

# Automatic Transmission/Transaxle

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Course Final Review

# Automatic Transmission/Transaxle

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- ❑ An automatic transmission's torque converter connects and disconnects the engine and transmission.
  - ❑ Pistons and servos, planetary gearsets & transmission bands are basic component of a modern automatic transmission.
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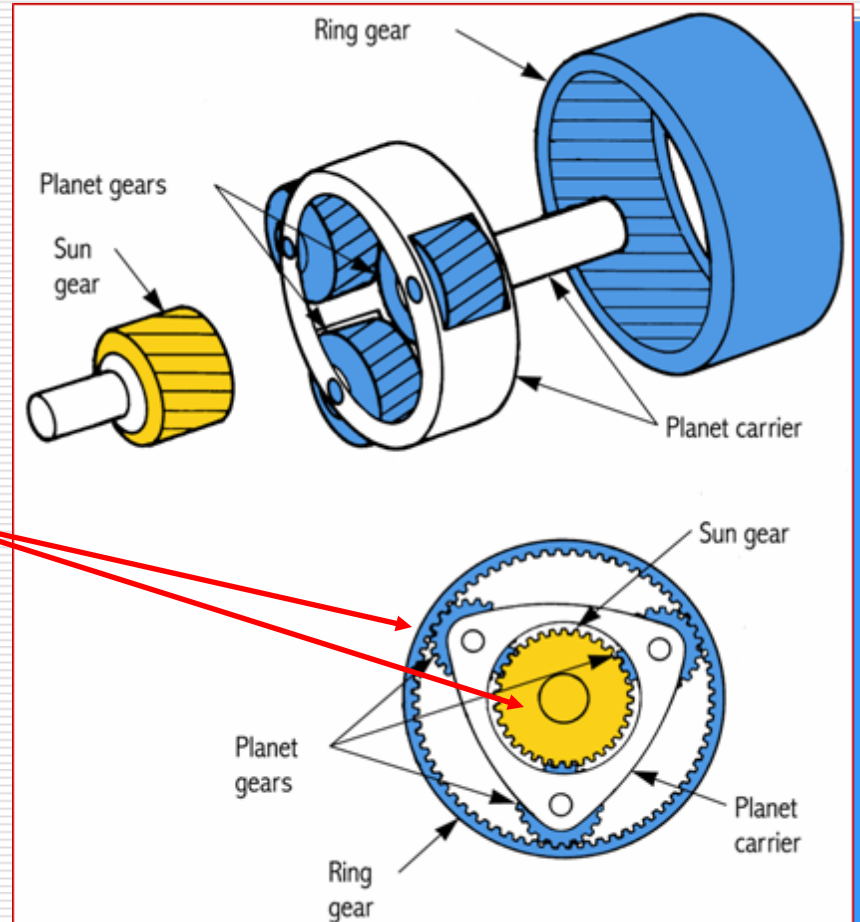
# Automatic Transmission/Transaxle

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- ❑ An automatic transmission oil pump produces pressure to operate the transmission's hydraulic components & to lubricate the transmission's counter gears.
  - ❑ A planetary gearset will act as a solid unit when two of its members are held .
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# Planetary Gearset

A planetary gearset will act as a solid unit when two of its members are held



# Automatic Transmission/Transaxle

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- ❑ The vacuum modulator senses engine load and determines when the transmission should shift to a higher gear.
  - ❑ When an engine lacks power you should check both the engine *and* automatic transmission for any malfunctions.
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# Automatic Transmission/Transaxle

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- ❑ When diagnosing an automatic transmission slippage problem, always check the transmission's oil level first.
  - ❑ Inspect the transmission's vacuum modulator circuit if an automatic transmission shifts to early.
  - ❑ Abnormal sound in all gears can be caused by an automatic transmission's oil pump.
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# Automatic Transmission/Transaxle

