



## 1996 & LATER JEEP & DODGE TRUCKS WITH RE TRANSMISSIONS AND GAS ENGINES GOVERNOR PRESSURE SENSOR VOLTAGE CODES

**COMPLAINT:** Any 1996 and later Dodge or Jeep trucks using an RE series RWD transmission behind gasoline engines may exhibit a chronic "governor pressure sensor volts to high" code P1763 causing the PCM to place the transmission into 3rd gear failsafe. This may be accompanied with a customer complaint of a loss of engine power. The internal wiring harness, solenoids and sensor may have already been replaced in an attempt to resolve the code.

**CAUSE:**

1. One cause could be that the ground circuit for the governor pressure sensor has been compromised (See Figures 1 and 2).
  - a. Faulty governor pressure sensor
  - b. Faulty battery temperature sensor
  - c. Faulty heated oxygen sensor(s)
  - d. Faulty wiring, splices, other shared sensors or the PCM
2. Another cause could be that line pressure is running above factory specification. This could be the result of a valve body modification or a valve body malfunction, or the solenoid block is warped and leaking which allows solenoid oil to push on the tip of the transducer.
3. A malfunctioning alternator producing voltage spikes or high charging voltage would be another consideration.

**CORRECTION:**

1. Since the governor pressure sensor ground circuit is shared with a variety of other sensors including the battery temperature sensor and the heated oxygen sensor, other codes may be present with P1763 such as a P1492 "Battery Temperature Sensor Volts To High." A P1762 Governor Sensor Offset volts or drift too low or too high, or a P1757 Governor pressure above 3 psi at 0 MPH may also be present. But of all the above possibilities listed in cause number 1, malfunctioning heated oxygen sensors are the most common cause for compromising the shared ground path for the governor pressure sensor. A quick check can be made by simply clearing the code and unplug both the upstream and downstream sensors and take the truck for a road test. If the code does not return then run the vehicle with the sensors plugged in one at a time to determine which oxygen sensor is causing the code and replace the sensor. If this quick test proves that the heated oxygen sensors are not the cause of any governor pressure sensor codes, a specific wiring schematic for the vehicle being worked on will need to be acquired and each and every sensor sharing the governor sensor's ground path will need to be inspected.
2. A quick method to determine if code P1763 is being produced as the result of high line pressure is to first clear the code or codes. Drive the vehicle with the brake applied sufficiently enough to activate the brake switch signal preventing converter clutch apply. If P1763 no longer returns, release the brake and allow the converter clutch to engage. If the code is generated immediately after the converter clutch applied, higher line pressure than factory specifications is the cause. Many times this is due to some form of valve body modification in an attempt to firm up shifts and converter clutch apply.



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If the solenoid block is suspected to be warped, (Refer to Figure 4), verify the voltage on the transducer signal wire is higher at a stop in drive than it should be which is 0.6 volts. Plug a known good set of internal electrical components into the vehicle wire harness connector and now see if the transducer signal voltage is 0.6, if it is, the solenoid block is leaking.

**CORRECTION:** One fix can be to use Superior's A K500-618-L shift correction package which includes a new governor pressure control valve. This valve allows operating pressure to be raised for heavy-duty use without fear of setting code 1763.

Sometimes you may find that a 150 ohm 1/4 watt resistor has been installed into the wiring harness near PCM "B-C2" white connector terminal 29 as seen in figure 3. This resistor acts as a voltage divider and has proven to work well.

**NOTE:** Code P1763 sets when 4.89 volts or higher is seen on the governor pressure sensor circuit for 8 seconds or more. If this was caused due to high pressure, this indicates that governor pressure was between 90 to 96 psi or higher while in drive.

