



QMI Test Data Sheets

QMI Test Data Sheets are divided into these Benefit Categories:

1. Reduced Friction & Wear
2. Improved Performance
3. Reduced Heat
4. Easier Starting
5. Improved Compression
6. Improved Fuel Economy

Each Benefit Category contains:

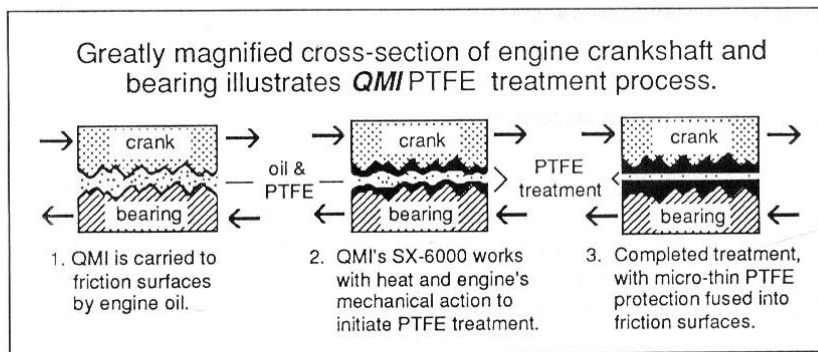
- A. A cover sheet listing Test Data Sheets with a benefit chart
- B. A "Notes" sheet providing vital details on Test Data Sheets
- C. Test Data Sheets demonstrating QMI benefits

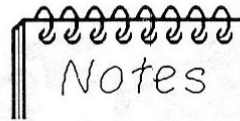
Numbers on cover sheets and "Notes" sheets match numbers in top right corner of Test Data Sheets



QMI Engine Treatment Concept

- Add QMI to an engine at oil change. QMI contains PTFE, listed in the Guinness Book of World Records as the slickest solid substance known, like "wet ice on wet ice".
- As the engine operates, the lubrication system carries QMI to all lubricated surfaces.
- Bonding agents work with heat and the engine's mechanical action to fuse PTFE into friction surfaces.
- The resulting "treatment" is permanently bonded into surface metal pores. It stays in place, protecting beyond oil, typically lasting up to 50,000 miles or longer.
- The treatment is very slippery, reducing wear and improving performance and fuel economy.





QMI Engine Treatment Concept—Details

1. QMI Engine Treatment is a blend of sub-micron PTFE with QMI's special formula SX-6000 (specialized suspending, cleaning, and bonding agents) in an oil and additive package especially designed for a wide variety of engine applications
 - A. QMI's PTFE are encapsulated in a negative polarity, causing PTFE particles to repel each other. This prevents coagulation in the bottom of the container or engine crankcase, and aids suspension.
2. To apply QMI Engine Treatment, first drain engine oil and replace the oil filter.
3. Refill the engine with quality oil to capacity less the amount of QMI Engine Treatment to be applied. 1 quart/liter of QMI Engine Treatment will treat most automotive and light truck engines. For larger engines, QMI Engine Treatment should be applied at the ratio of 20% QMI to 80% oil capacity.
4. Shake QMI Engine Treatment and add to engine.
5. Drive the vehicle (or operate the engine) immediately for 30 minutes.
6. Leave QMI in engine for 3,000 miles (or 60 hours) or more.
7. During operation, the lubrication system:
 - A. Blends QMI Engine Treatment with the oil.
 - B. Carries QMI throughout the engine to all lubricated friction surfaces.
8. QMI Engine Treatment acts upon the friction surfaces as follows:
 - A. Surfactants reduce surface tension of the gums and varnish in microscopic friction surface pores, allowing the PTFE to penetrate the pores.
 - B. Negative encapsulated PTFE are drawn into positive charged friction surface pores. This process is enhanced by the pressure and pumping action of opposing friction surface load.
 - C. Bonding agents fuse PTFE into friction surface pores.
 - D. Opposing friction surface load acts with heat and bonding agents, causing PTFE to plasticize, resulting in micro-thin PTFE protection.
9. Only the abrasive action of dirt (or honing at overhaul) will remove the PTFE protection.
10. QMI guarantees that the PTFE protection, like "wet ice on wet ice", will last for 50,000 miles (80,000 km) if engine is properly maintained and air filter and engine oil and oil filter are changed as manufacturer recommends.
11. Continue to change oil as manufacturer recommends.
12. Retreat with QMI Engine Treatment every 50,000 miles (80,000 km) or 1,000 hours (longer in over-the-road or stationary service engines).
13. QMI Engine Treatment is safe:
 - A. Does not compromise characteristics of engine oil.
 - B. Does not change critical tolerances of friction surfaces.
 - C. Submicron PTFE will not clog oil filters or block oil passages.
 - D. Letters from manufacturers confirm that QMI does not void engine manufacturer's warranties.



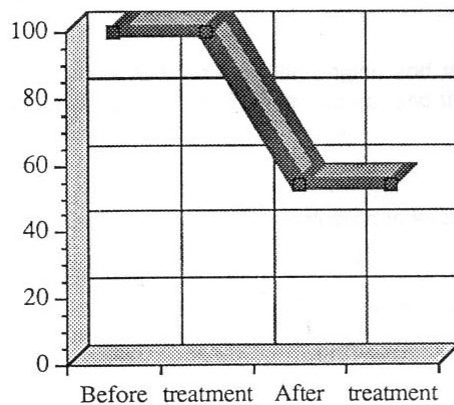
Reduced Friction & Wear

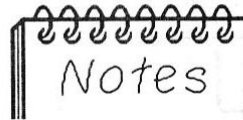
Percentage Wear Reduction

1. Sequence III E = 88%
2. Oil Analysis Report = 54%
3. Bus 224, Ford = 32%
4. Bus 44, International = 51%
Bus 44, Transmission = 40%
5. Van 152, Ford = 59%

Average Wear Reduction

54% Wear Reduction





Reduced Friction & Wear

Two reliable methods for determining wear rates are: A) dimensional measurement of wear components, and B) oil analysis, or measurement of wear particles in used crankcase oil, typically reported in Parts Per Million (PPM). Test Data Sheet 1 utilizes dimensional measurement, and Test Data Sheets 2 through 5 utilize oil analysis.

The following Test Data Sheets document QMI reduced friction and wear.

1. Sequence III E

A major lubricant testing laboratory, Southwest Research Institute, completed a most demanding test on QMI Engine Treatment, called Sequence III E.* The following QMI letterhead sheets give details on this test and the 88% wear reduction results.

2. Oil Analysis Report—Ringhaver

This test was conducted by a major electrical power utility, and involved two small engines. The bottom portion of the sheet contains notes detailing the 54% wear reduction results. Wear rates were determined by the wear metals lead, aluminum, chromium, iron and copper. (Silicon is dirt, not a wear metal, and the remaining measurements are physical tests.) Oil analysis was performed on two engines. Lines marked "A" present wear metals in oil before QMI, and lines marked "B" present wear metals in oil after QMI.