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- ❑ Automatic transmission troubleshooting procedures include checking the transmission oil level, linkage operation & engine operation.
  - ❑ Always follow manufactures diagnostic procedures when conducting a stall test.
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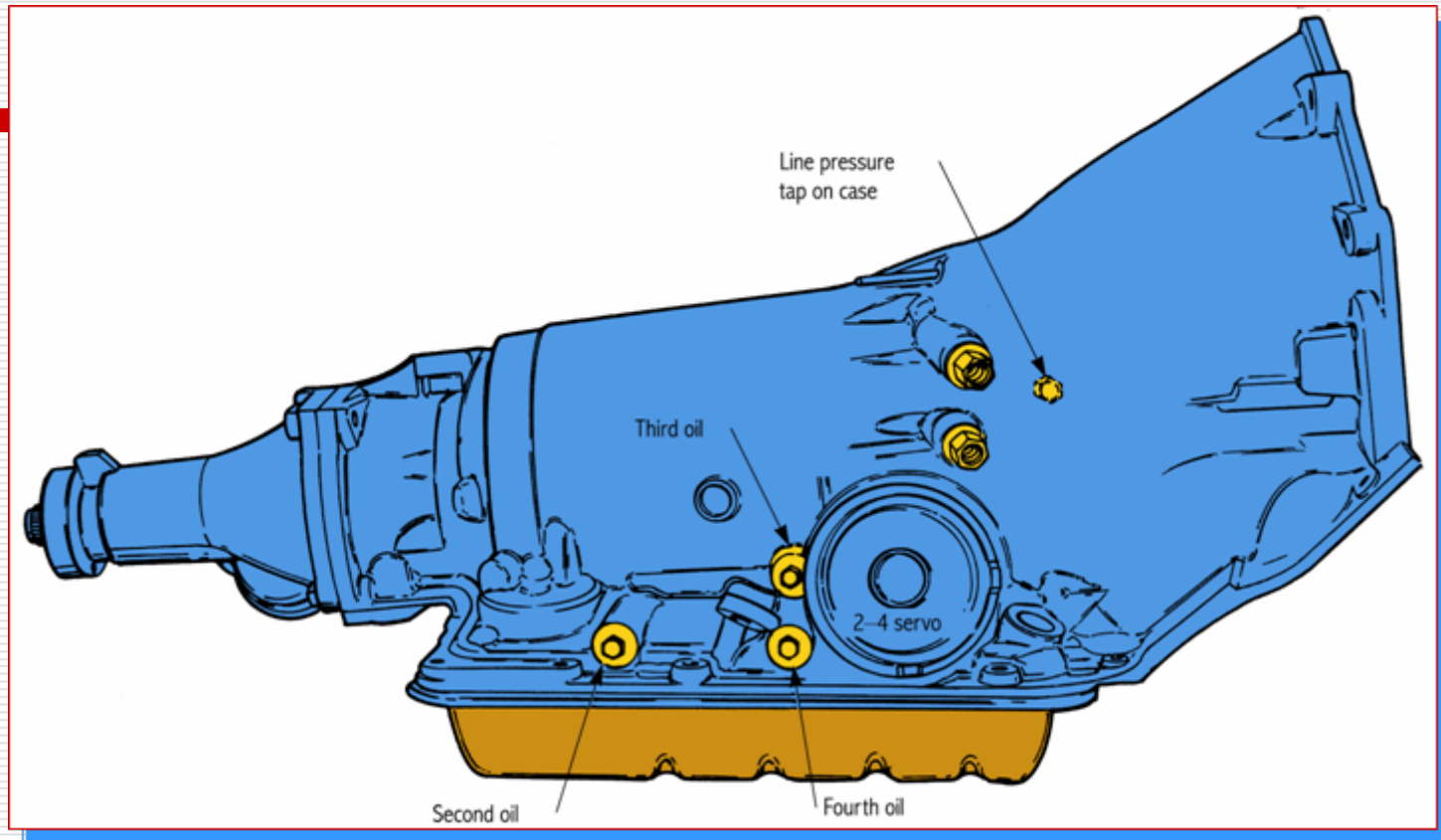
# Automatic Transmission/Transaxle

