



Technical Service Bulletin

SUBJECT: UPDATED SRS PROCEDURES FOR SEAT SLIDE SENSOR & SEAT BELT SWITCH – SERVICE MANUAL REVISION		No: TSB-17-52B-003	
		DATE: October 2017	
		MODEL: 2014-15 Mirage	
CIRCULATE TO:	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

PURPOSE

This TSB updates the Supplemental Restraint System (SRS) section of the affected Service Manuals to include seat slide sensor and seat belt switch information.

AFFECTED VEHICLES

- 2014–2015 Mirage

AFFECTED SERVICE MANUALS

- 2014–2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS)



Please make the indicated changes to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) –> General Information.

GENERAL INFORMATION

M1524000102811

WARNING

Improper service could result in serious injury of the service personnel or the passenger.

The SRS* is designed to supplement the front seat belts. It reduces injury to the driver(s) and the front passenger(s) by deploying air bag(s) in case of a frontal collision. In addition, the side-airbag and curtain air bag inflate upon a side collision to reduce the risk of passenger injuries.

The SRS front air bags from an advanced air bag system together with sensors at the vehicle and sensors attached to front seats.

With the knee air bag system, when an impact exceeds the threshold upon a frontal collision, and the cushion air bag is instantaneously inflated for better protection of the driver.

Side-airbag systems in the front seats are activated when side impacts exceed a criteria to protect the occupants' upper bodies.

The curtain air bag system operates together with the side-airbag to protect the heads of passengers in the front and second seats.

The seat belts with pre-tensioner work simultaneously with the SRS*. The seat belt incorporating the pre-tensioner automatically winds the seat belt upon front impact to reduce forward shifting of the driver's and passenger's. The seat belt use status is used to control the activation and deactivation of the pre-tensioner.

The SRS* consists of driver's and passenger's (front) air bag modules, knee air bag module, side-airbag modules, curtain air bag modules, SRS* air bag control unit (SRS-ECU), two front impact sensors, two side impact sensors, SRS* warning light, passenger's air bag OFF indicator light, passenger's seat belt warning light, clock spring, seat belt pre-tensioner, seat belt buckle switch, occupant classification sensor and occupant classification-ECU.

<Added>
seat slide sensor,

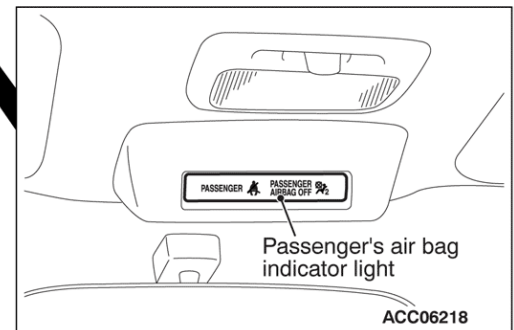
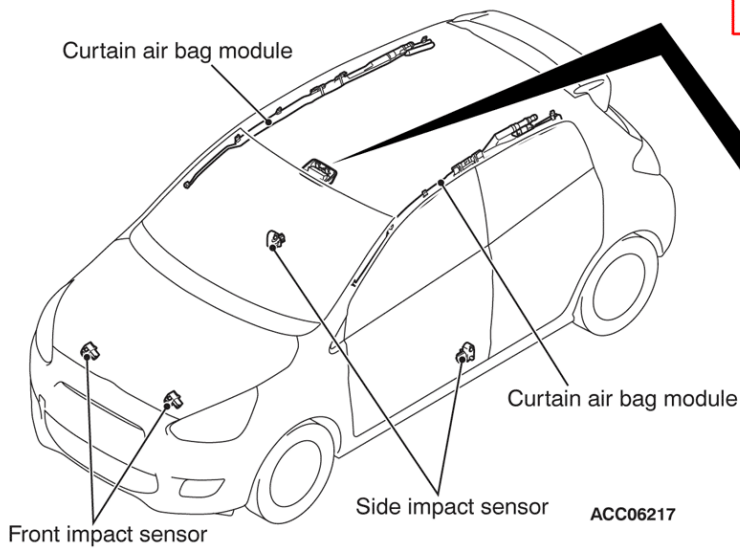
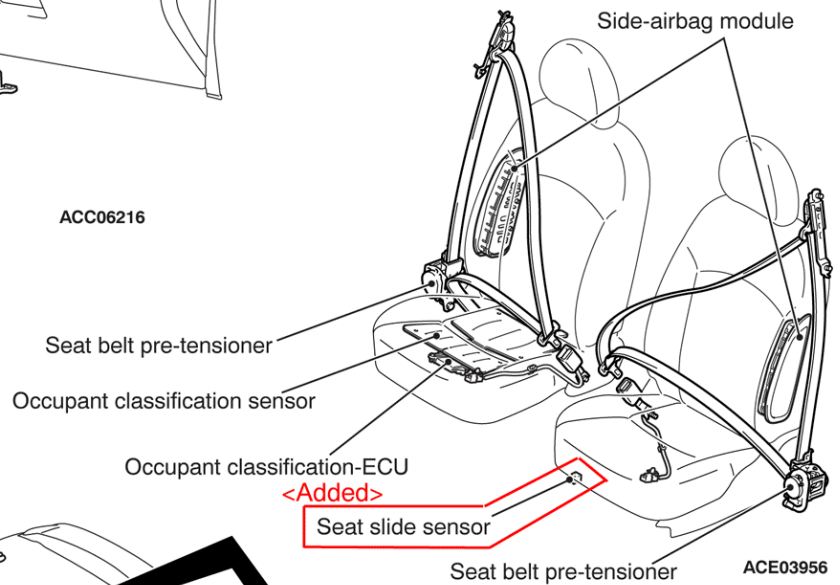
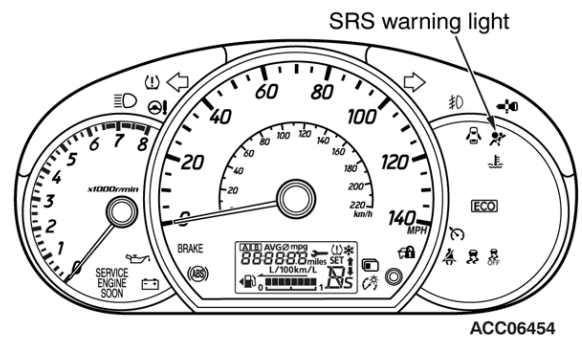
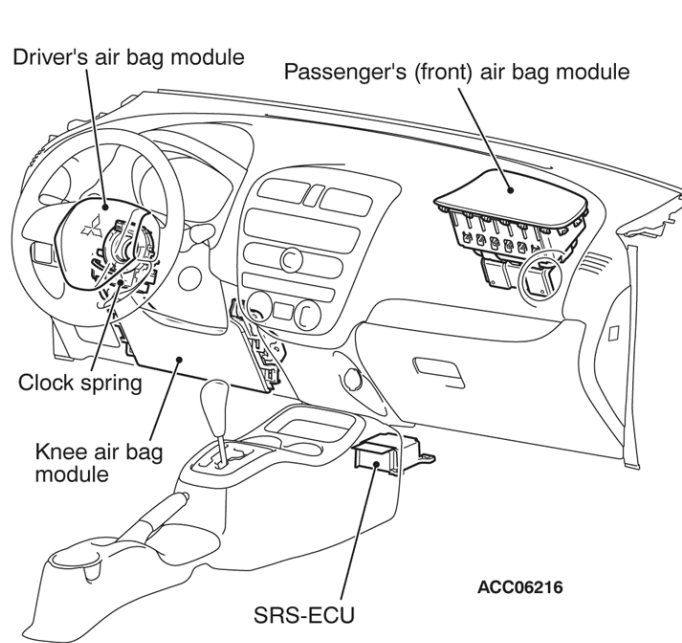
Driver's and passenger's (front) air bag modules are located in the center of the steering wheel and above the glove box. The knee air bag module is installed to the instrument panel cover lower under the steering column. Side-airbags are located inside the front seatback frame. The curtain air bag module consists of an air bag, an inflator, and the fixing gear relating to those parts, and is installed in the roof side sections (from the driver's and the passenger's front pillars to the rear pillars). Each air bag consists of a folded air bag and an inflator unit. The SRS-ECU placed on the forefront of the floor monitors the system and has a front air bag analog G-sensor and a side-airbag analog G-sensor. The front impact sensor is assembled in the front end upper bar in the engine room to monitor impact in case of front impact. The side impact sensors inside the center pillars monitor the shock incurred by the sides of the vehicle. The SRS* warning light on the combination meter indicates the operational status of the SRS*. The clock spring is installed in the steering column. The seat belt pre-tensioner is built into the driver's and passenger's front seat belt retractor. The occupant classification sensor is installed underneath a rail of the passenger seat to detect the load on the seat. The passenger's air bag OFF indicator light is installed to the headlining, and illuminates when the passenger seat airbag is inactive. The passenger's seat belt warning light is installed to the headlining, and illuminates when the passenger is not wearing the seat belt. The seat belt switch detects whether the seat belt is used.

Only authorized service personnel should do work on or around the SRS components. Those service personnel should read this manual carefully before starting any such work.

NOTE: *: SRS (Supplemental Restraint System)

<Added>

The seat slide sensor is attached to the slide adjuster on the driver's seat side.



Please make the indicated changes to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) –> Service Precautions.

⚠ CAUTION

Never heat or incinerate the airbag modules and the seat belt pre-tensioners.

SRS-ECU terminal No.	Destination of wiring harness	Measures
5, 6	Instrument panel wiring harness → clock spring → driver's air bag module (squib)	Replace the clock spring, or repair or replace the instrument panel wiring harness.
7, 8	Instrument panel wiring harness → passenger's (front) air bag module (squib)	Repair or replace the instrument panel wiring harness.
13	Floor wiring harness → passenger's air bag OFF indicator lamp	Repair or replace the floor wiring harness.
17, 27	Instrument panel wiring harness → front wiring harness → front impact sensor	Repair or replace the wiring harnesses.
21	Floor wiring harness → ETACS-ECU (fuse No. 21)	Repair or replace the floor wiring harness.
22	Floor wiring harness → ETACS-ECU (fuse No. 15)	
24	Instrument panel wiring harness → earth	Repair or replace the instrument panel wiring harness.
25, 26	Instrument panel wiring harness → passenger's air bag cut OFF switch	
29, 30	Instrument panel wiring harness → CAN bus line	
31, 32	Floor wiring harness → front passenger's seat belt pre-tensioner	Repair or replace the floor wiring harness.
34, 35	Floor wiring harness → front passenger's seat belt lap pre-tensioner	
36, 37	Floor wiring harness → curtain air bag module (LH)	
39, 40	Floor wiring harness → side-airbag module (LH)	
41, 42	Floor wiring harness → side impact sensor (LH)	
51, 52	Floor wiring harness → driver's seat belt lap pre-tensioner	
54, 55	Floor wiring harness → driver's seat belt pre-tensioner	
56, 57	Floor wiring harness → side-airbag module (RH)	
59, 60	Floor wiring harness → curtain air bag module (RH)	
64, 65	Floor wiring harness → side impact sensor (RH)	

<Added>

53, 58 Floor wiring harness → seat slide sensor

Please make the indicated changes to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) –> SRS Air Bag Diagnosis –> Check Chart for Diagnostic Trouble Codes.

