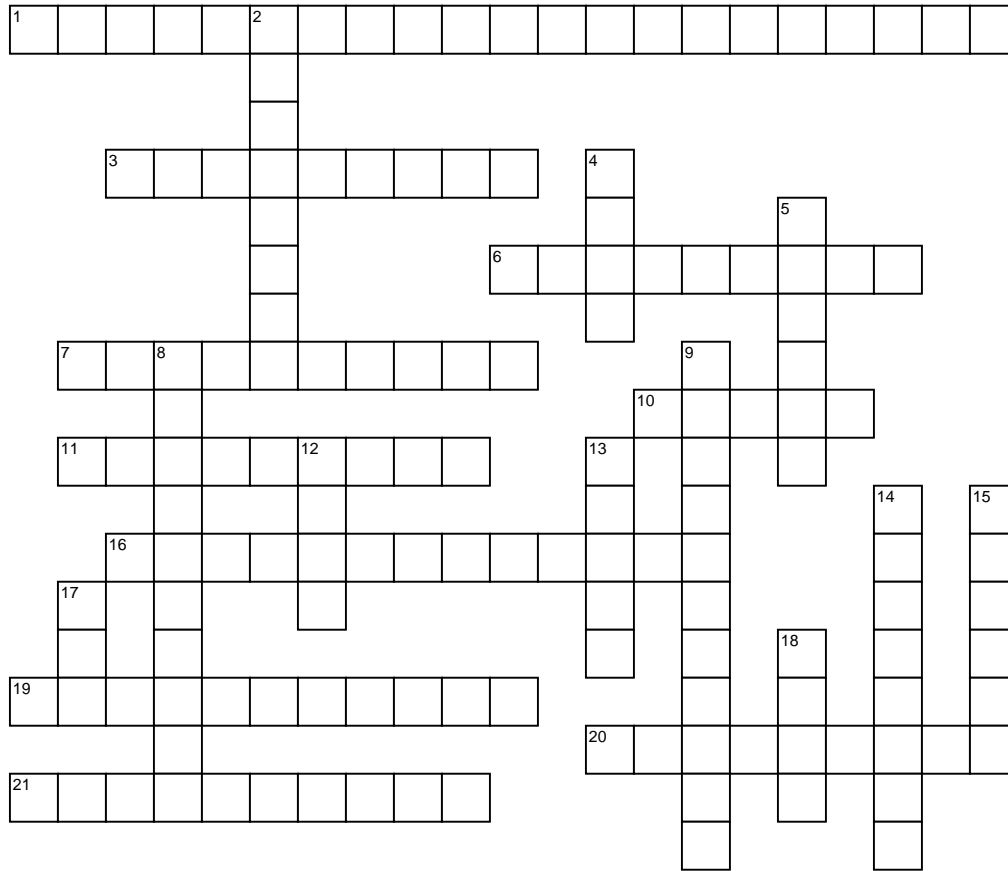


Automatic Transmission Fluid, Filters And Coolers

Chapter 3



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ACROSS

- 1 _____ fluid is a highly refined oil with a viscosity similar to SAE 20W-20 oil and is specifically designed for use in automatic transmissions.
- 3 Friction _____ change a fluids coefficient of friction.
- 6 _____ index improves change the fluid viscosity with change in temperature so that fluid thickness and shift characteristics remain stable.
- 7 _____ keep the transmission clean and the valves free from sticking by keeping foreign items in suspension until they are removed by the filter.
- 10 Toyota uses _____ standard ATF fluid. It is formulated to provide lower viscosity at normal operating temperatures.

- 11 _____ inhibitors prevent corrosion of the nonferrous parts.
- 16 A _____ traps the foreign particles at the outer surface.
- 19 A _____ traps particles as they try to pass through the filter material.
- 20 _____ inhibitors reduce oxidation and decomposition of the fluid, which can produce varnish and sludge.
- 21 In most transmissions, the fluid returning from the torque converter and cooler _____ the transmission.

DOWN

- 2 _____ agents reduce friction and prevent scoring and seizure of metal parts against each other.
- 4 _____ inhibitors prevent rust from

forming on the iron and steel parts.

- 5 _____ friction modified ATF includes Dexron VII, Mercon V, ATF +4, and ATF WS.
- 8 The _____ in well-designed oil coolers continuously mixes the fluid.
- 9 Type F ATF is an example of _____ modified ATF.
- 12 _____ swelling agents produce a slight swelling of the elastomers to compensate for any wear that occurs.
- 13 _____ deactivators form a protective film to inhibit oxidation of metal surfaces.
- 14 _____-modified ATF types include Dexron.
- 15 a _____ is 1 millionth of a meter or 39 millionths of an inch.
- 17 _____ is added to make ATF red.
- 18 _____ inhibitors prevent formation of air bubbles and foam in the fluid.