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- ❑ When performing a pressure test on an automatic transmission, connect the pressure gauge to the ports located on the outside of the transmission case.
  - ❑ Transaxles are used on front-wheel-drive cars and certain types of rear engine cars.
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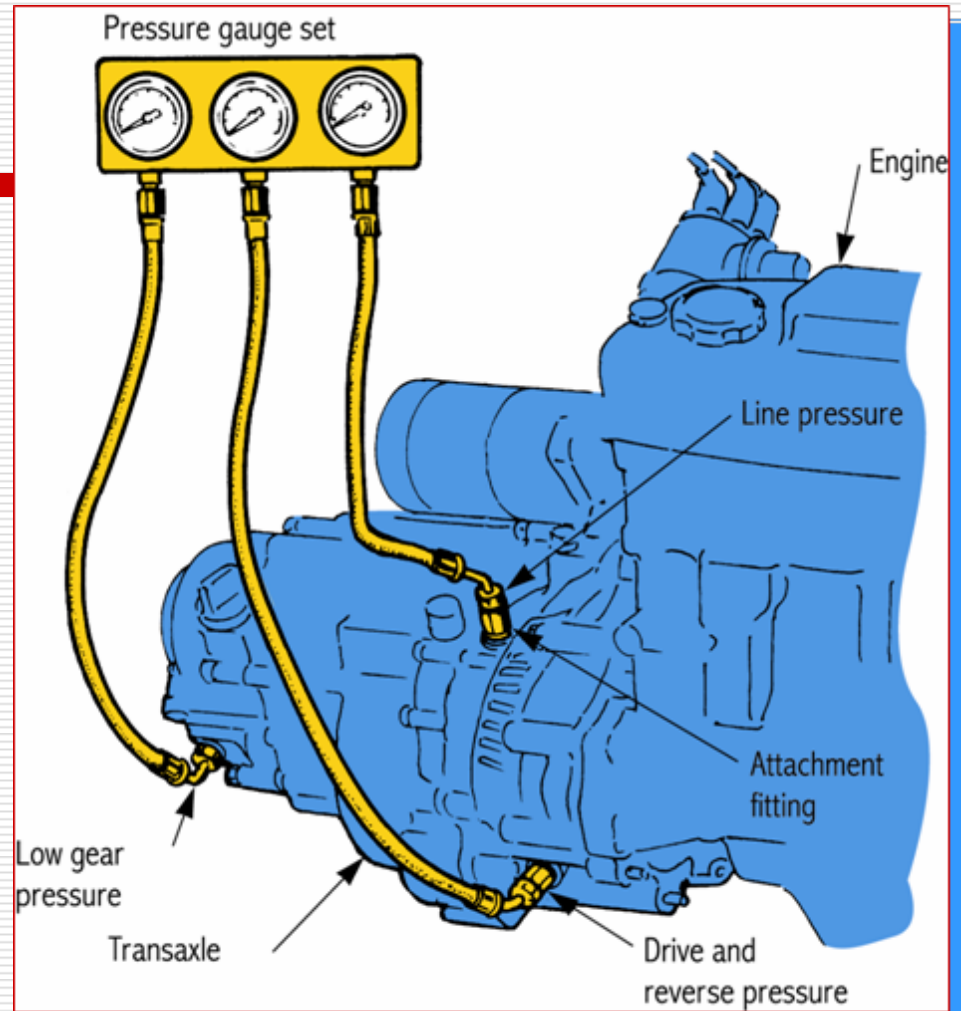
# Pressure Tests



Used to determine whether oil pressure in the circuits is normal. Ports are provided to install gauges

# Pressure Tests

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Using pressure gauges to determine the transaxle condition

