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General Information

The Findlay bench seat is a full-width three-person seat. **See Fig. 1.** A lever under the driver's side allows the seat to be adjusted forward and backward. Three-point seat-belt/shoulder-harnesses are provided for the driver and the right-side passenger; a lap belt is provided for the center-seat passenger.

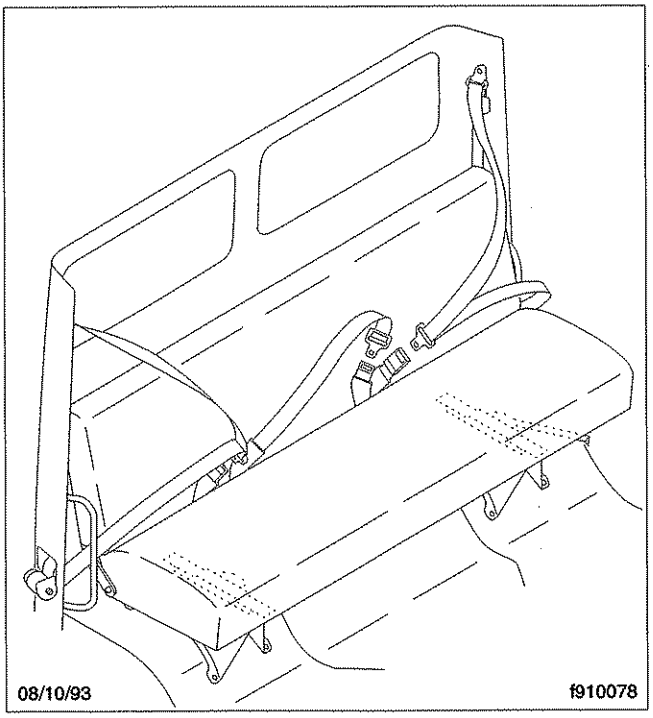


Fig. 1, Findlay 3-Person Bench Seat

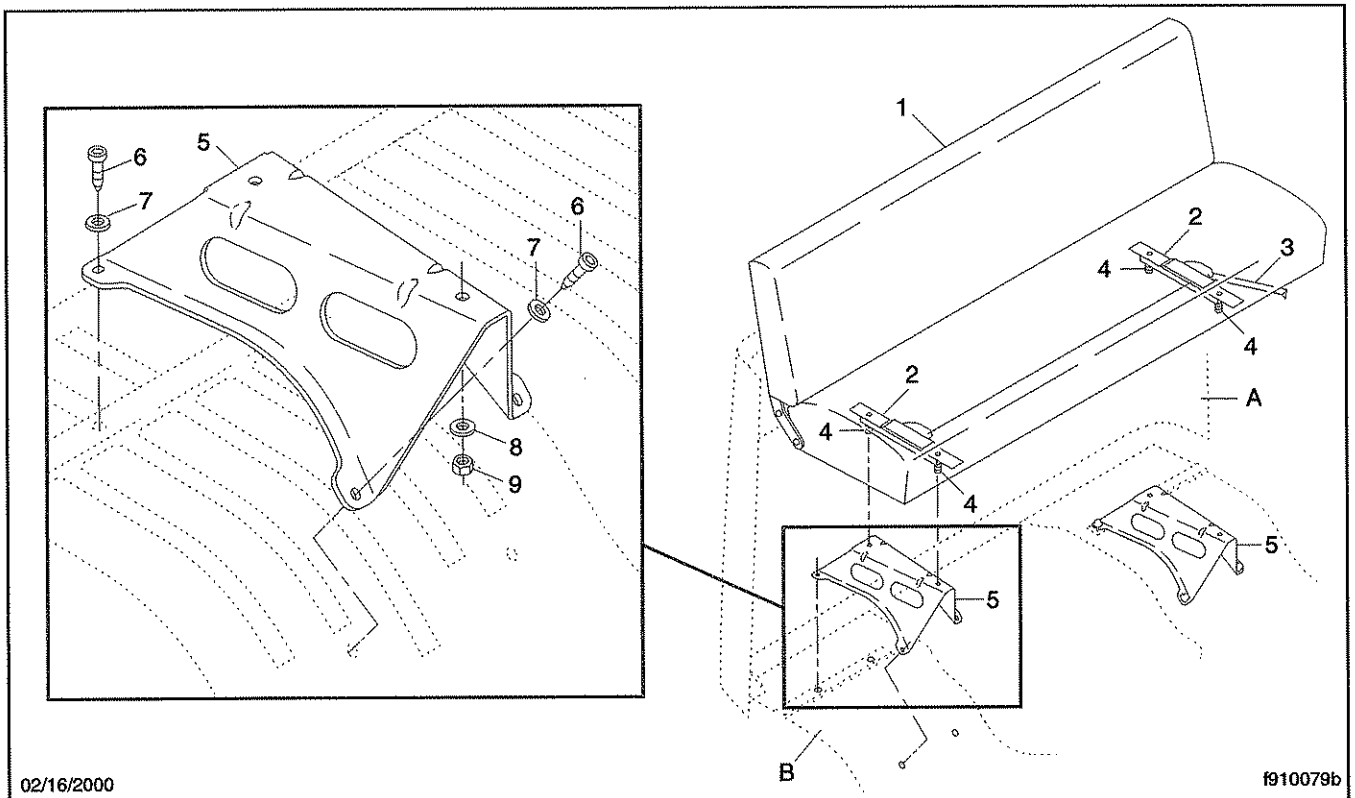
Seat Removal and Installation

Removal

1. Slide the seat to its forward most position.
2. Push the ends of the four floor-mounted seat belt halves down through the opening between the seat back cushion and bottom cushion.
3. Remove the washers and locknuts that attach the rear of the seat tracks to the seat riser brackets. See **Fig. 1**.
4. Slide the seat to its rearmost position.
5. Remove the locknuts and washers that attach the front of the seat tracks to the riser brackets.
6. With the assistance of another person, lift the seat until the seat mounting studs clear the riser brackets; then remove the seat from the cab.

Installation

1. With the assistance of another person, position the seat in the cab, so that all four seat mounting studs are in the holes in the tops of the seat riser brackets. See **Fig. 1**.
2. Slide the seat to its rearmost position.
3. Install the washers and locknuts that attach the front of the seat tracks to the riser brackets. Tighten the locknuts 14 lbf·ft (19 N·m).
4. Slide the seat to its forwardmost position.
5. Install the washers and locknuts that attach the rear of the seat tracks to the riser brackets. Tighten the locknuts 14 lbf·ft (19 N·m).
6. Reaching through the opening between the seat back cushion and bottom cushion, pull the ends



A. Rear Trim Panel
B. Cab Floor

1. 3 Person Bench Seat
2. Seat Track
3. Seat Adjustment Lever
4. Seat Mounting Stud
5. Seat Riser Bracket
6. M8 x 1.25 Capscrew
7. 5/16 inch Washer
8. 5/16 inch Plated Steel Washer
9. Locknut

Fig. 1, Bench Seat Installation

Seat Removal and Installation

of the four floor-mounted seat belt halves onto the seat.

7. Adjust the position of the seat for driver comfort.

Specifications

This subject contains the following table: •Fastener Torques

Description	Size	Grade	Torque N·m (lbf·ft)
Seat Track Mounting Stud Locknut	5/16–24	B	19 (14)

Table 1, Fastener Torques

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General Information

The National model 96 Cush-N-Aire **(Fig. 1)** and Easy-Aire **(Fig. 2)** mid-back air suspension seats offer adjustment features for height, fore and aft positioning, back cushion tilt, lumbar support, and seat cushion tilt.

The air suspension and height-adjustment features are provided by an inflatable air spring (air bag).

For Cush-N-Aire seats (installed only in vehicles with air brakes), air pressure for the air spring is provided by the vehicle air system and is controlled by an air valve attached to the seat frame. **See Fig. 1.**

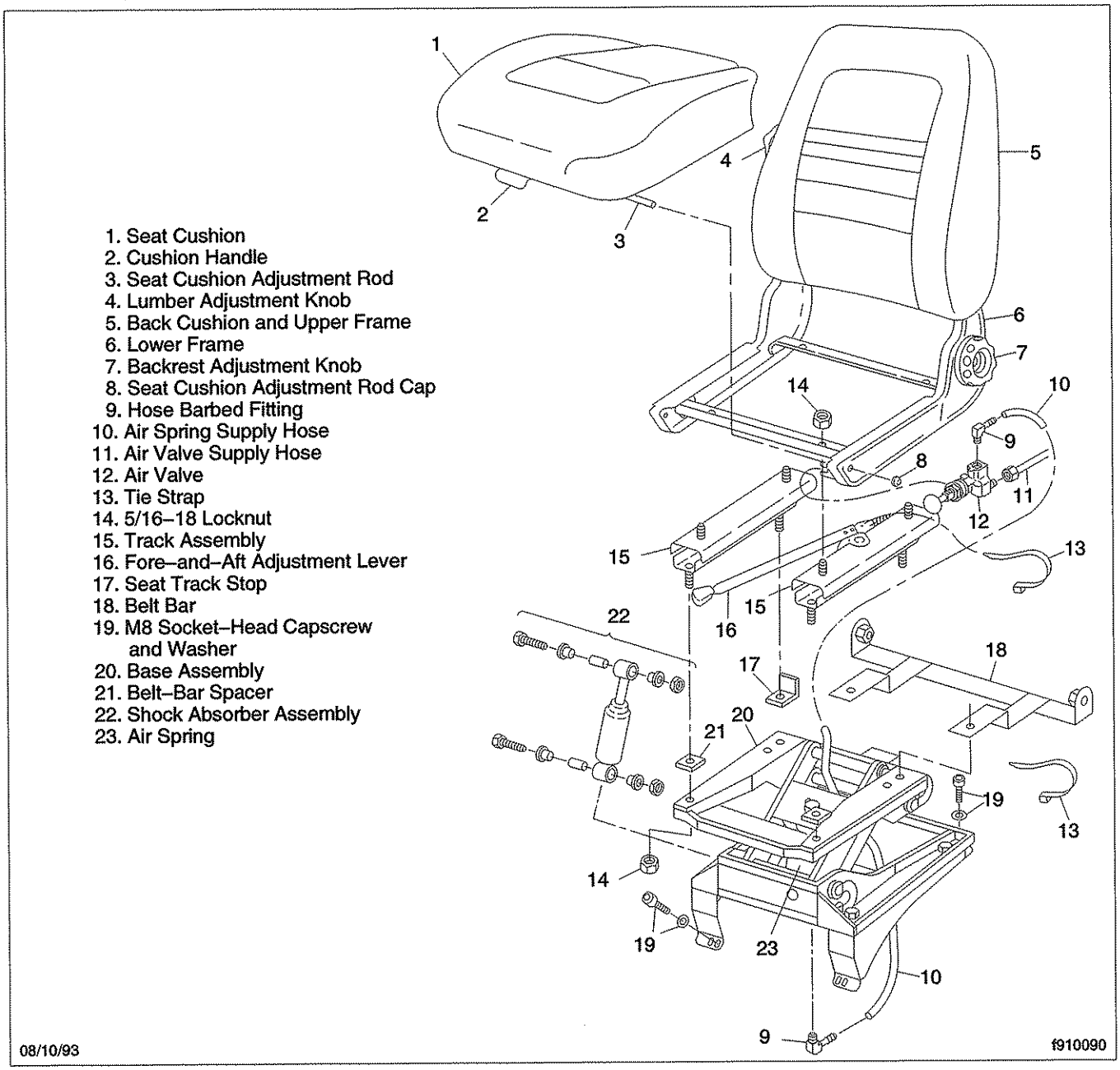


Fig. 1, National Cush-N-Aire (Mid-Back) Seat, Model 96

General Information

1. Seat Cushion
2. Cushion Handle
3. Seat Cushion Adjustment Rod
4. Lumbar Adjustment Knob
5. Back Cushion and Upper Frame
6. Lower Frame
7. Backrest Adjustment Knob
8. Seat Cushion Adjustment Rod Cap
9. 5/16–18 Locknut
10. Air Spring Supply Hose
11. Hand Pump Lever
12. Hand Pump Handle
13. Pump Bracket
14. Hand Pump
15. Track Assembly
16. Fore–and–Aft Adjustment Lever
17. Seat Track Stop
18. Belt Bar
19. M8 Socket–Head Capscrew and Washer
20. Base Assembly
21. Belt–Bar Spacer
22. Shock Absorber Assembly
23. Air Spring
24. Hose Barbed Fitting

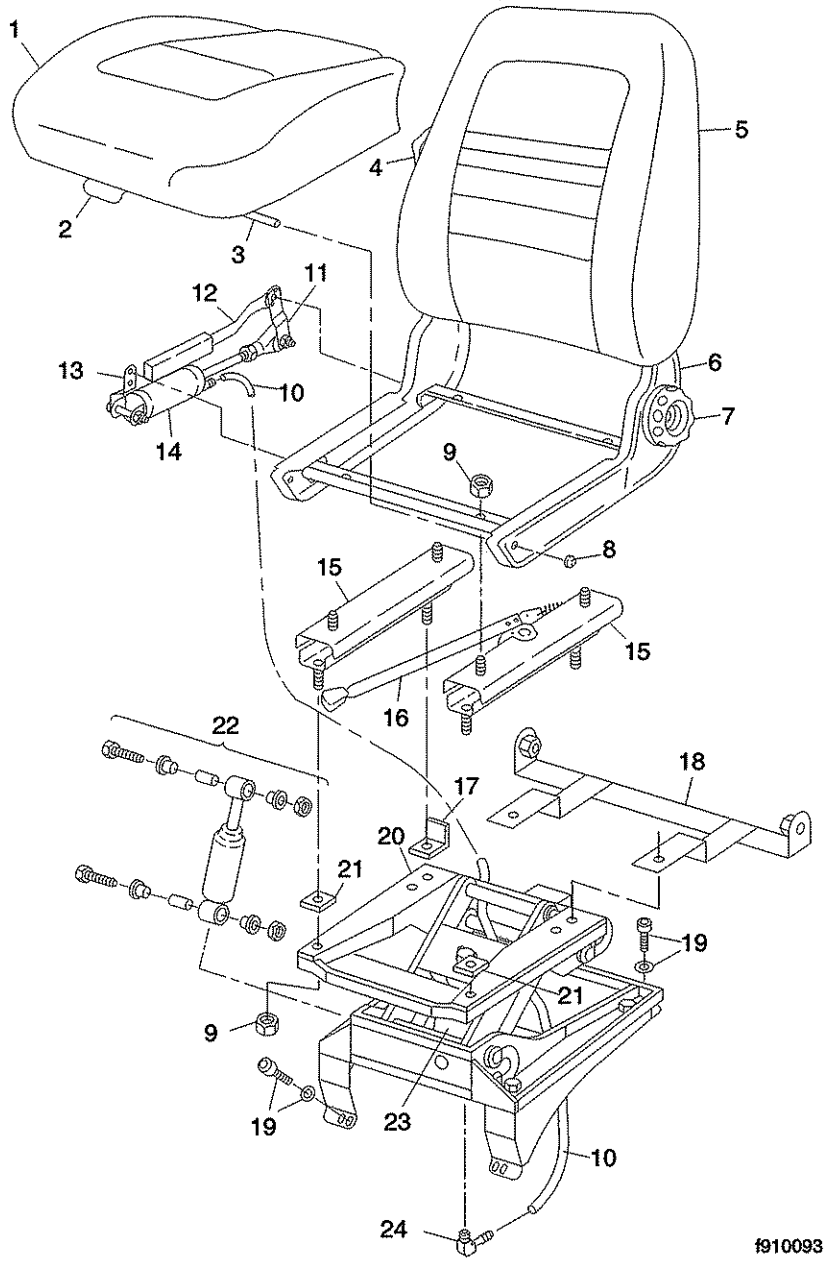


Fig. 2, National Easy-Aire (Mid-Back) Seat, Model 96

For Easy-Aire seats, the air pressure is provided by and controlled by a hand pump that attaches to the side of the seat frame. **See Fig. 2.**

Both seat styles are equipped with a shock absorber to dampen unwanted up and down motion of the seat.

For complete operating instructions, refer to the vehicle driver's manual.

Removal (Refer to Fig. 1 and Fig. 2)

1. For an Easy-Aire seat, hold down the pump handle (**Fig. 1**, Ref. 10) until all air is exhausted from the air spring (Ref. 21). Go to the step for removing the bolts, washers, and spacers.

For a Cush-N-Aire seat, remove the air valve and air hoses (**Fig. 1**, Refs. 3, 1, and 8) from the seat.

1.1 Pull the air valve knob (Ref. 6) until all air is exhausted from the air spring (Ref. 21).

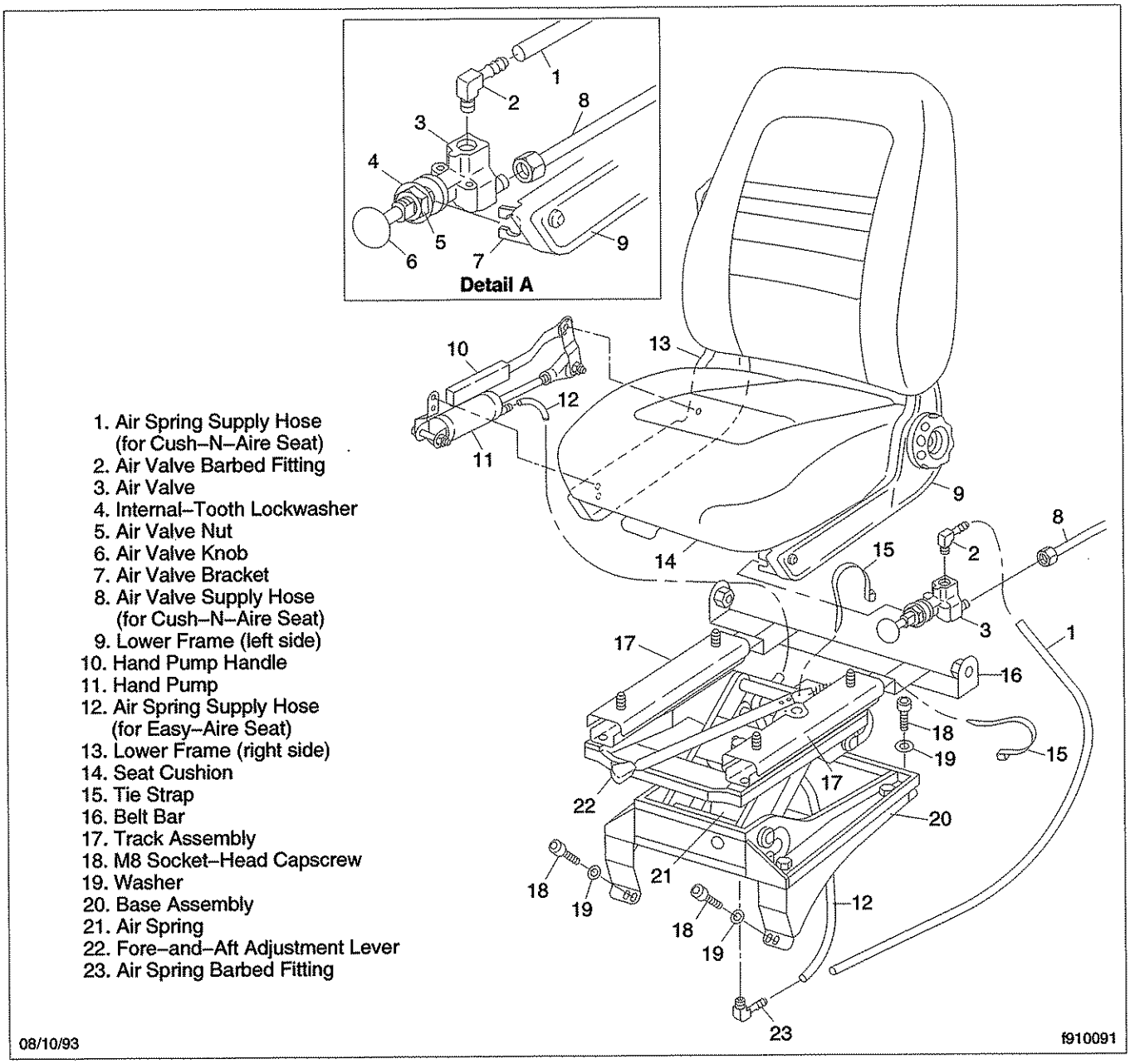


Fig. 1

Seat Removal and Installation

1.2 Pull up and support the rear edge of the seat cushion (Ref. 14) as needed to gain access to the air valve from the top.

1.3 Cut off the air spring supply hose (Ref. 1) close to the air valve barbed fitting (Ref. 2); minimize hose length loss. Remove the scrap hose from the barbed fitting. Tape the hose and fitting ends to prevent dirt or other matter from entering.

1.4 Cut the tie strap that attaches the air valve supply hose to the belt bar (Refs. 15, 8, and 16).

1.5 Loosen the nut (Ref. 5) that attaches the air valve to the lower frame. If needed, move

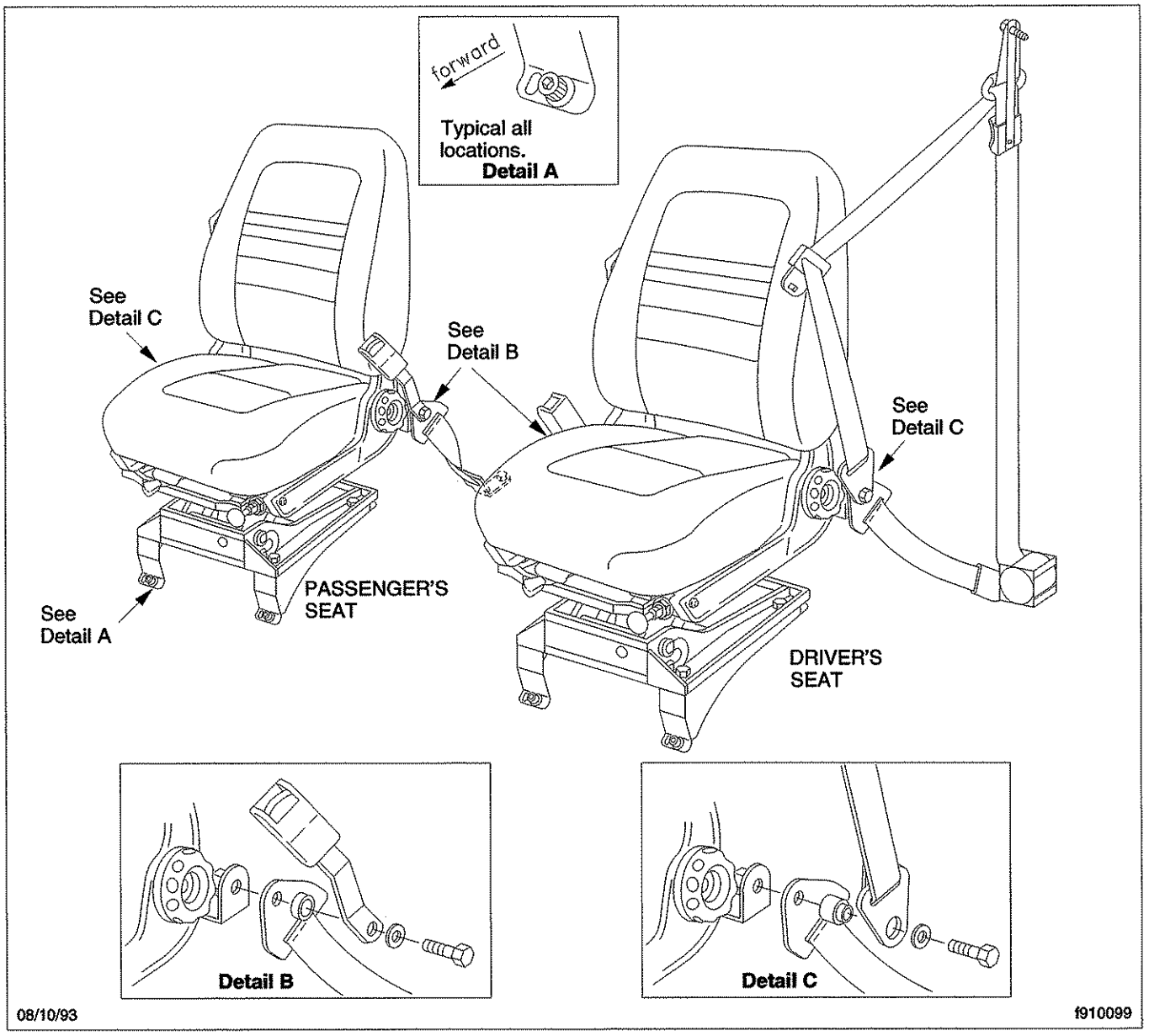


Fig. 2

the fore-and-aft adjustment lever (Ref. 22) to the right, and

slide the upper seat assembly far enough forward to allow removal of the air valve. Remove the valve (and air valve supply hose) from the lower frame, and lay it on the cab deck, behind the seat.

