mixed with the gasoline mist and air supplied by the carburetor will improve ignition of the total mixture and more complete combustion in the engine rather than in the exhaust system.

As a result, build up of residue in the combustion chamber is reduced, which prolongs spark plug, valve and ring life. This reduction in cylinder deposits reduces pre-combustion "ping" and the build-up of octane requirements.



SYSTEM OPERATION

The entire system is vacuum operated with the vacuum source taken at the Positive Crankcase Ventilation (PCV) valve hose. This vacuum is used to draw gasoline and air into a vaporizing chamber. The gasoline is vaporized and mixed with air in the vaporizing chamber and drawn into the engine through the hose between the PCV valve and base of the carburetor.

The gasoline is taken from the fuel supply line to the engine fuel pump (suction side) through a filter and drawn into the vaporizing chamber. The amount of fuel is controlled by a float and valve in the chamber.

A porous pad in the bottom of the vaporizing chamber is immersed in this fuel.

Air is drawn into the vaporizing chamber through a filter and into the vaporizing pad where it produces vaporized gasoline. The amount of air and the vacuum in the chamber is controlled by an air inlet control screw located under the air filter retaining cap screw.

The mixture of vaporized gasoline and air is drawn into the vapor supply hose through an anti-backfire check valve and flow control adjusting screw. The amount of vapor delivered to the engine is controlled by this adjusting screw.

A spring loaded disc valve is located at the bottom of the vaporizing chamber. This is a one-way drain valve permitting only a small amount of fuel to be drained from the unit when the engine stops. The spring force (fixed) pre-determines the amount of fuel drained back into the fuel line. The purpose of this action is to provide a fresh supply of gasoline for vaporizing each time the engine is started. The spring-loading also prevents any back-flow of fuel into the vaporizing chamber if the vehicle is parked with the fuel tank above the chamber.

SYSTEM CONTROL

Since the operation of the system is vacuum actuated, the amount of vacuum and flow is controlled by the vapor adjustment screw and inlet air adjustment screw. Both these adjustments are made at installation and should not be changed.

The purpose of the vapor adjustment screw is to match the vapor flow from the unit to the amount of vacuum available from the engine. The larger the engine, the more flow from the unit. Also this adjustment is made to limit the amount of vacuum taken from the engine so as not to adversely effect the PCV valve operation.

The air inlet adjustment screw controls the amount of air taken into the vaporizing chamber which in turn determines the vacuum in the chamber. This adjustment serves several purposes:

1. Amount of vacuum in the chamber determines the vaporizing action.
2. Vacuum in the chamber determines amount of force available to lift fuel from the fuel line into the vaporizing chamber.
3. Vacuum has an effect on the buoyancy of the float; therefore on the fuel level.

PRE-INSTALLATION CHECKS

This system requires the following vehicle configurations to exist before attempting installation:

1. Carburetor - NOT fuel injection or diesel.
2. Engine-mounted fuel pump - NOT tank-mounted fuel pump.
3. PCV valve.

With the engine at operating temperature, connect and calibrate an emissions analyzer and record emissions at idle and at approximately 2500 RPM. Check for lean misfire due to vacuum leaks, carburetor malfunction, electrical misfire and timing. Adjust and correct as necessary to vehicle manufacturer's specifications. These specifications can be found at various locations under the hood. Check PCV valve for clean appearance and proper operation. (Refer to "Trouble Shooting") If any doubt of valve condition, replace. If used over 10,000 miles, replace with OEM specified parts.

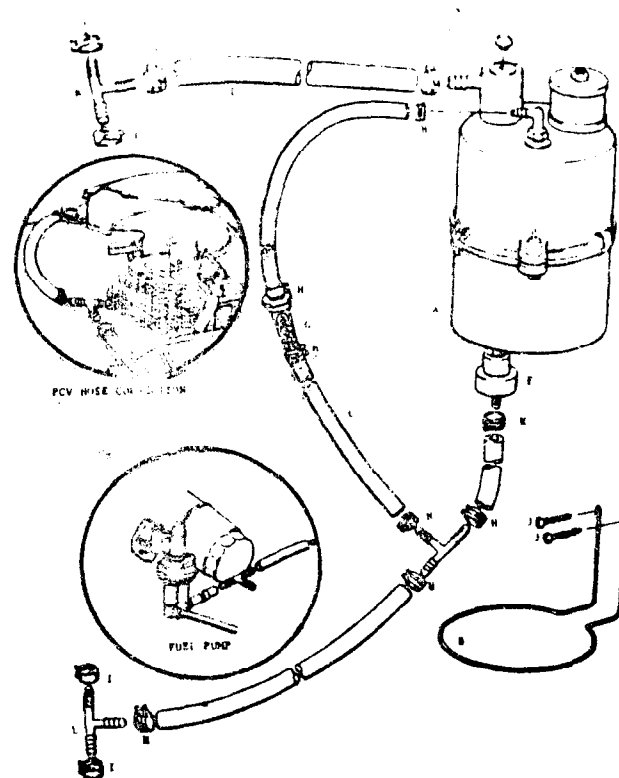
Check hoses to and from fuel pump for tight connections and hose condition. Locate suction line from fuel tank and determine vapor chamber mounting location as close to fuel pump as possible.

PRE-INSTALLATION UNIT ASSEMBLY

Included in the "AUTO-MISER" packaging is a round AUTOMATIC DRAIN VALVE. This valve has a 1/8" NPT fitting on one end and a 1/4" barbed fitting on the other. This is to be installed into the fitting provided on the bottom of the vapor chamber. Removal of the red Caplug on drain valve and seal caps is required.

1. Determine best location for vapor chamber using these general rules. (Refer to Figure 1)
 - a. Chamber must be mounted vertical.
 - b. Keep chamber close to but above engine fuel pump.
 - c. Provide clearance from any moving engine parts such as fans and belts.
 - d. Allow sufficient room for system fuel and vapor hoses.
2. Pre-assemble system fuel supply hose.
 - a. Install the 3/8" x 1/4" x 3/8" tee provided on the 1/4" fuel hose using red hose clamp.
 - b. Cut the hose about 3" to 5" from the tee. This measurement will vary depending upon space available from the suction hose of the engine fuel pump to the bottom of the vapor chamber.
 - c. Install the white 1/4" x 1/4" x 1/4" tee in the fuel hose using red hose clamps. Install open end of fuel hose on remaining 1/4" connection on tee and clamp with red hose clamp.
3. Install fuel supply hose.
 - a. Cut fuel suction hose to engine fuel pump preferably in center of hose being certain installed hose will clear all engine and frame parts.
 - b. Install previously assembled 3/8" x 1/4" x 3/8" tee on 1/4" hose to engine fuel hose using green hose clamps.
4. Vapor Chamber.
 - a. Position vapor chamber vertically and locate mounting wire hanger. Drill or punch two 1/8" diameter holes for mounting screws.

Caution: Vapor chamber must be vertical and fuel inlet elbow must be positioned toward outside of the vehicle. Also be certain vapor chamber and hoses will not be affected in the event of broken belts.
 - b. Mount vapor chamber in wire support.
 - c. Route 1/4" fuel supply hose to the fuel inlet elbow on top of the vapor chamber. Leave room in hose routing to clear existing hoses or vacuum lines and cut to length at fuel inlet elbow.
 - d. Cut hose between 1/4" x 1/4" x 1/4" tee previously installed and fuel inlet elbow connection for installation of fuel filter. Locate filter so it will be close to a vertical position.
 - e. Install fuel filter with arrow on filter pointed toward fuel inlet elbow using red hose clamps.
 - f. DO NOT connect fuel hose to inlet elbow at this time. Install red clamp over open hose and plug open end temporarily.
 - g. Using remaining 1/4" hose, measure and cut to length for connection to drain valve in bottom of vapor chamber. When measuring hose provide sufficient length to avoid any side pull or strain on drain valve. Install hose using red hose clamps.



AUTO-MISER INSTALLATION KIT

- | | |
|---|------------------------------|
| A | 1 Vaporizing Chamber |
| B | 1 Pre-formed Wire Support |
| C | 1 1/4" x 42" Fuel Hose |
| D | 1 3/8" x 42" Vapor Hose |
| E | 1 Hardware Package, with |
| F | 1 Drain Valve |
| G | 1 Fuel Filter |
| H | 8 1/4" Red Hose Clamps |
| I | 6 3/8" Green Hose Clamps |
| J | 2 Mounting Screws |
| K | 3/8" x 3/8" x 3/8" Vapor Tee |
| L | 3/8" x 1/4" x 3/8" Fuel Tee |

5. Vapor Hose

- Locate hose connecting PCV valve (usually located on engine valve cover) and the engine intake manifold or carburetor base.
- Cut hose 3" to 5" away from the engine manifold or carburetor base fitting. Note: Keeping the connection close to the engine provides optimum system performance.
- Install 3/8" x 3/8" x 3/8" white tee in vapor hose and connect into engine PCV hose using three green hose clamps. Note: Avoid thermostat housings and other known hot spots.
- Route hose to vapor control valve on top of vapor chamber and cut to length. **CAUTION:** When locating vapor hose, avoid possible broken belt damage.
- Install green clamp over cut end of vapor hose. **DO NOT** connect to vapor control valve at this time.

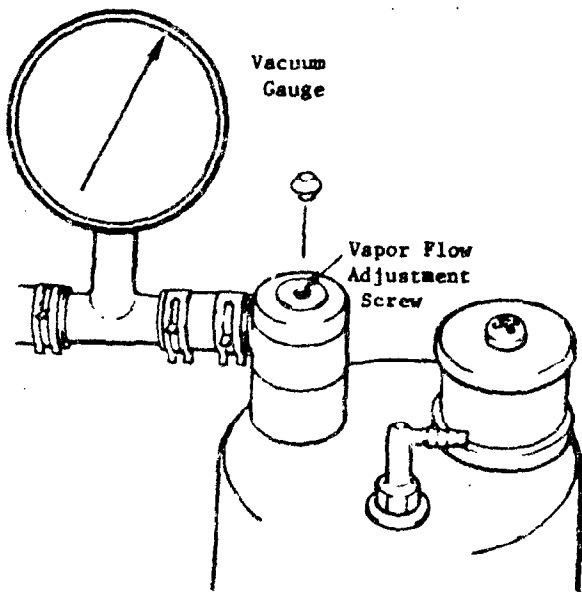
SYSTEM CALIBRATION

Two adjustments are required to match the system to the engine requirements.

- Adjustment in the Vapor Flow Screw located beneath the black seal cap on top of the vapor chamber.
- Adjustment in Vapor Chamber Vacuum Screw located under the inlet air filter cap retaining screw.

Both of these screws require a 1/8" hex set screw wrench.

Note: The vapor chamber is shipped with the vapor adjustment screw in the closed position and the vacuum adjustment screw in the wide open position.



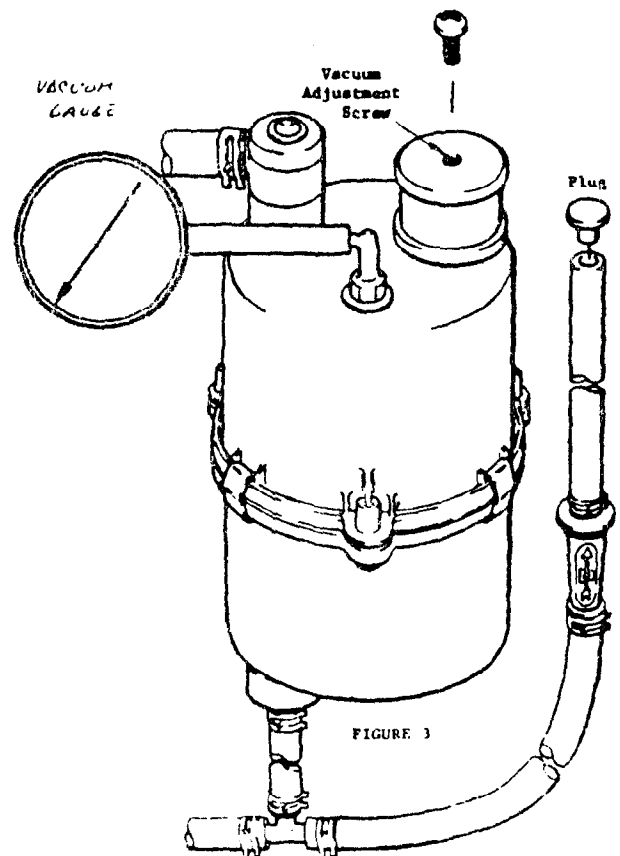
1. Vapor Flow Adjustment

- Insert a 3/8" x 1/4" x 3/8" tee into the open end of the vapor hose.
- Use a short length of 3/8" vapor hose

- and insert between the 3/8" x 1/4" x 3/8" tee and the vapor control valve on top of the vapor chamber.
- Connect a well calibrated vacuum gauge to the remaining 1/4" connection on the 3/8" x 1/4" x 3/8" tee.
- Remove black seal cap from top of vapor control valve and be certain vapor adjustment screw is closed.
- Start engine; allow to reach operating temperature.
- Observe vacuum reading - normally between 16" and 20".

