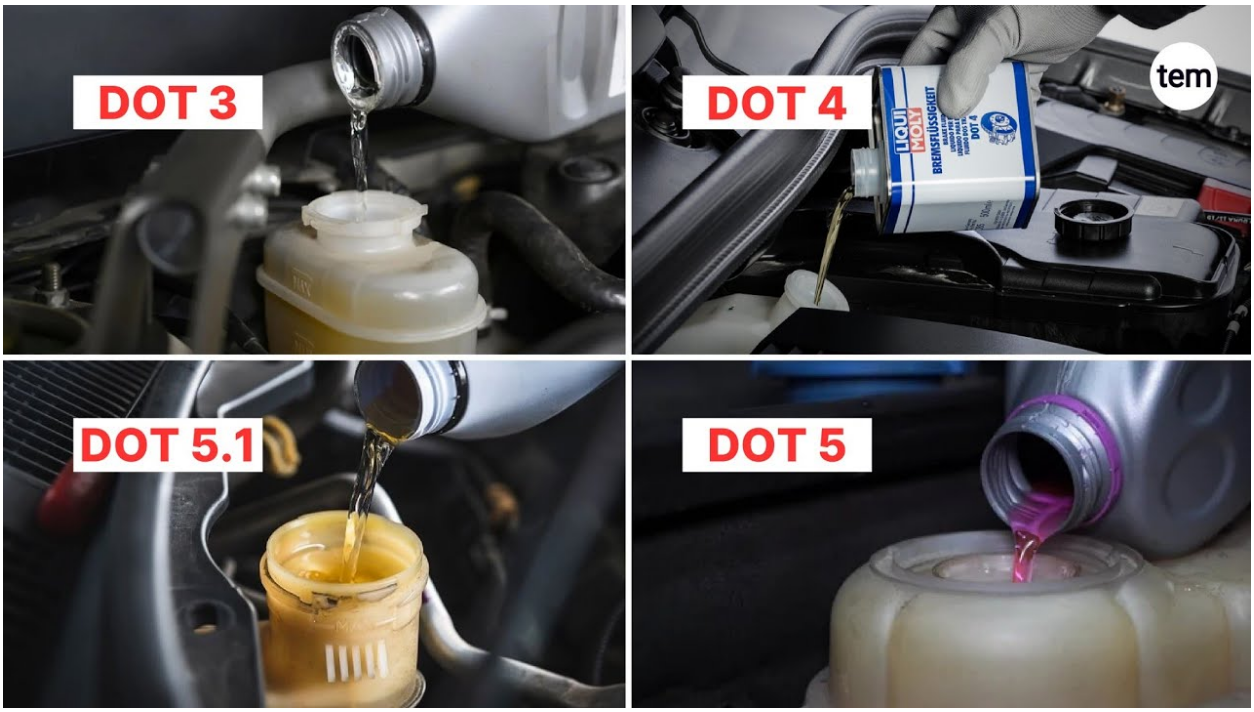
We all Go-Go-Go but can we Stop?



Posted by William Wright

I finally installed the stainless steel brake line connectors, and new disc brakes, and rebuilt the Dunlop clutch and master cylinder on the ’58 Jaguar. Now it is time to charge the system with brake fluid. I decided to research the DOT fluids out there to see if anything had changed since I did the MGAs.

Brake fluids need to do three things:
1. Have lubricity to lubricate the seals.
2. Be corrosion-resistant for the cast iron master cylinder.
3. Have a high boiling point.

I have been using DOT 3 for 45 years. Now it is an outdated formula. What is consistent is that DOT 3, 4, 5.1 are glycol-based fluids and hydrophilic - with a tendency to attract and absorb water out of the air. The Dot 5 is silicone base fluid and is hydrophobic - the tendency to repel water

When using DOT 3,4,5.1, it needs to be changed often, especially in New England. The average is about every two years. DOT 5 has an extended change cycle. DOT 5 was designed by the military for vehicles that sit for long period of time. The downside is that DOT 5 is not suitable for ABS brakes. DOT 5 When agitated rapidly (such as the on/off cycling of ABS valves) silicone-based brake fluid foams excessively. Foaming causes the same behavior as if air were in the lines...so once ABS engages, you're suddenly not stopping.

For our vintage non-ABS cars, we could use DOT 3,4,5.1 but it is notorious for removing paint while 5 is harmless to paint. The downside is that DOT is 3-4 times the expense of DOT 3, 4, 5.1. If you are sold on the glycol-based DOT 3, 4, or 5.1, the difference is the boiling point. 3 is low, 4 is medium, and 5.1 is high. Racing brake fluid is 5.1 on steroids giving it a higher boiling point.

For me, I will stick to the DOT 5 for my vintage cars. The choice is your depending on your driving style and if you autocross or race your car.