Testing and Adjusting

Electric Protection System Energize-To-Shutoff (ETS) For Generator Set, Industrial and Marine Diesel Engines

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Oil Step Speed Calibration

SMCS - 1435-524

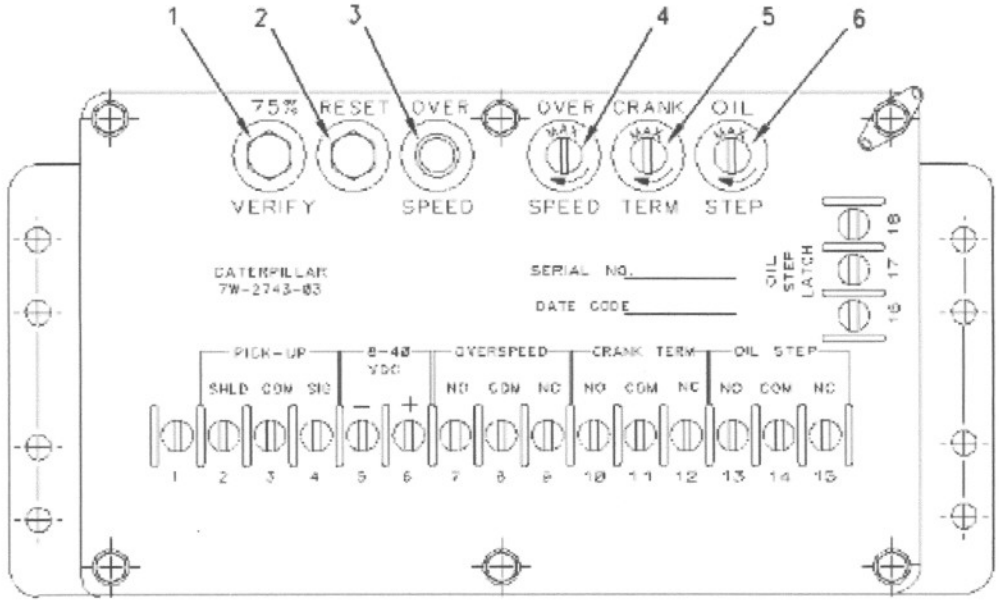

Illustration 1 g00564355

7W-2743 Electronic Speed Switch (ESS)

(1) Push button for Overspeed Verification

(2) Reset button

(3) Overspeed indicator lamp

(4) Seal screw plug for adjusting the engine overspeed

(5) Seal screw plug for adjusting the crank terminate speed

(6) Seal screw plug for adjusting the oil step pressure speed setting

The oil step speed calibration increases the oil step speed setting or the oil step speed calibration decreases the oil step speed setting. Refer to the Speed Specification Chart in order to find the oil step speed that is equal to the engine rpm when the engine is running.

1. Remove the lockwire and the seal from seal screw plug (6). Remove seal screw plug (6) from the access hole for the oil step speed adjusting screw.

2. Use a small screwdriver to lightly turn the oil step speed adjusting screw in the direction of the "MAX" arrow or the clockwise direction. Turn the screw twenty times. The oil step speed adjusting screw will vary the setting of a potentiometer that is inside of the ESS. The oil step speed adjusting screw will not cause damage to the potentiometer. Also, the screw can not be removed if the screw is turned in the wrong direction.

3. Connect a voltmeter with the positive lead at terminal (ESS-13) and the negative lead at (ESS-5). Use a **6V-7070** Digital Multimeter or a voltmeter with the same accuracy. Measure the voltage.

4. For a specific engine rating, find the engine rpm in the column for the oil step speed setting in the Speed Specification Chart. Run the engine at the rpm that is specified in the table.

5. While the engine is running, look into the hole for the adjustment of the oil step speed. A red indicator lamp should be lighted. A positive voltage should be observed on the multimeter 9 seconds after the indicator lamp is lighted. Turn the oil step speed adjusting screw clockwise until the indicator lamp turns off. The oil step speed setting is above the present rpm of the engine. Slowly turn the oil step speed adjusting screw counterclockwise until the indicator lamp is lighted. After a 9 second delay, a positive voltage should be observed on the multimeter. This position is the correct setting for the oil step speed.

6. Install seal screw plug (6) in the access hole for the oil step speed adjusting screw. Tighten the screw to a torque of 0.20 ± 0.03 N·m (1.8 ± .3 lb in). Install the lockwire and the seal if the overspeed calibration and the crank terminate speed calibration are also complete.
