



# Service Line

NEWS AND IDEAS FROM AMSOIL

## Early Maintenance of Differentials Extends Equipment Life, Saves Money



You know AMSOIL Synthetic Motor Oils provide your equipment with superior engine protection, long life and fuel economy.

And you know the importance of routine maintenance to keep costs down and equipment running smoothly.

Part of your equipment maintenance should include oil changes in your vehicle engines' differentials. Four-wheel drive trucks have two differentials and a transfer case that all require service.

Furthermore, most differential wear occurs during the break-in period of the engine. Because differentials are not equipped with filters, break-in metals are suspended in the oil, causing increased wear as the particles mesh between the gears. Hauling heavy loads and towing heavy trailers causes additional stress to the differential during the break-in period and can cause premature differential damage. Changing the gear lube after the break-in

period (about 5,000 miles) greatly reduces wear and extends differential gear and bearing life. Auto manufacturers now recognize the importance of draining abrasive break-in materials. In fact, most manufacturers recommend an initial drain interval between 500 and 3,000 miles.

Most pickup trucks, SUVs and vans operate in severe service conditions such as towing, hauling, climbing steep grades, plowing, racing, off-road riding. Add to that rapid acceleration, frequent stop-and-go operation and high ambient temperatures, and you have a high-pressure, high-temperature environment.

New vehicles such as turbo diesel trucks and vehicles with V-10 engines boast more horsepower and torque than their predecessors, but differential designs have remained virtually unchanged.

Modern gear oils are faced with the challenge of providing adequate wear protection during severe service

operating conditions, while also providing maximum fuel efficiency.

Tests on four vehicles demonstrate the importance of changing the factory-fill gear lube within the first few thousand miles. (See chart below.)

Oil analysis shows most of the wear in vehicle one occurred over the 6,869 miles shown on the odometer. Despite higher mileages, vehicles two and three only showed slightly higher iron wear than vehicle one. Vehicle four, which had the factory-fill oil changed early to AMSOIL synthetic gear lube, showed a significantly lower level of wear despite significantly higher mileage than the first three vehicles.

Results show the most effective way to reduce wear and damage to differentials is to change the fluid early to AMSOIL gear lube.

Vehicle	Miles on Vehicle	Miles on Oil	Viscosity	Iron Wear PPM	Oil Brand
1	6,869	6,869	14.55	493	GM Factory Fill
2	16,766	16,766	14.57	542	GM Factory Fill
3	50,994	50,994	14.58	608	GM Factory Fill
4	146,764	18,101	14.97	83	AMSOIL SVG

AMSOIL Severe Gear™ 75W-90 and 75W-140 Synthetic Gear Lubes are formulated for severe service applications, protecting differential gears for extended drain intervals of up to 50,000 miles in severe service and 100,000 miles in normal service, or longer where specified by the vehicle manufacturer. Formulated with shear stable synthetic base stocks and an extra treatment of additives, SEVERE GEAR™ Gear Lubes provide unsurpassed wear protection and friction reduction, while their excellent thermal stability prevents thermal runaway, a phenomenon caused by a lubricant's inability to control friction and increased heat under high stress conditions. AMSOIL SEVERE GEAR™ Synthetic Gear Lubes are recommended for turbo diesel pickups, SUVs, vans, delivery/utility vehicles, light, medium and heavy-duty trucks, buses, heavy equipment, 4x4s, tow trucks, race cars, tractors and motor homes.

# AMSOIL Smooths Out New Motorcycle Engine

Lloyd Blazs of North Vancouver, British Columbia, Canada, found AMSOIL Synthetic Motor Oils and lubricants solved his problems with a new motorcycle and now he's a lifelong user.

He recently bought a Honda Shadow VT750C motorcycle. "Being new, things are tight, so when I had some shifting problems and a clutch that was displaying excessive grabbiness I did not think much of it," Blazs said. "But after a very respectable break in period went by, at just over 8,000 km (5,000 miles), everything was broken in and loosened up. Yet I still had a clutch that would often grab resulting in lurching or stalling the engine if I did not give it enough gas to get the RPMs up to prevent stalling in stop and go city rush hour driving."

The clutch checked out to be properly adjusted. Another problem was a loud clunking sound when he put the motorcycle in gear. "Often I thought 'this cannot be all that good on the gears.'"

He was using conventional motorcycle oils through this time and decided he'd check into synthetics.

Blazs researched synthetic motorcycle oils on the Internet and found AMSOIL Synthetic 20W-50 Motorcycle Oil seemed the best suited for his needs, he said.

"After putting a new filter on my bike I poured in AMSOIL Synthetic 20W-50 Motorcycle Oil and started it up," Blazs said. "Within about 15 minutes of riding I was



*Satisfied Customer – Lloyd Blazs, North Vancouver, British Columbia, Canada, discovered AMSOIL 20W-50 Synthetic Motorcycle Oil solved his clutch and engine problems.*

noticing something was different with the engine. To my surprise, the clutch was now smooth as silk when I was letting it out. Gone was the sudden lurch from the clutch grabbing when it was almost fully engaged. The loud gear-snapping clunk became a soft clunk of going into gear."

After about 2,000 km (1,250 miles) with AMSOIL 20W-50 Synthetic Motorcycle Oil all the "little annoyances disappeared," he said. "I have yet to experience a shifting problem gearing down when sitting at a red light."

Since then Blazs has changed over the rear drive units to AMSOIL Synthetic 75W-90 Gear Lube.

"I am so pleased with the results that I have recommended your oil to my friends with motorcycles and even asked the shop where I have my bike serviced to stock AMSOIL products as this is the only oil I wish to use from here on in," Blazs said.

**The AMSOIL Service Line sent courtesy of your Servicing AMSOIL Dealer.**

Jeff Fisher

866-292-4700

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