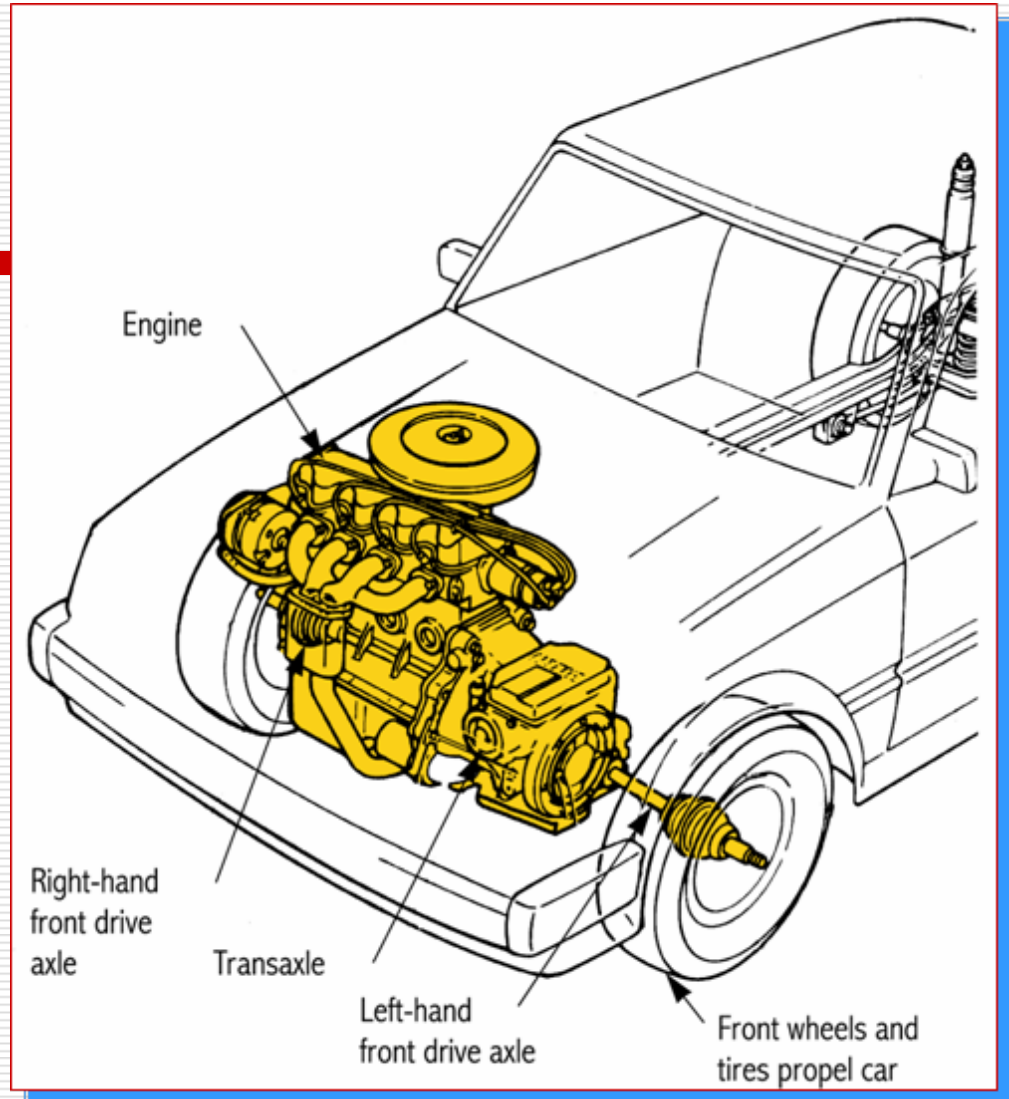
# Automatic Transmission/Transaxle

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- ❑ Front-wheel-drive cars equipped with a transaxle improve traction on slippery pavements & improves the safety of the passengers because there is increased mass in the front of the car.
  - ❑ Most transaxles are designed so that the engine can be mounted sideways or transversely in the engine compartment.
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# Transaxle

Transaxles are designed so that the engine can be mounted sideways or transversely in the engine compartment.



