AMSOIL Service Line
NEWS AND IDEAS FROM AMSOIL

# AMSOIL Now Offers DOT 3 and DOT 4 Brake Fluids

## NOTES

### AMSOIL Price Adjustment

The ever-increasing costs of raw materials have once again forced lubricant companies to raise prices on finished goods. Chevron, Shell, ConocoPhillips, Petro-Canada, ExxonMobil and Citgo have all increased prices effective December 2007 and January 2008.

AMSOIL makes every effort to maintain the lowest prices possible and has delayed raising prices for as long as possible. Due to the increased costs on base stocks, additives and packaging, however, AMSOIL is now forced to implement a minimal price adjustment effective March 1. Even with a minimal price adjustment, AMSOIL synthetic lubricants remain the best and most cost-effective choice on the market, saving customers money through extended drain intervals, reduced wear and maintenance and increased fuel efficiency. Look for an updated AMSOIL price list in the February issue of *Service Line*.

AMSOIL now offers Series 500 DOT 3 High-Performance Brake Fluid and Series 600 DOT 4 Racing Brake Fluid. AMSOIL Brake Fluids provide superior high-temperature performance in auto/light truck, high-performance, racing and powersports applications.


### Boiling Points

As the brake system heats up, brake fluids with low boiling points begin to vaporize. The brake pedal must travel further to apply the same amount of force on the brakes, causing a spongy feeling. If enough of the brake fluid vaporizes, brake system failure may occur. Brake fluid boiling points are measured on two separate scales:

- Dry equilibrium reflux boiling point (ERBP) - the boiling point of new, freshly-opened, unused fluid.
- Wet ERBP - the boiling point of a brake fluid after it has absorbed three percent water.

The minimum dry ERBP for DOT 3 brake fluid is no less than 205°C (401°F), and the minimum wet ERBP is 140°C (284°F). That might not seem very high, but in most brake systems the fluid in the caliper won't reach that temperature unless the brakes are abused. It only takes four percent water contamination to bring a DOT 3 fluid's boiling point down to the federal limit.

The minimum dry ERBP for DOT 4 brake fluid is 230°C (446°F), while the minimum wet ERBP is 155°C (311°F). Their higher boiling points make DOT 4 fluids appropriate for high-performance cars and motorcycles and for vehicles used for towing or in mountainous regions.

AMSOIL Series 500 DOT 3 High-Performance and Series 600 DOT 4 Racing Brake Fluid maintain stable viscosities over a wide temperature range and flow easily at low temperatures. They provide good lubrication throughout the system and their superior additive packages can raise boiling points to more than 232°C (450°F). They keep water in suspension, slowing its effects on the brake system. AMSOIL Brake Fluids have high boiling temperatures, ensuring maximum life and reliable braking power, even in extreme conditions. AMSOIL Series 500 DOT 3 High-Performance Brake Fluid has a dry ERBP of 274°C (525°F) and wet ERBP of 156°C (313°F). AMSOIL Series 600 DOT 4 Racing Brake Fluid has a dry ERBP of 304°C (580°F) and wet ERBP of 210°C (410°F).

### Brake Fluid Maintenance

Brake fluids fail either because they boil or because they cease to provide adequate lubrication and corrosion protection. Both reasons for failure are the result of contamination, usually by water or petroleum products.

DOT 3 and DOT 4 polyglycol ether-based brake fluids are hygroscopic, which means they absorb water easily and hold it in suspension, similar to antifreeze. In most climates, moisture seeps into the brake system continuously through the various seals and microscopic pores of the flexible brake lines. This seepage can accelerate as a vehicle ages and there's almost no limit to how much water the fluid can absorb. By the time brake fluid has been in the system for three years, it can easily reach its wet boiling point. Because this happens gradually, most drivers won't discover the reduced braking ability until it's too late.

Many owner's manuals recommend changing brake fluid every 24 months to remove moisture. Approximately half of all cars and light trucks in the U.S. over 10 years old have never had the brake fluid changed. In addition, powersports applications such as motorcycles, ATVs and UTVs require routine brake fluid changes as well.

### AMSOIL Brake Fluids Now Available

AMSOIL Brake Fluids are now available. They come in 12 oz. black plastic bottles to eliminate corrosion. For application information, consult the AMSOIL Online Product Application Guide at www.amsoil.com. For powersports applications, consult the owner's manual for the correct DOT classification.


## Synthetic Manual Transmission & Transaxle Gear Lube

- Smooth shifts
- Maximum protection for gears, bearings and seals
- Formulated for use in synchronized manual transmissions and transaxles that require a 75W-85, 75W-90 or 80W-90 API GL-4 gear lube

Meets GL-4 specifications required by some models of Acura, Hyundai, Infiniti, Kia, Land Rover, Lexus, Mazda, Mitsubishi-Fuso and Zetor. Ideal for muscle car transmissions including Muncie, Borg-Warner, Saginaw, Ford Toploader, Dearborn and New Process.

## Synthetic Synchromesh Transmission Fluid

- Provides smooth shifting without grinding or bump shifting
- Specifically designed for manual transmissions and transaxles with synchromesh systems that require light viscosity, non-extreme pressure fortified oil


Recommended for use in manual transmissions and transaxles such as New Venture NV T350, 1500, 2550, 3500, 3550, 5600, Tremec T-4, T-5, T-18, T-176, TKO-500, TKO-600, TR3450, TR3550.

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