



4-, 5-, and 6-Point Seat Belt

Installation, Usage and Maintenance Guide

This guide should remain with the vehicle and be passed on to subsequent vehicle owners to be kept for future reference.

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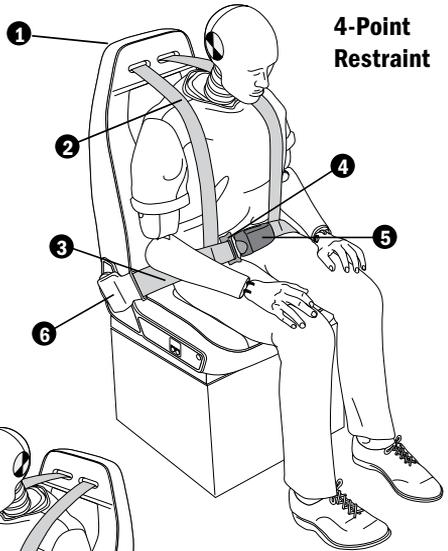
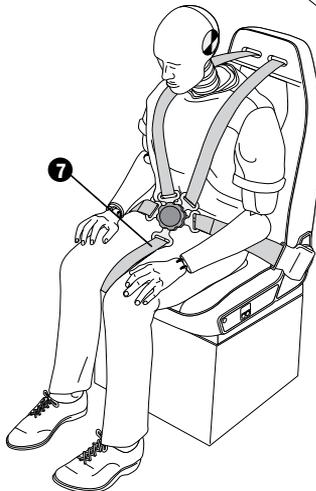
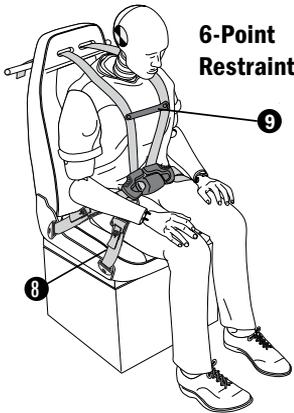
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Seat Belt Components

1. Shoulder Web Guide*
 2. Shoulder Belt
 3. Lap Belt
 4. Latch Plate/Tongue
 5. Buckle
 6. Retractor
- Optional Components
7. Center Strap
 8. Thigh Strap
 9. Chest Clip
- * Will vary according to specific seat type. See page 6.



IMPORTANT FACTS:

The installation information provided is to be used as a general guideline only. See vehicle manufacturer for specific seat belt installation instructions.

• PLEASE READ THIS ENTIRE INSTALLATION GUIDE BEFORE INSTALLING SEAT BELT.

- Each seat belt is designed for a specific vehicle application and seating position. If the belt is used as a replacement, the specific vehicle and seat belt part number must be identified by the vehicle's manufacturer.
- Always use and follow the vehicle manufacturer's installation guide if available. Use this installation guide in addition to the vehicle manufacturer's installation guide.
- This seat belt must be installed only in vehicles which have anchorage points that meet applicable regulations.
- Use only SAE Grade 5 or better, 7/16-20 UNF (metric grade 8.8 or better, M12 x 1.75) fasteners unless otherwise specified by the vehicle manufacturer. Use of self-locking nuts is recommended when bolts don't have thread lock patches or other means of locking.
- If equipped with retractors, interior trim must not interfere with seat belt flow. Seat belt must freely pull out when the seat belt is latched, and fully retract when it is unlatched.
- The seat belt must not be allowed to rub against any sharp edges. Excessive belt wear can occur if seat, vehicle structure mounting hardware, or trim interferes with belt flow.
- Be sure the seat belt is not twisted during installation.
- If equipped with retractors, the retractor must be handled with care. It must never be dropped, adjusted, lubricated, taken apart or tampered with. If it is damaged or there is a doubt that the belt functions properly, do not use it. Replace it immediately with an entirely new system.

IMPORTANT:

This information is not all-inclusive and will not cover every seat, pedestal and vehicle configuration. The installer shall have sole responsibility for proper selection, application, installation and testing of the seat belt in accordance with applicable regulations as amended, or any other applicable or additional specification such as those for use outside the U.S. The installer shall have sole responsibility for providing instructions to the ultimate user concerning proper use and periodic maintenance of the seat belts.



WARNING

Failure to install and use this product in accordance with the instructions in this Installation, Usage and Maintenance Guide and those instructions provided by the vehicle manufacturer could result in serious injury or death.

Multi-Point Overview

Preparing for installation of seat belt with Emergency Locking Retractors (ELR)

Unpacking the seat belt

A seat belt may have the following components: buckle, shoulder web guide, tongue, and retractor. In order to prevent ELR retractor lock-up before proper installation, most seat belts include a cardboard stop (Fig. 1). During installation, the cardboard stop prevents the belt from retracting fully into the ELR retractor and locking the retractor. **It is important to leave the cardboard stop in place until the ELR retractor is completely installed in the vehicle.**

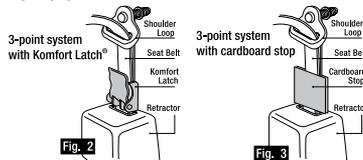


Fig. 1

Installation tips

It is recommended that ELR retractors be installed first in order to prevent retractor lock-up.

Seat belt lock-up during installation

If seat belt cannot be extracted from the ELR retractor during the installation process, do the following:

1. Clamp retractor securely in a 90° orientation (or its intended installation angle).
2. Pull on web with enough force to tighten web onto spool.
3. Then release web. This will allow 1/2" of web to feed back into the retractor storage device, allowing the retractor to unlock. After retractor is unlocked, pull all webbing out of retractor, allow only 12-15" to retract.
4. If above steps do not unlock retractor, remove boot from retractor. Grasp spool with your hand and rotate it to draw more web onto spool, then repeat step 3.

Seat belt lock-up after installation

If ELR retractor becomes locked up after it is installed in the vehicle, do the following to unlock it:

1. Verify retractor is mounted in a 90° position (or its intended installation angle).
2. Firmly grasp web close to retractor.
3. Pull web tight onto spool (tight enough to allow web to retract back in to the retractor.) When released, this should unlock the retractor.

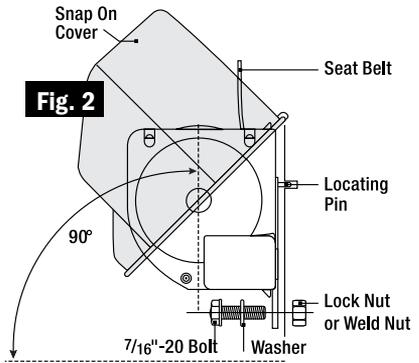
Installation Guidelines

Mounting ELR Retractors

Mounting bolts for all retractors must be SAE Grade 5 or better, 7/16-20 UNF (metric grade 8.8 or better, M12 x 1.75) and a lock nut may be required. All retractors must be mounted in the intended installation angle before seat belt can be extracted from the retractor.

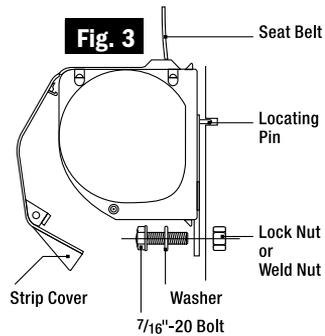
Wall mounted retractor with snap on cover (Fig. 2)

1. Snap open retractor cover to allow mounting bolt to be inserted.
2. The locating pin/bracket is designed to locate the retractor in a proper position. Align locating pin/bracket on retractor to the recessed pin location in the vehicle B-pillar or mounting location surface.
3. Mount retractor as shown in Fig. 2.
4. Tighten bolt to 35-50 ft-lbs torque.
5. Snap cover down over retractor.



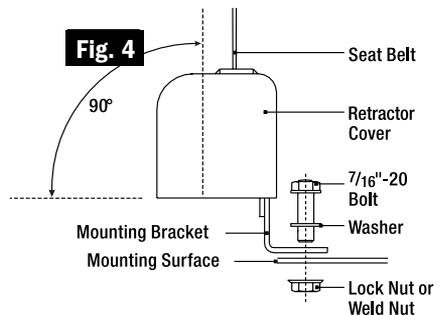
Wall/seat mounted retractor with strip cover (Fig. 3)

1. The locating pin/bracket is designed to locate the retractor in a proper position. Align locating pin/bracket on retractor to the recessed pin location in the vehicle B-pillar or mounting location surface.
2. Mount retractor as shown in Fig. 3.
3. Tighten bolt to 35-50 ft-lbs torque.
4. Snap strip cover back into place.



Floor mounted retractor with fixed cover (Fig. 4)

1. Mount retractor as shown in Fig. 4.
2. Tighten bolt to 35-50 ft-lbs torque.



Installation Guidelines

Shoulder Web Guide Routing

- Web Guides sewn into restraint system: (Fig. 5)
 - Ensure web is not twisted between web guide and retractor/anchor.
 - Align web guide holes to holes in seat back.
 - Mount web guide with included bolts (bolt size may vary with system- see vehicle manual).
 - Tighten bolts to recommended torque value (see vehicle manual).
 - If web guides are independent of each other, repeat above steps for other guide.
 - If seat features through-the-seat slots, thread webbing and tongue through slots, ensuring web is not twisted.
 - If applicable, mount bezel onto front of seat back.

- 6 • Web Guides incorporated into seat back only: (Fig. 6)
 - Thread webbing and tongue through openings in seat back.
 - Ensure webbing is not twisted between seat back slot and retractor/anchor.
 - If applicable, mount bezel onto front of seat back.

- Slotted Web Guide: (Fig. 7)
 - Ensure all web mounted components are positioned to the front of the seat.
 - Thread edge of shoulder web through slot opening.
 - Ensure webbing is not twisted between web guide and retractor/anchor.

- No web guides on either restraint system nor seat back but vehicle frame member is present: (Fig. 8)
 - Route webbing over vehicle frame first when approximate to seat back height.
 - Route shoulder webbing over top of seat back.

Fig. 5

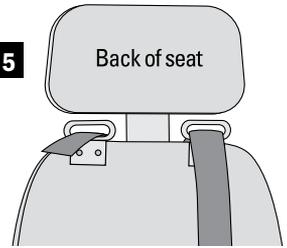


Fig. 6

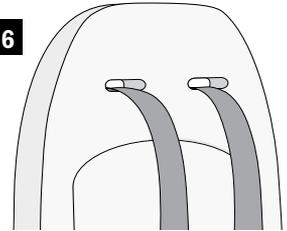


Fig. 7

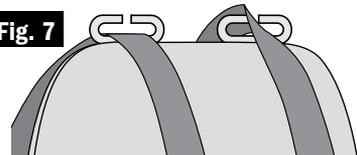
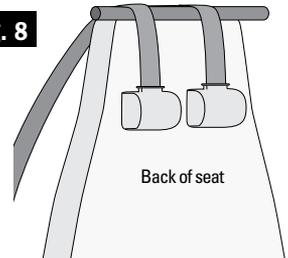


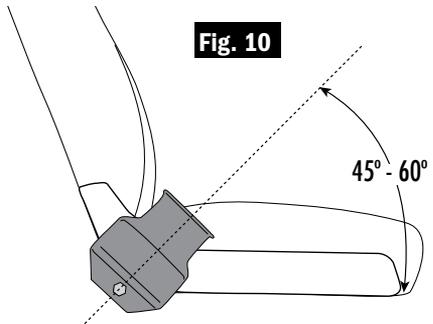
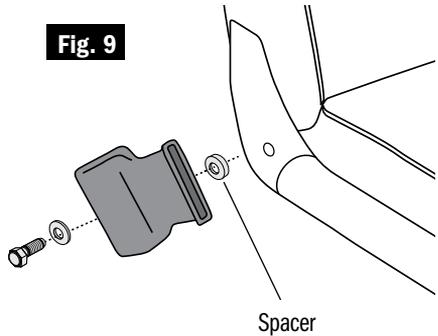
Fig. 8



Installation Guidelines

Seat Mounted Automatic Locking Retractor (ALR)

1. Insert bolts through retractor bolt hole or extension strap. (Fig. 9)
2. Apply spacers to bolt after passing through retractor bolt hole.
3. Align bolt to designated seat weld nut or use proper locking nut on inside of seat mounting hole.
4. Align retractor 45° - 60° from horizontal, through centerline of operator's hip. (Fig. 10)
5. Tighten bolt to 35 - 50 ft-lb torque.
6. Extract web from retractor and allow to retract partially, extract again to lock retractor to ensure full



⚠ WARNING

Failure to perform inspection steps can reduce effectiveness of the seat belt during a crash and could result in serious injury or death.

Installation Guidelines

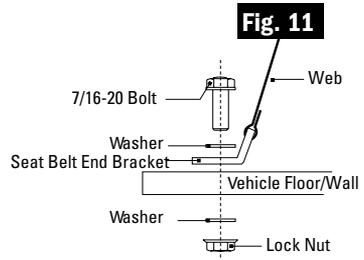
Restraint System End Fittings

End brackets

1. Assemble hardware as shown in Fig 11.
2. Tighten bolt to 35-50 ft-lbs torque.
3. Use only SAE Grade 5 or better, 7/16-20 UNF (Metric Grade 8.8 or better, M12 x 1.75) fasteners unless otherwise specified by vehicle manufacturer.
4. Release button on buckles must face away from occupant.

Optional: Brackets mount to seat base as shown in Fig 12.

Note: A reinforcing washer and lock nut are required if tapped anchorage is not available.



Eyebolt, sister hook, & snap hook tether

1. Assemble hardware as shown in Fig 13.
2. Tighten bolt to 35-50 ft-lbs torque.
3. Use only SAE Grade 5 or better, 7/16-20 UNF (Metric Grade 8.8 or better, M12 x 1.75) fasteners unless otherwise specified by vehicle manufacturer.

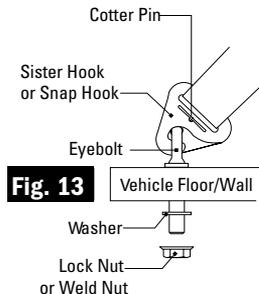
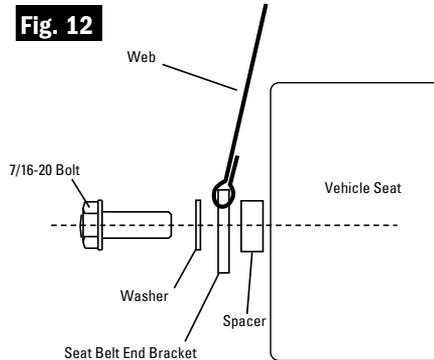
CAUTION

A cotter pin **MUST BE USED** to secure sister hooks or snap hooks in the closed position.

Note: A reinforcing washer and lock nut are required if tapped anchorage is not available.

FINAL SYSTEM INSPECTION NECESSARY

1. Remove cardboard stop from seat belt if present.
2. Check for proper retractor angle.
3. Inspect for twisting of seat belt.
4. All bolts have been properly torqued to 35-50 ft-lbs.
5. Once retractor and shoulder web guide have been installed, the system must extract and retract seat belt webbing freely.
6. Check buckle for proper latching.
7. Check for interferences. Seat belt must fully retract.
8. Check for electrical connection (if available.).



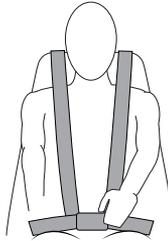
How to Use Your Seat Belt System

NOTE: Before latching seat belt, adjust seat to proper operating position.

Proper Seat Belt Fit

WARNING

Failure to install and use this product in accordance with the instructions in this Installation, Usage and Maintenance Guide and those instructions provided by the vehicle manufacturer could result in serious injury or death.



Proper location of shoulder belt:

Belts must be centered on shoulders and chest away from face and neck.

Belts should also be positioned low and on center of pelvis.



Wrong:
Shoulder belts must not rub against face or neck. Use adjusters to center properly.



Wrong:
Lap belt must not be positioned over belly. Position belt low and over center of pelvis.



Wrong:
Shoulder belts must not hang off shoulders and must not be worn tucked under arms. Use adjusters to center properly.



Wrong:
Lap belt must not be tightened too far to left or right. Position belt low and over center of pelvis.

How to Use Your Seat Belt System

4-POINT SYSTEMS

Pushbutton

1. Buckle up:
 - a. Slide arms under each shoulder web. Do not twist webbing.
 - b. Insert tongue into buckle until you hear a **CLICK**. (Fig. 14)
2. **TUG** slightly on buckle and tongue to make sure belt is securely fastened.
3. Position buckle low and centered on pelvis.
 - a. If so equipped, **SNUG** each side of lap belt by pulling each adjuster strap.
4. Latch chest clip (if applicable)



Fig. 14

To release belt: Depress button with thumb or finger. Tongue will eject from buckle.

4-Point Liftlever

1. Buckle up:
 - a. Slide arms under each shoulder web. Do not twist webbing.
 - b. Insert tongue into buckle until you hear a **CLICK**. (Fig. 15)
2. **TUG** slightly on buckle and tongue to make sure belt is securely fastened.
3. Position buckle low and centered on pelvis.
 - a. If so equipped, **SNUG** each side of lap belt by pulling each adjuster strap.
4. Latch chest clip (if applicable).

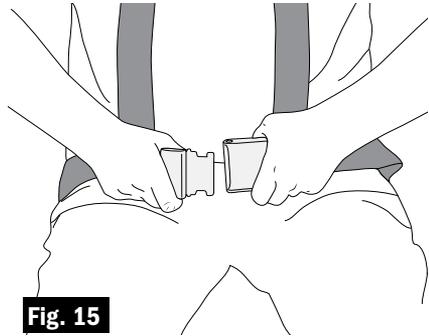


Fig. 15

To release belt: Lift buckle top surface with fingers. Tongue will separate from buckle.

⚠ WARNING

Using the seat belt with too much slack will reduce the effectiveness of the seat belt during a crash and could result in serious injury or death.

How to Use Your Seat Belt System

4-Point Rotary

1. Buckle up:
 - a. Hold rotary buckle in one hand and using other hand, insert all tongues into their corresponding slots. Do not twist webbing.
 - b. Push in each tongue until you hear a **CLICK**.
- (Fig. 16)

NOTE: If tongues will not lock, make sure knob/lever is rotated to its default position. If any of the belts are equipped with adjusters, they may need to be loosened prior to buckling.

2. **TUG** on all tongues to ensure they are locked and engaged in their correct slots. Position buckle low and centered on pelvis. **SNUG** or loosen any adjusters appropriately. Do not rotate knob/lever until ready to egress.

To release belt: Rotate knob/lever in either direction until all tongues release from buckle. If any tongues do not automatically eject from buckle, manually remove them while knob/lever is in its fully rotated position.

4-Point Latch-Link

(For systems installed in opposite orientation, reverse link insertion order.)

1. Do not twist webbing.
2. Bring right hand shoulder web over shoulder, insert slot of right shoulder link onto the lap belt link. (Fig.17)
3. Bring left hand shoulder web over shoulder, insert slot of left shoulder link onto the lap belt link next to right shoulder link. (Fig. 17)
4. Insert lap belt link into lever located on the opposite lap belt. (Fig. 17)
5. Rotate latch lever down until you hear a **CLICK**.
6. **TUG** lap belt link to ensure secure engagement.
7. Position latch-link system low on pelvis and **SNUG** lap belt on each side firmly.

To release belt: Lift latch lever. Remove each piece in reverse order.

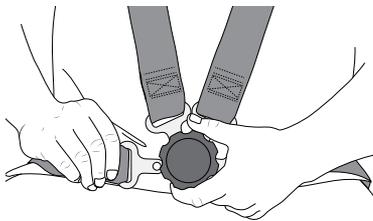


Fig. 16

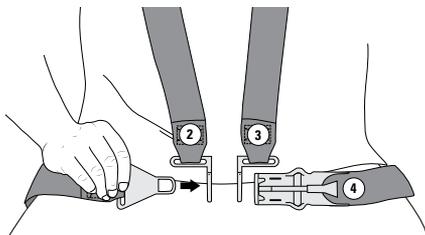


Fig. 17

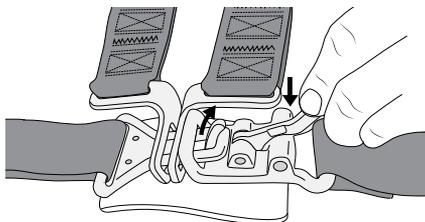


Fig. 18

How to Use Your Seat Belt System

5-POINT SYSTEMS

5-Point Rotary Buckle

1. Buckle up:
 - a. Hold rotary buckle in one hand and using other hand, insert all tongues into their corresponding slots. Do not twist webbing.
 - b. Push in each tongue until you hear a **CLICK**.
(Fig. 19)

NOTE: If tongues will not lock, make sure knob/lever is rotated to its default position. If any of the belts are equipped with adjusters, they may need to be loosened prior to buckling.

2. **TUG** on all tongues to ensure they are locked and engaged in their correct slots. Position buckle low and centered on pelvis. **SNUG** or loosen any adjusters appropriately. Do not rotate knob/lever until ready to egress.

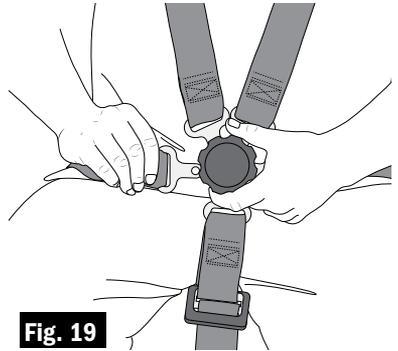


Fig. 19

- 12 **To release belt:** Rotate knob/lever in either direction until all tongues release from buckle. If any tongues do not automatically eject from buckle, manually remove them while knob/lever is in its fully rotated position.

5-Point Latch-Link

(For systems installed in opposite orientation, reverse link insertion order.)

1. Do not twist webbing.
2. Bring right hand shoulder web over shoulder, insert slot of right shoulder link onto the lap belt link. (Fig. 20)
3. Bring center web up between legs and insert center link onto lap belt link next to right shoulder link. (Fig. 20)
4. Bring left hand shoulder web over shoulder, insert slot of shoulder link onto the lap belt link next to center link. (Fig. 20)
5. Insert lap belt link into lever located on the opposite lap belt. (Fig. 20)
6. Rotate latch lever down until you hear a **CLICK**.
(Fig. 21)

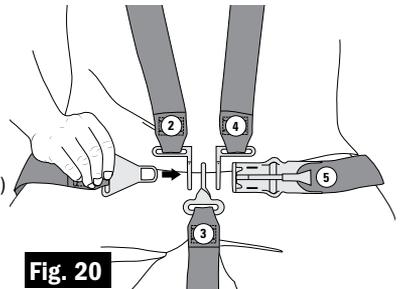


Fig. 20

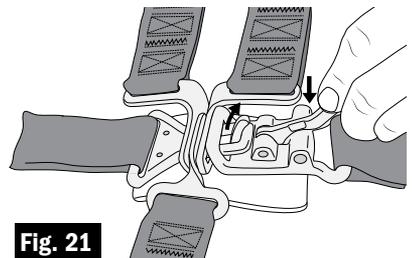


Fig. 21

(continued on next page)

How to Use Your Seat Belt System

5-Point Latch-Link (cont.)

7. **TUG** lap belt link to ensure secure engagement.
8. Position latch-link system low on pelvis and **SNUG** lap belt on each side firmly.

To release belt: Lift latch lever. Remove each piece in reverse order.

6-POINT SYSTEMS

6-Point Pushbutton

1. Buckle up:
 - a. Slide arms under each shoulder web. Do not twist webbing.
 - b. Insert tongue into buckle until you hear a **CLICK**. (Fig. 22)
2. **TUG** slightly on buckle and tongue to make sure belt is securely fastened.
3. Position buckle low and centered on pelvis. **SNUG** each side of lap belt by pulling each adjuster strap.
4. Pull thigh straps snug. (Fig. 23)
5. Latch chest clip (if applicable).

To release belt: Depress button with thumb or finger. Tongue will eject from buckle.

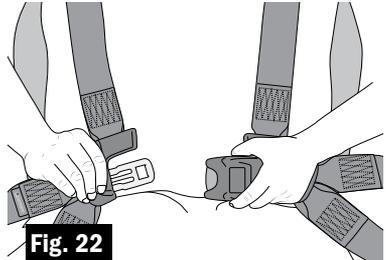


Fig. 22

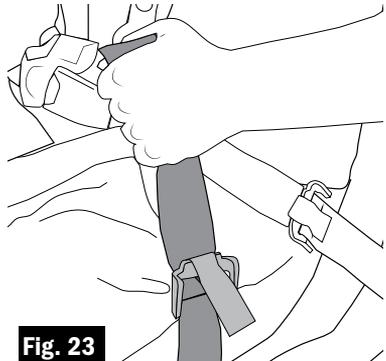


Fig. 23

Thigh Strap Adjustment

7 Step System Inspection

1 Inspect belt fabric on entire system for cuts, fraying, extreme or unusual wear. Most common areas of belt wear include the buckle/tongue area, the shoulder guide area and any place where the belt makes contact with vehicle or seat.
Corrective Action - Replace entire belt system.

2 Inspect buckle for proper operation by inserting tongue(s) and listening for an audible click. Verify buckle is not damaged, cracked or broken.
Corrective Action - Replace entire belt system.

3 Inspect electrical wires (*optional component*). Internal cable wires must not be exposed, frayed or broken.
Corrective Action - Replace entire belt system.

14 **4** Inspect tongue for proper operation by inserting into buckle. Tongue must insert smoothly and you must hear an audible click. Verify proper latching by tugging on belt. Tongue must not be worn, deformed or corroded.
Corrective Action - Replace entire belt system.

5 Inspect shoulder web guide. Seat belt must move freely through shoulder web guide. Shoulder web guides must be free of obstructions and must not snag or wear webbing fabric.
Corrective Action - Adjust shoulder web guide hardware and/or remove obstruction.

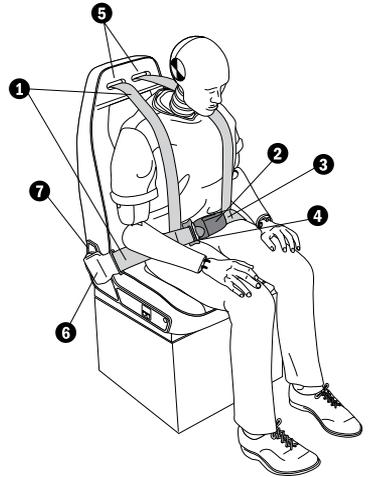
6 Inspect retractor operation. When pulled and released slowly, seat belt must spool out and retract without locking.
Corrective Action - Replace entire belt system.

7 Inspect mounting hardware on all belt system attachment points. Hardware should be tight. Hardware must not be missing, rusted, corroded or damaged.
Corrective Action - Replace defective or missing hardware with authorized parts and or tighten hardware.

Cleaning of Seat Belt Fabric

Sponge seat belt clean with warm water. DO NOT use bleach, dye or household detergents.

Never use lubricant on any seat belt component.



⚠ WARNING

Failure to perform regular inspection and proper maintenance can reduce the effectiveness of the seat belt during a crash and could result in serious injury or death.

Seat Belt System Maintenance

How often does the seat belt system need to be inspected?

Due to continuous environmental exposure and rugged use associated with off-highway specialty vehicles, the continual relative movement of the seat with the cab, and the possible contact with the vehicle seat or other parts of the cab structure, it is crucial to inspect the multi-point seat belt system regularly.

It is recommended that the seat belt system in an off-highway or specialty vehicle be inspected each day of operation or as directed by the vehicle manufacturer or owners manual. An inspection should be done more often if the vehicle is exposed to severe environmental or vocational conditions.

If any component or part of the seat belt system requires replacement, the entire belt system must be replaced. Use only OEM (Original Equipment Manufacturer) approved seat belt systems or components.

If a vehicle is involved in a significant accident, the entire seat belt system must be replaced.

IMPORTANT:

Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discolorations due to ultraviolet exposure, dusty-dirty conditions, abrasion to the seat belt webbing, or damage to the buckle, latch plate, retractor, hardware or any other obvious problem must be replaced immediately, regardless of mileage/hours.

WARNING

Failure to install and use this product in accordance with the instructions in this Installation, Usage and Maintenance Guide and those instructions provided by the vehicle manufacturer could result in

Notes

Specification Sources

FMVSS 207, 208, 209 and 210,
SAE J386, SAE J2292
National Highway Traffic Safety
Administration
Crashworthiness Division
400 7th Street S.W.
Washington, D.C. 20590

Please Note

This information is not all inclusive and will not cover every seat, pedestal and vehicle configuration. Installer shall have sole responsibility for proper selection, application, installation and testing of the seat belt in accordance with FMVSS 207, 208, and 210, SAE J386, SAE J2292 as amended, or any other applicable or additional specification such as for use outside the U.S., and for providing instructions to the ultimate user concerning proper use and periodic maintenance of the seat belts.

For Additional Assistance

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