Test Data Sheets 3 through 5 are from an El Paso Independent School District test. Wear rates were determined by wear metals iron, chromium, lead, copper, tin, aluminum, nickel and silver. (The remaining measurements are additives or contaminants and physical tests.) On each sheet, the "1st Test" is before QMI, and the "2nd Test" is after QMI.

3. Bus 224

After QMI, this engine experienced a 32% reduction in wear metals.

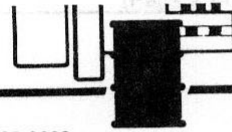
4. Bus 44

This test presents wear metals for both the engine and transmission. After QMI, the engine experienced a 51% reduction in wear metals, and the transmission experienced a 40% reduction in wear metals.

5. Van 152

After QMI, this engine experienced a 59% reduction in wear metals.

* A full copy of the Sequence III E report is available upon request, permitting inclusion of the laboratory's name in these notes.



QUANTUM MARKETING, INC. 3606 Craftsman Blvd. Lakeland, FL 33803 (813) 665-3338
FAX: (813) 667-0848
Wats: (800) 255-8138

Date: July 1, 1992

Subject: QMI Engine Treatment / ASTM Sequence IIIE test shows 88% wear reduction

A QMI Engine Treatment test was completed on June 27, 1992, by one of the most reputable testing laboratories in the U.S. The test is the American Society for Testing and Materials (ASTM) Sequence IIIE, designed to place demands on engine lubrication similar to "pulling a trailer across the desert at high speed". An engine is run under heavy load with oil temperature maintained at a high 300°F (149°C). After the test run, camshaft lobes and valve lifters are measured for wear. Also, the oil is analyzed to show viscosity increase, and parts are examined for sludge, varnish and ring land deposits.

QMI Engine Treatment brought an 88% reduction in wear rates. QMI also demonstrated product safety by passing all viscosity, varnish and deposit tests. The QMI test is registered with the Chemical Manufacturer's Association (CMA), and meets their standards. The CMA number for this test is: QM-ETSR692101-A-1-IIIE-1-SR-76.

Test information:

Sequence IIIE is part of the program to determine API's SG Service Classification and several Military Specification qualifications. Reference oils are used to correlate the performance seen in the Sequence IIIE test to the performance of lubricants in vehicles used in severe field conditions. The ASTM maintains statistics on the performance level of each reference oil, establishing 95% confidence bands and industry average performances.

The test engine is a 1986 231 C.I.D. Buick V-6 gasoline engine especially equipped for test monitoring purposes. The reference oil blended with QMI for this test is Reference Oil 402, chosen because it is the reference oil required by the US Army's "Automotive Engine Oil Additive Test Requirements" for Oxidation and Wear Tests. Test oil blend ratio was 20% QMI Engine Treatment to 80% Reference Oil 402.

Wear Results:

Our primary interest is wear results. The following sheet records "Valve Lifter and Camshaft Wear Data". All wear figures are in microns. (See CMA number for QMI test in upper right corner.)

1. The first column lists the camshaft lobe and valve lifter numbers.
2. The second column gives camshaft lobe wear figures. Notice that all camshaft lobes except 4 and 10 showed no wear.

(Continued on page 2)

Your first source



MEMBER



ASMMA

Page 2

(Wear Results continued)

3. The third column gives valve lifter wear figures. Notice that valve lifters 2, 3, 10 and 12 showed no wear. (Motorists typically experience significant valve lifter wear, requiring valve adjustments, hydraulic valve lifters, etc.)
4. The fourth column shows combined camshaft lobe and valve lifter wear. Notice that 2, 3, and 12 showed no wear for either camshaft lobes or valve lifters.

The net result of the wear test is the figure at the extreme lower right, which gives the average combined camshaft lobe and valve lifter wear. **The "mean" (average) wear for acceptable performance of Reference Oil 402 is 33.9 microns.** (See following "Current Statistics, Reference Oil 402" sheet.) **With QMI Engine Treatment, the average wear was 4.0 microns. Compared to the average wear figure for this reference oil, QMI brought an 88% reduction in wear rates.**

Other Test Results:

QMI test results fell well within the normal performance range for Reference Oil 402, demonstrating QMI safety under demanding conditions. QMI Engine Treatment proved safe in all categories, including viscosity increase, sludge, varnish, oil ring land deposits, cam and lifter wear, rod bearing weight loss, scuffing, oil consumption, rings plugged, stuck or sluggish, and stuck lifters.

If desired, a copy of the full laboratory test report can be forwarded.

Sincerely,



Owen Heatwole
VP, Technical Services

Enclosures

SEQUENCE IIIE

VALVE LIFTER AND CAMSHAFT WEAR DATA

(All Measurements, micrometers)

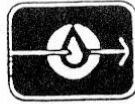
Client Oil Code: QM-ETSR692101-A-1 Test No.: IIIE-76-4-970

SwRI Code: LO-56456

<u>Number</u>	<u>Camshaft Lobe</u>	<u>Valve Lifter</u>	<u>Combined Lifter & Cam Lobe Wear</u>
1	0	5	5
2	0	0	0
3	0	0	0
4	8	3	11
5	0	5	5
6	0	3	3
7	0	3	3
8	0	5	5
9	0	3	3
10	5	0	5
11	0	8	8
12	0	0	0
<hr/>			
Maximum	8	8	11
Minimum	0	0	0
Average	1.1	2.9	4.0 *

CURRENT STATISTICS
REFERENCE OIL 402

PARAMETER	MEAN	STANDARD DEVIATION	ACCEPTANCE BANDS
AVERAGE PISTON VARNISH	8.90	0.220	8.51-9.29
AVERAGE ENGINE SLUDGE	9.39		9.18-9.55
MAX CAMSHAFT + LIFTER WEAR	90		12-**
HOURS TO 375% VISCOSITY	61.2	7.19	48.6-73.7
*AVG CAMSHAFT +LIFTER WEAR	33.9		7.8-147.8
OIL RING LAND DEPOSIT	6.71	1.050	4.87-8.56



QMI Test Data Sheet #2

No 01710

Paid

5074

OIL ANALYSIS REPORT

(from a major Florida based utility)

MODEL	
UNIT/SERIAL NO.	
DATE SAMPLE TAKEN/REC'D	11-8
CUSTOMER PO#/PHONE	P315629
STD	PM CASH

	OIL SAMPLE INFORMATION				ATOMIC ABSORPTION ANALYSIS						PHYSICAL ANALYSIS			INFRARED ANALYSIS			
	Compartment	Service Miles Pending	Hours or Miles on Oil	Oil Mils up Oil	Lead	Silicon (PPM)	Alum.	Chrom.	Iron	Copper	Water	Fuel Oil	VIS SAE	% Allow Soot	% Allow CO2	% Allow Sulphur	% Allow Nit
1)B	YA200 Eng	w/QMI			15	7	5	0	54	2	N	N	30				
	RECOMMENDATION <i>Compartment wear appears normal</i>																
1)A	YA200 Eng	without QMI + treatment			29	11	10	2	77	5	N	N	30				
	RECOMMENDATION <i>Lead and silicon are slightly high - Resample after 50 hours</i>																
2)B	Snapper Eng	w/QMI			15	6	5	0	52	1	N	N	30				
	RECOMMENDATION <i>compartment wear appears normal</i>																
2)A	Snapper Eng	without QMI + treatment			46	8	9	2	60	2	N	N	30				
	RECOMMENDATION <i>Lead is high - Resample after 50 hours</i>																
	RECOMMENDATION																

NOTE: Oil Analysis shows wear rates.
 (A sample of crankcase oil is taken at oil change. This sample is analyzed at a laboratory where measurement of wear metal particles suspended in the oil is accomplished using an emissions spectrometer. A lab technician then records the "atomic absorption analysis", or wear metals, in an Oil Analysis Report, which is sent to the customer.)

