

# AMSOIL Provides Complete Vehicle Cold-Weather Performance

Extreme cold can cause conventional motor oil, transmission fluid and gear lube to thicken, starving vital moving parts of necessary lubrication. In many cases, thick motor oil will prevent vehicles from starting. Cold, thick transmission fluid results in delayed or sluggish shifts and inadequate protection for bearings, valves and other critical parts. Thick gear lube, meanwhile, requires more energy to turn the gears, reducing fuel efficiency. Because gears and bearings in the axle housing are splash-lubricated, conventional gear lubes that are too thick at cold temperatures can starve internal components of lubrication, which can cause excessive wear and premature failure.

Conventional petroleum lubricants thicken because they often contain paraffins (wax). While modern refining techniques remove most of the wax from petroleum oil, some wax-like molecules remain.

These wax-like molecules are soluble at ambient temperatures above freezing, but crystallize into a honeycomb-like structure at lower temperatures and cause circulation problems. At startup, this can leave working parts unprotected while the lubricant warms to a temperature that allows it to flow.

AMSOIL synthetic lubricants do not contain paraffins. They provide outstanding low-temperature fluidity for fast, dependable winter starts; quick, responsive shifts and immediate startup protection.

## Superior Fuel & Coolant Additives

Diesel applications can be especially sensitive to cold-weather issues. As the temperature drops, the wax naturally found in diesel fuel begins to form crystals. The point at which wax crystals form is known as the cloud point. These wax crystals eventually clog the fuel filter

and starve the engine of fuel, preventing it from starting. While low-quality fuels may form wax crystals in temperatures as warm as 40°F, most fuels have a cloud point near 32°F. The point at which the wax crystals clog the fuel filter is known as the cold filter-plugging point (CFPP). AMSOIL Cold Flow Improver reduces the CFPP of ultra-low-sulfur diesel fuel by as much as 20°F for increased protection.

In frigid conditions, motorists often idle vehicles for extended periods to warm the interiors and defrost the windows. Not only can the practice be inconvenient, it wastes fuel as well. AMSOIL Dominator® Coolant Boost uses proprietary tiered-surfactant technology to provide quick and effective heat transfer inside radiator and cylinder heads, resulting in faster engine warm-up times. As a result, vehicle interiors warm more quickly and the defroster becomes effective sooner. ■



### 1) TRANSMISSION & TRANSFER CASE

**Synthetic Automatic Transmission Fluid (ATF, ATL)** flows readily in cold temperatures for almost instantaneous circulation and protection, inhibiting wear and promoting fast, responsive shifts.

### 2) GASOLINE ENGINE / DIESEL ENGINE

**Signature Series Synthetic Motor Oil (ASM, ALM, AZO, ASL, ATM)** and **Premium API CJ-4 Synthetic Diesel Oil (DEO, DME)** feature ultra-low pour points to ensure vehicles start immediately, even when the mercury plummets far below zero.

### 3) COOLING SYSTEM

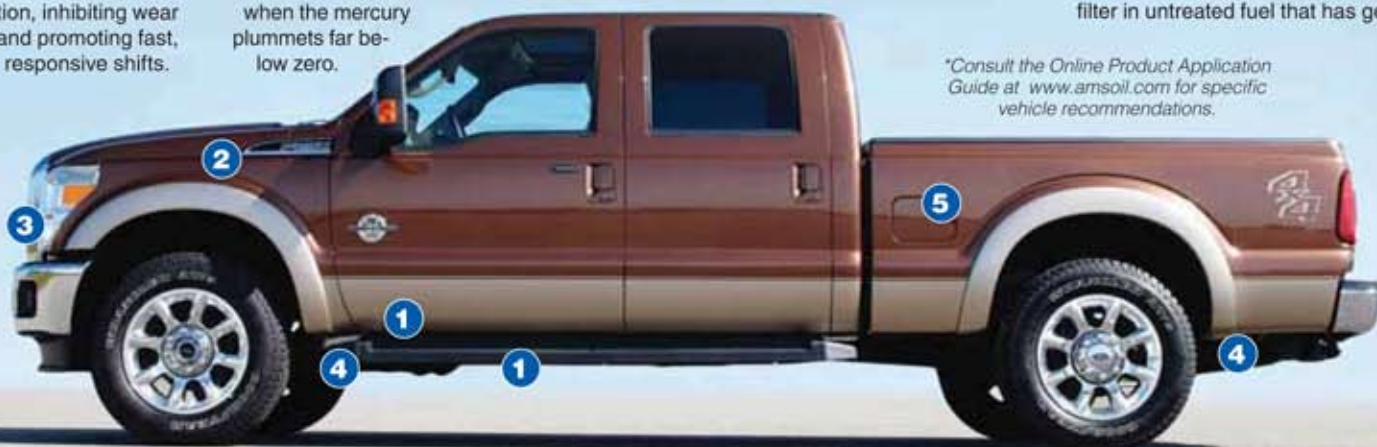
**Dominator® Coolant Boost (RDCB)** inhibits harmful coolant system corrosion and reduces engine warm-up times up to 30 percent.

### 4) DIFFERENTIALS

**Severe Gear® Synthetic Gear Lube (SVG, SVT, SVO)** remains fluid in sub-zero temperatures to provide immediate lubrication and extend equipment life.

### 5) DIESEL FUEL SYSTEM

**Cold Flow Improver (ACF)** helps prevent icing or gelling in diesel fuel, while **Diesel Concentrate plus Cold Flow Improver (DFC)** provides the added benefit of increased fuel economy. **Diesel Recovery (DRC)** quickly liquefies gelled diesel fuel, thaws frozen fuel filters and reduces the need for a new filter in untreated fuel that has gelled.



\*Consult the Online Product Application Guide at [www.amsoil.com](http://www.amsoil.com) for specific vehicle recommendations.