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1997 FORD Probe OEM Service and Repair Workshop Manual

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- Reconnect the Inverter System Controller (ISC) connectors. Make sure they seat and latch correctly.
- Connect Transmission Sensor Speed Resolver C1280 .
- Ignition ON.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, GO to Pinpoint Test V (In step V3 continue through to step V4 regardless of DTC presence.)
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST AS : P0C6C

NOTE

The Inverter System Controller (ISC) is referred to as the SOBDMC (Secondary On-Board Diagnostic Control Module C) in the scan tool.

Normal Operation and Fault Conditions

REFER to: [Electric Powertrain Control - Component Location](#)(303-14F Electric Powertrain Control - 3.5L V6 PowerBoost (CN), Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
SOBDMC (secondary on-board diagnostic control module C) P0C6C:00	Generator Position Sensor Circuit 'B' High: No Sub Type Information	This DTC (diagnostic trouble code) sets when a short to power is detected in the generator resolver circuit.

Possible Sources

- Wiring, terminals or connectors
- Front module (electric motor)

- Make sure all the low voltage connectors are correctly and securely connected.
- Examine all the low voltage cables and connectors for damaged, burned or overheated insulation and loose or broken connections.

Is a concern present?

Yes	REPAIR as necessary. CLEAR the diagnostic trouble codes (DTCs) and REPEAT the self-test.
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No	GO to AS4
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AS4 CHECK THE GS4 CIRCUIT FOR A SHORT TO VOLTAGE

- Disconnect Inverter System Controller (ISC) C1458A .
- Disconnect Transmission Sensor Speed Resolver C1280 .
- Ignition ON.
- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
C1458A-A2	V	Ground

Is any voltage present?

Yes	REPLACE the harness. CLEAR the diagnostic trouble codes (DTCs) and REPEAT the self-test.
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No	GO to AS5
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AS5 CHECK FOR CORRECT INVERTER SYSTEM CONTROLLER (ISC) OPERATION

- Disconnect and inspect all Inverter System Controller (ISC) connectors.
- Repair:
 - corrosion (install new connector or terminals – clean module pins)

- Loose high voltage cables
- Service disconnect not connected
- Wiring, terminals or connectors

AT1 CHECK THE BECM (BATTERY ENERGY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, run the BECM (battery energy control module) and Inverter System Controller (ISC) self-tests.

Are there any BECM (battery energy control module) or Inverter System Controller (ISC) diagnostic trouble codes (DTCs)?

Yes	<p>DIAGNOSE and REPAIR any BECM (battery energy control module) or Inverter System Controller (ISC) diagnostic trouble codes (DTCs).</p> <p>For BECM (battery energy control module) diagnostic trouble codes (DTCs).</p> <p>REFER to: High Voltage Battery, Mounting and Cables - Electric (414-03A High Voltage Battery, Mounting and Cables, Diagnosis and Testing).</p> <p>For Inverter System Controller (ISC) diagnostic trouble codes (DTCs). REFER to the DTC (diagnostic trouble code) chart in this section.</p>
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No	GO to AT2
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AT2 VISUAL INSPECTION OF THE HIGH VOLTAGE SYSTEM

- Ignition OFF.
- Depower the high voltage battery.
REFER to: [High Voltage System De-energizing - Full Hybrid Electric Vehicle \(FHEV\)](#)(414-03A High Voltage Battery, Mounting and Cables, General Procedures).
- Visually inspect all the high voltage cables.
- Make sure all the high voltage connectors are correctly and securely connected.
- Examine all the high voltage cables and connectors for damaged, burned or overheated insulation and loose or broken connections.

Is a concern present?

Yes	<p>REPAIR as necessary.</p> <p>CLEAR the diagnostic trouble codes (DTCs) and REPEAT the self-test.</p>
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programmed correctly or was erased.

AT5 CHECK THE HIGH VOLTAGE CABLES FOR AN INTERMITTENT CONCERN

- Ignition OFF.
- Disconnect and inspect all the High Voltage BJB (battery junction box) connectors.
- Disconnect and inspect all the Inverter System Controller (ISC) connectors.
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Reconnect the High Voltage BJB (battery junction box) connectors. Make sure they seat and latch correctly.
- Reconnect the Inverter System Controller (ISC) connectors. Make sure they seat and latch correctly.
- Install the high voltage traction battery service disconnect plug.
- Ignition ON.
- Access the SOBDMC (secondary on-board diagnostic control module C) and monitor the GEN_INV_V (Generator Inverter Voltage) (V) PID (parameter identification)
- Carefully wiggle all accessible wiring and connectors associated with the high voltage cable from the Inverter System Controller (ISC) to the traction battery, and look for a change in the PID (parameter identification) state.

Is a concern present during the wiggle or drive cycle test?

Yes	REPAIR as necessary.
No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.

PINPOINT TEST AU : P0DA8

NOTE

REFER to: [High Voltage System De-energizing - Full Hybrid Electric Vehicle \(FHEV\)](#)(414-03A High Voltage Battery, Mounting and Cables, General Procedures).

