

**FORD:**

2005-2007 F-Super Duty

This article supersedes TSB **06-7-4** to update the vehicle model years.

**ISSUE**

Some 2005-2007 F-Super Duty vehicles may exhibit a speedometer and/or tachometer indicator issue. Symptoms may include intermittent, large inaccuracies, or jumping/bouncing/erratic pointers.

**ACTION**

Refer to the Service Procedure.

**SERVICE PROCEDURE**

1. Verify there are no diagnostic trouble codes (DTCs). If there are DTCs present, follow the appropriate procedure in the Workshop Manual to clear the DTC and resolve the concern.
2. Confirm that the axle ratio and tire size are properly configured in the ABS module.
3. For a speedometer related concern, If no DTCs are present, the issue may be with any of the following components:
  - Cluster
  - ABS Module
  - ABS Speed Sensor
  - Vehicle Wiring
  - If the symptom is a continuous (non-intermittent) large inaccuracy, ensure that the axle ratio and tire size are properly configured in the ABS module.

**Cluster Concern**

A known issue exists on the instrument cluster where it is possible for the graphics applique to separate from the cluster backplate and interfere with pointer operation. The suspect vehicle build months are July, 2005 to January, 2006. Although not impossible, vehicles built outside of this time period will likely not have this issue. The most common symptom is the speedometer pointer sticking while operating in cool or cold weather and the vehicle interior is beginning to warm up after a cold start. Revised instrument clusters are now available for service that includes a fix for this concern.

To identify the cluster as the root cause:

1. Monitor the vehicle speed sensor (VSS) PID in the powertrain control module (PCM), and the speedometer needle position while stopped.
2. If the speedometer displays 5 MPH (8 Km/h) or more, and the VSS PID indicates zero, replace the instrument cluster.
3. With an assistant observing the diagnostic tool, drive the vehicle at 20, 40, and 60 MPH (32, 64, and 97 Km/h) as indicated on the diagnostic tool, and record the value indicated by the speedometer.
4. If the speed indicated on the diagnostic tool versus speedometer readings vary by more than  $\pm 5$  MPH, (8 Km/h) replace the instrument cluster.

**ABS Module Concern**

To identify if the ABS Module is the root cause, refer to diagnostic procedures in the Workshop Manual. For any customer complaints of jumping/bouncing/erratic speedometers, a wiring concern may exist which is severe enough to interrupt the signal, but not severe enough to totally open/short the circuit.

**NOTE:** The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

## TSB 07-11-2 (Continued)

### ABS Speed Sensor Connector Concerns

1. Inspect the ABS Speed Sensor connector on the 14405 harness for signs of water trapped in the strain relief elbow, corrosion, or connector broken/cracked. Install a new pigtail if necessary. Ensure that the harness is properly retained and routed to eliminate intermittent speed signals.
  - a. Disconnect the battery.
  - b. Disconnect the damaged connector from the axle.
  - c. Cut wiring near the rear wheel sensor takeout from the 14405 harness.
  - d. Splice in pigtail (pigtail includes heat shrink).
  - e. Cover heat shrink with tubing.
  - f. Route the two (2) retainers of the pigtail to park brake cable.
  - g. Plug in connector to rear wheel sensor.
  - h. Check for functionality.
2. Ensure that the harness is properly retained and routed to eliminate intermittent speed signals.
3. Add dielectric grease to the connector.

### ABS Speed Sensor Concerns

To identify if the ABS Speed Sensor is the root cause, follow the diagnostics in Section 206-09: Anti-Lock Control in the 2006 F-Super Duty 250-550 Workshop Manual, Diagnosis and Testing. If the pinpoint test states to replace the rear axle wheel speed sensor, replace with a new sensor.

### Wiring Concerns

To identify if the vehicle wiring is the root cause:

1. Inspect the vehicle wiring for damage beginning at the rear wheel speed sensor connector and ending at the ABS module.
2. Damage may be at any point in the wiring. Inspect for pinched looms, frayed terminal connections, and loose pins.
3. Pay special attention to the wiring along the frame (especially if the vehicle has been modified from a body builder), and near the fuel tank.

4. The speed sensor wiring begins at the rear axle and is routed along the frame rail on the left side of the vehicle. It then branches off at C140 (gas C133) which is located beneath the master cylinder.
5. The wiring then goes to C455 at the ABS module.
6. Repair wiring as necessary.

### Tachometer Concerns

For Tachometer related concerns, if no DTCs are present, monitor the tachometer (RPM) PID in the PCM, and the tachometer needle position while stopped and in park.

A known issue exists on the instrument cluster where it is possible for the graphics applique to separate from the cluster backplate and interfere with pointer operation. The suspect vehicle build months are July, 2005 to January, 2006. Although not impossible, vehicles built outside of this time period will likely not have this issue. The most common symptom is tachometer pointer sticking while operating in cool or cold weather, and the vehicle interior is beginning to warm up after a cold start. Revised instrument clusters are now available for service that includes a fix for this concern.

1. Rev the engine so the tachometer pointer reads 1000 RPM. If the tachometer (RPM) PID has a difference of more than 250 RPM than the pointer indication, replace the instrument cluster.
2. Repeat this process at 2000 RPM. If the tachometer accuracy passes this test, no repairs to the instrument cluster are necessary.
3. If the RPM PID in the PCM reads zero, or is noticeably erratic, inspect the engine RPM sensor, and associated wiring, to the PCM. Repair as necessary.

PART NUMBER	PART NAME
5C3Z-14S411-AA XG-3-A	Pigtail Silicone Brake Caliper Grease and Dielectric Compound
6L3Z-9E731-A -10849-	Sensor Assembly - Speed Instrument Cluster

**TSB 07-11-2 (Continued)**

**WARRANTY STATUS:** Eligible Under Provisions Of  
New Vehicle Limited  
Warranty Coverage  
**IMPORTANT:** Warranty  
coverage limits/policies are  
not altered by a TSB.  
Warranty coverage limits  
are determined by the  
identified causal part.

<b>OPERATION</b>	<b>DESCRIPTION</b>	<b>TIME</b>
MT071102	Claim Additional Labor Required As Actual Time Or Use SLTS Operation If Available	Actual Time

**DEALER CODING**

BASIC PART NO. 10849	CONDITION CODE 42
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