



## Technical Service Bulletin

Date: 10/21/2005

Product Description: **AMSOIL Gear Lubes (SVG, SVO, FGR, FGO, AGL, MTL and MTG)**

Subject: **Automotive Differential and Manual Transmission Oil Drain and Flushing Procedures**

### OBJECTIVE:

To describe the correct differential and manual transmission oil change procedures for AMSOIL synthetic gear lubes.

### ISSUES:

The use of improper flushing procedures can cause shortened oil drain intervals and contamination, increased wear and foaming. By using proper flushing procedures with AMSOIL synthetic gear lubes, maximum gear bearing and oil life can be achieved.

### TECHNICAL DISCUSSION:

Operating conditions may cause a buildup of sludge, water contamination or wear particle contaminants. Examples of some of these operating conditions are:

- Rapid fluctuations in operating temperatures, high speeds or heavy loads, or shock loading.
- Moisture caused by condensation, spray, or submersion of the gear case in water will emulsify the oil and water and degrade the oil.
- Dirty or dusty environments require more frequent lube changes based on increased contaminant levels.
- Frequent start-ups and shut-downs
- Towing
- Overloading.

In order to determine if a flush is needed, drain the gear lube from the transmission or differential when it is still warm and observe the condition of the oil. If the gear oil is dark in color, is milky in color, smells burned, has thickened up, or if particle contamination can be seen, flushing is suggested. Flush with the AMSOIL product

you've chosen to run in your vehicle. Fill to the normal level and run in a No-Load condition for 15 minutes. Drain out flush oil, clean any magnets and refill with the correct AMSOIL product.

Do not use solvents to flush transmissions or differentials. Solvents can have the following negative effects on gears and bearings in differentials and transmissions:

- **Foaming** – Residual solvent such as, chlorinated solvents or solvent-type flushing compounds used to wash out the gearbox may cause foaming.
- **Rust** – Gears, bearings and internal parts if left dry and free of oil, can start rusting in a very short period of time after they are washed down with solvents.
- **Viscosity Loss** - The presence of even a very small amount of solvent-type flushing compound can reduce the viscosity of oils.

Make sure the drain and fill plugs are clean when opened and closed. This will assure a clean and uncontaminated oil change.

### RECOMMENDATIONS:

When necessary use the change and flush procedures explained in the Technical discussion section in conjunction with the proper AMSOIL Synthetic Gear Lubes to insure the maximum manual transmission or differential oil and component service life.

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