Transmission Diagnostic

Preliminary
The following items should be checked at the beginning the diagnostic procedures:

Communication
First understand the customer concern of about their transmission.

Basic question to ask your customer: Does this problem occur during...?

Does this problem occur during Hot or cold vehicle temperature.
Does this problem occur during Hot or cold ambient temperature.
Does this problem occur during Adverse weather conditions snow,rain etc.
Does this problem occur during Vehicle loaded/unloaded.
Does this problem occur during City/highway driving.
Does this problem occur during on rough or harsh terrain.

After understanding when and how the concern occurs, proceed to Verify the problem.

NOTE: Some transmission conditions can cause engine concerns. An electronic pressure control short circuit can cause engine misfiring. The torque converter clutch not disengaging will stall the engine.

The following procedures on the next pages will be covered more in depth in order to help determine the problem(s) with your customers transmission.

Up-shift
Downshift
Coasting
Engagement

Noise/vibration:
RPM
vehicle speed
shift
gear
range
temperature dependent

If we can Assist you in anyway please fell free to contact us.

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875 Corporate Drive - Jordan, MN 55352  952-641-9005
Check Fluid Level and Condition

CAUTION: The vehicle should not be driven if the fluid level indicator shows the fluid below the DO NOT DRIVE mark or internal failure could result. Under normal circumstances, the fluid level should be checked during normal maintenance. If the transmission starts to slip, shifts slowly, or has signs of fluid leaking, the fluid level should be checked.

1. Place the range selector lever in the PARK position.
2. Wipe the fluid level indicator cap and remove the indicator.
3. Wipe the indicator with a clean cloth.
4. Install the indicator back in the filler tube until it is fully seated, then remove the indicator. The fluid level should be within the normal operating temperature range.

High Fluid Level
A fluid level that is too high may cause the fluid to become aerated, causing erratic control pressure, foaming, loss of fluid from the vent tube and possible transmission malfunction and/or damage.

Low Fluid Level
A low fluid level could result in poor transmission engagement, slipping, malfunction and/or damage. This could also indicate a leak in one of the transmission seals or gaskets.

Diagnostic Strategy
Troubleshooting an electronically controlled automatic transmission is simplified by using the proven method of diagnosis. One of the most important things to remember is that there is a definite procedure to follow.

NOTE: Do not take any short cuts or assume that critical checks or adjustments have already been made.

To properly diagnose a concern, have the following information available:

1. Clutch and Band and/or Clutch Application Chart
2. Code Definitions
3. Pressure Locations and Specifications
4. Solenoid Firing Order

Diagnostics
Carry out on-board diagnostic procedures key on engine off (KOEO) and key on engine running (KOER).

1. Record all diagnostic trouble codes (DTCs).
2. Repair all non-transmission codes first.
3. Repair all transmission codes second.
4. Erase all continuous codes and attempt to repeat them.
5. Repair all continuous codes.
Automatic Transmission Diagnostic Worksheet

Initial Diagnostic Information

Technicians Name______________________________ Shop Name______________________________

Vehicle Make and Model_______________________________________________________________

Vehicle Year, Engine Size and Transmission Type __________________________________________

Customers Concern______________________________________________________________________

What modifications, if any, are done to the vehicle?________________________________________

On Board Diagnostic Codes________________________________________________________________

Transmission Fluid_______________________________________________________________________

Electrical concerns? (i.e Battery, extra cables for auxiliary components)_______________________

Battery Voltage_________________________________________________________________________

Engine Concerns________________________________________________________________________

Unusual Vibrations/Noises/Concerns________________________________________________________________

Test Drive Diagnostics

Selector Position: P__ R__ N__ OD__ D__ 3__ 2__ 1__
(Depending on the vehicle the selector may be different)

What is the verified concern?________________________________________________________________

When did the problem occur?________________________________________________________________

What Gear does the concern happen?________________________________________________________________

Vehicle’s temperature?_______

Outside temp was?_______

Driving conditions:
Accelerating_______ Decelerating_____ Braking____

Road Surface: _________ Up Hill_______ Dow Hill_______

Pressure Test: P______ R______ OD______

Stall Test: _________ OD______ D______
Shop Diagnostics

Linkages/Cables  Exhaust System  Oil Leaks  Yoke
Cooler Lines  Mounts  Drive-line  U-Joints
Carrier Bearing  Electrical Connections

Over all Vehicle Performance

Transmission Case  CV Boots

Results of the Diagnostic Routine

What did your tests results Indicate?

Disassembled Transmission Findings

What components were damaged in the Transmission?

Road Test After the Repair

Engagement Test  Driving/Operating System
Speedometer  Cruise Control
Kick Down  Manual Linkage
Tail/Head Lights  Engine RPM
U-Joints  Clean Vehicle

Is the Vehicle ready for delivery?

Technicians Signature

Managers Signature

NOTES: