2019 Subaru Ascent F4-2.4L Turbo

Vehicle > Restraints and Safety Systems > Repairs and Inspections Required After a Collision > Service and Repair > Procedures

AIRBAG SYSTEM INSPECTION LOCATIONS AFTER A COLLISION - INSPECTION

INSPECTION

If the vehicle is involved in a collision, even if it is a slight collision, be sure to check the following systems.

1. DRIVER'S AIRBAG MODULE ASSEMBLY

- 1. Frontal collision (driver's airbag module assembly activated)
 - 1. Replace the following parts with new ones.
 - Airbag control module
 - Driver's airbag module
 - Knee airbag module
 - Passenger's airbag module (if deployed)
 - Curtain airbag module (right and left / if deployed)
 - Front seat belt pretensioner & adaptive force limiter (right and left)
 - Lap seat belt pretensioner (right and left)
 - Locking tongue (front seat) (right and left)
 - Second row seat belt pretensioner (right and left)
 - Front impact sensor (right and left)
 - Instrument panel assembly (because it is integrated with passenger's airbag module) (if passenger's airbag module is deployed)
 - Steering wheel assembly
 - Column assembly steering
 - Roll connector
 - 2. Visually inspect the following items and replace any damaged part with a new one.
 - Side airbag module
 - Side impact sensor (center pillar)
 - Cover front seat backrest
 - Seat pad assembly backrest
 - Seat frame assembly backrest
 - Seat frame assembly cushion
 - Passenger's seat position sensor
 - Universal joint LWR
 - Universal joint UPR
 - Steering gearbox
 - Beam COMPL steering
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
 - Harnesses and connectors on body side that are linked to the replaced parts
- 2. Frontal collision (driver's airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part with a new one. Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Driver's airbag module
- Knee airbag module
- Passenger's airbag module
- Front seat belt pretensioner & adaptive force limiter (right and left)
- Lap seat belt pretensioner (right and left)
- Locking tongue (front seat) (right and left)
- Passenger's seat position sensor
- Second row seat belt pretensioner (right and left outer sides)
- Front impact sensor (right and left)
- Instrument panel assembly (because it is integrated with passenger's airbag module)
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- 3. No frontal collision
 - Visually inspect the airbag modules for damage or contamination and replace any faulty part with a new one.
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.

2. KNEE AIRBAG MODULE

- 1. Frontal collision (knee airbag module activated)
 - 1. Replace the following parts with new ones.
 - Airbag control module
 - Driver's airbag module
 - Knee airbag module
 - Passenger's airbag module (if deployed)
 - Curtain airbag module (right and left / if deployed)
 - Front seat belt pretensioner & adaptive force limiter (right and left)
 - Lap seat belt pretensioner (right and left)
 - Locking tongue (front seat) (right and left)
 - Second row seat belt pretensioner (right and left outer sides)
 - Front impact sensor (right and left)
 - Instrument panel assembly (because it is integrated with passenger's airbag module) (if passenger's airbag module is deployed)
 - Steering wheel
 - Column assembly steering
 - Roll connector
 - 2. Visually inspect the following items and replace any damaged part with a new one.
 - Side airbag module
 - Side impact sensor (center pillar)
 - Cover front seat backrest
 - Seat pad assembly backrest
 - Seat frame assembly backrest
 - Seat frame assembly cushion
 - Passenger's seat position sensor
 - Universal joint LWR
 - Universal joint UPR

- Steering gearbox
- Beam COMPL steering
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- Harnesses and connectors on body side that are linked to the replaced parts
- 2. Frontal collision (knee airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part with a new one. Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Driver's airbag module
- Knee airbag module
- Passenger's airbag module
- Front seat belt pretensioner & adaptive force limiter (right and left)
- Lap seat belt pretensioner (right and left)
- Locking tongue (front seat) (right and left)
- Passenger's seat position sensor
- Second row seat belt pretensioner (right and left outer sides)
- Front impact sensor (right and left)
- Instrument panel assembly (because it is integrated with passenger's airbag module)
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- 3. No frontal collision
 - Visually inspect the airbag modules for damage or contamination and replace any faulty part with a new one.
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.

3. PASSENGER'S AIRBAG MODULE

- 1. Frontal collision (passenger's airbag module activated)
 - 1. Replace the following parts with new ones.
 - Airbag control module
 - Driver's airbag module
 - Knee airbag module
 - Passenger's airbag module
 - Curtain airbag module (right and left / if deployed)
 - Front seat belt pretensioner & adaptive force limiter (right and left)
 - Lap seat belt pretensioner (right and left)
 - Locking tongue (front seat) (right and left)
 - Second row seat belt pretensioner (right and left outer sides)
 - Front impact sensor (right and left)
 - Instrument panel assembly (because it is integrated with passenger's airbag module)
 - Steering wheel
 - Column assembly steering
 - Roll connector
 - 2. Visually inspect the following items and replace any damaged part with a new one.
 - Side airbag module

- Side impact sensor (center pillar)
- Cover front seat backrest
- Seat pad assembly backrest
- Seat frame assembly backrest
- Seat frame assembly cushion
- Passenger's seat position sensor
- Universal joint LWR
- Universal joint UPR
- Steering gearbox
- Beam COMPL steering
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- Harnesses and connectors on body side that are linked to the replaced parts
- 2. Frontal collision (passenger's airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part with a new one. Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Driver's airbag module
- Knee airbag module
- Passenger's airbag module
- Front seat belt pretensioner & adaptive force limiter (right and left)
- Lap seat belt pretensioner (right and left)
- Locking tongue (front seat) (right and left)
- Passenger's seat position sensor
- Second row seat belt pretensioner (right and left outer sides)
- Front impact sensor (right and left)
- Instrument panel assembly (because it is integrated with passenger's airbag module)
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- 3. No frontal collision
 - Visually inspect the airbag modules for damage or contamination and replace any faulty part with a new one.
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.

4. SIDE AIRBAG MODULE

- 1. Side impact (side airbag module activated)
 - 1. Replace the following parts with new ones.
 - Airbag control module
 - Side impact sensor (under the second-row center seat)
 - Plate sensor cover (Side impact sensor (under the second-row center seat))
 - Side impact sensor (front door) (collision side)
 - Plate door UPR (collision side)
 - Front seat belt pretensioner & adaptive force limiter (collision side / if deployed)
 - Lap seat belt pretensioner (collision side / if deployed)
 - Locking tongue (front seat) (if deployed)

- Second row seat belt pretensioner (collision side / if deployed)
- Side airbag module (collision side)
- Side impact sensor (center pillar) (collision side)
- Curtain airbag module (collision side)
- Side impact sensor (rear wheel house front side) (collision side)
- Side impact sensor (rear wheel house rear side) (collision side)
- Cover front seat backrest
- Seat pad assembly backrest
- Seat frame assembly backrest
- Seat frame assembly cushion
- Trim panel sub assembly
- Trim panel for each pillar (collision side)
- 2. Visually inspect the following items and replace any damaged part (collision side) with a new one.
 - Headrest assembly
 - Bushing headrest
 - Slide rail assembly outside
 - Slide rail assembly inside
 - Cover hinge outside
 - Cover hinge inside
 - Knob lifter
 - Knob hinge reclining
 - Front seat belt pretensioner & adaptive force limiter (if not deployed)
 - Lap seat belt pretensioner (if not deployed)
 - Locking tongue (front seat) (if not deployed)
 - Passenger's seat position sensor
 - Second row seat belt pretensioner (if not deployed)
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
 - Harnesses and connectors on body side that are linked to the replaced parts

2. Side impact (side airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part (collision side) with a new one. Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Cover front seat backrest
- Seat pad assembly backrest
- Seat frame assembly backrest
- Seat frame assembly cushion
- Passenger's seat position sensor
- Side impact sensor (under the second-row center seat)
- Plate sensor cover (Side impact sensor (under the second-row center seat))
- Side impact sensor (front door)
- Plate door UPR
- Side airbag module
- Side impact sensor (center pillar)
- Curtain airbag module
- Side impact sensor (rear wheel house front side) (collision side)
- Side impact sensor (rear wheel house rear side) (collision side)
- Front seat belt pretensioner & adaptive force limiter (if not deployed)

- Lap seat belt pretensioner (if not deployed)
- Locking tongue (front seat) (if not deployed)
- Second row seat belt pretensioner (if not deployed)
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- 3. No side impact
 - Visually inspect the airbag modules for contamination and replace any faulty part with a new one.
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.

