

## CAUTION / NOTICE / HINT

**HINT:**

When a malfunction cannot be confirmed by the DTC check, troubleshooting should be performed on all circuits that are possible causes of the problem. However, in most cases, performing the basic engine check shown below can help you find the problem quickly and efficiently. Always perform this check first when troubleshooting the engine.

## PROCEDURE

**1.CHECK BATTERY VOLTAGE****NOTICE:**

Perform the battery voltage check with the engine stopped and the ignition switch off.

**Result:**

Result	Proceed to
11 V or higher	OK
Below 11 V	NG

OK

**2.CHECK IF ENGINE WILL CRANK**

NG

CHARGE OR REPLACE BATTERY

**2.CHECK IF ENGINE WILL CRANK****Result:**

Proceed to
OK
NG

OK

**3.CHECK AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY**

NG

PROCEED TO PROBLEM SYMPTOMS TABLE

**3.CHECK AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY**

- a. Visually check that the air cleaner filter element sub-assembly is not excessively contaminated with dirt or oil.

**Result:**

Proceed to
OK
NG

OK

**4.CHECK FUEL QUALITY**

NG

**CLEAN OR REPLACE AIR FILTER**

**4.CHECK FUEL QUALITY**

- a.** Check that only diesel fuel is being used.
- b.** Check that the fuel does not contain any impurities.

**Result:**

Proceed to
OK
NG

OK

**5.CHECK FUEL FOR AIR**

NG

**REPLACE FUEL**

**5.CHECK FUEL FOR AIR**

**Result:**

Proceed to
OK
NG

OK

**6.CHECK FUEL PIPES AND HOSES**

NG

**BLEED AIR FROM FUEL**

**6.CHECK FUEL PIPES AND HOSES**

- a.** Check that the fuel pipes and fuel hoses are not blocked, damaged, disconnected or bent.

**Result:**

Proceed to
OK
NG

OK

**7.CHECK FUEL FILTER ELEMENT ASSEMBLY FOR BLOCKAGE**

**NG**

**REPAIR OR REPLACE FUEL PIPES OR HOSES**

**7.CHECK FUEL FILTER ELEMENT ASSEMBLY FOR BLOCKAGE**

**Result:**

<b>Proceed to</b>
OK
NG

**OK**

**8.CHECK ENGINE OIL**

**NG**

**REPAIR OR REPLACE FUEL FILTER ELEMENT SUB-ASSEMBLY**

**8.CHECK ENGINE OIL**

**Result:**

<b>Proceed to</b>
OK
NG

**OK**

**9.CHECK ENGINE COOLANT**

**NG**

**ADD OR REPLACE ENGINE OIL**

**9.CHECK ENGINE COOLANT**

**Result:**

<b>Proceed to</b>
OK
NG

**OK**

**10.CHECK IDLING SPEED AND MAXIMUM SPEED**

**NG**

**ADD OR REPLACE ENGINE COOLANT**

**10.CHECK IDLING SPEED AND MAXIMUM SPEED**

**Result:**

Proceed to
OK
NG

**OK****11.CHECK DIAGNOSTIC CIRCUIT****NG****REPLACE FUEL SUPPLY PUMP ASSEMBLY****11.CHECK DIAGNOSTIC CIRCUIT****Result:**

Proceed to
OK
NG

**OK****12.CHECK VACUUM PUMP****NG****REPAIR OR REPLACE MALFUNCTIONING CIRCUIT****12.CHECK VACUUM PUMP****Result:**

Proceed to
OK
NG

**OK****PROCEED TO PROBLEM SYMPTOMS TABLE****NG****REPAIR OR REPLACE VACUUM PUMP**