2. Remove the bolts, washers, and spacers that attach the seat belts and tether belts to the belt bar. **See Fig. 2**, Details *B* and *C* .

3. Remove the capscrews and washers (**Fig. 1**, Refs. 18 and 19) that attach the seat risers to the cab deck. Remove the seat from the cab.

Installation (Refer to Fig. 1 and Fig. 2)

1. Place the seat on the cab deck. Insert the socket-head capscrews through the washers (**Fig. 1**, Refs. 18 and 19) and the seat risers. Insert the forward fasteners through the left-hand hole in each seat riser (typical for driver's and passenger's seats); **refer to Fig. 2**, Detail *A*. Tighten the bolts 18 N·m (13 lbf·ft).

2. Attach the seat belts and tether belts to the belt bar, **as shown in Fig. 2**, Details *B* and *C*. Tighten the bolts 54 N·m (40 lbf·ft).

3. For a Cush-N-Aire seat, install the air valve and air hoses (**Fig. 1**, Refs. 3, 1, and 8) on the seat. **See Fig. 1**, Detail *A* .

   3.1 Attach the air valve to the lower frame (Ref. 9), with the lockwasher (Ref. 4) between the nut (Ref. 5) and the front of the valve bracket (Ref. 7); then turn the air valve so the barbed fitting (Ref. 2) is on top. Tighten the nut finger-tight. Using a wrench, tighten the nut one-half turn more.

   3.2 Install a new tie strap to attach the air valve supply hose to the belt bar (Refs. 15, 8, and 16).

   3.3 Pull up and support the rear edge of the seat cushion as needed to gain access to the air valve from the top. Unplug the air spring supply hose and air valve barbed fitting (Refs. 1 and 2), then route the hose through the tie strap (Ref. 15) attached to the track assembly latch mechanism. Push the hose onto the barbed fitting on the valve.

   3.4 Move the fore-and-aft adjustment lever (Ref. 22) to the right, and slide the upper seat assembly forward and rearward while making sure that both air hoses move without restriction. Return the seat cushion to its original position.

Air Valve Replacement (Refer to Fig. 1)

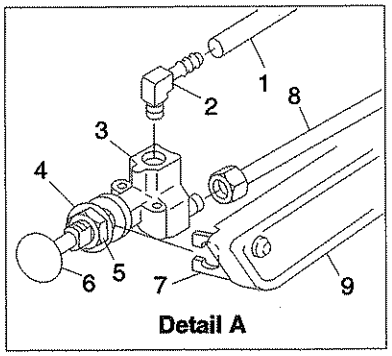
1. Apply the parking brakes and chock the vehicle tires. Drain all air from the vehicle air system.
2. Pull the air valve knob (Ref. 6) until all air is exhausted from the air spring.
3. Disconnect the air hoses and remove the air valve (Refs. 1, 8, and 3) from the seat.

   3.1 Pull up and support the rear edge of the seat cushion (Ref. 10) as needed to gain access to the air valve from the top.

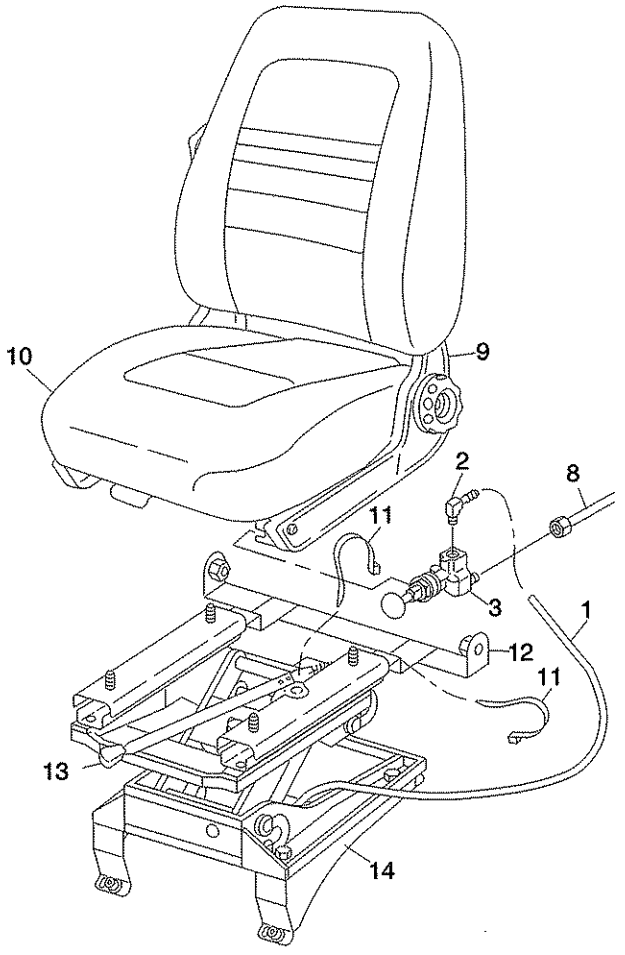
   3.2 Cut off the air spring supply hose close to the air valve barbed fitting (Refs. 1 and 2); minimize hose length loss. Remove the scrap hose from the barbed fitting. Tape the hose end to prevent dirt or other matter from entering.

   3.3 Remove the air valve supply hose (Ref. 8) from the rear of the air valve; plug the hose.

   3.4 Loosen the nut (Ref. 5) that attaches the air valve to the lower frame. If needed, move the fore-and-aft adjustment lever (Ref. 13) to the right, and slide the upper seat as-



Detail A



1. Air Spring Supply Hose
2. Air Valve Barbed Fitting
3. Air Valve
4. Internal–Tooth Lockwasher
5. Air Valve Nut
6. Air Valve Knob
7. Air Valve Bracket
8. Air Valve Supply Hose
9. Lower Frame
10. Seat Cushion
11. Tie Strap
12. Belt Bar
13. Fore–and–Aft Adjustment Lever
14. Base and Track Assemblies

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Fig. 1

Component Replacement

sembly far enough forward to allow removal of the air valve. Remove the valve.

3.5 Remove and save the air valve barbed fitting (Ref. 2).

4. Install the new air valve, and attach the air hoses.

4.1 Install the air valve barbed fitting (Ref. 2) in the new air valve; position the fitting so it will point to the rear when the air valve is installed.

4.2 Attach the air valve to the lower frame, with the lockwasher (Ref. 4) between the nut (Ref. 5) and the air valve bracket (Ref. 7); then turn the air valve so the barbed fitting is on top. Tighten the nut finger-tight. Using a wrench, tighten the nut one-half turn more.

4.3 Unplug the air valve supply hose (Ref. 8). Route it through the tie strap attached to the belt bar (Refs. 11 and 12). Install the hose on the valve.

4.4 Unplug the air spring supply hose (Ref. 1). Route it through the tie strap (Ref. 11) attached to the track assembly latch mechanism. Push the hose onto the barbed fitting on the valve.

4.5 Move the fore-and-aft adjustment lever (Ref. 13) to the right, and slide the upper seat assembly forward and rearward while making sure that both air hoses move without restriction. Return the seat cushion to its original position.

5. Start the engine and allow the vehicle air system to fill. Push the air valve knob to raise the seat. Then pull the air valve knob to lower the seat. Repair any air leaks.

6. Remove the chocks.

Hand Pump Replacement (Refer to Fig. 2)

1. Hold down the hand pump handle (Ref. 8) until all air is exhausted from the air spring.

2. Disconnect the air hose (Ref. 11), and remove the hand pump from the seat.

2.1 Remove the end of the air spring supply hose from the connection on the hand pump (Refs. 11 and 12).

2.2 Back off the jam nut that secures the hand pump push rod from turning in the pump clevis (Refs. 13, 14, and 6).

2.3 Remove the locknut and bolt that attach the hand pump mounting ears to the pump mounting bracket (Refs. 21, 17, and 19).

2.4 Unscrew the hand pump push rod from the pump clevis, and remove the pump.

3. Check the pump pivot bolt, lever, clevis, handle, and bracket (Refs. 4, 5, 6, 8, and 19) for wear or damage, and replace the parts as needed.

4. Install the new hand pump, and connect the air hose.

4.1 With the jam nut (Ref. 13) turned onto the hand pump push rod (Ref. 14) as far as it will go, screw the push rod into the pump clevis (Ref. 6) as far as it will go. Then, back it out until the air spring supply hose connection (Ref. 12) is at the bottom of the pump cylinder, and the bolt holes through the mounting ears (Ref. 17) are aligned horizontally.

4.2 Install the bolt and locknut (Refs. 21 and 16) that attach the hand pump to the pump mounting bracket. Turn the prevailing torque locknut until three threads of the bolt are showing past the nut; don't tighten it further.

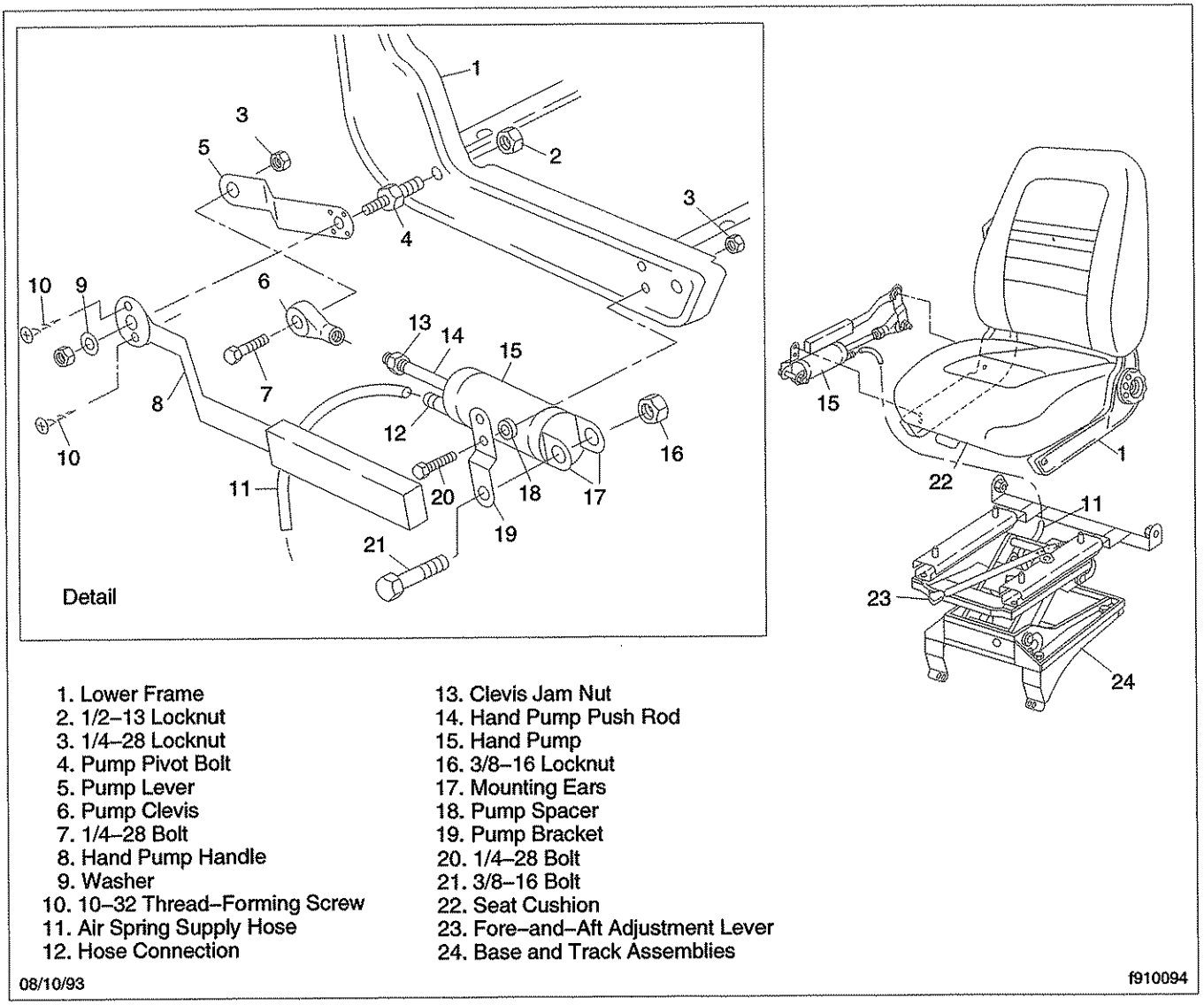
4.3 Securely tighten the jam nut against the pump clevis.

4.4 Connect the air spring supply hose to the connection on the hand pump.

5. Operate the hand pump; check for and correct any air leaks.

Shock Absorber Removal and Installation (Refer to Fig. 3)

1. Move the fore-and-aft adjustment lever (Ref. 16) to the right, and slide the upper seat assembly back as far as possible.



1. Lower Frame
2. 1/2–13 Locknut
3. 1/4–28 Locknut
4. Pump Pivot Bolt
5. Pump Lever
6. Pump Clevis
7. 1/4–28 Bolt
8. Hand Pump Handle
9. Washer
10. 10–32 Thread–Forming Screw
11. Air Spring Supply Hose
12. Hose Connection
13. Clevis Jam Nut
14. Hand Pump Push Rod
15. Hand Pump
16. 3/8–16 Locknut
17. Mounting Ears
18. Pump Spacer
19. Pump Bracket
20. 1/4–28 Bolt
21. 3/8–16 Bolt
22. Seat Cushion
23. Fore–and–Aft Adjustment Lever
24. Base and Track Assemblies

Fig. 2

2. For an Easy-Aire seat, work the hand pump (Ref. 15) until the upper seat assembly is raised to maximum height. Support the seat in this position by placing a wooden block between the lower arm and lower base. Refer to Detail *A* **in Fig. 3,** Refs. 9, 8, and 5. Hold down the pump handle (Ref. 14) until all air is exhausted from the air spring.

   For a Cush-N-Aire seat, push the air valve knob (Ref. 17) to raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower arm and lower base. Refer to Detail *A* **in Fig. 3,** Refs. 9, 8, and 5. Pull the air valve knob until all air is exhausted from the air spring.

3. Remove the shock absorber, bushings, and spacers. See Detail *B* **in Fig. 3.**

   3.1 Remove the nuts and bolts (Detail *B* **in Fig. 3,** Refs. 13 and 10) that attach the shock absorber to the upper and lower bases (Detail *A* **in Fig. 3,** Refs. 1 and 5). Remove the shock absorber.

Component Replacement

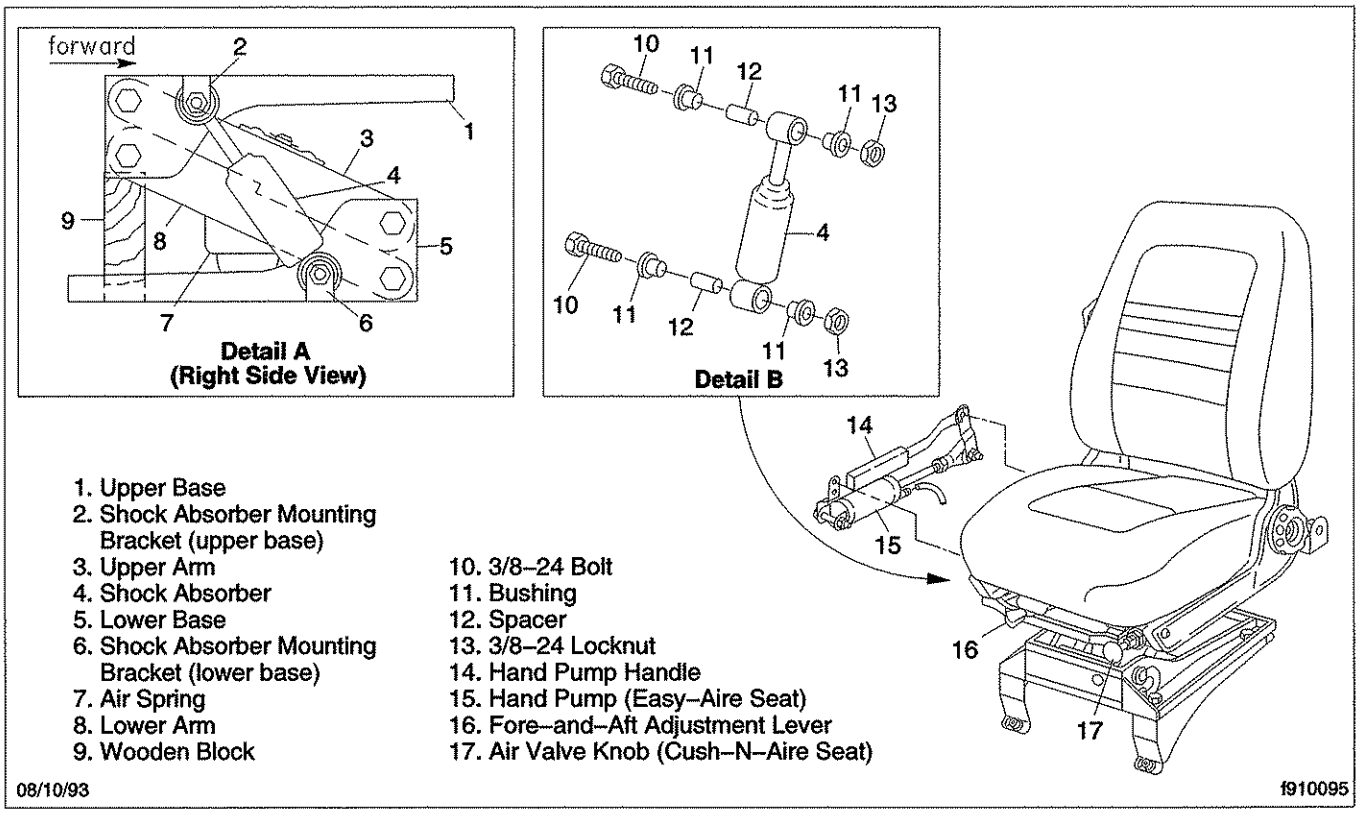


Fig. 3

3.2 Remove the bushings and spacers (Refs. 11 and 12) from the shock absorber.

4. Check the operation of the shock absorber, and replace it if needed.

5. Install the shock absorber and new spacers and bushings.

5.1 Install new spacers and bushings in the shock absorber eyes.

5.2 Position the shock absorber so its piston-rod end is in the mounting bracket of the upper base (Detail *A* **in Fig. 3,** Ref. 2). Install the bolt and locknut to attach the shock absorber to the bracket. Tighten the locknut 34 N·m (25 lbf·ft).

5.3 Position the cylinder end of the shock absorber in the mounting bracket of the lower base (Detail *A* **in Fig. 3,** Ref. 6). Install the bolt and locknut to attach the shock absorber to the lower bracket. Tighten the locknut 34 N·m (25 lbf·ft).

6. Work the hand pump (Easy-Aire seat), or push the air valve knob (Cush-N-Aire seat), to raise the seat. Remove the wooden block.

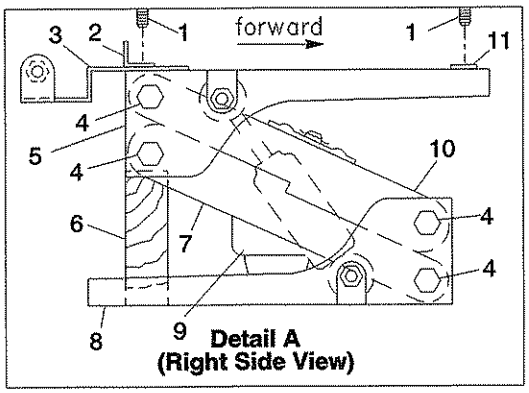
Air Spring Replacement (Refer to Fig. 4)

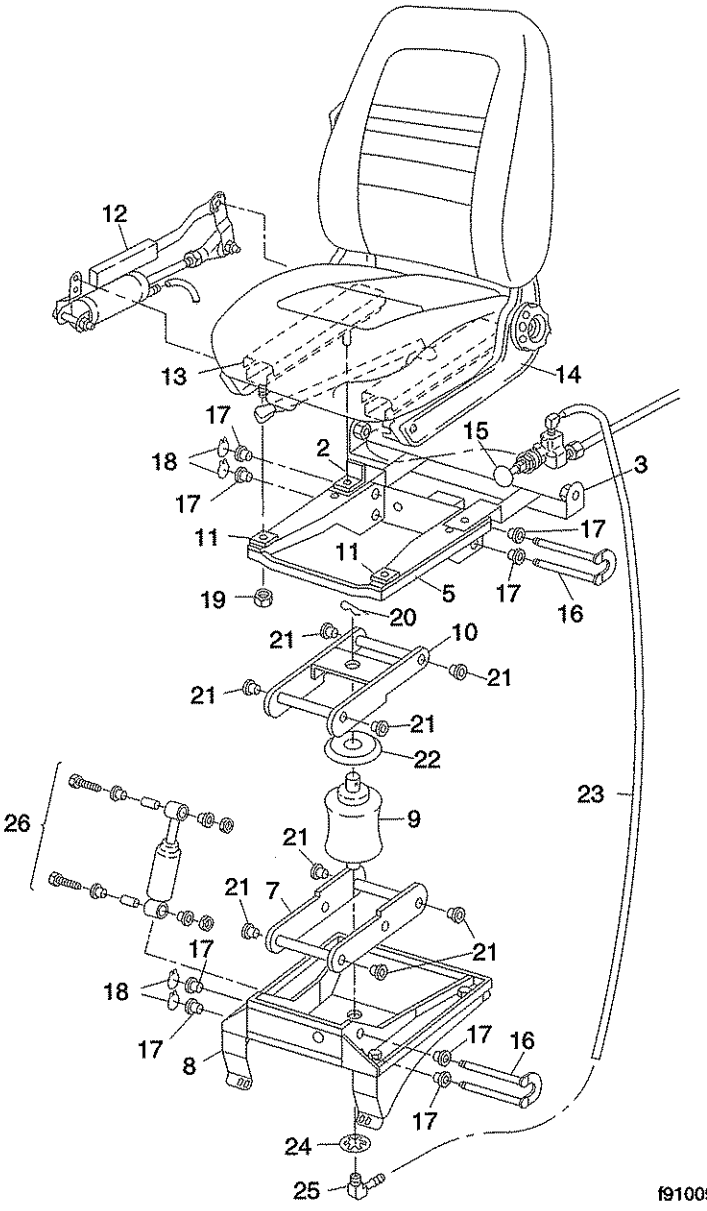
1. For an Easy-Aire seat, work the hand pump handle (Ref. 12) until the upper seat assembly is raised to maximum height. Support the seat in this position by placing a wooden block between the lower arm and lower base. Refer to Detail *A* **in Fig. 4,** Refs. 6, 7, and 8. Hold down the pump handle until all air is exhausted from the air spring.

   For a Cush-N-Aire seat, push the air valve knob (Ref. 15) to raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower arm and lower base. Refer to Detail *A* **in Fig. 4,** Refs. 6, 7, and 8. Pull the air valve knob until all air is exhausted from the air spring.

2. Remove the seat from the vehicle as instructed **in Subject 100.**
3. Lay the seat on its side, with the wooden block still in place.
4. For an Easy-Aire seat, cut off the air spring supply hose close to the barbed 90-degree fitting at the bottom of the air spring (Refs. 23 and 25); minimize hose length loss. Remove the scrap hose from the barbed fitting, then remove the fitting from the air spring. Tape the ends of the hose and fitting to prevent dirt or other matter from entering.

   For a Cush-N-Aire seat, remove, as an assembly, the fitting and the air hose (Refs. 25 and 23) from the air spring. Tape the end of the fitting to prevent dirt or other matter from entering.





