



Cal/EPA

California
Environmental
Protection
Agency



Air Resources Board

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MEMORANDUM



Pete Wilson
Governor

James M. Strock
Secretary for
Environmental
Protection

TO: R. B. Summerfield, Chief
Mobile Source Operations Division

FROM: John Gunderson, Chief
Inspection and Testing Branch

DATE: _____

SUBJECT: Assembly-Line Report #4, 1997 Model-Year
January 1996 to December 1996

This report covers the first four production quarters for 1997 model-year (M-Y) vehicles, beginning January 1, 1996 and ending December 31, 1996.

Twenty-six manufacturers submitted their 1997 model-year assembly-line reports during the fourth quarter of production (October-December, 1996) for 237 engine families. These engine families were evaluated in accordance with the California Assembly-Line Test Procedures for 1983 through 1997 Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, as amended June 24, 1996. There are no Federal/AB965 engine families certified in California this model year.

Seventeen manufacturers are now submitting their reports using the ARB recommended electronic format. Table 2 now includes the percent of the quarterly production that has been sampled. Staff will follow up with manufacturers where less than the required amount of testing is reported for individual engine families other than those created by rounding.

Table 8 is a new table which provides a summary of the QA emission averages for each engine family stated in terms of percentage of standard. This table shows how close the engine family results are to the standards and is used to evaluate the accumulative engine family performance for each criteria pollutant.

Some production numbers from previous quarters have been changed because several manufacturers have submitted revised information, and one submitted their report late. Data entry corrections have also been made.

The contents of each of the tables attached to this report are summarized in the following pages.

Table 1 1997 M-Y California Production

<u>Qtr</u>	<u>PCs</u>	<u>LDT1s</u>	<u>LDT2s</u>	<u>MDVs</u>	<u>Totals</u>
1st Qtr.	7,350	791	3,054	6,706	17,901
2nd Qtr.	32,595	1,434	5,647	7,119	46,795
3rd Qtr.	161,436	12,672	52,934	25,484	252,526
4th Qtr.	<u>270,113</u>	<u>31,497</u>	<u>95,591</u>	<u>45,911</u>	<u>443,112</u>
Total	471,494	46,394	157,226	85,220	760,334

No. of TLEV, LEV, ULEV engine families: 60 (22.6%)
 No. of TLEV, LEV, ULEV vehicles: 328,541 (43.2%)

Table 2 1997 M-Y Quality-Audit (QA) Tests by Engine Family including Sample Size and Percent of Production this Quarter

<u>California</u>	<u>PCs</u>	<u>LDT1s</u>	<u>LDT2s</u>	<u>MDVs</u>	<u>Totals</u>
QA Tests:	10,585	1,197	3,069	1,637	16,488
% QA Tested:	2.24%	2.58%	1.95%	1.92%	2.17%

E.Fs. Qualifying for Reduced Testing Option (RTO) this Qtr:

No. of MFR's with E.F.'s qualifying for RTO: 6
 No. of E.F.'s qualifying for RTO: 29
 Production of E.F. qualifying for RTO this qtr: 130,958
 QA Tests for E.F. qualifying for RTO this qtr: 1,546
 Production of E.F. qualifying for RTO <2% this qtr: 111,598
 QA Tests for E.F. qualifying for RTO <2% this qtr: 1,031

Table 3 Manufacturers Estimating California Production of 50-State Engine Families Per MAC 87-10

BMW	5
FERRARI	2
LOTUS	1
PORSCHE	3
SAAB	5
VOLVO	4

Table 4 Summary of Tests Saved with RTO for the 1997 M-Y (Excluding the GM Pilot Project engine families)

No. of QA tests saved by using RTO: 431
 Cost per test: \$1,500
 Total cost savings using RTO for 1997 MY: \$646,500
 (Excluding the GM pilot project engine families)

Table 5 Summary of Quality-Audit Test Failures for the 1997 M-Y

Total No. of Failing QA Vehicles: 47

Total No. of Failing Vehicles without Repair:	35
Total QA Sample:	9,304
% All Failures to QA Sample:	0.51%
% of Failures with Repairs to Sample:	0.21%

Table 6 QA Test Failure Information for this Quarter Only

# of E.F. tested:	254
# of E.F. with failures:	22
Number of Failing QA Vehicles:	47
Passed After Retest w/o Repair:	35
Passed After Repair:	12
Types of Emissions Failures By Pollutant:	
HC only Failures	31
NOx only Failures	6
HC+NOx Failures	8
HC+CO Failures	2
Summary of Component Failures:	
Fuel/Air System	3
Exhaust System	1
O2S	7
Other: Reset Computer	1

Table 7 Summary of GM Pilot Project this Quarter

Engine Family @ 0 and 3K mi.	Veh. Prod.	0 mi. Tests	3K mi. Tests	Veh. Failed	Savings @ \$1,500
VGM1.9VJG2JK	5,507	16	7	1	\$100,500
VGM2.2V8G2EK	4,795	6	5	0	\$ 60,000
VGM2.4VJG2EK	6,194	16	6	2	\$102,000
VGM3.1V8G1EK	7,955	7	8	0	\$112,500
VGM3.428G2EK	1,608	6	0	0	\$ 39,000
VGM3.8V8GKEK	953	3	2	0	\$ 22,500
VGM3.8V8G1FK	1,164	5	9	0	\$ 15,000
VGM3.8V8G2EK	5,335	4	11	0	\$112,500
VGM4.32PG1EK	5,661	7	4	0	\$118,500
VGM4.32PG2EK	7,020	5	4	1	\$123,000
VGM5.7JPG1GK	6,601	10	2	0	\$117,000

Total saved this quarter: \$922,500

Table 8 Cumulative Test Results Stated in Percent of Standard for the 1997 Model Year

This table shows the accumulative 50K and 100K percentage of standard for each engine family for the entire model year.

These results are used in monitoring engine family performance on a quarterly basis and has been helpful for identifying engine families for Title 13 testing.

For further information on quarterly assembly-line reports, please contact Veronica Longhi, New Vehicle Audit Section, at (818) 575-7011.

Attachments