



(A2) Automatic Transmission/Transaxle Sample Questions and Answers

Answers to these questions are found beginning on page 4 of this document

1. Two technicians are discussing an electronically controlled automatic transmission that will not go into any forward gear or reverse. Technician A says that a defective computer could be the cause. Technician B says that an excessively worn torque converter clutch could be the cause. Which technician is correct?
 - a. Technician A only
 - b. Technician B only
 - c. Both Technicians A and B
 - d. Neither Technician A nor B

2. An automatic transmission in a rear-wheel-drive vehicle does not go into either drive or reverse. Which is the most likely cause?
 - a. A defective vacuum modulator
 - b. A defective governor
 - c. An incorrectly adjusted TV cable
 - d. A defective pump

3. ATF is observed leaking out of the bell housing area of an automatic transmission. Technician A says that the fluid may have been overfilled and it is leaking out of the vent pipe. Technician B says that the front seal may require replacement. Which technician is correct?
 - a. Technician A only
 - b. Technician B only
 - c. Both Technicians A and B
 - d. Neither Technician A nor B

4. Technician A says that a defective brake switch can prevent the operation of the torque converter clutch. Technician B says that a fault in the engine operation can be felt as a transmission fault by many drivers. Which technician is correct?
 - a. Technician A only
 - b. Technician B only
 - c. Both Technicians A and B
 - d. Neither Technician A nor B

5. Pressure gauges are attached to the transmission and the vehicle is being test driven. The pressures are all within specifications until the vehicle is accelerated rapidly and the mainline pressure decreases. Which is the most likely cause?
 - a. A slipping forward clutch
 - b. A defective (slipping) torque converter clutch
 - c. A stuck shift valve
 - d. A clogged filter

6. The shift points are higher than normal on an electronically controlled automatic transaxle and yet there are no stored diagnostic trouble codes. Which is the most likely cause?
 - a. A defective input shaft speed sensor
 - b. A misadjusted TP sensor
 - c. An incorrect ATF level
 - d. Misadjusted manual valve linkage

7. A transmission slips when it shifts. Which is the most likely cause?
 - a. A defective torque converter
 - b. A defective one-way clutch
 - c. Worn planetary gears
 - d. An open shift solenoid

8. The engine speed (RPM) is lower than specified during a stall test. Technician A says that the transmission/transaxle may be low on fluid. Technician B says that the torque converter clutch may be slipping. Which technician is correct?
 - a. Technician A only
 - b. Technician B only
 - c. Both Technicians A and B
 - d. Neither Technician A nor B

9. A transmission fluid temperature (TFT) sensor wire was broken during an accident. Which is the most likely result?
 - a. The transmission/transaxle will start in second gear and shift normally after that
 - b. The overdrive and the torque converter clutch may be inoperative
 - c. No symptoms or change in shifting will be noticed
 - d. The transmission/transaxle will not engage in drive or reverse

10. What is the usual method to tighten the retaining bolts for the pan on automatic transmission/transaxles?
 - a. Start by hand to avoid cross threading
 - b. Tighten gradually
 - c. A torque wrench should be used to achieve the final torque
 - d. All of the above

11. An electronically controlled automatic transmission is not shifting correctly. All of the following should be performed to locate the cause except:
- Check the transmission fluid
 - Check scan tool data (PID)
 - Retrieve stored diagnostic trouble codes (DTCs)
 - Reflash the computer
12. A transmission fluid leak is discovered at the rear of the unit. Which is the most likely cause?
- The ATF level is too high
 - Excessive output shaft endplay
 - A worn extension housing bushing
 - A worn slip yoke
13. Technician A says that all friction and steel plates in a clutch pack should be replaced during an overhaul. Technician B says that the automatic transmission fluid cooler should always be flushed when a unit is rebuilt or replaced. Which technician is correct?
- Technician A only
 - Technician B only
 - Both Technicians A and B
 - Neither Technician A nor B
14. Two technicians are discussing overhauling an automatic transmission/transaxle. Technician A says that all rubber seals and the friction discs should be replaced. Technician B says that all the steel discs should also be replaced as part of an overhaul. Which technician is correct?
- Technician A only
 - Technician B only
 - Both Technicians A and B
 - Neither Technician A nor B
15. The clutch pack clearance is less than specifications. Technician A says that too many friction discs may have been installed. Technician B says that too thin a clutch pack pressure plate may have been installed. Which technician is correct?
- Technician A only
 - Technician B only
 - Both Technicians A and B
 - Neither Technician A nor B

