

ENGINE PROTECTION SYSTEM

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TROUBLE SHOOTING GUIDE

Diagnostic and Test Information



CAUTION

DURING INSTALLATION OR REPLACEMENT OF MODULE, IGNITION MUST BE OFF AND KEY REMOVED.

ENGINE WILL NOT START OR WILL NOT SHUTDOWN

NOTE: Locate connector B-67 and B-68 at the bottom of the steering column. Disconnect the EPS interconnection harnesses side from B-67 and B-68 connectors and disconnect other ends of the interconnect harnesses from the vehicles harnesses. Reconnect the vehicle harness into connectors B-67 and B-68.

If the engine starts and/or shuts down with the ignition key, reconnect both interconnect harnesses previously disconnected (B-67, B-68). Then continue the diagnostic and test procedure.

If the engine doesn't start and/or shutdown with the ignition key, then refer to the Isuzu Service Manual. After repaired start or shutdown circuitry by Isuzu Standard, reconnect the interconnection harnesses B-67 and B-68.

NOTE: For connector pin location and identification see diagrams on pages 3 and 4.

- Make sure all connectors are fully mated between;

- The EPS Module and mating EPS harness connector located near the original Transmission Control Module (TCM) bracket under the left side of the dash panel.

- The engine protection interconnection harness and the power feed connector harness (B-67) located at the bottom of the steering column. See diagram on page 4.

- The engine protection interconnection harness and the engine stop motor connector harness (B-68) located at the bottom of the steering column. See diagram on page 4.

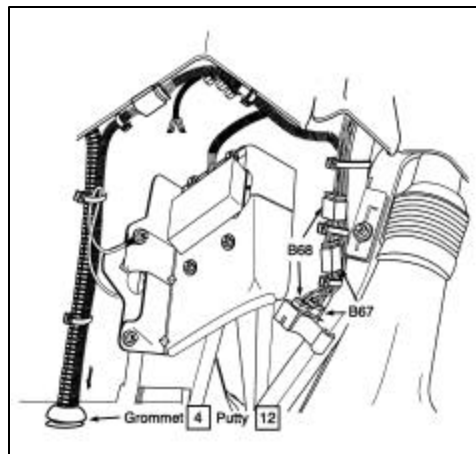
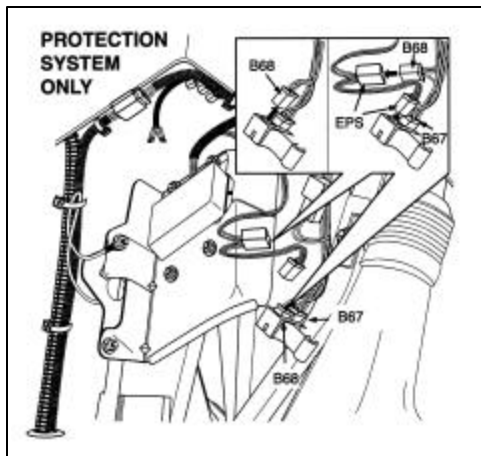
- Check fuse (7.5A) on the RED wire of the EPS harness located approximately 6 inches from the module connector under the left side of the dash panel, near the TCM bracket. If fuse blown/burned out, replace with correct 7.5 amp fuse.

- Turn ignition to ON position, the RED wire (Pin 7 of Engine Protection harness) must have +12 volts. If there is no voltage, check the connector B-67 located on the bottom of the steering

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column to make sure both side of the interconnections are mated properly. If the connectors are mated properly and if there is still no voltage, refer to the truck owners manual and/or service manual for vehicle power distribution regarding troubleshooting.

- Verify Black wire (Pin 10) of the EPS harness has a reliable ground located on the TCM bracket.



- Previous tests are good/positive, disconnect the engine protection interconnection harness from connectors B-67 and B-68 (male and female) and reconnect the original vehicle harness.
- If the engine starts and stops with ignition key, Engine Protection Module is defective. Replace Module and reconnect harness system.
- After all previous testing and diagnostics and the engine will not start or will not stop, refer to the vehicle service manual for ignition and engine stop motor.

ENGINE PROTECTION WIRE INSERTION VIEW

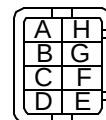
10	1
11	2
12	3
13	4
14	5
15	6
16	7
17	8
18	9

PIN	IDENTIFICATION	COLOR
1	N/A	N/A
2	N/A	N/A
3	GRD TO TRANS. TEMP. SW.	BLK/WHT
4	GRD TO ENGINE TEMP. SW.	BLK
5	GRD TO OIL PRESS. SW.	BLK
6	GRD OUTPUT TO HOUR METER	BRN
7	IGNITION (IN)	RED
8	N/A	N/A
9	N/A	N/A
10	GRD FOR MODULE (IN)	BLK
11	COOLANT LEVEL SENSOR	YEL
12	OPT. INPUT SW. (IN)	GRY
13	TRANS. TEMP. SW. (IN)	VIO/WHT
14	ENGINE TEMP. SW. (IN)	VIO
15	OIL PRESS. SW. (IN)	GRN
16	RELAY COMMON (HARNESS SIDE)	LT. BLU/WHT
17	RELAY N.C.	LT. BLU/YEL
18	RELAY N.O. (STOP MOTOR SIDE)	LT. BLU/WHT

EPS Cab and Engine Harness Junction



Wire Insertion View

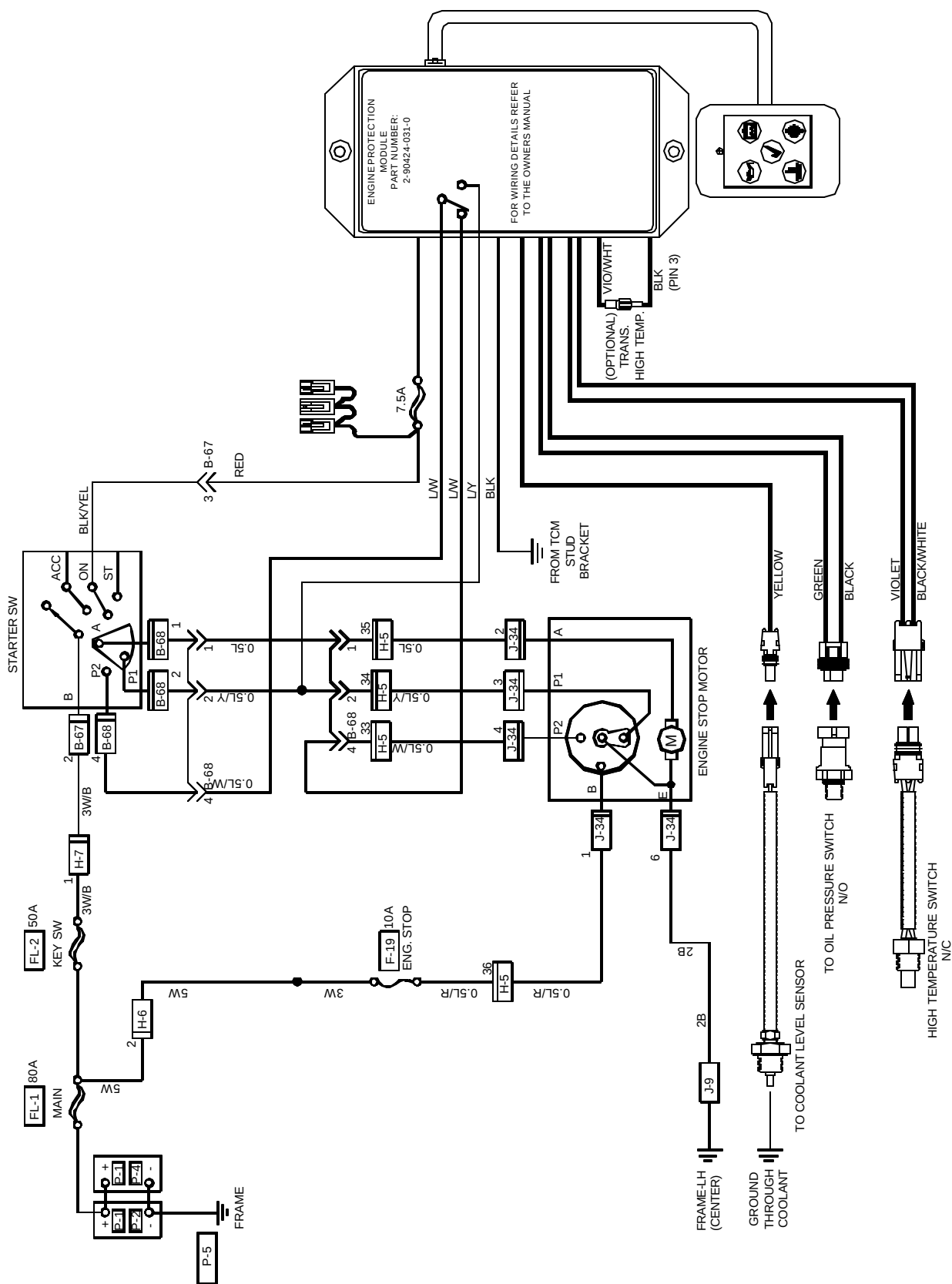


EPS Engine Harness Connector

EPS Cab Harness Connector

A. GREEN
B. VIOLET
C. YELLOW
D. NOT USED

E. NOT USED
F. NOT USED
G. BLACK/WHITE
H. BLACK



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CONSTANT ALARM ON LOW OIL PRESSURE



CAUTION

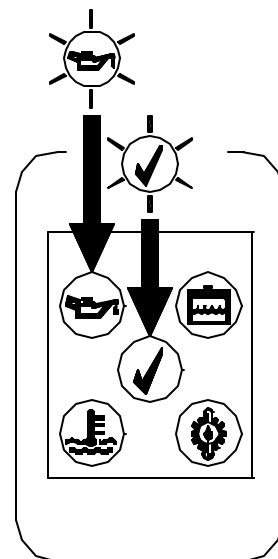
If engine is hot use extreme caution when checking oil pressure sensor.

Verify proper oil level

- Ensure correct oil level.
- Ensure that the EPS Cab and Engine harness junction connector is fully mated. Connector is located approximately 18" from the EPS module near the lower left side of the dash and the left side kick panel. See diagram on page 4.

Verify continuity of EPS harness and oil pressure sensor

- Disconnect the connector from the oil pressure sensor located at the right rear of the engine. On harness side of the sensor connector, using a continuity meter, verify that the BLACK wire is supplying a reliable ground. If not grounded, repair BLACK wire on Cab and/or Engine harness from the harness side of the sensor connector through the harness junction (Pin H) to the EPS module connector (Pin 5). If BLACK wire is grounded or continuity to the ground tests good, go to the next step. See diagram on page 8.



- Using a jumper wire, connect the GREEN wire on the harness side of the sensor connector to the vehicle ground. Turn the ignition key to the ON position. After system self tests, if the alarm cancels, the oil pressure sensor is defective. Replace the oil pressure sensor.
- If the alarm persists, using a continuity meter, check the GREEN wire for continuity from the EPS module connector (Pin 15) through the harness junction (Pin A) to the harness side of the sensor connector. See diagram on pages 5 and 10. If the circuit is open (no continuity), repair the GREEN wire appropriately.

If the circuit test is good (continuity), EPS Module is defective. Replace the Module located under the left side dash panel, next to the TCM module.