# Automatic Transmission/Transaxle

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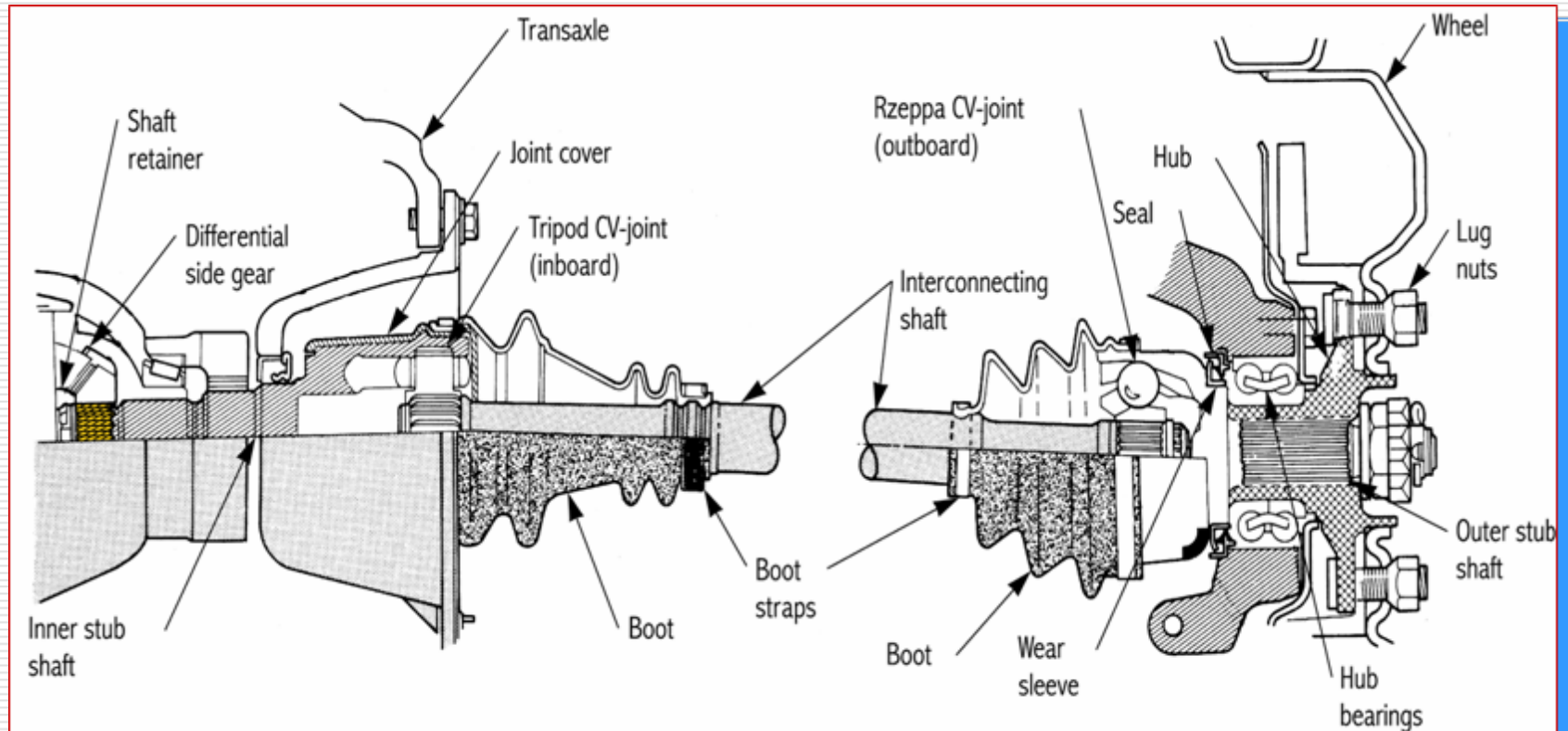
- ❑ A torque converter, planetary gearset & transaxle case are basic components of an automatic transaxle.
  - ❑ During transaxle operation, the transmission transfers power into the differential.
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# Automatic Transmission/Transaxle

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- ❑ To help diagnose a noisy transmission, ask your customer in which gear or under what conditions the noise is present & test drives the car in all gears at different speeds to determine what conditions the noise is present.
  - ❑ Possible front wheel drive axle problems may be caused by worn CV-joint boots.
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# CV-Joints



# Automatic Transmission/Transaxle

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- ❑ To diagnose front wheel drive axle problems, drive the car in reverse with the wheels cut hard to the right and left.
  - ❑ Checks the transaxle's fluid level if an automatic transaxle slips when placed in gear.
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# Automatic Transmission/Transaxle