Replace the Incorrect information below with the Correct information on the following page.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
SRS AIR BAG DIAGNOSIS

Code No.	Diagnostic item	Reference page
B1499*4	Air bag deployment determined by SRS-ECU <Incorrect>	P.52B-139
B1509*2	Incorrect installation of SRS-ECU	P.52B-139
B1530*2	Seat belt switch (passenger's side) malfunction	P.52B-139
B1537*2	Seat belt switch (passenger's side) circuit open	P.52B-139
B1538*2	Seat belt switch (passenger's side) circuit (ground side) shorted	P.52B-139
B1557*4	SRS-ECU application specific integrated circuit	P.52B-41
B1558*2	OCM (Occupant Classification-ECU) DTC Present	P.52B-143
B1603*2	Seat belt pre-tensioner (driver's side) (squib) system (short circuit between squib circuit terminals)	P.52B-144
B1604*2	Seat belt pre-tensioner (driver's side) (squib) system (open circuit of squib circuit)	P.52B-148
B1605*2	Seat belt pre-tensioner (driver's side) (squib) system (shorted to squib circuit ground)	P.52B-151
B1606*2	Seat belt pre-tensioner (driver's side) (squib) system (shorted to squib circuit power supply)	P.52B-154
B1607*4	Seat belt pre-tensioner (driver's side) activating circuit short-circuited	P.52B-41
B1608*4	Seat belt pre-tensioner (driver's side) activating circuit open-circuited	P.52B-41
B1609*2	Seat belt pre-tensioner (passenger's side) (squib) system (short circuit between squib circuit terminals)	P.52B-157
B1610*2	Seat belt pre-tensioner (passenger's side) (squib) system (open circuit of squib circuit)	P.52B-161
B1611*2	Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit ground)	P.52B-165
B1612*4	Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit power supply)	P.52B-168
B1613*4	Seat belt pre-tensioner (passenger's side) (squib) activating circuit short-circuited	P.52B-41
B1614*2	Seat belt pre-tensioner (passenger's side) (squib) activating circuit open-circuited	P.52B-41
B1631*2	Driver's knee air bag module (squib) system (short circuit between squib circuit terminals)	P.52B-171
B1632*2	Driver's knee air bag module (squib) system (open circuit between squib circuit terminals)	P.52B-175
B1633*2	Driver's knee air bag module (squib) system (shorted to squib circuit ground)	P.52B-171
B1634*2	Driver's knee air bag module (squib) system (shorted to squib circuit power supply)	P.52B-182
B1635*4	Driver's knee air bag module (squib) activating circuit short-circuited	P.52B-41

<Correct>

B1506*3	Seat slide sensor system fault (open in the seat slide sensor circuit)	
B1507*3	Seat slide sensor system fault ground circuit (short-circuited to ground)	
B1508*3	Seat slide sensor system fault power supply circuit (short-circuited to power supply)	
B1509*2	Incorrect installation of SRS-ECU	
B1519*2	SRS-ECU connector lock out of order	
B1520*3	Seat belt switch (driver's side) malfunction	
B1527*3	Seat belt switch (driver's side) circuit open	
B1528*3	Seat belt switch (driver's side) circuit (ground side) shorted)	
B1529*3	Seat belt switch (driver's side) system fault power supply circuit (short-circuited to power supply)	
B1530*3	Seat belt switch (passenger's side) malfunction	
B1537*3	Seat belt switch (passenger's side) circuit open	
B1538*3	Seat belt switch (passenger's side) circuit (ground side) shorted)	
B1539*3	Seat belt switch (passenger's side) system fault power supply circuit (short-circuited to power supply)	
B1556*3	Driver's seat slide sensor malfunction	

Please add the following information (7 pages) to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) —> SRS Air Bag Diagnosis —> Diagnostic Trouble Code Procedures <SRS-ECU>.

<Added>

DTC B1506: Seat Slide Sensor System Fault (Open in the Seat Slide Sensor Circuit)

DTC B1507: Seat Slide Sensor System Fault Ground Circuit (Short-Circuited to Ground)

DTC B1508: Seat Slide Sensor System Fault Power Supply Circuit (Short-Circuited to Power Supply)

⚠ CAUTION

If DTC B1506, B1507 or B1508 are stored in the SRS-ECU, always diagnose the CAN main bus lines.

CIRCUIT OPERATION

- The seat slide sensor sets the current value Hi or Low determined by the seat position.
- The SRS-ECU determines the seat position according to the current value from the seat slide sensor.

DTC SET CONDITIONS

The DTC is stored when the seat slide sensor output current is not within the specified range.
Cause of trouble for each DTC is as follows.

DTC	SYMPTOM
B1506	Open circuit in the seat slide sensor or harness
B1507	Short to the ground in the seat slide sensor harness
B1508	Short to the power supply in the seat slide sensor harness

TROUBLESHOOTING HINTS

- Damaged wiring harnesses or connectors
- Short to ground in the seat slide sensor harness
- Malfunction of the seat slide sensor
- Malfunction of the SRS-ECU

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool ."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

<Added>

STEP 2. Recheck for diagnostic trouble code.

Check again if the DTC is stored.

- (1) Erase the DTC.
- (2) Turn the ignition switch to "ON" position.
- (3) Check if the DTC is stored.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC stored?

YES : Go to Step 3 (DTC B1506).

YES : Go to Step 4 (DTC B1507).

YES : Go to Step 5 (DTC B1508).

NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Resistance measurement at the SRS-ECU connector and the seat slide sensor connector.

- (1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
- (2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (3) Disconnect the seat slide sensor connector.

CAUTION

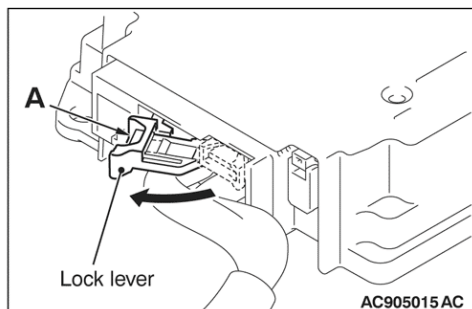
Do not insert a probe into the terminal from seat slide sensor connector harness side connector front side directly, as the connector contact pressure may be weakened.

- (4) Check for continuity between the following terminals. It should be less than 2 ohms.
 - Continuity DS1- line between SRS-ECU wiring harness side connector and the seat slide sensor connector
 - Continuity DS1+ line between SRS-ECU wiring harness side connector and the seat slide sensor connector

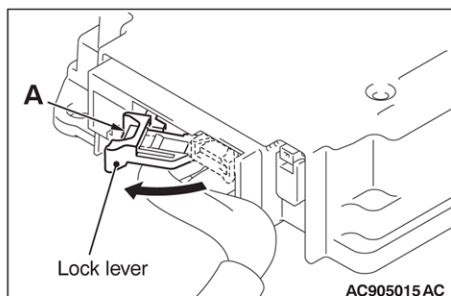
Q: Is the check result normal?

YES : go to Step 6.

NO : Repair harness wires DS1-, DS1+ line between SRS-ECU connector and the seat slide sensor connector. Then go to Step 7.



<Added>



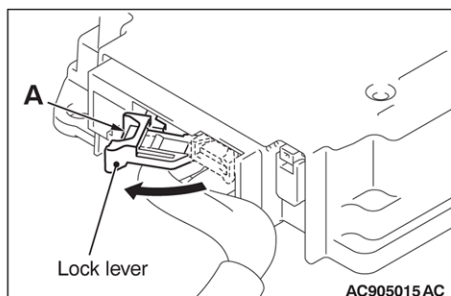
STEP 4. Check the harness short circuit between seat slide sensor connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat slide sensor connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Measure the resistance between DS1-, DS1+ line and body ground. It should be less than 2 ohms.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires DS1-, DS1+ line between SRS-ECU connector and the seat slide sensor connector. Then go to Step 7.



STEP 5. Check the harness short circuit between seat slide sensor connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat slide sensor connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Connect the negative battery terminal.
- (5) Ignition switch: ON.
- (6) Measure the voltage between DS1-, DS1+ line and body ground. Voltage should measure 1 volt or less.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires DS1-, DS1+ line between SRS-ECU connector and the seat slide sensor connector. Then go to Step 7.

STEP 6. Check the seat slide sensor.

Check whether the seat slide sensor is normal (Refer to X).

Q: Is the check result normal?

YES : Go to Step 7.

NO : Replace the seat slide sensor (Refer to X).

GROUP 52B - Seat Slide Sensor

STEP 7. Recheck for diagnostic trouble code.

Check again if the DTC is stored.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is stored.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is DTC B1506, B1507 or B1508 stored?

YES : Replace the SRS-ECU (Refer to X).

NO : The procedure is complete.

GROUP 52B - SRS Control Unit (SRS-ECU)

<Added>

DTC B1519: SRS-ECU connector lock out of order

DTC SET CONDITION

This DTC is set if a poor connection at the SRS-ECU is detected.

TROUBLESHOOTING HINTS

- Damaged connectors
- Malfunction of the SRS-ECU

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool ."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Recheck for diagnostic trouble code.

Check again if the DTC is stored.

- (1) Connect the negative battery terminal.
- (2) Check if the DTC is stored.
- (3) Disconnect the negative battery terminal.

Q: Is DTC set?

YES : Go to Step 3.

NO : The procedure is complete.

STEP 3. Check at the SRS-ECU connector.

- (1) Disconnect the SRS-ECU connector.
- (2) Check the connector lock switch terminal inside the harness side connector for improper contact or deformation.

Q: Is the connector lock switch normal?

YES : Go to Step 4.

NO : Replace the connector.

STEP 4. Recheck for diagnostic trouble code.

Check again if the DTC is stored.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is stored.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

GROUP 52B - SRS Control Unit (SRS-ECU)

Q: Is DTC set?

YES : Replace SRS-ECU (Refer to).

NO : There is an intermittent malfunction such as poorly engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

<Added>

DTC B1520: Seat Belt Switch (Driver's side) Malfunction
DTC B1527: Seat Belt Switch (Driver's side) Circuit Open
DTC B1528: Seat Belt Switch (Driver's side) Circuit (Ground Side) Shorted
DTC B1529: Seat Belt Switch (Driver's side) System Fault Power Supply Circuit (Short-Circuited to Power Supply)

⚠ CAUTION

If DTC B1520, B1527, B1528 or B1529 are set in the SRS-ECU, always diagnose the CAN main bus lines.

CIRCUIT OPERATION

The SRS-ECU determines whether the seat belt is fastened or not according to the connection of the seat belt switch in the seat buckle.

DTC SET CONDITIONS

The DTC is set when the seat belt switch output current is not within the specified range.

Cause of trouble for each DTC is as follows.

DTC	SYMPTOM
B1520	Malfunction of seat belt switch
B1527	Malfunction of the common terminal or open circuit in its harness
B1528	Short to body ground in the common terminal harness
B1529	Short to the power supply in the seat belt switch harness

TROUBLESHOOTING HINTS

- Damaged wiring harnesses or connectors
- Malfunction of the seat belt switch (driver's side)
- Malfunction of the SRS-ECU

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool ."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

<Added>

STEP 2. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC set?

YES : Go to Step 6 (DTC B1520).

YES : Go to Step 3 (DTC B1527).

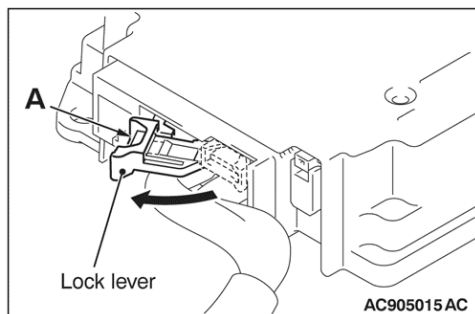
YES : Go to Step 4 (DTC B1528).

YES : Go to Step 5 (DTC B1529).

NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check the harness short circuit between seat belt switch (driver's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (driver's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

**CAUTION**

Do not insert a probe into the terminal from seat belt switch (driver's side) connector harness side connector front side directly, as the connector contact pressure may be weakened.

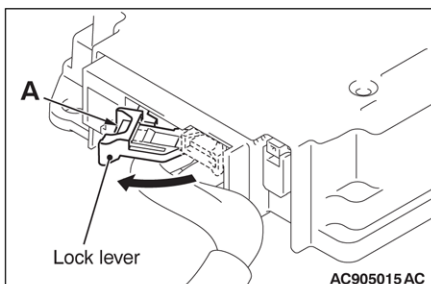
- (4) Check for continuity between the following terminals. It should be less than 2 ohms.
 - Continuity DBS- line between SRS-ECU wiring harness side connector and the seat belt switch (driver's side) connector
 - Continuity DBSO line between SRS-ECU wiring harness side connector and the seat belt switch (driver's side) connector

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires DBS-, DBSO line between SRS-ECU connector and the seat belt switch (driver's side) connector. Then go to Step 7.

<Added>



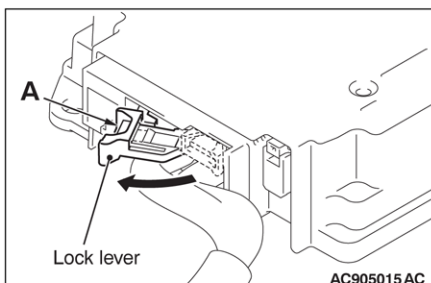
STEP 4. Check the harness short circuit between seat belt switch (driver's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (driver's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Measure the resistance between DBS-, DBSO line and body ground. It should be less than 2 ohms.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires DBS-, DBSO line between SRS-ECU connector and the seat belt switch (driver's side) connector. Then go to Step 7.



STEP 5. Check the harness short circuit between seat belt switch (driver's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (driver's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Connect the negative battery terminal.
- (5) Ignition switch: ON.
- (6) Measure the voltage between DBS-, DBSO line and body ground. Voltage should measure 1 volt or less.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires DBS-, DBSO line between SRS-ECU connector and the seat belt switch (driver's side) connector. Then go to Step 7.

STEP 6. Seat belt switch (driver's side) check.

Check whether the seat belt switch (driver's side) is normal (Refer to GROUP 52A, Front Seat Belt).

Q: Is the check result normal?

YES : Go to Step 7.

NO : Replace the inner seat belt (driver's side) (Refer to GROUP 52A, Front Seat Assembly).


STEP 7. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is DTC B1520, B1527, B1528 or B1529 set?

YES : Replace the SRS-ECU (Refer to ).

NO : The procedure is complete. 

GROUP 52B - SRS Control Unit (SRS-ECU)

Please make the indicated changes to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) —> SRS Air Bag Diagnosis —> Diagnostic Trouble Code Procedures <SRS—ECU>. Replace the Incorrect information on the next 4 pages with the Correct information that follows.

DTC B1499: Air bag deployment determined by SRS-ECU

⚠ CAUTION

If DTC B1499 is set in the SRS-ECU, always diagnose the CAN main bus line.

DTC SET CONDITIONS

This diagnostic trouble code is set after the air bag has deployed. If this diagnostic trouble code is set before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.

TROUBLESHOOTING HINTS

Malfunction of the SRS-ECU

DIAGNOSIS

Replace the SRS-ECU (Refer to [P.52B-232](#)).

DTC B1509: Incorrect installation of SRS-ECU

⚠ CAUTION

If DTC B1509 is set in the SRS-ECU, always diagnose the CAN main bus line.

DTC SET CONDITIONS

If SRS-ECU different from the unit compatible to vehicle is accidentally installed, this code will be set.

TROUBLESHOOTING HINTS

- Malfunction of the SRS-ECU
- Mismatch between vehicle and SRS-ECU specifications

DIAGNOSIS

Replace the SRS-ECU (Refer to [P.52B-232](#)).

<Incorrect>

DTC B1530: Seat Belt Switch (Passenger's side) Malfunction
DTC B1537: Seat Belt Switch (Passenger's side) Circuit Open
DTC B1538: Seat Belt Switch (Passenger's side) Circuit (Ground Side) Shorted

⚠ CAUTION

If DTC B1530, B1537 or B1538 are set in the SRS-ECU, always diagnose the CAN main bus lines.

CIRCUIT OPERATION

The SRS-ECU determines whether the seat belt is fastened or not according to the connection location of the seat belt switch in the seat buckle.

DTC SET CONDITIONS

The DTC is set when the seat belt switch output current is not within the specified range.
Cause of trouble for each DTC is as follows.

DTC	SYMPTOM
B1530	Malfunction of seat belt switch
B1537	Malfunction of the common terminal or short circuit in its harness
B1538	Short to body ground in the common terminal harness

TROUBLESHOOTING HINTS

- Malfunction of the seat belt switch (passenger's side)
- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU

<Incorrect>

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool [P.52B-12](#)."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis [P.54C-13](#)).

STEP 2. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC set?

YES : Go to Step 3.

NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction [P.00-13](#)).

STEP 3. Seat belt switch (passenger's side) check.

Refer to GROUP 52A, Front Seat Belt [P.52A-27](#)

Q: Is the check result normal?

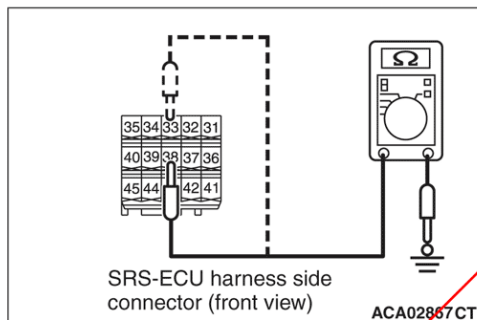
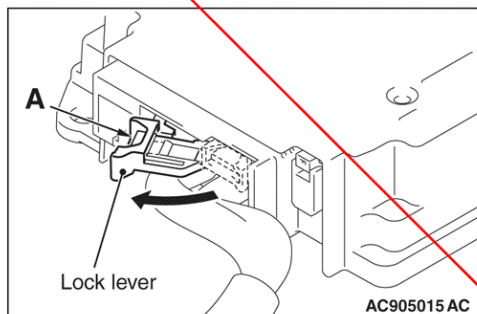
YES : Go to Step 4.

NO : Replace the seat belt switch (passenger's side) (Refer to GROUP 52A, Front Seat Belt [P.52A-26](#)).

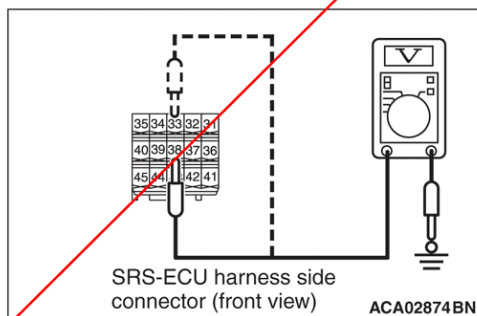
<Incorrect>

STEP 4. Check the harness short circuit between seat belt switch (passenger's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (passenger's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.



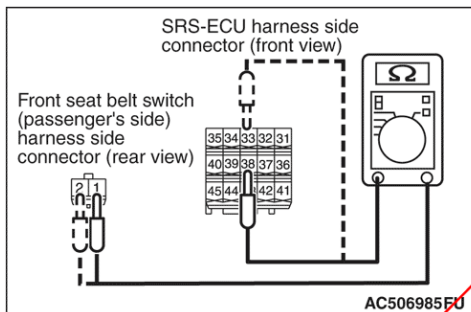
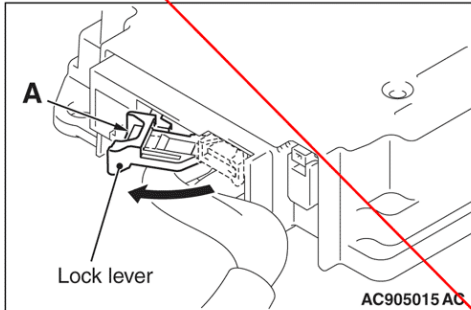
- (4) Measure the resistance between PBS-, PBSO line and body ground (No. B1537 only). It should be an open circuit.



- (5) Connect the negative battery terminal.
- (6) Ignition switch: ON.
- (7) Measure the voltage between PBS-, PBSO line and body ground (No. B1538 only). Voltage should measure 1 V or less.

Q: Is the check result normal?**YES :** Go to Step 5.**NO :** Repair the harness wires PBS-, PBSO line between SRS-ECU connector and the seat belt switch (passenger's side) connector. Then go to Step 6.

<Incorrect>



STEP 5. Resistance measurement at the SRS-ECU connector and the seat belt switch (passenger's side) connector.

- (1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
- (2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (3) Disconnect the seat belt switch (passenger's side) connector.

⚠ CAUTION

Do not insert a probe into the terminal from seat belt switch (passenger's side) connector harness side connector front side directly, as the connector contact pressure may be weakened.

- (4) Take the following measurements.

- Continuity PBS- line between SRS-ECU wiring harness side connector and the seat belt switch (passenger's side) connector
- Continuity PBSO line between SRS-ECU wiring harness side connector and the seat belt switch (passenger's side) connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?

YES : go to Step 6.

NO : Repair harness wires PBS-, PBSO line between SRS-ECU connector and the seat belt switch (passenger's side) connector.

STEP 6. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is DTC B1530, B1537 or B1538 set?

YES : Replace the SRS-ECU (Refer to [P.52B-232](#)).

NO : The procedure is complete.

<Correct>

DTC B1530: Seat Belt Switch (Passenger's side) Malfunction
DTC B1537: Seat Belt Switch (Passenger's side) Circuit Open
DTC B1538: Seat Belt Switch (Passenger's side) Circuit (Ground Side) Shorted
DTC B1539: Seat Belt Switch (Passenger's side) System Fault Power Supply Circuit (Short-Circuited to Power Supply)

⚠ CAUTION

If DTC B1530, B1537, B1538 or B1539 are set in the SRS-ECU, always diagnose the CAN main bus lines.

CIRCUIT OPERATION

The SRS-ECU determines whether the seat belt is fastened or not according to the connection of the seat belt switch in the seat buckle.

DTC SET CONDITIONS

The DTC is set when the seat belt switch output current is not within the specified range.
Cause of trouble for each DTC is as follows.

DTC	SYMPTOM
B1530	Malfunction of seat belt switch
B1537	Malfunction of the common terminal or open circuit in its harness
B1538	Short to body ground in the common terminal harness
B1539	Short to the power supply in the seat belt switch harness

TROUBLESHOOTING HINTS

- Damaged wiring harnesses or connectors
- Malfunction of the seat belt switch (passenger's side)
- Malfunction of the SRS-ECU

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool ."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

<Correct>

STEP 2. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC set?

YES : Go to Step 6 (DTC B1530).

YES : Go to Step 3 (DTC B1537).

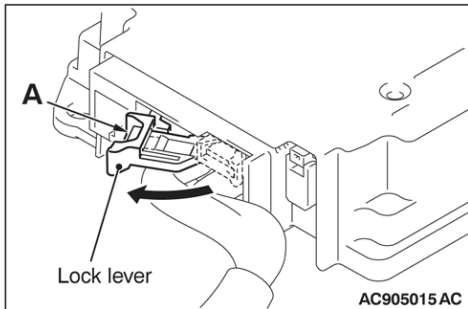
YES : Go to Step 4 (DTC B1538).

YES : Go to Step 5 (DTC B1539).

NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Resistance measurement at the SRS-ECU connector and the seat belt switch (passenger's side) connector.

- (1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
- (2) Disconnect the seat belt switch (passenger's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

**⚠ CAUTION**

Do not insert a probe into the terminal from seat slide sensor connector harness side connector front side directly, as the connector contact pressure may be weakened.

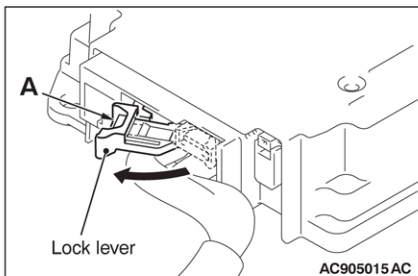
- (4) Check for continuity between the following terminals. It should be less than 2 ohms.
 - Continuity PBS- line between SRS-ECU wiring harness side connector and the seat belt switch (passenger's side) connector
 - Continuity PBSO line between SRS-ECU wiring harness side connector and the seat belt switch (passenger's side) connector

Q: Is the check result normal?

YES : go to Step 6.

NO : Repair harness wires PBS-, PBSO line between SRS-ECU connector and the seat belt switch (passenger's side) connector. Then go to Step 7.