1. Track Assembly Lower Stud
2. Seat Track Stop
3. Belt Bar
4. Hexhead Pivot Bolt
5. Upper Base
6. Wooden Block
7. Lower Arm
8. Lower Base
9. Air Spring
10. Upper Arm
11. Belt Bar Spacer
12. Hand Pump Handle (Easy–Aire Seat)
13. Track Assembly
14. Upper Seat Assembly
15. Air Valve Knob (Cush–N–Aire Seat)
16. Connected Shaft Assembly
17. Sleeve (Bearing)
18. Snap Rings
19. 5/16–18 Locknut
20. Pin Clip
21. Bearing (Sleeve)
22. Air Spring Washer
23. Air Spring Supply Hose
24. Air Spring Retaining Ring
25. Air Spring Barbed Fitting
26. Shock Absorber Assembly

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Fig. 4

Component Replacement

5. Pry the retaining ring (Ref. 24) from the bottom of the air spring.
6. Remove the pin clip (Ref. 20) that secures the air spring to the upper arm (Ref. 10). Remove the washer (Ref. 22) and air spring.
7. Position the new air spring in the lower base (Ref. 8), and secure it with a new retaining ring (Ref. 24).
8. Place the washer (Ref. 22) on top of the air spring, and insert the top of the air spring in the opening of the upper arm (Ref. 10). Install the pin clip (Ref. 20) on the air spring.
9. Install the air spring fitting (Ref. 25) and air hose in the bottom of the air spring.
10. Install the seat as instructed in Subject 100.
11. Work the hand pump (Easy-Aire seat), or push the air valve knob (Cush-N-Aire seat), to raise the seat. Remove the wooden block.

Base Assembly Bearing/Sleeve Replacement (Refer to Fig. 4)

1. Remove the shock absorber as instructed earlier.
2. Remove the seat as instructed **in Subject 100.**
3. For an Easy-Aire seat, cut off the air spring supply hose (Ref. 23) close to the barbed 90-degree fitting at the bottom of the air spring (Ref. 25); minimize hose length loss. Remove the scrap hose from the barbed fitting. Tape the hose and fitting ends to prevent dirt or other matter from entering.

   For either seat version, remove the four locknuts (Ref. 19) that attach the track assemblies, seat track stop, belt bar and spacers, and upper seat assembly (Refs. 13, 2, 3, 11, and 14) to the upper base (Ref. 5). Remove the upper seat assembly, track assemblies, seat track stop, and belt bar and spacers.
4. Remove the pin clip (Ref. 20) that secures the air spring to the upper arm (Ref. 10).
5. Remove the bearings and/or sleeves (Refs. 17 and 21) from the upper and lower bases and the upper and lower arms.

   5.1 If the arms are attached to the bases with pivot bolts (Ref. 4), remove all eight bolts. If the arms are attached to the bases with connected shafts held in place by snap rings (Refs. 16 and 18), use snap ring pliers to remove the four snap rings from the shaft assemblies. Then, using a drift punch, drive out the shaft assemblies from the bases.

   NOTE: Place the punch against the snap ring end of the shafts. Drive each shaft end a little at a time, as the two shafts are connected to each other on the opposite side.

   5.2 Remove the upper base, and the upper and lower arms from the air spring and lower base.

   5.3 Remove the bearings/sleeves (Ref. 21) from the upper and lower arms. Discard the bearings/sleeves.

   5.4 If so equipped, remove the sleeves/ bearings (Ref. 17) from the upper and lower bases. Discard the sleeves/ bearings.
6. Install new bearings/sleeves, as equipped.

   6.1 Install new bearings/sleeves in the upper and lower arm tubes.

   6.2 If so equipped, install new sleeves/ bearings in the upper and lower bases.

   6.3 Align the tubes of the lower and upper arms with the holes in the lower base. Be sure the notch in the lower arm is forward and up, and the notch in the upper arm is to the rear and down. See Detail *A* **in Fig. 4,**

   6.4 As equipped, install and tighten the pivot bolts (Ref. 4), or install the connected shaft assembly (Ref. 16) through the lower base and the upper and lower arm forward tubes.

   6.5 Align the holes of the upper base with the rear tubes of the lower and upper arms.

   6.6 As equipped, install and tighten the pivot bolts, or install the connected shaft assembly through the upper base and the upper and lower arm tubes.

   6.7 For connected shaft assemblies, use snap ring pliers to install the snap rings that secure the shafts and the arms to the lower and upper bases.

7. Place the washer (Ref. 22) on the top of the air spring, and insert the top of the air spring through the upper arm. Install the pin clip (Ref. 20).

8. For an Easy-Aire seat, push the air spring supply hose (Ref. 23) onto the barbed 90-degree fitting at the bottom of the air spring (Ref. 25).

   For either seat version, set the seat base assembly upright.

9. Install the shock absorber as instructed earlier.

10. Place the belt bar and spacers, seat track stop, track assemblies, and upper seat assembly (Refs. 3, 11, 2, 13, and 14) on the upper base (Ref. 5). Install the locknuts (Ref. 19). Tighten the locknuts 20 N·m (15 lbf·ft). Remove the wooden block.

11. Install the seat as instructed **in Subject 100.**

Track Assembly Replacement (Refer to Fig. 5)

1. For an Easy-Aire seat, work the hand pump (Ref. 21) until the upper seat assembly is raised to maximum height. Support the seat in this position by placing a wooden block between the lower base and lower arm. Refer to Detail *A* **in Fig. 5,** Refs. 5, 6, and 7. Hold down the pump handle (Ref. 20) until all air is exhausted from the air spring.

   For a Cush-N-Aire seat, push the air valve knob (Detail *B* **in Fig. 5,** Ref. 15) to raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower base and lower arm. Refer to Detail *A* **in Fig. 5,** Refs. 5, 6, and 7. Pull the air valve knob until all air is exhausted from the air spring.

2. Pull up and support the rear edge of the seat cushion (Ref. 19) as needed to gain access to the track assembly upper locknuts (Ref. 24).

3. For an Easy-Aire seat, remove the end of the air spring supply hose from the connection (Refs. 10 and 22) on the hand pump. Then go to step 4.

   For a Cush-N-Aire seat, remove the air valve and air hoses (Refs. 12, 10, and 18) from the seat. Refer to Detail *B* **in Fig. 5.**

   3.1 Cut and remove the tie strap (Ref. 27) that attaches the air spring supply hose (Ref. 10) to the track assembly latch mechanism.

   3.2 Cut and remove the tie strap that attaches the air valve supply hose (Ref. 18) to the belt bar (Ref. 3).

   3.3 Loosen the nut (Ref. 14) that attaches the air valve to the lower frame. If needed, move the fore-and-aft adjustment lever (Ref. 26) to the right, and slide the upper seat assembly far enough forward to allow removal of the air valve.

   3.4 Remove the air valve and hoses (as an assembly), and lay them on the cab deck, behind the seat.

4. Remove the four locknuts (Ref. 24) that attach the lower frame to the top of the track assemblies. Remove the upper seat assembly (Ref. 23).

5. Remove the four locknuts (Ref. 28) that attach the track assemblies to the top of the upper base. Remove the track assemblies.

6. With the holes in the belt bar, the belt bar spacers, and the seat track stop (Refs. 3, 9, and 2) aligned with the holes in the upper base, install the new track assemblies on

   the upper base. Install and tighten the locknuts (Ref. 28) 20 N·m (15 lbf·ft).

7. Move the upper half of the track assemblies as needed to align their studs with the holes in the lower frame. Place the upper seat assembly (Ref. 23) on the track assemblies. Install and tighten the locknuts (Ref. 24) 20 N·m (15 lbf·ft).

8. For an Easy-Aire seat, connect the air spring supply hose to the connection on the hand pump (Refs. 10 and 22). Skip the following sub-steps for attaching the air valve and hoses on the seat, and go on.

   For a Cush-N-Aire seat, install the air valve and hoses on the seat (Refs. 12, 10, and 18). Refer to Detail *B* **in Fig. 5.**

   8.1 Attach the air valve to the lower frame, with the lockwasher (Ref. 13) between the nut (Ref. 14) and the front of the air valve bracket (Ref. 16). Turn the air valve so its barbed fitting (Ref. 11) is on top.

   8.2 Tighten the air valve nut finger-tight. Using a wrench, tighten the nut one-half turn more.

Component Replacement

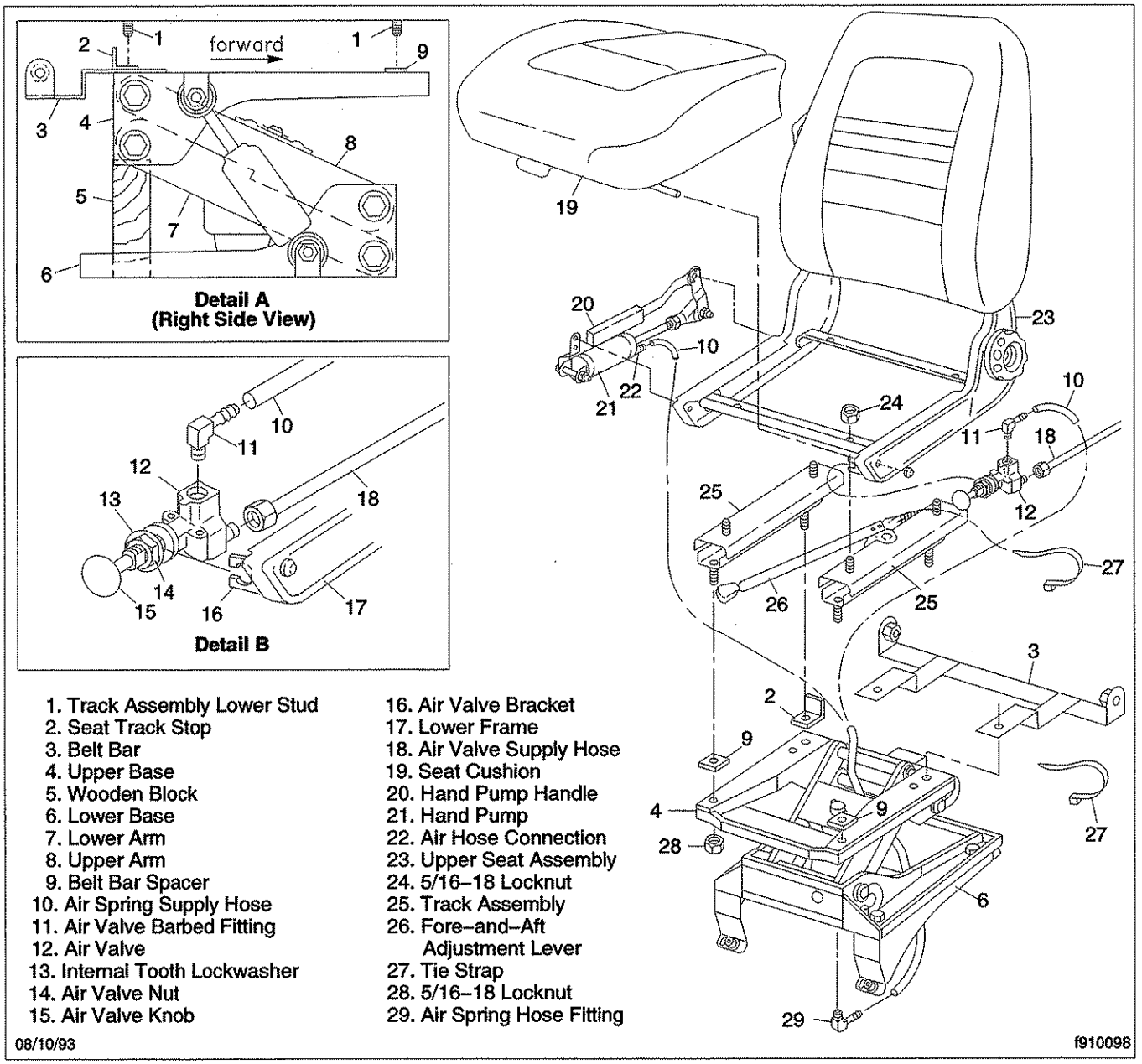


Fig. 5

8.3 Install a new tie strap (Ref. 27) to attach the air spring supply hose (Ref. 10) to the track assembly latch mechanism.

8.4 Install a new tie strap to attach the air valve supply hose to the belt bar (Ref. 3).

9. Move the fore-and-aft adjustment lever to the right, and slide the upper seat assembly forward and rearward while making sure that the air hoses move without restriction. Return the seat cushion to its original position.

10. Work the hand pump (Easy-Aire seat), or push the air valve knob (Cush-N-Aire seat) to raise the seat. Remove the wooden block.

Specifications

This subject contains the following table: •Fastener Torques

Description	Torque N·m (lbf·ft)
Seat Riser to Cab Deck Socket-Head Bolts	18 (13)
Seat Belt/Tether Belt to Belt Bar Bolts	54 (40)
Shock Absorber to Bracket Locknuts	34 (25)
Track Assembly to Upper Base Locknuts	20 (15)
Track Assembly to Lower Frame Locknuts	20 (15)

Table 1, Fastener Torques

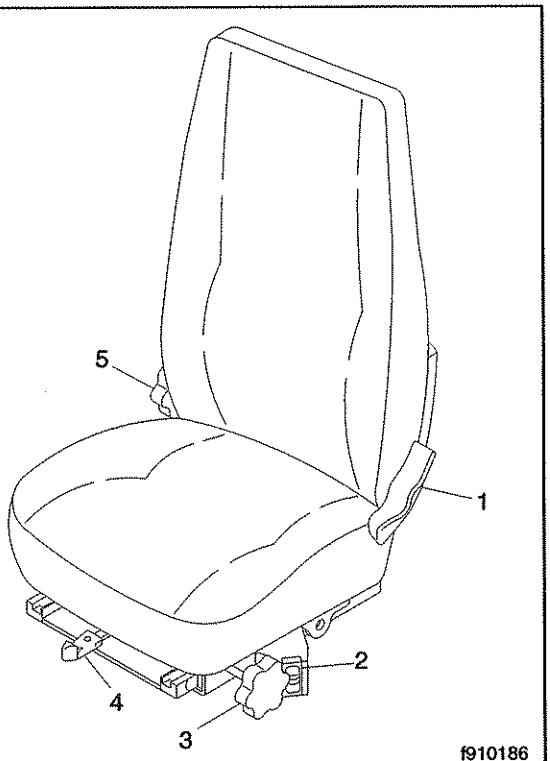
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General Information

The Bostrom Talladega 910 air suspension seats offer weight-height adjustment, lumbar support and a fore and aft roller track isolator system. See **Fig. 1**.

For complete operating instructions, refer to the vehicle driver's manual.



1. Back Angle Adjustment
2. Weight and Height Adjustment
3. Seat Cushion Tilt Adjustment
4. Fore and Aft Isolation and Seat Position Adjustment
5. Lumbar Adjustment

Fig. 1, Bostrom Talladega 910 Seat

Seat Removal and Installation

Removal (See Fig. 1)

1. Apply the parking brakes, and chock the tires.
2. Push in on the top of the seat ride height switch until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the rear crossbars of the air suspension's inner and outer lever assemblies.
4. Drain the vehicle air reservoirs. Then push in on the bottom of the seat ride height rocker switch until all air is exhausted from the air spring.

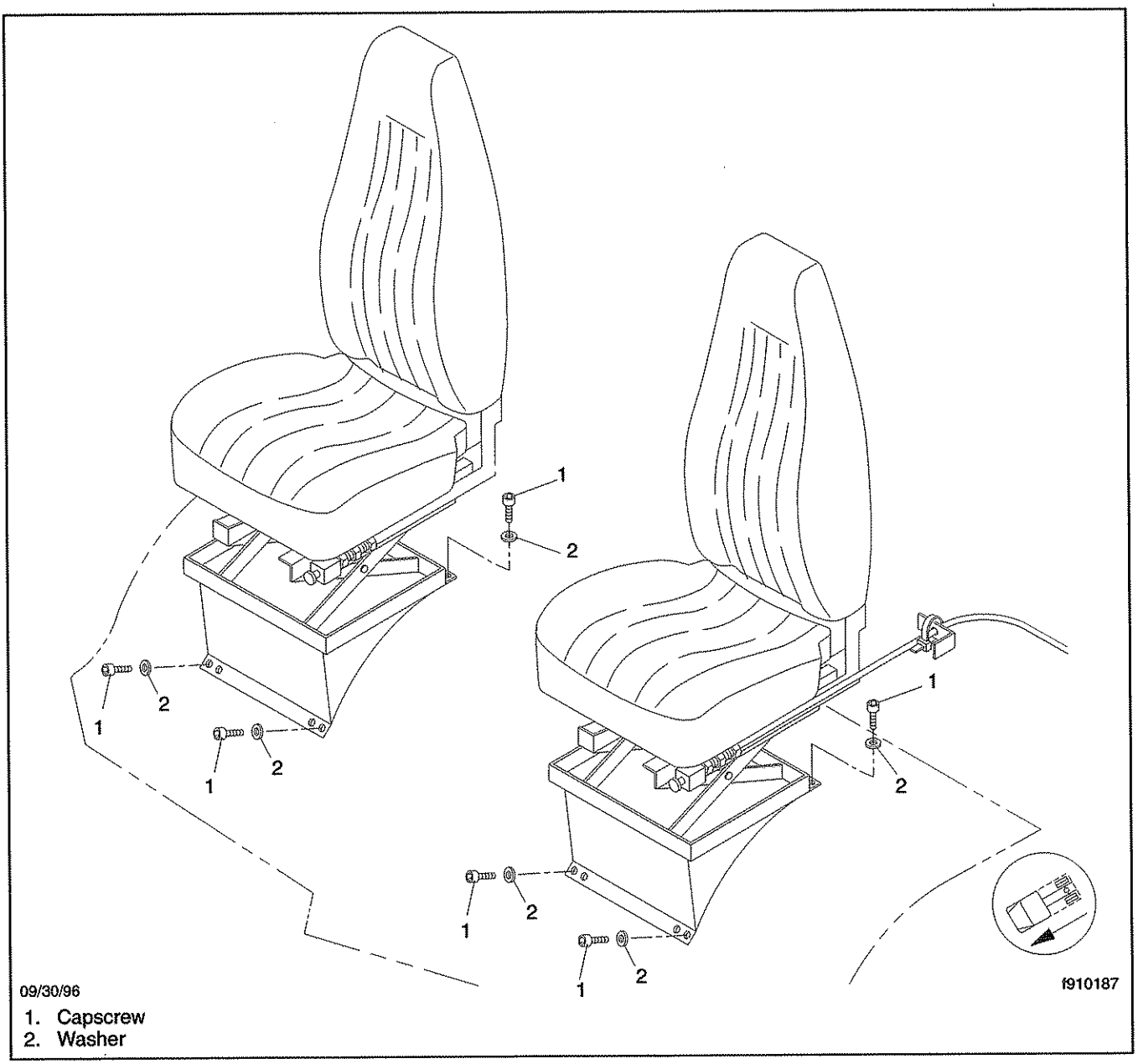


Fig. 1, Seat Installation

Seat Removal and Installation

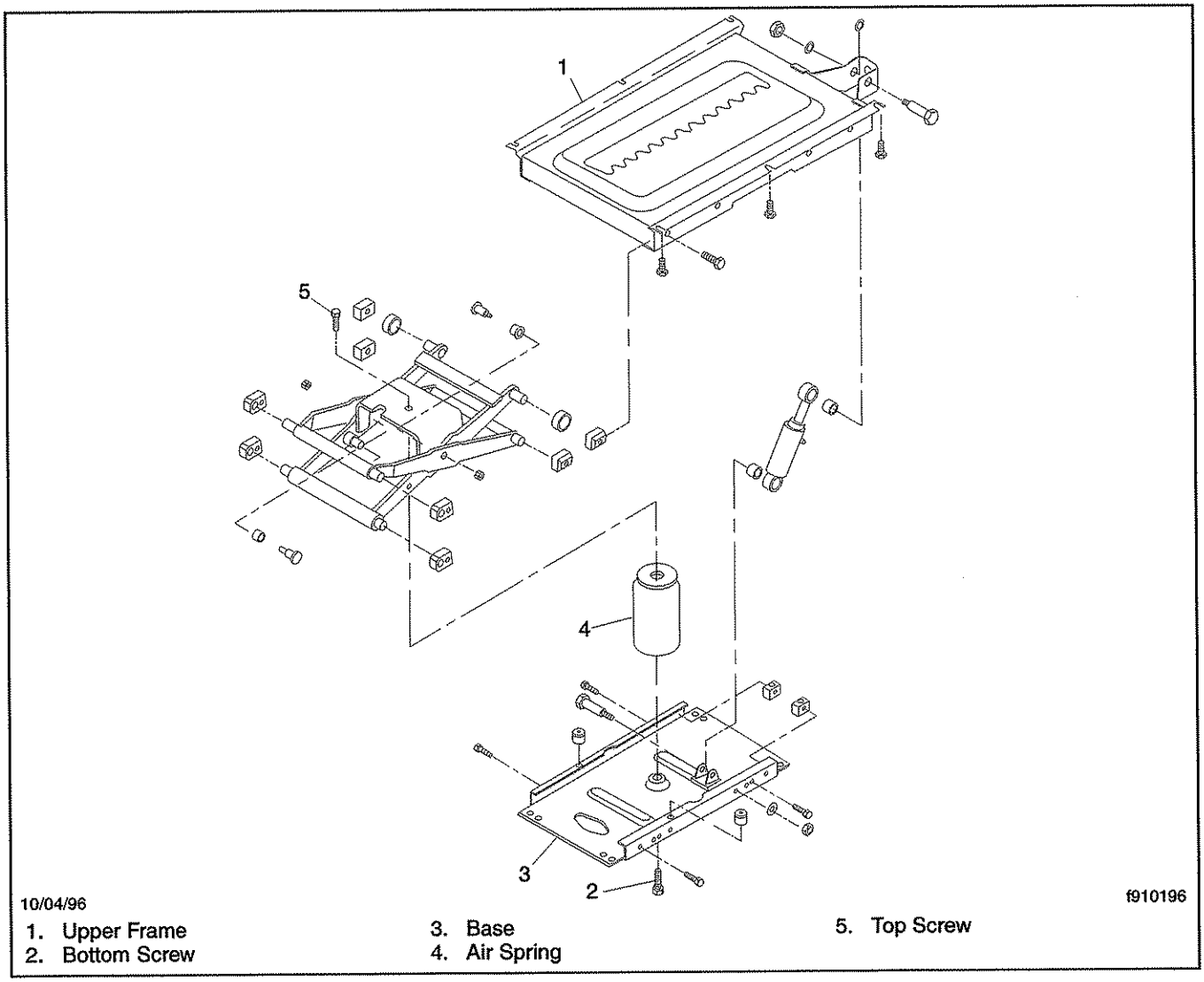
5. Disconnect the air valve air supply hose at the quick-connect union.
6. Remove the seat belt straps and tether straps.
7. Remove the capscrews and washers that attach the seat to the cab deck. Remove the seat from the cab.

Installation (See Fig. 1)

1. Place the seat on the cab deck. Insert the capscrews through the washers and the seat base. Tighten the capscrews 27 lbf·ft (37 N·m).
2. Attach the seat belt straps and tether straps. Tighten the capscrews 40 lbf·ft (54 N·m).
3. Connect the air valve air supply hose by pressing the pneumatic tubing into the quick-connect union.
4. Start the engine and allow the air reservoirs to fill. Push in on the top of the seat ride height rocker switch until the seat is adjusted to its maximum height, then remove the wooden block that supports the seat suspension.
5. Remove the chocks from the tires.

Air Spring Removal and Installation

Removal (See Fig. 1)



1. Upper Frame
2. Bottom Screw
3. Base
4. Air Spring
5. Top Screw

Fig. 1, Bostrom Talladega 910 Seat

1. Fill the air spring so that the seat is at maximum height.
2. Block the suspension up with a spacer placed between the base and the upper frame.
3. Release the air pressure from the air spring so that the seat is supported by the spacer.
4. Remove the complete seat assembly from the vehicle using the instructions in **Subject 100.**
5. Disconnect the air line from the air spring by loosening the fitting and pullling the air line out of the fitting.
6. Remove the top and bottom screws from the air spring.
7. Remove the air spring from the suspension.

Air Spring Removal and Installation

Installation (See Fig. 1)

1. Position the air spring so the fitting at the bottom of the air spring is toward the front of the seat. Install the bottom screw into the air spring.
2. Tighten the bottom screw 9 to 11 lbf·ft (12 to 15 N·m).
3. Install the top screw and tighten it 15 to 19 lbf·ft (20 to 26 N·m).
4. Connect the air line to the fitting in the air spring by pushing the tube into the fitting.
5. Install the seat assembly in the vehicle, using the instructions in **Subject 100**.
6. Fill the air spring and remove the spacer block.

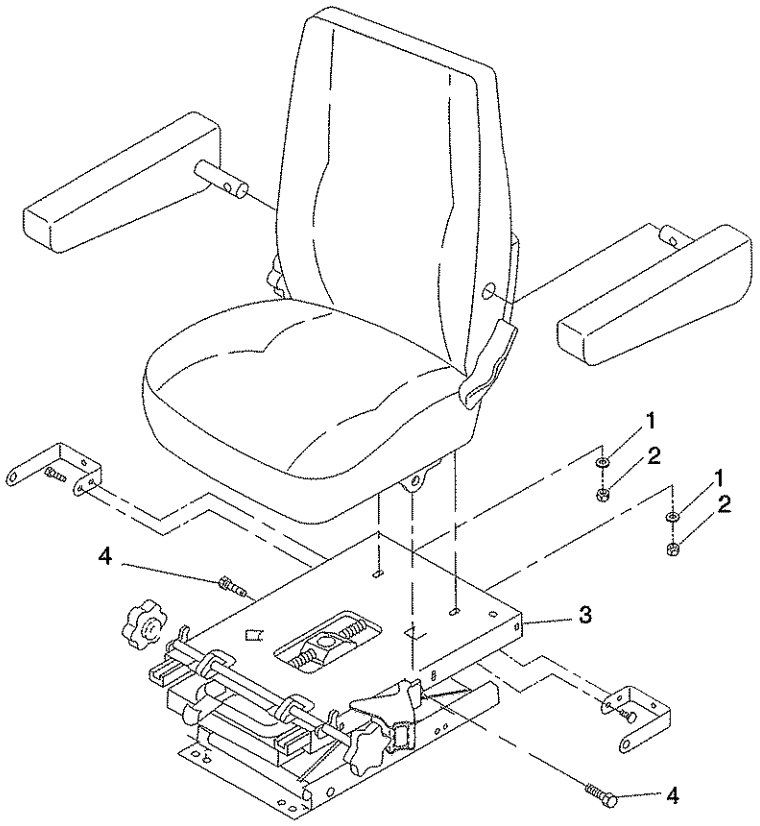
Seat/Back Assembly Removal and Installation

Removal (See Fig. 1)

1. Adjust the seat/back assembly to the most rearward position and remove the two nuts and flatwashers from the underside of the channel assembly.
2. Remove the two shoulder bolts from the channel assembly.
3. Disconnect the air line from the air lumbar, if equipped.
4. Remove the seat/back assembly.

Installation (See Fig. 1)

1. Place the seat/back assembly onto the channel assembly.
2. Connect the air line to the air lumbar, if equipped.
3. Install the two shoulder bolts to the channel assembly.
4. Install the two nuts and flatwashers to the underside of the channel assembly.



1. Flatwasher
2. Nut
3. Channel Assembly
4. Shoulder Bolt

Fig. 1, Bostrom Talladega 910 Seat

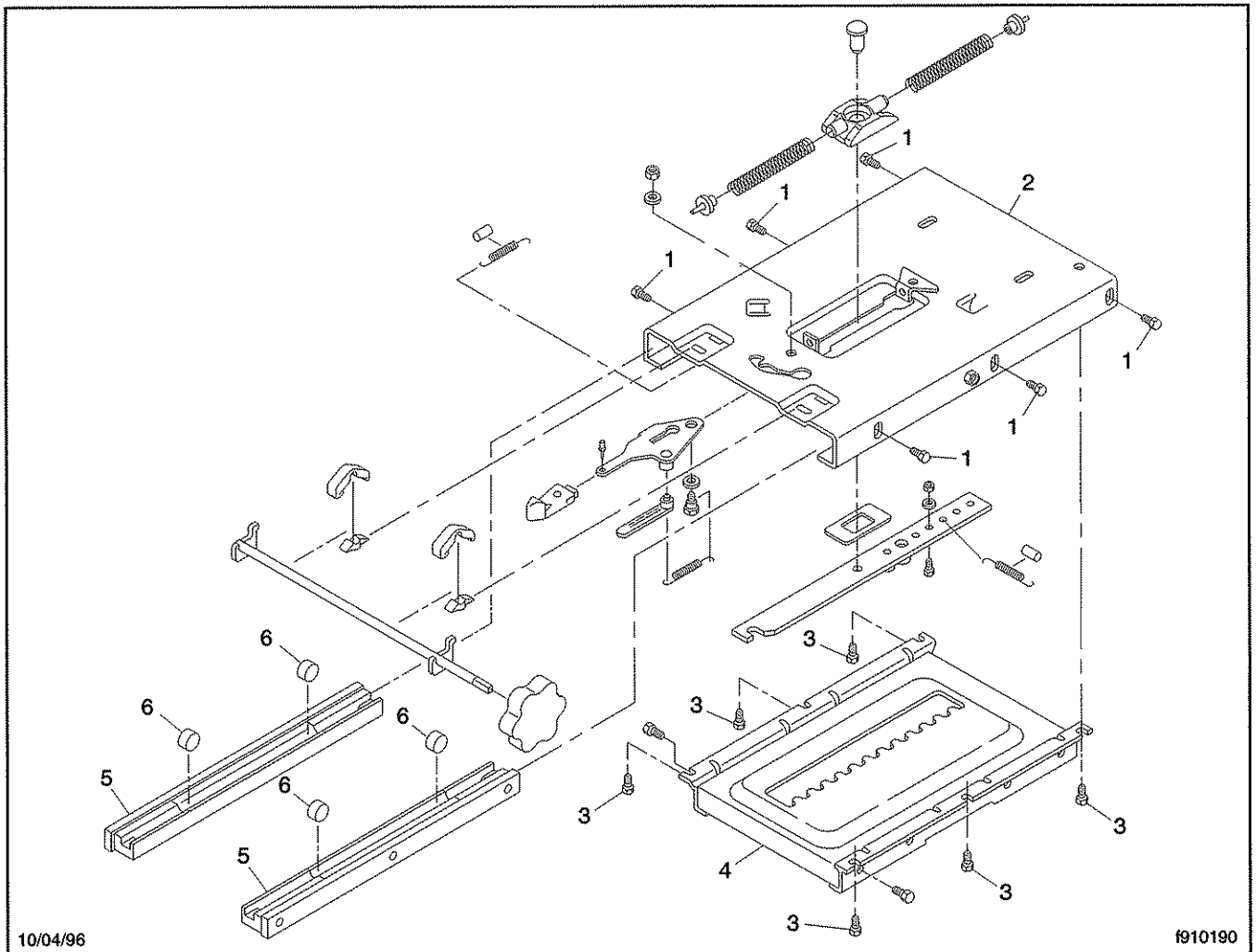
Roller Guide Removal and Installation

Removal (See Fig. 1)

1. Adjust the channel assembly until the cutouts in the underside of the channel line up with the capscrews. Remove the capscrews.
2. Remove the three capscrews on each side of the channel assembly.
3. Remove both guide assemblies and the four rollers.

Installation (See Fig. 1)

1. Install both guide assemblies and the four rollers.
2. Install the three capscrews on each side of the channel assembly. Do not fully tighten the capscrews.
3. Install the center capscrews on the underside of the channel assembly. Tighten the capscrews 5 to 7 lbf·ft (7 to 9 N·m).



1. Capscrew
2. Channel Assembly
3. Capscrew
4. Upper Frame
5. Guide Assembly
6. Roller

Fig. 1, Channel Assembly (exploded)

Roller Guide Removal and Installation

4. Carefully move the assembly rearward and install the front capscrew. Move the assembly forward and install the rear capscrew. Tighten the capscrews 5 to 7 lbf·ft (7 to 9 N·m).
5. Tighten the capscrews on the side of the channel assembly 5 to 7 lbf·ft (7 to 9 N·m).
6. Adjust the channel assembly using the instructions in **Subject 140**.

Adjustment (See Fig. 1)

1. Loosen the six capscrews along the side of the channel assembly.
2. Push down on the channel assembly to adjust vertical play.
3. Retighten the six capscrews. Tighten the capscrews 5 to 7 lbf·ft (7 to 9 N·m).

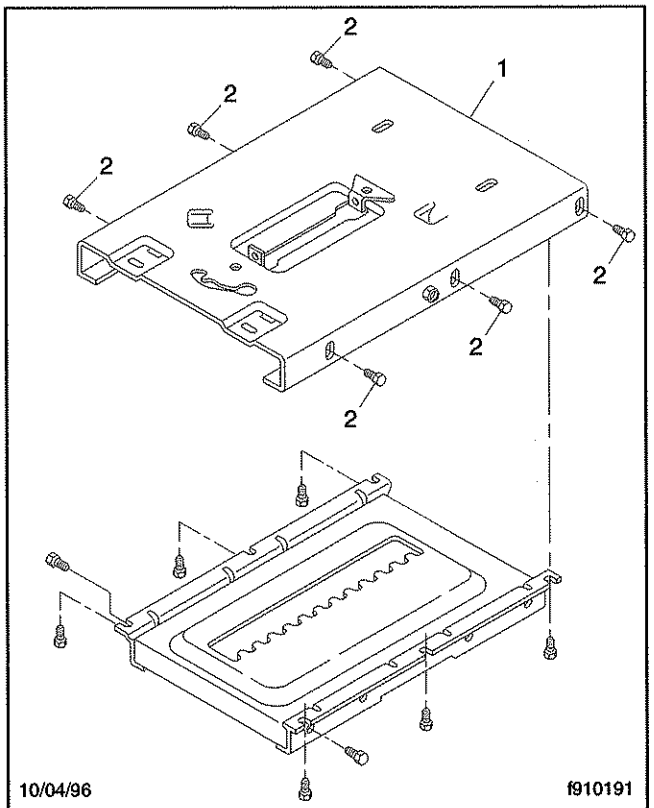
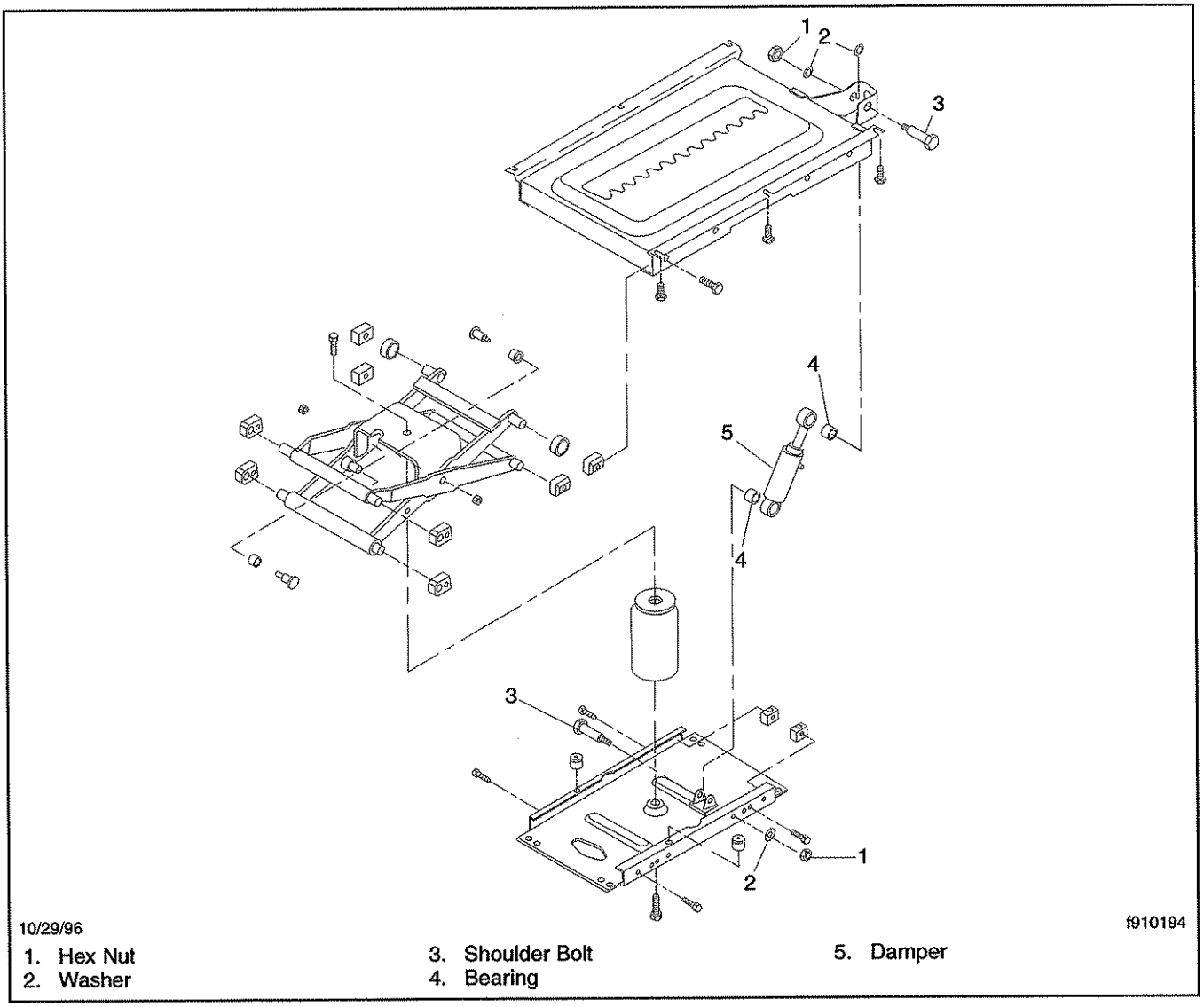


Fig. 1, Bostrom Talladega 910 Seat

Damper Removal and Installation

Removal (See Fig. 1)



1. Hex Nut
2. Washer
3. Shoulder Bolt
4. Bearing
5. Damper

Fig. 1, Bostrom Talladega 910 Seat

NOTE: The seat/back assembly does not need to be removed.

1. Move the channel assembly to the rearmost position to provide access to the damper assembly.
2. Fill the air spring so that the seat is at maximum height.
3. Remove the shoulder bolts and hex nuts.
4. Remove the damper.

Installation (See Fig. 1)

1. Install the new damper with the flanges of the bearings to the outside of the suspension.
2. Install the thrust washers.

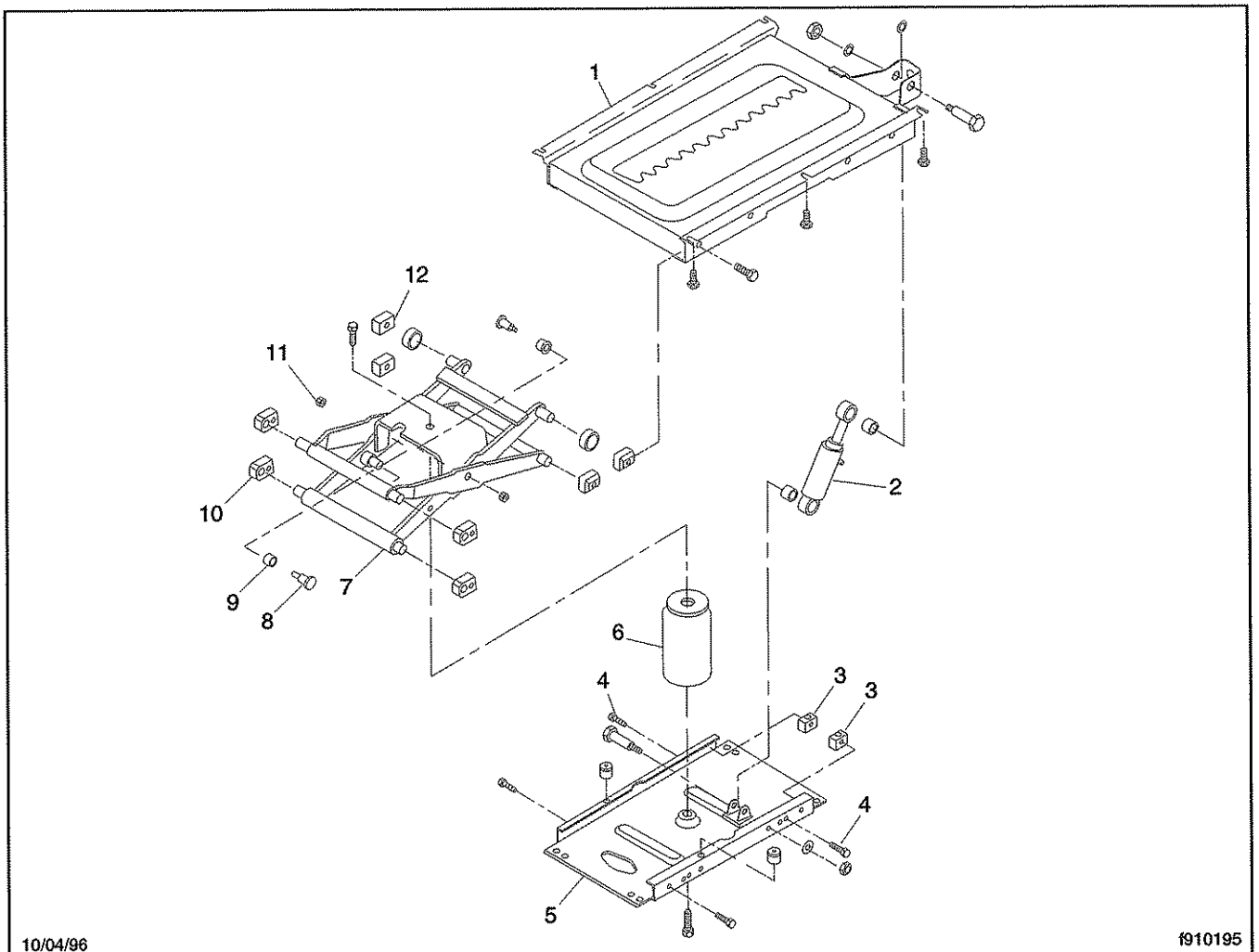
Damper Removal and Installation

3. Install the shoulder bolts and hex nuts.

Suspension Rebuild Bearing/Slide Block Removal and Installation

Removal (See Fig. 1)

1. Bleed all the air from the supply line. Disconnect the air supply line to the seat. Using the air valve, exhaust all air from the air spring. Remove the complete seat assembly from the vehicle using the instructions in **Subject 100.**
2. Remove the seat/back assembly, using the instructions in **Subject 120.**
3. Remove the capscrews and the ICP bracket.
4. Block the suspension up with a spacer placed between the base and the upper frame.
5. Remove the air spring using the instructions in **Subject 110.** Mark the air line for reassembly.
6. Remove the damper using the instructions in **Subject 150.**



1. Upper Frame
2. Damper
3. Stop Block
4. Capscrew
5. Base
6. Air Spring
7. Slide Lever Assembly
8. Shoulder Bolt
9. Bearing
10. Bearing Block
11. Nut
12. Slide Block

Fig. 1, Bostrom Talladega 910 Seat Suspension (exploded)

Suspension Rebuild Bearing/Slide Block Removal and Installation

7. Remove the capscrews from the upper front bearing blocks and the lower rear stop block assemblies.
8. Remove the upper frame assembly by lifting and sliding it forward off the bearing blocks and the slide blocks.
9. Remove the capscrews from the lower front bearing blocks and slide the lever assemblies forward until the bearing blocks are removed from the channel on the base. Slide the lever assemblies rearward to remove the slide blocks from the channel.
10. Remove the shoulder bolts and nuts from the pivots of the lever assemblies and inspect the bolts. If the bolts are worn, replace them.

Installation (See Fig. 1)

1. Replace the bearings at the pivots on the lever assembly by pushing out the old bearings and pressing in the new bearings. The flange of the bearings should be on the outside of the lever assembly.
2. Install the shoulder bolts and nuts into the pivots of the lever assemblies. Tighten the bolts 18 to 22 lbf·ft (24 to 30 N·m).
3. Install the new bearing blocks, spacers, and slide blocks on the levers with the beveled surfaces outward and slide the levers with blocks into the channel on the base. Tighten the screws 27 to 33 lbf·ft (37 to 45 N·m).
4. Slide the upper frame assembly over the blocks. Line up the capscrews with the bearing blocks and tighten the screws 27 to 33 lbf·ft (37 to 45 N·m).
5. Manually move the suspension up and down to make sure there are no clearance problems.
6. Block the suspension up with a spacer placed between the base and the upper frame. Install the air spring using the instructions in **Subject 110**.
7. Install the damper using the instructions in **Subject 150**.
8. Install the ICP bracket and capscrews.
9. Install the seat/back assembly using the instructions in **Subject 120**.
10. Install the seat assembly in the vehicle, using the instructions in **Subject 100**. Connect the air supply line to the seat.

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Bostrom Tube Frame Seat Removal and Installation

Removal (Refer to Fig. 1)

1. Remove the four allen-head bolts attaching the seat frame to the deck of the cab.
2. Pull the seat belt from the rear of the seat frame assembly.
3. Lift the seat from the cab deck.

Installation

1. Place the seat on the cab deck.
2. Secure the seat to the deck with the bolts and the washers. **See Fig. 1.**
3. Tighten the bolts.
4. Insert the seat belt through the rear of the seat frame assembly.

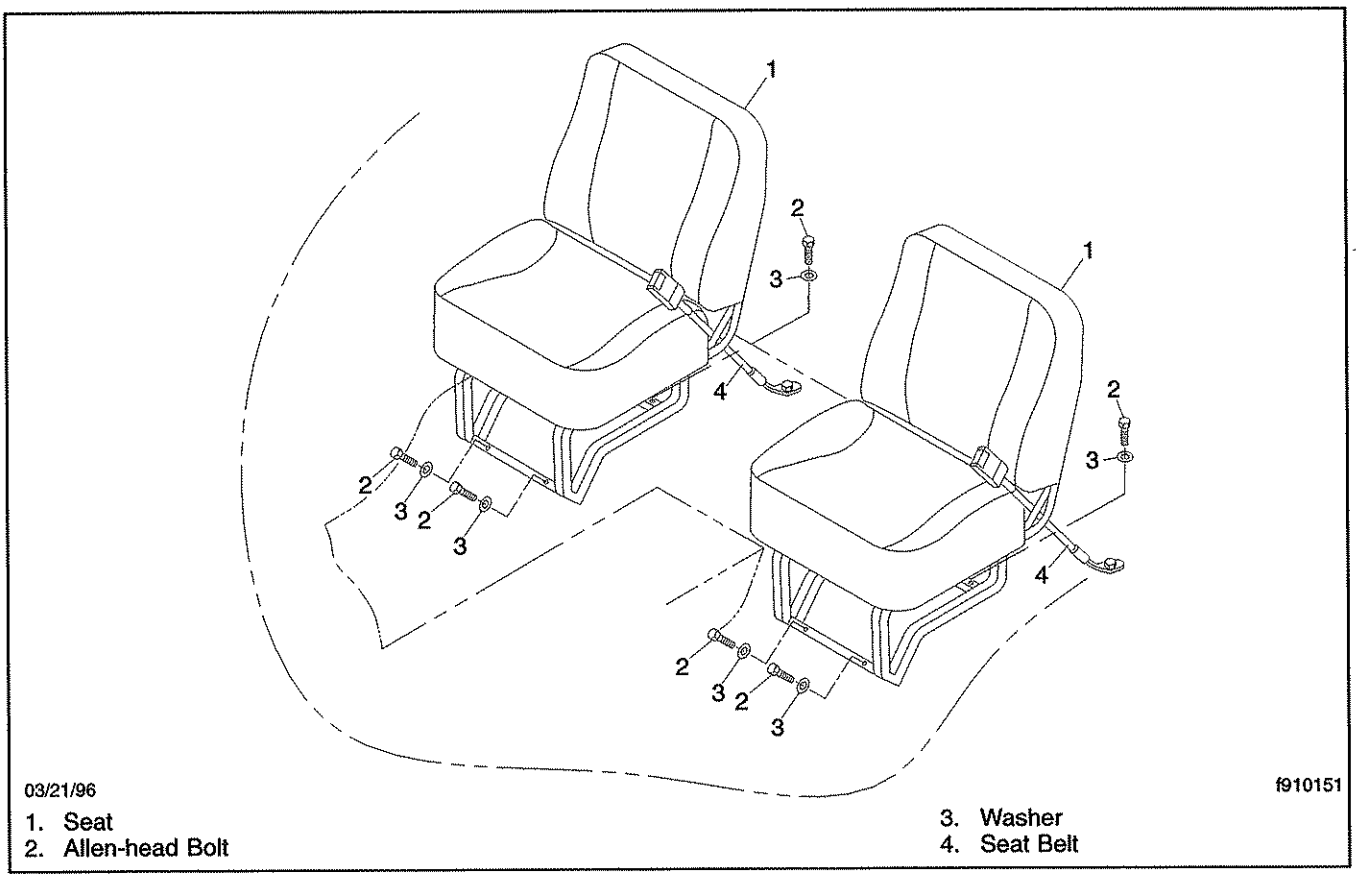


Fig. 1, Bostrom Tube Frame Seat Assembly

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General Information

Although the three-point seat belts installed in Freightliner vehicles (See **Fig. 1**) appear similar to the seat belts used in passenger cars, there are some important differences that can affect service life.

- A heavy truck can travel more miles in a year than a car might go in its lifetime.
- There is more movement in truck seat and belt systems, especially with air ride seats.
- Trucks often operate in more severe environments than cars, such as gravel pits, cement plants, and grain elevators, where the belts are exposed to abrasive dirt and dust.

Because of these factors, truck seat belt systems need to be inspected regularly to ensure that they are in proper condition.

⚠ WARNING

WARNING: Inspect and maintain seat belts. Worn or damaged seat belts could fail during a sudden stop or crash, possibly resulting in serious personal injury or death.

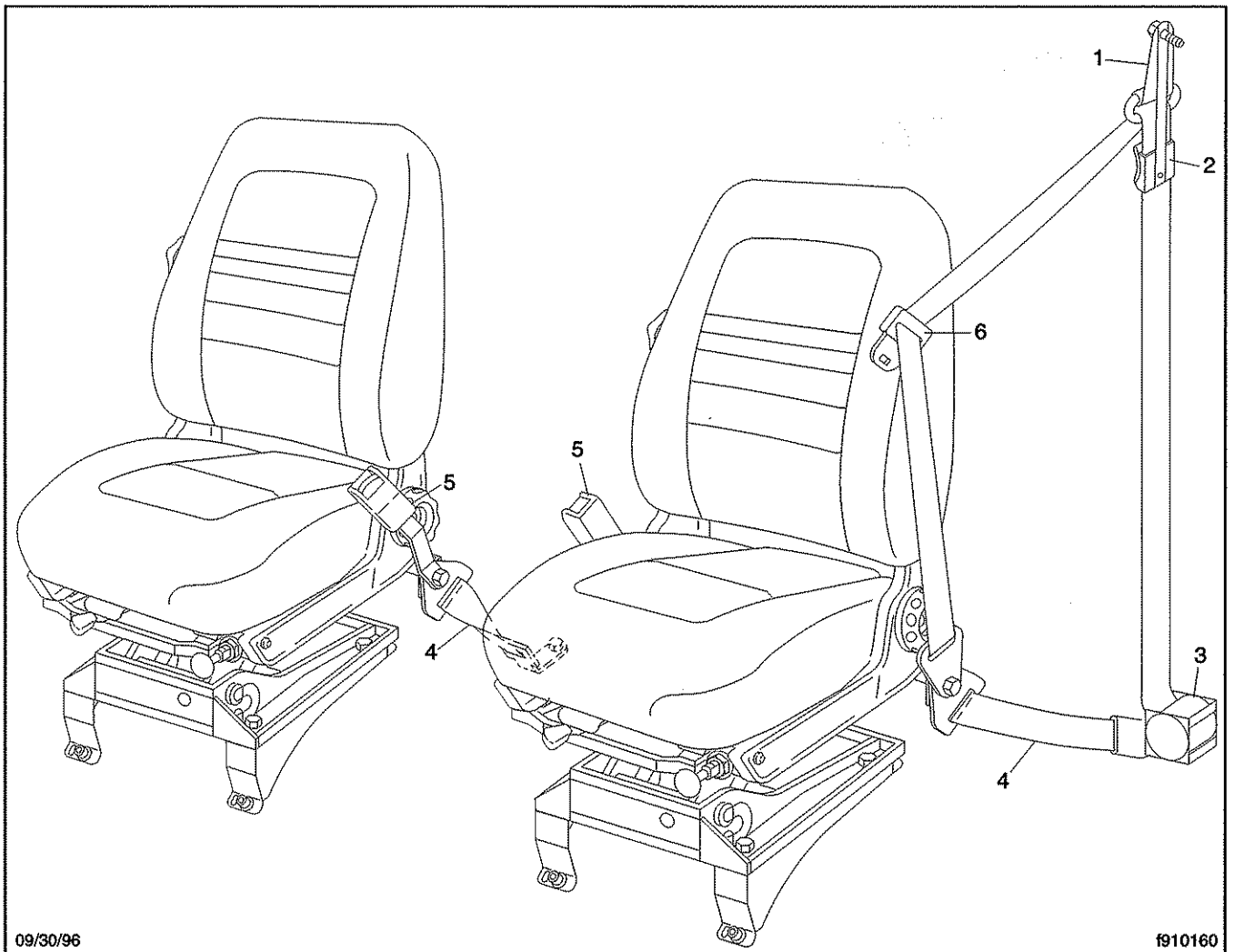
⚠ CAUTION

CAUTION: Any time a vehicle is involved in an accident, the entire vehicle seat belt system must be replaced before again operating the vehicle.

IMPORTANT: When any part of a seat belt system needs replacement, the entire seat belt must be replaced, both retractor and buckle side.

IMPORTANT: Seat belts have a finite life which may be much shorter than the life of the vehicle. Regular inspections and replacement as needed are the only assurance of adequate seat belt security over the life of the vehicle.

General Information



1. Pillar Loop Web Guide
2. Komfort Latch™
3. Retractor
4. Tether
5. Buckle
6. Latch

Fig. 1, Three-Point Seat Belt System

Seat Belts and Tethers Inspection

Inspection (See Fig. 1)

IMPORTANT: Seat belts have a finite life which may be much shorter than the life of the vehicle. Regular inspections and replacement as needed are the only assurance of adequate seat belt security over the life of the vehicle.

Inspect the seat belts and tether belts (if so equipped). For right-hand-drive vehicles, see **Fig. 2**.

⚠ WARNING

Inspect and maintain seat belts as instructed below. Worn or damaged seat belts could fail during a sudden stop or crash, possibly resulting in serious personal injury or death.

1. Check the web for fraying, cuts, or extreme wear, especially near the buckle latch plate and in the D-loop guide area.
2. Check the web for extreme dirt or dust, and for severe fading from exposure to sunlight.
3. Check the buckle and latch for operation and for wear or damage.
4. Check the Komfort Latch™ for function and cracks or other damage.
5. Check the web retractor for function and damage.
6. Check the mounting bolts for tightness, and tighten any that are loose.

IMPORTANT: When any part of a seat belt system needs replacement, the entire seat belt must be replaced, both retractor and buckle side.

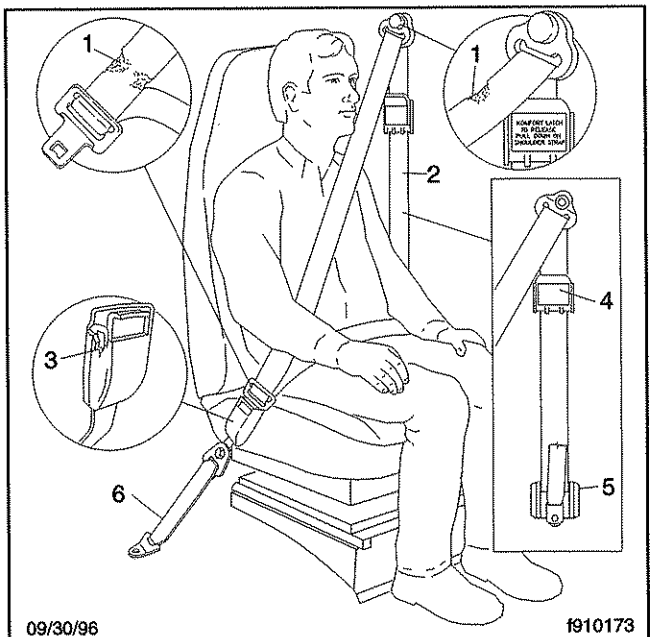


Fig. 1, Seat Belt Inspecting

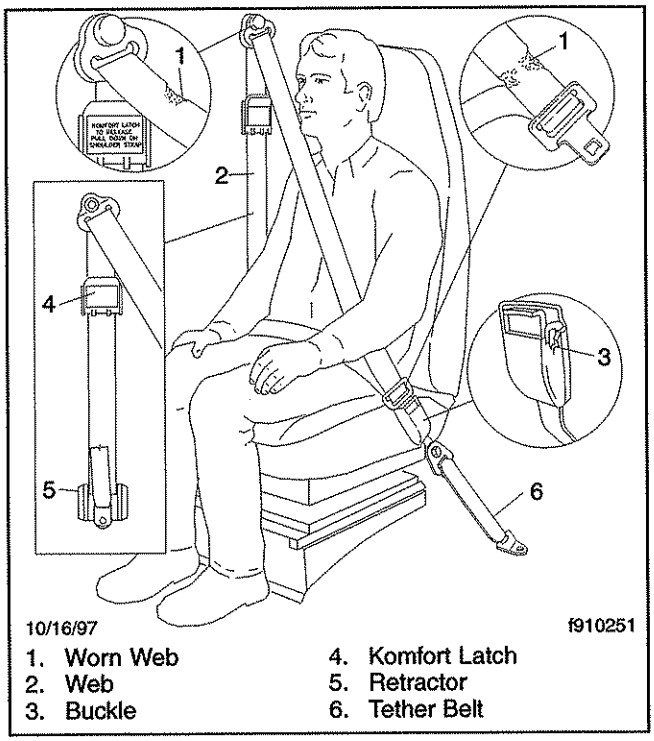


Fig. 2, Seat Belt Inspecting (right-hand-drive vehicle)

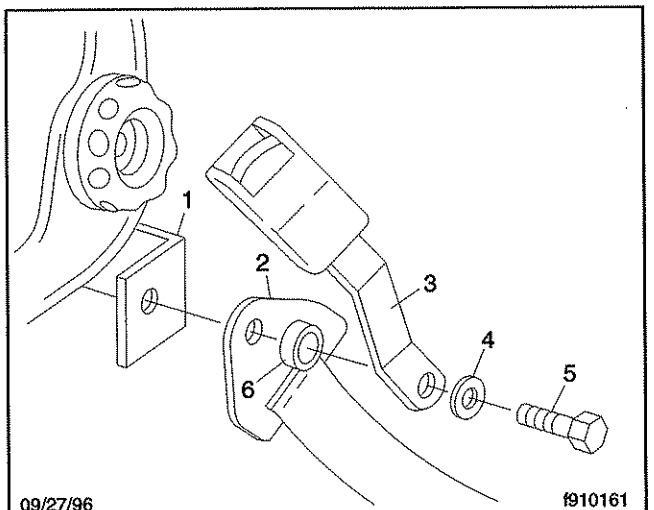
Seat Belts and Tethers Removal and Installation

Suspension Seat Removal

1. Apply the parking brakes, and chock the tires.
2. Remove the bolt and washer holding the buckle, the spacer, and the tether to the seat. Also remove the bolt holding the tether to the floor. Remove the buckle and the tether. See **Fig. 1.**
3. Remove the bolt and washer holding the seat belt, the spacer, and the inboard tether to the seat. Remove the seat belt and the tether. See **Fig. 2.**
4. Remove the bolt cover and the bolt holding the pillar loop web guide and the Komfort Latch. Remove the pillar loop web guide and the Komfort Latch™. See **Fig. 3.**
5. Remove the bolt and washer holding the outboard tether, the spacer, and the grab handle. See **Fig. 4.**
6. Remove the trim panel. Remove the bolt and washer holding the retractor. Remove the retractor.

Suspension Seat Installation

1. Attach the retractor by inserting the bolt and washer through the retractor. Tighten 40 lbf·ft (54 N·m). Install the trim panel.



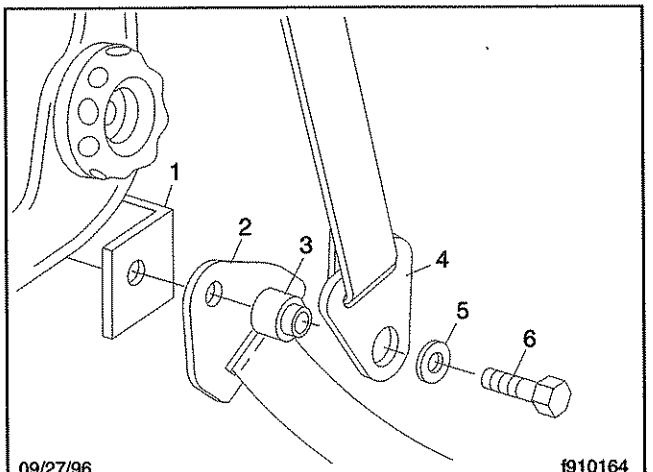
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1. Mounting Bracket
2. Tether
3. Buckle
4. Washer
5. Bolt
6. Spacer

Fig. 1, Buckle Mounting

IMPORTANT: The retractor must be mounted correctly before the web will reel out of the retractor and function properly.

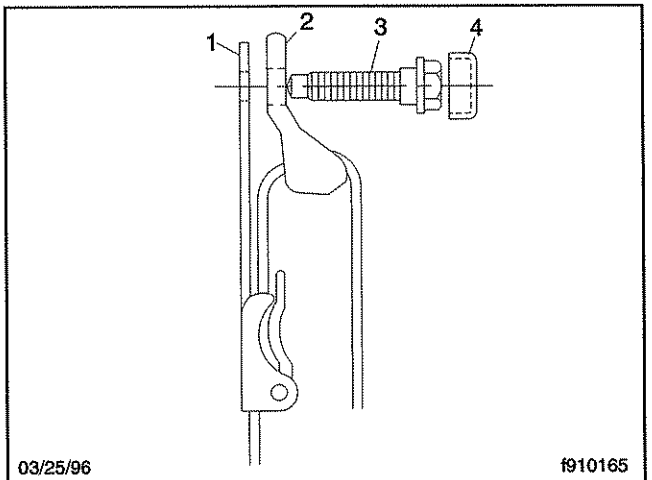
2. Insert the bolt and washer through the outboard tether, the spacer, and the grab handle. Tighten 40 lbf·ft (54 N·m). See **Fig. 4.**



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1. Mounting Bracket
2. Tether
3. Spacer
4. Seat Belt
5. Washer
6. Bolt

Fig. 2, Seat Belt Mounting

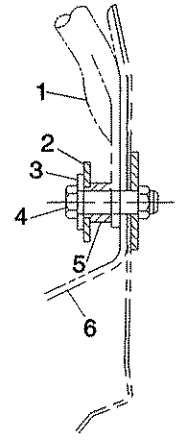


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1. Komfort Latch
2. Pillar Loop Web Guide
3. Bolt
4. Bolt Cover

Fig. 3, Pillar Loop Web Guide and Komfort Latch Mounting

Seat Belts and Tethers Removal and Installation



03/25/96 f910166

1. Grab Handle
2. Tether
3. Washer
4. Bolt
5. Spacer
6. Trim Panel

Fig. 4, Outboard Tether Mounting

NOTE: Install the tether belt marked "IN" on the inboard side of the seat and the tether belt marked "OUT" on the outboard side of the seat.

3. Attach the pillar loop web guide. See **Fig. 3.**

   3.1 Insert a bolt through the pillar loop web guide, the Komfort Latch™, and an optional metal spacer.

   NOTE: Some applications require a metal spacer to move the Komfort Latch/pillar loop web guide away from the vehicle cab trim (and some applications do not utilize the Komfort Latch).

   3.2 Thread the bolt into the anchor nut provided in the pillar.

   3.3 Tighten the bolt 40 lbf·ft (54 N·m). The Komfort Latch must be mounted vertically in line with the belt and remain rigid after tightening.

   IMPORTANT: The pillar loop web guide must rotate freely after assembly of the system.

   3.4 Snap the bolt cover in place over the bolt head.

4. Attach the seat belt by inserting a bolt through the seat belt, a metal spacer, the tether, and the mounting bracket. Secure with a nut. Tighten 40 lbf·ft (54 N·m). See **Fig. 2.**

5. Attach the buckle by inserting the bolt and washer through the buckle, the tether, and the mounting bracket. Secure with a nut. Tighten 40 lbf·ft (54 N·m). See **Fig. 1.**

6. Attach the inboard tether by inserting the bolt through the tether and into the weldnut provided in the cab floor. Tighten 40 lbf·ft (54 N·m).

7. Remove the chocks from the tires.

Bench Seat and Static Seat Removal (See Fig. 5)

1. Apply the parking brakes and chock the tires.
2. Remove the bolt and washer holding the buckle (Ref. 9) and the center belt latch (passenger side with bench seat only) or the center belt buckle (driver side with bench seat only). Remove the buckle.
3. Remove the bolt and washer holding the seat belt (Ref. 12) and the grab handle (Ref. 14).
4. Remove the bolt cover. Remove the bolt and washer holding the pillar loop web guide and the Komfort Latch™. Remove the pillar loop web guide and the Komfort Latch.
5. Remove the trim panel. Remove the bolt and washer holding the retractor. Remove the retractor.

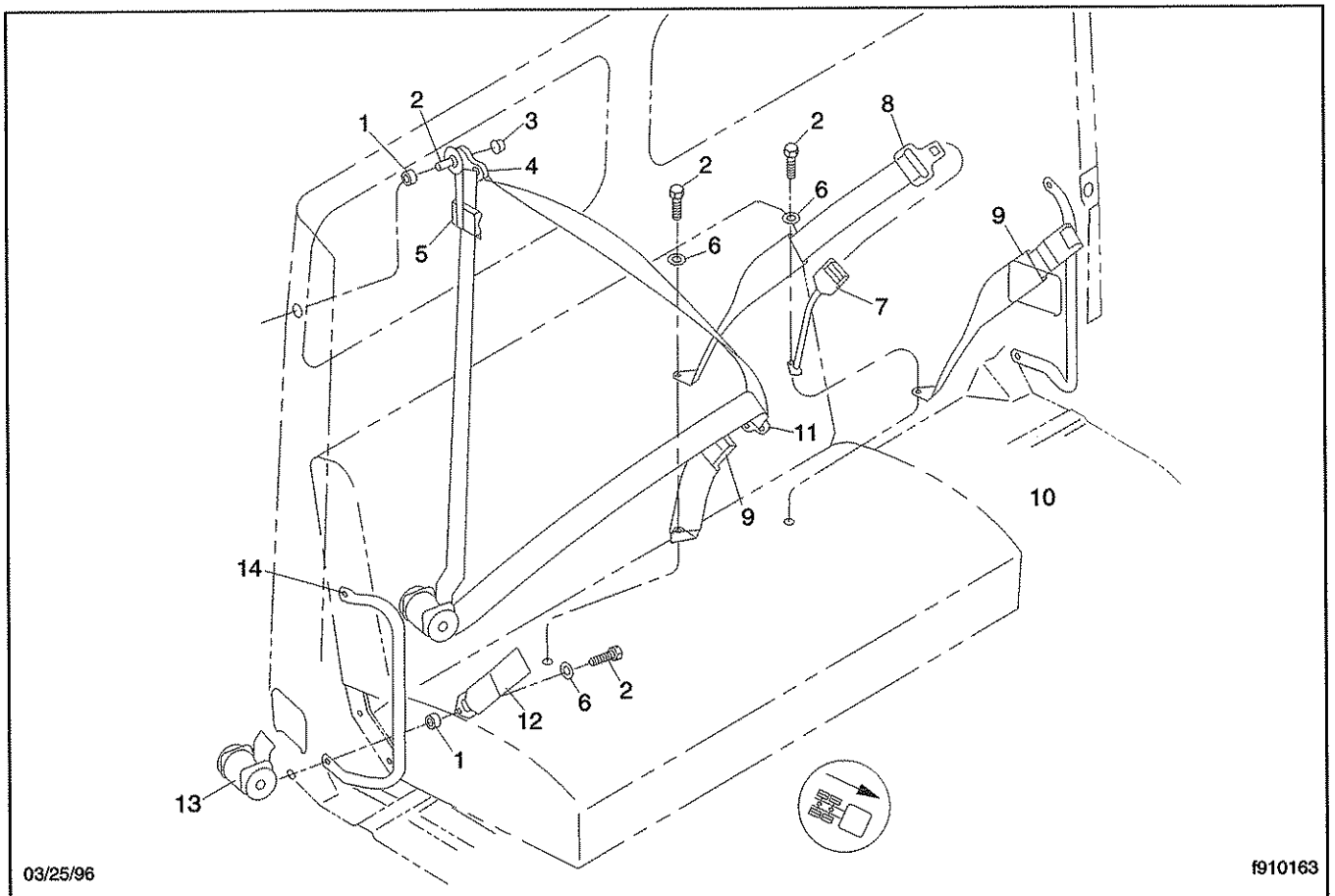
Bench Seat and Static Seat Installation (See Fig. 5)

1. Attach the retractor by inserting the bolt and washer through the retractor. Tighten 40 lbf·ft (54 N·m). Install the trim panel.

IMPORTANT: The retractor must be mounted correctly before the web will reel out of the retractor and function properly.

2. Attach the seat belt by inserting the bolt and washer through the belt, the spacer, and the grab handle. Tighten 40 lbf·ft (54 N·m).
3. Attach the pillar loop web guide. See **Fig. 3.**

Seat Belts and Tethers Removal and Installation



NOTE: Driver side retractor and belt not shown.

1. Spacer
2. Bolt
3. Bolt Cover
4. Pillar Loop Web Guide
5. Komfort Latch™
6. Washer
7. Center Belt Buckle
8. Center Belt Latch
9. Buckle
10. Bench Seat
11. Passenger Side Latch
12. Seat Belt
13. Retractor
14. Grab Handle

Fig. 5, Bench Seat Seat Belt Mounting

3.1 Insert a bolt through the pillar loop web guide, the Komfort Latch™, and an optional metal spacer.

NOTE: Some applications require a metal spacer to move the Komfort Latch/pillar loop web guide away from the vehicle cab trim (and some applications do not utilize the Komfort Latch).

3.2 Thread the bolt into the anchor nut provided in the pillar.

3.3 Tighten the bolt 40 lbf·ft (54 N·m). The Komfort Latch must be mounted vertically in line with the belt and remain rigid after tightening.

IMPORTANT: The pillar loop web guide must rotate freely after assembly of the system.

3.4 Snap the bolt cover in place over the bolt head.

4. Attach the buckle by inserting the bolt and washer through the center belt latch (passenger side) or center belt buckle (driver side) and the buckle. Tighten 40 lbf·ft (54 N·m).
5. Remove the chocks from the tires.

Troubleshooting

Replace the entire seat belt system if any of the following problems exist. See the instructions in **Section 110.**

- cuts, fraying, or extreme wear of any area of the web (shoulder or lap belt)
- buckle and latch do not engage with a solid sounding "click" or do not release freely when the button is pushed
- Komfort Latch™ is broken or does not lock in place easily and does not release by tugging downward on the webbing
- retractor locks up at improper times or web does not flow freely to and from the retractor while vehicle is not moving
- seat belt web has been exposed to extreme sun light, dust, or dirt, causing the web color to fade and deterioration of web physical strength
- molded plastic around the buckle is deformed, cracked, or broken, exposing the internal mechanism
- molded plastic cover around the retractor is cracked or broken, exposing the internal mechanism or stored web
- metal or molded plastic area of latch is deformed, cracked, corroded, or broken
- molded plastic D-loop is deformed, cracked, or broken

If any of the following problems exist, see the instructions in **Section 110** for replacement, adjustment, tightening and torque requirement. Replace hardware with authorized parts.