- Ignition OFF.
- Disconnect High Voltage BJB (battery junction box) C494 .
- Inspect the connector for damaged or pushed-out pins.
- Disconnect Inverter System Controller (ISC) C1458C .
- Inspect the connector for damaged or pushed-out pins.
- Disconnect DCDC (direct current/direct current converter control module) C4630B .
- Inspect the connector for damaged or pushed-out pins.
- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
C494-1	Ω	C1458C-4

Is the resistance less than 5 ohms?

Yes	GO to AU3
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No	INSTALL a new high voltage cable from the Inverter System Controller (ISC) to the traction battery. REFER to: High Voltage Battery Cables - Electric (414-03A High Voltage Battery, Mounting and Cables, Removal and Installation). CLEAR the Inverter System Controller (ISC) diagnostic trouble codes (DTCs). REPEAT the self-test.
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AU3 CHECK THE HIGH VOLTAGE NEGATIVE CABLE FOR AN OPEN

- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
C494-2	Ω	C1458C-1

Is the resistance less than 5 ohms?

Yes

REPAIR as necessary.
CLEAR the diagnostic trouble codes (DTCs) and REPEAT the self-test.

No

GO to [AU6](#)

AU6 HIGH VOLTAGE FUSE TEST

Sample

information before proceeding any further. Refer to the scan tool instruction manual for freeze frame Parameter Identification (PID) menu.

- Connect High Voltage Battery C494 .
- Inspect the High Voltage Battery Junction Box C1458C connector for damaged or pushed-out pins.
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Connect Inverter System Controller (ISC) C1458C .
- Verify the connectors seat and latch correctly.
- Repower the high voltage battery.
REFER to: [High Voltage System De-energizing - Full Hybrid Electric Vehicle \(FHEV\)](#)(414-03A High Voltage Battery, Mounting and Cables, General Procedures).
- Ignition ON.
- Clear the Inverter System Controller (ISC) diagnostic trouble codes (DTCs).
- Carry out the Inverter System Controller (ISC) self-test.

Is DTC (diagnostic trouble code) P0DA8 present?

Yes	REPLACE the high voltage harness between the Inverter System Controller (ISC) and battery REFER to: High Voltage Battery Cables - Electric (414-03A High Voltage Battery, Mounting and Cables, Removal and Installation).
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No	GO to AU8
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AU8 CHECK THE HIGH VOLTAGE CABLES FOR AN INTERMITTENT CONCERN

- Ignition ON.
- Access the SOBDMC (secondary on-board diagnostic control module C) and monitor the GEN_INV_V (Generator Inverter Voltage) (V) PID (parameter identification)
- Carefully wiggle all accessible wiring and connectors associated with the high voltage cable from the Inverter System Controller (ISC) to the traction battery, and look for a change in the PID (parameter identification) state.
- Road test the vehicle while monitoring the PID (parameter identification) .

Does the voltage vary by more than 10 volts during the wiggle test or by more than 30 volts during the drive cycle test?

Possible Sources

- Wiring, terminals or connectors
- Electric motor assembly
- Inverter System Controller (ISC)

AV1 CHECK FOR 12V BATTERY VOLTAGE AND SYSTEM VOLTAGE LOW DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, carry out the self-test in all modules.

Is DTC U3003:16 or P0562:00 recorded in any module?

Yes	GO to AV2
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No	GO to AV3
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AV2 CHECK THE 12-VOLT BATTERY

- Carry out the 12-volt battery condition test.
REFER to: [Battery](#)(414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Did the 12-volt battery pass the condition test?

Yes	GO to AV3
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No	INSTALL a new 12-volt battery. REFER to: Battery (414-01 Battery, Mounting and Cables, Removal and Installation).
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AV3 CHECK THE INVERTER SYSTEM CONTROLLER (ISC) CALIBRATION LEVEL

- Verify the Inverter System Controller (ISC) is at the latest calibration level.

Is the Inverter System Controller (ISC) at the latest calibration level?

Yes	GO to AV4
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Are the generator torque command and generator torque out PID (parameter identification) readings separated by greater than 18 lb.ft (25 Nm) ONLY above 4000 RPM (revolutions per minute) ?

Yes	GO to AV7
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No	GO to AV6
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AV6 CHECK FOR INVERTER SYSTEM CONTROLLER (ISC) DIAGNOSTIC TROUBLE CODES (DTCS)

- Carry out the Inverter System Controller (ISC) self-test.

Are diagnostic trouble codes (DTCs) P1A0E:62, P1A0E:64 or P1A0E:96 present?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new Inverter System Controller (ISC). REFER to: Inverter System Controller [SOBDMC] (303-14F Electric Powertrain Control - 3.5L V6 PowerBoost (CN), Removal and Installation).
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No	GO to AV7
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AV7 CHECK THE ELECTRIC MOTOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the high voltage battery.
REFER to: [High Voltage System De-energizing - Full Hybrid Electric Vehicle \(FHEV\)](#)(414-03A High Voltage Battery, Mounting and Cables, General Procedures).
- Disconnect Electric Motor C1201 .
- Disconnect Inverter System Controller (ISC) C1458B .
- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
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