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Diagnostic and Test Information

CONSTANT ALARM ON HIGH TEMPERATURE:



CAUTION

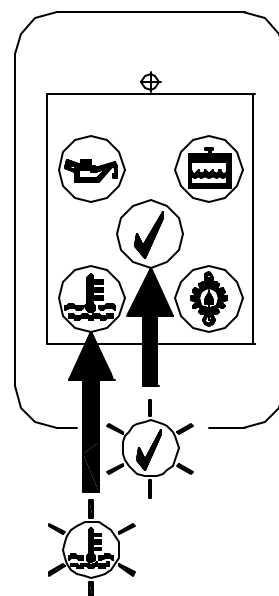
If engine is hot use extreme caution when checking coolant sensor.

Verify proper coolant level.

- Ensure correct levels in the radiator and the coolant overflow tank/reservoir.
- Ensure that the EPS Cab and Engine harness junction connector is fully mated. The connector is located approximately 18" from the EPS module near the lower left side of the dash and the left side kick panel. See diagram on page 4.

Verify continuity of EPS harness and high temperature sensor.

- Disconnect the connector from the high temperature sensor located at the top left front of the engine. On harness side of the sensor connector, using a continuity meter, verify that the BLACK/WHITE wire is supplying a reliable ground. If not grounded, repair BLACK/WHITE wire on Cab and/or Engine harness from the harness side of the sensor connector through the harness junction (Pin G) to the EPS module connector (Pin 4). If BLACK/WHITE wire is grounded or continuity to the ground tests good, go to the next step. See diagram of page 8.
 - Using a jumper wire, connect the VIOLET wire on the harness side of the sensor connector to the vehicle ground. Start the Engine. After system self tests, if the alarm cancels, the high temperature sensor is defective. Stop the engine and replace the high temperature sensor.
 - If the alarm persists, using a continuity meter, check the VIOLET wire for continuity from the EPS module connector (Pin 14) through the harness junction (Pin B) to the harness side of the sensor connector. See diagram on page 5 and 10. If the circuit is open (no continuity), repair the VIOLET wire appropriately.
- If the circuit test is good (continuity), EPS Module is defective. Replace the Module located under the left side dash panel, next to the TCM module.



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CONSTANT ALARM ON LOW COOLANT LEVEL



CAUTION

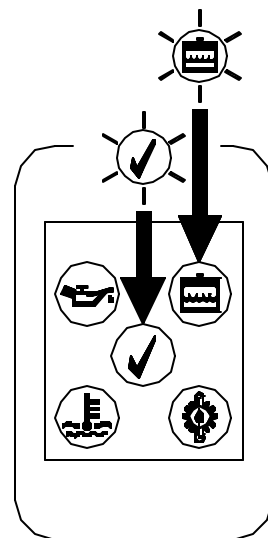
If engine is hot use extreme caution when checking coolant level sensor.

Verify proper coolant level

- Ensure correct levels in the radiator and the coolant overflow tank/reservoir, fluid must cover sensor completely
- Ensure that the EPS Cab and Engine harness junction connector is fully mated. The connector is located approximately 18" from the EPS module near the lower left side of the dash and the left side kick panel. See diagram on page 4

Verify continuity of EPS harness and low coolant level sensor.

- Disconnect the connector from the coolant level sensor located in the middle of the radiator top tank/reservoir. On the harness side of the coolant sensor, using a jumper wire, connect the terminal to the vehicle ground. Start the engine. If, after the system self tests if the alarm cancels, the coolant level sensor is defective. Stop the engine and verify the coolant level sensor as follows. See Diagram on page 8.



- Remove the coolant level sensor and clean the internal probe of any residue. Using a continuity meter, check for continuity between the internal probe and the terminal of the coolant level sensor connector. If the circuit test good (continuity), reinstall the coolant sensor. If the circuit is open (NO continuity) change the coolant level sensor.
- If the alarm persists, using a continuity meter, check the YELLOW wire for continuity from the EPS module connector (Pin 11) through the harness junction (Pin C) to the harness side of the sensor connector. See diagram on page 3, 4 and 8. If the circuit is open (no continuity), repair the YELLOW wire appropriately.

If the circuit test is good (continuity), EPS Module is defective. Replace the Module located under the left side dash panel, next to the TCM module.

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