The above Oil Analysis Report is from two engines, numbers 1) and 2), and shows metal wear rates A) before QMI ENGINE TREATMENT and B) after QMI ENGINE TREATMENT.

See "atomic absorption analysis" columns above.
 Notice wear rates for each metal A) "without QMI" and B) "with QMI".
 Especially notice Chromium (piston rings) reduced 100%. [Silicon (dirt) is not a metal.]

AVERAGE WEAR REDUCTION WITH QMI ENGINE TREATMENT IS 54.5%.

BUS 224
 - 1988 Ford, 370 engine
 OIL SAMPLES

FIRST OIL SAMPLE TAKEN MARCH 12, 1990
 MILEAGE 38,824

SECOND OIL SAMPLE TAKEN APRIL 2, 1990
 MILEAGE 40,807

	✓ IRON	✓ CHROMIUM	✓ LEAD	✓ COPPER	✓ TIN
1ST TEST	38	3	23	7	10
2ND TEST	17	1	7	4	9
	✓ ALUMINUM	✓ NICKEL	✓ SILVER	MANGANESE	
	7	2	0	4	
	6	2	0	2	
	SILICON	BORON	SODIUM	MAGNESIUM	
	7	24	50	145	
	5	1	36	23	
	CALCIUM	BARIUM	PHOSPHORUS	ZINC	
	2073	1	1228	1443	
	1943	1	1094	1316	
	MOLYBDENUM	ANTIMONY			
	94	0			
	112	0			
	FLASH	FUEL	VIS 40 C	VIS 100 C	
	410+	(1	NA	12.8	
	300+	(1	NA	13.2	
	WATER	SOLIDS	GLYCOL		
	0	TR	NEG		
	0	0.2	NEG		

BUS 44

1968 INTERNATIONAL - 345 engine

OIL SAMPLES
ENGINE AND TRANSMISSIONFIRST OIL SAMPLE TAKEN MARCH 3, 1990 - MILEAGE - 66,885.7
SECOND OIL SAMPLE TAKEN APRIL 5, 1990 - MILEAGE - 67,305.0

	✓ IRON	✓ CHROMIUM	✓ LEAD	✓ COPPER	✓ TIN
ENGINE					
1ST TEST	40	4	166	9	15
2ND TEST	9	1	24	5	6
TRANS.					
1ST TEST	236	2	1	11	6
2ND TEST	67	1	4	2	0
	✓ ALUMINUM	✓ NICKEL	✓ SILVER	MANGANESE	
ENGINE					
1ST TEST	3	3	0	7	
2ND TEST	3	1	0	2	
TRANS.					
1ST TEST	9	3	0	4	
2ND TEST	4	1	0	1	
	SILICON	BORON	SODIUM	MAGNESIUM	
ENGINE					
1ST TEST	7	5	88	40	
2ND TEST	5	26	45	169	
TRANS.					
1ST TEST	167	8	3	3	
2ND TEST	25	3	3	2	
	CALCIUM	BARIUM	PHOSPHORUS	ZINC	
ENGINE					
1ST TEST	2909	2	1617	1764	
2ND TEST	1868	1	1163	1376	
TRANS.					
1ST TEST	15	3	1011	33	
2ND TEST	7	1	736	13	
	MOLYBDENUM	ANTIMONY	FLASH	FUEL	
ENGINE					
1ST TEST	92	0	300+	(1	
2ND TEST	80	0	300+	(1	
TRANS.					
1ST TEST	0	0	NA	NA	
2ND TEST	0	0	NA	NA	

VAN 152
 1986 FORD VAN - ENGINE 300 4.9L
 LICENSE 504-772

OIL SAMPLES

FIRST OIL SAMPLE TAKEN MARCH 5, 1990
 MILEAGE 68,588.5

SECOND OIL SAMPLE TAKEN APRIL 5, 1990
 MILEAGE 70,059.0

	✓ IRON	✓ CHROMIUM	✓ LEAD	✓ COPPER	✓ TIN
1ST TEST	312	3	19	7	6
2ND TEST	26	2	6	5	5
	✓ ALUMINUM	✓ NICKEL	✓ SILVER	MANGANESE	
	14	6	0	7	
	8	0	0	1	
	SILICON	BORON	SODIUM	MAGNESIUM	
	118	3	38	23	
	5	24	31	120	
	CALCIUM	BARIUM	PHOSPHORUS	ZINC	
	1301	7	1276	913	
	1637	1	1144	1333	
	MOLYBDENUM	ANTIMONY			
	23	0			
	72	0			
	FLASH	FUEL	VIS 40 C	VIS 100 C	
	300+	(1	NA	14.4	
				12.6	
	WATER	SOLIDS	GLYCOL		
	0	0.4	NEG		
		0.1			

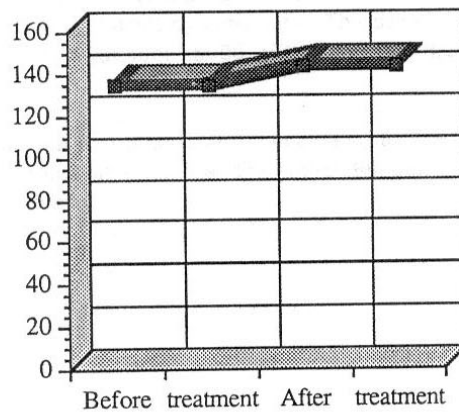


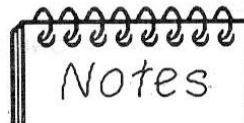
Improved Performance

- 6. Cummins Atlantic = 20 HP
- 7. United Parcel Service = 5 HP
- 8. Bobby Unser = 7 HP
- 9. Sears = 5 HP

Average Horsepower Increase

135 HP to 144 HP (9 HP)





Improved Performance

QMI Engine Treatment improves performance by reducing friction. Since friction robs power from lubricated systems, QMI reduced friction brings a reduction in power loss, and a corresponding improvement in performance.

The following Test Data Sheets document QMI improved performance.

6. Cummins Atlantic

This is the result of a chassis dynamometer test performed by Cummins Atlantic, Inc., utilizing an LTA-10 (turbocharged, aftercooled) Cummins diesel engine. This engine is a very popular power plant for trucks and "semis" in the transportation industry. The "Total Wheel HP" (horsepower) increased from 260 HP before QMI treatment to 280 HP after QMI treatment, and increase of 20 horsepower.