Caution: If less than 16" of vacuum is observed prior to adjusting the vapor control valve, the engine may be in a marginal condition for the installation. Any vacuum leak should be corrected or out of balance idle mixture screws adjusted before continuing with the installation.

- With engine running at idle, open vapor adjustment screw (turn counterclockwise) until a 4" reduction in vacuum reading is reached. Example: If the original vacuum reading is 20", open vapor adjusting until vacuum drops to 16".
- Remove vacuum gauge and tee and connect vapor hose to vapor control valve using green hose clamp.
- Insert seal cap into top of vapor valve to discourage tampering with vapor adjustment screw.



2. Vapor Chamber Vacuum Adjustment

- a. Connect well calibrated vacuum gauge to fuel inlet elbow on top of vapor chamber. **NOTE:** Be certain open end of 1/4" fuel supply hose is plugged.
- b. Remove screw and cap from top of inlet air filter to provide access to vacuum adjustment screw.
- c. With engine running, close (turn clockwise) vacuum adjustment screw until a vacuum reading of 2" minimum to 2 1/2" maximum is observed. **NOTE:** This vacuum reading is required to insure proper fuel level and vaporization. An accurate vacuum gauge is a **MUST**.
- d. Disconnect vacuum gauge, remove plug from fuel supply hose and connect hose to chamber inlet fuel elbow. ~~Do not~~ clamp at this point as a recheck of vacuum will be necessary after 3-5 min. idle time. Emissions will be erratic for a few minutes while chamber fills with fuel.

SYSTEM ADJUSTMENTS

Allow engine to idle several minutes to reach operating temperature and fill vapor chamber with fuel. During this period the engine speed will increase due to the vaporization of fuel starting to occur in the vapor chamber.

Connect a calibrated emissions analyzer and observe hydrocarbon (HC) and carbon monoxide (C.O.). They will vary as chamber fills. When emissions are steady, the chamber has filled and adjustment may be made.

1. Adjust carburetor idle mixture screw(s) for lowest hydrocarbon (HC) reading without a lean misfire. **CAUTION:** On vehicles with catalytic converters a lean misfire may occur even with low HC reading. Look for an even, smooth idle as well as low HC reading.
2. Readjust idle speed to vehicle manufacturer's specifications shown on emission data/tune up label located under the hood in the engine compartment.
3. Record emissions at idle and at approximately 2500 RPM before and after system installation and save for record purposes.
4. Final adjustment is to recheck position of the vapor chamber. The chamber should be positioned so the fuel inlet is either right or left when facing the front of the vehicle. The vapor control valve and inlet air filter should be parallel with the center line of the vehicle and the fuel inlet elbow to the right or left toward the side(s) of the vehicle. This assures proper float/fuel valve operation under heavy braking or acceleration conditions.

DISCLAIMER

This manual contains certain information concerning the installation and functional operation of the **AUTO-MISER** fuel saving system. Such information is believed to be accurate and is based upon the research and experience of **AUTO-MISER International Manufacturing Corporation**. It is believed that proper application of the information contained in this manual to the types of automotive vehicles discussed herein will result in optimum performance and operating efficiency of the **AUTO-MISER** fuel saving system.

NOTHING CONTAINED HEREIN IS INTENDED IN ANY WAY, TO MODIFY OR ENLARGE THE WARRANTY OF AUTO-MISER INTERNATIONAL MANUFACTURING CORPORATION AS SET FORTH IN THE LIMITED WARRANTY GIVEN TO BUYER IN CONNECTION WITH THE PURCHASE OF AN AUTO-MISER UNIT AND BUYER IS REFERRED SUCH LIMITED WARRANTY FOR A COMPLETE STATEMENT OF ALL WARRANTIES GIVEN TO BUYER IN CONNECTION WITH SUCH PURCHASE'

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TROUBLE SHOOTING

1. "Lost Gas Mileage" or "No Increase" claim. Look for:
 - A. Inaccurate base line
 - B. Vacuum source not adequate due to:
 - 1) Clogged carburetor ports or PCV valve
 - 2) Non-functioning PCV valve
 - 3) Improper vapor valve setting (Para. No. 1)
 - 4) Improper vapor chamber vacuum (Para. No. 2)
 - 5) Improper fuel level
 - 6) Improper combustion or weak vacuum
 - 7) Poor ignition, plugs, etc.
2. Diagnosis and Remedies
 - A. Check fuel level in chamber — Should be 4 oz. to 5 oz. (Para. No. 1 - No. 2 - System Calibration)
 - B. Recheck vacuum settings (Para. No. 1 - No. 2 - System Calibration)
 - C. Check emissions for carburetor setting
3. Excessive Hydrocarbons (HC)
 - A. Incorrect timing
 - B. Incorrect dwell
 - C. Bad ignition points
 - D. Dirty or bad spark plugs or S/P wires
 - E. Fuel system usually indicated by very low vacuum reading and high HC reading.

4. Excessive Carbon Monoxide Readings (CO)
 - A. Idle speed incorrect - check manufacturer's specifications and adjust accordingly
 - B. Dirty air cleaner or restriction in air flow system
 - C. Choke not operating properly
 - D. PCV system not operating properly (replace PCV valve - normal life is 10,000 miles or per manufacturer's specs)
 - E. To improve air/fuel ratio, reset idle mixture screws after above checks
5. Engine Surging or Racing at Idle (Wavering CO)
 - A. Check carburetor float level or valve and seat condition.
 - B. Check fuel filter in gas line to carburetor
6. Misfire (Wavering HC)
 - A. Check engine ignition wiring
 - B. Check distributor cap
 - C. Check coil wire for oil on connector
 - D. Check dwell
 - E. Check points

NOTICE

The installation instructions contained in this manual must be strictly followed in order to avoid a change in automotive emissions to a level in excess of that permitted by the Environmental Protection Agency and to allow maximum performance by the **AUTO-MISER** unit.

The recommended procedures of the automobile manufacturer must be followed with respect to carburetor and timing adjustments in order to achieve optimum benefit of the **AUTO-MISER** unit and to avoid potential voiding of the automobile manufacturer's warranty.

INSTALLATION OF ANY AUTO-MISER UNIT BY OTHER THAN AN AUTHORIZED AUTO-MISER DEALER IS NOT RECOMMENDED. INCORRECT INSTALLATION MAY VOID MANUFACTURER'S WARRANTY. REFER TO STATEMENT OF LIMITED WARRANTY PROVIDED TO BUYER FOR COMPLETE STATEMENT OF WARRANTY AND LIMITATION OF MANUFACTURER'S LIABILITY.

LIMITED WARRANTY

AUTO-MISER INTERNATIONAL MANUFACTURING CORPORATION ("Auto-Miser"), warrants to the Buyer that the Auto-Miser unit purchased by Buyer is free of defects in workmanship and material for a period of ninety (90) days from the date of installation by an authorized Auto-Miser dealer. If the Auto-Miser unit purchased by Buyer is defective, Buyer may return the unit, with this Warranty, to Buyer's nearest authorized Auto-Miser dealer for replacement or repair, at Auto-Miser's election. Buyer shall be responsible for all labor charges in the replacement of the Auto-Miser unit.

THERE ARE NO WARRANTIES OTHER THAN AS EXPRESSLY SET FORTH HEREIN. ALL OTHER WARRANTIES, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS OR ANY PARTICULAR PURPOSE, ARE HEREBY EXCLUDED, AND, IN NO EVENT, SHALL ANY WARRANTY EXTEND BEYOND THE NINETY (90) DAY PERIOD STATED. **AUTO-MISER SHALL, IN NO EVENT, BE LIABLE FOR ANY DAMAGES, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHERWISE. AUTO-MISER'S WARRANTY HEREUNDER SHALL NOT APPLY TO DAMAGE OR DEFICIENCIES RESULTING FROM ACCIDENT, ALTERATION, MISUSE, TAMPERING, NEGLIGENCE OR ABUSE.**

THIS WARRANTY IS NOT TRANSFERABLE TO ANY OTHER PERSON AND SHALL APPLY ONLY TO THE VEHICLE ON WHICH THE AUTO-MISER UNIT COVERED HEREBY IS ORIGINALLY INSTALLED BY AN AUTHORIZED AUTO-MISER INSTALLATION AGENT.

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ATTACHMENT 4
SUMMARY OF TEST RESULTS

SUMMARY OF CVS-CH/HFET TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No. 05 - 1977 Chevette

Test Number	01	02	03	04	05
Test Date	6-14-79	6-15-79	6-21-79	6-22-79	6-29-79
Odometer	11,336.3	11,380.4	11,444.5	11,492.6	11,609.1

Phase I

HC - Grams/Phase	5.177	5.140	3.976	4.650	4.494
CO - Grams/Phase	38.205	41.395	31.004	33.386	44.981
NOx - Grams/Phase	8.924	7.937	7.370	7.933	7.829
CO2 - Grams/Phase	1058.417	1093.045	1035.472	1099.264	1082.198
Fuel Economy	28.035	27.032	28.921	26.995	26.964

Phase II

HC - Grams/Phase	1.453	1.746	1.235	0.910	1.022
CO - Grams/Phase	23.980	22.641	19.702	15.288	18.063
NOx - Grams/Phase	8.103	6.981	8.373	7.015	8.578
CO2 - Grams/Phase	1224.056	1224.968	1271.935	1260.166	1239.571
Fuel Economy	27.314	27.548	26.433	26.505	26.773

Phase III

HC - Grams/Phase	2.084	1.515	1.300	1.071	1.608
CO - Grams/Phase	19.893	14.241	14.475	13.407	20.879
NOx - Grams/Phase	8.384	7.881	6.979	7.988	6.952
CO2 - Grams/Phase	979.229	1006.444	950.253	994.321	992.859
Fuel Economy	31.184	31.153	32.600	30.931	30.553

Weighted Emissions

HC - Grams/Mile	.650	.638	.493	.476	.524
CO - Grams/Mile	6.916	6.427	5.520	5.040	6.674
NOx - Grams/Mile	2.235	1.970	2.075	2.024	2.153
CO2 - Grams/Mile	299.037	300.197	301.958	310.800	307.375

Fuel Economy

Carbon Balance (W)	28.43	28.39	28.41	27.69	27.75
Carbon Balance (NW)	28.70	28.54	29.02	27.97	27.96

HFET - Weighted

HC - Grams/Mile	.126	.153	.051	.052	.056
CO - Grams/Mile	3.400	4.228	.734	.766	1.774
CO2 - Grams/Mile	224.457	226.752	230.647	247.513	225.808

Fuel Economy

Carbon Balance (W)	38.52	37.92	38.23	35.63	38.76
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Comments: Tests 01 and 02 - Baseline - Tests 03, 04, and 05 - Device Installed.

SUMMARY OF CVS-CH/HFET TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No. 05 - 1977 Chevette

Test Number	08	10	11	12
Test Date	7-02-79	7-05-79	7-06-79	7-07-79
Odometer	11,678.8	11,717.8	11,770.2	11,800.2

Phase I

HC - Grams/Phase	5.236	6.502	6.997	8.334
CO - Grams/Phase	34.885	37.089	47.279	38.085
NOx - Grams/Phase	6.845	6.349	6.096	6.820
CO2 - Grams/Phase	1046.720	1046.731	1063.444	1095.991
Fuel Economy	28.159	27.849	27.275	26.715

Phase II

HC - Grams/Phase	.850	.894	1.676	1.282
CO - Grams/Phase	16.545	15.723	21.720	17.927
NOx - Grams/Phase	6.813	6.115	4.956	5.229
CO2 - Grams/Phase	1192.437	1233.944	1176.427	1179.180
Fuel Economy	28.033	27.211	28.072	28.044

Phase III

HC - Grams/Phase	1.344	1.184	1.259	1.171
CO - Grams/Phase	20.885	17.306	19.216	17.011
NOx - Grams/Phase	5.684	5.936	5.442	4.658
CO2 - Grams/Phase	972.159	989.448	965.195	970.190
Fuel Economy	31.197	31.027	31.684	31.595

Weighted Emissions

HC - Grams/Mile	.522	.589	.728	.748
CO - Grams/Mile	5.863	5.597	7.145	5.951
NOx - Grams/Mile	1.754	1.647	1.440	1.463
CO2 - Grams/Mile	296.427	302.743	294.396	297.994

Fuel Economy

Carbon Balance (W)	28.86	28.30	28.80	28.63
Carbon Balance (NW)	29.03	28.57	28.87	28.63

HFET - Weighted

HC - Grams/Mile	.050	.060	.051	.114
CO - Grams/Mile	1.611	1.923	2.260	3.866
CO2 - Grams/Mile	223.914	226.899	224.394	230.446

Fuel Economy

Carbon Balance (W)	39.14	38.54	38.88	37.44
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Comments: Tests 08 and 10 - Device Installed; Tests 11 and 12 - Device Removed.

SUMMARY OF CVS-CH/HFET TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 790912

Vehicle No. 33 - 1979 Ford Pinto

Test Number	01	02	03	04
Test Date	6-15-79	6-16-79	6-20-79	6-21-79
Odometer	7,377.4	7,419.0	7,470.4	7,517.5

Phase I

HC - Grams/Phase	5.047	4.871	4.170	3.881
CO - Grams/Phase	45.596	52.624	42.202	57.162
NOx - Grams/Phase	9.318	8.470	9.069	8.486
CO2 - Grams/Phase	1623.063	1605.610	1602.161	1541.354
Fuel Economy	18.458	18.596	18.893	19.285

Phase II

HC - Grams/Phase	2.145	2.084	0.775	0.619
CO - Grams/Phase	46.818	47.772	15.010	16.355
NOx - Grams/Phase	4.846	4.552	4.911	5.003
CO2 - Grams/Phase	1618.620	1642.776	1642.098	1609.818
Fuel Economy	20.094	19.780	20.518	20.889

Phase III

HC - Grams/Phase	2.124	1.919	1.337	1.703
CO - Grams/Phase	22.467	16.670	14.569	24.461
NOx - Grams/Phase	8.665	7.988	8.528	8.506
CO2 - Grams/Phase	1413.181	1422.815	1409.306	1380.213
Fuel Economy	21.665	21.717	21.983	22.249

Weighted Emissions

HC - Grams/Mile	0.746	0.711	0.448	0.438
CO - Grams/Mile	10.696	10.999	5.589	7.385
NOx - Grams/Mile	1.862	1.718	1.840	1.817
CO2 - Grams/Mile	421.480	423.733	421.825	411.735

Fuel Economy

Carbon Balance (W)	20.12	20.01	20.53	20.88
Carbon Balance (NW)	19.99	19.95	20.39	20.74

HFET - Weighted

HC - Grams/Mile	.089	.085	.073	.068
CO - Grams/Mile	.954	.865	.640	.812
CO2 - Grams/Mile	326.643	321.132	326.917	317.651

Fuel Economy

Carbon Balance (W)	27.00	27.48	27.03	27.79
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Comments: Tests 01 and 02 - Baseline; Tests 03 and 04 - Device Installed.

SUMMARY OF CVS-CH/HFET TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No. 73 - 1979 Ford Fairmont

Test Number	01	02	03	04	05	06
Test Date	6-14-79	6-15-79	6-20-79	6-21-79	6-25-79	6-26-79
Odometer	429.6	483.0	528.2	565.0	618.3	649.0

Phase I

HC - Grams/Phase	7.136	10.319	7.709	6.992	5.730	5.878
CO - Grams/Phase	55.830	57.444	46.414	43.547	50.176	53.956
NOx - Grams/Phase	4.163	5.010	4.219	4.347	3.965	4.024
CO2 - Grams/Phase	2109.797	2187.049	2095.794	2119.921	2194.649	2137.138
Fuel Economy	14.295	13.829	14.402	14.279	13.540	14.093

Phase II

HC - Grams/Phase	3.652	3.921	1.707	1.232	0.903	0.743
CO - Grams/Phase	1.618	1.804	0.714	0.308	3.169	0.920
NOx - Grams/Phase	5.287	5.939	5.855	6.149	4.984	5.532
CO2 - Grams/Phase	2232.680	2224.248	2227.621	2228.286	2291.037	2221.173
Fuel Economy	15.187	15.323	15.181	15.182	14.900	15.209

Phase III

HC - Grams/Phase	6.540	5.246	3.512	2.699	2.323	2.144
CO - Grams/Phase	12.499	9.448	13.925	11.924	9.463	9.575
NOx - Grams/Phase	5.851	5.711	5.384	5.376	4.872	4.639
CO2 - Grams/Phase	1817.090	1855.191	1806.490	1841.964	1850.734	1832.746
Fuel Economy	17.129	16.880	17.168	16.891	16.957	16.961

Weighted Emissions

HC - Grams/Mile	1.406	1.520	0.951	0.783	0.634	0.609
CO - Grams/Mile	4.409	4.269	3.856	3.499	4.083	4.011
NOx - Grams/Mile	1.401	1.520	1.454	1.501	1.277	1.344
CO2 - Grams/Mile	561.899	565.543	563.059	567.552	579.163	567.895

Fuel Economy

Carbon Balance (W)	15.47	15.37	15.50	15.41	15.09	15.39
Carbon Balance (NW)	15.44	15.24	15.49	15.37	15.01	15.33

HFET - Weighted

HC - Grams/Mile	.158	.413	.274	.185	.168	.134
CO - Grams/Mile	.171	.221	.152	.221	.519	.144
CO2 - Grams/Mile	435.803	413.918	411.204	399.646	407.832	406.908

Fuel Economy

Carbon Balance (W)	21.59	21.34	21.51	22.14	21.67	21.76
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Comments: Tests 01 and 02 - Baseline; Tests 03 and 04 - Device Installed; Tests 05 and 06 - Device Removed.

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No.: 05 (Chevrolet/Chevette)*

Driver: C. Jackel

Test Date: June 14, 1979

Technician: K. Bartholomew

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.40	.02	95
HC (ppm) X50	2710.00	470.00	83
NOx (ppm) 1000	172.50	125.00	28
<u>30 MPH</u>			
CO (%) High	.15	.00	100
HC (ppm) X50	2040.00	200.00	90
NOx (ppm) 1000	230.00	192.00	17
<u>IDLE</u>			
CO (%) High	.35	.00	100
HC (ppm) X50	1905.00	255.00	87
NOx (ppm) 1000	70.00	56.00	20

*Baseline

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 05 (Chevrolet/Chevette)*

Driver: Bill Martinez

Test Date: June 21, 1979**

Technician: Lonnie Arnold

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.25	.05	80
HC (ppm) X50	2175.00	220.00	90
NOx (ppm) 1000	117.00	127.50	-09
<u>30 MPH</u>			
CO (%) High	.10	.02	80
HC (ppm) X50	1585.00	110.00	93
NOx (ppm) 1000	206.00	800.00	-13
<u>IDLE</u>			
CO (%) High	.10	.00	100
HC (ppm) X50	3050.00	150.00	95
NOx (ppm) 1000	98.00	135.00	-38

*Device installed

**This test was run immediately after test 05-03 and prior to the repairs that are mentioned in item no. 9 in the Testing Series Section for this vehicle. No converter efficiency tests were conducted after these repairs were made.

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No.: 33 (Ford/Pinto)*

Driver: C. Jackel

Test Date: June 15, 1979

Technician: K. Bartholomew

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.15	.00	100
HC (ppm) X50	1290.00	70.00	95
NOx (ppm) 1000	305.00	347.00	-14
<u>30 MPH</u>			
CO (%) High	.60	.15	75
HC (ppm) X50	2170.00	155.00	93
NOx (ppm) 2500	169.75	102.50	40
<u>IDLE</u>			
CO (%) High	1.60	.70	56
HC (ppm) X50	1770.00	750.00	58
NOx (ppm) 1000	109.00	83.00	24

*Baseline

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No.: 33 (Ford/Pinto)*

Driver: C. Jackel

Test Date: June 20, 1979

Technician: C. VanTassel

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.14	.01	93
HC (ppm) X50	1340.00	95.00	93
NOx (ppm) 1000	299.00	333.00	-11
<u>30 MPH</u>			
CO (%) High	1.00	.25	75
HC (ppm) X50	2395.00	245.00	90
NOx (ppm) 2500	128.00	74.75	42
<u>IDLE</u>			
CO (%) High	.04	.01	98
HC (ppm) X50	2205.00	145.00	93
NOx (ppm) 1000	107.00	113.00	-06

*Device installed

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS

AUTO-MISER INTERNATIONAL

AR PROJECT NO. 79091

Vehicle No.: 73 (Ford/Fairmont)*

Driver: Bill Martinez

Test Date: June 14, 1979

Technician: Jerry Jelinek

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.04	.001	98
HC (ppm) X50	3450.00	2290.000	34
NOx (ppm) 1000	329.00	369.000	-12
<u>30 MPH</u>			
CO (%) High	.10	.003	97
HC (ppm) X50	2625.00	930.000	65
NOx (ppm) 1000	448.00	397.000	11
<u>IDLE</u>			
CO (%) High	.45	.000	100
HC (ppm) X50	3050.00	875.000	71
NOx (ppm) 1000	350.00	400.000	-14

*Baseline

CATALYTIC CONVERTER EFFICIENCY TEST RESULTS
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 73 (Ford/Fairmont)*

Driver: Bill Martinez

Test Date: June 20, 1979

Technician: Lonnie Arnold

	<u>Before</u>	<u>After</u>	<u>% Efficiency</u>
<u>50 MPH</u>			
CO (%) High	.12	.005	96
HC (ppm) X50	3000.00	625.000	79
NOx (ppm) 1000	266.00	206.000	-15
<u>30 MPH</u>			
CO (%) High	.11	.002	98
HC (ppm) X50	6675.00	340.000	95
NOx (ppm) 1000	290.00	305.000	-05
<u>IDLE</u>			
CO (%) High	.50	.001	99
HC (ppm) X50	3000.00	475.000	84
NOx (ppm) 1000	380.000	310.000	18

*Device installed

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	01	TEST DATE:	6-14-79
PROJECT:	790912	REPT DATE:	6-15-79
VEHICLE:	05	ODOMETER:	11336.3

AMBIENT CONDITIONS

	PHASE 1		PHASE 2	
HUMIDITY(Ra-H)	73.98	97.33	72.63	102.28
MIXTURE TEMP(PTI)	104.50		104.50	
BAROMETER IN-HG(Pb)	29.13		29.12	

CVS DATA

	--PHASE 1--		--PHASE 2--		--PHASE 3--	
PRESSURES:						
INLET/OUTLET	12.95	3.45	12.95	3.45	12.95	3.45
BLOWER REVOLUTIONS	10004		17223		10020	
VO(CU.FT./REV.)	0.295584		0.295584		0.295579	
VMIX (CU.FT.)	2539.93		4372.77		2543.39	
ZN(RPM)	1188.24		1188.24		1188.24	
XO	0.000215		0.000215		0.000215	
MILES/BAG	3.588		3.900		3.577	

ANALYTICAL DATA

HCE/HCD (PPM)	133.50	9.32	26.73	6.63	56.56	6.79
COEM/COEM (PPM)	477.67	2.53	173.70	1.37	247.77	1.09
NOXE/NOXI (PPM)	58.90	0.90	31.10	0.50	54.00	1.00
CO2E/CO2I (%)	0.04	0.04	0.58	0.04	0.78	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.177	1.453	2.084
CO (GRAMS/TEST PHASE)	38.205	23.980	19.893
NOX (GRAMS/TEST PHASE)	8.924	8.103	8.384
CO2 (GRAMS/TEST PHASE)	1058.417	1224.056	979.229
FUEL ECONOMY (MPG)	28.035	27.314	31.184

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 01 TEST DATE: 6-14-79
 PROJECT: 790912 REPT DATE: 6-15-79
 VEHICLE: 05 ODOMETER : 11336.3

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
 MODEL YEAR/MODEL: 1977 CHEVETTE
 VEHICLE I.D. NUMBER: 1B08E7Y155251
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.650 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 6.916 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 2.235 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 299.037 GRAMS/MILE	

URBAN FUEL ECONOMY: 28.43 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	01	Test Date:	6-14-79
Project:	790912	Report Date:	6-15-79
Vehicle:	05	Mileage:	11347.5

Test Data

Blower Revolutions: 15134
Barometer (corr) : 29.12
Blower Pressures:
inlet/outlet 12.95 3.45
Mixture Temperature: 105.0
Humidity (Relative): 74.30%
Roll Revolutions: 23777.00

Analytical Data

Hydrocarbons (exhaust): 27.4 ppm
Hydrocarbons (background): 7.6 ppm
Carbon Monoxide (exhaust): 291.1 ppm
Carbon Monoxide (background): 3.8 ppm
Carbon Dioxide (exhaust): 1.1850 %
Carbon Dioxide (background): 0.0380 %

Test Results (grams/mile)

HC: 0.126
CO: 3.400
CO2: 224.457
Calculated Fuel Economy: 38.52 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	02	TEST DATE:	6-15-79
PROJECT:	790912	REP DATE:	7-08-79
VEHICLE:	05	ODOMETER:	11380.4