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- ☐ Diagnose possible drive axle problems with the car raised on a lift with the engine off and the transaxle in park or neutral.
  - ☐ Checks an automatic transaxle's lubricant level while the lubricant is at operating temperature and with the engine running.
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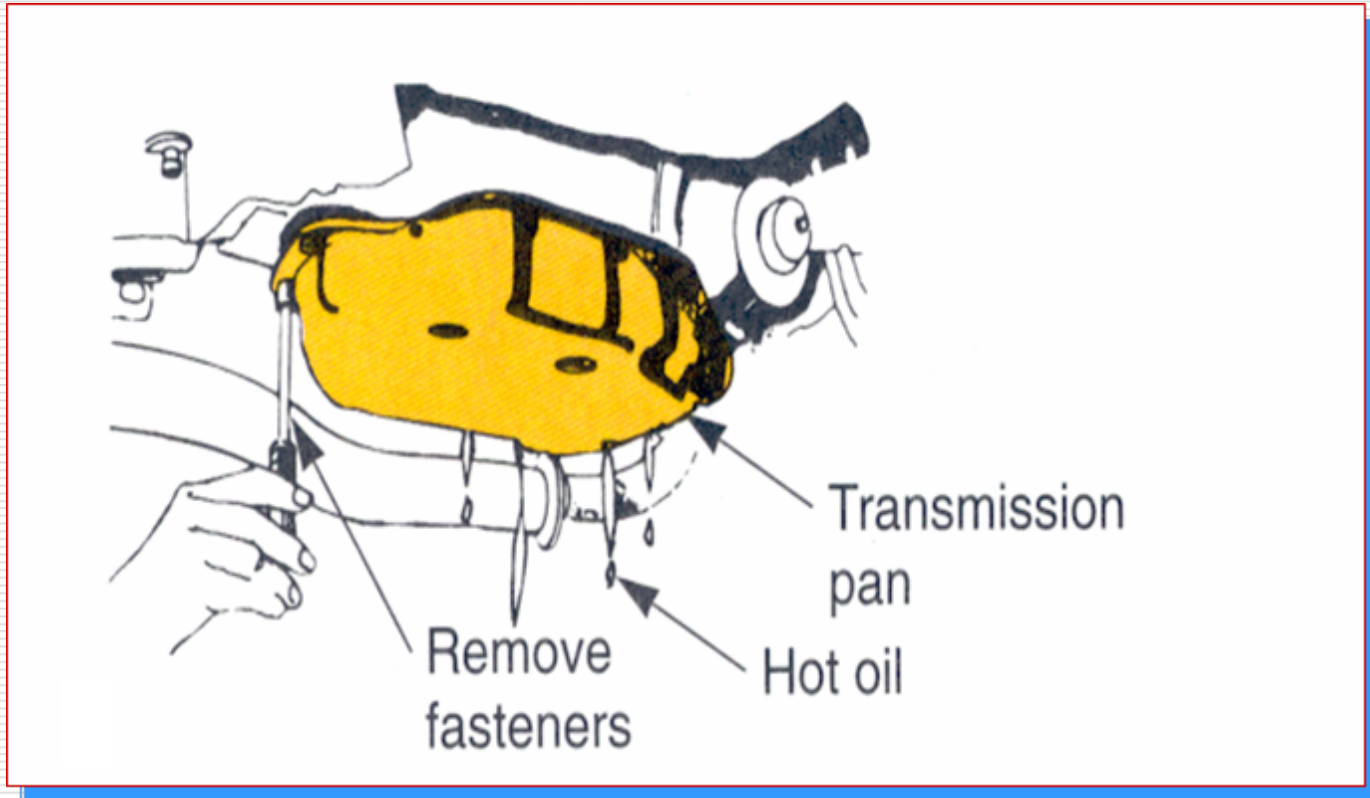
# Automatic Transmission/Transaxle