7. United Parcel Service—test conducted by Ridge Vo-Tech Center

This is the result of another chassis dynamometer test. The horsepower increased from 102 hp before QMI to 107 hp after QMI treatment, an increase of 5 horsepower.

8. Bobby Unser—test conducted by Robby Unser

This test also utilized a chassis dynamometer. The horsepower increased from 90 horsepower before QMI treatment in row #1, to 97 horsepower after QMI treatment in row 4, an increase of 7 horsepower. (Row 5 presents an additional increase in horsepower after the addition of QMI Fuel Treatment to the fuel tank.)

9. Sears—test conducted by Lakeland Auto Tune

This test also utilized a chassis dynamometer. The dynamic horsepower increased from 90 HP before QMI treatment to 95 HP after QMI treatment, an increase of 5 horsepower.

Also, note on this test that after QMI the engine oil temperature dropped from 185°F to 160°F, a 25°F reduction, and the differential temperature dropped from 140°F to 120°F, a 20°F reduction.

CUMMINS ATLANTIC, INC.

DYNAMOMETER REPORT
CHASSIS/ENGINE

DATE: 8-30-91

CUSTOMER: PYA

ENGINE MODEL: LTA-10 ENGINE S/N: 34831224 RO #: 3635

TRUCK UNIT #: 100 CPL #: 1344 FIP CODE: X22A

SPECIFICATIONS (PER FUEL PUMP CODE):

Rated Horsepower: 300 @ 1900 RPM

Engine Fuel Pressure: 166-184 Engine Fuel Rate: 95-99 PPH

Intake Mfld Pressure: 20-24 AFC No Air Pressure: _____ @ _____ RPM

	<i>Before treatment</i>	<i>After treatment Run 12/30/91</i>		
*RPM - Dash	1900	1900		
RPM - Panel/Engine				
Total Wheel HP	*260	*280		
MPH Truck	60	60	CCA Before	400
MPH Dyno	65	65	CCA After	325
*Fuel Pressure	170	175		
*In. Mfld. Press.	20	22		
*Fuel Rate (PPH)	100	100		
Water Temperature	190	185		
Oil Pressure	45	40		
Oil Temp. (Opt.)				
Crankcase Press.				
No Air Rail PSI	-- With AFC line disconnected. ...			

... RECORD FOLLOWING AT RATED HORSEPOWER AND RPM (Optional): ...

Intake Rest.: _____ Exhaust Rest.: _____ Fuel Rest. In: _____ Out: _____

Mechanic: 422 J.P. Lacy Clock #: _____

Branch: Col.

*Necessary for a meaningful power check (readings at Rated Speed)

Oil Temp. 189
Trans Temp. 155
Return Temp. 140

RIDGE VO-TECH CENTER
7700 STATE ROAD 544
WINTER HAVEN, FL 33881
PHONE #(813)299-2512

Test Conducted by: Ridge-Vo-Tech Automotive Lab
Technician - Reginald Flowers

Company: United Parcel Service
Truck #505902
License Plate #H34665 FL
Vin #1GDB4T1TXHV502225
Milage 95,286

Lubricant: QMI PTFE Engine Treatment and Gear Treatment

Test #1 Dyno - Horse power Test Before Treatment

4/17/91 3rd gear - 30 mph - 102 hp

Test ,#2 Dyno - Horsepower Test After Treatment

4/18/91 3rd gear - 30 mph - 107 hp

Ridge Vo-Tech Automotive Lab

Lab Technician: Reginald O. Flowers
Reginald Flowers

ROBBY UNSER

QMI Test Data Sheet #8

806 LAGUAYRA, N.E.
ALBUQUERQUE, NEW MEXICO 87108
505-268-0478

Chassis Dynamometer Test

Dynamometer operator: Robby Unser

Date: February 23, 1990

Vehicle: 1990 GMC 4x4 pick-up truck Model: K-1500 Engine: 350 Odometer: 3,9671 miles

Purpose of Test: To obtain horsepower & temperature readings before & after application of:

- 1) QMI Engine Treatment to engine, 2) QMI Gear Treatment to transmission, transfer case & differential
- 3) QMI Fuel Treatment to fuel tank.

# Dyno Reading	Dyno Miles	Engine RPMs	Engine Horsepower	Transmission Temperature	Transfer Case Temperature	Differential Temperature
1.	0	3,600	90 HP	243°F	165°F	200°F
Notes: Brought vehicle to full power operating temperature with no QMI.						
2.	18	3,600	91 HP	235°F	155°F	195°F
Notes: Applied QMI while continuing dynamometer runs.						
3.	35	3,600	96 HP	213°F	138°F	165°F
Notes: Continued dynamometer runs, checking horsepower & temperature.						
4.	38	3,600	97 HP	193°F	128°F	138°F
Notes: Continued dynamometer runs, checking horsepower & temperature.						
5.	40 +	3,600	100 HP			
Notes: Applied QMI Fuel Treatment to fuel tank, checking horsepower.						
Results			+ 10 HP	- 50°F	- 37°F	- 62°F
Notes: Difference in horsepower & temperature after application of QMI products.						

Signed (Dynamometer Operator):





2202 South Florida Avenue
Lakeland, Florida 33803
(813) 686-1802

One block north of
Southgate Shopping Center

Date: July 3, 1990

To: Sears Service Division

Re: Chassis Dynamometer Horsepower and Temperature Test
Before and After Treatment with QMI

Vehicle tested: 1990 Ford van, 4.9 liter 6 cyl. gasoline engine with automatic transmission
3,916 miles on vehicle

Preparation: Oil changed and temperature gauges installed in engine and differential
Vehicle driven 23 miles to bring to operating temperatures

Run Before QMI Treatment dynamometer test (see results below)

Preparation: Engine and differential treated with QMI
Vehicle driven same course as above

Run After QMI Treatment dynamometer test (see results below)

Results

<u>Before QMI Treatment</u>	<u>After QMI Treatment</u>	<u>Reduction</u>
Dynamic horsepower - 90 HP	Dynamic horsepower - 95 HP	
- dynamometer speed - 50 MPH	- dynamometer speed - 50 MPH	
- dynamometer RPMs - 1800	- dynamometer RPMs - 1800	
Engine oil temp. - 185°F	Engine oil temp. - 160°F	
Differential temp. - 140°F	Differential temp. - 120°F	
- outside temperature - 85°F	- outside temperature - 90°F	

Summary

Horsepower increased by 5 HP after treating with QMI
Oil temperature dropped 25°F (engine) and 20°F (differential)
- outside temperature increased 5°F

