DODGE MEDIUM DUTY TRUCKS

TCC CYCLING ON AND OFF

COMPLAINT: A Dodge pickup is brought in with a complaint of intermittent and erratic bumps which seem to clear up once the vehicle has reached 60 mph or greater. The technician driving the vehicle notices that the converter clutch is being commanded on and off when the bumps are felt. The way the converter clutch was being commanded on and off was not occurring in the typical fashion these vehicles are notorious for. Usually, the shuttle is more rhythmic between 45-50 mph. The convert clutch in this case was more "out/off" then quickly back "in/on" maybe once or twice then stop before intermittently repeating itself.

CAUSE: When it comes to TCC shuttle, vehicles using the RE transmission (42, 44, 46, 47 and 48), have a healthy list of possibilities which can vary depending on it being equipped with a gas, 12 valve or 24 valve diesel engine. The vehicle cited here was a 2001 Dodge 2500 5.9L diesel with a 47RE transmission. The customer mentioned that this problem began immediately after an engine oil change. The tech decided to do look around where the filter was. He saw that the A/C High Pressure Switch was located on the discharge line near the compressor as well as being close to the filter. He unplugged it an noticed oil was in the connector. He drove the vehicle with the pressure switch unplugged and the complaint was no longer evident.

CORRECTION: In this case the connector was cleaned to remedy the complaint as the switch was still functional.
Note: The A/C high pressure switch is connected in series electrically with the low pressure switch and the heater control, between ground and the PCM (Figure 1). This means the low pressure switch (mounted on the top of the accumulator) could also become suspect. Unplugging one or the other of these switches as a quick test to see if it corrects a TCC shuttle condition may be helpful, but each switch will need to be tested to know which one has failed and will need to be replaced.

Low Pressure Switch Diagnosis:
1.Disconnect and isolate the battery negative cable.
2.Unplug the A/C low pressure switch wire harness connector from the switch on the accumulator fitting.
3.Install a jumper wire between the two cavities of the A/C low pressure switch wire harness connector.
4.Connect a manifold gauge set to the refrigerant system service ports.
5.Connect the battery negative cable.
6.Place the A/C heater mode control switch knob in any A/C position and start the engine.
7.Check for continuity between the two terminals of the low pressure cycling clutch switch. There should be continuity with a suction pressure reading of 296 kPa (43 psi) or above, and no continuity with a suction pressure reading of 172 kPa (25 psi) or below. If OK, test and repair the A/C switch sense circuit as required. If not OK, replace the faulty switch.
High Pressure Switch Diagnosis:
1. Disconnect and isolate the battery negative cable.
2. Unplug the a/c high pressure switch wire harness connector from the switch on the refrigerant system fitting.

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3. On the four terminal high pressure switch, check for continuity between terminals C and D. On the two terminal switch, check for continuity between both terminals of the A/C high pressure switch. There should be continuity. If OK, test and repair the A/C switch sense circuit as required. If not OK, replace the faulty switch.

Special thanks to Donald Holliday at Covington Automotive

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