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- ❑ When changing automatic transmission fluid, warm the transaxle's fluid to operating temperature before draining it.
  - ❑ Before installing a new CV-joint. inspect the axle shift splines & condition of the axle shaft snap ring groove.
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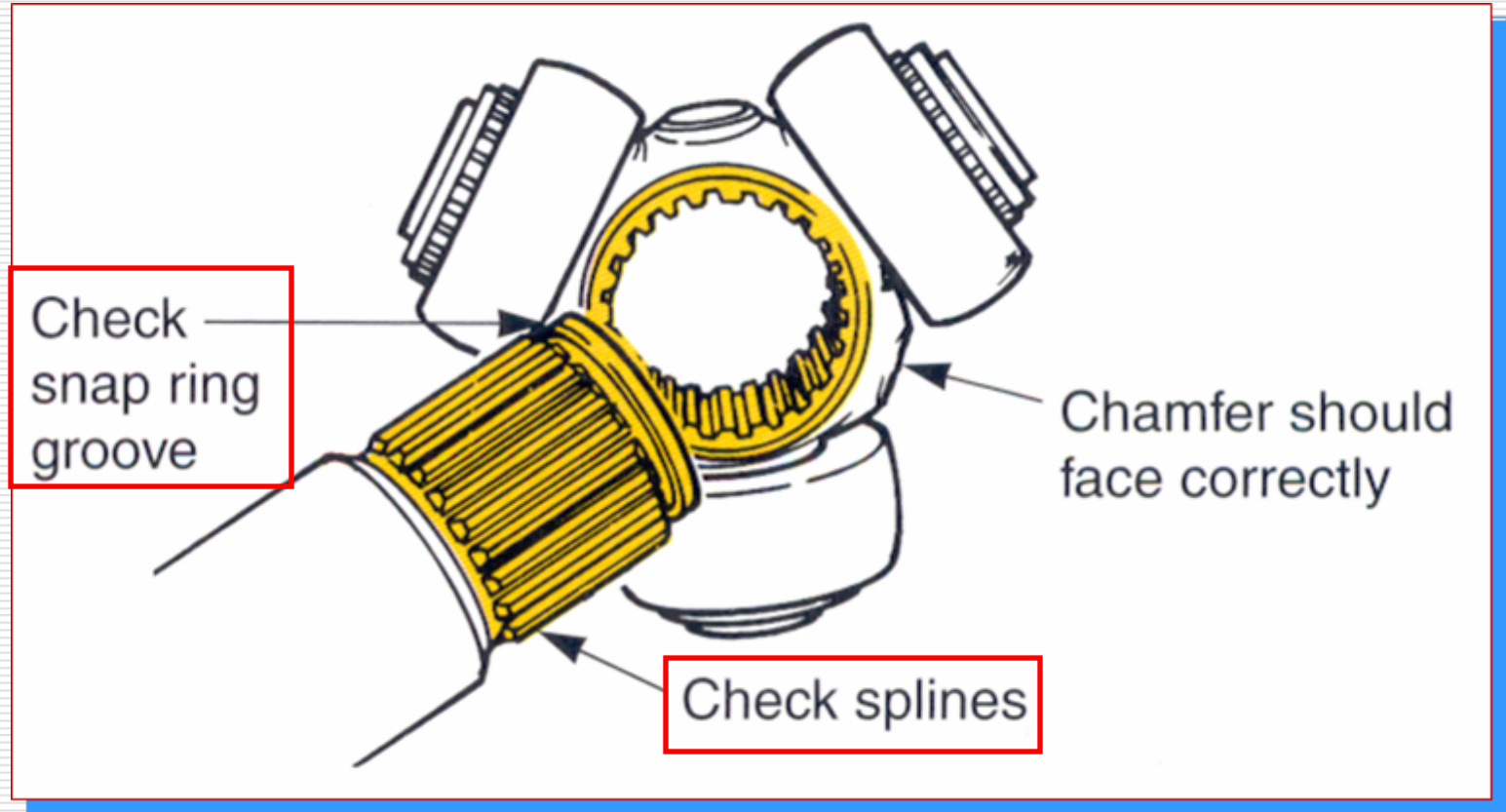
# Changing Transmission Oil

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Warm the transaxle's fluid to operating temperature before removing the pan