Bill Dale

Owner

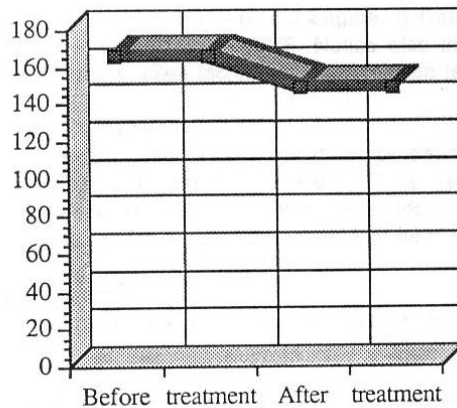


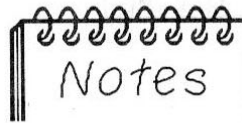
Reduced Heat

- 10. Lykes Bros. (average) = 32°F
- 11. Detroit Diesel 8V92 = 20°F
- 12. Ingersoll-Rand compressor = 2.5°F
- 13. Ingersoll-Rand pump = 9°F
- 14. Farrell pump = 15°F

Average Temperature Reduction

166°F to 150°F (16°F)





Reduced Heat

QMI brings a reduction in friction related heat. It is important to note that lubricated systems often encounter heat from non-friction sources. For example, most heat in engines is generated by internal combustion, which is removed by the cooling system. Most heat in compressors is generated by the compression process, often removed by forced air or coolant.

Internal combustion and compression generated heat are not reduced by QMI treatment. However, QMI often brings significant reduction in friction related heat, which can be shown by measurement of oil temperatures.

The following Test Data Sheets document reduced friction related heat.

10. Lykes Bros.

This test includes oil temperature measurements on a TWS Ford Tractor, a popular power source for the agriculture industry. The temperature columns are A) "Roller Before", pulling a roller before QMI, B) "10 ft. Disc. After", pulling a 10 ft. disc after QMI, and C) "Last Test", pulling a 10 ft. disc after QMI. Temperatures were reduced in spite of increased work load.

Hydraulic Oil Temperature is especially significant because the hydraulic sump supplies lubricant for the hydraulic system, the transmission and the differential. Along with engine and power steering oil temperature reduction, fuel consumption reduction also brought a significant cost savings.

Test Data Sheets 11, 12, 13 and 14 were conducted by major Venezuelan oil producers in cooperation with QMI Venezuela.

11. Detroit Diesel

This test utilized a popular marine diesel engine, a Detroit Diesel 8V92N. After QMI, the oil temperature was reduced by 20°F. Notice also that after QMI the compression increased on six cylinders. (See Increased Compression test data sheets.)

12. Ingersoll-Rand Compressor

After QMI, this Ingersoll-Rand Compressor reciprocating compressor experienced a 2.5°F reduction in operating temperature. This test illustrates the variables impacting temperature reduction; in this case most heat is generated from the compression process, and a smaller percentage of heat is friction related.

13. Ingersoll-Rand pump

After QMI, this Ingersoll-Rand rotary pump experienced a 9°F temperature reduction.

14. Ferrell Pump

After QMI, this Ferrell Pump experienced a 15°F temperature reduction.

LYKES BROS. RANCH DIVISION

TWS FORD TRACTOR

	<u>Roller Before</u>	<u>10ft. Disc. After</u>	<u>Last Test</u>
Outside Air Temp.=	85°	85°	94°
✓ Hydraulic Oil Temp.=	157°	125°	130° = 27°
✓ Engine Oil Temp.=	178°	171°	152° = 26°
✓ Power Steering Oil Temp.=	166°	157°	123° = 43°
Fan Air Temp.=	120°	114°	121° ^{32°} _{average}
RPM=	800-850	950-1000	950-1000
Fuel Consumption Gal. Per Hour	4.73GPH		3.45GPH

27° Decrease in fuel consumption. \$500 less cost of treatment savings per 1000 hrs. of use at 75¢ Gal. Diesel.

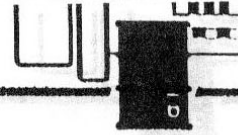
Present:

- Chip Lewis - Farmco USA
- Terry Marone - Lykes
- Dale Willis - QMI
- Shane Willis - QMI



EQUIP CONTROL	MARA 21
EQUIP TYPE	DIESEL ENGINE 8V92N
MANUFACTURER	DETROIT DIESEL MARINE
WORKING HOURS	3750 APROX.
SIZE	8 CYLINDER
OIL CAPACITY	27 QUART
OPERATING TEMP	165 F ^o . 185 F ^o
OIL PREASSURE	50 PSI TO 70 PSI
COMPRESSION RATION	MIN 500 PSI MAX 550 PSI

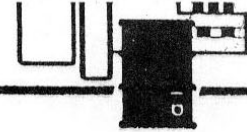
COMPRESSION	BEFORE	AFTER	VARIANCE
1 LEFT HAND	490 PSI	500 PSI	10 PSI
2 LEFT HAND	490 PSI	500 PSI	10 PSI
3 LEFT HAND	460 PSI	500 PSI	40 PSI
4 LEFT HAND	460 PSI	460 PSI	NONE
1 RIGHT HAND	480 PSI	480 PSI	NONE
2 RIGHT HAND	465 PSI	480 PSI	15 PSI
3 RIGHT HAND	460 PSI	460 PSI	NONE
4 RIGHT HAND	460 PSI	460 PSI	NONE
OPERATING TEMP	185 F ^o	165 F ^o	20 F ^o
OIL PREASSURE	42 PSI	55 PSI	13 PSI


BEFORE TREATMENT

EQUIP CONTROL N°	1 STA. ROSA
EQUIP TYPE	ALTERNATIVE COMPRESSOR (GAS)
MANUFACTURER	INJERSOLL RAND
MODEL N°	86 P215
OPERATING TEMP	155 F°
OIL TEMP	130 F°
OIL PRESSURE	38
OPERATING RPM	400 RPM
WATER TEMP	130 F°

TREATMENT: COMPRESSOR
AFTER TREATMENT

	1 CK	2 CK	3 CK	VARIANCE
OPERATING TEMP	155 F°	153 F°	152.5 F°	2.5 F°
OIL PRESSURE	38 PSI	39 PSI	39 PSI	1 PSI
WATER TEMP	130 F°	125 F°	126 F°	4 F°



BEFORE TREATMENT

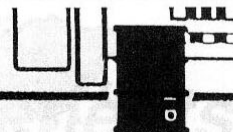
EQUIP CONTROL N° 301 BP
EQUIP TYPE PUMP
MANUFACTURER INGERSOLL RAND
MODEL N° 05200
OIL CAPACITY 13 QUART OIL
OPERATING RPM 12932 TO 13600 RPM
OPERATING AMP 58 AMP
OPERATING TEMP 149 F°

TREATMENT: 1 QUART HYDRAULIC

AFTER TREATMENT

	1 CK	2 CK	3 CK	VARIANCE
OPERATING AMP	58 AMP	57.3 AMP	57 AMP	1 AMP
OPERATING TEMP	149 F°	142 F°	140 F°	9 F° TEMP

NOTE: THE EQUIPMENT IT REDUCED IT'S VIBRATIONS BY 25% RESULTING IN A BETTER BALANCED EQUIP.



