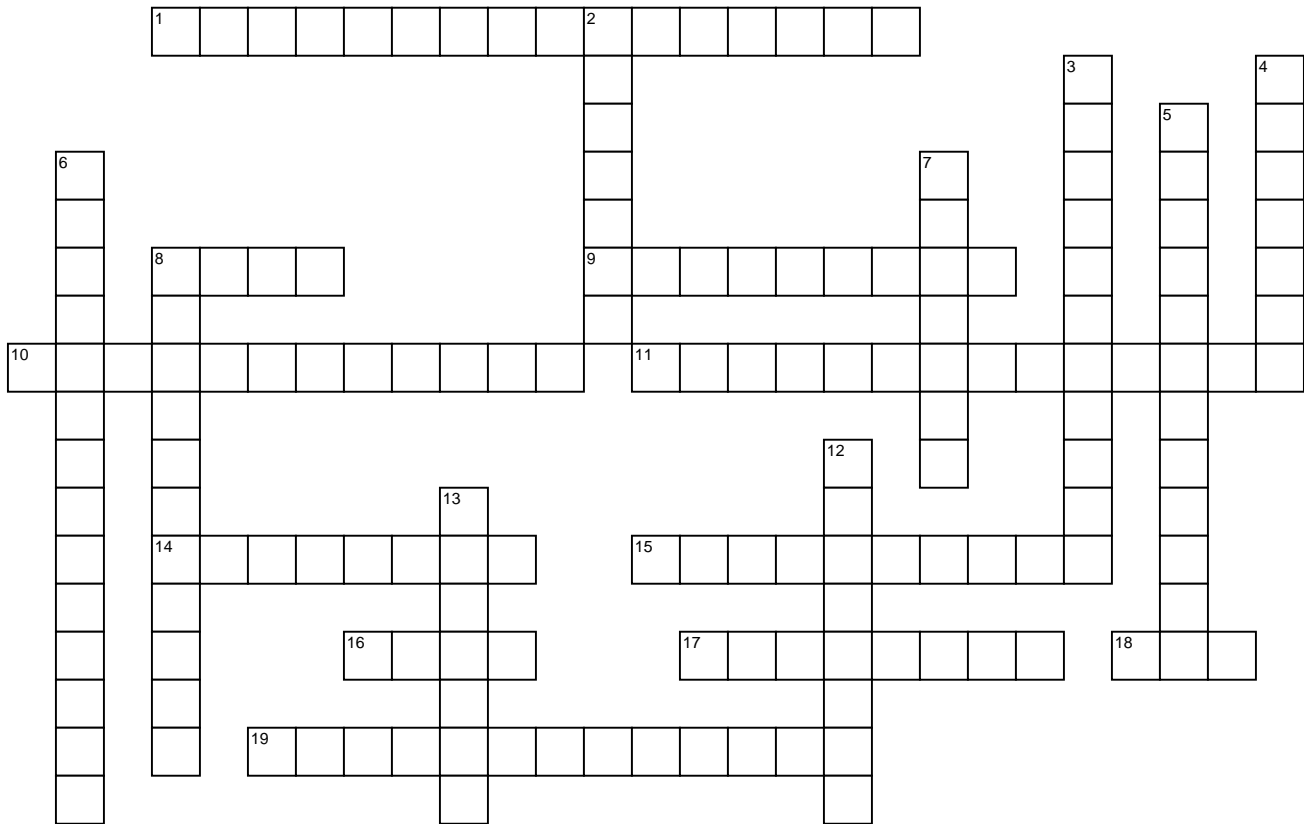


# Manual Transmission/Transaxle Diagnosis and Service

## Chapter 8



<http://jameshalderman.com>

### ACROSS

- 1 Hoist vehicle safely and perform a thorough \_\_\_\_\_ of the driveline.
- 8 A selective \_\_\_\_\_ is located at a bearing at one end of each shaft, and the thickness of this shim controls the amount of preload or end play.
- 9 \_\_\_\_\_ sealants cure in the absence of air.
- 10 \_\_\_\_\_ is a diagonal polish of the stationary race while excess wear occurs all over the rotating raceway from a bore and shaft that are not correctly aligned.
- 11 \_\_\_\_\_ is a series of small burn marks or grooves across the raceways.
- 14 \_\_\_\_\_ is an advanced stage of decay with flaking away of particles from the bearing race.
- 15 \_\_\_\_\_ is a series of indentations pressed or worn into a race.
- 16 Abbreviation for formed-in-place gasket.
- 17 \_\_\_\_\_ is a reddish dust found around areas that have rusted and is a likely location where wear has occurred.
- 18 \_\_\_\_\_ is thick and very viscous as it comes out of the tube. Depending on temperature and humidity, it will set up to a rubber-like material in about 15 minutes.
- 19 \_\_\_\_\_ are scratches, pitting, or scoring in a scattered pattern on the ball or roller surfaces.

### DOWN

- 2 During the reassembly of a transaxle/transmission that uses tapered roller bearings, the \_\_\_\_\_ or end play of each shaft should be checked.
- 3 \_\_\_\_\_ clearance is also called ride height or synchronizer reserve.
- 4 \_\_\_\_\_ is a light scraping away of the surface of the bearing race.
- 5 The engine-running shift test, also called a \_\_\_\_\_ test, is almost a repeat of the engine-off check except that it checks for clutch drag as well as transaxle/transmission problems.
- 6 Often, the \_\_\_\_\_ is a neglected operation. It is recommended to check the lubricant level at each engine oil change.
- 7 \_\_\_\_\_ is caused when balls or rollers fail to roll and this causes damage to cage and end of rollers with evidence of excessive heat.
- 8 The engine-off shift test, also called a \_\_\_\_\_ test or a shift effort test, measures the effort required to move the synchronizer sleeve or gear, fork, and shift rail past the neutral detent and into mesh.
- 12 \_\_\_\_\_ are small particles that decay and break off the bearing races.
- 13 During the reassembly of a transaxle/transmission that uses tapered roller bearings, the preload or \_\_\_\_\_ of each shaft should be checked.