<Correct>



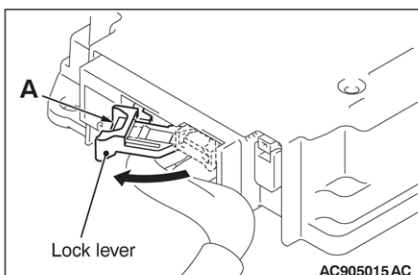
STEP 4. Check the harness short circuit between seat belt switch (passenger's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (passenger's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Measure the resistance between PBS-, PBSO line and body ground. It should be less than 2 ohms.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires PBS-, PBSO line between SRS-ECU connector and the seat belt switch (passenger's side) connector. Then go to Step 7.



STEP 5. Check the harness short circuit between seat belt switch (passenger's side) connector and the SRS-ECU connector.

- (1) Disconnect the negative battery terminal.
- (2) Disconnect the seat belt switch (passenger's side) connector.
- (3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- (4) Connect the negative battery terminal.
- (5) Ignition switch: ON.
- (6) Measure the voltage between PBS-, PBSO line and body ground. Voltage should measure 1 volt or less.

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the harness wires PBS-, PBSO line between SRS-ECU connector and the seat belt switch (passenger's side) connector. Then go to Step 7.

STEP 6. Seat belt switch (passenger's side) check.

Check whether the seat belt switch (passenger's side) is normal (Refer to GROUP 52A, Front Seat Belt).

Q: Is the check result normal?

YES : Go to Step 7.


NO : Replace the inner seat belt (passenger's side) (Refer to GROUP 52A, Front Seat Assembly).


STEP 7. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is DTC B1530, B1537, B1538 or B1539 set?

YES : Replace the SRS-ECU (Refer to ).

NO : The procedure is complete. 

GROUP 52B - SRS Control Unit (SRS-ECU)

Please add the following information for DTC B1556 to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) –> SRS Air Bag Diagnosis –> Diagnostic Trouble Code Procedures <SRS–ECU>.

<Added>

DTC B1556: Driver's Seat Slide Sensor Malfunction

⚠ CAUTION

If DTC B1556 is set in the SRS-ECU, always diagnose the CAN main bus line.

TROUBLESHOOTING HINTS

- Malfunction of the seat slide sensor
- Malfunction of SRS-ECU

DTC SET CONDITION

This DTC is set if communication between the SRS-ECU and the seat slide sensor is not possible or communication is faulty.

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool (M.U.T.-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III).

- (1) Connect scan tool (M.U.T.-III). Refer to "How to connect the scan tool ."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Using scan tool MB991958, read the SRS-ECU diagnostic trouble code.

Check if the DTC is set to the SRS-ECU.

Q: Is DTC set?

YES : Diagnose the SRS-ECU (Refer to) Then go to Step 3.

NO : Go to Step 3.

STEP 3. Check the seat slide sensor.

Check whether the seat slide sensor is normal (Refer to).

Q: Is the check result normal?

YES : Go to Step 4.

NO : Replace the seat slide sensor (Refer to).

STEP 4. Recheck for diagnostic trouble code.

Check again if the DTC is stored.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is stored.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC stored?

YES : Replace the SRS-ECU (Refer to).

NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

GROUP 52B - SRS Control Unit (SRS-ECU)

GROUP 52B - Seat Slide Sensor

GROUP 52B - SRS Control Unit (SRS-ECU)

Please make the indicated changes to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS) –> Post–Collision Diagnosis.
Refer to the “Added” information following this page for seat slide sensor details.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) POST-COLLISION DIAGNOSIS

8. Read the data list (fault duration and how many times memories are erased), using scan tool MB991958 (Refer to [P.52B-220](#)).
9. Erase the diagnostic trouble codes, and then turn the ignition switch to the "LOCK" (OFF) position.
10. Wait for at least one second, and then turn the ignition switch to the "ON" position again.
11. After waiting 15 seconds or more, note all displayed diagnostic trouble codes (Refer to [P.52B-16](#)).

REPAIR PROCEDURE

<DRIVER'S, FRONT PASSENGER'S AND KNEE AIR BAGS ARE DEPLOYED>

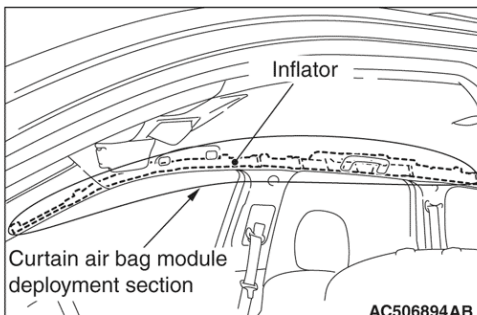
1. Replace the following parts with new ones.
 - SRS-ECU (Refer to [P.52B-232](#)).
 - Driver's air bag module (Refer to [P.52B-235](#)).
 - Passenger's (front) air bag module (Refer to [P.52B-243](#)).
 - Knee air bag module (Refer to [P.52B-255](#)).
 - Seat belt with pre-tensioner (Refer to [P.52B-262](#)).
 - Front impact sensor (Refer to [P.52B-229](#)).
2. Check the following parts. If there is an abnormality, replace with new parts.
 - Clock spring (Refer to [P.52B-235](#)).
 - Steering wheel, steering column assembly
 - (1) Check that the driver's air bag module is installed to the steering wheel correctly.
 - (2) Check the steering wheel for noise, binding, operational failure, and play.
 - (3) Check the shock absorbing mechanism of steering column shaft assembly (Refer to GROUP 37 – On-vehicle Service [P.37-62](#)).
3. Instrument panel assembly (Refer to GROUP 52A – Instrument Panel Assembly [P.52A-2](#)).
4. Check the wiring harness for binding, the connector for damage, and the terminal for deformation (Refer to [P.52B-5](#)).

<Added>

• Seat slide sensor (Refer to ).

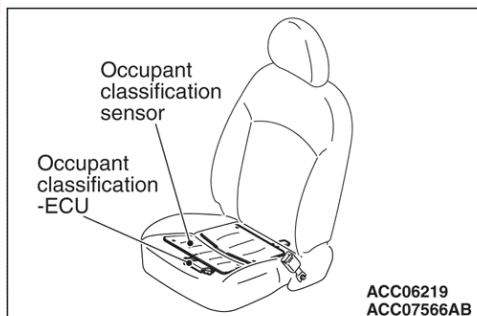
GROUP 52B - Seat Slide Sensor

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) POST-COLLISION DIAGNOSIS



CURTAIN AIR BAG MODULE

1. Check that the curtain air bag deployment part of the headlining is normal.
2. Check the inflator surface for cracks, dents or deformations.
3. Check the connector for damage, the terminal for deformation, and the harness for binding.



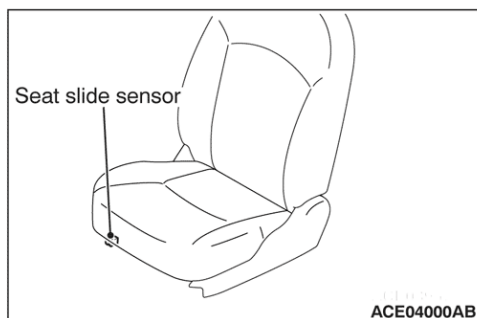
OCCUPANT CLASSIFICATION-ECU AND OCCUPANT CLASSIFICATION SENSOR

1. Check the occupant classification-ECU case and occupant classification sensor for dents, cracks or deformation.
2. Check the connector for damage, and the terminals for deformation.
3. Check the installation of the occupant classification-ECU and occupant classification sensor.
4. Check the diagnostic trouble code of occupant classification-ECU and replace the seat cushion frame assembly <passenger's side>.

HARNESS CONNECTOR

Check the wiring harness for binding, the connector for damage, and the terminal for deformation (Refer to [P.52B-5](#)).

<Added>



SEAT SLIDE SENSOR

1. Check that there is no connector damage, bent terminals or harness crimping.
2. Check the installation of the seat slide sensor.

Please add the following information as a new section after the “Side Impact Sensor” section to the 2014 and 2015 Mirage Service Manual, Group 52B – Supplemental Restraint System (SRS).

<Added>

SEAT SLIDE SENSOR

REMOVAL AND INSTALLATION

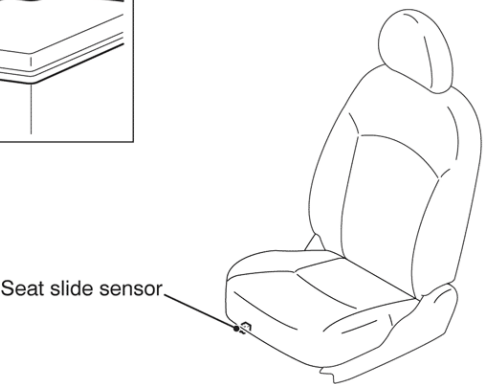
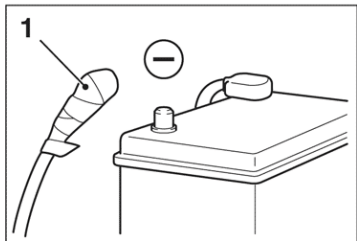
M1524025300225

⚠ WARNING

- **Never attempt to disassemble or repair the seat slide sensor. If faulty, replace it.**
- **Do not drop or subject the seat slide sensor to impact or vibration. Replace the seat slide sensor, if dents, cracking, deformation, or rust are present.**

Pre-removal Operation

- Turn the ignition switch to the LOCK (OFF) position.



ACE03957 AC

<<A>>

Removal steps

1. Negative (-) battery cable
- Seat slide sensor <Driver's side> (Refer to GROUP 52A, Front seat assembly)

>>A<<

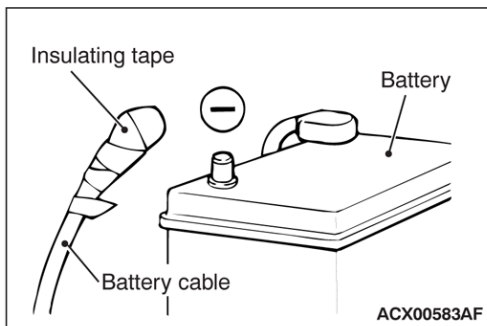
Installation steps

- Pre-installation inspection
- Seat slide sensor <Driver's side> (Refer to GROUP 52A, Front seat assembly)
- 1. Negative (-) battery cable
- Post-installation inspection

>>B<<

<Added>

GROUP 52B - Air Bag Module Disposal Procedure



REMOVAL SERVICE POINT

<<A>> NEGATIVE (-) BATTERY CABLE DISCONNECTION

⚠ DANGER

Wait at least 60 seconds after disconnecting the battery cable before doing any further work (Refer to).

⚠ WARNING

Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.

Disconnect the negative (-) battery cable from the battery and tape the terminal to prevent accidental connection and air bag(s) deployment.

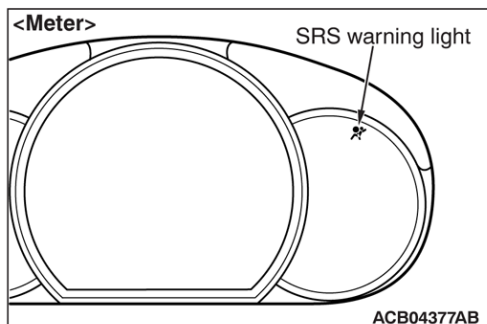
INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

Check the seat slide sensor for dents, breakage and bending and measure the resistance between the terminals, even when installing a new seat slide sensor.

>>B<< POST-INSTALLATION INSPECTION

1. Electric motor switch to the "ON" position.
2. Check that the SRS warning light is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the light does not extinguish, perform the troubleshooting (Refer to).



GROUP 52B - SRS Air Bag Diagnosis

<Added>

INSPECTION

M1524025400169

WARNING

If a dent, crack, deformation or rust is detected, replace with a new sensor.

NOTE: For checking of the seat slide sensor other than described below, refer to the section concerning SRS diagnosis (Refer to).

GROUP 52B - SRS Air Bag Diagnosis

1. Check the seat slide sensor for dent, cracks or deformation.
2. Check the connector for damage, and terminals for deformation.
3. Check that there is no bending or corrosion in the slide adjuster.