- tethers are missing, not attached to seat, or hang extremely loose
- D-loop web guide does not rotate freely
- hardware is missing, rusted, corroded, or damaged
- hardware does not appear to be tight

Contents

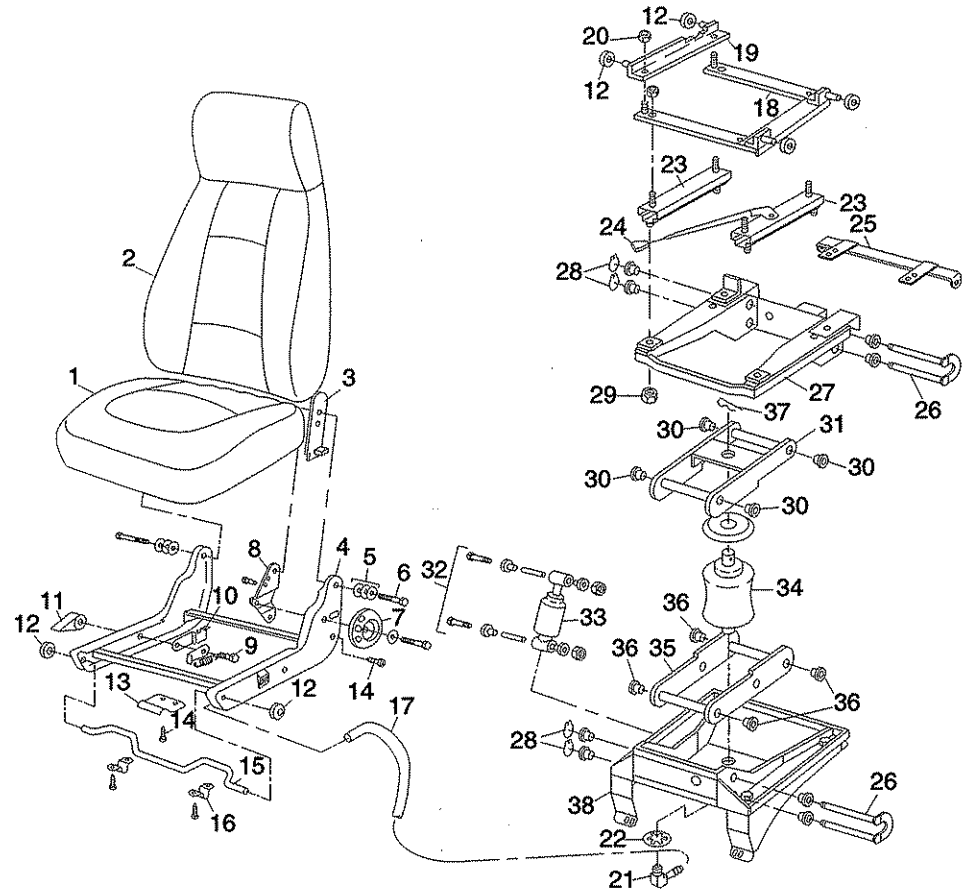
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General Information

National Cush-N-Aire II air suspension seats (see **Fig. 1**) offer adjustment features for height, fore and aft positioning, back cushion tilt, lumbar support, and seat cushion tilt. The air suspension and height-adjustment features are provided by an inflatable air spring (air bag) that receives air pressure from the vehicle air system; pressure in the air spring is controlled by a set of switches attached to the seat frame. Each seat is equipped with a shock absorber to dampen unwanted up and down motion of the seat. An isolator (Chugger-Snubber®) isolates the seat from the cab's fore and aft motion; at the side of the seat's lower frame is an isolator lockout handle that can be used whenever the isolator feature is not desired.

For a complete description of, and operating instructions for, all seat adjustment features, refer to the vehicle driver's manual.

General Information



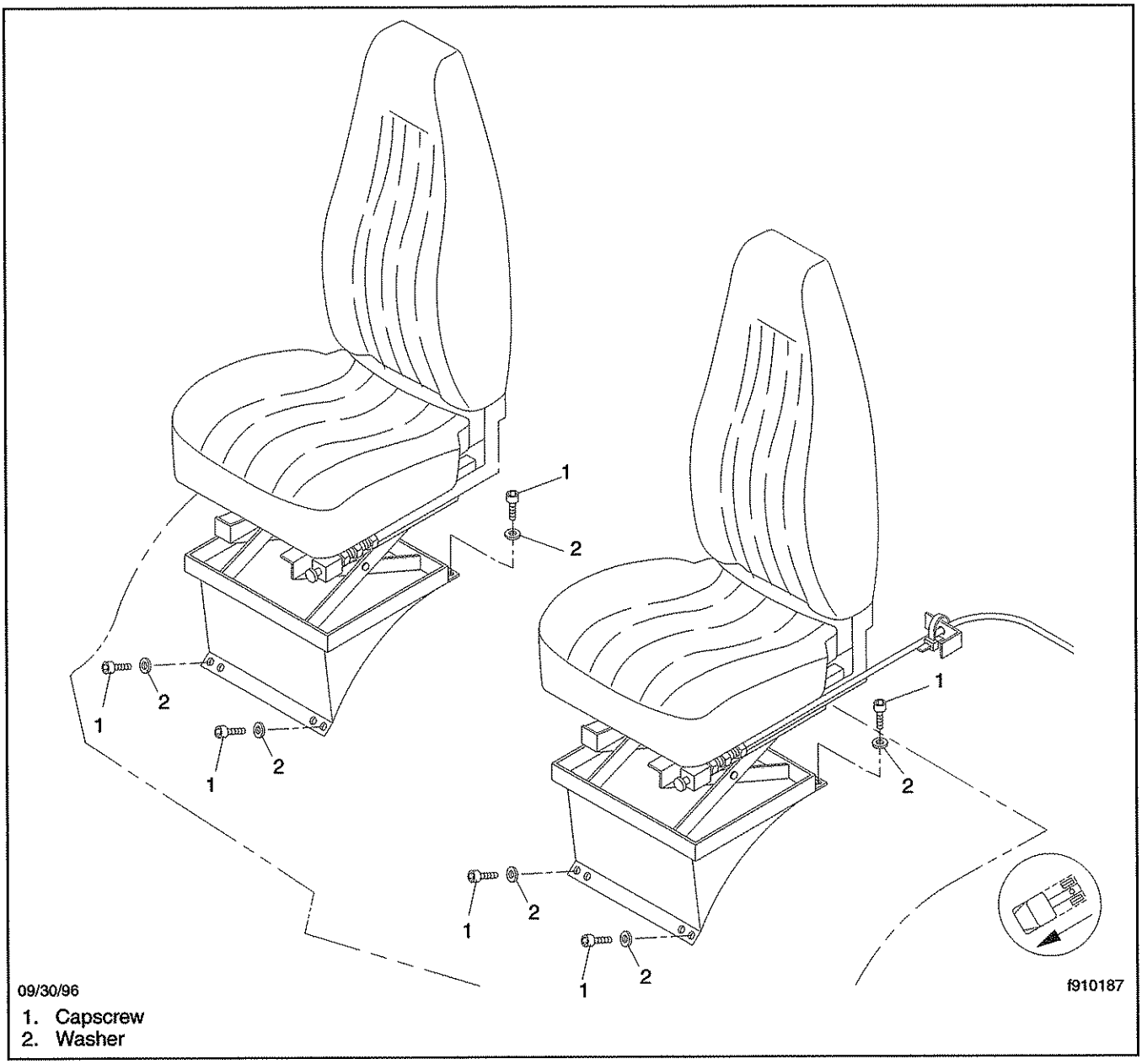
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1. Seat Cushion
2. Seat Back
3. Back Frame Bracket
4. Upper Seat Frame
5. Flatwashers
6. Back Frame Bolt
7. Back Recline Adjustment Knob
8. Back Limit Bolt Bracket
9. Cushion Adjustment Bolt
10. Cushion Adjustment Bracket
11. Cushion Adjustment Lever
12. Bearing
13. Adjustment Rod Bracket
14. Fastener
15. Adjustment Rod
16. Adjustment Rod Bracket
17. Air Hose
18. Isolator
19. Isolator Bar
20. Locknut
21. Hose Barbed Fitting
22. Retaining Ring
23. Track
24. Fore-and-Aft Adjustment Lever
25. Belt Bar
26. Connected Shaft
27. Seat Support
28. Snap Ring
29. Locknut
30. Bearing
31. Upper Arm
32. Shock Absorber Assembly
33. Shock Absorber
34. Air Spring
35. Lower Arm
36. Bearing
37. Pin Clip
38. Seat Base

Fig. 1, National Cush-N-Aire II Seat (exploded view)

Removal (See Fig. 1)

1. Apply the parking brakes, and chock the tires.
2. Push in on the top of the seat ride height rocker switch until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the air suspension seat base and the rear crosstube of the lower arm.
4. Drain the vehicle air reservoirs. Then push in on the bottom of the seat ride height rocker switch until all air is exhausted from the air spring.



1. Capscrew
2. Washer

Fig. 1, Seat Installation

Seat Removal and Installation

5. Disconnect the air valve air supply hose.
6. Unscrew the capscrews that attach the seat belt straps and tether straps.
7. Remove the capscrews and washers that attach the seat to the cab deck. Remove the seat from the cab.

Installation

1. Place the seat on the cab deck. Insert the capscrews through the washers and the seat base. Tighten the capscrews 27 lbf·ft (37 N·m).
2. Attach the brackets of the seat belt straps and tether straps. Tighten the capscrews 40 lbf·ft (54 N·m).
3. Attach the air valve air supply hose.
4. Start the engine and allow the air reservoirs to fill. Push in on the top of the seat ride height rocker switch until the seat is adjusted to its maximum height, then remove the wooden block that supports the seat suspension.
5. Remove the chocks from the tires.

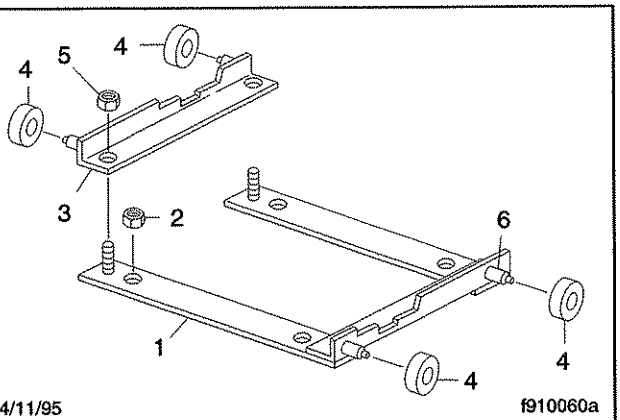
Isolator Assembly (Chugger-Snubber®) Replacement

Replacement (See Fig. 1)

1. Remove the air spring supply hose from the seat.
2. Cut off the air spring supply hose close to the barbed fitting; minimize hose length loss. Remove the scrap hose from the barbed fitting. Tape the hose and fitting ends to prevent dirt or other matter from entering.
3. Remove the hexnuts that attach the isolator bearing support rail to the studs on the isolator bearing support frame.
4. Lift up on the side of the seat's lower frame, to slide the bearing support rail up and off the bearing support frame.

NOTE: Two of the isolator bearings will fall off when the bearing support rail is removed.

5. Push the upper seat frame toward the opposite side, to remove the other two bearings. Remove the bearings and the unattached upper seat components.
6. Remove the four 5/16–18 locknuts from the bearing support frame. Remove the bearing support frame.



1. Welded Bearing Support Frame
2. Locknut
3. Bearing Support Rail
4. Bearing
5. Hexnut
6. Bearing Stud

Fig. 1, Isolator Assembly

7. Using a multi-purpose chassis grease, lubricate the bearing cups and new isolator bearings.
8. Install the welded bearing support frame on the track assembly. Tighten the four 5/16–18 locknuts 15 lbf·ft (20 N·m).
9. Install two of the isolator bearings on the bearing studs of the bearing support frame, then align the bearing cups on the upper seat frame over the bearings.
10. Assemble the isolator bearing support rail and the two remaining isolator bearings. With the seat cushion tilted forward, install the support rail's bearings in the upper seat frame, and lower the seat frame and support rail assembly onto the isolator bearing support frame. Install the 5/16–18 hexnuts, and tighten them finger-tight.

    Push the isolator assembly fore and aft, and check the position of the isolator bearing support rail before tightening the hexnuts. The isolator should be tight enough to eliminate side play without interfering with the fore-and-aft movement of the seat. Tighten the 5/16–18 hexnuts 15 lbf·ft (20 N·m).
11. Install the air spring supply hose.

Shock Absorber Removal and Installation

Removal

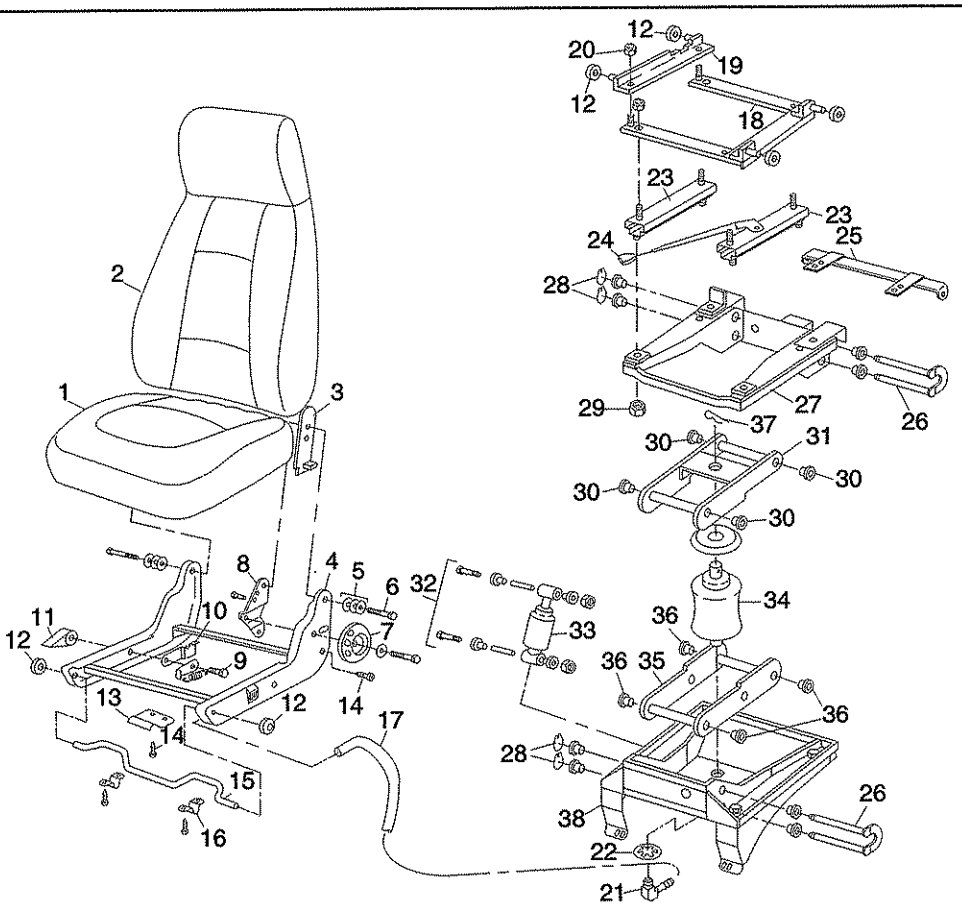
1. Move the fore-and-aft adjustment lever to the right, and slide the upper seat assembly back as far as possible.
2. Raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower arm and the seat base.
3. Remove the shock absorber, bushings, and bearings.
   - 3.1 Remove the nuts and bolts that attach the shock absorber to the upper arm and the seat base. Remove the shock absorber.
   - 3.2 Remove the bushings and bearings from the shock absorber.

Installation

1. Check the operation of the shock absorber, and replace it if needed.
2. Install the shock absorber and new bearings and bushings.
   - 2.1 Install new bearings and bushings in the shock absorber eyes.
   - 2.2 With the upper arm blocked up, position the shock absorber so its piston-rod end is in the mounting bracket of the upper arm. Install the bolt and locknut to attach the shock absorber to the bracket. Tighten the locknut 25 lbf·ft (34 N·m).
   - 2.3 Position the cylinder end of the shock absorber in the mounting bracket of the seat base. Attach the shock absorber to the seat base. Tighten the locknut 25 lbf·ft (34 N·m).
3. Raise the seat. Remove the wooden block.

Replacement (See Fig. 1)

1. Raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower arm and the seat base.
2. Remove the seat from the vehicle as instructed in **Subject 100.**
3. Lay the seat on its side, with the wooden block still in place.



1. Seat Cushion
2. Seat Back
3. Back Frame Bracket
4. Upper Seat Frame
5. Flatwashers
6. Back Frame Bolt
7. Back Recline Adjustment Knob
8. Back Limit Bolt Bracket
9. Cushion Adjuster Bolt
10. Cushion Adjustment Bracket
11. Cushion Adjustment Lever
12. Bearing
13. Adjustment Rod Bracket
14. Fastener
15. Adjustment Rod
16. Adjustment Rod Bracket
17. Air Hose
18. Isolator
19. Isolator Bar
20. Locknut
21. Hose Barbed Fitting
22. Retaining Ring
23. Track
24. Fore-and-Aft Adjustment Lever
25. Belt Bar
26. Connected Shaft
27. Seat Support
28. Snap Ring
29. Locknut
30. Bearing
31. Upper Arm
32. Shock Absorber Assembly
33. Shock Absorber
34. Air Spring
35. Lower Arm
36. Bearing
37. Pin Clip
38. Seat Base

Fig. 1, National Cush-N-Aire II Seat (exploded view)

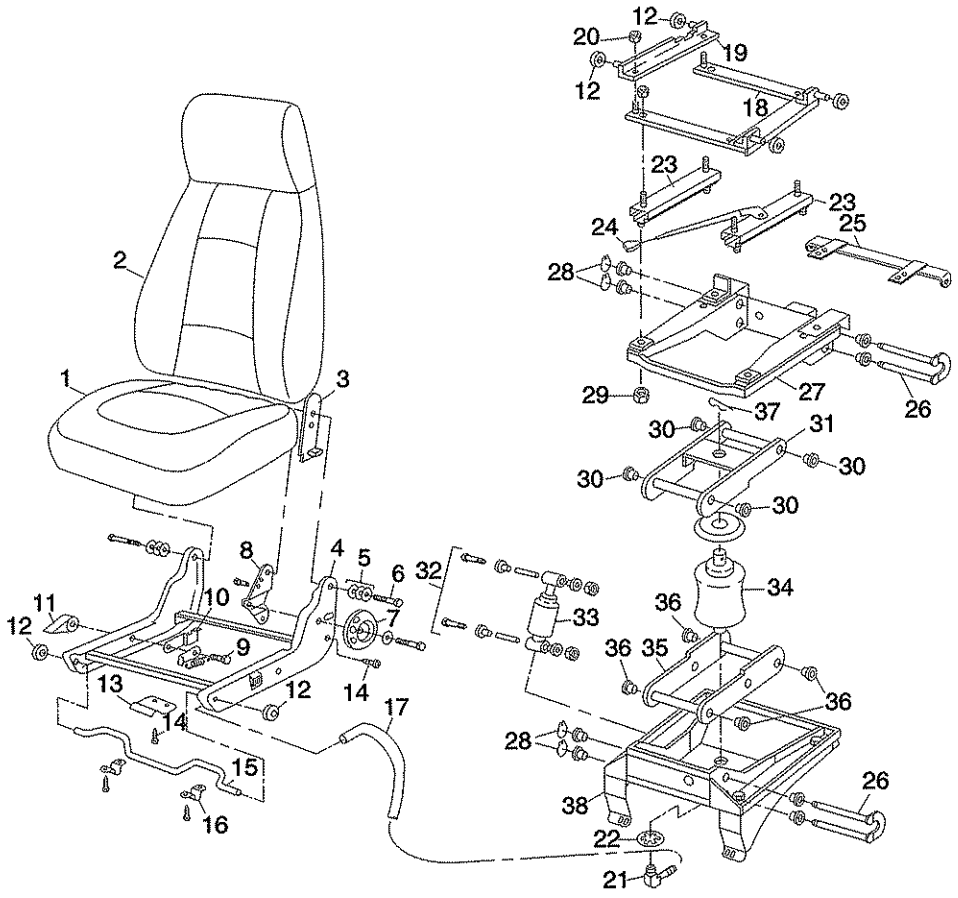
Air Spring Replacement

4. Remove, as an assembly, the fitting and the air hose from the air spring. Tape the end of the fitting to prevent dirt or other matter from entering.
5. Pry the pin clip from the bottom of the air spring.
6. Remove the retaining ring that secures the air spring to the upper arm. Remove the air spring.
7. Position the new air spring in the seat base, and secure it with a new pin clip.
8. Insert the top of the air spring in the opening of the upper arm. Install the retaining ring on the air spring.
9. Install the air spring fitting and air hose in the top of the air spring.
10. Install the seat as instructed in **Subject 100**.
11. Raise the seat. Remove the wooden block.

Base Assembly Bearing/Sleeve Replacement

Replacement (See Fig. 1)

1. Remove the shock absorber as instructed in **Subject 120.**
2. Remove the seat as instructed in **Subject 100.**
3. Remove the four locknuts that attach the track assemblies, seat track stop, belt bar and bearings, and upper seat assembly to the seat support. Remove the upper seat assembly, track assemblies, seat track stop, and belt bar and spacers.
4. Remove the retaining ring that secures the air spring to the upper arm.



1. Seat Cushion
2. Seat Back
3. Back Frame Bracket
4. Lower Frame
5. Flatwashers
6. Back Frame Bolt
7. Back Recline Adjustment Knob
8. Back Limit Bolt Bracket
9. Cushion Adjustment Bolt
10. Cushion Adjustment Bracket
11. Cushion Adjustment Lever
12. Bearing
13. Adjustment Rod Bracket
14. Fastener
15. Adjustment Rod
16. Adjustment Rod Bracket
17. Air Hose
18. Isolator
19. Isolator Bar
20. Locknut
21. Hose Barbed Fitting
22. Retaining Ring
23. Track
24. Fore-and-Aft Adjustment Lever
25. Belt Bar
26. Connected Shaft
27. Seat Support
28. Snap Ring
29. Locknut
30. Bearing
31. Upper Arm
32. Shock Absorber Assembly
33. Shock Absorber
34. Air Spring
35. Lower Arm
36. Bearing
37. Pin Clip
38. Seat Base

Fig. 1, National Cush-N-Aire II Seat (exploded view)

Base Assembly Bearing/Sleeve Replacement

5. Remove the bearings and/or sleeves from the seat support and the seat base and the upper and lower arms.

   5.1 Use snap ring pliers to remove the four snap rings from the connected shaft assemblies. Then, using a drift punch, drive out the shaft assemblies from the seat support and the seat base.

   NOTE: Place the punch against the snap ring end of the shafts. Drive each shaft end a little at a time; the two shafts are connected to each other on the opposite side.

   5.2 Remove the seat support, and the upper and lower arms from the air spring and seat base.

   5.3 Remove the bearings/sleeves from the upper and lower arms. Discard the bearings/sleeves.

   5.4 If so equipped, remove the sleeves/bearings from the seat support and the seat base. Discard the sleeves/bearings.

6. Install new bearings/sleeves, as equipped.

   6.1 Install new bearings/sleeves in the upper and lower arm tubes.

   6.2 If so equipped, install new sleeves/bearings in the seat support and the seat base.

   6.3 Align the tubes of the lower and upper arms with the holes in the seat base. Be sure the notch in the lower arm is forward and up, and the notch in the upper arm is to the rear and down.

   6.4 Install the connected shaft assembly through the seat base and the upper and lower arm forward tubes.

   6.5 Align the holes of the seat support with the rear tubes of the lower and upper arms.

   6.6 As equipped, install and tighten the pivot bolts, or install the connected shaft assembly through the seat support and the upper and lower arm tubes.

   6.7 For connected shaft assemblies, use snap ring pliers to install the snap rings that secure the shafts and the arms to the seat base and the seat support.

