

# Airtex Throttle Position Sensors – 5S5351 / 5S5352

**Situation:** Circuit board damage caused by repetitive movement of contact fingers leads to vehicle hesitation; vibration from diesel engine accelerates component wear.

## **Solution: Airtex Advantage**

Using Hall Effect integrated circuitry, Airtex engineers designed 5S5351/5S5352 with sophisticated non-contact sensors to eliminate wear issues associated with OE designs. This problem-solving approach extends product life and eliminates vehicle hesitation.

5S5351/5S5352 fit Dodge Ram 2500 and 3500 diesel vehicles, model years 1998-2007. The OE part is sold with a bracket, which dramatically increases repair cost. Because the bracket rarely needs to be replaced, Airtex provides a more cost-effective option by offering the sensor without the bracket.

## **Repair tips:**

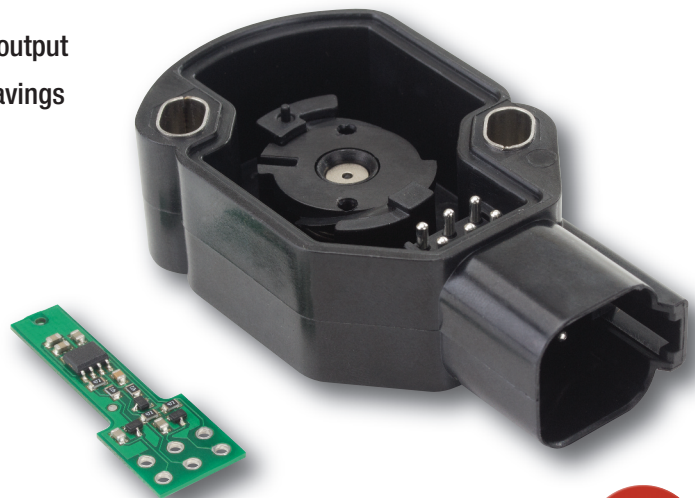
- Installation with or without the bracket requires calibration. For proper installation, follow directions on reverse side of this sheet.
- Test throttle position sensors with voltage moving through the circuit to reveal the parts' true operating characteristics.
- For best results, test throttle position sensors with a lab scope or voltmeter. Non-contact sensors cannot be tested with an ohmmeter.

## **Features:**

- Hall Effect integrated circuitry replaces failure-prone mechanical contact fingers and ink traces in original design
  - No wear points in the circuitry
  - More accurate and consistent electrical output
- Sensor sold without bracket for significant cost savings

## **Benefits:**

- Superior resistance to heat and vibration
- Longer component life
- Exceeds OE performance
- Precisely engineered for easy installation
- Increased customer satisfaction
- Comprehensive factory warranty



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**CALIBRATION REQUIRED. IF CALIBRATION PROCEDURE IS NOT FOLLOWED, ENGINE COULD IDLE AT INCORRECT RPM AND A LOSS OF POWER CONDITION COULD OCCUR.**

## Tools Required:

- Scan tool with data display capabilities or digital voltmeter
- Philips screwdriver
- 10mm socket
- T-20 Torx socket
- Ratchet

## Removal:

1. Disconnect negative battery cables at both batteries.
2. Remove cable cover by first removing the (2) Philips screws and prying out retention clips. Then push rearward on front locking tab and upward on lower locking tab. (Figure 1)
3. Remove (6) mounting bolts and partially remove throttle position sensor (TPS)/accelerator pedal position sensor (APPS) assembly from engine. Rest TPS/APPS assembly in a secure location without placing strain on the electrical connector or cables. Cables do not need to be removed from bracket assembly.
4. Disconnect electrical connector from bottom of sensor by pushing on connector tab. (Figure. 2)
5. Remove (2) Torx screws. Remove sensor.

## Installation:

1. Install electrical connector on new sensor.
2. Install sensor into TPS/APPS assembly using (2) Torx screws and washers. Reuse washers from previous sensor. Do not tighten screws all the way. A good rule of thumb is to start with the sensor in the same location as the previous sensor.
3. Connect negative battery cables at both batteries
4. TPS/APPS Calibration: Turn key to ON position. Do not start engine. Monitor the TPS/APPS voltage using a scan tool or a voltmeter on Pin 3, labeled on the connector. (Figure 3) Rotate sensor clockwise or counter-clockwise so the TPS/APPS voltage is between 0.50V - 0.60V or 10% - 12%. Tighten (2) Torx screws when sensor is positioned correctly. After screws are tightened, verify TPS/APPS voltage is still in range. Readjust as needed. Turn key to OFF position.
5. Position assembly to engine and install (6) bolts. Tighten bolts to 12 Nm (105 in. lbs.) torque.
6. Install cable cover.
7. Electronic Control Module (ECM) Calibration: Turn key to ON position. Without starting engine, slowly press throttle pedal to floor and then slowly release. This step must be done (one time) to ensure throttle position sensor calibration has been learned by ECM. If not done, possible diagnostic trouble codes (DTCs) may be set.
8. It is common for DTCs to occur during installation and calibration procedure. Use scan tool to erase any DTCs from ECM.

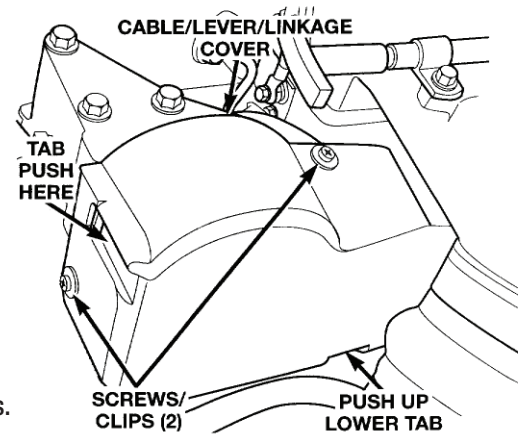


Figure 1

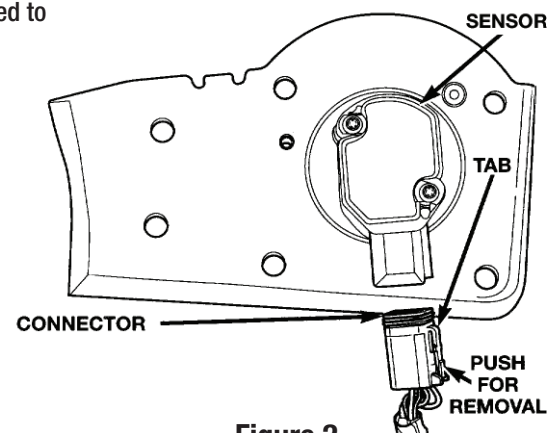
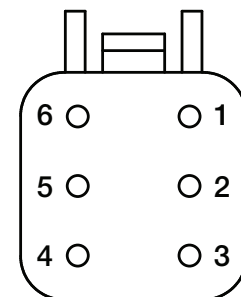


Figure 2



BACKSIDE VIEW OF WIRE HARNESS

Figure 3

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