The computer controls the governor pressure solenoid to provide governor pressure relative to road speed (except diesel applications). When this solenoid is off it allows full pressure into the governor circuit. For it to provide 0 psi at 0 miles per hour it needs to be fully energized. As vehicle speed increases the computer slowly turns the solenoid off proportional to road speed. Once the vehicle is in fourth gear and the converter clutch is commanded on, the solenoid is turned completely off. Since line pressure is being supplied to the governor solenoid, when the computer turns it off, near all pressure that the solenoid is being fed with now enters the governor circuit. Should line pressure be above 90 psi, so will the governor circuit be and after 8 seconds, P1763 sets.

3. If the alternator is suspect, clear the codes and road test the vehicle with the alternator disconnected from the circuit. If the code does not return then the alternator should be changed. But if the code does return, cause and correction number 1 on the previous page will need to be reviewed before considering the PCM defective.

Another option is to install D-CF1 Kit Transtar part number A12432H which is an "RE" Governor solenoid to GM Pressure control solenoid Conversion kit designed to improve the reliability of the Governor solenoid in normal use and to handle higher base pressure in High performance applications eliminating the need to make any of the above mentioned modifications (Figure 5).

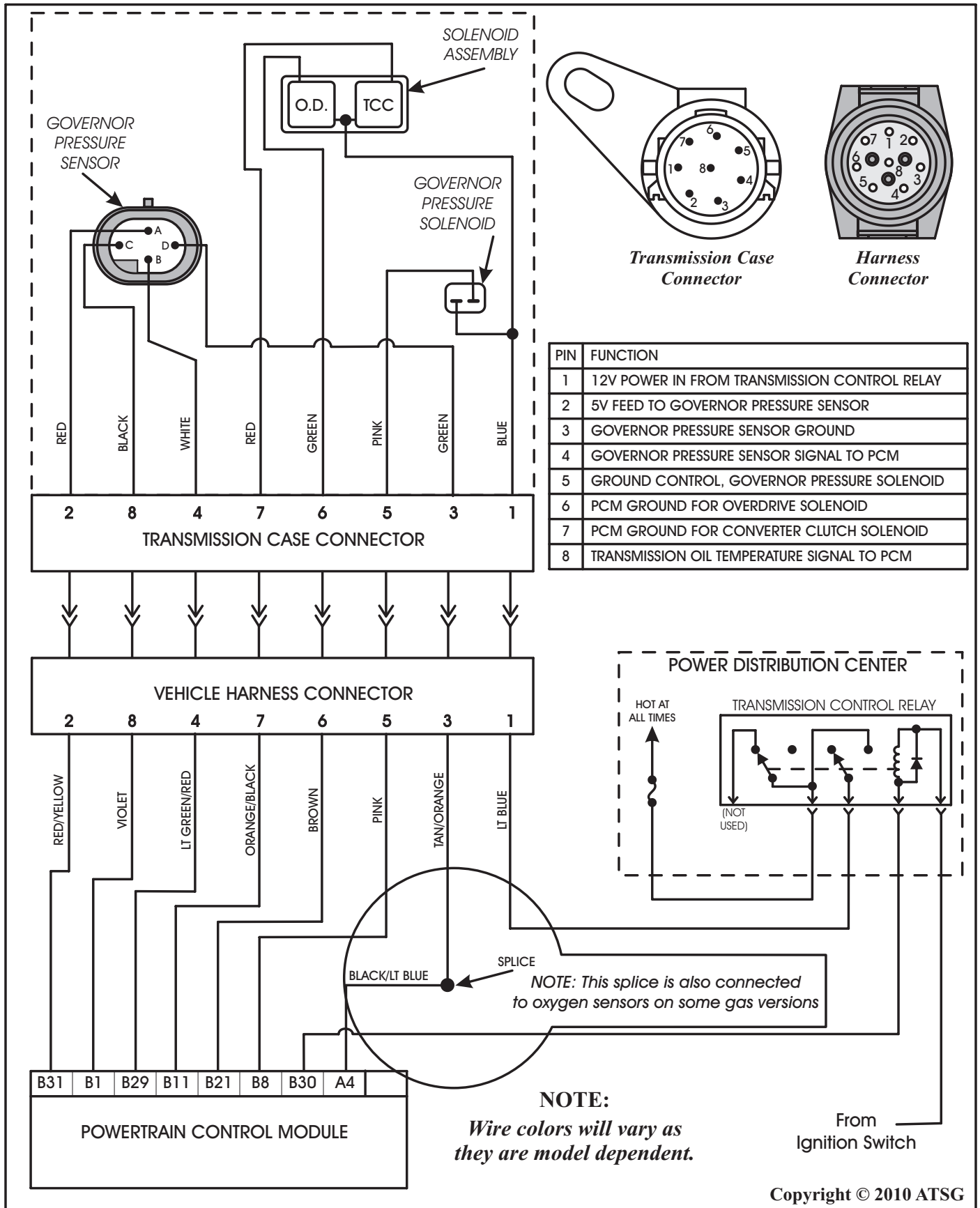


Figure 1

## 1996 & LATER JEEP & DODGE TRUCKS WITH RE TRANSMISSIONS AND GAS ENGINES GOVERNOR PRESSURE SENSOR VOLTAGE CODES

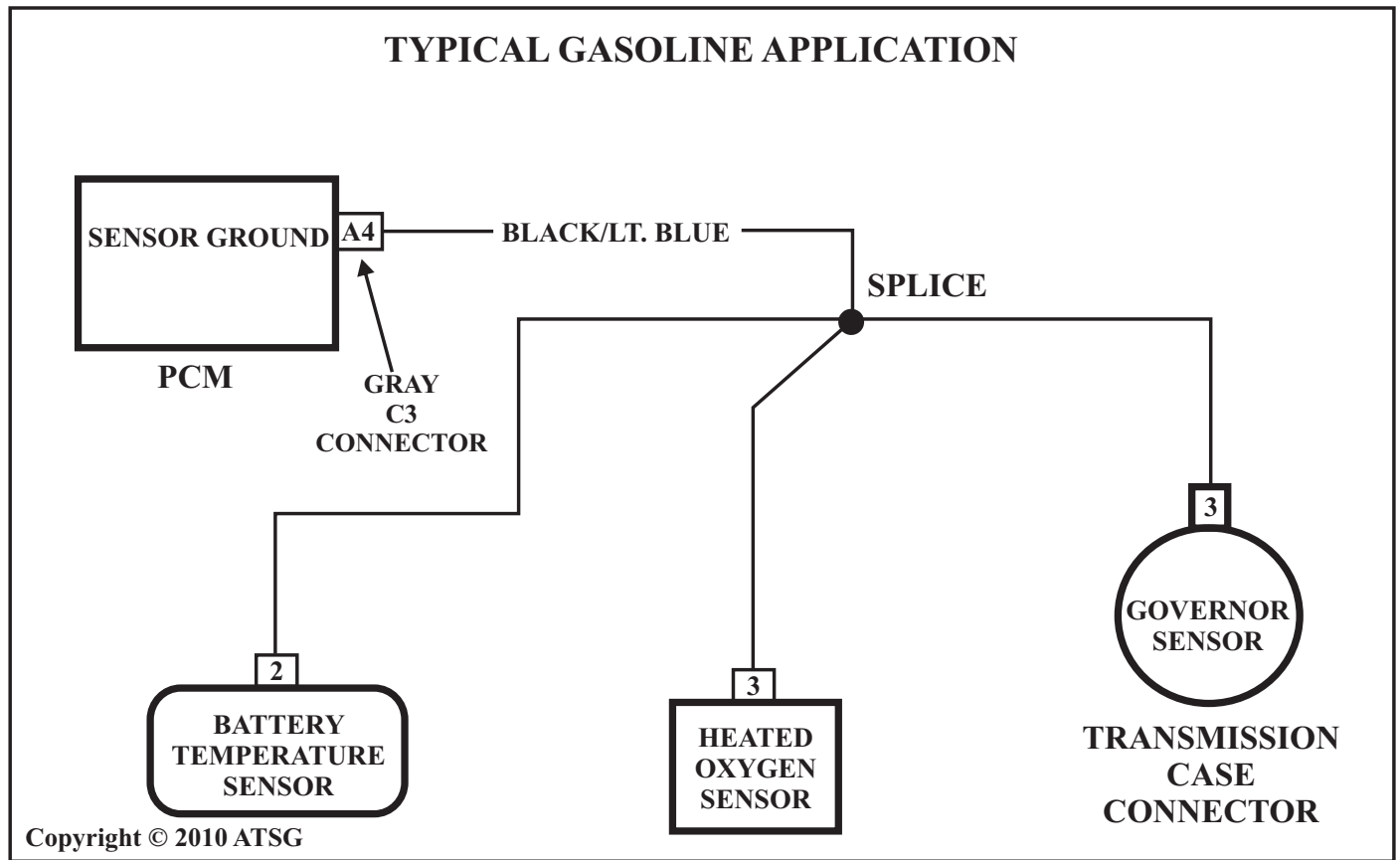


Figure 2

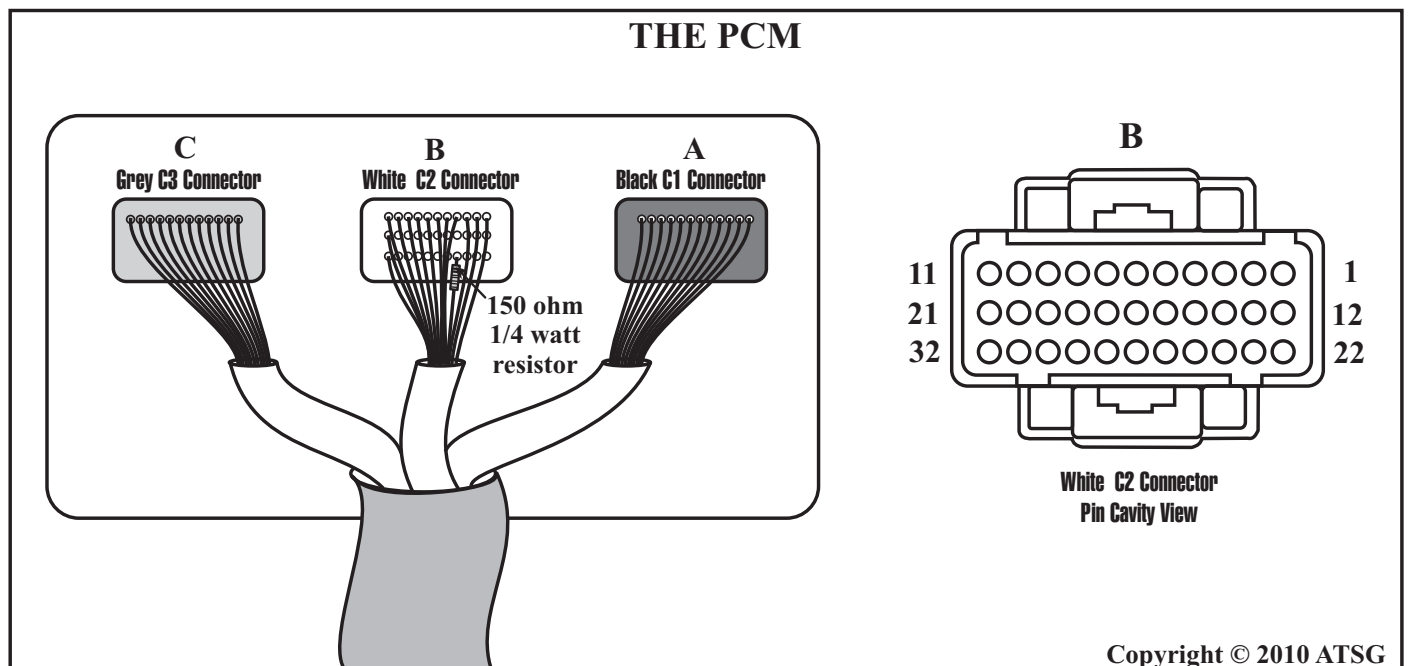
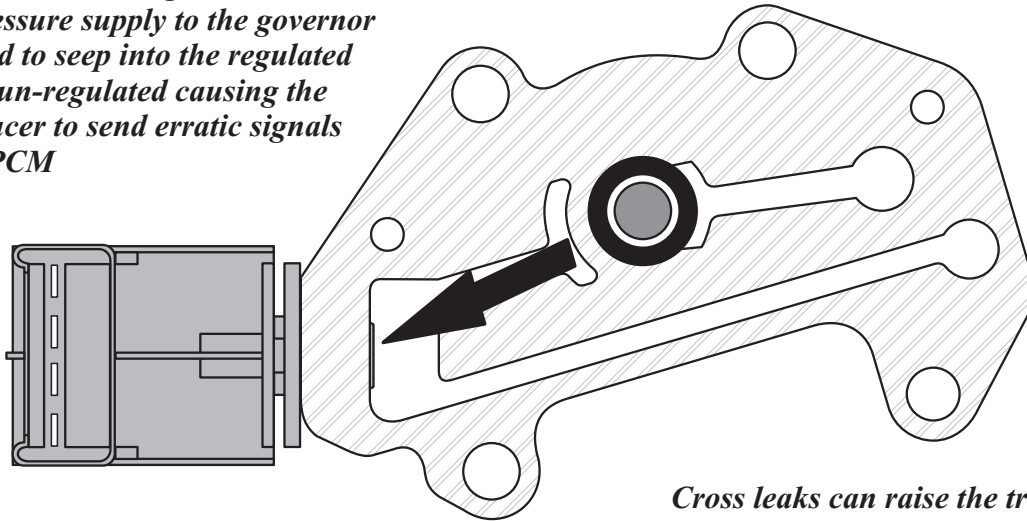