7. Insert the top of the air spring through the upper arm. Install the retaining ring.
8. Set the seat base assembly upright.
9. Install the shock absorber as instructed in **Subject 120.**
10. Place the belt bar and bearings, seat track stop, track assemblies, and upper seat assembly on the seat base. Install the locknuts, and tighten 15 lbf·ft (20 N·m).
11. Install the seat as instructed in **Subject 100.**

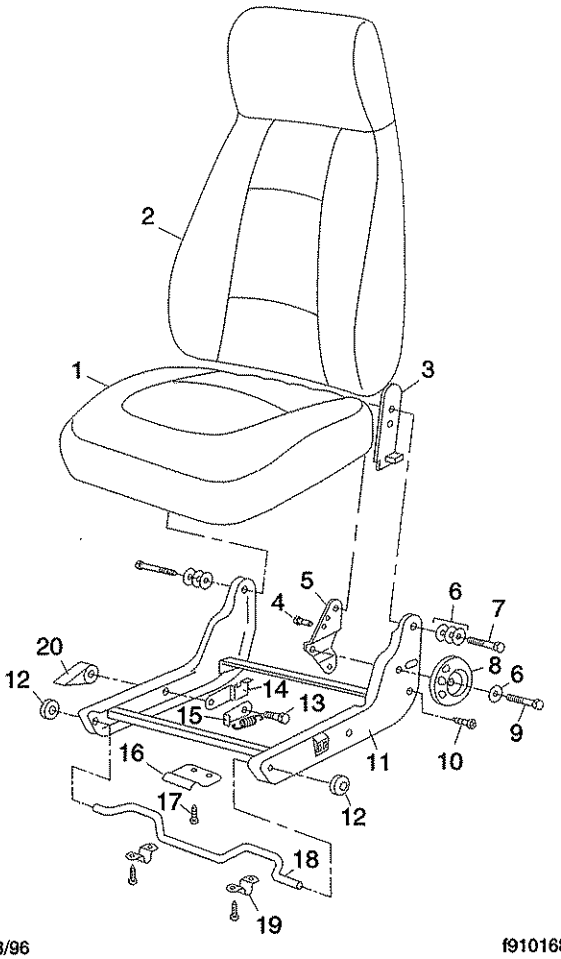
Upper Seat Frame Removal and Installation

Removal (See Fig. 1)

1. Remove the suspension shroud (if equipped) from the seat base.
2. Remove the plastic tie strap that attaches the seat cushion to the upper seat frame assembly.
3. Remove the fasteners that attach the seat cushion to the front cushion adjustment rod. Remove the seat cushion.
4. Disconnect the air spring supply hose from the air spring.
5. Remove the four locknuts from under the top flange of the seat support assembly.
6. Remove the lower frame from the seat base.

Installation

1. Place the lower frame on the seat support assembly. Install the locknuts under the top flange of the seat support assembly. Tighten the locknuts 10 lbf·ft (15 N·m).
2. Attach the air spring supply hose to the air spring. Make sure that the air hose moves without any restrictions when the seat is moved forward or rearward.
3. Position the seat cushion, then install the fasteners that attach the seat cushion to the front cushion adjustment rod.
4. Install a new plastic tie strap to secure the seat cushion to the lower frame assembly.
5. Install the suspension shroud (if equipped) on the seat base.



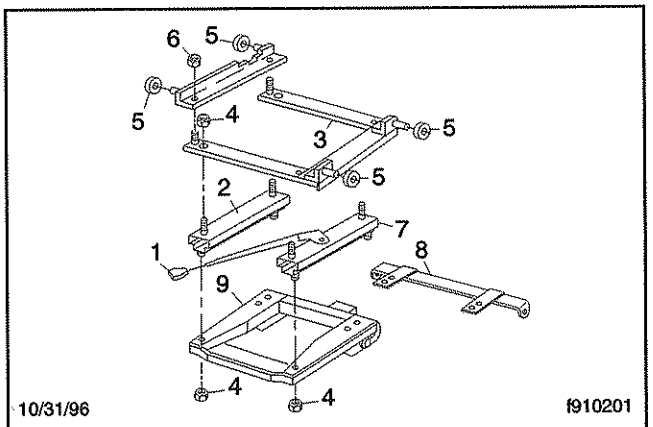
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1. Seat Cushion
2. Seat Back
3. Back Frame Bracket
4. Back Limit Bolt
5. Back Limit Bolt Bracket
6. Flatwashers
7. Back Frame Bolt
8. Back Recline Adjustment Knob
9. Hexbolt
10. Screw
11. Lower Frame
12. Bearing
13. Cushion Adjustment Bolt
14. Cushion Adjustment Bracket
15. Cushion Adjustment Spring Bracket
16. Adjustment Rod Bracket
17. Fastener
18. Adjustment Rod
19. Adjustment Rod Bracket
20. Cushion Adjustment Lever

Fig. 1, Upper Seat Frame Assembly (exploded view)

Replacement (See Fig. 1)

1. Raise the upper seat assembly to maximum height. Support the seat in this position by placing a wooden block between the lower base and lower arm.
2. Pull up and support the rear edge of the seat cushion as needed to gain access to the isolator-assembly-to-track-assembly 5/16–18 locknuts.
3. Remove the air spring supply hose from the seat.
   - 3.1 Cut and remove the tie strap that attaches the air spring supply hose to the track assembly latch mechanism.
   - 3.2 Remove the air spring supply hose (as an assembly), and lay it on the cab deck, behind the seat.
4. Remove the four 5/16–18 locknuts that attach the isolator assembly to the top of the track assemblies. Remove the upper seat assembly.
5. Remove the four 5/16–18 locknuts that attach the track assemblies to the top of the seat support. Remove the track assemblies.



1. Fore-and-Aft Adjustment Lever
2. Right-Side Track
3. Welded Bearing Support Frame
4. Locknut
5. Bearing
6. Hexnut
7. Left-Side Track
8. Belt Bar
9. Seat Support

Fig. 1, Track Assembly (exploded view)

6. With the holes in the belt bar, belt bar spacers, and seat track stop aligned with the holes in the seat support, install the new track assemblies on the seat support. Install and tighten the four 5/16–18 locknuts 15 lbf·ft (20 N·m).
7. Move the upper half of the track assemblies as needed to align their studs with the holes in the isolator assembly. Place the upper seat assembly on the track assemblies. Install and tighten the four 5/16–18 locknuts 15 lbf·ft (20 N·m).
8. Install the air spring supply hose.
   - 8.1 Install a new tie strap to attach the air spring supply hose to the track assembly latch mechanism.
   - 8.2 Install a new tie strap to attach the air valve supply hose to the belt bar.
9. Move the fore-and-aft adjustment lever to the right, and slide the upper seat assembly forward and rearward while making sure that the air hose moves without restriction. Return the seat cushion to its original position.
10. Raise the seat. Remove the wooden block.

Specifications

Description	Torque: lbf·ft (N·m)
Seat Base to Cab Deck Socket-Head Bolts	13 (18)
Seat Belt/Tether Belt to Belt Bar Capscrews	40 (54)
Shock Absorber to Bracket Locknuts	25 (34)
Track Assembly to Isolator Assembly Locknuts	15 (20)
Track Assembly to Upper Seat Frame Locknuts	15 (20)

Table 1, Fastener Torques

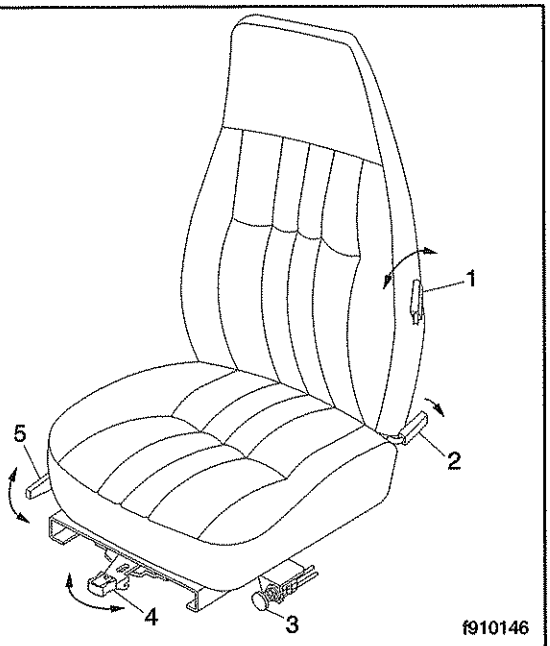
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General Information

The Bostrom 910 air suspension seats offer lumbar support, back angle adjustment, weight and height adjustment, a fore and aft roller track isolator system, and seat cushion tilt adjustment. See **Fig. 1.**

For complete operating instructions, refer to the vehicle driver's manual.



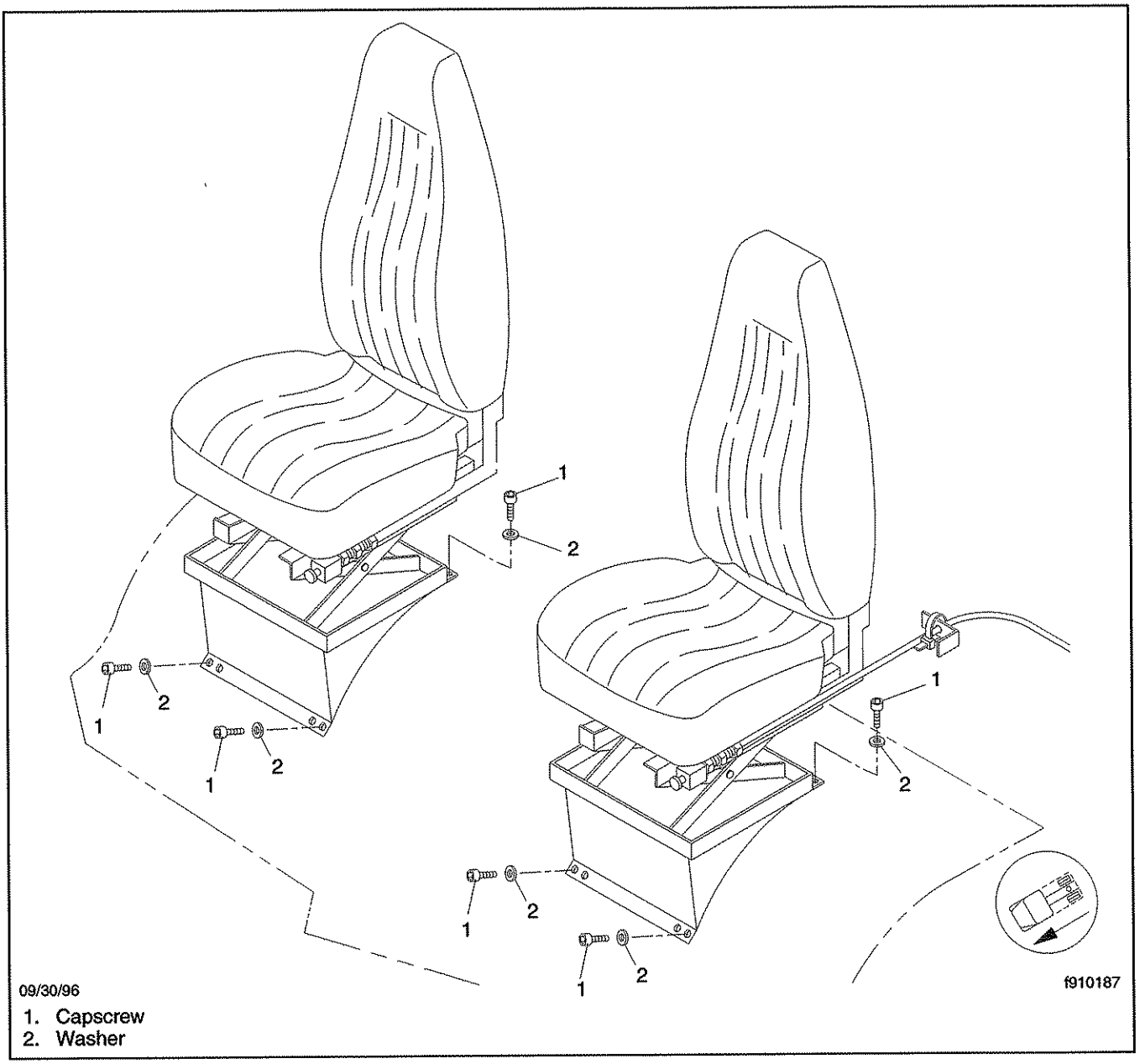
1. Lumbar Adjustment
2. Back Angle Adjustment
3. Weight and Height Adjustment
4. Fore and Aft Isolation and Seat Position Adjustment
5. Seat Cushion Tilt Adjustment

Fig. 1, Bostrom 910 Seat

Seat Removal and Installation

Removal (See Fig. 1)

1. Apply the parking brakes, and chock the tires.
2. Push in on the seat height adjustment valve knob until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the rear crossbars of the air suspension's inner and outer lever assemblies.
4. Drain the vehicle air reservoirs. Then pull out on the seat height adjustment valve knob until all air is exhausted from the air spring.



1. Capscrew
2. Washer

Fig. 1, Seat Installation

Seat Removal and Installation

5. Disconnect the air line from the air spring assembly by pushing in the collar of the fitting while pulling the air line out of the fitting.
6. Remove the seat belt straps and tether straps.
7. Remove the capscrews and washers that attach the seat to the cab deck. Remove the seat from the cab.

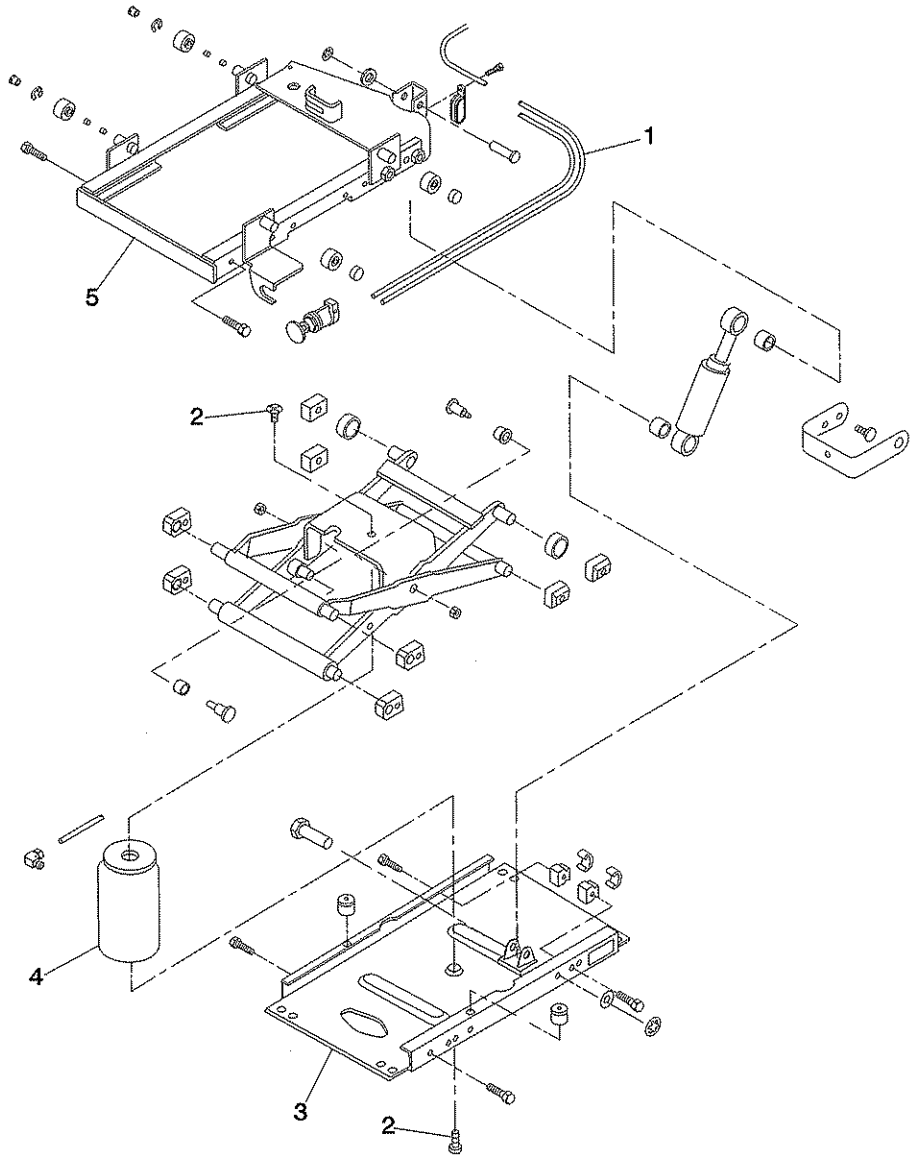
Installation

1. Place the seat on the cab deck. Insert the capscrews through the washers and the seat base. Tighten the capscrews 27 lbf·ft (37 N·m).
2. Attach the brackets of the seat-belt straps and tether straps. Tighten the capscrews 40 lbf·ft (54 N·m).
3. Connect the air line to the fitting in the air spring assembly by pushing the tube into the fitting.
4. Start the engine and allow the air reservoirs to fill. Push in on the seat height adjustment valve knob until the seat is adjusted to its maximum height, then remove the wooden block that supports the seat suspension.
5. Remove the chocks from the tires.

Air Spring Removal and Installation

Removal (See Fig. 1)

1. Remove the complete seat assembly from the vehicle using the instructions in **Subject 100**.
2. Remove the seat/back assembly using the instructions in **Subject 120**.
3. Remove the channel assembly using the instructions in **Subject 130**. Be careful not to lose the roller parts; they will be needed for reassembly.
4. Remove the ICP bracket.
5. Disconnect the air line from the air spring fitting.



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1. Air Line
2. Screw
3. Base Riser
4. Air Spring
5. Upper Frame

Fig. 1, Bostrom 910 Seat

Air Spring Removal and Installation

6. Remove the air spring screws from the air spring. Remove the air spring from the suspension.

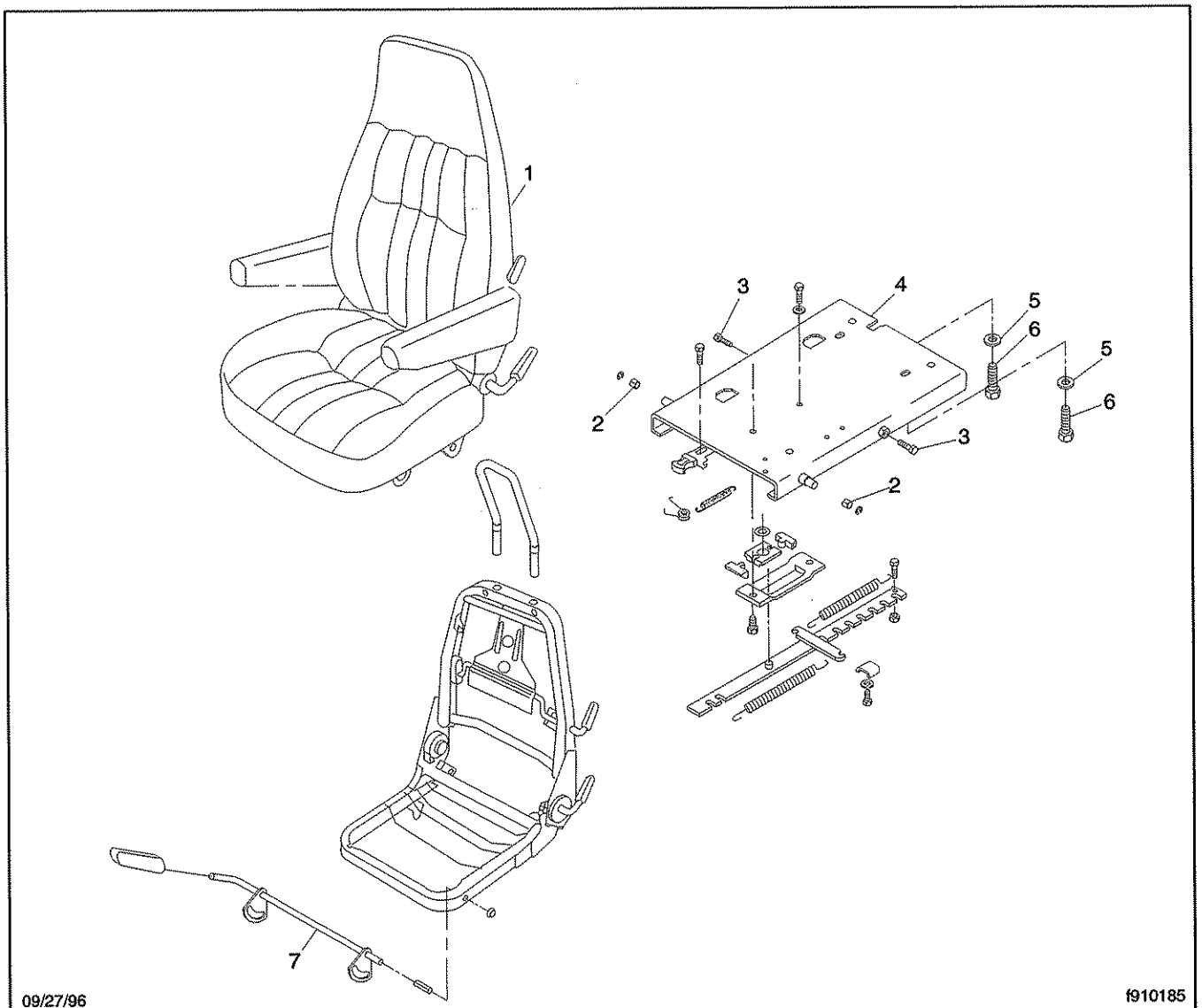
Installation (See Fig. 1)

1. Position the air spring so the fitting at the bottom of the air spring is on the right hand side facing rearward. Install the screws into the air spring.
2. Tighten the screws 15 to 19 lbf·ft (20 to 26 N·m).
3. Connect the air line to the fitting on the air spring.
4. Attach the ICP bracket.
5. Install the channel assembly using the instructions in **Subject 130.**
6. Install the seat/back assembly using the instructions in **Subject 120.**
7. Install the seat assembly in the vehicle using the instructions in **Subject 100.**

Seat/Back Assembly Removal and Installation

Removal (See Fig. 1)

1. Adjust the seat/back assembly to the most rearward position, then remove the two capscrews and flatwashers from the underside of the channel assembly.
2. Remove the two shoulder bolts from the channel assembly.
3. Move the seat/back assembly forward to disengage the seat tilt cam assembly from the sleeve bearings on the channel assembly.
4. Remove the seat/back assembly.



1. Seat/Back Assembly
2. Sleeve Bearing
3. Shoulder Bolt
4. Channel Assembly
5. Flatwasher
6. Capscrew
7. Seat Tilt Cam Assembly

Fig. 1, Bostrom 910 Seat

Seat/Back Assembly Removal and Installation

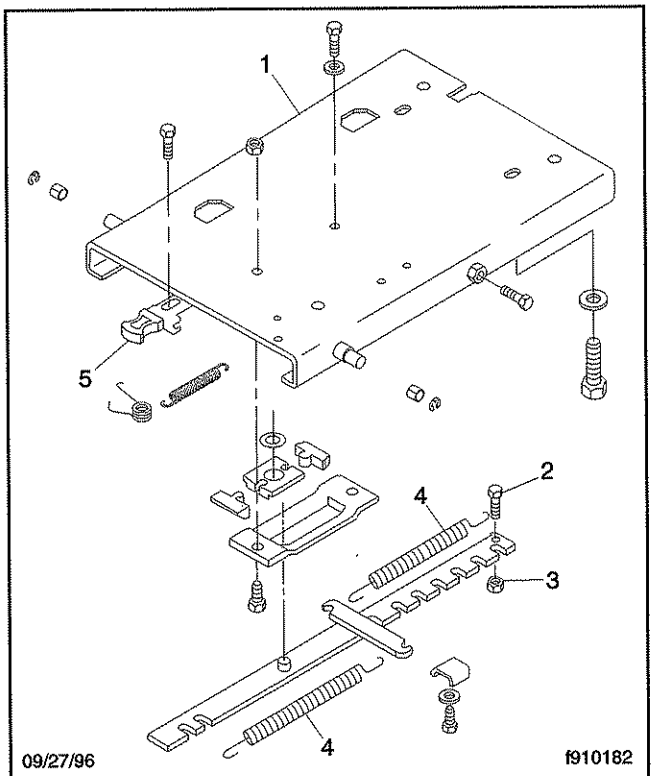
Installation (See Fig. 1)

1. Place the seat/back assembly onto the channel assembly.
2. Move the seat/back assembly rearward to engage the seat tilt cam assembly to the sleeve bearings on the channel assembly.
3. Install the two shoulder bolts to the channel assembly. Tighten them 18 to 22 lbf·ft (24 to 30 N·m).
4. Install the two capscrews and flatwashers to the underside of the channel assembly. Tighten them 10 to 13 lbf·ft (14 to 18 N·m).