BEFORE TREATMENT

EQUIP CONTROL N°	2 PATIO TANQUES
EQUIP TYPE	PUMP
MANUFACTURER	FARRELL
MODEL	JD 346
SIZE	2410
HORSE POWER	370 HP
OPERATING RPM	3553 RPM
OIL PRESSURE	50 PSI
OPERATING TEMP	175 Fº

TREATMENT: 90 WT GEAR TREATMENT

AFTER TREATMENT

	1 CK	2 CK	3 CK	VARIANCE
OPERATING TEMP	175 Fº	155 Fº	160 Fº	15 Fº
OIL PRESSURE	50 PSI	57 PSI	56 PSI	6 PSI

NOTE: THE EQUIPMENT REDUCED IT'S NOISE DRASTICALLY AND IT'S VIBRATIONS BY 34% APROX.



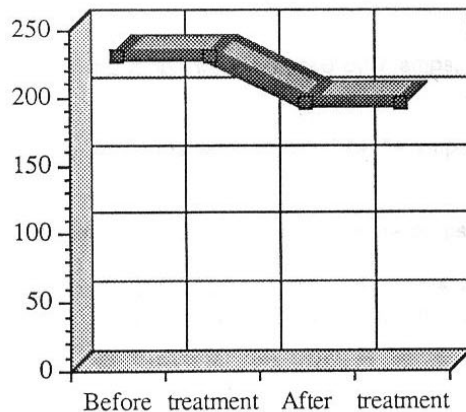
Easier Starting

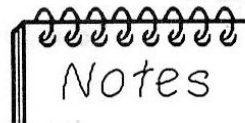
Cold Cranking Amps Reduction

- 15. Cummins Atlantic = 75 amps
- 16. Bus 224, Ford = 7 amps
- 17. Van 152, Ford = 14 amps
- 18. Bus 44, International = 42 amps

Average CCA Reduction

231 amps to 197 amps (34 amps)





Easier Starting

A simple, inexpensive method of demonstrating QMI related friction reduction is through measurement of the amperage drawn by the starter motor to rotate, or "crank", an engine at start-up. These are typically called Cold Cranking Amps, or CCA.

To perform this test, amperage meter tongs are clipped over the line supplying electricity to the starter. The starter is engaged, and the amperage is recorded before and after treatment with QMI. Typically, the reduced friction resulting from QMI treatment will result in reduced Cold Cranking Amps needed to rotate the engine. This demonstrates QMI reduced friction, and results in less drain on the battery, longer life of the starter and easier starting, especially in cold climates.

An exception to this reduction in Cold Cranking Amps may occur when an engine experiences improved compression as a result of QMI treatment. (See "Improved Compression" category notes and test document sheets.) Improved compression will place an increased load on the starter motor, which may negate the reduced Cold Cranking Amps. However, increased compression is of great benefit to the engine, resulting in easier starting, improved performance, better fuel economy and extended overhaul intervals.

The following Test Data Sheets document reduced friction after applying QMI, shown by a reduction in Cold Cranking Amps after treatment.

15. Cummins Atlantic

Notice in the columns to the right, "CCA Before—400" and "CCA After—325". The CCA (Cold Cranking Amps) were reduced by 75 amps, or 19%. (See "Improved Performance" notes for more information on engine.)

Test Data Sheets 16, 17 and 18 are part of an El Paso Independent School District study. "Smart Test" is the name of a computerized test.

16. Bus 224

After QMI, the cranking amps were reduced by 7 amps, or 3.5%.*

17. Van 152

After QMI, the cranking amps were reduced by 14 amps, or 5.8%.*

18. Bus 44

After QMI, the cranking amps were reduced by 42 amps, or 23.9%.

* The lesser reduction in Cold Cranking Amps in Bus 224 and Van 152 are likely due to improvements in compression ratios. (See "Improved Compression" notes and test document sheets 21 and 22.)

CUMMINS ATLANTIC, INC.

DYNAMOMETER REPORT
CHASSIS/ENGINE

DATE: 8-30-91

CUSTOMER: PYA
 ENGINE MODEL: LTA-10 ENGINE S/N: 39831229 RO #: 3635
 TRUCK UNIT #: 100 CPL #: 1344 F/P CODE: X224

SPECIFICATIONS (PER FUEL PUMP CODE):

Rated Horsepower: 300 @ 1900 RPM
 Engine Fuel Pressure: 166-189 Engine Fuel Rate: 95-99 PPH
 Intake Mfld Pressure: 20-29 AFC No Air Pressure: _____ @ _____ RPM

	Before Treatment	After Treatment Run 12/30/91	
*RPM - Dash	1900	1900	
RPM - Panel/Engine			
Total Wheel HP	*260	*280	* CCA Before 400 CCA After 325
MPH Truck	60	60	
MPH Dyno	65	65	
*Fuel Pressure	170	175	
*In. Mfld. Press.	20	22	
*Fuel Rate (PPH)	100	100	
Water Temperature	190	185	
Oil Pressure	45	40	
Oil Temp. (Opt.)			
Crankcase Press.			
No Air Rail PSI	-- With AFC line disconnected. --		

... RECORD FOLLOWING AT RATED HORSEPOWER AND RPM (Optional): ...

Intake Rest.: _____ Exhaust Rest.: _____ Fuel Rest. In: _____ Out: _____

Mechanic: 422 J.P. Lacy Clock #: _____

Branch: Col.

*Necessary for a meaningful power check (readings at Rated Speed)

Oil Temp. 189
 Trans Temp. 155
 Return Temp. 140

BUS 224

SMART TEST

CRANKING AMPS

FIRST TEST TAKEN MARCH 1, 1990
MILEAGE 38,933.7

SECOND TEST TAKEN APRIL 2, 1990
MILEAGE 40,807.0

CYLINDERS	1	2	3	4	5	6	7	8
1ST TEST	205	206	206	207	207	205	202	204
2ND TEST	199	198	201	199	195	194	198	200

RESULTS: IT TOOK 3.5% LESS CRANKING AMPS TO TURN THIS ENGINE OVER AFTER QMI ENGINE TREATMENT WAS ADDED AND THE VEHICLE DRIVEN FOR 1,873.3 MILES. TECHNICIAN - AL FRANCO

RPM DROP PER CYLINDER
(DATES AND MILEAGE SAME AS ABOVE)

CYLINDERS	1	2	3	4	5	6	7	8
1ST TEST	7.6	5.9	4.9	5.5	7.3	5.1	6.2	6.2
2ND TEST	5.5	5.4	5.1	4.5	8.5	3.2	5.9	6.4

RESULTS: THERE WAS 9% AVERAGE PER CYLINDER LESS DROP IN RPM PER CYLINDER WHILE RUNNING DUE TO THE QMI TREATMENT MAKING THE ENGINE FRICTION FREE.