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	53.12	70.53	55.71	77.64
MIXTURE TEMP(PTI)	104.50		105.00	
BAROMETER IN-HG(Pb)	29.17		29.27	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	12.95	3.40	12.95	3.40	12.95	3.40
BLOWER REVOLUTIONS	9993		17169		9979	
VO(CU.FT./REV.)	0.295665		0.295665		0.295738	
VMIX (CU.FT.)	2542.06		4367.53		2545.39	
ZN(RPM)	1188.32		1188.32		1188.32	
XO	0.000215		0.000215		0.000215	
MILES/BAG	3.616		3.933		3.631	

ANALYTICAL DATA

HCE/HCD (PPM)	132.48	9.32	31.84	7.70	43.29	7.29
COEM/COEM (PPM)	514.85	3.78	154.20	2.46	177.39	1.91
NOXE/NOXD (PPM)	59.70	0.90	30.80	0.70	57.40	1.00
CO2E/CO2D (%)	0.87	0.85	0.58	0.84	0.80	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.140	1.746	1.515
CO (GRAMS/TEST PHASE)	41.395	22.641	14.241
NOX (GRAMS/TEST PHASE)	7.937	6.981	7.881
CO2 (GRAMS/TEST PHASE)	1093.045	1224.968	1006.444
FUEL ECONOMY (MPG)	27.302	27.548	31.153

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 2 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 02 TEST DATE: 6-15-79
 PROJECT: 790912 REPT DATE: 7-08-79
 VEHICLE: 05 ODOMETER :11380.4

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
 MODEL YEAR/MODEL: 1977 CHEVETTE
 VEHICLE I.D. NUMBER: 1B08E7Y155251
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.638 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 6.427 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.970 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 300.197 GRAMS/MILE	
URBAN FUEL ECONOMY: 28.39 MILES/GALLON	

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	02	Test Date:	6/15/79
Project:	790912	Report Date:	06/18/79
Vehicle:	05	Mileage:	11380.4

Test Data

Blower Revolutions: 15120
Barometer (corr) : 29.27
Blower Pressures:
inlet/outlet 12.00 3.40
Mixture Temperature: 105.0
Humidity (Relative): 55.17%
Roll Revolutions: 23758.00

Analytical Data

Hydrocarbons (exhaust): 30.5 ppm
Hydrocarbons (background): 6.6 ppm
Carbon Monoxide (exhaust): 351.5 ppm
Carbon Monoxide (background): 1.9 ppm
Carbon Dioxide (exhaust): 1.1850 %
Carbon Dioxide (background): 0.0450 %

Test Results (grams/mile)

HC: 0.153
CO: 4.228
CO2: 226.752
Calculated Fuel Economy: 37.92 MPG

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	03	TEST DATE:	6-21-79
PROJECT:	790912	REPT DATE:	7-03-79
VEHICLE:	05	ODOMETER:	11444.5

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	75.18	113.27	67.41	99.60
MIXTURE TEMP(PTI)	105.00		109.00	
BAROMETER IN-HG(Pb)	29.15		29.15	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.70	3.40	13.70	3.40	13.70	3.40
BLOWER REVOLUTIONS	10009		17209		9999	
VO(CU.FT./REV.)	0.294407		0.294407		0.294405	
VMIK(CU.FT.)	2522.31		4336.75		2501.81	
ZN(RPM)	1186.27		1186.27		1186.27	
XO	0.000221		0.000221		0.000221	
MILES/BAG	3.577		3.895		3.592	

ANALYTICAL DATA

HCE/HCD (PPM)	104.77	8.82	23.72	6.59	38.41	6.99
COEN/COIN(PPM)	389.67	1.26	144.50	1.64	182.95	0.82
NOXE/NOXB(PPM)	44.90	0.70	30.00	0.80	46.40	0.90
CO2E/CO2D (%)	0.83	0.04	0.60	0.04	0.77	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	3.976	1.235	1.300
CO (GRAMS/TEST PHASE)	31.004	19.702	14.475
NOX (GRAMS/TEST PHASE)	7.370	6.373	6.979
CO2 (GRAMS/TEST PHASE)	1035.472	1271.935	950.253
FUEL ECONOMY (MPG)	28.921	26.433	32.600

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 2 OF

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	03	TEST DATE:	6-21-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	05	ODOMETER :	11444.5

VEHICLE DATA

VEHICLE MAKE: CHEVROLET

MODEL YEAR/MODEL: 1977 CHEVETTE

VEHICLE I.D. NUMBER: 1808E7Y155251

ENGINE SERIAL NUMBER:

INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

	TEST RESULTS	1978 EPA STANDARDS
HC:	0.493 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO:	5.520 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX:	2.075 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2:	301.958 GRAMS/MILE	

URBAN FUEL ECONOMY: 28.41 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No: 03
Project: 790912
Vehicle: 05

Test Date: 6-21-79
Report Date: 6-21-79
Mileage: 11464.6

Test Data

Blower Revolutions: 15156
Barometer (corr) : 29.14
Blower Pressures:
inlet/outlet 13.70 3.40
Mixture Temperature: 109.5
Humidity (Relative): 67.41%
Roll Revolutions: 23697.00

Analytical Data

Hydrocarbons (exhaust): 13.9 ppm
Hydrocarbons (background): 6.1 ppm
Carbon Monoxide (exhaust): 65.4 ppm
Carbon Monoxide (background): 3.0 ppm
Carbon Dioxide (exhaust): 1.2400 %
Carbon Dioxide (background): 0.0510 %

Test Results (grams/mile)

HC: 0.051
CO: 0.734
CO2: 230.647
Calculated Fuel Economy: 38.23 MPG

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 04 TEST DATE: 6-22-79
 PROJECT: 790912 REPT DATE: 7-06-79
 VEHICLE: 05 ODOMETER : 11492.6

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
 MODEL YEAR/MODEL: 1979 CHEVETTE
 VEHICLE I.D. NUMBER: 1B00E7Y15525
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

	TEST RESULTS	1978 EPA STANDARDS
HC:	0.476 GRAMS/MILE	1.5 GRAMS/MILE
CO:	5.040 GRAMS/MILE	15.0 GRAMS/MILE
NOX:	2.024 GRAMS/MILE	2.0 GRAMS/MILE
CO2:	310.800 GRAMS/MILE	

URBAN FUEL ECONOMY: 27.69 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	04	TEST DATE:	6-22-79
PROJECT:	790912	REPT DATE:	7-06-79
VEHICLE:	05	ODOMETER:	11492.6

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	73.96	97.41	69.77	90.19
MIXTURE TEMP(FTI)	105.50		105.50	
BAROMETER IN-HG(Pb)	29.11		29.11	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.60	3.35	13.60	3.35	13.60	3.35
BLOWER REVOLUTIONS	10120		17159		9970	
VO(CU.FT./REV.)	0.294577		0.294577		0.294577	
VMIX (CU.FT.)	2546.31		4317.41		2508.57	
ZN(RPM)	1186.62		1186.62		1186.62	
%D	0.000220		0.000220		0.000220	
MILES/BAG	3.551		3.847		3.553	

ANALYTICAL DATA

HCE/HCD (PPM)	123.27	12.29	24.13	11.76	36.43	10.94
COEM/COEM (PPM)	416.89	2.52	112.94	1.64	170.32	1.91
NOXE/NOXD (PPM)	52.30	0.90	27.70	0.90	56.00	1.50
CO2E/CO2D (%)	0.87	0.04	0.60	0.04	0.80	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	4.650	0.910	1.071
CO (GRAMS/TEST PHASE)	33.386	15.288	13.407
NOX (GRAMS/TEST PHASE)	7.393	7.015	7.988
CO2 (GRAMS/TEST PHASE)	1099.264	1260.165	994.321
FUEL ECONOMY (MPG)	26.995	26.505	30.931

1978 Highway Fuel Economy Test

Test No: 04 Test Date: 6-22-79
Project: 790912 Report Date: 6-22-79
Vehicle: 05 Miles: 11492.6

Test Data

Blower Revolutions: 15081
Barometer (corr) : 29.11
Blower Pressures:
inlet/outlet 6.60 1.55
Mixture Temperature: 105.0
Humidity (Relative): 62.16%
Roll Revolutions: 23723.00

Analytical Data

Hydrocarbons (exhaust): 14.4 ppm
Hydrocarbons (background): 7.3 ppm
Carbon Monoxide (exhaust): 52.2 ppm
Carbon Monoxide (background): 2.5 ppm
Carbon Dioxide (exhaust): 1.2140 %
Carbon Dioxide (background): 0.0400 %

Test Results (grams/mile)

HC: 0.052
CO: 0.766
CO2: 247.513
Calculated Fuel Economy: 35.63 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	05	TEST DATE:	5-29-79
PROJECT:	790912	REPT DATE:	6-29-79
VEHICLE:	05	ODOMETER:	11609.1

--- AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(R _a -H)	68.55	94.78	62.12	93.26
MIXTURE TEMP(PTI)	105.00		105.00	
BAROMETER IN-HG(P _B)	29.13		29.13	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	14.60	3.30	14.60	3.30	14.60	3.30
BLOWER REVOLUTIONS	9955		17113		9930	
VO(CU.FT./REV.)	0.293009		0.293009		0.293009	
VMIX (CU.FT.)	2483.73		4269.63		2477.50	
ZN(RPM)	1183.98		1183.98		1183.98	
XO	0.000227		0.000227		0.000227	
MILES/BAG	3.549		3.838		3.551	

ANALYTICAL DATA

HCE/HCD (PPM)	118.57	8.38	21.05	6.70	45.56	6.21
COEM/COEM (PPM)	575.25	3.78	137.00	4.36	266.29	1.26
NOXE/NOXD (PPM)	54.00	1.30	34.60	1.00	48.30	1.00
CO2E/CO2D (%)	0.88	0.05	0.60	0.04	0.82	0.05

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	4.494	1.022	1.608
CO (GRAMS/TEST PHASE)	44.981	18.063	20.879
NOX (GRAMS/TEST PHASE)	7.829	8.578	6.952
CO2 (GRAMS/TEST PHASE)	1082.198	1239.571	992.859
FUEL ECONOMY (MPG)	26.964	26.773	30.553

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 05 TEST DATE: 6-29-79
PROJECT: 790912 REPT DATE: 8-29-79
VEHICLE: 05 DYNAMETER :11609.1

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
MODEL YEAR/MODEL: 1977 CHEVETTE
VEHICLE I.D. NUMBER: 1B09E7115525
ENGINE SERIAL NUMBER:
INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.524 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 6.674 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 2.153 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 307.375 GRAMS/MILE	

URBAN FUEL ECONOMY: 27.75 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

EG&G AUTOMOTIVE RESEARCH, INC.
 FEDERAL TEST PROCEDURE
 1978 HIGHWAY FUEL ECONOMY TEST

TEST NO:	05	TEST DATE:	6-29-79
PROJECT:	790912	REPORT DATE:	6-29-79
VEHICLE:	05	MILEAGE:	11609.1

TEST DATA

BLOWER REVOLUTIONS: 15043
 BAROMETER (corr) : 29.10
 BLOWER PRESSURES:
 inlet/outlet 14.75 3.30
 MIXTURE TEMPERATURE: 104.5
 HUMIDITY (Relative): 56.82%
 ROLL REVOLUTIONS: 23674.00

ANALYTICAL DATA

HYDROCARBONS (exhaust): 15.0 ppm
 HYDROCARBONS (background): 6.2 ppm
 CARBON MONOXIDE (exhaust): 159.8 ppm
 CARBON MONOXIDE (background): 8.2 ppm
 CARBON DIOXIDE (exhaust): 1.2200 %
 CARBON DIOXIDE (background): 0.0470 %

TEST RESULTS (GRAMS/MILE)

HC: 0.056
 CO: 1.774
 CO2: 225.808
 CALCULATED FUEL ECONOMY: 38.76 MPG

COMMENTS:

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	08	TEST DATE:	7-02-79
PROJECT:	790912	REPT DATE:	7-02-79
VEHICLE:	05	ODOMETER:	11678.8

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	59.99	83.47	51.91	74.25
MIXTURE TEMP(PTI)	105.00		105.00	
BAROMETER IN-HG(Pb)	38.96		28.97	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	15.00	3.43	15.00	3.43	15.00	3.43
BLOWER REVOLUTIONS	10129		17098		9959	
V0(CU.FT./REV.)	0.292118		0.292118		0.292124	
VMIX(CU.FT.)	2499.41		4216.59		2458.18	
ZN(RPM)	1182.69		1182.69		1182.69	
X0	0.000231		0.000231		0.000231	
MILES/BAG	3.550		3.860		3.550	

