



# Technical Service Information

## HONDA ODYSSEY B36A

### MISSING 2ND GEAR

**COMPLAINT:** A 2010 Honda Odyssey 3.5L engine in front of a 5 speed B36A transmission comes into the shop with a torque converter overheat condition. After rebuilding the transmission and replacing the torque converter, the transmission does not shift into 2nd gear nor does it seem to shift into 3rd gear on a road test. A scan tool reports that second gear was being commanded by the computer. As the vehicle is being pushed to shift, it defaults to 5th gear. A DTC P1780 sets for a problem in the shift control system along with a P0732 code for a 2nd gear ratio error.

**CAUSE:** With the transmission just being rebuilt and assuming no human error took place during the rebuild, the loss of second gear can be due to several possibilities.

1. A defective computer not properly driving a solenoid or turning the solenoid completely off, collapsing the magnetic field.
2. If the solenoids were not replaced, there could be a mechanically failed solenoid(s).
3. Sticking shift valve or valves.

**CORRECTION:** 1. Use a scope to check solenoid commands to shift solenoids A, B and C. For this particular problem with a no 1-2 up-shift, shift solenoid A is OFF while B and C are ON in first gear. When a shift into second takes place, shift solenoid A turns ON first. Immediately afterwards shift solenoid C turns OFF. A scope should show about 12 volts going to shift solenoid A when it turns ON and 0 volts going to shift solenoid C when it turns OFF. If readings are much different, this would indicate a bad computer.

2. Pull shift solenoids A, B and C from the transmission and bench test them with power turning them on and off. The valve in these snout of the solenoid should move. Solenoid A with the black connector works opposite of solenoids B and C with the brown connector. Replace the solenoids as necessary.

3. It is possible to free up a stuck shift valve without pulling the transmission from the vehicle by obtaining a Superior Transmission Parts test tool from a local supplier, or by making one of your own. To make your own, obtain a defective shift solenoid and remove the snout from the coil canister. Empty the snout and modify it by blocking the exhaust passage at the snout's base. Then block the passage at the tip of the solenoid. This will allow you to supply compressed air into the canister end of the snout so that it exits through the middle hole (see figure 1). This tool can then be installed into each solenoid port one at a time to blow air into it's circuit to stoke the following valves:

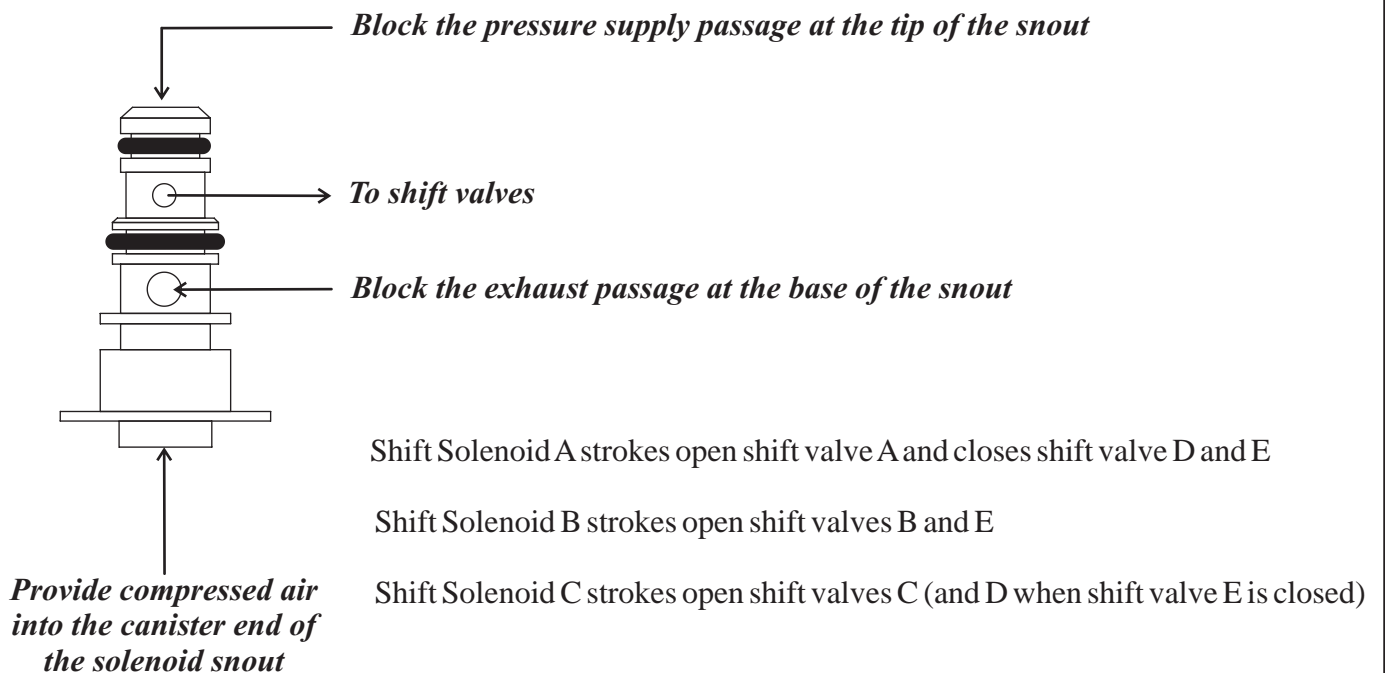
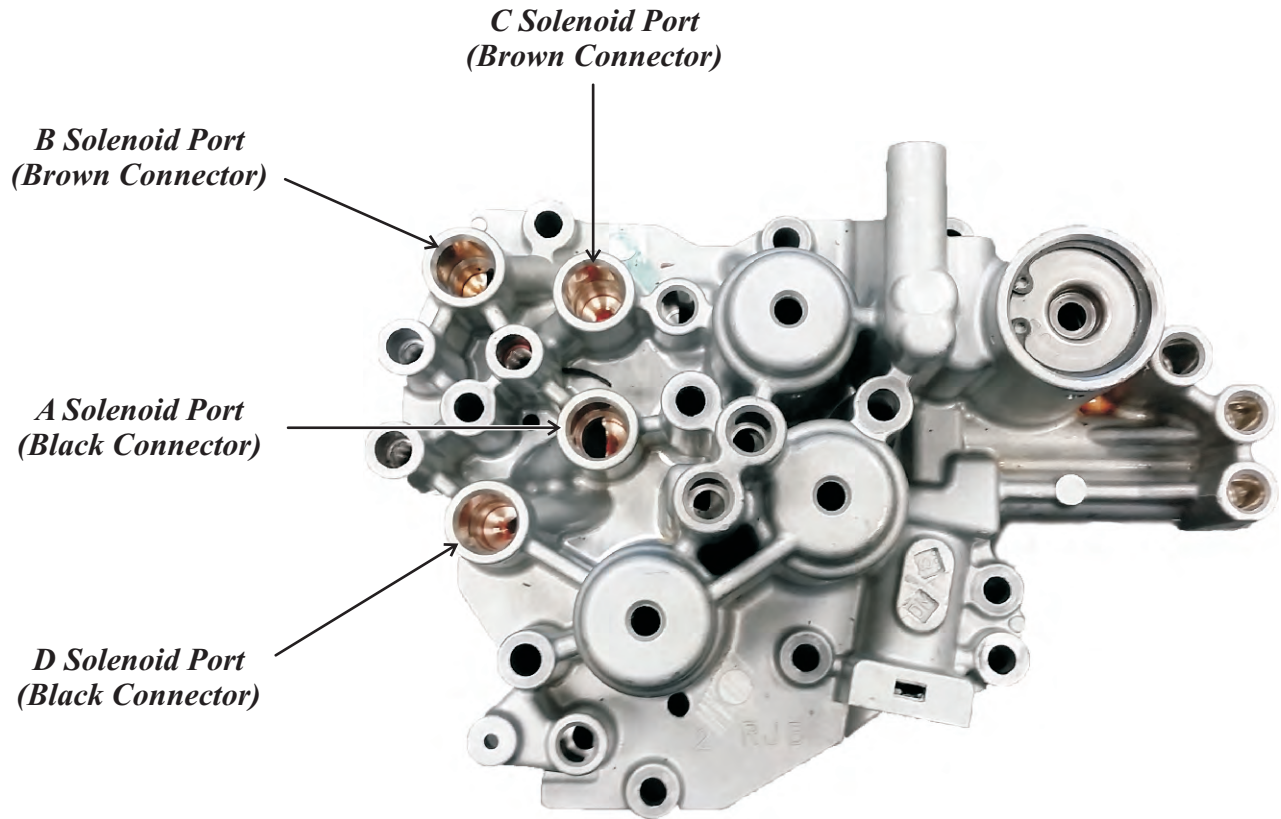
- Shift Solenoid A strokes open shift valve A and closes shift valve D and E
- Shift Solenoid B strokes open shift valves B and E
- Shift Solenoid C strokes open shift valve C (and D when shift valve E is closed)

The snout needs to have good o-rings installed and will need to be lubricated as necessary with each use. This is also a good test to do while the transmission is on the bench before it is closed up and installed into the vehicle.

### SERVICE INFORMATION:

Superior Transmission Parts Honda Shift Valve Air Check Tool.....STL-HOT

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Figure 1