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.

2016 FORD C-Max OEM Service and Repair Workshop Manual

Go to manual page

- REFER to: Supplemental Restraint System (SRS) Repowering(501-20B Supplemental Restraint System, General Procedures).

Did the SRS (supplemental restraint system) prove out successfully?

Yes	Repair is complete. RETURN the vehicle to the customer.

No	REFER to: Airbag Supplemental Restraint System (SRS)(501-20B Supplemental Restraint System, Diagnosis and Testing).

G20 CHECK THE SCMH (PASSENGER MULTI-CONTOUR SEAT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the SCMH (passenger multi-contour seat module) connector.
- Repair:
  - corrosion (install new connector or terminals - clean module pins)
  - damaged or bent pins - install new terminals/pins as necessary
  - pushed-out pins - install new pins as necessary
- Reconnect the SCMH (passenger multi-contour seat module) connector. Make sure it seats and latches correctly.
- Reconnect all previously disconnected connectors and hoses.
- 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, INSTALL a new SCMH (passenger multi-contour seat module) . REFER to: Driver Multi-Contour Seat Module [SCMG] (501-10A Front Seats, 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.

DSM (driver front seat module) B14CF:13	Seat Recline Motor Output: Circuit Open	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D0:11	Seat Height Front/Tilt Motor Output: Circuit Short To Ground	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D0:12	Seat Height Front/Tilt Motor Output: Circuit Short To Battery	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D0:13	Seat Height Front/Tilt Motor Output: Circuit Open	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D2:11	Seat Height Rear Motor Output: Circuit Short To Ground	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D2:12	Seat Height Rear Motor Output: Circuit Short To Battery	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B14D2:13	Seat Height Rear Motor Output: Circuit Open	If the current sensed by the DSM (driver front seat module) is within a specified range, the DTC (diagnostic trouble code) is set and the output is disabled.
DSM (driver front seat module) B1B96:24	Seat Slide Forward Switch: Signal Stuck High	If the seat control switch is active for greater than 2 minutes or is active during the self-test, the DSM (driver front seat module) sets this DTC (diagnostic trouble code) .
DSM (driver front seat module) B1B97:24	Seat Slide Backward Switch: Signal Stuck High	If the seat control switch is active for greater than 2 minutes or is active during the self-test, the DSM (driver front seat module) sets this DTC (diagnostic trouble code) .
DSM (driver front seat module) B1B98:24	Seat Tilt Up Switch: Signal Stuck High	If the seat control switch is active for greater than 2 minutes or is active during the self-test, the DSM (driver

- Using a diagnostic scan tool, perform DSM (driver front seat module) self-test. If the diagnostic scan tool does not communicate with the DSM (driver front seat module) ,
  REFER to: Front Seats - System Operation and Component Description(501-10A Front Seats, Description and Operation).

Are any DSM (driver front seat module) Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC (diagnostic trouble code) B14C3:24, B14C4:24, B1B96:24, B1B97:24, B1B98:24, B1B99:24, B1C00:24 or B1C01:24, GO to H3 For DTC (diagnostic trouble code) B1B87:11, B1B87:15, B1B89:11, B1B89:15, B1B91:11, B1B91:15, B1B93:11 or B1B93:15, GO to Pinpoint Test I For DTC (diagnostic trouble code) B14CE:XX, B14CF:XX, B14D0:XX or B14D2:XX, GO to H9 For all other Diagnostic Trouble Codes (DTCs), REFER to the DTC (diagnostic trouble code) Chart.

No	GO to H2

H2 CHECK THE DSM (DRIVER FRONT SEAT MODULE) SEAT CONTROL SWITCH PARAMETER IDENTIFICATIONS (PIDS)

- While operating the seat control switch in all positions, monitor the following DSM (driver front seat module) seat control switch Parameter Identifications (PIDs) using a diagnostic scan tool:
  - Access the DSM (driver front seat module) and monitor the SEAT_TILT_DWN (Front Tilt Switch (Down)) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_TILT_UP (Front Tilt Switch (Up)) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_RECL_DWN (Recline Switch (Down)) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_RECL_UP (Recline Switch (Up)) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_HGT_DWN (Seat Height Down Switch) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_HGT_UP (Seat Height Up Switch) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_BCK_SW (Slide Switch (Backward)) PID (parameter identification)
  - Access the DSM (driver front seat module) and monitor the SEAT_FW_SW (Slide Switch (Forward)) PID (parameter identification)

Do the PID (parameter identification) states agree with the switch positions?

