

PLUMAS COUNTY DEPARTMENT OF PUBLIC WORKS
1834 EAST MAIN, QUINCY, CA 95971-9795 PHONE (530) 283-6268 FAX 283-6323

October 18, 2000

To: Tom Hunter / Director

From: Robert Pettit / Equipment Maintenance Supervisor

Re: Fuel Miser Testing

Tom,

On July 17, 2000, we agreed to begin testing the Fuel Miser XL unit and decided to test the following vehicles: A, B, E, 13, 31, 118. After talking with Mike Manit, we realized that 31 and 118 were not being used enough for our testing purposes. We felt that it would be a waste of time to test these units. I wanted a broad range of testing, with credible results. Mike and I couldn't think of any suitable replacements for these two units within our fleet. I elected to go outside the road department to find suitable replacements. I contacted Martin Byrne, knowing that he is the director for the Plumas County Transit System. Marty thought that it would be a good idea to test the transit busses. He put me in contact with Jason Snow who is the Manager of the Plumas County Transit System. Jason was very cooperative and agreed to test two of their newer busses, #331 and #332. Both units are diesel powered. I installed the Fuel Miser XL on both units August 24, 2000.

As I mentioned before, I wanted a broad range with credible results. Joe Blackwell and I decided to test two other County units. These would be stationary units, where we could eliminate all the variables and deliver credible results. We used # 215 Ferguson Roller with a new 4-53 Detroit diesel and a 200 KW Generator set from our asphalt plant. This unit has a new D343 Cat 425 HP turbo charged and after cooled diesel engine.

Briefly talking to other people about our testing, they became very interested and wanted to be involved in our testing. I agreed to test three non-county vehicles. I felt that these test results would be helpful to our overall test results. The three vehicles that I agreed to test, were:

1. Joe Costa, who is the store Manager for Cashman Equipment in Susanville, Ca. Joe has a new 2000 GMC 2500 4X4 with the 6.0 L Vortec gasoline engine. Joe does a lot of driving. He covers Lassen, Plumas and Sierra Counties as well as Reno and Lake Tahoe. Joe installed the XL on 8/23/00.
2. Gerald Thompson, who is the outside sales representative for North Valley Diesel in Yuba City, Ca. They are our Detroit Diesel / Allison dealer. Jerry has a 1998 GMC Sonoma Extra Cab pick up with the 4 CYL engine and 5 speed manual transmission. Jerry primarily covers the Sacramento Valley and Plumas County. Jerry also does a lot of driving. He has kept track of his fuel mileage on his truck from day one. Jerry installed the XL unit on his truck on August 19, 2000.
3. Jason Glover, who is a good friend of mine, has a delivery contract with the US Mail. He transports mail between Quincy and Chester, Ca. Jason Has a new 2000 Chev 2500 4X4 pickup with the 6.0L Vortec gasoline engine. He also has a large cargo box mounted on the truck. I installed the XL unit on Jason's truck on 8/19/00. He too keeps good records on his fuel mileage.

I believe that the vehicles and the equipment we put together for this Fuel Miser testing is a very good representation of the vehicles used in our fleet. Let's get to the actual test results:

1. # A 1992 Ford Explorer 4x4 with a 4.0L EFI engine. Between 7/28/00 and 8/25/00 we established a baseline fuel mileage **without the Fuel Miser**. 884.1 miles driven, used 52.19 gal. fuel = **16.94 MPG**. Fuel Miser XL installed 8/25/00 and ran the testing through 10/10/00. 1349.8 miles driven, used 74.38 gal. fuel = **18.147 MPG**, That's an increase of **1.21 MPG or 7.14% increase**.
2. # B 1996 Chev 1500 4x4 with a 5.7 L SFI Vortec engine. We began baseline testing on 8/10/00 thru 8/30/00. 1294 miles driven, used 93.9 gal. fuel = **13.78 MPG**. Installed the Fuel Miser XL on 8/30/00

thru 10/12/00. 2148 miles driven, used 139.9 gal. fuel = **15.44 MPG**. That's an increase of **1.76 MPG or 12.8% increase**.

