

SECTION 10-11

SEAT BELTS

CAUTION: Replace belts, retractors, and hardware in use during all but minor collisions. Also, restraint systems should be replaced and anchorages properly repaired if they were in areas damaged by a collision, whether the belt was in use or not. If there is any question, replace the belt system. Damage to the belt system, whether visible or not, could result in serious personal injury in the event of an accident.

NOTICE: Always use the correct fastener in the proper location. When you replace a fastener, use **ONLY** the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. **UNLESS OTHERWISE SPECIFIED**, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct sequence and tightening specifications. Following these instructions can help you avoid damage to parts and systems.

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GENERAL DESCRIPTION

RESTRAINT SYSTEM

Seat belts are the primary means of occupant restraint. Seat belts help to keep the occupant inside the passenger compartment and to ride down the crash forces more gradually during the following events:

- Frontal impact type crashes.
- Rear impact type crashes.
- Side impact type crashes.
- Roll-over type crashes.

All seat belts have emergency locks in the retractors. During normal operation, the retractors remain unlocked to allow free movement of the occupant's upper body under normal driving conditions. The seat belt webbing is locked into position by a pendulum that causes a locking bar to engage a cog on the spool of the retractor mechanism under the following conditions:

- The rapid extraction of the seat belt webbing from the retractor.
- The speed of the vehicle changes abruptly.

- The direction of the vehicle changes abruptly.
- The vehicle is on a steep upgrade or a downgrade.

The seat belts have an automatic locking (cinch) feature. The cinch feature is activated when the seat belt webbing is completely extended from the retractor. The cinch feature will not allow the webbing to extend from whatever position it is allowed to retract. It is recommended that the cinch feature is used when securing a child seat. The cinch feature is canceled by allowing the webbing to be completely wound back into the retractor. After the cinch feature is canceled, the webbing is unlocked and will extend from the retractor.

The seat belts have a comfort lock feature which prevents full retraction of the webbing allowing the user to lock the seat belt into a comfortable position. The feature is activated by slowly allowing the webbing to wind in to the retractor. The user can readjust the comfort lock during vehicle operation. The feature is canceled by extending the webbing from the retractor or the user's door is opened allowing the webbing to fully retract to the stowed position.

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In conjunction with the seat belts, this vehicle is equipped with a Supplemental Inflatable Restraint (SIR) System. Refer to SECTION 9J for more information about the SIR (air bag) System.

Front Seat Belt System

The front seat belt system includes the following components:

- The seat belt guide loop is attached to seat belt.
- The seat belt retractor assembly is attached to the B-pillar.
- The seat belt buckle is attached to seat adjuster.

The driver's seat belt system includes a seat belt switch in the driver's seat belt buckle which controls a seat belt indicator lamp and an audio alarm. When the driver's seat belt is buckled, the driver's door is closed, and the ignition switch is turned "ON", the following events will occur: The audio alarm will not operate. The seat belt indicator lamp will not operate.

When the driver's seat belt is not buckled, the driver's door is closed, and the ignition switch is turned "ON", the following events will occur:

- The audio alarm will operate for 4 to 8 seconds and then go "OFF."
- The seat belt indicator lamp will operate until the driver's seat belt is buckled.

To diagnose a failure of the seat belt indicator lamp or audio alarm, refer to SECTION 8A-76.

Rear Seat Belt System

The rear seat belt system includes the following components:

- The seat belt guide loop is attached to seat belt.
- The seat belt retractor assembly is attached to the body.
- The seat belt buckle is attached to the rear seat.

ON-VEHICLE SERVICE

CAUTION: Replace belts, retractors and hardware in use in all but a minor collision. Also, restraint systems should be replaced and anchorages properly repaired if they were in areas damaged by a collision, whether the belt was in use or not. If there is any question, replace the belt system. Damage, whether visible or not, could result in serious personal injury in the event of an accident.

GENERAL SERVICE INSTRUCTIONS

- Do not bleach or dye the seat belt webbing. Clean only with a mild soap and water solution and a soft brush or cloth.
- Keep sharp edges and damaging objects away from the seat belts. Avoid bending or damaging any part of the seat belt buckle or latch plate. Replace any seat belts which are cut or damaged in any way.

- Use only the correct seat belt anchor bolts/screws and tighten to the correct torque value, refer to "SPECIFICATIONS" in this section. When installing seat belt anchor bolts, start the bolt by hand to ensure that the bolt is threaded straight.
- Some seat belts and retractors must be serviced as a set with service replacement parts only. Do not attempt to make repairs to the individual components which are only serviced as a set.
- Verify that the replacement part number is correct for the vehicle at that seating position. Do not substitute a seat belt from a different seating position.

OPERATIONAL AND FUNCTIONAL CHECKS

Seat Belt Check

Figure 1



Inspect

- All seat belt anchor bolts to verify that they are secure.
 - Seat belt buckle, making sure it locks and unlocks easily.
 - After buckling seat belt, tug sharply on belt, checking that the buckle remains locked.
 - Fully extend seat belt to make sure there are no twists or tears in it.
 - Allow the seat belt to fully retract to make sure it does so easily.
1. Remove retractor assembly. Refer to "Front Seat Belt Retractor Mechanism" or "Rear Seat Belt Retractor Mechanism—Two - Door or Four - Models" later in this section.
 2. Tilt the retractor slowly.
 3. Verify that the belt can be pulled out of the retractor at an inclination of 15 degrees or less and that it cannot be pulled out at over 45 degrees of inclination (Figure 1).

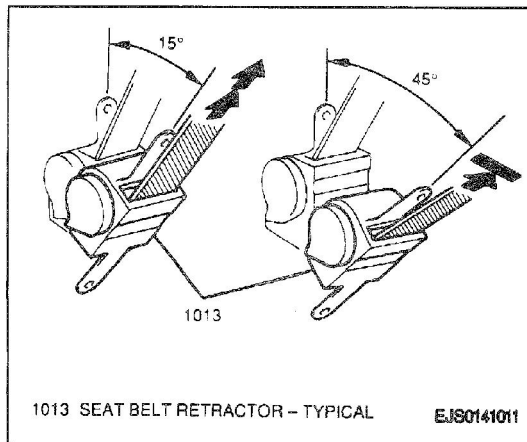
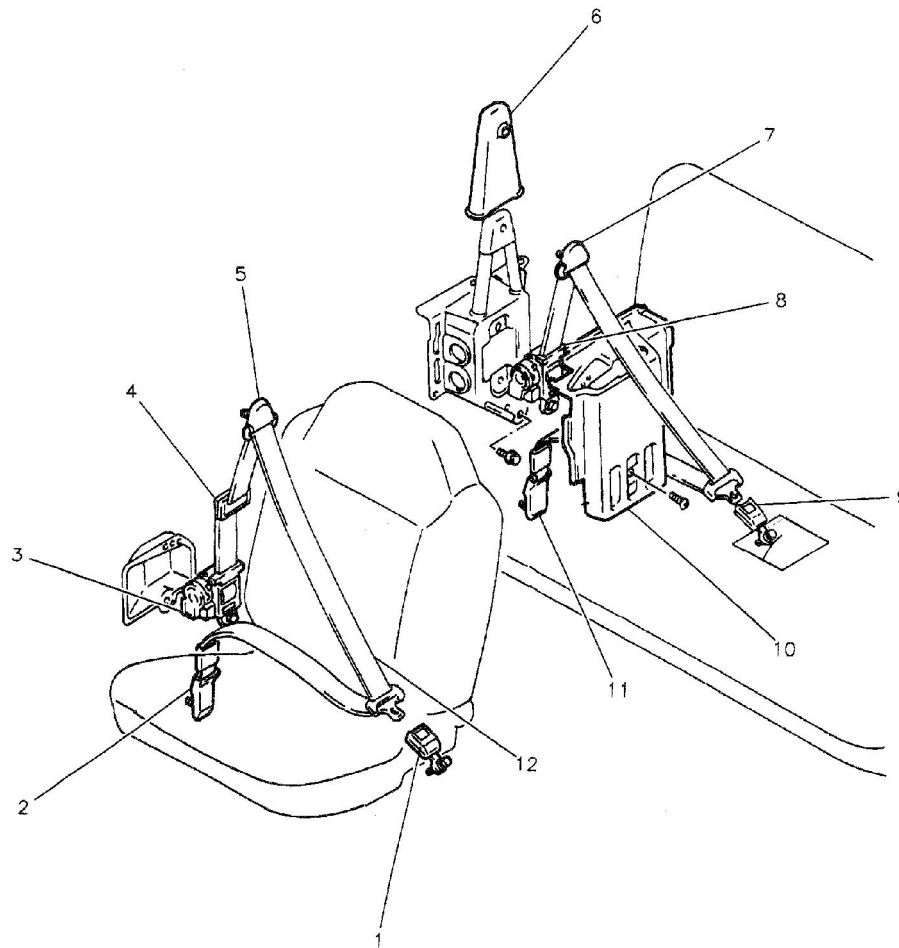


Figure 1—Seat Belt Check



- | | |
|---|---|
| 1 FRONT SEAT BELT BUCKLE | 7 REAR SEAT BELT GUIDE LOOP COVER |
| 2 FRONT SEAT BELT LOWER ANCHOR BOLT COVER | 8 REAR SEAT BELT RETRACTOR MECHANISM |
| 3 FRONT SEAT BELT RETRACTOR MECHANISM | 9 REAR SEAT BELT BUCKLE |
| 4 FRONT SEAT BELT TRIM BEZEL | 10 REAR SEAT BELT RETRACTOR TRIM COVER |
| 5 FRONT SEAT BELT GUIDE LOOP COVER | 11 REAR SEAT BELT LOWER ANCHOR BOLT COVER |
| 6 FRONT SEAT BELT SHOULDER BRACKET COVER | 12 FRONT SEAT BELT |

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Figure 2—Front and Rear Seat belt Systems—Two - Door Model Shown, Four - Door Model Similar

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4. If a problem is found, replace the retractor assembly.

Emergency Locking Retractor Check

CAUTION: Perform this test in an area clear of other vehicles or obstructions. Do not conduct this test on the open road. A large, empty parking lot is suitable. Failure to observe this precaution may result in damage to the vehicle and possible personal injury.

Inspect

- All seat belt anchor bolts to verify that they are secure.
 - Seat belt buckle, making sure it locks and unlocks easily.
 - After buckling seat belt, tug sharply on belt, checking that the buckle remains locked.
 - Fully extend seat belt to make sure there are no twists or tears in it.
 - Allow the seat belt to fully retract to make sure it does so easily.
1. Fasten seat belt.
 2. Drive vehicle at 16 km/h (10 mph) and apply brakes firmly.
 3. Verify that the seat belt locks and does not allow your body to move forward.
 4. If the belt does not lock during the running test, remove retractor and perform the static test.

Front Seat Belt Retractor Mechanism—Four - Door Models

Figure 3

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

1. Push carpet away and to gain access to front seat belt lower anchor bolt and lower anchor bolt (Figure 3).
2. Front seat belt guide loop cover and anchor bolt.
3. Three screws and front side door scuff plate.
4. Two screws and rear side door scuff plate.
5. Lower A-pillar trim from A-pillar.
6. One mounting bolt and front seat belt retractor mechanism from vehicle.

Install or Connect

1. Front seat belt retractor mechanism to vehicle; secure with one mounting bolt.

Tighten

- Front seat belt retractor mechanism mounting bolt 45 N.m (33 lb. ft.).
1. Lower A-pillar trim to A-pillar.
 2. Rear side door scuff plate to vehicle with two screws.
 3. Front side door scuff plate with three screws.
 4. Front seat belt guide loop anchor bolt.

Tighten

- Front seat belt guide loop anchor bolt to 45 N.m (33 lb. ft.).
5. Front seat belt guide loop cover.
 6. Front seat belt lower anchor bolt (Figure 3).

Tighten

- Front seat belt lower anchor bolt to 45 N.m (33 lb. ft.).
- Position carpet into place.

Front Seat Belt Retractor Mechanism—Two - Door Models

Figures 2 through 5

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

- Lift front seat belt lower anchor bolt cover and remove anchor bolt (Figure 3).
1. Front seat belt guide loop cover and anchor bolt.
 2. One screw from front seat belt trim bezel (Figure 4).
- Pull rear quarter interior trim panel from vehicle, disengaging plastic clips (Figure 5).
3. One mounting bolt and front seat belt retractor mechanism from vehicle.

Install or Connect

1. Front seat belt retractor mechanism to vehicle; secure with one mounting bolt.

Tighten

- Front seat belt retractor mechanism mounting bolt 45 N.m (33 lb. ft.).
2. Rear quarter interior trim panel to vehicle; press into place, engaging plastic clips (Figure 5).
 3. Front seat belt trim bezel to vehicle; secure with one screw (Figure 4).
 4. Front seat belt guide loop anchor bolt.

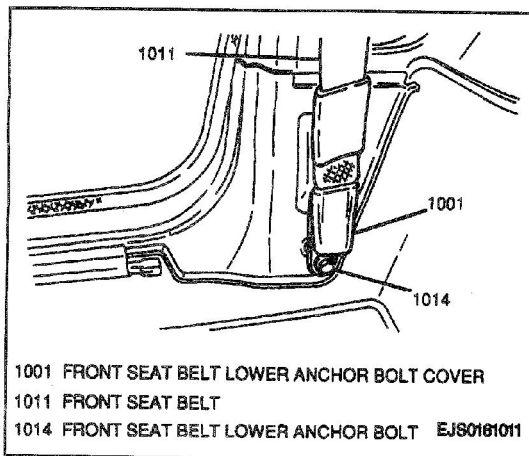


Figure 3—Front Seat Belt Lower Anchor Bolt

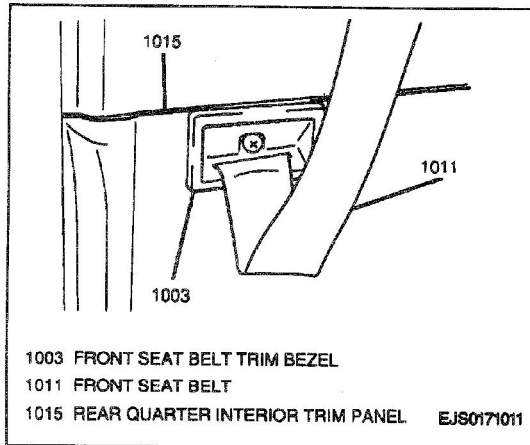


Figure 4—Front Seat Belt Trim Bezel

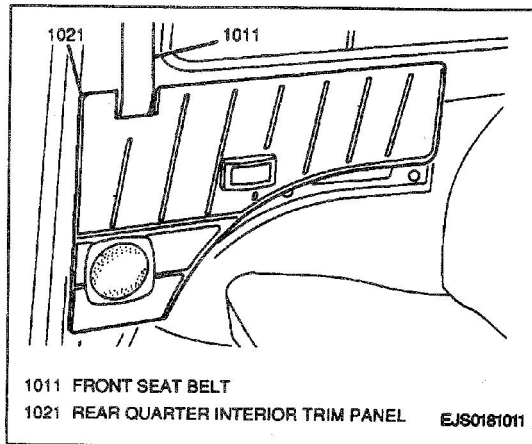


Figure 5—Rear Quarter Interior Trim Panel

Tighten

- Front seat belt guide loop anchor bolt to 45 N.m (33 lb. ft.).
5. Front seat belt guide loop cover.
 6. Front seat belt lower anchor bolt (Figure 3).

Tighten

- Front seat belt lower anchor bolt to 45 N.m (33 lb. ft.).
- Position front seat belt lower anchor bolt cover into place.

Front Seat Belt Buckle

Figures 2 and 6

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

1. Front seat belt buckle anchor bolt.
2. Front seat belt buckle electrical connector (left side).
3. Front seat belt buckle from front seat frame.

Install or Connect

1. Front seat belt buckle electrical connector (left side).
2. Front seat belt buckle to front seat frame; secure with one anchor bolt (Figure 6).

Tighten

- Front seat belt buckle anchor bolt to 45 N.m (33 lb. ft.).

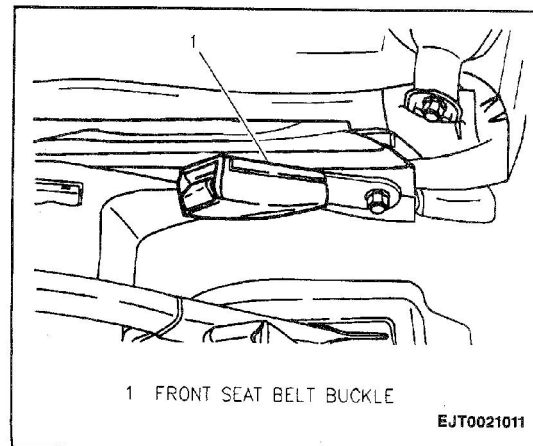


Figure 6—Front Seat Belt Buckle Anchor Bolt

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Rear Seat Belt Retractor Mechanism— Four - Door Models

Figures 3, 7 and 8

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

1. Rear seat belt guide loop cover and anchor bolt (Figure 7).
2. Rear Seat Belt Retractor Trim Cover—Four - Door Models. Refer to SECTION 10-7.
3. Rear seat belt lower anchor bolt (Figure 7).
4. One bolt, one screw and rear seat belt retractor mechanism from vehicle (Figure 8).

Install or Connect

1. Rear seat belt retractor mechanism to vehicle; secure with one screw and one bolt (Figure 8).

Tighten

- Rear seat belt retractor mechanism bolt to 45 N.m (33 lb. ft.).
2. Rear seat belt lower anchor bolt (Figure 7).

Tighten

- Rear seat belt lower anchor bolt to 45 N.m (33 lb. ft.).
3. Rear Seat Belt Retractor Trim Cover—Four - Door Models. Refer to SECTION 10-7.
 4. Rear seat belt guide loop anchor bolt.

Tighten

- Rear seat belt guide loop anchor bolt to 45 N.m (33 lb. ft.).
5. Rear seat belt guide loop cover.

Rear Seat Belt Retractor Mechanism— Two - Door Models

Figures 9, 10, 11 and 12

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

- Fold rear seatback, pull rear seat release handle and raise rear seat.
- Unclip support rod from bottom of rear seat and support seat.
- Lift rear seat belt lower anchor bolt cover and remove anchor bolt (Figure 8).

- Two - Door top (Refer to SECTION 10-9).
 - Garnish moldings (Refer to SECTION 10-9).
1. Two screws and rubber stopper from rear seat belt retractor trim cover (Figure 10).
 2. Rear seat belt guide loop cover and anchor bolt (Figure 10).
 - Loosen rear door opening weatherstrip.
 3. One screw and rear seat belt retractor trim cover (Figure 11).
 4. One bolt, one screw and rear seat belt retractor mechanism from vehicle (Figure 12).

Install or Connect

1. Rear seat belt retractor mechanism to vehicle; secure with one screw and one bolt (Figure 13).

Tighten

- Rear seat belt retractor mechanism bolt to 45 N.m (33 lb. ft.).
2. Rear seat belt retractor trim cover to vehicle; secure with one screw (Figure 11).
 - Press rear door opening weatherstrip into place.
 3. Rear seat belt guide loop anchor bolt (Figure 10).

Tighten

- Rear seat belt guide loop anchor bolt to 45 N.m (33 lb. ft.).
4. Rear seat belt guide loop cover.
 5. Rubber stopper to rear seat belt retractor trim cover; secure with two screws (Figure 10).
 6. Rear seat belt lower anchor bolt (Figure 8).
 - Garnish moldings (Refer to SECTION 10-9).
 - Folding top (Refer to SECTION 10-9).

Tighten

- Rear seat belt lower anchor bolt to 45 N.m (33 lb. ft.).
- Position rear seat belt lower anchor bolt cover into place.
- Clip support rod to bottom of rear seat and lower seat.
- Raise rear seatback into upright position.

Rear Seat Belt Buckle—Two - Door Models

Figures 2 and 13 through 18

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

- Fold rear seatback, pull rear seat release handle and raise rear seat.
- Unclip support rod from bottom of rear seat and support seat.

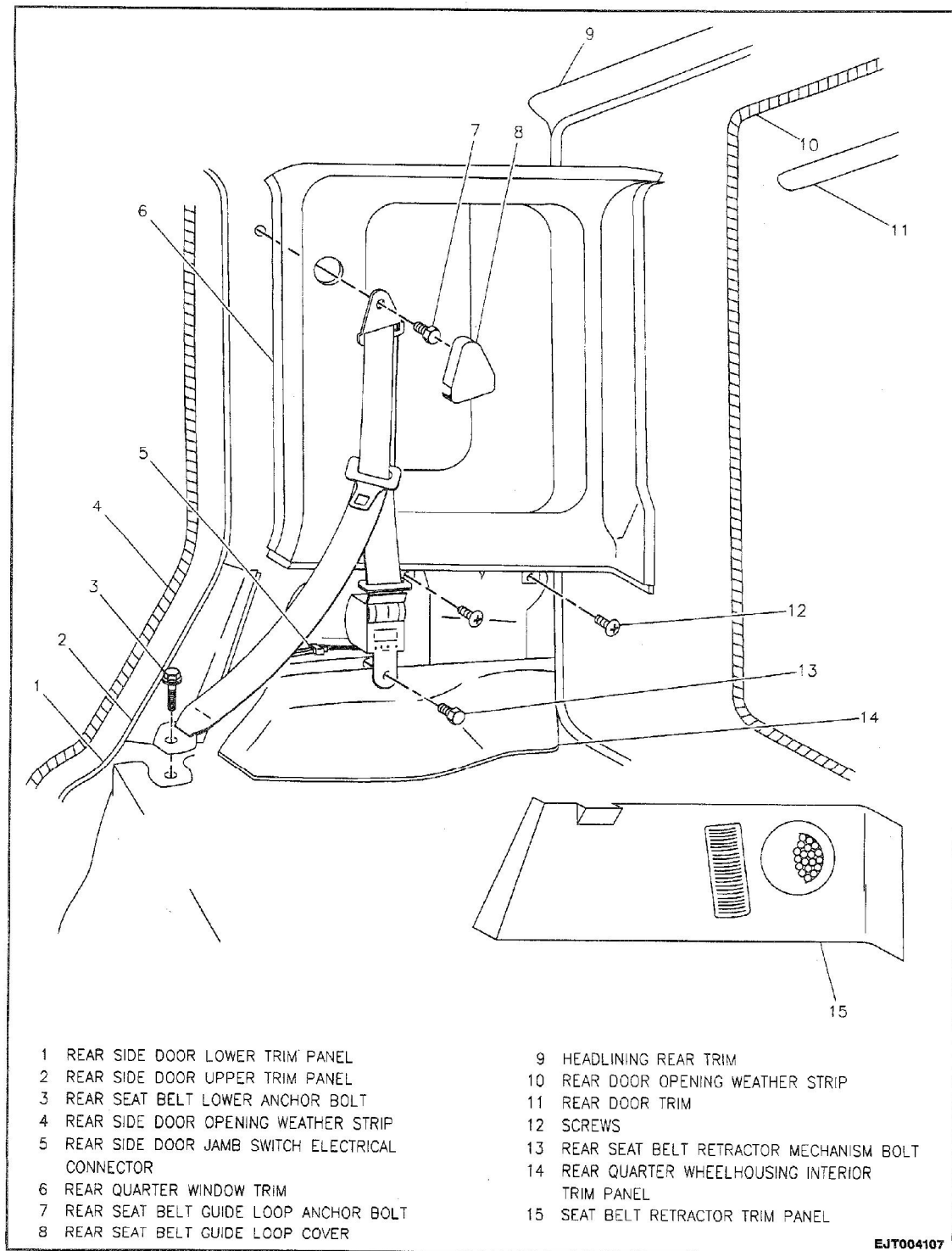


Figure 7—Rear Seat Retractor Trim Panel—Four - Door Models

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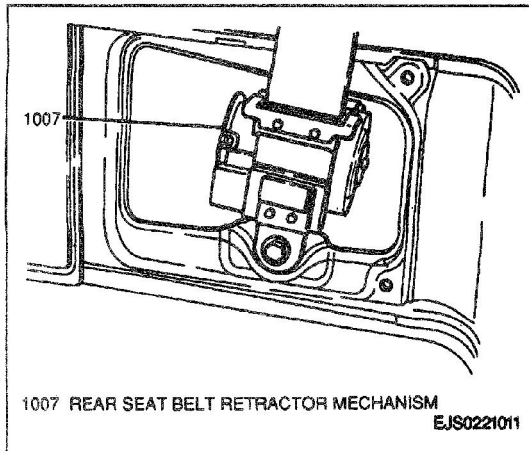


Figure 8—Rear Seat Belt Retractor Mechanism—
Four - Door Models

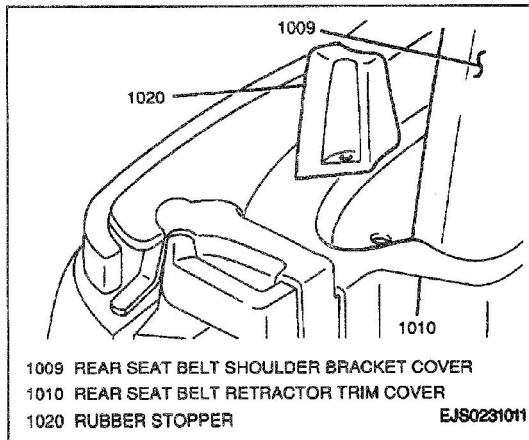


Figure 9—Rubber Stopper—Two - Door Models

1. One rear anchor bolt from each rear seat hinge (Figure 13).
 - Lower rear seat.
 - Gently pry hinge cover from each rear seat hinge (Figure 14).
2. One front anchor bolt from each rear seat hinge and seat from vehicle (Figure 15).
3. One clip and pin from each rear seat hinge and hinges from seat (Figure 16).
4. One clip, pin and support rod from rear seat.
5. One clip, pin and rear seat release handle from seat.
6. One screw from each rubber bumper and bumpers from seat.
7. Six screws and rear seat cushion trim cover from rear seat.
8. One anchor bolt from bottom of rear seat cushion securing rear seat belt buckle to seat (Figure 17).
9. Rear seat belt buckle from seat (Figure 18).

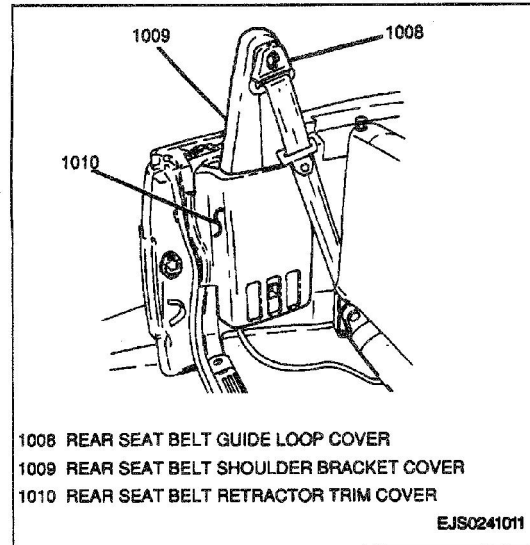


Figure 10—Rear Seat Belt Guide Loop Anchor Bolt
Location—Two - Door Models

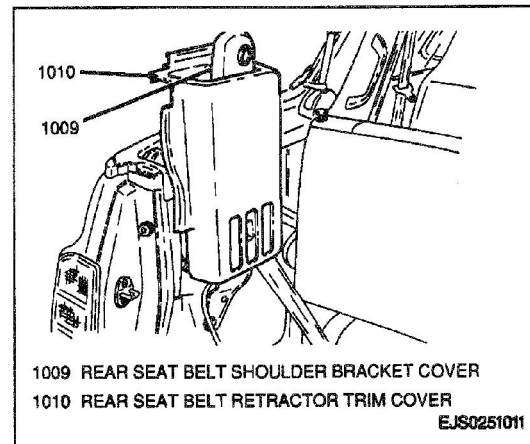


Figure 11—Rear Seat Belt Retractor Trim Cover—
Two - Door Models

Install or Connect

1. Rear seat belt buckle to rear seat; secure with one anchor bolt (Figure 17).

Tighten

- Rear seat belt buckle anchor bolt to 45 N.m (33 lb. ft.).
2. Rear seat cushion trim cover to rear seat; secure with six screws.
 3. Rubber bumpers to seat; secure each with one screw.
 4. Rear seat release handle; secure with one pin and clip.
 5. Support rod to rear seat; secure with one pin and clip.

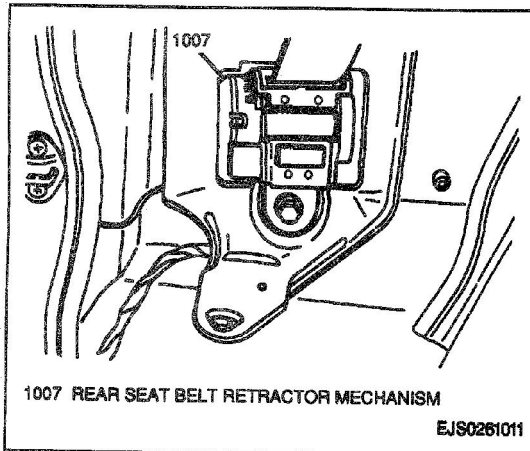


Figure 12—Rear Seat Belt Retractor—Two - Door Model

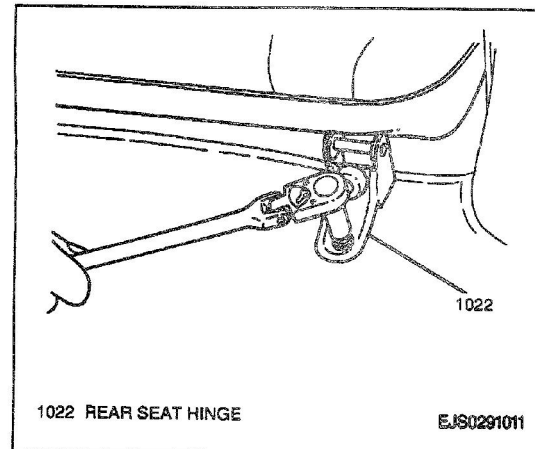


Figure 15—Removing Rear Seat Anchor Bolt

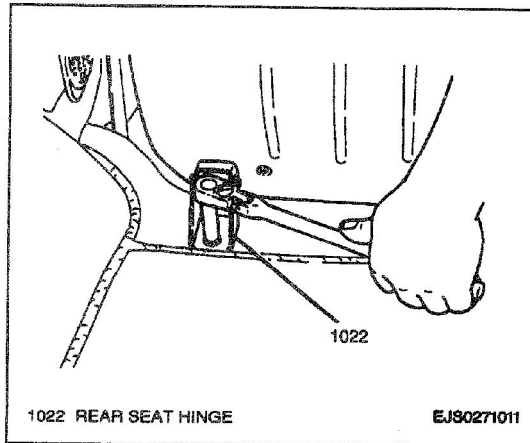


Figure 13—Rear Seat Anchor Bolt Removal

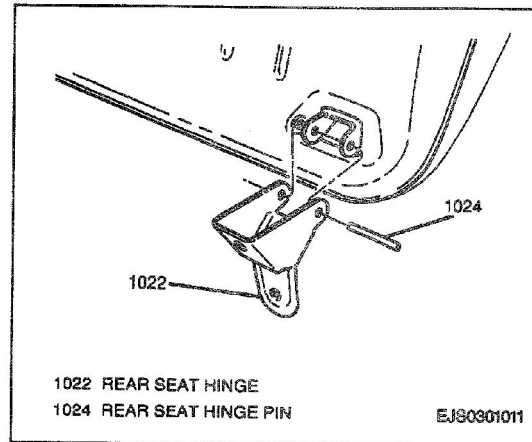


Figure 16—Rear Seat Hinge

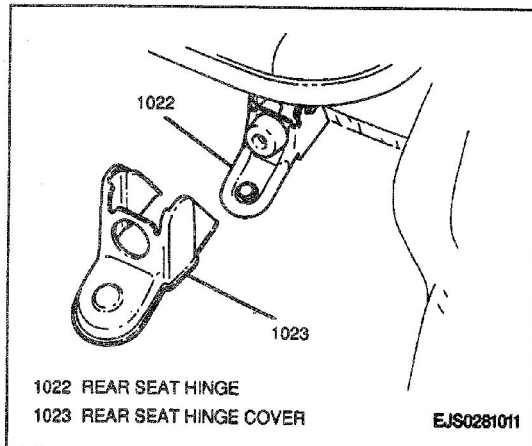


Figure 14—Rear Seat Hinge Cover

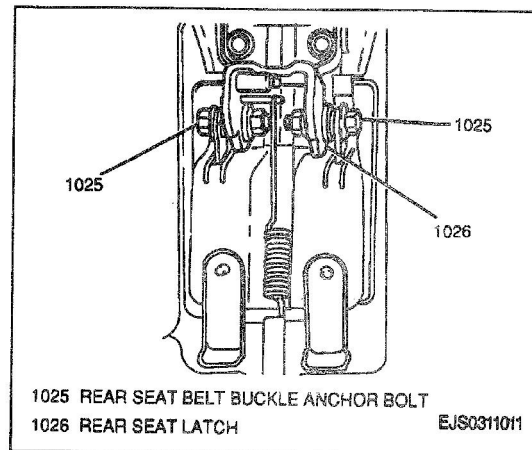


Figure 17—Rear Seat Belt Buckle Anchor Bolt Location—Two - Door Models

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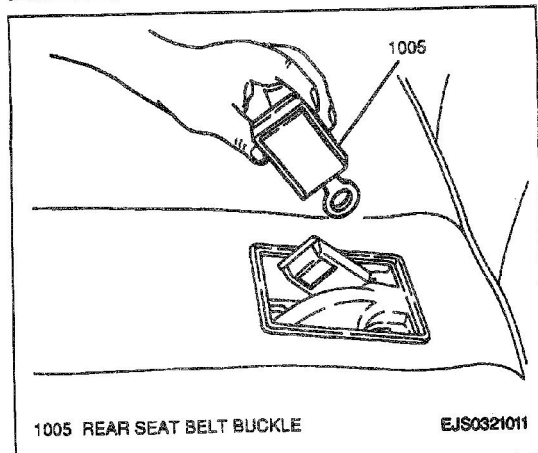


Figure 18—Removing Rear Seat Belt Buckle

6. Rear seat hinges to seat; secure each with one pin and clip (Figure 16).
7. Rear seat to vehicle; secure with one front anchor bolt to each rear seat hinge.

Tighten

- Rear seat front anchor bolts to 25 N.m (19 lb. ft.).
8. Hinge cover to each rear seat hinge (Figure 14).
 - Raise rear seat and support with rear seat support rod.
 9. One rear anchor bolt to each rear seat hinge.

Tighten

- Rear seat rear anchor bolts to 25 N.m (19 lb. ft.).
- Clip support rod to bottom of rear seat and lower seat.
- Raise rear seatback into upright position.

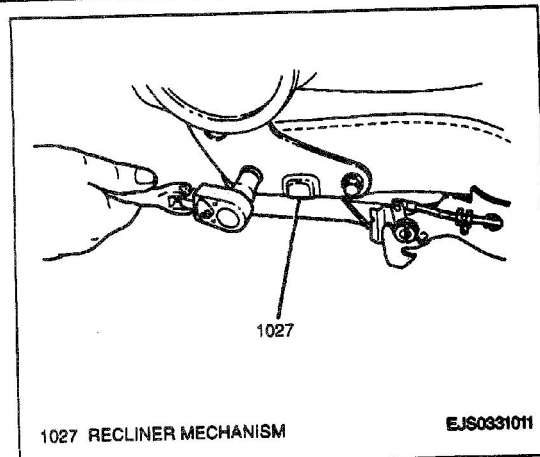


Figure 19—Removing Recliner Mechanism Rear Bolt—Four - Door Models

Rear Seat Belt Buckle—Four - Door Models

Figure 2

CAUTION: The seat belt assembly and/or seat belt buckle must be replaced as a unit only. Do not substitute parts for any reason, or personal injury could result in the event of a collision.

Remove or Disconnect

1. Rear seat back cushion trim cover. Refer to SECTION 10-10.
2. Rear seat belt buckle anchor bolt and remove buckle from rear seat.

Install or Connect

1. Rear seat belt buckle to rear seat; secure with one bolt.

Tighten

- Rear seat belt buckle anchor bolt to 45 N.m (33 lb. ft.).
2. Rear seat back cushion trim cover. Refer to SECTION 10-10.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Front Seat Belt Retractor Mechanism Mounting Bolt.....	45 N.m (33 lb. ft.)
Front Seat Belt Guide Loop Anchor Bolt.....	45 N.m (33 lb. ft.)
Front Seat Belt Lower Anchor Bolt.....	45 N.m (33 lb. ft.)
Front Seat Belt Buckle Anchor Bolt.....	45 N.m (33 lb. ft.)
Rear Seat Belt Guide Loop Anchor Bolt.....	45 N.m (33 lb. ft.)
Rear Seat Belt Retractor Mechanism Bolt.....	45 N.m (33 lb. ft.)
Rear Seat Belt Lower Anchor Bolt.....	45 N.m (33 lb. ft.)
Rear Seat Belt Buckle Anchor Bolt.....	45 N.m (33 lb. ft.)
Rear Seat Front Anchor Bolts	25 N.m (19 lb. ft.)
Rear Seat Rear Anchor Bolts	25 N.m (19 lb. ft.)
Rear Seat Recliner Mechanism Rear Bolt	20 N.m (15 lb. ft.)

10-11-12 SEAT BELTS

BLANK