

# Superior Protection in Extreme Heat Conditions

Hot temperatures can cause a variety of problems with vehicles and equipment. Summer heat can be especially troublesome for vehicle transmissions, promoting accelerated oxidation of transmission lubricants. And because this key piece of equipment is often neglected by motorists and maintenance managers, transmission failures become relatively common in the summer months.



Excessive lubricant oxidation leads to varnish and sludge formation, fluid thickening, poor overall shift performance and clutch glazing. The rate of oxidation accelerates significantly with the increases in temperature and extreme load or towing conditions common in the summer months. The problem is even more pronounced in newer, more aerodynamic vehicle designs that have less space around the transmission to accommodate the release of heat.

While inferior lubricants often break down quickly, AMSOIL synthetic automatic transmission fluids (ATF, ATL) excel in extreme heat conditions. The Aluminum Beaker Oxidation Test (ABOT) is a Ford MERCON® V industry standard bench test used by transmission fluid manufacturers to evaluate an automatic transmission fluid's oxidative stability. In this 300-hour test, automatic transmission fluid is heated to 155°C in an aluminum beaker. The fluid is then circulated and sheared within the beaker as it ages, and fluid samples are drawn at various intervals throughout the test and evaluated for viscosity change, base oil attack (chemical attack) and formation of varnish-type insoluble materials.

AMSOIL Synthetic Universal Automatic Transmission Fluid (ATF) and another popular transmission fluid formulation for multiple vehicle applications, Chevron Automatic Transmission Fluid, were subjected to ABOT testing to determine and compare their oxidative stability. The results are shown on the right.

At 300 test hours, AMSOIL Synthetic Universal ATF outperformed Chevron ATF in all three test properties: insoluble debris (varnish and sludge tendency), infrared difference (base oil degradation due to oxidation) and viscosity change. Even at double the standard test length (600 hours), AMSOIL ATF outperformed or matched the performance of Chevron ATF at the standard test length (300 hours).

AMSOIL Synthetic ATF demonstrates superior overall oxidative stability and protection in high-temperature/high-load operating conditions. Formulated with naturally heat-resistant synthetic base oils and heavily fortified with antioxidants that hinder oxidation degradation, AMSOIL ATF protects against damaging deposits that result in poor clutch performance and sluggish response.

