### Your Amsoil Information News Source

# Product Highlight: AMSOIL Firearm Cleaner (Dripper Bottle)

The moving parts on firearms (actions, bolts, hinges) must be cleaned and lubricated to ensure top performance and long life. AMSOIL Synthetic Firearm Cleaner presents a premium upgrade over all-in-one products, which sacrifice performance in at least one area in the name of convenience.

Now available in both an aerosol can and a dripper bottle, <u>AMSOIL Firearm Cleaner</u> penetrates deep into hard-to-reach components, effectively cleaning fouling and powder residue from all firearm surfaces, safely protecting them for storage, reducing jamming and increasing reliability.

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## **Congratulations:**

#### **New Preferred Customers**

Ric Carnes Lincoln, NE

Guy Lanhers Lincoln, NE

Ray Keck Lagrange, OH

#### **New Catalog Customers**

Jack Burgess Spring City, PA

> Tom Ramsett Oshkosh, WI

David Hayes North Franklin, CT

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## FAQ: Engine and Transmission Flush

#### Overview

AMSOIL Engine and Transmission Flush (FLSH) helps restore fuel economy, increase operating efficiency and reduce emissions in gasoline and diesel engines, and automatic transmissions. Its potent, detergent-based formula cleans sludge and deposit buildup, promoting reduced oil consumption. AMSOIL Engine and Transmission Flush is safe on parts and can be easily disposed of with waste oil.

# Why should I ever put Engine Flush in my engine?

New engines and transmissions run more efficiently, but over time they gather harmful deposits that cause power and performance loss. Stop-and-go driving, prolonged idling, short trips that do not allow the engine to reach full operating temperature, towing, the ingestion of air-borne dirt, fuel dilution, water condensation and oxidized oil all can promote sludge build-up in motor oil and transmission fluid. As it settles, sludge clogs narrow oil passages, restricting oil flow to vital parts, especially the upper valve train area.

In transmissions, deposits can form on clutch plates, causing hesitation and erratic shifting. Ultimately clutch glazing can set in, reducing the life of the transmission. Deposits in engines and transmissions can accelerate wear, causing power loss and increased fuel consumption.

# What are the benefits of Engine and Transmission Flush?

- Prepares engines and transmissions for new oil
- Removes deposits and sludge for improved efficiency, fuel economy and lower emissions
- Prolongs equipment life
- Detergent-based formula is environmentally friendly
- Compatible with seals and gaskets
- One-treatment results
- Easily disposed of with waste oil

Unlike many flush products, AM-SOIL Engine and Transmission Flush features a multi-use formulation that dissolves and disperses sludge, varnish and deposits in both engines and automatic transmissions. Due to its detergent-based formulation, it can be easily disposed of with waste oil, making it more user-friendly. Its advanced formula of light base oil technology, powerful detergents and dispersants provides safe cleaning action. AMSOIL Engine and Transmission Flush is compatible with both petroleum and synthetic oils, preparing poorly maintained equipment for installation of new oil. It represents the first step toward restoring neglected equipment to top-notch performance. AMSOIL Engine and Transmission Flush provides the following benefits in only one treatment:

#### **Gasoline and Diesel Engines**

- Helps loosen sticky valves and rings, minimizing blow-by and reducing emissions
- Helps quiet lifter noise

- Promotes lower operating temperatures through sludge removal
- Easy disposal

#### **Automatic Transmissions**

- Cleans deposits in oil cooler and ports
- Helps unclog fluid passages
- Cleans deposits and varnish from clutch plates, helping improve efficiency
- Promotes smoother operation and transmission life through reduced shift delay

#### How often should I use it?

Though it works in one treatment, AMSOIL Engine and Transmission Flush is safe enough to be used at every oil change.



# Lyle Greenberg and the "Cone Hunter" Lyle Greenberg, racing enthusiast, talks about his current project.

I sold the "Cone Hunter" Fuel Altered at the end of 2016 and spent all of 2017 building a Nitro Nostalgia Funny Car. It has been obvious to most of my family and friends that I wanted to try a nitromethane powered car sometime before I give up the racing foolishness. We finished the car at the end of January this year and had a very successful test session at Albuquerque Dragway in March. We then went to Tucson for more testing in April. We finally made our competition debut two weeks ago at the "Funny Car Chaos" event in Amarillo, TX. There were 16 funny cars in attendance and we qualified #6 in the 8 car "A" field. From there we knocked off the #2 and #3 qualifiers to advance to the Final Round. Though we didn't win, a runner-up in our first race seems very acceptable. We had the quickest and fastest nitro car at the event.

Running a nitro car is a whole different level of work, expense

and attention. I have been thrilled with the hundreds of pictures, stories and comments on social media complimenting us on both the fabulous look of the car and the good performance we showed.

This is by far the prettiest race car I have ever had. I commissioned noted drag racing artist David Carl Peters to design the paint scheme using my "Cone Hunter" theme and told him I wanted it to look like it just came out of Circus Paints (a noted east coast funny car paint shop in the 1970's) in 1978. PPG became a huge part of the project as they supplied paint from their "Vibrance" line of colors. Jim and Sean Guthrie at Car Crafters in Albuquerque took on the project of preparing and applying the paint. Their custom painter, David McLevitz, did an incredible job making the car truly show car quality.

