No. 988410-002 Machine:8410 System:Engine Gas/LP

(TITLE)

# LRG 2.3L DIS ENGINE PERFORMANCE PROBLEM

## SYNOPSIS / PROBLEM:

Reports of 4 coil packs on 8410 machines burning out after 25–200 hours of operation. Symptoms: Machine will operate in the sweep mode but bogs down and the engine may die when the sweeper and scrubber functions are used together.

### **REMEDY / COURSE OF ACTION:**

1. Test for coil pack failure: With an Ohmeter, check the resistance between the coil spark plug wire terminals 1 and 4 (terminals should be numbered as per Ford). Also check the resistance between terminals 2 and 3. If there is no resistance found, one of the coil packs may have burned out. Replace the coil pack.

# **SPECIAL TOOLS / CONSIDERATIONS:**

(Estimated Time to complete: 1 hour)

May need use of an ohmeter, spark plug wire pliers, 1/4 inch dr. socket set, electrical tape, section of matching gauge electrical wire.

#### PROCEDURE:

(Refer to Figure 1)

Possible causes of coil pack failure:

- 1. The tan/orange wire or the tan/white wires that go from the engine spark control unit to the coil pack have rubbed against a sharp edge on the engine block and allowed the wires to short to ground.
- 2. If the spark plug wires are touching the upper radiator tube they may arc to each other over time and rubbing will cause the coil pack to fail.

## Remedy:

- 1. In regards to cause number 1 above: Tie the wires away from the engine cover or put the wires in the wire harness sleeve and replace the coil pack if needed. New machines in production now have the wires protected by the wire harness sleeve.
- 2. In regards to cause number 2 above: Ford engineering has advised to make sure the spark plug wires are kept away from the upper radiator tube (see attached page for wire routing) and that a wire separator is used to keep plug wires away from each other. If you need a plug wire separator order part number 84882.

Engineering has also reinforced the alternator mounting bracket and coil mounting bracket on the engine. They have also determined that vibration and engine compartment temperatures (within 170-180F degrees) are within acceptable limits.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

1. Disconnect battery cables from machine.



WARNING: Always disconnect battery cables from machine before working on electrical components.

Fig. 1 Terminals are numbered 1 thru 4 for the resistance test. wire separator Tan/White and Tan/orange wires that can short to ground if wire insulation is damaged or cut. Put wires into wire sleeve as per picture here.

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