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Testing and Adjusting

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

Media Number -RENR1382-03

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Overspeed Calibration

SMCS - 1435-524; 7427-524

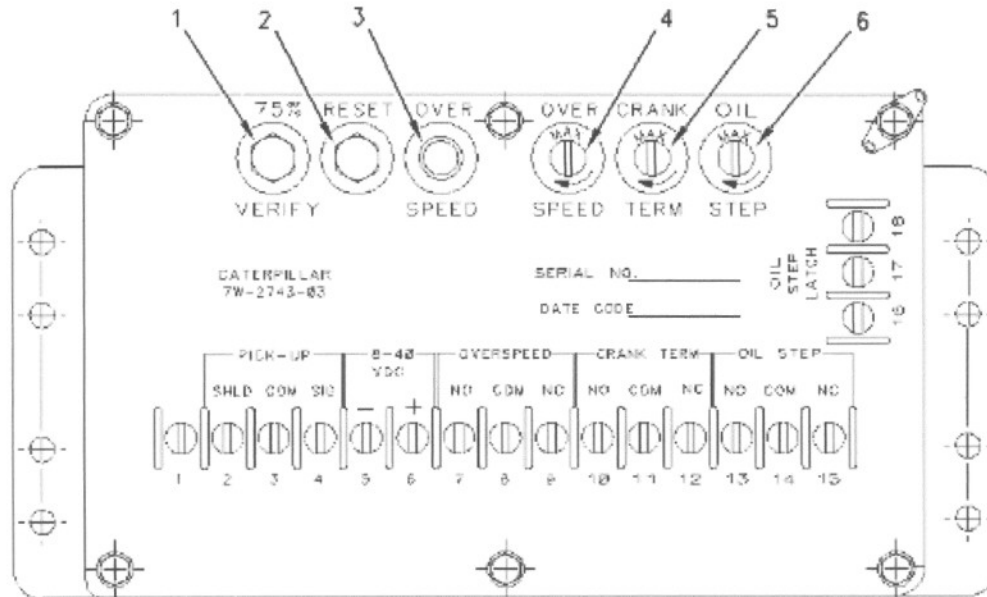


Illustration 1

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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 overspeed calibration can increase the overspeed setting or the overspeed calibration can decrease the overspeed setting in order to shut down the engine when the overspeed verification button is pressed. The overspeed setting is correctly made when the engine is running at 75% of the overspeed setting. The engine then shuts down when the overspeed verification button is pressed.

Use the following procedure in order to adjust the overspeed setting.

1. Remove the lockwire and the seal from seal screw plug (4). Remove seal screw plug (4) from the access hole for the overspeed adjustment screw.
2. Use a small screwdriver to lightly turn the overspeed adjustment screw in the direction of the "MAX" arrow or the clockwise direction. Turn the screw 20 times. The overspeed adjustment screw will vary the setting of a potentiometer that is inside of the ESS. The overspeed adjustment 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. Run the engine at 75% of the desired overspeed setting rpm. Refer to the Speed Specification Chart.
4. While the engine is running at 75% of the overspeed setting rpm, press "VERIFY" button (1). While the button is depressed, slowly turn the overspeed adjustment screw in the opposite direction of the "MAX" arrow or the counterclockwise direction until overspeed indicator lamp (3) is lighted. The engine will shut down if the ESS is connected to the fuel shutoff solenoid (FSOS) and the air shutoff solenoid, if equipped.
5. In order to reset the ESS, press "RESET" button (2). The air shutoff valve must be reset by hand, if equipped.
6. Slowly turn the overspeed adjustment screw in the clockwise direction for one turn. Repeat Steps 3, 4, and 5. More adjustment may be necessary in order to gain the correct setting. Turn the overspeed adjustment screw in the clockwise direction in order to increase the overspeed setting. Turn the overspeed adjustment screw in the counterclockwise direction in order to decrease the overspeed setting.
7. When the overspeed setting is correct, install seal screw plug (4) in the access hole for the overspeed adjustment screw. Tighten the screw to a torque of 0.20 ± 0.03 N·m ($1.8 \pm .3$ lb in). Install the lockwire and the seal if the calibration of the crank termination speed and the oil step speed calibration are also complete.

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