3. # E 1990 Chev 1500 4x4 with a 5.7L TBI engine. This unit has 155,000 miles on the original engine. Baseline testing 1225 miles driven, used 78 gal. fuel = **15.7 MPG**. Installed the Fuel Miser XL. 1273.4 miles driven, used 74 gal. fuel = **17.2 MPG**. That's a **1.5 MPG increase or 9.6% increase**.
4. #13 1996 Chev 2500 4x4 with a 5.7L SFI Vortec engine. Mike's driving patterns are not consistent. We needed a longer testing period to establish good averages (2 months). Baseline testing, 1302.7 miles driven, used 107.73 gal. fuel = **12.09 MPG** installed Fuel Miser XL 796.5 miles driven, used 62.4 gal. fuel = **12.8 MPG**. That's an increase of **.71 MPG or 5.9% increase**.
5. # 215 Ferguson 8-12 ton roller, with a new 4-53 series Detroit diesel engine. Joe Blackwell did the testing on this unit. We ran the engine at 1600 RPM; the only load on the engine was that of the hydraulic pump, just circulating oil, no hydraulic load. We used one quart of fuel for the testing. After bringing everything up to operating temperature, we began testing, by alternating tests with the Fuel Miser XL, then without it, alternating several times. Each time the results were dramatic and consistent. On one quart of fuel, **without** the Fuel Miser installed, the engine would run for **9 (nine) minutes**. **With the Fuel Miser XL installed**, the engine would run for **11 _ (eleven and one half) minutes**. That's 2 _ (two and one half) minutes longer run time or **28.0% longer run time**. Joe and I were amazed with these results. If we hadn't run these tests ourselves, we would have had a hard time believing the results.
6. 200 KW Cat Gen Set powered by a Cat D343 425HP turbocharged and after cooled diesel engine. Joe Blackwell performed the testing on this unit. With everything up to operating temperature, we were able to load this unit to 20% load by running all the components of the asphalt plant. We performed this test with 2 (two) gallons of fuel for each test. Again the tests were consistent, **without** the Fuel Miser XL unit installed, the engine would run for 27 _ minutes. **With** the Fuel Miser XL unit installed, the engine ran for a full 30 minutes. That's 2 _ **minutes longer** run time or **9.0% longer run time**.
7. Plumas County Transit Busses.
 - a. #331 1997 Freightliner with a 5.9L Cummins diesel engine. This unit has a baseline fuel mileage of 9.13 **MPG**. I installed the Fuel Miser XL unit on 8/24/00 and our test period ran through 9/31/00. The fuel mileage increased to **11.387 MPG**. That's a difference of **2.257 MPG or 24.7% increase** in fuel mileage. This bus makes the Quincy to Chester run and travels about 300 miles a day. SLH Technologies tells me that many of their tests on diesel units have produced **25% plus increase** in fuel mileage.
 - b. #332 1998 Ford Aerostar with the 7.3 L International diesel. Our testing was incomplete at this time. We need more data.
8. Now for the three non-County vehicles.
 - a. Joe Costa from Cashman Equipment, 2000 GMC 2500 4x4 with 6.0L Vortec engine. Joe tells me that his mileage has increased from **10% to 12%** since installing the Fuel Miser XL unit. This is saving Joe, \$ 4.00 to \$ 6.00 per tank of fuel.
 - b. Gerald Thompson from North Valley Diesel, 1998 GMC Sonoma extra cab, 4 cyl. engine, 5 speed transmission. Gerald has been testing the XL unit for about two months now and has gone from 22 MPG to 24 MPG. That's 2.0 MPG increase or 9% increase in mileage.
 - c. Jason Glover, 2000 Chev 2500 4x4 pickup with the 6.0L Vortec engine. With the tall cargo box that Jason has on the truck it creates a lot of wind resistance. Jason is delighted now that he has installed the Fuel Miser XL unit. His mileage has increased about **14%**, from 9.0 MPG to 10.2 MPG, that's **1.2 MPG increase**. Jason has also been testing the XL unit for about 2 months.

I feel that our testing has been very accurate and conclusive. There is no doubt in my mind that the Fuel Miser XL unit does everything that it is advertised to do and will without a doubt save Plumas County a lot of money.

Until now we have only focused on the monetary aspect of the Fuel Miser. However there is much more to this product. We know that it saves fuel, not only by our testing, but also through thousands of testimonials worldwide. Yet even more significant, in scientifically controlled tests by certified laboratories of the U.S.

Environmental Protection Agency (EPA), Fuel Miser is the only magnetic product **proven** to achieve average fuel savings of 11.6%. The tests also **proved a significant reduction in emissions**, such as hydrocarbons, carbon monoxide and oxides of nitrogen. The following reflect the laboratory emission results:

Hydrocarbons -----	-24%
Carbon Monoxide -----	-68%
Oxides of Nitrogen -----	-15%
Carbon Dioxide -----	-10%

In Review, we save fuel, it's environmentally sound, we get better engine performance, and it's a good preventative maintenance tool (it removes and prevents carbon and varnish buildup in engines and injectors without the use of additives), the product lasts the life of the vehicle, then switch it to another vehicle (one time investment). Fuel Miser XL has a 2-year unconditional guarantee.

As the Equipment Maintenance Supervisor for Plumas County Department of Public Works, I strongly recommend that we equip our entire fleet with The Fuel Miser XL units. As a public agency we have the responsibility of protecting the taxpayer's money. I feel implementing this product will do just that. We could save \$20,000.00 or more over the next year. We also have a responsibility to the citizens of Plumas County.

We have the opportunity to help clean up the environment throughout Plumas County, by reducing vehicle Emissions.

Tom, I also recommend that we share this information with our Board of Supervisors. They may wish to issue a directive to other, if not all departments, to also implement the Fuel Miser within their fleets as well. This would make Plumas County a Green County.

Regards,

Robert Pettit

cc: Martin Byrne, Richard Humphrey and Jason Snow