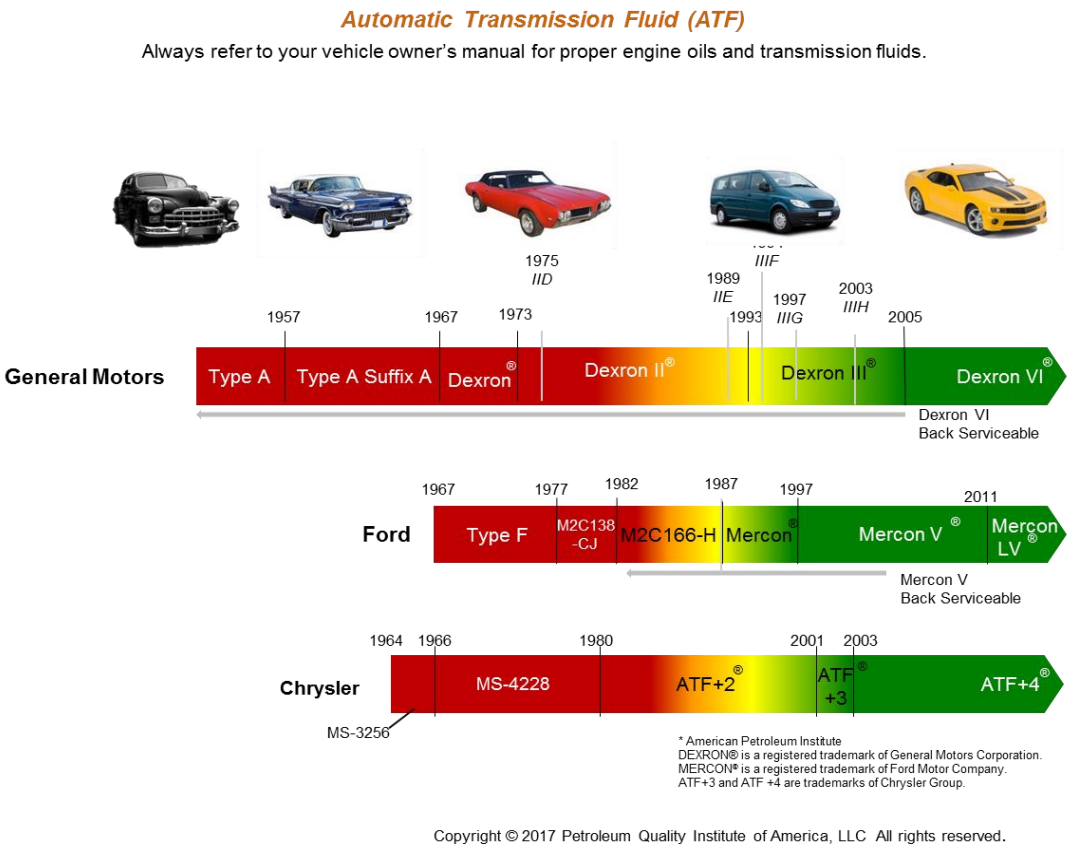
1. BACKGROUND

It wasn't long ago that the automatic transmissions in most of the cars on the road were factory filled and serviced with Dexron/Mercon transmission fluid, and to a lesser extent, Automatic Transmission Fluid (ATF) meeting Chrysler specifications, see figure 1. In fact, in 2000, an estimated 48 million gallons or, 65% of the total ATF consumed in the US was Dexron III/Mercon. Chrysler's ATF+3 followed at 12%. The balance went to Mercon V, ATF+4 and others. That made it relatively easy for lubricant marketers and installers to inventory and sell ATFs since close to 80% of the aftermarket demand was served by two types of transmission fluids. But times have changed since then.

Figure 1



Whereas Dexron/Mercon fluids used to be the leading types of ATF in the US market, today demand for such fluids has slipped below 50% of the total and is moving towards extinction as older model vehicles are retired and cars with newer transmission designs and different lubrication requirements take their place. Dexron III/Mercon and other historically prominent ATFs are being replaced and displaced by a splintering number of OEM specific ATF requirements. These include ATF+4, Mercon V, Mercon LV, Dexron VI, ATF DW-1, ATF T-IV, SP-IV, Matic S and Matic D and K, Toyota ATF-WS, Honda DW (ZF), Diamond SP-IV, and others. With that, what used to be a fairly simple world in ATF selection has now become more complicated.

1. BACKGROUND

In addition to the complexity around the number of ATF specifications in the market, concerns have also been voiced about the use of such language as “Universal” and “Multi-Vehicle,” and other similar verbiage on ATF product labels. Although many lubricant marketers and installers say the “golden ring” in ATFs is a true Universal or Multi-Vehicle product, they question if such a product is technically possible. This is because a growing number of Original Equipment Manufacturer (OEM) ATF specifications are mutually exclusive, as shown in Figure 2. As an example, you can’t meet a Dexron III/Mercon specifications and a Mercon V specification due to differences in Brookfield viscosity. Similarly, if an ATF meets the ATF+4 specification, it’s Brookfield viscosity will not meet that of JASO or Dexron III/Mercon. Similar conflicts exist with the kinematic viscosity specifications for ATF+4, Dexron VI and Mercon LV. And without getting technical, the challenges of formulating a truly Universal ATF becomes exceedingly more complicated when one includes CVTs and DCTs into the mix. Beyond the challenge of what clearly are mutually exclusive viscosity requirements, there are also significant differences in other specifications.

Figure 2