

# The AMSOIL "Tow Package"

## AMSOIL Synthetic Automatic Transmission Fluids and Severe Gear® Synthetic Gear Lubes Provide Maximum Protection for Extreme Operating Conditions

Whether hauling heavy tools and equipment to a job site or towing a boat for a relaxing weekend on the lake, many vehicles are subjected to extreme operating conditions and hot temperatures in the summer, placing an increased level of stress on drivetrain components.

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. Differentials today are subjected to severe-duty service and encounter more stress and heat than was seen only a few years ago. Modern gear oils are faced with the challenge of providing adequate wear protection during severe-service operating conditions, while also providing maximum fuel efficiency.



The extreme pressures and temperatures generated by modern vehicles increase stress on gear lubricants and can lead to a serious condition known as thermal runaway. As temperatures in the differential climb upward, gear lubricants lose viscosity and load carrying capacity. When extreme loads break the lubricant film, metal-to-metal contact occurs, increasing friction and heat. This increased friction and heat, in turn, results in further viscosity loss, which further increases friction and heat. As heat continues to spiral upward, viscosity continues to spiral downward. Thermal runaway is a vicious cycle that leads to irreparable equipment damage from extreme wear, and ultimately catastrophic gear and bearing failure.

Many people overstress their vehicles in the summer. It is not uncommon to see vacationing families driving around in overloaded vehicles. The roof rack is filled with equipment, the back seat is filled with bags and the suspension is bottomed out. Some vehicles also pull trailers or fifth-wheels with boats, and some of these vehicles exceed their rated towing limits. As vehicle stress increases, transmission and differential temperatures rise and cause conventional lubricants to thin, resulting in inadequate lubrication that can lead to component failure.

In addition, some vehicle manufacturers require the factory-fill differential gear lube to be changed within the first 3,000 miles, or the first 500 miles if towing, a fact not known by many consumers. Because differentials go through a break-in period and are not equipped with filters like transmissions and engines, the gear lube must be changed in order to drain the break-in wear particles. These particles, if left in the differential, mesh between the gears and cause gear or bearing wear. Recent studies show that most differential wear occurs in the first 5,000 miles.

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AMSOIL Synthetic Automatic Transmission Fluids (ATF, ATL) and Severe Gear Synthetic Gear Lubes (SVG, SVT, SVO) provide maximum protection in demanding environments such as towing, hauling and commercial use, providing increased lubricant film protection and reduced wear at elevated temperatures. They are formulated 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.