Yes	GO to H9

No	VERIFY BJB (battery junction box) fuse 30 (40A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. GO to H37

H5 CHECK THE SEAT CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C3387-11	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to H6

No	REPAIR the circuit. GO to H37

H6 CHECK THE CIRCUITS BETWEEN THE SEAT CONTROL SWITCH AND DSM (DRIVER FRONT SEAT MODULE) FOR A SHORT TO VOLTAGE

- Disconnect: DSM (driver front seat module) C341D.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C3387-17	V	Ground
C3387-16	V	Ground

C3387-16	Ω	Ground
C3387-13	Ω	Ground
C3387-12	Ω	Ground
C3387-14	Ω	Ground
C3387-15	Ω	Ground
C3387-9	Ω	Ground
C3387-7	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to H8

No	REPAIR the affected circuit. GO to H37

H8 CHECK THE CIRCUITS BETWEEN THE SEAT CONTROL SWITCH AND DSM (DRIVER FRONT SEAT MODULE) FOR AN OPEN

- Measure:

Positive Lead	Measurement / Action	Negative Lead

- Using the seat control switch, attempt to operate the seat in the following directions:
  - Front height up and down
  - Rear height up and down
  - Horizontal forward and backward
  - Recline forward and backward

Does the driver seat operate correctly?

Yes	The condition is intermittent. CHECK for causes of an intermittent concern, particularly the pins and terminals of electrical connectors that were disconnected. **Do not install any new components at this time. Components should only be installed when directed to do so in the pinpoint test.** REPAIR any intermittent wiring, terminal or connector concerns found.
No	If no seat movement occurs, GO to H10 If no front vertical seat movement occurs, GO to H12 If no rear vertical seat movement occurs, GO to H18 If no horizontal seat movement occurs, GO to H24 If no recline seat movement occurs, GO to H30

H10 CHECK FOR VOLTAGE TO THE DSM (DRIVER FRONT SEAT MODULE)

- REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect: Driver Side Airbag In-line C3051.
- Disconnect: DSM (driver front seat module) C341D.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C341D-1	V	Ground
C341D-2	V	Ground

Are the voltages greater than 11 volts?

Yes	GO to H11

- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C341A-3	V	Ground
C341A-5	V	Ground

Are any voltages present?

Yes	GO to H13

No	GO to H14

H13 CHECK THE FRONT HEIGHT MOTOR CIRCUITS FOR A SHORT TO VOLTAGE WITH THE MOTOR DISCONNECTED

- Ignition OFF.
- Disconnect: Driver Seat Front Height Motor C382.
- Ignition ON.
- Measure:
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C341A-3	V	Ground
C341A-5	V	Ground

Positive Lead	Measurement / Action	Negative Lead
C341A-3	Ω	Ground
C341A-5	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	INSTALL a new driver seat track. REFER to: Front Seat Track (501-10A Front Seats, Removal and Installation). GO to H37

No	REPAIR the affected circuit. GO to H37

H16 CHECK THE FRONT HEIGHT MOTOR CIRCUITS FOR AN OPEN

- Disconnect: Driver Seat Front Height Motor C382.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C341A-3	Ω	C382-3
C341A-5	Ω	C382-1

Are the resistances less than 3 ohms?

Yes	GO to H17

No	GO to H36

H18 CHECK THE REAR HEIGHT MOTOR CIRCUITS FOR A SHORT TO VOLTAGE

- REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect: Driver Side Airbag In-line C3051.
- Disconnect: DSM (driver front seat module) C341B and C341E.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C341B-1	V	Ground
C341B-3	V	Ground

Are any voltages present?

Yes	GO to H19

No	GO to H20

H19 CHECK THE REAR HEIGHT MOTOR CIRCUITS FOR A SHORT TO VOLTAGE WITH THE MOTOR DISCONNECTED

- Ignition OFF.
- Disconnect: Driver Seat Rear Height Motor C363.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead