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◀ Product: INDUSTRIAL ENGINE  
 Model: 3456 INDUSTRIAL ENGINE 3LW  
 Configuration: 3456 Industrial Engine 3LW00001-UP

## Operation and Maintenance Manual

### 3406E and 3456 Industrial Engines

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## Diagnostic Flash Code Retrieval

SMCS - 1000; 1900; 1901; 1902

### "Diagnostic" Lamp

Use the "DIAGNOSTIC" lamp or a Caterpillar electronic service tool to determine the diagnostic flash code.

Use the following procedure to retrieve the diagnostic codes if the engine is equipped with a "DIAGNOSTIC" lamp:

1. Turn the ignition key to the ON position. The engine does not need to be started in order to view codes. The engine does not need to be running while the ignition switch is in the ON position.

The "DIAGNOSTIC" lamp blinks on and off at five second intervals.

- When the ignition key is in the ON position, the lamp is checked for proper operation. If there are any active codes except for Code 34, the codes are displayed at this time.

**Note:** The "DIAGNOSTIC" lamp will illuminate for five seconds. The lamp will stay on if there is an active diagnostic code.

2. The diagnostic codes will always be flashed. There is no toggle switch that will shut off the lamp.
3. The "DIAGNOSTIC" lamp will flash in order to indicate a two-digit code. The sequence of flashes represents the system diagnostic message. Each digit of the two-digit code is determined by counting the number of flashes. The lamp flashes at a rate of two times per second. The lamp will pause for one second between digits. The lamp will pause for two seconds between codes.

Table 1 indicates the potential effect on the engine performance with active flash codes. Table 1 also forms a list of Electronic diagnostic codes and descriptions.

Table 1

Diagnostic Flash Code or Engine Performance Relationship for 3406E and 3456 Industrial Engines							
Diagnostic Flash Code		Effect On Engine Performance				Suggested Operator Action	
		Engine Misfire	Low Power	Reduced Engine Speed	Engine Shutdown	Shut Down The Engine	Service ASAP
02	Event Recorder Data Lost					X	
13	Fuel Temperature Sensor Fault	X					
17	Battery Power Voltage To ECM	X	X	X	X	X	
21	Sensor Supply Voltage Fault <sup>(1) (2)</sup>	X				X	
24	Oil Pressure Sensor Fault <sup>(1)</sup>						X
25	Boost Pressure Sensor Fault <sup>(1)</sup>						X
26	Atmospheric Pressure Sensor Fault <sup>(1)</sup>	X					X
27	Coolant Temperature Sensor Fault <sup>(1) (2)</sup>	X					X
28	Check Throttle Sensor Adjustment						X
32	Throttle Position Sensor Fault	X	X				
34	Engine RPM Signal Fault	X	X	X		X	

35	Engine Overspeed Warning						
37	Fuel Pressure Sensor Fault						
38	Inlet Air Temperature Sensor Fault <sup>(1)</sup> <sup>(2)</sup>	X					X
42	Check Sensor Calibrations	X	X				
46	Low Oil Pressure Warning		X	X	X	X	
51	Intermittent Battery Power To ECM	X	X	X		X	
52	ECM or Personality Module Fault	X	X	X	X	X	
56	Check Programmable Parameters			X	X		X
59	Incorrect Engine Software						
61	High Coolant Temperature Warning		X			X	
62	Low Coolant Level Warning		X			X	
63	Low Fuel Pressure Warning						X
64	High Inlet Air Temperature Warning		X				X
65	High Fuel Temperature		X				X

	Warning						
72	Cylinder 1 or 2 Fault	X	X			X	
73	Cylinder 3 or 4 Fault	X	X			X	
74	Cylinder 5 or 6 Fault	X	X			X	

- (1) These Diagnostic Flash Codes may affect the system only under specific environmental conditions, such as engine start up at cold temperature, cold weather operation at high altitudes, etc.
- (2) These Diagnostic Flash Codes reduce the effectiveness of the Engine Monitoring feature when active. **Shutdown Engine:** Operate the engine cautiously. Get immediate service. Severe engine damage may result. **Service As Soon As Possible:** The operator should go to the nearest qualified service location. **Schedule Service:** The operator should have the problem investigated when convenient.

For further information or assistance for repairs, consult an authorized Caterpillar dealer.