ANALYTICAL DATA

HCE/HCD (PPM)	137.47	9.86	18.09	6.02	38.12	4.95
COEM/COEM (PPM)	439.57	0.63	124.11	1.36	268.07	1.89
NOXE/NOXD (PPM)	49.30	0.80	29.60	1.00	43.50	0.70
CO2E/CO2D (%)	0.85	0.04	0.60	0.05	0.80	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.236	0.850	1.344
CO (GRAMS/TEST PHASE)	34.885	16.545	20.885
NOX (GRAMS/TEST PHASE)	6.845	6.813	5.684
CO2 (GRAMS/TEST PHASE)	1046.720	1192.437	972.159
FUEL ECONOMY (MPG)	28.159	28.033	31.197

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 08 TEST DATE: 7-02-79
 PROJECT: 790912 RRPT DATE: 7-02-79
 VEHICLE: 05 ODOMETER :11678.8

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
 MODEL YEAR/MODEL: 1977 CHEVETTE
 VEHICLE I.D. NUMBER: 1B08E74155251
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

	<u>TEST RESULTS</u>	<u>1978 EPA STANDARDS</u>
HC:	0.522 GRAMS/MILE	1.5 GRAMS/MILE
CO:	5.863 GRAMS/MILE	15.0 GRAMS/MILE
NOX:	1.754 GRAMS/MILE	2.0 GRAMS/MILE
CO2:	296.427 GRAMS/MILE	
URBAN FUEL ECONOMY:	28.86 MILES/GALLON	

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 HIGHWAY FUEL ECONOMY TEST

TEST NO:	08	TEST DATE:	7-02-79
PROJECT:	790912	REPORT DATE:	7-02-79
VEHICLE:	05	MILEAGE:	

TEST DATA

BLOWER REVOLUTIONS: 15069
BAROMETER (corr) : 29.98
BLOWER PRESSURES:
inlet/outlet 15.00 3.43
MIXTURE TEMPERATURE: 105.0
HUMIDITY (Relative): 52.02%
ROLL REVOLUTIONS: 23727.00

ANALYTICAL DATA

HYDROCARBONS (exhaust): 14.1 ppm
HYDROCARBONS (background): 6.4 ppm
CARBON MONOXIDE (exhaust): 142.0 ppm
CARBON MONOXIDE (background): 3.0 ppm
CARBON DIOXIDE (exhaust): 1.2210 %
CARBON DIOXIDE (background): 0.0440 %

TEST RESULTS (GRAMS/MILE)

HC: 0.050
CO: 1.611
CO2: 223.914
CALCULATED FUEL ECONOMY: 39.14 MPG

COMMENTS:

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	05	TEST DATE:	7-05-79
PROJECT:	790912	REPY DATE:	7-05-79
VEHICLE:	10	ODOMETER:	11717.8

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	68.02	77.45	56.54	74.13
MIXTURE TEMP(PTI)	104.50		104.50	
BAROMETER IN-HG(Pb)	29.08		29.08	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	15.65	3.30	15.65	3.30	15.65	3.30
BLOWER REVOLUTIONS	10291		17182		9925	
VO(CU.FT./REV.)	0.291298		0.291298		0.291298	
VMIX (CU.FT.)	2537.46		4236.58		2447.22	
ZN(RPM)	1181.12		1181.12		1181.12	
XO	0.000235		0.000235		0.000235	
MILES/BAG	3.535		3.871		3.570	

ANALYTICAL DATA

HCE/HCD (PPM)	169.83	13.84	22.60	10.14	37.91	8.86
COEM/COEM(PPM)	462.71	3.15	117.99	1.90	224.45	2.52
NOXE/NOXD(PPM)	46.60	1.00	27.20	0.90	46.00	1.10
CO2E/CO2D (%)	0.85	0.05	0.60	0.04	0.82	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	6.502	0.894	1.184
CO (GRAMS/TEST PHASE)	37.089	15.723	17.306
NOX (GRAMS/TEST PHASE)	6.349	6.115	5.936
CO2 (GRAMS/TEST PHASE)	1046.731	1233.944	989.448
FUEL ECONOMY (MPG)	27.849	27.211	31.027

EG&S AUTOMOTIVE RESEARCH, INC.
FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	05	TEST DATE:	7-05-79
PROJECT:	790912	REPT DATE:	7-05-79
VEHICLE:	10	ODOMETER :	11717.8

VEHICLE DATA

VEHICLE MAKE: CHEVROLET

MODEL YEAR/MODEL: 1977 CHEVETTE

VEHICLE I. D. NUMBER: 1B06E7V155251

ENGINE SERIAL NUMBER:

INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS		1978 EPA STANDARDS	
-----		-----	
HC:	0.589 GRAMS/MILE	HC:	1.5 GRAMS/MILE
CO:	5.597 GRAMS/MILE	CO:	15.0 GRAMS/MILE
HOX:	1.647 GRAMS/MILE	HOX:	2.0 GRAMS/MILE

CO2: 302.743 GRAMS/MILE

URBAN FUEL ECONOMY: 28.30 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: -----

EG&G AUTOMOTIVE RESEARCH, INC.
FEDERAL TEST PROCEDURE
1978 HIGHWAY FUEL ECONOMY TEST

TEST NO: 10 TEST DATE: 7-05-79
PROJECT: 790912 REPORT DATE: 7-05-79
VEHICLE: 05 MILEAGE: 11717.8

TEST DATA

BLOWER REVOLUTIONS: 15010
BAROMETER (corr) : 29.08
BLOWER PRESSURES:
inlet/outlet 15.65 3.30
MIXTURE TEMPERATURE: 104.5
HUMIDITY (Relative): 50.45%
ROLL REVOLUTIONS: 23804.00

ANALYTICAL DATA

HYDROCARBONS (exhaust): 16.7 ppm
HYDROCARBONS (background): 7.2 ppm
CARBON MONOXIDE (exhaust): 169.4 ppm
CARBON MONOXIDE (background): 1.9 ppm
CARBON DIOXIDE (exhaust): 1.2470 %
CARBON DIOXIDE (background): 0.0440 %

TEST RESULTS (GRAMS/MILE)

HC: 0.060
CO: 1.923
CO2: 226.899
CALCULATED FUEL ECONOMY: 38.54 MPG

COMMENTS:

EG&S AUTOMOTIVE RESEARCH, INC.
FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 11 TEST DATE: 7-06-79
PROJECT: 790912 REPT DATE: 7-06-79
VEHICLE: 05 ODOMETER: 11770.2

AMBIENT CONDITIONS

	PHASE 1	PHASE 2	PHASE 3
HUMIDITY(RH-H)	56.73	75.55	54.32
MIXTURE TEMP(PTI)	104.50	104.50	104.50
BAROMETER IN-HG(Pb)	29.14		29.12

CVS DATA

	PHASE 1	PHASE 2	PHASE 3
INLET/OUTLET PRESSURES:	13.40	3.35	13.40
BLOWER REVOLUTIONS	10239	17164	9987
VO(CU.FT./REV.)	0.294936	0.294936	0.294920
VMIX(CU.FT.)	2589.72	4341.25	2624.01
ZN(RPM)	1187.17	1187.17	1187.17
XO	0.000218	0.000218	0.000218
MILES/BAG	3.568	3.849	3.571

ANALYTICAL DATA

	PHASE 1	PHASE 2	PHASE 3
HCE/HCD (PPM)	178.83	14.34	34.77
COEM/COIM(PPM)	576.42	3.15	158.93
NOXE/NOXD(PPM)	44.00	0.70	21.50
CO2E/CO2D (%)	0.83	0.04	0.55

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
--	--------------------------------	---------------------------------	--------------------------------

HC (GRAMS/TEST PHASE)	6.997	1.576	1.259
CO (GRAMS/TEST PHASE)	47.279	21.726	19.216
NOX (GRAMS/TEST PHASE)	6.096	4.956	5.442
CO2 (GRAMS/TEST PHASE)	1063.444	1176.427	965.195
FUEL ECONOMY (MPG)	27.276	28.072	31.684

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 11 TEST DATE: 7-06-79
PROJECT: 790912 REPT DATE: 7-06-79
VEHICLE: 05 ODOMETER : 11770.2

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
MODEL YEAR/MODEL: 1979 CHEVETTE
VEHICLE I.D. NUMBER: 1B08E7X155251
ENGINE SERIAL NUMBER:
INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.728 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 7.145 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.440 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 294.396 GRAMS/MILE	

URBAN FUEL ECONOMY: 28.80 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

EG&G AUTOMOTIVE RESEARCH, INC.
FEDERAL TEST PROCEDURE
1978 HIGHWAY FUEL ECONOMY TEST

TEST NO: 11 TEST DATE: 7-06-79
PROJECT: 39013 REPORT DATE: 7-06-79
VEHICLE: 05 MILEAGE: 11770.2

TEST DATA

BLOWER REVOLUTIONS: 15126
BAROMETER (corr) : 29.12
BLOWER PRESSURES:
inlet/outlet 14.30 3.35
MIXTURE TEMPERATURE: 104.5
HUMIDITY (Relative): 64.69%
ROLL REVOLUTIONS: 23773.00

ANALYTICAL DATA

HYDROCARBONS (exhaust): 16.7 ppm
HYDROCARBONS (background): 9.1 ppm
CARBON MONOXIDE (exhaust): 194.8 ppm
CARBON MONOXIDE (background): 1.9 ppm
CARBON DIOXIDE (exhaust): 1.2050 %
CARBON DIOXIDE (background): 0.0440 %

TEST RESULTS (GRAMS/MILE)

HC: 0.051
CO: 2.260
CO2: 224.394
CALCULATED FUEL ECONOMY: 38.88 MPG

COMMENTS:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	12	TEST DATE:	7-07-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	05	ODOMETER:	11800.2

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	65.57	83.18	68.88	77.25
MIXTURE TEMP(FTI)	194.00		194.50	
BAROMETER IN-HG(Pb)	29.15		29.14	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.75	3.35	13.75	3.35	13.75	3.35
BLOWER REVOLUTIONS	10655		17180		10156	
VO(CU.FT./REV.)	0.294366		0.294366		0.294357	
VMIX (CU.FT.)	2688.47		4334.85		2559.29	
ZN(RPM)	1186.22		1186.22		1186.22	
NO	0.000221		0.000221		0.000221	
MILES/BAG	3.562		3.831		3.565	

ANALYTICAL DATA

HCE/HCD (PPM)	205.88	16.38	27.15	9.45	39.91	12.63
COEM/COEM (PPM)	447.93	1.89	131.42	1.90	211.73	3.15
NOXE/NOXD (PPM)	45.80	0.80	22.00	0.60	34.00	0.80
CO2E/CO2D (%)	0.82	0.83	0.56	0.04	0.77	0.84

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	8.384	1.282	1.171
CO (GRAMS/TEST PHASE)	38.085	17.927	17.011
NOX (GRAMS/TEST PHASE)	6.880	5.229	4.658
CO2 (GRAMS/TEST PHASE)	1095.991	1179.188	970.190
FUEL ECONOMY (MPG)	28.715	28.044	31.595

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 12 TEST DATE: 7-07-79
 PROJECT: 790912 REPT DATE: 7-08-79
 VEHICLE: 05 ODOMETER :11800.2

VEHICLE DATA

VEHICLE MAKE: CHEVROLET
 MODEL YEAR/MODEL: 1977 CHEVETTE
 VEHICLE I.D. NUMBER: 1B08E7Y155251
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 2250 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.748 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 5.951 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.463 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 297.994 GRAMS/MILE	

URBAN FUEL ECONOMY: 28.63 MILES/GALLON

now 28.53

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

EG&G AUTOMOTIVE RESEARCH, INC.

FEDERAL TEST PROCEDURE

1978 HIGHWAY FUEL ECONOMY TEST

TEST NO:	12	TEST DATE:	7-07-79
PROJECT:	790912	REPORT DATE:	7-08-79
VEHICLE:	05	MILEAGE:	11800.2

TEST DATA

BLOWER REVOLUTIONS: 15128
BAROMETER (corr): 29.14
BLOWER PRESSURES:
inlet/outlet 13.75 3.35
MIXTURE TEMPERATURE: 104.5
HUMIDITY (Relative): 52.54%
ROLL REVOLUTIONS: 23409.00

ANALYTICAL DATA

HYDROCARBONS (exhaust): 28.0 ppm
HYDROCARBONS (background): 18.6 ppm
CARBON MONOXIDE (exhaust): 322.9 ppm
CARBON MONOXIDE (background): 1.3 ppm
CARBON DIOXIDE (exhaust): 1.2050 %
CARBON DIOXIDE (background): 0.0380 %

TEST RESULTS (GRAMS/MILE)

HC: 0.114
CO: 3.866
CO2: 230.446
CALCULATED FUEL ECONOMY: 37.44 MPG

COMMENTS:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	01	TEST DATE:	6-15-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	33	ODOMETER:	7377.4

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	65.14	92.96	64.13	97.87
MIXTURE TEMP(PTI)	105.00		105.00	
BAROMETER IN-HG(Pb)	29.16		29.15	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	12.90	3.45	12.90	3.45	12.90	3.45
BLOWER REVOLUTIONS	10014		17216		10020	
VO(CU.FT./REV.)	0.295690		0.295690		0.295688	
VMIX (CU.FT.)	2544.37		4374.26		2545.63	
ZN(RPM)	1188.38		1188.38		1188.38	
%D	0.000215		0.000215		0.000215	
MILES/BAG	3.561		3.850		3.555	

ANALYTICAL DATA

HCE/HCD (PPM)	129.42	3.82	36.32	6.69	57.67	7.19
COEM/COEM (PPM)	570.58	1.26	339.02	2.52	280.63	1.26
NOXE/NOXD (PPM)	62.90	1.10	19.20	0.50	57.10	1.10
CO2E/CO2D (%)	1.27	0.04	0.76	0.05	1.11	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.047	2.145	2.124
CO (GRAMS/TEST PHASE)	45.596	46.818	22.467
NOX (GRAMS/TEST PHASE)	9.318	4.846	8.665
CO2 (GRAMS/TEST PHASE)	1623.063	1618.620	1413.181
FUEL ECONOMY (MPG)	18.458	20.094	21.665

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 2 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 01 TEST DATE: 6-15-79
PROJECT: 790912 REPT DATE: 7-08-79
VEHICLE: 33 ODOMETER: 7377.4

VEHICLE DATA

VEHICLE MAKE: FORD
MODEL YEAR/MODEL: 1979 PINTO
VEHICLE I.D. NUMBER: 9T10Y146236
ENGINE SERIAL NUMBER:
INERTIA WEIGHT: 3000 POUNDS

WEIGHTED MASS EMISSIONS

<u>TEST RESULTS</u>	<u>1978 EPA STANDARDS</u>
HC: 0.746 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 10.696 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.862 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 421.480 GRAMS/MILE	

URBAN FUEL ECONOMY: 26.12 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

1978 Highway Fuel Economy Test

Test No: 91

Test Date: 06/15/79

Project: 790912

Report Date: 06/18/79

Vehicle: 33

Mileage: 7390.0

Test Data

Blower Revolutions: 15095

Barometer (corr): 29.17

Blower Pressures:
inlet/outlet 12.90 3.45

Mixture Temperature: 109.0

Humidity (Relative): 53.34%

Roll Revolutions: 23614.00

Analytical Data

Hydrocarbons (exhaust): 22.5 ppm

Hydrocarbons (background): 9.2 ppm

Carbon Monoxide (exhaust): 81.7 ppm

Carbon Monoxide (background): 0.8 ppm

Carbon Dioxide (exhaust): 1.7110 %

Carbon Dioxide (background): 0.8420 %

Test Results (grams/mile)

HC: 0.989

CO: 0.954

CO2: 326.643

Calculated Fuel Economy: 27.00 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	02	TEST DATE:	6-16-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	33	ODOMETER:	7419.0

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	57.95	75.05	55.89	72.01
MIXTURE TEMP(FTI)	104.50		105.00	
BAROMETER IN-HG(Pb)	29.10		29.08	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	12.90	3.40	12.90	3.40	12.90	3.40
BLOWER REVOLUTIONS	10002		17211		10023	
V(CU.FT./REV.)	0.295690		0.295690		0.295678	
V MIX (CU.FT.)	2538.29		4367.77		2539.84	
Z(NRPM)	1188.45		1188.45		1188.45	
X3	0.000215		0.000215		0.000215	
MILES/BAG	3.573		3.846		3.575	

ANALYTICAL DATA

HCE/HCD (PPM)	126.95	9.81	35.70	6.89	52.47	6.79
CEM/CODM(PPM)	657.55	0.63	343.79	0.63	245.16	0.63
NOXE/NOXD(PPM)	62.59	1.00	19.80	0.63	59.80	1.00
CO2E/CO2D (%)	1.26	0.04	0.76	0.04	1.12	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	4.871	2.084	1.919
CO (GRAMS/TEST PHASE)	52.624	47.772	19.670
NOX (GRAMS/TEST PHASE)	8.470	4.552	7.988
CO2 (GRAMS/TEST PHASE)	1605.610	1642.776	1422.815
FUEL ECONOMY (MPG)	18.596	19.780	21.717

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	02	TEST DATE:	6-16-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	33	ODOMETER :	7419.0

VEHICLE DATA

VEHICLE MAKE:	FORD
MODEL YEAR/MODEL:	1979 PINTO
VEHICLE I.D. NUMBER:	9T10Y146233
ENGINE SERIAL NUMBER:	
INERTIA WEIGHT:	3000 POUNDS

WEIGHTED MASS EMISSIONS

	<u>TEST RESULTS</u>	<u>1978 EPA STANDARDS</u>
HC:	0.711 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO:	18.999 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX:	1.718 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2:	423.733 GRAMS/MILE	

URBAN FUEL ECONOMY: 20.01 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	02	Test Date:	06/16/79
Project:	790912	Report Date:	06/18
Vehicle:	33	Mileage:	7431.2

Test Data

Blower Revolutions: 15127
 Barometer (corr) : 29.08
 Blower Pressures:
 inlet/outlet 12.90 3.45
 Mixture Temperature: 109.0
 Humidity (Relative): 44.67%
 Roll Revolutions: 23661.00

Analytical Data

Hydrocarbons (exhaust): 19.4 ppm
 Hydrocarbons (background): 6.3 ppm
 Carbon Monoxide (exhaust): 73.7 ppm
 Carbon Monoxide (background): 0.3 ppm
 Carbon Dioxide (exhaust): 1.6910 %
 Carbon Dioxide (background): 0.0450 %

Test Results (grams/mile)

HC: 0.085
 CO: 0.865
 CO2: 321.132
 Calculated Fuel Economy: 27.48 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	03	TEST DATE:	6-20-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	33	ODOMETER:	7470.4

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	74.62	105.44	73.13	100.64
MIXTURE TEMP(PTI)		105.00		104.80
BAROMETER IN-HG(Pb)		29.04		29.05

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.72	3.32	13.72	3.32	13.72	3.32
BLOWER REVOLUTIONS		9994		17175		10015
VO(CU.FT./REV.)		0.294355		0.294355		0.294361
VMIX (CU.FT.)		2507.78		4309.70		2514.67
ZN(RPM)		1186.34		1186.34		1186.34
XO		0.000221		0.000221		0.000221
MILES/BAG		3.583		3.860		3.561

ANALYTICAL DATA

HCE/HCD (PPM)	115.57	15.27	22.47	12.17	42.67	11.05
COEM/CODM(PPM)	541.82	3.15	111.47	1.64	136.05	2.19
NOXE/HOXD(PPM)	58.30	1.20	18.50	0.50	54.00	1.40
CO2E/CO2D (%)	1.26	0.03	0.77	0.03	1.11	0.03

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	4.170	0.775	1.337
CO (GRAMS/TEST PHASE)	42.402	15.010	14.569
NOX (GRAMS/TEST PHASE)	9.069	4.911	8.528
CO2 (GRAMS/TEST PHASE)	1602.161	1642.098	1409.306
FUEL ECONOMY (MPG)	18.893	20.518	21.983

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 93 TEST DATE: 6-20-79
 PROJECT: 790912 REPT DATE: 7-03-79
 VEHICLE: 33 ODOMETER :7470.4

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 PINTO
 VEHICLE I.D. NUMBER: 9T10Y146233
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 3000 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.448 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 5.589 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.840 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 421.825 GRAMS/MILE	

URBAN FUEL ECONOMY: 20.53 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	03	Test Date:	6-20-79
Project:	790712	Report Date:	6-20-79
Vehicle:	33	Mileage:	7493.3

Test Data

Blower Revolutions: 15133
 Barometer (corr) : 29.07
 Blower Pressures:
 inlet/outlet 13.68 3.30
 Mixture Temperature: 111.1
 Humidity (Relative): 65.78%
 Roll Revolutions: 23793.00

Analytical Data

Hydrocarbons (exhaust): 28.7 ppm
 Hydrocarbons (background): 19.1 ppm
 Carbon Monoxide (exhaust): 52.6 ppm
 Carbon Monoxide (background): 0.0 ppm
 Carbon Dioxide (exhaust): 1.7450 %
 Carbon Dioxide (background): 0.0400 %

Test Results (grams/mile)

HC: 0.073
 CO: 0.604
 CO2: 326.917
 Calculated Fuel Economy: 27.03 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	04	TEST DATE:	6-21-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	33	ODOMETER:	7517.5

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	74.30	101.27	59.31	102.78
MIXTURE TEMP(PTI)		105.80		105.70
BAROMETER IN-HG(Pb)		29.10		29.07

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.71	3.35	13.71	3.35	13.71	3.35
BLOWER REVOLUTIONS		9992		17195		10006
VO(CU.FT./REV.)	0.294389		0.294389		0.294364	
VMIX (CU.FT.)		2509.07		4317.81		2509.95
ZN(RPM)		1186.33		1186.33		1186.33
XO		0.000221		0.000221		0.000221
MILES/BAG		3.574		3.857		3.573

ANALYTICAL DATA

HCE/HCD (PPM)	105.80	12.29	18.23	10.03	50.73	10.03
COEM/COEM (PPM)	728.49	3.15	123.10	2.73	310.82	1.89
NOXE/NOXD (PPM)	56.00	1.40	19.60	0.90	55.50	1.20
CO2E/CO2D (%)	1.23	0.05	0.75	0.04	1.10	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	3.881	0.619	1.703
CO (GRAMS/TEST PHASE)	57.162	16.355	24.461
NOX (GRAMS/TEST PHASE)	8.486	5.003	8.506
CO2 (GRAMS/TEST PHASE)	1541.354	1609.818	1380.213
FUEL ECONOMY (MPG)	19.285	20.889	22.249

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 04 TEST DATE: 6-21-79
 PROJECT: 790912 REPT DATE: 7-08-79
 VEHICLE: 33 ODOMETER :7517.5

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 PINTO
 VEHICLE I.D. NUMBER: 9T10Y146233
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 3000 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.438 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 7.385 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.817 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 411.735 GRAMS/MILE	

URBAN FUEL ECONOMY: 20.88 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

1978 Highway Fuel Economy Test

Test No: 04 Test Date: 6-21-79
Project: 790912 Report Date: 6-22-79
Vehicle: 33 Mileage: 7540.3

Test Data:

Blower Revolutions: 15134
Barometer (corr) : 29.05
Blower Pressures:
inlet/outlet 13.67 3.30
Mixture Temperature: 111.1
Humidity (Relative): 60.36%
Roll Revolutions: 23732.00

Analytical Data

Hydrocarbons (exhaust): 19.4 ppm
Hydrocarbons (background): 9.3 ppm
Carbon Monoxide (exhaust): 71.1 ppm
Carbon Monoxide (background): 0.8 ppm
Carbon Dioxide (exhaust): 1.7030 %
Carbon Dioxide (background): 0.0510 %

Test Results (grams/mile)

HC: 0.068
CO: 0.812
CO2: 317.651
Calculated Fuel Economy: 27.79 MPG

Comments:

FEDERAL TEST PROCEDURE
1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	01	TEST DATE:	6-14-79
PROJECT:	790912	REPT DATE:	6-15-79
VEHICLE:	73	ODOMETER:	429.6

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(R ₀ -H)	47.00	60.10	60.60	61.86
MIXTURE TEMP(PTI)	105.00		105.00	
BAROMETER IN-HG(P ₀)	29.27		29.27	

CVS DATA

--PHASE 1-- --PHASE 2-- --PHASE 3--

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	12.95	3.35	12.95	3.35	12.95	3.35
BLOWER REVOLUTIONS	10013		17171		9975	
Q(CU.FT./REV.)	0.295787		0.295787		0.295787	
MIX (CU.FT.)	2554.98		4381.46		2545.29	
ZN(RPM)	1188.39		1188.39		1188.39	
NO	0.000214		0.000214		0.000214	
FILES/BAG	3.579		3.848		3.588	

ANALYTICAL DATA

HCE/HCD (PPM)	100.80	11.30	50.89	0.51	163.90	7.35
COEM/COEM (PPM)	699.62	5.05	12.90	1.37	159.02	3.01
COXE/HOXD (PPM)	32.80	0.70	24.30	0.50	41.70	0.70
CO2E/CO2D (%)	1.62	0.94	1.03	0.05	1.42	0.05

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
--	--------------------------------------	---------------------------------------	--------------------------------------