Answers to Sample Questions

- The correct answer is d.** Neither technician is correct. Technician A is not correct because a faulty computer will usually cause the transmission to default to second or third gear only and reverse. While the shift solenoid and the pressure control solenoid will not work, the transmission will still partially function. Technician B is not correct because the torque converter clutch does not affect the shifting of the transmission in forward or reverse. Answers a, b, and c are not correct because neither technician is correct.
- The correct answer is d.** A defective pump is the most likely cause for the transmission to fail to go into either drive or reverse because hydraulic pressure is needed to apply the clutches or band. Answers a, b, and c are not correct because while they could cause a delay in shifting, they would not cause the transmission to fail to go into drive and reverse.
- The correct answer is b.** Technician B is correct because fluid leaking from the front seal will drip downward from the bell housing area. Technician A is not correct because most vents are located at the top of the transmission and any leakage would be forced rearward by normal airflow during vehicle operation. Therefore, an overfilled transmission would show fluid leakage down both sides and all over the rear of the case, instead of from the bell housing area. Answers c and d are not correct because Technician B only is correct.
- The correct answer is c.** Both technicians are correct. Technician A is correct because if the brake switch failed in the on position (brake applied position), the torque converter clutch is disabled. It is normal operation to shut off electrical current to the torque converter clutch when the brakes are applied. Technician B is correct because a surging or engine miss is often thought to be a transmission fault by many drivers and should be investigated by the technician as a possible cause of a shifting concern during diagnosis. Answers a, b, and d are not correct because both technicians are correct.
- The correct answer is d.** A partially clogged filter can cause the mainline pressure to drop during rapid acceleration due to the increased volume of fluid being drawn by the pump, which cannot maintain pressure. Answer a is not correct because while a slipping forward clutch could be the cause of slippage during rapid acceleration, it is most likely to cause a drop in the mainline pressure. Answer b is not correct because the torque converter clutch usually disengages during rapid acceleration and it is unlikely to cause a drop in the mainline pressure. Answer c is not correct because while a stuck shift valve can cause shifting problems, it is unlikely to cause a decrease in mainline pressure during rapid acceleration.
- The correct answer is b.** A misadjusted throttle position (TP) sensor that is producing a higher-than-normal reading during acceleration will cause the powertrain control module (PCM) to delay the shifts as if the vehicle were being accelerated at a faster rate than intended. Answer a is not correct because a defective input shaft speed sensor would not likely cause a delayed shift and would likely trigger a diagnostic trouble code. Answer c is not correct because incorrect automatic transmission fluid level is unlikely to cause a delayed shift although it could cause harsh or slow shifts. Answer d is not correct because the manual valve is used to select the gear selector and is unlikely to cause delayed shifts.

7. **The correct answer is b.** A defective one-way clutch can cause the transmission to slip because the clutch must lock in one direction and free wheel in the opposite direction. If the clutch fails to lock, the transmission will act as if it is slipping and not transmitting engine torque correctly to the drive wheels. Answer a is not correct because a defective torque converter cannot cause slippage during shifts although it can cause a lack of power during acceleration, which may be thought to be slippage to a driver. Answer c is not correct because worn planetary gears will make noise but will not cause the transmission to slip. Answer d is not correct because an open shift solenoid would prevent shifts from occurring and will not cause the transmission to slip when it shifts.
8. **The correct answer is d.** Neither technician is correct. Technician A is not correct because low fluid level, while it could affect the results of a stall test, would most likely cause the engine speed to be higher, rather than lower due to the lack of the proper amount of fluid in the system. Technician B is not correct because the torque converter clutch is not engaged during a stall test (zero vehicle speed). Answers a, b, and c are not correct because neither technician is correct.
9. **The correct answer is b.** An open transmission fluid temperature (TFT) sensor wire would be interpreted by the computer as very cold fluid temperature. The computer often delays the operation of overdrive and the torque converter clutch until the transmission fluid reaches a certain pre-determined value in an attempt to get the fluid up to normal operating temperature as soon as possible. Answer a is not correct because the fluid temperature sensor fault is not major enough to cause the computer to command a default gear selection, such as second gear only. Answer c is not correct because even though no symptoms may be noticed by the average driver, the computer will usually attempt to raise the very low fluid temperature by delaying the application of the torque converter clutch and overdrive in many cases. Answer d is not correct because the transmission systems are still intact enough to allow almost normal operation of the automatic transmission.
10. **The correct answer is d.** All of the above are correct. Answer a is correct because starting bolts by hand reduces the chances of cross threading, which can damage the transmission case. Answer b is correct because tightening the bolts gradually helps assure that the pan will be evenly tightened and that none of the bolts will be in a bind, which can cause the bolt to be tight, yet not properly clamp the pan to the case. Answer c is correct because a torque wrench should be used not only to achieve the specified torque but also to achieve even tightening of all of the fasteners.
11. **The correct answer is d.** Reflashing of the computer may be necessary to cure a particular problem, but it is not one of the steps that should be followed during diagnosis. Answer a is not correct because the fluid should be checked as part of the diagnosis of a shifting problem. Answer b is not correct because checking scan tool data (PID) is one of the steps that should be performed while diagnosing a shifting problem with an electronically shifted automatic transmission. Answer c is not correct because retrieving stored diagnostic trouble codes (DTCs) is one of the steps that should be followed when diagnosing a faulty transmission.
12. **The correct answer is c.** A worn extension housing bushing can cause excessive movement of the slip yoke to occur leading to leakage between the yoke and the rear seal. Answer a is not correct because even though too high level of automatic transmission fluid (ATF) can cause problems, it is unlikely to be the cause of a leak from the rear seal. Answer b is not correct because endplay occurs in the longitudinal axis of the output shaft and is unlikely to cause the rear seal to leak fluid. Answer d is not correct because a slipping yoke can wear on the inside (splines) and on the outside due to dirt wearing the outer surface, but is unlikely to wear enough to cause a leak.

13. **The correct answer is b.** Technician B is correct because the transmission cooler should always be flushed and checked for proper flow whenever the automatic transmission/transaxle is rebuilt or replaced to insure that the fluid is cooled properly to prevent harm from occurring. Technician A is not correct because although the friction discs should be replaced, the steel plates (discs) do not necessarily need to be replaced. Answers c and d are not correct because Technician B only is correct.
14. **The correct answer is a.** Technician A is correct because all soft parts including rubber seals and O-rings, as well as the friction discs, should be replaced as part of an automatic transmission/transaxle overhaul. Technician B is not correct because even though the steel discs can be replaced, they do not need to be replaced unless they have been overheated and distorted or worn. Answers c and d are not correct because Technician A only is correct.
15. **The correct answer is a.** Technician A is correct because any extra friction discs in a clutch pack would decrease the clutch pack clearance. Technician B is not correct because too thin of a selective clutch pack pressure plate would cause the clearance to be greater than, rather than less than this specification. Answers c and d are not correct because Technician A only is correct.