5. CURTAIN AIRBAG MODULE

- 1. Side impact or roll over (curtain airbag module activated)
 - 1. Replace the following parts with new ones.
 - Airbag control module
 - Side impact sensor (under the second-row center seat)
 - Plate sensor cover (Side impact sensor (under the second-row center seat))
 - Side airbag module (collision side)
 - Curtain airbag module (collision side)
 - Front seat belt pretensioner & adaptive force limiter (collision side / if deployed)
 - Lap seat belt pretensioner (collision side / if deployed)
 - Locking tongue (front seat) (if deployed)
 - Passenger's seat position sensor
 - Second row seat belt pretensioner (collision side / if deployed)
 - Side impact sensor (front door) (collision side)
 - Plate door UPR (collision side)
 - Side impact sensor (center pillar) (collision side)
 - Side impact sensor (rear wheel house front side) (collision side)
 - Side impact sensor (rear wheel house rear side) (collision side)
 - Cover front seat backrest
 - Seat pad assembly backrest
 - Seat frame assembly backrest
 - Seat frame assembly cushion
 - Trim panel sub assembly
 - Trim panel for each pillar (collision side)
 - Airbag bracket (model with sunroof) (collision side)
 - 2. Visually inspect the following items and replace any damaged part (collision side) with a new one.
 - Assist rail front and rear
 - Bracket assist rail front and rear
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
 - Harnesses and connectors on body side that are linked to the replaced parts
- 2. Side impact (curtain airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part (collision side) with a new one. Specially inspect the damage of airbag module body, mounting bracket and harness connector.

• Trim panel sub assembly

- Trim panel for each pillar
- Curtain airbag module
- Side impact sensor (under the second-row center seat)
- Plate sensor cover (Side impact sensor (under the second-row center seat))
- Side impact sensor (front door)
- Plate door UPR
- Side impact sensor (center pillar)
- Side impact sensor (rear wheel house front side) (collision side)
- Side impact sensor (rear wheel house rear side) (collision side)
- Front seat belt pretensioner & adaptive force limiter (if not deployed)
- Lap seat belt pretensioner (if not deployed)
- Locking tongue (front seat) (if not deployed)
- Passenger's seat position sensor
- Second row seat belt pretensioner (if not deployed)
- Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure ir the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
- 3. No side impact
 - Visually inspect the airbag covers for damage or contamination and replace any faulty part with a new one
 - Passenger's seat occupant detection system (Perform the inspection following the diagnostic procedure in the "OCCUPANT DETECTION (DIAGNOSTICS)" section.) Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.

6. AIRBAG CONTROL MODULE

Check for the following, and replace the damaged parts with new parts.

- Control module is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Driver's airbag module has been activated.
- Knee airbag module has been activated.
- Passenger's airbag module has been activated.
- Side airbag module has been activated.
- Curtain airbag module has been activated.
- Front seat belt pretensioner & adaptive force limiter has been activated.
- Lap seat belt pretensioner has been activated.
- Locking tongue (front seat) has been activated.
- Second row seat belt pretensioner has been activated.

7. FRONT IMPACT SENSOR

If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Front impact sensor is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Driver's airbag module, knee airbag module, passenger's airbag module and curtain airbag module have been activated.

8. EACH SIDE IMPACT SENSOR

If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Side impact sensor (front door), plate door UPR, side impact sensor (center pillar), Side impact sensor (under the second-row center seat), plate sensor cover Side impact sensor (under the second-row center seat), and side impact sensor (rear wheel house front side / rear side) are cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Side airbag module or curtain airbag module has been activated. (Operating side)

9. ROLL CONNECTOR

Check for the following, and replace the damaged parts such as cracks, deformation, etc. with new parts.

- Combination switch
- Steering roll connector

10. CHECK STEERING SYSTEM

For steering wheel, column assembly steering, universal joint LWR & UPR, and steering gearbox, check the following items, and if there is anything out of standard value, it is considered to be damaged. If so, replace it with a new part.

- Check the following items for the column assembly steering. Ref. to POWER ASSISTED SYSTEM (POWER STEERING)>Steering Column>INSPECTION.
 - Mounting conditions and deflection of front and rear, upward and downward directions of the steering wheel and column assembly steering.
 - Deflection of front and rear, upward and downward directions, and mounting condition to vehicle body of the column assembly steering. (After a collision, absorbing part of the column assembly steering may have been operated.)
- Check for deflection and the swing load of the universal joint LWR and UPR. Ref. to POWER ASSISTED SYSTEM (POWER STEERING)>Universal Joint>INSPECTION.
- Check the following items for the steering gearbox. Ref. to POWER ASSISTED SYSTEM (POWER STEERING)>Electric Power Steering Gearbox>INSPECTION.
 - Rack sliding resistance and deflection
 - Input shaft play
 - Rotational resistance of gearbox

11. DRIVER'S SEAT

- 1. Check for the following, and replace the damaged parts with new parts.
 - Body or bracket of the seat belt INN front is scratched, cracked or deformed.
 - Frame assembly is cracked or deformed.
 - Headrest assembly for deformation or play.
 - If the seat surface is damaged or frayed, replace the seat surface with a new part.
 - If the seat surface is replaced, replace the hog ring and hang wire with new parts.

12. PASSENGER'S SEAT

Caution:

Do not disassemble the seat frame assembly cushion, slide rail and load sensor, which are integrated in an assembly component. If scratches, cracks or deformation are detected, be sure to replace the part as an assembly.

- 1. Check for the following, and replace the damaged parts with new parts.
 - Body or bracket of the seat belt INN front is scratched, cracked or deformed.
 - Seat frame assembly backrest is cracked or deformed.
 - Headrest assembly for deformation or play.
 - If the seat surface is damaged or frayed, replace the seat surface with a new part.
 - If the seat surface and seat heater unit are replaced, replace the hog ring and hang wire with new parts.
- 2. When the passenger's seat is removed (including the case that the bolts are loosened), perform [Rezero] of the occupant detection system. Ref. to OCCUPANT DETECTION(DIAGNOSTICS)>Rezero.
- *3.* When the passenger seat surface has been removed or replaced, make sure that the occupant detection system operates normally.
- 4. Use the Subaru Select Monitor to check whether the passenger's seat belt buckle switch is operating normally.

13. INSPECTION OF OTHER PARTS

Check for the following parts, and replace the damaged parts with new parts.

1. Check the following parts equipped with the direct type connector for damage, and also check each harness

for pinch and connector damage. Replace the main harness as a unit if damage is found.

- Driver's airbag module
- Knee airbag module
- Curtain airbag module
- Lap seat belt pretensioner
- Second row seat belt pretensioner
- 2. Check the seat cushion, backrest, slide rail and headrest for installation condition and looseness.
- *3.* If any break or fray is found in the cover front seat backrest of the driver's seat or passenger's seat, the side airbag system may not operate normally. In this case, replace the cover front seat backrest with a new part.
- **4**. If the securing clip mounting area of curtain airbag module or the bracket assist rail is deformed or cracked, replace the defective part. In addition, if replacing the securing clip of curtain airbag module, always replace the curtain airbag module with a new part.

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SEAT BELT SYSTEM INSPECTION LOCATIONS AFTER A COLLISION - INSPECTION

INSPECTION

Refer to "Inspection Locations after a Collision" of "AIRBAG SYSTEM" section. Ref. to AIRBAG SYSTEM>Inspection Locations after a Collision.