

Name _____

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

1) What is meant by adaptive controls?

2) What is the purpose and function of the pressure sensors inside the automatic transmission/transaxle?

3) What four sensors used by the automatic transmission/transaxle controller to determine when to shift?

4) What are the types of computer memory used in the PCM/TCM?

5) What is the purpose and function of the input and output speed sensors?

Answer Key

Testname: ATT7_SHORT9

1) Most late model electronically controlled automatic transmissions/transaxles use the PCM or TCM to monitor the time it takes to complete a shift. The PCM can determine this from the comparison between the engine speed and the output speed sensor data. When a shift is commanded, there should be a change in the speed of the output shaft. If the change in speed is more than normal, which could indicate normal wear in the clutch pack, the PCM can learn from this and start the shift sooner to allow time for the clutch to be fully engaged. The adjustment is called adaptive control, or adaptive learning, which keeps shift duration within a certain time period as determined by the driver's habits.

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2) The signal from the pressure sensor tells the TCM that the circuit has pressure. The TCM uses these signals along with other information to determine TCC lockup and shift timing.

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3) The four sensors used by automatic transmissions/transaxles include:

- Transmission range switch
- Speed sensors
- Pressure sensors
- Temperature sensors

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4) The types of memory include:

- Random access memory (RAM).
- Read-only memory (ROM).
- Programmable read-only memory (PROM).
- Electronically erasable programmable read-only memory (EEPROM).
- Keep alive memory (KAM). ROM that is always connected to power so it retains memory.

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5) Speed sensors measure the speeds of the input and output shafts or sometimes of other shaft speeds in the automatic transmission or transaxle. The output shaft speed sensor is often used to provide vehicle speed information to the PCM and for adaptive learning.

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