HC (GRAMS/TEST PHASE)	7.136	3.652	6.540
CO (GRAMS/TEST PHASE)	55.830	1.618	12.499
NOX (GRAMS/TEST PHASE)	4.163	5.287	5.851
CO2 (GRAMS/TEST PHASE)	2109.797	2232.680	1817.090
FUEL ECONOMY (MPG)	14.295	15.187	17.129

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 01 TEST DATE: 6-14-79
 PROJECT: 790912 REPT DATE: 6-15-79
 VEHICLE: 73 ODOMETER: 429.6

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 FAIRMONT
 VEHICLE I.D. NUMBER: F9K92F1875517
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 3500 POUNDS

WEIGHTED MASS EMISSIONS

<u>TEST RESULTS</u>		<u>1978 EPA STANDARDS</u>	
HC:	1.406 GRAMS/MILE	HC:	1.5 GRAMS/MILE
CO:	4.409 GRAMS/MILE	CO:	15.0 GRAMS/MILE
NOX:	1.401 GRAMS/MILE	NOX:	2.0 GRAMS/MILE

CO2: 561.899 GRAMS/MILE

URBAN FUEL ECONOMY: 15.47 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	01	Test Date:	06/14/79
Project:	730912	Report Date:	06/18/79
Vehicle:	73	Mileage:	429.6

Test Data:

Blower Revolutions:	15115
Barometer (corr):	29.27
Blower Pressures:	
inlet/outlet	12.00 3.40
Mixture Temperature:	105.0
Humidity (Relative):	54.89%
Roll Revolutions:	23759.00

Analytical Data

Hydrocarbons (exhaust):	124.8 ppm
Hydrocarbons (background):	7.3 ppm
Carbon Monoxide (exhaust):	15.9 ppm
Carbon Monoxide (background):	2.7 ppm
Carbon Dioxide (exhaust):	2.0950 %
Carbon Dioxide (background):	0.0420 %

Test Results (grams/mile)

HC:	0.748
CO:	0.161
CO2:	408.087
Calculated Fuel Economy:	21.59 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	02	TEST DATE:	6-15-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	73	ODOMETER:	483.0

--- AMBIENT CONDITIONS ---

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	60.31	77.29	59.75	81.67
MIXTURE TEMP(PTI)	104.50		105.00	
BAROMETER IN-HG(Pb)	29.18		29.18	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	12.00	3.40	12.00	3.40	12.00	3.40
BLOWER REVOLUTIONS	9985		17203		9999	
VO(CU.FT./REV.)	0.297279		0.297279		0.297279	
VMIX (CU.FT.)	2565.76		4420.51		2567.09	
ZH(RPM)	1190.90		1190.90		1190.90	
%O	0.000208		0.000308		0.000208	
MILES/BAG	3.602		3.869		3.591	

ANALYTICAL DATA

HCE/HCD (PPM)	256.95	12.29	63.31	9.72	102.99	8.82
COEM/COEM (PPM)	717.91	1.89	14.66	1.89	119.14	2.19
NOXE/NOXD (PPM)	36.10	0.50	25.00	0.50	40.50	0.80
CO2E/CO2D (%)	1.68	0.05	1.01	0.05	1.44	0.05

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	10.319	3.921	5.246
CO (GRAMS/TEST PHASE)	57.444	1.884	9.448
NOX (GRAMS/TEST PHASE)	5.610	5.939	5.711
CO2 (GRAMS/TEST PHASE)	299.016	10.000	105.181
HC (GRAMS/TEST PHASE)	10.319	3.921	5.246

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 02 TEST DATE: 6-15-79
 PROJECT: 790912 REPT DATE: 7-08-79
 VEHICLE: 73 ODOMETER :483.0

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 FAIRMONT
 VEHICLE I.D. NUMBER: 9K92F187551

ENGINE SERIAL NUMBER:

INERTIA WEIGHT: 3500 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
-----	-----
HC: 1.520 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 4.269 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.520 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 565.543 GRAMS/MILE	

URBAN FUEL ECONOMY: 15.37 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	82	Test Date:	06/15/79
Project:	790912	Report Date:	06/18/79
Vehicle:	73	Mileage:	483.0

Test Data

Blower Revolutions: 15120
 Barometer (corr) : 29.27
 Blower Pressures:
 inlet/outlet 12.00 3.40
 Mixture Temperature: 105.0
 Humidity (Relative): 52.96%
 Roll Revolutions: 24074.00

Analytical Data

Hydrocarbons (exhaust): 73.5 ppm
 Hydrocarbons (background): 7.8 ppm
 Carbon Monoxide (exhaust): 19.8 ppm
 Carbon Monoxide (background): 1.1 ppm
 Carbon Dioxide (exhaust): 2.1590 %
 Carbon Dioxide (background): 0.0510 %

Test Results (grams/mile)

HC: 0.413
 CO: 0.221
 CO2: 413.918
 Calculated Fuel Economy: 21.34 MPG

Comments:

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	03	TEST DATE:	6-20-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	73	ODDMETER:	528.2

--- AMBIENT CONDITIONS ---

	PHASE 1		PHASE 3	
HUMIDITY (Ra-H)	60.64	108.13	59.82	111.58
MIXTURE TEMP (PTI)	105.00		105.00	
BAROMETER IN-HG (PB)	29.05		29.07	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.60	3.40	13.60	3.40	13.60	3.40
BLOWER REVOLUTIONS	9987		17157		9980	
VO (CU.FT./REV.)	0.294485		0.294485		0.294500	
VMIX (CU.FT.)	2508.93		4310.17		2508.94	
ZN (RPM)	1186.55		1186.55		1186.55	
XO	0.000220		0.000220		0.000220	
MILES/BAG	3.561		3.824		3.561	

ANALYTICAL DATA

HCE/HCD (PPM)	196.69	9.81	30.60	7.09	91.78	6.79
COEM/COEM (PPM)	590.55	3.15	5.75	0.55	179.86	3.55
NOXE/NOXD (PPM)	27.00	0.90	22.10	1.00	33.70	1.00
CO2E/CO2D (%)	1.65	0.05	1.03	0.04	1.43	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	7.709	1.707	3.512
CO (GRAMS/TEST PHASE)	46.114	0.714	13.925
NOX (GRAMS/TEST PHASE)	4.219	5.855	5.384
CO2 (GRAMS/TEST PHASE)	2095.794	2227.621	1806.490
FUEL ECONOMY (MPG)	14.402	15.101	17.168

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 03 TEST DATE: 6-20-79
 PROJECT: 790912 REPT DATE: 7-08-79
 VEHICLE: 73 ODOMETER :528.2

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 FAIRMONT
 VEHICLE I.D. NUMBER: 9K92F187551F
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 3500 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.951 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 3.856 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.454 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 553.059 GRAMS/MILE	

URBAN FUEL ECONOMY: 15.50 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	.03	Test Date:	6/28/79
Project:	790912	Report Date:	6/28/79
Vehicle:	073	Mileage:	549.6

Test Data:

Blower Revolutions:	15104
Barometer (corr) :	29.07
Blower Pressures:	
inlet/outlet	13.60 3.40
Mixture Temperature:	111.0
Humidity (Relative):	47.63%
Roll Revolutions:	22581.00

Analytical Data

Hydrocarbons (exhaust):	49.0 ppm
Hydrocarbons (background):	6.8 ppm
Carbon Monoxide (exhaust):	14.0 ppm
Carbon Monoxide (background):	1.6 ppm
Carbon Dioxide (exhaust):	2.0890 %
Carbon Dioxide (background):	0.0530 %

Test Results (grams/mile)

HC:	0.274
CO:	0.152
CO2:	411.204
Calculated Fuel Economy:	21.51 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	04	TEST DATE:	6-21-79
PROJECT:	790912	REPT DATE:	7-09-79
VEHICLE:	73	ODOMETER:	585.0

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Rd-H)	62.49	110.95	55.60	105.23
MIXTURE TEMP(FTI)	105.50		105.50	
BAROMETER IN-HG(Pb)	29.10		29.12	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.70	3.40	13.70	3.40	13.70	3.40
BLOWER REVOLUTIONS	9974		17196		9987	
V(CU.FT./REV.)	0.294362		0.294362		0.294380	
VMIX (CU.FT.)	2905.77		4320.16		2511.27	
ZN(CPPM)	1186.27		1186.27		1186.27	
XO	0.000221		0.000221		0.000221	
MILES/BAG	3.559		3.822		3.560	

ANALYTICAL DATA

HCE/HCD (PPM)	182.87	13.77	27.57	10.94	74.38	9.62
COEM/COEM(PPM)	557.84	1.89	3.20	1.09	151.74	0.82
NOXE/NOXD(PPM)	28.10	1.70	23.50	1.80	34.80	1.00
CO2E/CO2D (%)	1.65	0.04	1.83	0.04	1.45	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	6.992	1.232	2.699
CO (GRAMS/TEST PHASE)	43.347	0.398	11.924
NOX (GRAMS/TEST PHASE)	4.347	6.149	5.376
CO2 (GRAMS/TEST PHASE)	2119.921	2228.286	1841.964
FUEL ECONOMY (MPG)	14.279	15.182	16.891

EG&G AUTOMOTIVE RESEARCH, INC.

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FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	04	TEST DATE:	6-21-79
PROJECT:	790912	REPT DATE:	7-09-79
VEHICLE:	73	ODOMETER :	565.0

VEHICLE DATA

VEHICLE MAKE:	FORD
MODEL YEAR/MODEL:	1979 FAIRMONT
VEHICLE I. D. NUMBER:	FRK92F187551F
ENGINE SERIAL NUMBER:	
INERTIA WEIGHT:	3500 POUNDS

WEIGHTED MASS EMISSIONS

	<u>TEST RESULTS</u>	<u>1978 EPA STANDARDS</u>
HC:	0.783 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO:	3.499 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX:	1.501 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2:	567.552 GRAMS/MILE	

URBAN FUEL ECONOMY: 15.41 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

1978 Highway Fuel Economy Test

Test No: 04

Test Date: 6-21-79

Project: 790912

Report Date: 6-21-79

Vehicle: 73

Mileage: 584.9

Test Data

Blower Revolutions: 15120
Barometer (corr) : 29.09
Blower Pressures:
Inlet/outlet 13.70 3.40
Mixture Temperature: 117.0
Humidity (Relative): 52.48%
Roll Revolutions: 23726.00

Analytical Data

Hydrocarbons (exhaust): 39.6 ppm
Hydrocarbons (background): 10.1 ppm
Carbon Monoxide (exhaust): 22.3 ppm
Carbon Monoxide (background): 3.3 ppm
Carbon Dioxide (exhaust): 2.1500 %
Carbon Dioxide (background): 0.0510 %

Test Results (grams/mile)

HC: 0.185
CO: 0.221
CO2: 399.646
Calculated Fuel Economy: 22.14 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	05	TEST DATE:	6-25-79
PROJECT:	79012	REPT DATE:	7-08-79
VEHICLE:	73	ODOMETER:	618.3

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	72.28	98.20	80.08	88.48
MIXTURE TEMP(PTI)	105.00		105.00	
BAROMETER IN-HG(Pb)	29.17		29.17	

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.60	3.25	13.60	3.25	13.60	3.25
BLOWER REVOLUTIONS		9358		17307		9994
V(CU.FT./REV.)	0.294720		0.294720		0.294720	
VMIX (CU.FT.)	2489.88		4371.30		2524.23	
ZN(RPM)	1186.78		1186.78		1186.78	
NO	0.000219		0.000219		0.000219	
MILES/BAG	3.499		3.863		3.581	

ANALYTICAL DATA

HCE/HCD (PPM)	151.18	11.95	20.54	3.56	63.02	7.48
COEM/COEM (PPM)	552.55	5.05	25.04	2.17	122.36	3.26
NOXE/NOXD (PPM)	26.80	0.70	19.40	0.70	34.00	0.70
CO2E/CO2D (%)	1.74	0.04	1.04	0.04	1.46	0.05

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.730	0.903	2.323
CO (GRAMS/TEST PHASE)	58.178	3.169	9.463
NOX (GRAMS/TEST PHASE)	3.965	4.994	4.872
CO2 (GRAMS/TEST PHASE)	2194.649	2291.037	1850.734
FUEL ECONOMY (MPG)	13.540	14.900	16.957

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 2 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO: 05 TEST DATE: 6-25-79
 PROJECT: 79012 REPT DATE: 7-08-79
 VEHICLE: 73 ODOMETER :618.3

VEHICLE DATA

VEHICLE MAKE: FORD
 MODEL YEAR/MODEL: 1979 FAIRMONT
 VEHICLE I.D. NUMBER: 9K92F187551F
 ENGINE SERIAL NUMBER:
 INERTIA WEIGHT: 3500 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.634 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 4.083 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.277 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 579.163 GRAMS/MILE	