Figure 3

## 1996 & LATER JEEP & DODGE TRUCKS WITH RE TRANSMISSIONS AND GAS ENGINES GOVERNOR PRESSURE SENSOR VOLTAGE CODES

### WARPED SOLENOID BLOCK

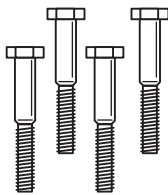
*A distorted mounting block will allow line pressure supply to the governor solenoid to seep into the regulated circuit un-regulated causing the transducer to send erratic signals to the PCM*



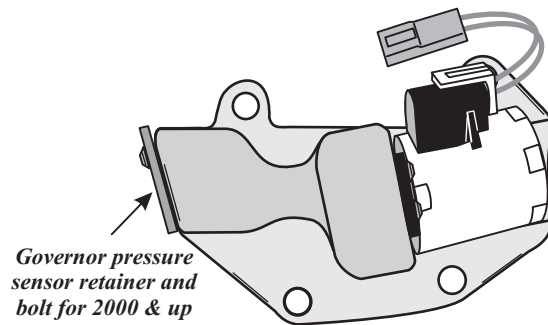
*Cross leaks can raise the transducer's signal voltage causing governor offset pressure and wrong gear starts.*

Figure 4

### CONTENTS OF D-CF1 KIT TRANSTAR PART NUMBER A12432H



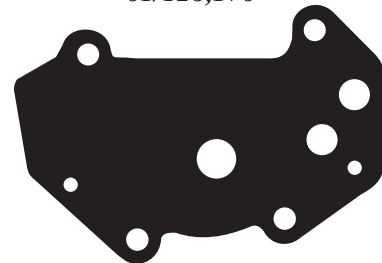
Four new Manifold retaining bolts



Governor pressure sensor retainer and bolt for 2000 & up

New Steel Block Manifold including Pressure Control solenoid and pigtail already assembled

U.S. Patent Number  
61/128,176



Manifold Gasket

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Figure 5