

CUCV glow plug system diagnosis.

Excerpts from TM 9-2320-289-20. There are two sections on this page, first is checking the glow plug system, and next is checking if the glow plug controller needs replacement.

ENGINE CRANKS BUT WILL NOT START; ENGINE COLD; "WAIT" LIGHT OPERATES

Step 1. Ensure that key is in "OFF" position. Check for voltage between glow plug relay terminal where orange lead connects and ground.

If there is voltage, replace glow plug relay and perform step 2.
If there is no voltage, perform step 2.

Step 2. Turn key to "RUN" position. Check for voltage between glow plug relay terminal where orange lead connects and ground.

If there are 10.0-15.0 volts, ensure that engine is mechanically sound and fuel system is operating properly.

If there are 22.0-28.0 volts, perform step 3.
If there is no voltage, perform step 4.

Step 3. Disconnect each glow plug lead and check for resistance between glow plug terminal and ground.

Resistance should be 0.45-3 ohms (Wellman glow plug) or 1-3 ohms (GM glow plug).
Check glow plugs for looseness or damage.

If any glow plug does not have correct resistance or is damaged, replace.
Tighten any loose glow plugs.

Step 4. Tag and disconnect all glow plug leads from glow plugs. Check for voltage between glow plug relay terminal where red lead connects and ground.

If there is voltage, perform step 5.
If there is no voltage, trace circuit back to positive terminal board.

Step 5. Pull out bracket and resistor assembly and check resistance between resistors and ground.

Resistance should be 0.28 ohms.
If resistance is not correct, replace resistor and perform step 6.
If resistance is correct, perform step 6.

Step 6. Check for voltage between glow plug relay terminal where pink/black lead connects and ground.

If there is voltage, perform step 7.
If there is no voltage, trace circuit.

Step 7. Check for voltage between glow plug relay terminal where light blue lead connects and ground.

If there is voltage, perform step 8.
If there is no voltage, replace glow plug relay.

Step 8. Check for voltage at light blue lead on glow plug module.

If there is no voltage, trace circuit.
If there is voltage, perform glow plug controller diagnosis located below.

GLOW PLUG MODULE INOPERATIVE

NOTE

Glow plug system cycling can be detected by listening for clicking at glow plug relay or by observing voltmeter. Indicator should be to the left of the normal range during cycling and return to normal range after cycling.

NOTE

The only way to determine if your glow plug module is operating properly is through testing. The glow plug module should not be replaced until the following tests are performed.

Step 1. Disconnect pink wire from fuel injector pump. Remove printed circuit board from glow plug module. Check each circuit to the glow plug module as described below. Trace

any circuit that does not operate properly. If all circuits operate properly, replace glow plug module.

Wire Color/Key Position Instructions and Normal Results

Purple/white "START". Approximately 12.0 volts at wire. If voltage is not correct, trace circuit.

Light blue "RUN". Jump wire to ground; glow plug relay energizes. If relay does not energize, trace circuit. If circuit is good, replace relay.

Dark blue "RUN". Jump wire to ground; "WAIT" light turns on. If "WAIT" light does not turn on, replace bulb. If "WAIT" light still does not turn on, trace circuit.

Pink/black "RUN". Approximately 12.0 volts at wire. If voltage is not correct, trace circuit.

Orange "RUN". Jump light blue wire to ground. Approximately 12.0 volts at orange wire. If voltage is not correct, trace circuit.

Yellow "OFF". 800 ohms (minimum) at wire (engine cold). If resistance is not correct, trace circuit. If resistance is still not correct, replace glow plug switch.

Black "OFF". 0 ohms at wire. Clean connection and tighten if not correct.

Pink/black "OFF". 6-10 ohms between wires. If resistance is light blue at not correct, replace glow plug relay.