Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2001 FORD Mondeo Sedan OEM Service and Repair Workshop Manual

Go to manual page

Are the PID (parameter identification) values within 15°C (30°F)?

Yes	The concern is not present at this time.

No	GO to K3

K3 CHECK THE CHARGE PORT TEMPERATURE SENSOR "A" RESISTANCE

- Ignition OFF.
- Disconnect SOBDM (secondary on-board diagnostic control module A) C1821A .
- Disconnect Charge port inline C302 .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C302-1 (male side)	Ω	C302-2 (male side)

Temperature Range	Resistance Range
-30°C (-22°F) to -20°C (-4°F)	76,385 ohms - 144,400 ohms
-20°C (-4°F) to -10°C (14°F)	46,194 ohms - 76,385 ohms
-10°C (14°F) - 0°C (32°F)	28,829 ohms - 46,194 ohms
0°C (32°F) - 10°C (51°F)	18,514 ohms - 28,829 ohms
10°C (50°F) - 20°C (68°F)	12,205 ohms - 18,514 ohms
20°C (68°F) - 30°C (86°F)	8,240 ohms - 12,205 ohms
30°C (86°F) - 40°C (104°F)	5,686 ohms - 8,240 ohms
40°C (104°F) - 50°C (122°F)	3,838 ohms - 5,686 ohms

Is the resistance value correct for the temperature?

C1821A-C4	V	Ground

Is any voltage present?

Yes	REPAIR the circuit.

No	GO to K6

K6 CHECK THE CHARGE PORT TEMPERATURE SENSOR "A" CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1821A-C3	Ω	Ground
C1821A-C4	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to K7

No	REPAIR the circuit.

K7 CHECK THE CHARGE PORT TEMPERATURE SENSOR "A" CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

- Ignition OFF.
- Disconnect SOBDM (secondary on-board diagnostic control module A) C1821A .
- Inspect SOBDM (secondary on-board diagnostic control module A) C1821A (harness and component sides).
- For:
  - water – install new water seal or connector
  - corrosion – install new connector or terminals – clean module terminals/pins
  - damaged or bent pins – install new terminals/pins
  - pushed-out pins – install new terminals/pins
- Connect the SOBDM (secondary on-board diagnostic control module A) C1821A. Make sure it seats and latches correctly.
- Ignition ON.
- Using a diagnostic scan tool, clear the SOBDM (secondary on-board diagnostic control module A) DTCs.
- Using a diagnostic scan tool, perform SOBDM (secondary on-board diagnostic control module A) self-test.

Are DTCs P0D99:11, P0D99:12, P0D99:13, and/or P0D99:1A retrieved?

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 SOBDM (secondary on-board diagnostic control module A) . REFER to: Secondary On-Board Diagnostic Control Module A (SOBDM) - Electric (414-03B High Voltage Battery Charging System, Removal and Installation).
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 L : P0E5F:00

Refer to Wiring Diagrams Cell 12for schematic and connector information.

Normal Operation and Fault Conditions The SOBDM (secondary on-board diagnostic control module A) monitors the charge port temperature using a temperature sensor during AC (alternating current) charging. The temperature sensor is hardwired to the SOBDM (secondary on-board diagnostic control module A) . If the temperature becomes excessive, DTC (diagnostic trouble code) P0E5F:00 sets and the SOBDM

Is any concerns present?

Yes	Install a new charge port. REFER to: Charge Port - Electric (414-03B High Voltage Battery Charging System, Removal and Installation).
No	GO to L3

L3 COMPARE CHARGE PORT COUPLER TEMPERATURE SENSOR "A" PID (PARAMETER IDENTIFICATION) TO AMBIENT TEMPERATURE

NOTE

Verify the vehicle has not been connected to an EVSE for a minimum of 1 hour in a climate controlled building.

- Ignition ON.
- Using a diagnostic scan tool, view SOBDM (secondary on-board diagnostic control module A) PIDs.
- Access the SOBDM (secondary on-board diagnostic control module A) and monitor the BC_COUPL_TEMP_A (Battery Charger Coupler Temperature -A-) (Deg C) PID (parameter identification)

Is the PID (parameter identification) value within 10°C (18°F) of ambient temperature?

Yes	GO to L4
No	Install a new charge port. REFER to: Charge Port - Electric (414-03B High Voltage Battery Charging System, Removal and Installation). REPEAT the pinpoint test step. If the PID (parameter identification) value is still NOT within 10°C (18°F) of ambient temperature, GO to L5

L4 CLEAR DIAGNOSTIC TROUBLE CODES (DTCS) AND CARRY OUT SELF-TEST OF THE SOBDM (SECONDARY ON-BOARD DIAGNOSTIC CONTROL MODULE A)

- Using a diagnostic scan tool, clear the SOBDM (secondary on-board diagnostic control module A) Diagnostic Trouble Codes (DTCs).

- If PID (parameter identification) is above 65% discharge the high voltage battery until value is 65% or less by turning on climate control or performing a road test.
- CONNECT a known good level 2 (240V) AC (alternating current) Electric Vehicle Supply Equipment (EVSE) to the vehicle charge port and wait 15 minutes.
- DISCONNECT the EVSE from the vehicle charge port.
- Using a diagnostic scan tool, perform SOBDM (secondary on-board diagnostic control module A) self-test.