VAN 152
1986 FORD VAN - ENGINE 300 4.9 L

SMART TEST

CRANKING AMPS

FIRST TEST TAKEN MARCH 2, 1990
MILEAGE 68,530

SECOND TEST TAKEN APRIL 2, 1990
MILEAGE 70,059

CYLINDERS	1	2	3	4	5	6
1ST TEST	145	147	149	148	147	149
2ND TEST	139	138	138	139	141	138

RESULTS: IT TOOK 5.8% LESS CRANKING AMPS TO TURN THIS ENGINE OVER FOR STARTING AFTER QMI ENGINE TREATMENT HAD BEEN ADDED AND THE VEHICLE HAD RUN FOR 1529 MILES

RPM DROP PER CYLINDER
(DATES AND MILEAGE SAME AS ABOVE)

CYLINDERS	1	2	3	4	5	6
1ST TEST	9.8	6.6	12.3	9.6	9.6	9.7
2ND TEST	7.9	8.9	8.8	8.2	6.7	8.3

RESULTS: THERE WAS A 15.2% LESS DROP IN RPM WHILE RUNNING DUE TO THE QMI TREATMENT. THE ENGINE HAS LESS FRICTION AND THAT MEANS LESS WEAR.

BUS 44
 1968 INTERNATIONAL
 SMART TEST #1

FIRST TEST TAKEN MARCH 2, 1990
 MILEAGE 66,856.9

SECOND TEST TAKEN APRIL 3, 1990
 MILEAGE 67,305

CRANKING AMPS:

CYLINDERS	1	2	3	4	5	6	7	8
1ST TEST	177	177	175	174	174	169	182	178 = (75)
2ND TEST	142	142	127	128	127	130	135	139 = (13) (12.5%)

RESULTS: IT TOOK 23.9% LESS CRANKING AMPS TO TURN THIS ENGINE OVER AFTER QMI ENGINE TREATMENT HAD BEEN ADDED AND RUN FOR ONLY 449 MILES.

SMART TEST #2

FIRST TEST TAKEN MARCH 2, 1990
 MILEAGE 66,856.9

SECOND TEST TAKEN APRIL 3, 1990
 MILEAGE 67,305

RPM DROP PER CYLINDER

CYLINDERS	1	2	3	4	5	6	7	8
1ST TEST	6.6	5.1	5.6	5.6	4.2	5.9	5.0	6.1
2ND TEST	5.0	5.1	2.7	6.1	4.8	5.4	6.3	6.8

RESULTS: THERE WAS A 4.5% LESS DROP IN RPM PER CYLINDER WHILE RUNNING DUE TO QMI TREATMENT MAKING THE ENGINE FRICTION FREE.

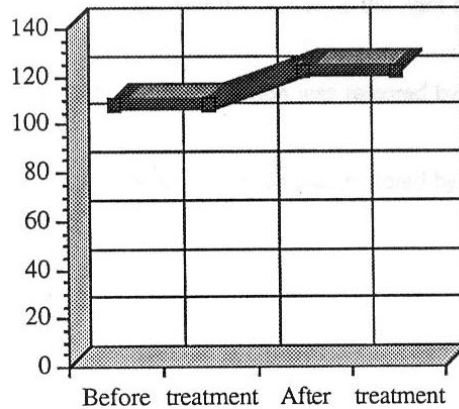


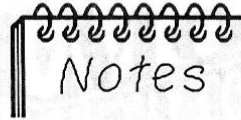
Improved Compression

- 19. KitMo Ford 302 = 29 PSI
- 20. United Parcel Service = 5.8 PSI
- 21. Bus 224, Ford = 14.6 PSI
- 22. Van 152, Ford = 6.5 PSI

Average Compression Increase

108 PSI to 122 PSI (14 PSI)





Improved Compression

In older engines that have begun to lose compression, QMI Engine Treatment often brings an improvement in compression. Older engines begin to lose compression when the piston rings become stuck in the piston ring grooves. This happens when gums, varnish and carbon deposits accumulate in the piston ring grooves. The piston rings become stuck in the grooves, preventing a tight seal against the cylinder walls and causing loss of compression. The QMI Engine Treatment cleaning and treating process helps free the rings so that they seal tightly against the cylinder walls, helping to restore compression. Then, the PTFE treatment helps keep the rings free so that improved compression is maintained. (New engines typically will not show improved compression after QMI because the seal was adequate before QMI.)

The following Test Data Sheets document improved compression after treating with QMI.

19. KitMo Ford 302

This engine had experienced significant loss of compression. After treating with QMI, the compression was restored by an average of 29 PSI (Pounds per Square Inch).

20. United Parcel Service—test performed by Ridge Vo-Tech Center

The before and after tests include two readings, the computer reading (top line, underlined) and the manual reading (lower line) as back-up. We will use the computer reading for our figures. After treating with QMI, the compression was improved by an average of 5.8 PSI.

Test Data Sheets 21 and 22 are part of an El Paso Independent School District study. The figures to the left are before QMI, and the figures to the right are after QMI.

21. Bus 224

After treating with QMI, the compression was restored by an average of 14.6 PSI.

22. Van 152

After treating with QMI, the compression was restored by an average of 6.5 PSI.



2401 N. 8th ST. P.O. BOX 7369 PADUCAH, KY 42002-7369 (502)443-8243

TO WHOM IT MAY CONCERN:

On March 28, 1990, we treated the following Air Compressor with QMI Engine and Fuel Treatment:

Mfg: Grimmer Schmidt
 Model: 125 CFM - Gasoline
 Engine: 8 Cyl. Ford 302 Industrial
 4 Cyl. Compressor
 4 Cyl. Engine
 Hours: 2542.9

COMPRESSION TEST
ON THE 4 ENGINE CYLINDERS

Cyl. #	3/28/90 Before Treatment	3/28/90 30 Min. Running	4/2/90 2 Hrs. Running
5	75	85	95
6	80	90	98
*7	55	73	95
8	<u>70</u>	<u>85</u>	<u>105</u>
	280	343	396
Total % Change		+19%	+41%

Respectfully,
 KIT-MO RENTAL & Supply Co.

G.W. Edwards
 President

* No. 7 Plug was damp with oil and gas before treatment, after treatment and 30 minutes of running, the plug was dry.



Rentals • Sales • Service • Contractors & Industrial Equipment and Supplies



**RIDGE VO-TECH CENTER
7700 STATE ROAD 544
WINTER HAVEN, FL 33881
PHONE #(813)299-2512**

Test Conducted by: Ridge-Vo-Tech Automotive Lab
Technician - Reginald Flowers

Company: United Parcel Service
Truck #505902
License Plate #H34665 FL
Vin #1GDB4T1TXHV502225
Milage 95,286

Lubricant: QMI PTFE Engine Treatment and Gear Treatment

Test #1 Compression Test Before Treatment

4/17/91

Cylinder Reading	1	<u>145</u>	2	<u>125</u>	3	<u>125</u>	4	<u>125</u>	5	<u>130</u>	6	<u>130</u>
Manual		140		126		127		125		132		135

Test #2 Compression Test After Treatment

4/18/91

Cylinder Reading	1	<u>145</u>	2	<u>140</u>	3	<u>125</u>	4	<u>130</u>	5	<u>130</u>	6	<u>145</u>
		140		140		127		132		130		145

BUS 224

1988 FORD BUS

ENGINE 370

LICENSE 541-556

COMPRESSION TESTS

FRONT

MARCH 6, 1990

110	110
110	110
100	100
110	110

MILEAGE 39,139.0

FRONT

APRIL 4, 1990

120	125
124	122
124	122
115	125

MILEAGE 40,807.0

RESULTS: THIS BUS EXPERIENCED A GAIN OF 3.54% INCREASE PER CYLINDER IN 1,668 MILES. THIS WILL CONTINUE TO INCREASE WITH MILEAGE.

