

3-Point Seat Belt

Installation, Usage & Maintenance Guide

For Fixed, Suspension & Bench Seats



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

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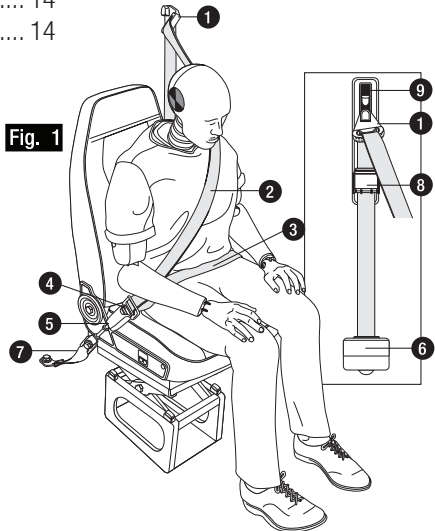
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Seat Belt Components	1	Shoulder Loop Web Guide
	2	Shoulder Belt
	3	Lap Belt
	4	Latch Plate/Tongue
	5	Buckle
	6	Retractor
	Optional Components	
	7	Tethers
	8	Komfort Latch®
9	Seat Belt Height Adjuster	



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. See the seat belt identification label for this information.
- Always use and follow the vehicle manufacturer's installation guide if available. Use this installation guide in addition to the vehicle manufacturer's guide.
- This seat belt must be installed only in vehicles which have anchorage points that meet FMVSS 210 requirements.
- Use only SAE Grade 5 or better, 7/16-20 UNF-2A fasteners unless otherwise specified by the vehicle manufacturer. Use of self-locking nuts is recommended when bolts don't have thread lock patches.
- 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.
- Seat belt must not be allowed to rub against any sharp edges. Excessive belt wear can occur if seat, vehicle structure or trim interferes with belt flow.
- Be sure seat belt is not twisted during installation.
- The retractor must be handled with care. It must never be dropped, adjusted, 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 with an entirely new system.

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 FMVSS207, 208 and 210 as amended, or any other applicable or additional specification such as for use outside of the U.S., and for providing instructions to the ultimate user concerning proper use and periodic maintenance of the seat belts.

⚠ WARNING

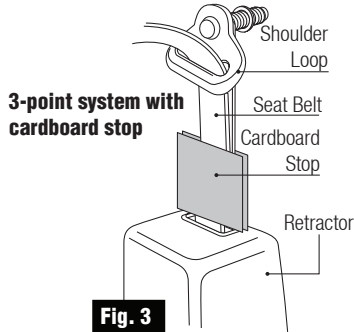
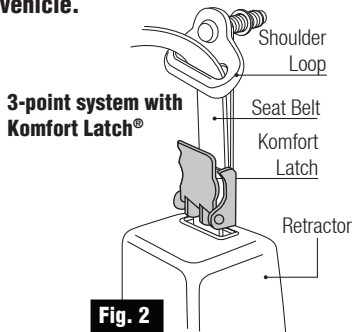
Failure to install in accordance with instructions can result in injury or death to user. Read Carefully.

Overview

Preparing for installation of seat belt

Unpacking the 3-point seat belt

A 3-point seat belt consists of a buckle, shoulder loop, and retractor. In order to prevent lock-up before proper installation, 3-point seat belts may also include either a Komfort Latch® (**Fig. 2**) or cardboard stop (**Fig. 3**). During installation, the Komfort Latch® and/or cardboard stop prevents the belt from retracting fully into and locking the retractor. **It is important to leave the Komfort Latch and/or the cardboard stop in place until the retractor is completely installed in the vehicle.**



Installation tips

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

Seat belt lock-up during installation

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

1. The retractor is sensitive and will lock at any tilt angle from 90°/90° off horizontal. All retractors must be mounted perpendicular (90°) to the floor before the seat belt can be extracted from the retractor.
2. Mount the retractor at a 90° orientation in the vehicle.
3. Pull on the web with enough force to tighten the belt onto the spool.
4. Release the belt. This will allow 1/2" of belt to feed back into the retractor, unlocking the retractor.

Seat belt lock-up after installation

If the retractor becomes locked up after installed in the vehicle, it can be unlocked by:

1. Firmly grasp the web close to the retractor.
2. Pull web tight onto the spool - tight enough to allow web to retract back into the retractor.
3. When released, this should unlock the retractor.

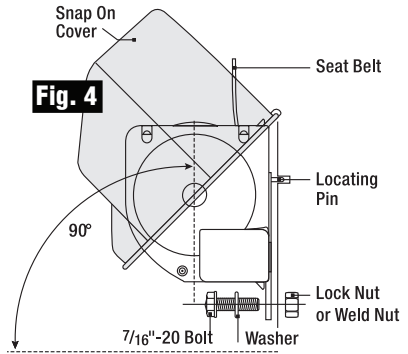
Installation Guidelines

Mounting retractors

Mounting bolts for all retractors must be Grade 5 or better and a locknut may be required. All retractors must be mounted perpendicular (90°) to the floor before the seat belt can be extracted from the retractor.

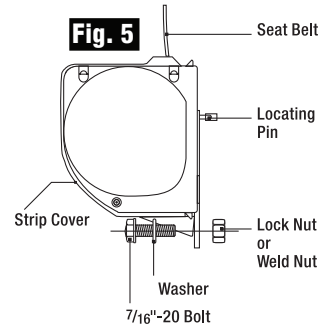
Wall mounted retractor with snap on cover (Fig. 4)

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



Wall mounted retractor with strip cover (Fig. 5)

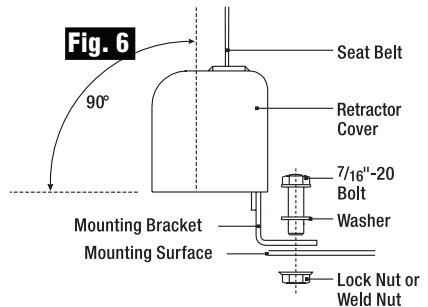
1. The locator pin is designed to locate the retractor in a proper position. Align the locating pin on retractor to the recessed pin location in the vehicle B-pillar or mounting location surface.
2. Mount the retractor as shown in **Fig. 5**.
3. Tighten bolt to 35-50 ft.-lbs. torque.



Floor mounted retractor with fixed cover (Fig. 6)

1. Mount the retractor as shown in **Fig. 6**.
2. Tighten bolt to 35-50 ft.-lbs. torque.

Note: Once retractor has been installed and is unlocked, release Komfort Latch® or remove cardboard stop from seat belt.



Installation Guidelines

Mounting Komfort Latch® and Shoulder Loop Web Guide

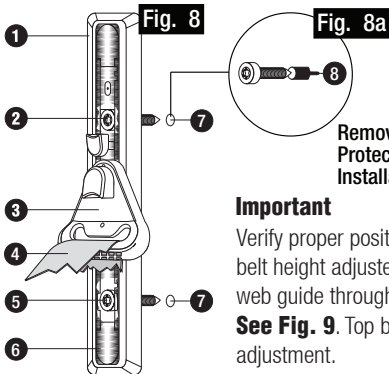
1. Be sure the seat belt is not twisted between the retractor and shoulder loop.
2. Assemble hardware as shown in **Fig. 7**. Some applications require an optional metal spacer to move the Komfort Latch® and shoulder loop away from the vehicle cab trim. This metal spacer should only be used when specified by the vehicle manufacturer.
3. Tighten bolt to 35-50 ft.-lbs. torque.

Mounting seat belt height adjuster (optional component)

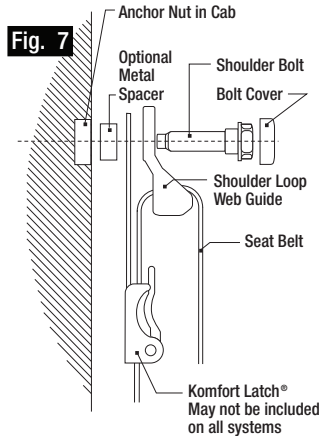
1. Be sure the seat belt is not twisted between the retractor and height adjuster.
2. Align seat belt height adjuster bolts with 2 threaded mounting holes in vehicle B-pillar or mounting surface.

See Fig. 8.

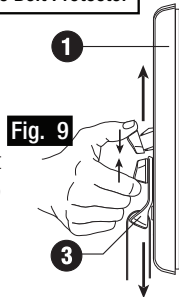
3. Remove plastic bolt protectors and discard if present. **See Fig. 8a.**
4. Locate bolt heads inside channel through trim brushes.
5. Torque against B-pillar or mounting surface by alternately tightening top and bottom bolt until fully torqued to 35-50 ft.-lbs.



Verify proper position and installation of seat belt height adjuster by moving shoulder loop web guide through full range of adjustment. **See Fig. 9.** Top bolt must not interfere with adjustment.



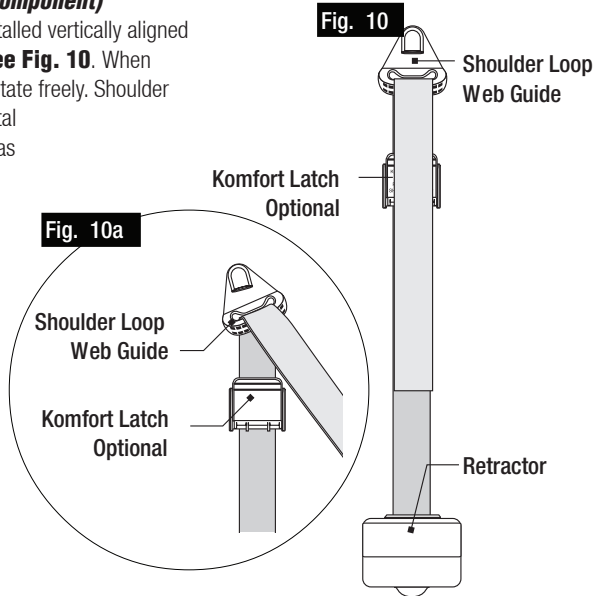
- 1 Seat Belt Height Adjuster (TOP)
- 2 Top Bolt
- 3 Shoulder Loop Web Guide
- 4 Seat Belt
- 5 Bottom Bolt
- 6 Brush Trim
- 7 Vehicle B-Pillar or Mounting Surface
- 8 Plastic Bolt Protector



Installation Guidelines

Komfort Latch® (optional component)

The Komfort Latch must be installed vertically aligned with seat belt from retractor. **See Fig. 10.** When installed, shoulder loop must rotate freely. Shoulder loop must return to the horizontal position when belt is retracted as shown in **Fig. 10.** The approximate position of the shoulder loop when the seat belt is in use is shown in **Fig. 10a.**



Important features to check:

1. Be sure seat belt is not twisted between retractor and shoulder loop web guide.
2. Be sure shoulder loop web guide rotates freely.
3. Once retractor and shoulder loop web guide have been installed, the system must extract and retract seat belt webbing freely.
4. All bolts have been properly torqued to 35-50 ft.-lbs.

Air Suspension Seat Installation Guidelines

Outboard mounting

Seat belt end bracket & upper tether bracket

1. The seat belt end bracket is mounted on the outboard side of the seat (the side next to the door).
2. Assemble the seat belt end bracket and upper tether bracket onto the seat ICP (Inter Connect Point) as shown in **Fig 11a**.
3. Tighten to 35-50 ft.-lbs. torque.

Fig. 11a

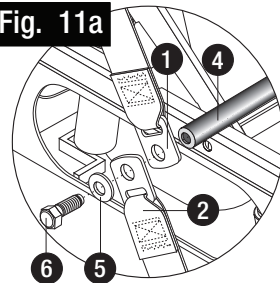
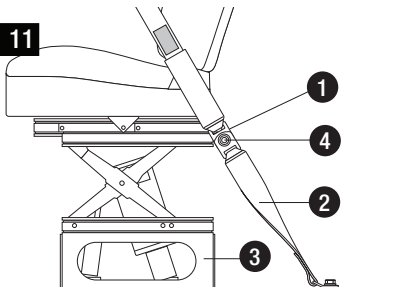


Fig. 11



- | | |
|---|---------------------------|
| 1 | Seat Belt End Bracket |
| 2 | Tether |
| 3 | Seat Base |
| 4 | ICP (Inter Connect Point) |
| 5 | Washer |
| 6 | Bolt (7/16-20 UNF) |

Mounting lower tether bracket

1. Follow vehicle manufacturer's instructions for proper installation for both seat belt and tether mounting points.
2. If adjustable tethers are used, they must be correctly adjusted according to the vehicle manufacturer's specifications

Eyebolt & sister hook tether

1. Assemble eyebolt as shown in **Fig. 12**.
2. Tighten to 35-50 ft.-lbs. torque.
3. Attach both sister hooks to eyebolts as shown in **Fig. 12**.
4. A cotter pin must be used to secure sister hooks in the closed position.

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

Fig. 12

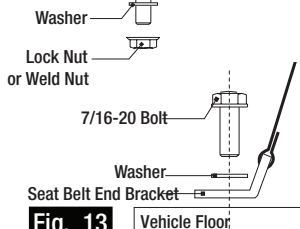
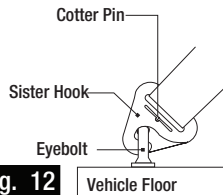


Fig. 13

Angle Bracket Tether

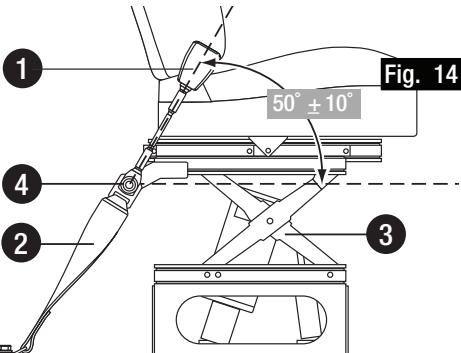
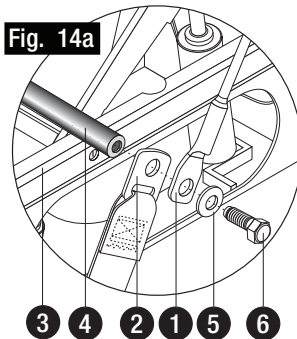
1. Assemble hardware as shown in **Fig. 13**.
2. Tighten to 35-50 ft.-lbs. torque.

Air Suspension Seat Installation Guidelines

Inboard mounting

Buckle & upper tether bracket

1. The buckle is mounted on the inboard side of the seat (toward center of cab).
2. Assemble the buckle and upper tether bracket onto the seat ICP (Inter Connect Point) as shown in **Fig 14a**.
3. Buckle must be mounted at an angle of approximately $50^{\circ} \pm 10^{\circ}$ upward from the horizontal, with the release button facing away from the occupant. **See Fig. 14.**
4. Tighten to 35-50 ft.-lbs. torque.



1	Buckle
2	Tether
3	Seat Base
4	ICP (Inter Connect Point)
5	Washer
6	Bolt (7/16-20 UNF)

Mounting Lower Tether Bracket

See instructions on page 8 (Figs. 12 and 13).

Important

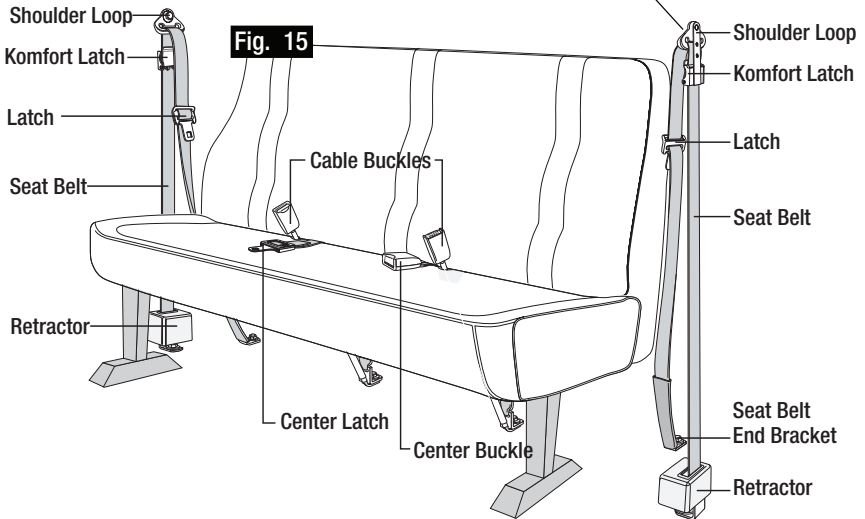
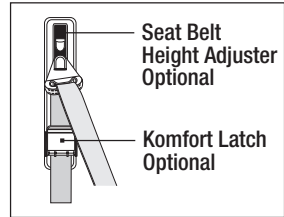
Final system inspection

1. Check ICP mounting on both sides of seat.
2. Check for proper buckle angle.
3. Check shoulder loop and/or seat belt height adjuster (optional) for full range of adjustment.
4. Inspect for twisting of seat belt.
5. Check buckle for proper latching.
6. Check for interferences. Seat belt must fully retract.

Fixed Seat Installation Guidelines

Fixed seat installation

All configurations not shown - some vehicles utilize a full bench seat, others utilize a driver's suspension seat and a two person bench seat. Center position may utilize a retractable style seat belt and sleeve type buckle.



Mounting retractors

Use instructions on page 5.

Mounting shoulder loop web guide

Use instructions on page 6 and 7.

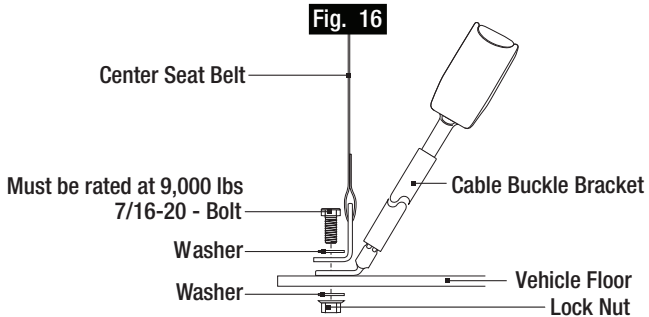
Mounting seat belt height adjuster *(optional component)*

Use instructions on page 6.

Fixed Seat Installation Guidelines

Mounting cable buckles and center lap belt

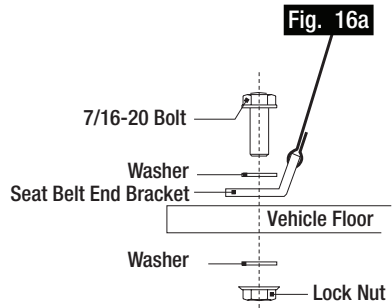
1. Assemble hardware as shown in **Fig. 16**.
2. Tighten to 35-50 ft.-lbs. torque.
3. The bolt must have 9,000 lbs. strength rating and must meet or exceed FMVSS 209 requirements.
4. The release buttons on the buckles must face away from the occupant.
5. A center lap belt must be used on bench seats designed for three persons.
6. For proper alignment, mount center seat belt brackets as shown in **Fig. 16**. Bench seat buckles must be fully extended through the seat and cushions as shown in **Fig. 15**.



Mounting seat belt end bracket

1. Assemble hardware as shown in **Fig. 16a**.
2. Tighten bolt to 35-50 ft.-lbs. torque.

Note: Reinforcing washer, bolt locking patch or lock nut are required if tapped anchorage is not available.



How to Use Your Seat Belt System

How to latch 3-point seat belt

Note: Before latching seat belt, adjust seat to proper position.

1. Hold the latch and pull the seat belt across body. Do not twist webbing. Your seat belt is vehicle sensitive. The belt locks only if there is a sudden stop or a crash.
2. Insert the latch into the buckle until you hear a "click".
3. Give a short tug on the latch to ensure the buckle is locked.
4. Tighten the seat belt by pulling up on shoulder belt. This will take up the additional seat belt slack.
5. Shoulder belt must lay flat across your chest.
6. For added comfort adjust seat belt height adjuster (if available).

How to unlatch seat belt

1. Push the button on the end of the buckle to release the latch.
2. If Komfort Latch® is in use, release it by pulling on the shoulder strap.
3. Allow webbing to retract to be stored until next use.

How to use center position seat belt



Fig. 18

To lengthen belt

Turn the adjustable latch at right angle to the webbing and pull away from the latch using the lower webbing strap.

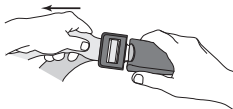


Fig. 19

To shorten belt

Pull the top webbing strap directly away from the adjustable latch.



Fig. 20

To release belt

Depress button with thumb or finger. Latch will eject from buckle.

Proper Seat Belt Fit



Proper location of shoulder belt

Belt must be centered on your shoulder and chest, away from your face and neck.



Wrong

Shoulder belt must not rub against face or neck. Move seat belt height adjuster down to adjust.



Wrong

Shoulder belt must not hang off shoulder. Move seat belt height adjuster up to adjust.

Fig. 17

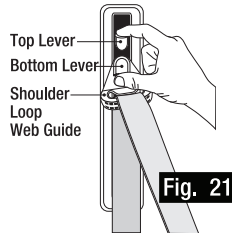
How to Use Your Seat Belt System

How to adjust seat belt height for additional comfort

If your seat belt is uncomfortable (for example, rubs against your neck) then follow the three steps below to move the Seat Belt Height Adjuster to the appropriate height (**see Fig. 17**).

Note: Before adjusting seat belt height, adjust seat to the proper position.

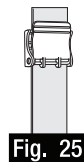
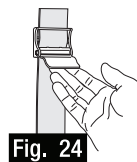
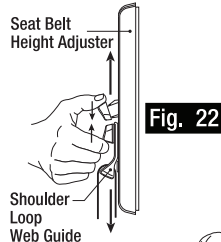
1. Pinch top and bottom levers together as you move the shoulder loop to the correct height as shown in **Fig. 21**.
2. Move shoulder loop until it clicks into a locked position.
3. Gently tug on the shoulder belt to make sure it is locked.



Komfort Latch®

The continuous movement of the seat during driving can cause uncomfortable rubbing of the seat belt against the neck or pressure to your shoulder. To relieve the seat belt tension, limited slack can be added to the belt by using the Komfort Latch®.

1. Release Komfort Latch® lever by pulling down.
2. Properly adjust the seat belt height adjuster.
3. Pull the shoulder belt a small distance away from your chest. Pull out only enough webbing so you can insert two fingers (approximately 1" or 2.5 cm) between the shoulder belt and your chest, as shown in **Fig. 23**.
4. With your other hand lift up the Komfort Latch® lever until it secures web (**Fig.24**).
5. **To unlock.** Lean forward in seat, pulling on the shoulder belt, or reach up and pull down the Komfort Latch® lever. The Komfort Latch® will disengage and allow the seat belt to retract.
6. Never perform this operation when the truck is in motion.



Note: Always disengage Komfort Latch® when removing seat belt.

WARNING

Adding too much slack to the seat belt will reduce the seat belt's effectiveness during a crash, and can result in injury or death to occupant.

Seat Belt System and Tether Maintenance

How to Care for Your Seat Belt System

Due to severe conditions of use, commercial vehicle seat belts can wear sooner than those in passenger cars. The seat belt in a commercial vehicle must be considered to have a finite life and must be replaced as needed throughout the life of the vehicle. The seat belt and components must be inspected regularly. Inspect the seat belt at least every 20,000 miles or more often if exposed to severe environmental or use conditions. If you have any doubts about the condition or function of the seat belt system, REPLACE IT. 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.

10 Step System Inspection (See Fig. 26)

To be conducted every 20,000 miles or more often if exposed to severe environmental conditions or vocational service.

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

- 2 Inspect buckle** for proper operation by inserting latch and listening for an audible "click". Verify the buckle is not damaged, cracked, or broken. *Corrective Action – Replace entire belt system.*

- 3 Inspect buckle cable** (optional component) - black coating on buckle cable must not be damaged. Internal cable wires must not be exposed, frayed or broken. *Corrective Action – Replace entire belt system.*

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

- 5 Inspect shoulder loop web guide** Seat belt must move freely through shoulder loop. Shoulder loop must also pivot freely and be free of obstructions. *Corrective Action – Adjust shoulder loop hardware and/or remove obstruction.*

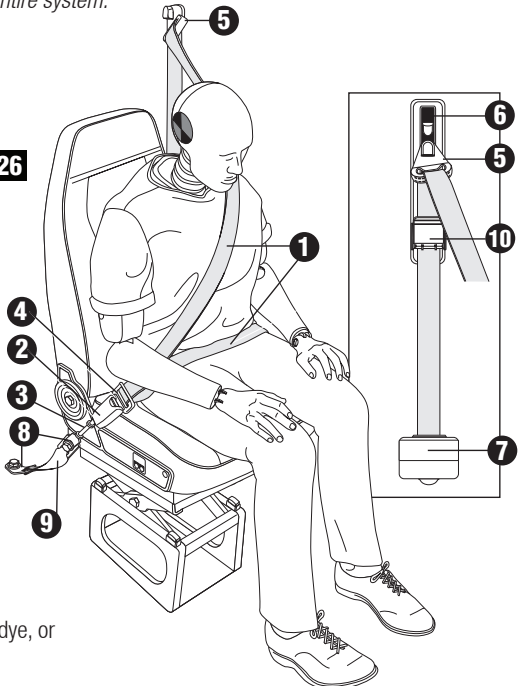
- 6 Inspect seat belt height adjuster** (optional component) for damage. Move adjuster up and down. It must move freely and lock at the different height positions. *Corrective Action – Replace entire belt system.*

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

10 Step System Inspection

- 8** **Inspect mounting hardware** on both sides of seat. 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.
- 9** **Inspect tethers** (optional component) for cuts, fraying, extreme or unusual wear. Tethers must also be inspected for proper attachment and/or adjustment.
Corrective Action – Replace damaged tethers. Tighten and/or properly adjust tethers according to vehicle manufacturer's specifications.
- 10** **Inspect Komfort Latch®** (optional component) for function and ability to clamp on web.
Corrective Action – Replace entire system.

Fig. 26



Cleaning of Seat Belt Fabric

Sponge the seat belt clean with mild soap and water. DO NOT use bleach, dye, or household detergents.

Seat Belt System Maintenance

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

Due to the high mileage associated with heavy trucks and specialty vehicles, the continual relative movement of the seat with the cab, the possible contact with the vehicle seat or other parts of the cab structure, and the potential exposure of this seat belt to severe environmental conditions, it is crucial to inspect the 3-point seat belt system regularly.

It is recommended that the seat belt system in a medium or heavy truck or specialty vehicle be inspected every 20,000 miles or as directed by the vehicle manufacturer or owners manual. Inspect more often if the vehicle is exposed to severe environmental or vocational conditions.

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.

WARNING

Failure to install in accordance with instructions can result in injury or death to user. Read Carefully.

Notes

Specification Sources

FMVSS 207, 208, 209, and 210
National Highway Traffic Safety Administration
Crashworthiness Division
400 7th Street S.W.
Washington, D.C. 20590
www.nhtsa.dot.gov

Please Note

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For Additional Assistance

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