# CV-Joint Assembly



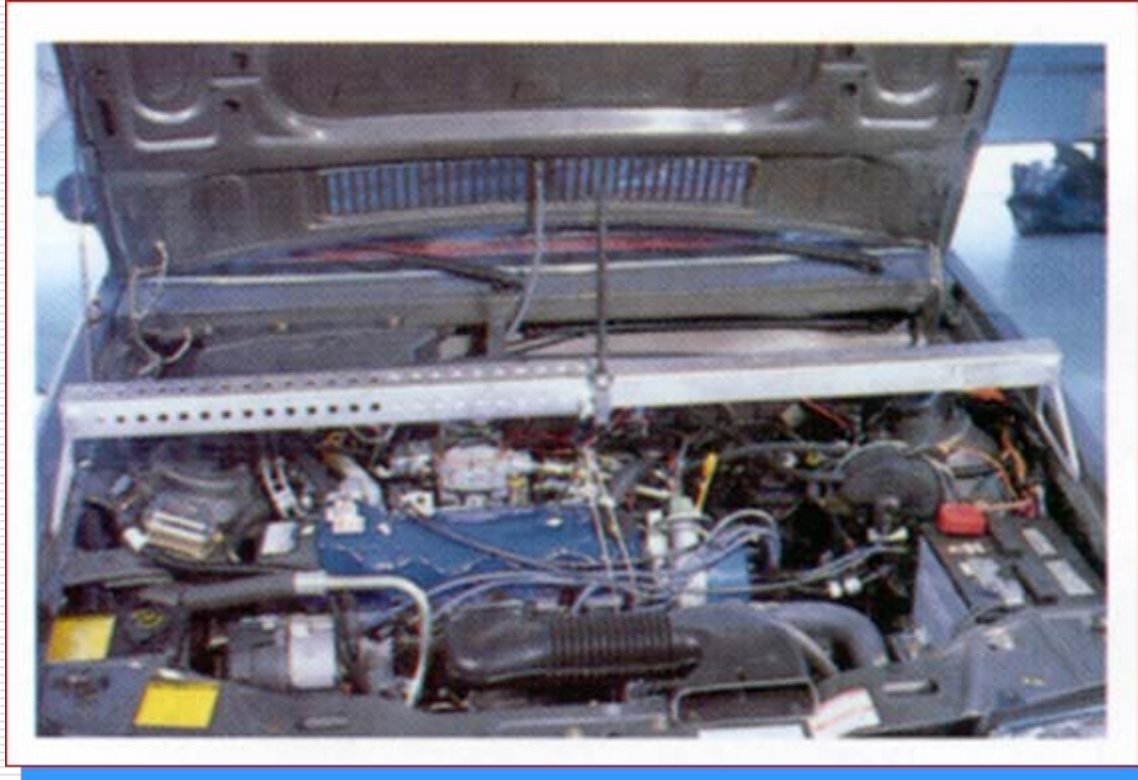
# Automatic Transmission/Transaxle

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- ❑ The transaxle can be disconnected from the engine and removed from the bottom of the engine compartment on most front-wheel drive cars.
  - ❑ Air pressure tests can isolate problems in automatic transmission circuits.
  - ❑ Hydraulic circuits show how the oil passages inside an automatic transmission are connected to each other.
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# Removing the Transaxle

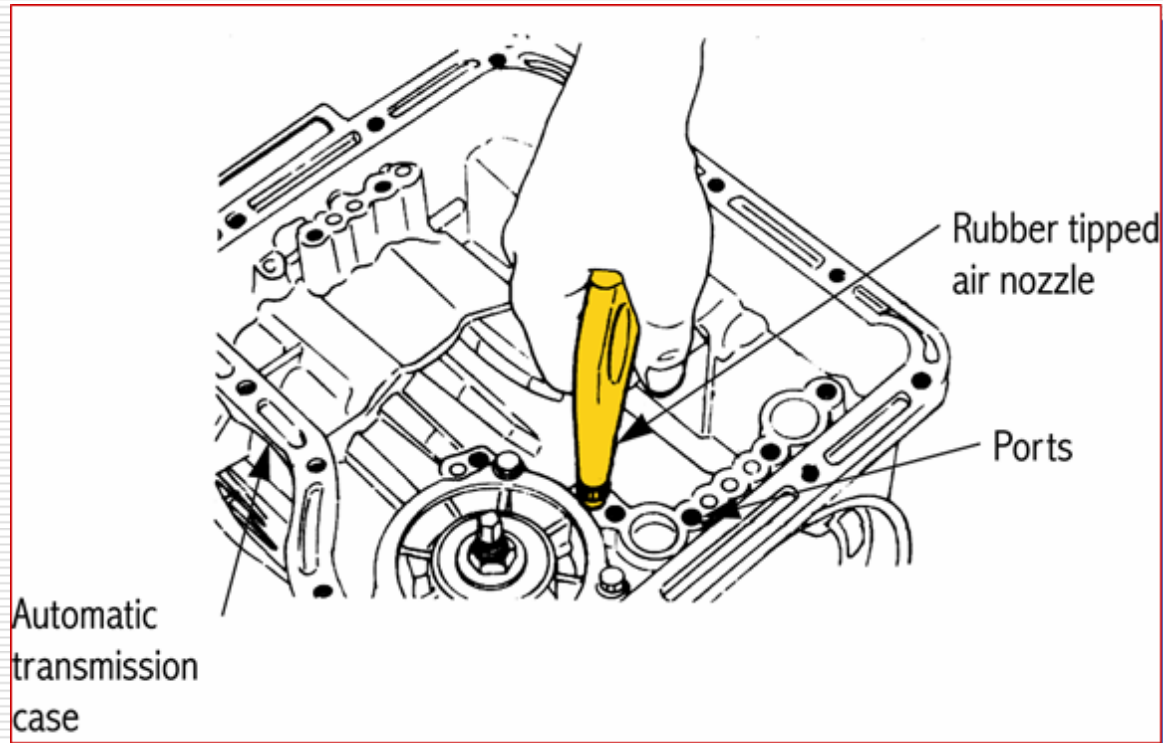
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Use an engine holding fixture to support the weight of the engine to remove the transaxle from the bottom of the vehicle.

# Performing an Air Test

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A dull thud should be heard. Hissing sound indicates a leak

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