URBAN FUEL ECONOMY: 15.09 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E. G. & G. AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	05	Test Date:	6-25-79
Project:	790912	Report Date:	6-25-79
Vehicle:	79	Mileage:	618.8

Test Data:

Blower Revolutions:	15091
Barometer (corr):	29.17
Blower Pressures:	
Inlet/Outlet	19.60 9.25
Mixture Temperature:	105.0
Humidity (Relative):	53.6%
Roll Revolutions:	23699.00

Analytical Data

Hydrocarbons (exhaust):	33.2 ppm
Hydrocarbons (background):	6.8 ppm
Carbon Monoxide (exhaust):	47.2 ppm
Carbon Monoxide (background):	3.0 ppm
Carbon Dioxide (exhaust):	2.1370 %
Carbon Dioxide (background):	0.0470 %

Test Results (grams/mile)

HC:	0.163
CO:	0.519
CO2:	407.332
Calculated Fuel Economy:	21.67 MPG

Comments:

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 1 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	06	TEST DATE:	6-26-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	73	ODOMETER:	649.0

AMBIENT CONDITIONS

	PHASE 1		PHASE 3	
HUMIDITY(Ra-H)	78.24	106.50	83.26	90.10
MIXTURE TEMP(PTI)		105.50		105.00
BAROMETER IN-HG(Pb)		29.21		29.20

CVS DATA

	PHASE 1		PHASE 2		PHASE 3	
PRESSURES:						
INLET/OUTLET	13.90	3.30	13.90	3.30	13.90	3.30
BLOWER REVOLUTIONS		9941		17142		9955
V0(CU.FT./REV.)		0.294210		0.294210		0.294202
VMIX (CU.FT.)		2503.72		4317.35		2504.05
ZN(RPM)		1185.89		1185.89		1185.89
X0		0.000222		0.000222		0.000222
MILES/BAG		3.561		3.816		3.547

ANALYTICAL DATA

HCE/HCD (PPM)	153.21	18.85	17.98	8.07	59.96	8.46
COEM/COEM (PPM)	697.03	3.78	10.10	3.54	124.11	2.45
NOXE/NOXD (PPM)	25.80	0.60	20.80	0.70	32.40	0.70
CO2E/CO2D (%)	1.82	0.04	1.03	0.04	1.45	0.04

TEST PHASE RESULTS

	COLD START TRANSIENT (PHASE 1)	COLD START STABILIZED (PHASE 2)	HOT START STABILIZED (PHASE 3)
HC (GRAMS/TEST PHASE)	5.878	0.743	2.144
CO (GRAMS/TEST PHASE)	53.956	0.920	9.575
NOX (GRAMS/TEST PHASE)	4.024	5.532	4.639
CO2 (GRAMS/TEST PHASE)	2137.138	2221.173	1832.746
FUEL ECONOMY (MPG)	14.093	15.209	16.961

EG&G AUTOMOTIVE RESEARCH, INC.

PAGE 2 OF 2

FEDERAL TEST PROCEDURE

1978 URBAN DYNAMOMETER EMISSION TEST

TEST NO:	06	TEST DATE:	6-26-79
PROJECT:	790912	REPT DATE:	7-08-79
VEHICLE:	73	ODOMETER :	649.0

VEHICLE DATA

VEHICLE MAKE:	FORD
MODEL YEAR/MODEL:	1979 FAIRMONT
VEHICLE I. D. NUMBER:	F9K92F187551F
ENGINE SERIAL NUMBER:	
INERTIA WEIGHT:	3500 POUNDS

WEIGHTED MASS EMISSIONS

TEST RESULTS	1978 EPA STANDARDS
HC: 0.699 GRAMS/MILE	HC: 1.5 GRAMS/MILE
CO: 4.011 GRAMS/MILE	CO: 15.0 GRAMS/MILE
NOX: 1.344 GRAMS/MILE	NOX: 2.0 GRAMS/MILE
CO2: 567.895 GRAMS/MILE	

URBAN FUEL ECONOMY: 16.39 MILES/GALLON

COMMENTS:

QUALITY CONTROL VERIFICATION: _____

E G & G AUTOMOTIVE RESEARCH, INC.

1978 Highway Fuel Economy Test

Test No:	06	Test Date:	6-26-79
Project:	790912	Report Date:	6-26-79
Vehicle:	73	Mileage:	649.0

Test Data:

Blower Revolutions: 15078
 Barometer (corr): 29.21
 Blower Pressures:
 inlet/outlet 13.90 3.30
 Mixture Temperature: 106.0
 Humidity (Relative): 53.68%
 Roll Revolutions: 23692.00

Analytical Data

Hydrocarbons (exhaust): 28.0 ppm
 Hydrocarbons (background): 7.3 ppm
 Carbon Monoxide (exhaust): 14.3 ppm
 Carbon Monoxide (background): 2.7 ppm
 Carbon Dioxide (exhaust): 2.1310 %
 Carbon Dioxide (background): 0.0420 %

Test Results (grams/mile)

HC: 0.134
 CO: 0.144
 CO2: 406.908
 Calculated Fuel Economy: 21.76 MPG

Comments:

ATTACHMENT 5
VEHICLE DRIVEABILITY

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 05 Odometer: 11,410.2
 Make/Model: Chevrolet Chevette V.I.N.: 1B08E7Y15625
 Date: June 18, 1979 Driver: John H. Rivenburgh
 Driveability Evaluation: After Baseline Test

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress accelerator pedal to floor, release and start

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>None</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Vehicle Driveability
Auto-Miser International
AR Project No. 79091

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 5.64 2) 5.64 3) 5.51

0 to 50 MPH: 1) 13.55 2) 13.79 3) 13.33

- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:

John H. Rivenburgh
Date: June 18, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 05 Odometer: 11530.4
 Make/Model: Chevrolet Chevette V.I.N.: 1B08E7Y155251
 Date: June 22, 1979 Driver: John R. Rivenburgh
 Driveability Evaluation: After Device Testing (First Series)

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress pedal once to floor, release, then start.

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>None</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>None</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: Slight dieseling. RPM seems to be higher

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 5.71 2) 5.66 3) 5.50

0 to 50 MPH: 1) 13.63 2) 13.73 3) 13.65

- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:

John A. Riverford
Date: June 22, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 05 Odometer: 11770.2
 Make/Model: Chevrolet Chevette V.I.N.: 1B08E7Y155251
 Date: July 5, 1979 Driver: John H. Rivenburgh
 Driveability Evaluation: After Device Testing (Second Series)

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress pedal once to floor, release and start

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 5.90 2) 5.92 3) 5.94

0 to 50 MPH: 1) 13.95 2) 13.93 3) 13.92

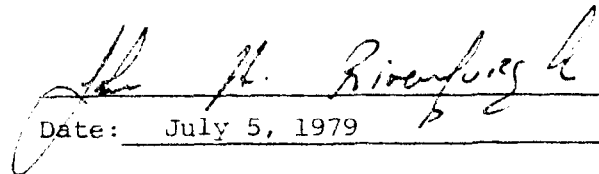
- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:


Date: July 5, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 33 Odometer: 7,546.8
 Make/Model: Ford/Pinto V.I.N.: 9T10Y146233
 Date: June 19, 1979 Driver: John H. Rivenburgh
 Driveability Evaluation: -After Basefine Testine

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress accelerator pedal to floor, release and start.

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Little rough</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>None</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>None</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>None</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>None</u>

Vehicle Driveability
Auto-Miser International
AR Project No. 79091

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 5.40 2) 5.43 3) 5.37

0 to 50 MPH: 1) 11.06 2) 11.06 3) 11.14

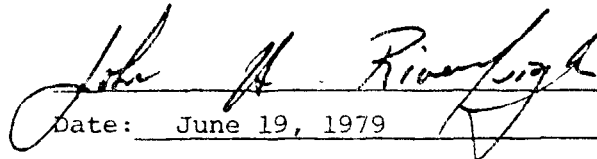
- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:


Date: June 19, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 33 Odometer: 7561.8
 Make/Model: Ford/Pinto V.I.N.: 9T10Y146233
 Date: June 22, 1979 Driver: John R. Rivenburgh
 Driveability Evaluation: After Device Testing

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress pedal once to floor, release and start.

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>None</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

3. Acceleration times (over road evaluation only):

a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 5.06 2) 5.10 3) 5.19

0 to 50 MPH: 1) 11.05 2) 11.05 3) 11.03

b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:

John A. Riverfough
Date: June 22, 1979

VEHICLE DRIVEABILITY
AUTO-MISER INTERNATIONAL
AR PROJECT NO. 79091

Vehicle No.: 73 Odometer: 519.8
Make/Model: Ford/Fairmont V.I.N.: 9K92F187551
Date: June 18, 1979 Driver: John H. Rivenburgh
Driveability Evaluation: After Baseline Testing

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress accelerator pedal to floor, release and start

2. Note any abnormal starting conditions:

Smooth start at idle: Yes
Stalled after start: No
Number restarts required: 0
Long cranking time required: No
Number of seconds: N/A
Throttling required to prevent stall: No
Stalled in first acceleration: No
Number of restarts required: 0

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle: Yes
Stalled after start: No
Number restarts required: 0
Long cranking time required: No
Number of seconds: N/A
Throttling required to prevent stall: No
Stalled in first acceleration: No
Number of restarts required: None

Vehicle Driveability
Auto-Miser International
AR Project No. 79091

3. Acceleration times (over road evaluation only):

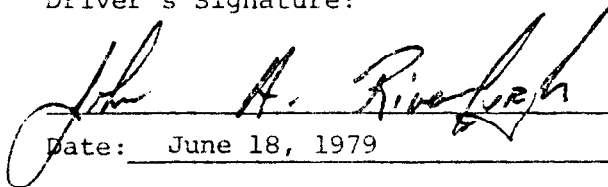
- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 4.28 2) 4.13 3) 4.25
0 to 50 MPH: 1) 8.24 2) 8.16 3) 8.43

- b) Note any abnormalities ~~during~~ the accelerations.

Hesitation: None
Stalls: None
Other: None

Driver's Signature:


Date: June 18, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 73 Odometer: 594.9
 Make/Model: Ford/Fairmont V.I.N.: 9K92F187551
 Date: June 22, 1979 Driver: John H. Rivenburg
 Driveability Evaluation: After Device Testing

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress pedal once to floor, release and start.

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Little rough</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None - OK

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Vehicle Driveability
Auto-Miser International
AR Project No. 79091

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 4.04 2) 4.00 3) 4.05

0 to 50 MPH: 1) 8.07 2) 8.19 3) 8.33

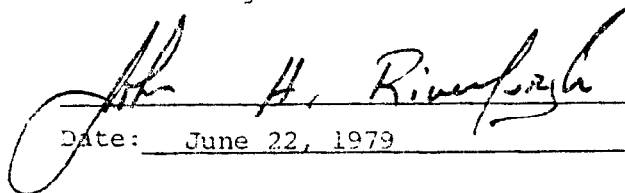
- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:


Date: June 22, 1979

VEHICLE DRIVEABILITY
 AUTO-MISER INTERNATIONAL
 AR PROJECT NO. 79091

Vehicle No.: 73 Odometer: 681.3
 Make/Model: Ford/Fairmont V.I.N.: 9K92F187551
 Date: June 26, 1979 Driver: John H. Rivenburg
 Driveability Evaluation: After Additional Testing

Cold Start

1. Review the manufacturer's starting procedure and follow. Summarize procedure: Depress pedal once to floor, release and start.

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Little rough</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Hot Start

1. After engine reaches normal operating temperature, shut off ignition and record any dieseling or after run tendencies: None

2. Note any abnormal starting conditions:

Smooth start at idle:	<u>Yes</u>
Stalled after start:	<u>No</u>
Number restarts required:	<u>0</u>
Long cranking time required:	<u>No</u>
Number of seconds:	<u>N/A</u>
Throttling required to prevent stall:	<u>No</u>
Stalled in first acceleration:	<u>No</u>
Number of restarts required:	<u>0</u>

Vehicle Driveability
Auto-Miser International
AR Project No. 79091

3. Acceleration times (over road evaluation only):

- a) Make three (3) wide open throttle accelerations to the following speeds and record times:

0 to 30 MPH: 1) 4.25 2) 4.19 3) 4.14

0 to 50 MPH: 1) 8.12 2) 8.19 3) 8.09

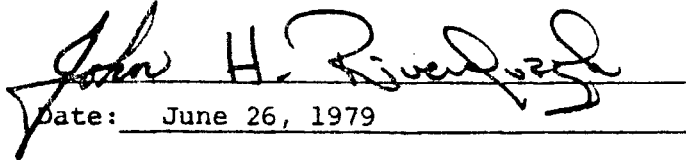
- b) Note any abnormalities during the accelerations.

Hesitation: None

Stalls: None

Other: None

Driver's Signature:


Date: June 26, 1979