I couldn't even begin to imagine doing a project like this without

the support of our marketing partners:

AMSOIL/Nancy Greenberg Car Crafters **PPG Cabinet Concepts** SunCo Equipment and Supply High Mesa Frames Yearwood Performance Homes by Labbate MAC Hydraulic Stinson Metal Fab **Synergy Coatings** Waterjet Cutting/Rhino Board WJR Photography

See more at:

Race Story on Competition Plus

Final Round Video

Final Round Video (Drone Aerial)

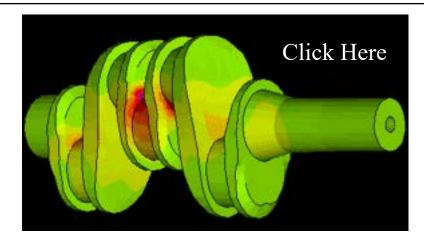
Greenberg at Amarillo Video (great aerials and top end videos) - This is a fabulous custom made video by my friend Bill Moyer



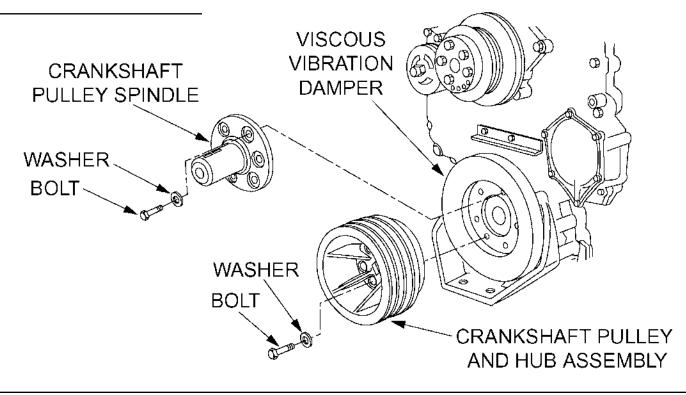
### **Diesel Digest - Vibration Damper**

The vibration damper is mounted on the front of the crankshaft next to the accessory pulleys. Its job is to help absorb the torsional harmonics (lengthwise twisting) in the crankshaft. This twisting is a result of the multiple power strokes or pulses received from the connecting rods. When subjected to these forces, the crankshaft can begin vibrating like a giant tuning fork along its entire length. The longer the crankshaft, the more difficult it is to control torsional vibration.

The vibration damper may use a ring of viscus fluid or heavy rubber and steel rings to absorb and dissipate crankshaft vibrations. Some larger diesel engines have a complex system of weights and springs in their vibration dampers. Smaller dampers usually consist of a heavy cast iron rim with a rubber ring located between the rim and the damper's hub.







# Shop Talk...with Dr. Jonathan D. Olson, EdD ZO #10458

In my continual quest for knowledge I seek to answer the question, "What makes Amsoil better than the rest?" This is a question that I routinely contemplate. A good 'textbook' answer is that Amsoil is better than the rest because they engineer it to be better than the rest. But that type of answer doesn't really answer my question on a foundational level. I began reading a book called Chemistry and Technology of Lubricants (ISBN#: 978-9400791596) a few weeks back to help me understand the inner workings of what occurs in your engine on a molecular level, both with the engine components and the lubricants. It is a fascinating read...even if I can only pronounce about 20% of what I am reading.

I was hoping to work my way through this book and be able to say, "Amsoil is better because they use X.Y.Z. base oil" or something along those lines. What I am finding is that the answer is not as simple as I had hoped. Which in turn reinforces some of my original fears about attempting to understand the vast complexities of lubricants.

Ironically enough, in last month's Amsoil Magazine (June 2018) there was an article titled "Top Tech Questions" and one of the questions that was presented was, "What base oils does Amsoil use?" Amsoil basically responded by saying #1...it is proprietary information and then followed it up by saying #2...different applications require different formula-

tions, or 'lubricant cocktails' as I like to refer to them as. In a nut shell, lubricants are composed of base oils and additive packages. There are a plethora of base oil types and additive packages to choose from. It requires very skillful, intelligent engineers and an enormous amount of testing to create the best cocktails for each specific application.

For example: Phosphate Esters, which are classified under "Group 5 Base Stocks" hold great properties of fire resistance and lubricity and, across industry, are widely used as the building blocks of fire resistant hydraulic fluids.

Much in the same, with regards to engine oils, Group 4 Base Stock will outperform Group 1, 2, and 3 Base Stocks. However, if you cut a Group 4 Base Stock with specific Group 5 Base Socks you can enhance the Group 4 Base Stock.

As noted in the book, "Experience of numerous laboratories from engine bench and vehicle test programs conducted over the last 20 years show that blends of PAO (Group 4) and organic esters (Group 5) give an excellent base fluid for the formulation of synthesized crankcase oils."

I visualize this process as assembling a puzzle with no picture on the box and half the pieces are identical in size and shape. Although many of the pieces will fit together, they may not make a functioning picture. (Puzzle pieces being different base oils and

additives).

Based upon the engineering team's expertise and knowledge they begin to fit pieces together. Throughout the process they are continually testing the lubricant, recording and analyzing the data, assessing the results and adding and removing puzzle pieces until they get a coherent picture (AKA lubricant cocktail).

As noted by Amsoil (June 2018, Amsoil Magazine):

"At the end of the day, the type of base oil used to formulate the oil is inconsequential; the product's performance is what matters."

To answer my original question, "What makes Amsoil better than the rest?" The answer is...Amsoil is better than the rest because they engineer it to be better than the rest. Which disappointingly enough, was what my answer was prior to all this research. However, now I have a better understanding for this statement.

Specifically, Amsoil takes a look at a specific lubricant application, takes a look at all the puzzle pieces available, and builds each formulation to exceed specifications for the individual application.