VAN 152
1986 FORD VAN - ENGINE 300 4.9 L
STRAIGHT SIX

COMPRESSION TEST

FIRST TEST

MARCH 5, 1990
MILES 68,611.2

1 - 130
2 - 130
3 - 130
4 - 125
5 - 125
6 - 126

SECOND TEST

APRIL 3, 1990
MILES 71,045

1 - 135
2 - 135
3 - 135
4 - 134
5 - 130
6 - 136

RESULTS: THIS VAN EXPERIENCED AN AVERAGE GAIN OF
5.1% OF COMPRESSION PER CYLINDER IN
2,433.4 MILES



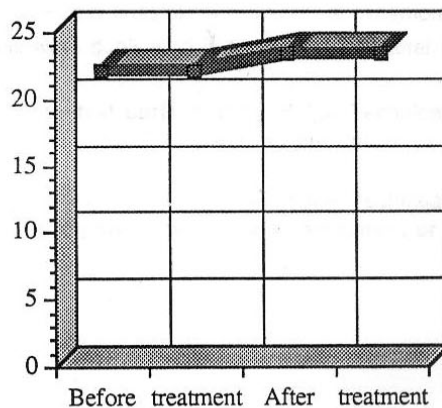
Improved Fuel Economy

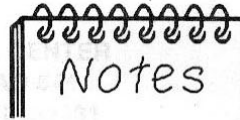
23. Ford 400 cu. in. engine = 1.2 MPG / 5%

24. Ford 360 cu. in. engine = 1.4 MPG / 6.4%

Average Fuel Mileage Increase

22.2 MPG to 23.5 (1.3 MPG / 5.6%)





Improved Fuel Economy

By reducing power-robbing friction, QMI helps engines deliver power more efficiently, thereby improving fuel economy.

Consumer fuel mileage is effected by numerous variables such as fuel quality, vehicle speed, vehicle load, driver's manners, wind, temperature, humidity (oxygen density), rain, etc. Therefore, fuel mileage may fluctuate in spite of improves efficiencies. Elimination of variables is necessary to obtain accurate fuel economy test results.

Also, since only a small portion of fuel consumption is related to friction, QMI Engine Treatment's improvement usually will not exceed several miles-per-gallon. The exception is dramatically improved fuel economy related to increased compression after QMI treatment. (See notes on "Improved Compression" category.)

Although variables effect fuel mileage, QMI brings improved efficiency to all engines. QMI Engine Treatment will more than pay for itself in improved fuel economy alone.

The following Test Data Sheets document improved fuel economy after QMI treatment. These tests eliminated variables to every extent possible with use of a dynamometer and a certified marked fuel container. All conditions were duplicated in the before and after QMI tests.

- 23. **Ford 400 cu. in. engine**—test performed by Ridge Technical Center
After QMI, fuel economy improved by 1.2 miles per gallon, or 5%.
- 24. **Ford 360 cu. in. engine**—test performed by Ridge Technical Center
After QMI, fuel economy improved by 1.4 miles per gallon, or 6.4%.

Signed, Leo Thomas

RIDGE TECHNICAL CENTER
7700 STATE ROAD 544
WINTER HAVEN, FL 33881
PHONE #(813) 299-2512 or 422-6402

Test conducted by: Ridge Technical Automotive Lab Technician, Reginald Flowers

Company: QMI

Test Vehicle: 1981 Ford 1/2 Ton Pick-up 400 Cu In. Engine
Mileage 124,390.7

Lubricant: QMI Engine Treatment W/PTFE and
QMI Gear Treatment 90 wt. W/PTFE

Areas Treated: Engine, Manual Transmission and Rear End

NOTE: The basis for the pre- and post-treatment tests was to determine whether or not the QMI Engine Treatment enhances fuel economy. All tests were performed using a certified marked fuel container (1/2). All tests were conducted on our Road-O-Matic XI Sun Dynamometer. Conditions and drivers were duplicated during both the pre- and post-treatment of the vehicle. Engine was run and checked for obvious problem with none found. Vehicle was then brought up to operating temperature (approximately 200 degrees) and vehicle fuel lines to fuel tank disconnected and test container attached. Carburetor remained primed and the test began. The vehicle was operated up to 30 mph held at that speed until all fuel from the metered container was empty and engine shut off. Here are the results.

Test #1, PreTest: April 5, 1992

Mileage - Start 125,390.7
Finish 125,402.6

Results: Traveled 11.9 miles on 1/2 gallon of fuel.

Test #2, Post-Test: April 6, 1992

Mileage - Start 125,438.5
Finish 125,451.0

Results: Traveled 12.5 miles on 1/2 gallon of fuel. An increase of .6 miles per 1/2 gallon or 1.2 miles per gallon.

Signed, Lab Technician: Reginald O. Flowers

RIDGE TECHNICAL CENTER
7700 STATE ROAD 544
WINTER HAVEN, FL 33881
PHONE #(813) 299-2512 or 422-6402

Test conducted by: Ridge Technical Automotive Lab Technician, Reginald Flowers

Company: QMI

Test Vehicle: 1967 Ford 1/2 Ton Pick-up 360 Cu In. Engine
Mileage 117,245.7

Lubricant: QMI Engine Treatment W/PTFE and
QMI Gear Treatment 90 wt. W/PTFE

Areas Treated: Engine, Manual Transmission and Rear End

NOTE: The basis for the pre- and post-treatment tests was to determine whether or not the QMI Engine Treatment enhances fuel economy. All tests were performed using a certified marked fuel container (1/2). All tests were conducted on our Road-O-Matic XI Sun Dynamometer. Conditions and drivers were duplicated during both the pre- and post-treatment of the vehicle. Engine was run and checked for obvious problem with none found. Vehicle was then brought up to operating temperature (approximately 200 degrees) and vehicle fuel lines to fuel tank disconnected and test fuel container attached. Carburetor remained primed and the Test began. The vehicle was operated up to 30 mph held at that speed until all fuel from the metered container was empty and engine shut off. Here are the results.

Test #1, Pre-Test: April 5, 1992

Mileage - Start 117,245.7
Finish 117,256.0

Results: Traveled 10.3 miles on 1/2 gallons of fuel.

Test #2, Post-Test: April 6, 1992

Mileage - Start 117,309.6
Finish 117,320.6

Results: Traveled 11.0 miles on 1/2 gallon of fuel. An increase of .7 miles per 1/2 gallon or 1.4 miles per gallon.

Signed, Lab Technician: _____

Reginald O. Flowers