Automotive Steering, Suspension, and Alignment, 8th Edition
Chapter 15

Name_____

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1) What parts and components may be replaced with the transmission/transaxle still in the vehicle?

_____
_____
_____

2) What is the difference between a transmission repair and an overhaul?

_____
_____
_____

3) What are the steps involved in the removing of an automatic transmission/transaxle from a vehicle?

_____
_____
_____
_____
_____
_____
_____
_____
_____

4) What is the difference between hard parts and soft parts?

_____
_____
_____

5) Why is the proper identification of the automatic transmission/transaxle critical?

_____
_____
_____
_____
_____
_____

6) How is end play measured?

_____
_____
_____
_____
_____
_____
_____
_____
_____

1) Parts and components that may be replaced with the transmission/transaxle still in the vehicle include the following:
   • Pressure switches
   • Transmission range switch
   • Turbine and output speed sensors
   • Extension housing gasket
   • Drive axle seals
   • Valve body replacement
   Page Ref: 221
2) A repair is an operation that replaces faulty parts and performs the needed labor to correct a transmission fault. A complete overhaul includes disassembling the entire assembly and replacing all needed parts, gaskets and seals to restore the transmission to perform like a new unit.
   Page Ref: 220
3) The steps involved include:
   STEP 1 Disconnect the negative (− ) battery cable from the battery.
   STEP 2 Hoist the vehicle safely and drain the fluid from the unit.
   STEP 3 Disconnect the driveshaft or drive axle shafts.
   STEP 4 Disconnect all cooler lines, linkage, and electrical connections. Be sure to label each to ensure proper reinstallation.
   STEP 5 Disconnect the torque converter from the flex (drive) plate of the engine.
   STEP 6 Support the engine before disconnecting the automatic transmission/transaxle.
   STEP 7 Remove the transmission/transaxle mounting fasteners.
   STEP 8 Support the transmission/transaxle on a jack and remove the attaching bolts at the bell housing of the engine.
   STEP 9 Remove the transmission/transaxle from the vehicle.
   Page Ref: 221-222
4) Hard parts are major transmission components such as pumps, clutch drums. Soft parts are those parts that are normally replaced during an overhaul and include the gaskets, seals, and friction material.
   Page Ref: 223
5) The identification is critical because of the following:
   • The final drive ratio in transaxles can vary depending on the application; and using the wrong unit can cause shifting and other issues such as gear ratio–related diagnostic trouble codes.
   • The internal gear ratios can vary depending on exact, application of the unit.
   • Sometimes the vehicle identification number (VIN) is needed to obtain the correct parts, but more often the transmission/transaxle identification number, also called the tag number, is the identification needed to be assured of ordering and receiving the proper parts.
   Page Ref: 221

6) STEP 1 Place the transmission in a vertical position with the input shaft pointing up. Some transmissions require that a special fixture be used to hold the output shaft during end-play checks.
STEP 2 Attach a dial indicator onto the case or front pump, and position the measuring stylus against the end of the input shaft.
STEP 3 Pull the input shaft slightly upward and then push it inward as far as it goes. Now adjust the indicator to read zero.
STEP 4 On most transmissions, pull up on the shaft and read the movement on the dial indicator. This is the amount of shaft end play.
STEP 5 Repeat steps 3 and 4 until you get consistent, reliable readings. Then make three more measurements and, if there is a slight difference, average them.
STEP 6 Record your reading and compare it to the specification.
Page Ref: 225