Is DTC (diagnostic trouble code) P0E5F:00 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 SOBDM (secondary on-board diagnostic control module A) . REFER to: Secondary On-Board Diagnostic Control Module A (SOBDM) - Electric (414-03B High Voltage Battery Charging System, Removal and Installation).

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 M : P0EE7:11, P0EE7:12, P0EE7:13, P0EE7:1A

Refer to Wiring Diagrams Cell 12for schematic and connector information.

Normal Operation and Fault Conditions The SOBDM (secondary on-board diagnostic control module A) monitors the charge port temperature using a temperature sensor. The temperature sensor is hardwired to the SOBDM (secondary on-board diagnostic control module A) and monitors DC (direct current) fast charging coupler temperature. The SOBDM (secondary on-board diagnostic control module A) monitors the sensor and circuits for faults. If a sensor or circuit fault is detected charging is limited to 16 amps. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
SOBDM (secondary on-board diagnostic control module A) P0EE7:11	Battery Charger Coupler Temperature Sensor 'B' Circuit: Circuit Short To Ground	This DTC (diagnostic trouble code) sets if the SOBDM (secondary on-board diagnostic control module A) senses a short to ground on the thermistor circuit.

- Ignition ON.
- Using a diagnostic scan tool, view SOBDM (secondary on-board diagnostic control module A) PIDs.
- Access the SOBDM (secondary on-board diagnostic control module A) and monitor the BC_COUPL_TEMP_A (Battery Charger Coupler Temperature -A-) (Deg C) PID (parameter identification)
- Access the SOBDM (secondary on-board diagnostic control module A) and monitor the BC_COUPL_TEMP_B (Battery Charger Coupler Temperature -B-) (Deg C) PID (parameter identification)
- Access the SOBDM (secondary on-board diagnostic control module A) and monitor the BC_COUPL_TEMP_C (Battery Charger Coupler Temperature -C-) (Deg C) PID (parameter identification)
- Access the SOBDM (secondary on-board diagnostic control module A) and monitor the BC_COUPL_TEMP_D (Battery Charger Coupler Temperature -D-) (Deg C) PID (parameter identification)

Are the PID (parameter identification) values within 15°C (30°F)?

Yes	The concern is not present at this time.

No	GO to M3

M3 CHECK THE CHARGE PORT TEMPERATURE SENSOR "B" RESISTANCE

- Ignition OFF.
- Disconnect SOBDM (secondary on-board diagnostic control module A) C1821A .
- Disconnect Charge port inline C302 .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C302-4 (male side)	Ω	C302-5 (male side)

Temperature Range	Resistance Range
-30°C (-22°F) to -20°C (-4°F)	76,385 ohms - 144,400 ohms
-20°C (-4°F) to -10°C (14°F)	46,194 ohms - 76,385 ohms
-10°C (14°F) - 0°C (32°F)	28,829 ohms - 46,194 ohms

- Disconnect Charge port inline C302 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1821A-D3	V⎓	Ground
C1821A-D4	V⎓	Ground

Is any voltage present?

Yes	REPAIR the circuit.

No	GO to M6

M6 CHECK THE CHARGE PORT TEMPERATURE SENSOR "B" CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1821A-D3	Ω	Ground
C1821A-D4	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to M7

Yes	GO to M9
No	REPAIR the circuit.

M9 CHECK FOR CORRECT SOBDM (SECONDARY ON-BOARD DIAGNOSTIC CONTROL MODULE A) MODULE OPERATION

SOBDM (secondary on-board diagnostic control module A) will stop charging and go to a fault status until the over-temperature condition clears. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
SOBDM (secondary on-board diagnostic control module A) P0EEE:00	Battery Charger Coupler Temperature 'B' Too High: No Sub Type Information	This DTC (diagnostic trouble code) sets during DC (direct current) fast charging and the charge port temperature is equal to or exceeds a threshold of 90°C for 10 seconds. This fault results in the SOBDM (secondary on-board diagnostic control module A) stopping charging and go to a fault status until the over-temperature condition clears.

Possible Sources

- EVSE (Electric Vehicle Supply Equipment)
- High Environmental Temperatures
- Charge Port Coupler Temperature Sensor "B" (part of charge port)
- SOBDM (secondary on-board diagnostic control module A)

N1 CHECK FOR SOBDM (SECONDARY ON-BOARD DIAGNOSTIC CONTROL MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform SOBDM (secondary on-board diagnostic control module A) self-test.

Are DTC (diagnostic trouble code) s P0EE7:11, P0EE7:12, P0EE7:13, and/or P0EE7:1A present?

Yes	GO to Pinpoint Test M
No	GO to N2

N2 INSPECT THE CHARGE PORT TERMINALS

- Inspect the charge port terminals DCFC+ and DCFC- for:
  - corrosion
  - damaged or bent terminals
  - pushed-out terminals

Is any concerns present?