Fore and Aft Isolation Channel Removal and Installation

Removal (See Fig. 1)

1. Remove the seat/back assembly using the instructions in **Subject 120.**
2. Adjust the channel assembly to the rearmost position.
3. With the isolator handle on the channel assembly in the isolation position (center position), push the channel assembly forward to expose the screw and the nut. Remove the screw and the nut and save for reassembly.
4. Move the isolator handle on the channel assembly to the fore and aft release position (outboard position). Slide the channel assembly forward past both sets of rollers. See **Fig. 2.**



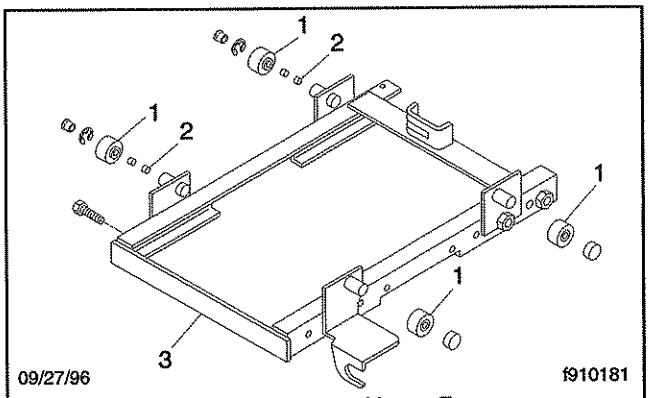
1. Channel Assembly
2. Screw
3. Nut
4. Isolator Spring
5. Isolator Handle

Fig. 1, Channel Assembly (exploded)

NOTE: Be careful not to lose the roller parts. Either remove and save for reassembly or replace with new parts from a roller assembly kit.

Installation (See Fig. 1)

1. Slide the channel assembly rearward over both sets of rollers. The isolator handle should be in the fore and aft release position (outboard position).
2. With the isolator handle in the isolation position (center position), push the channel assembly forward to install the screw and nut.
3. Adjust lateral side play using the instructions in **Subject 140.**
4. Install the seat/back assembly using the instructions in **Subject 120.**



1. Roller
2. Allen-Head Adjusting Screw
3. Upper Frame

Fig. 2, Upper Frame Assembly (exploded)

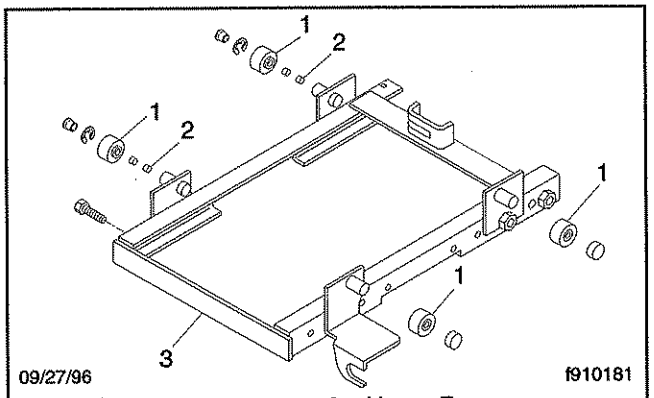
Lateral Side Play Adjustment

Adjustment (See Fig. 1)

1. Remove the seat/back assembly from the channel assembly, using the instructions in **Subject 120.**
2. Adjust the channel assembly until the allen-head adjusting screws in the right isolator roller shafts on the upper frame are visible in the cutouts on the inboard side of the channel assembly.
3. Use a 3 mm allen wrench (do not use a 1/8-inch allen wrench) to adjust the two allen-head screws. Turn the screws in until resistance is felt, then turn the screws 1-1/2 turns more.
4. Move the channel assembly through the entire fore and aft adjustment range to check the lateral clearance for binding. The isolator springs (see **Fig. 2**) should return the channel to the neutral position for the best ride. Friction must not exceed 10.1 lbs. (45 N) to move the channel assembly.

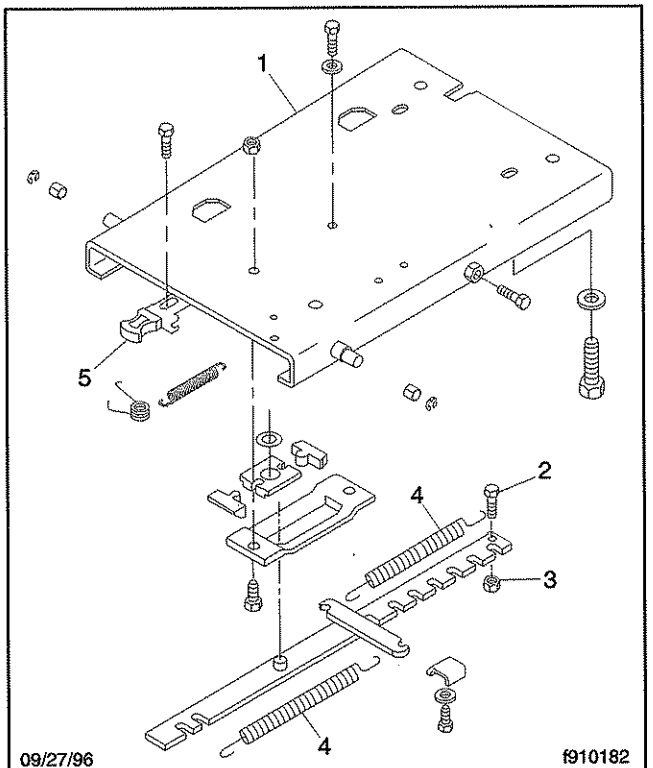
NOTE: To ensure the best performance, make certain the roller parts are assembled correctly.

5. Replace the seat/back assembly on the channel assembly using the instructions in **Subject 120.**



1. Roller
2. Allen-Head Adjusting Screw
3. Upper Frame

Fig. 1, Upper Frame Assembly (exploded)



1. Channel Assembly
2. Screw
3. Nut
4. Isolator Spring
5. Isolator Handle

Fig. 2, Channel Assembly (exploded)

Removal (See Fig. 1)

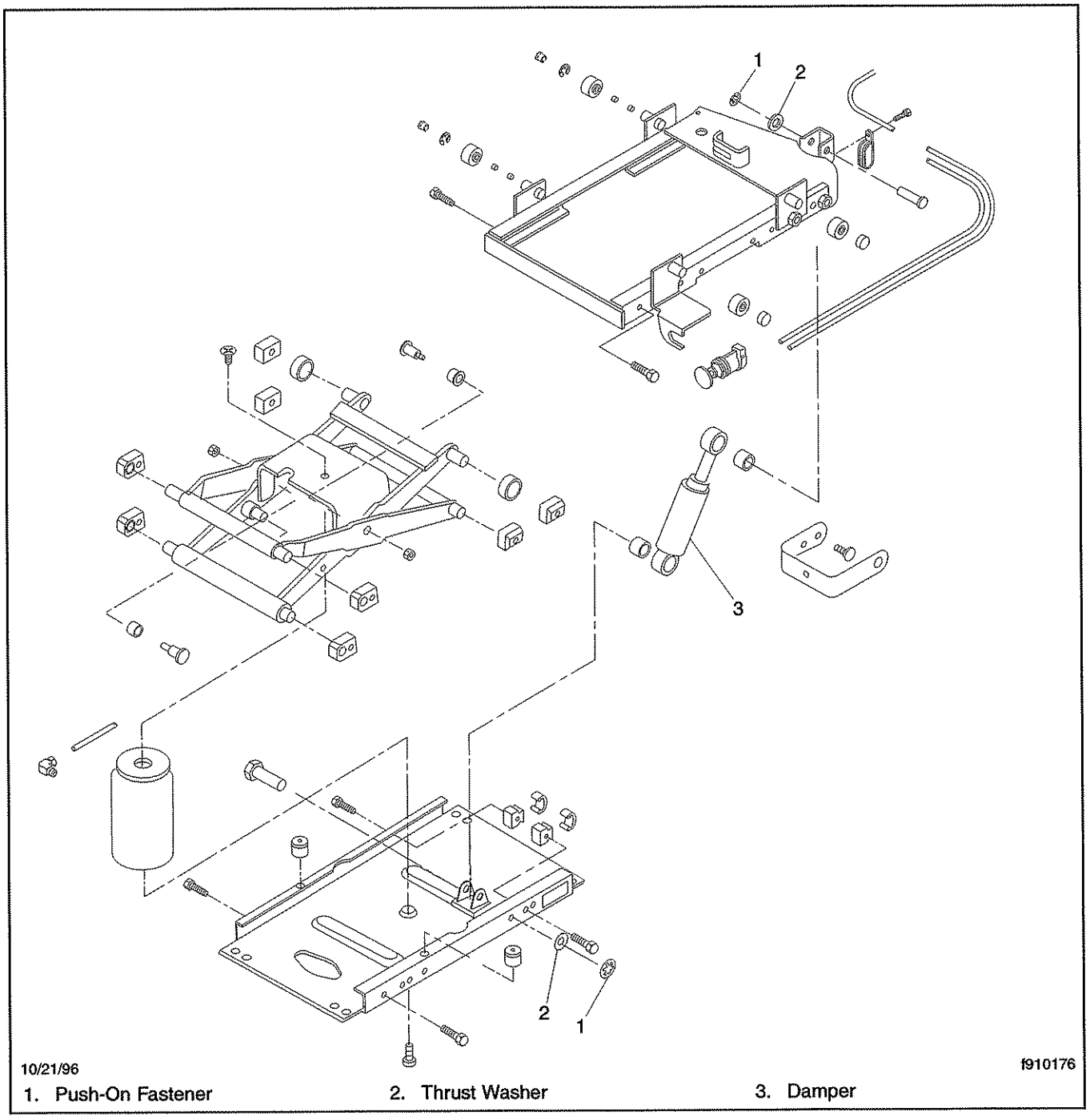


Fig. 1, Bostrom 910 Seat

Damper Removal and Installation

1. Remove the complete seat assembly from the vehicle using the instructions in **Subject 100.**
2. Remove the seat/back assembly using the instructions in **Subject 120.**
3. Remove the channel assembly using the instructions in **Subject 130.** Be careful not to lose the roller parts; they will be needed for reassembly.
4. Remove the ICP bracket.
5. Use pliers or a screwdriver to twist off the push-on fasteners. The push-on fasteners are not reusable.
6. Remove the damper assembly.

Installation (See Fig. 1)

1. Install the new damper.
2. Install the thrust washers and the push-on fasteners until they seat. A 1/2-inch box end wrench works well to push the fasteners on.
3. Attach the ICP bracket.
4. Install the channel assembly using the instructions in **Subject 130.**
5. Install the seat/back assembly using the instructions in **Subject 120.**
6. Install the seat assembly in the vehicle using the instructions in **Subject 100.**

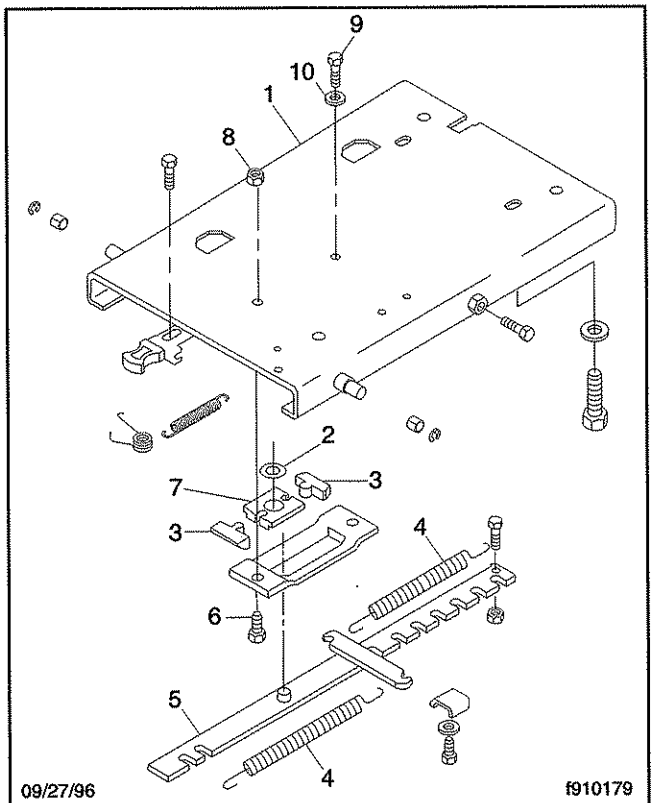
Isolation Bumper Removal and Installation

Removal (See Fig. 1)

1. Remove the seat/back assembly using the instructions in **Subject 120.**
2. Remove the channel assembly using the instructions in **Subject 130.**

   Be careful not to loose the roller parts; they will be needed for reassembly.
3. Remove the two isolator springs by carefully extending the springs and disconnecting them from the mounting points.
4. Slide the latch bar until the retaining ring can be seen through the hole in the channel assembly. Remove the retaining ring and keep it for reassembly.
5. Pull the latch bar free of the pivot block.
6. The rubber isolation bumpers are now accessible and can be replaced if necessary.

NOTE: The pivot block can be removed by first removing the screw and lockwasher, then remove the screw and locknut.



1. Channel Assembly
2. Retaining Ring
3. Isolation Bumper
4. Isolator Spring
5. Latch Bar
6. Screw
7. Pivot Block
8. Locknut
9. Screw
10. Lockwasher

Fig. 1, Channel and Isolation Bumper Assembly

Installation (See Fig. 1)

1. If the pivot block was removed, install the pivot block. Tighten the bolt 14 to 18 lbf·ft (20 to 24 N·m).
2. Install the isolation bumpers.
3. Replace the latch bar on the pivot block.
4. Replace the retaining ring.
5. Replace the two isolator springs by carefully extending the springs and connecting them to the mounting points.
6. Install the channel assembly using the instructions in **Subject 130.**

   Be sure the roller parts are installed correctly on the roller pins.
7. Install the seat/back assembly using the instructions in **Subject 120.**

Back Cover/Pad Assembly Removal and Installation

Removal (See Fig. 1)

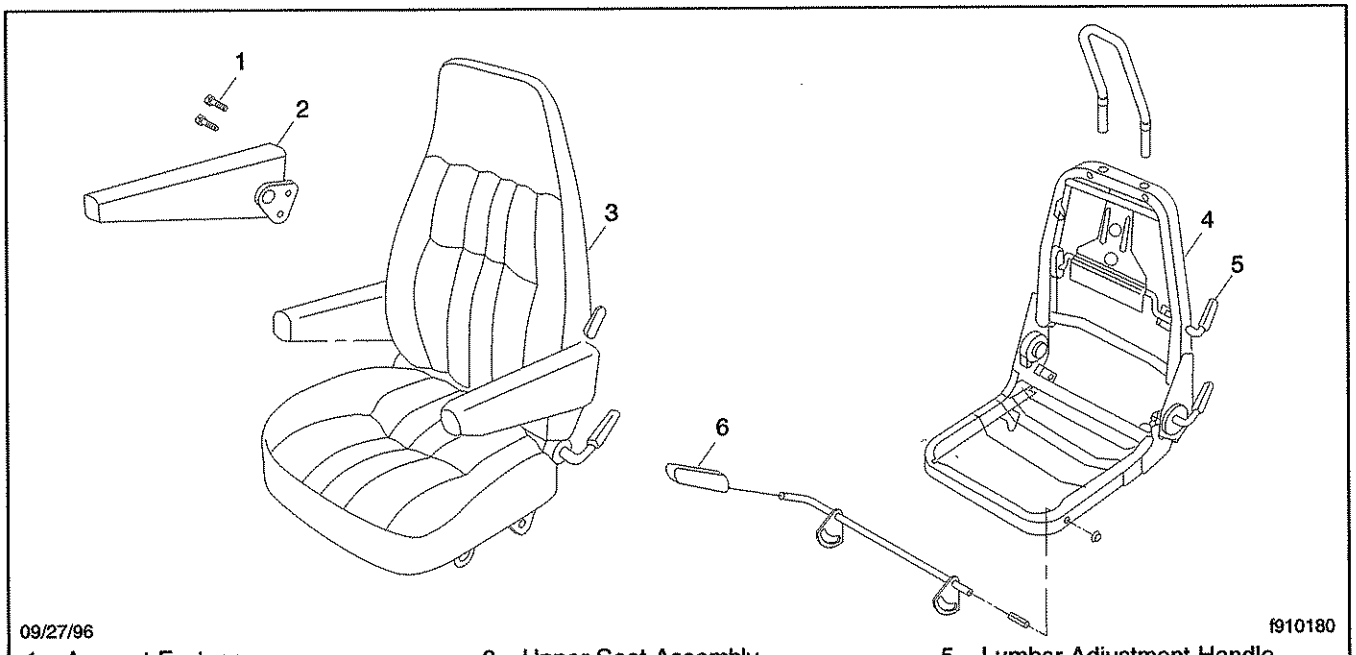
1. Remove the upper seat assembly from the suspension, using the instructions in **Subject 120**. Remove the armrests if the seat assembly has armrests.
2. Remove the back cover and pad from the seat frame assembly. Note the location of the fasteners on the existing back cover.

Installation (See Fig. 1)

1. Place a new pad over the back frame. If the seat has lumbar adjustment, make a cut in the outboard edge of the pad to fit around the handle.
2. Place the cover (inside out) over the top of the back pad. Pull down the cover until the three tie-down tabs are even with the three slots in the pad. Pull the tie-down tabs through the slots in the pad and run a short wire through all three tabs. Continue to pull the cover down completely over the pad. Tuck the front flap of the back cover between the seat cushion and the bottom of the back pad. Insert two long wires into the looped material sewn to the bottom of the cover. (One in the rear flap and one in the front flap.) Starting at the top, pull the cover down tight and hog ring the two wires at the bottom of the cover together behind the seat pad with the three tie-down tabs.

NOTE: If the seat has a high back, there will be two sets of tie-down tabs (six total with two wires) to be pulled through the back pad and wired.

3. Attach the upper seat assembly to the suspension using the instructions in **Subject 120**. Attach the armrests if the seat has armrests.



1. Armrest Fastener
2. Armrest
3. Upper Seat Assembly
4. Seat Frame Assembly
5. Lumbar Adjustment Handle
6. Seat Tilt Adjustment Handle

Fig. 1, Upper Seat Assembly

Suspension Rebuild Bearing/Slide Block Removal and Installation

Removal (See Fig. 1)

1. Remove the complete seat assembly from the vehicle using the instructions in **Subject 100.**
2. Remove the seat/back assembly using the instructions in **Subject 120.**
3. Remove the channel assembly using the instructions in **Subject 130.**

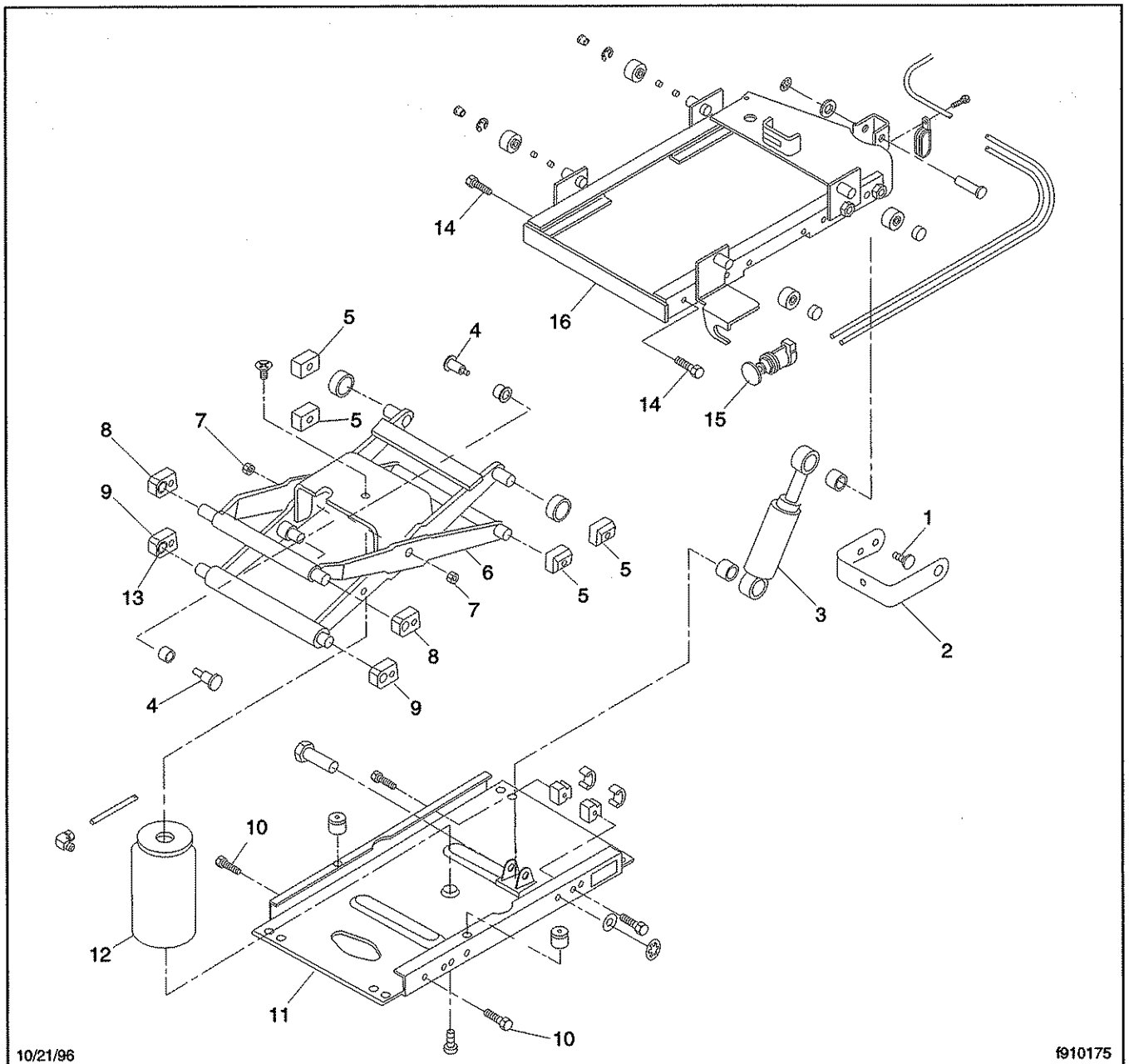
   Be careful not to loose the roller parts; they will be needed for reassembly.
4. Remove the capscrews and the ICP bracket.
5. Remove the air valve by loosening the nut on the valve and removing it from the bracket on the upper frame assembly.
6. Remove the capscrews from the upper front bearing blocks.
7. Remove the upper frame assembly by sliding it forward off of the bearing blocks and the slide blocks.
8. Remove the air spring using the instructions in **Subject 110.** Mark the air line for reassembly.
9. Remove the damper using the instructions in **Subject 150.**
10. Remove the capscrews from the lower front bearing blocks and slide the lever assemblies forward until the bearing blocks are removed from the channel on the base riser. Slide the lever assemblies rearward to remove the slide blocks from the channel.
11. Remove the shoulder bolts and nuts from the pivots of the lever assemblies and inspect the bolts. If the bolts are worn, replace them.

Installation (See Fig. 1)

1. Replace the bearings at the pivots on the lever assembly by pushing out the old bearings and pressing in the new bearings. The flange of the bearings should be on the outside of the lever assembly.
2. Install the shoulder bolts and nuts into the pivots of the lever assemblies. Tighten the bolts 18 to 22 lbf·ft (24 to 30 N·m).
3. Install new bearing blocks, spacers, and slide blocks on the levers with the beveled surfaces outward. Slide the levers with the blocks into the channel on the base riser. Tighten the screws 27 to 33 lbf·ft (37 to 45 N·m).
4. Slide the upper frame assembly over the blocks. Line up the capscrews with the bearing blocks and tighten the screws 27 to 33 lbf·ft (37 to 45 N·m).
5. Manually move the suspension up and down to make sure there are no clearance problems.
6. Block the suspension up with a spacer placed between the base riser and the upper frame. Install the air spring using the instructions in **Subject 110.**
7. Install the damper using the instructions in **Subject 150.**
8. Install the air valve onto the bracket on the upper frame.
9. Install the ICP bracket and capscrews.
10. Install the channel assembly using the instructions in **Subject 130.**

    Be sure the roller parts are installed correctly on the roller pins.
11. Install the seat/back assembly using the instructions in **Subject 120.**
12. Adjust lateral side play using the instructions in **Subject 140.**
13. Install the seat assembly in the vehicle, using the instructions in **Subject 100.**

Suspension Rebuild Bearing/Slide Block Removal and Installation



1. ICP Capscrew
2. ICP Bracket
3. Damper
4. Shoulder Bolt
5. Slide Block
6. Lever Assembly
7. Nut
8. Upper Bearing Block
9. Lower Bearing Block
10. Capscrew
11. Base Riser
12. Air Spring
13. Bearings
14. Screw
15. Air Valve
16. Upper Frame

Fig. 1, Bostrom 910 Seat (exploded)

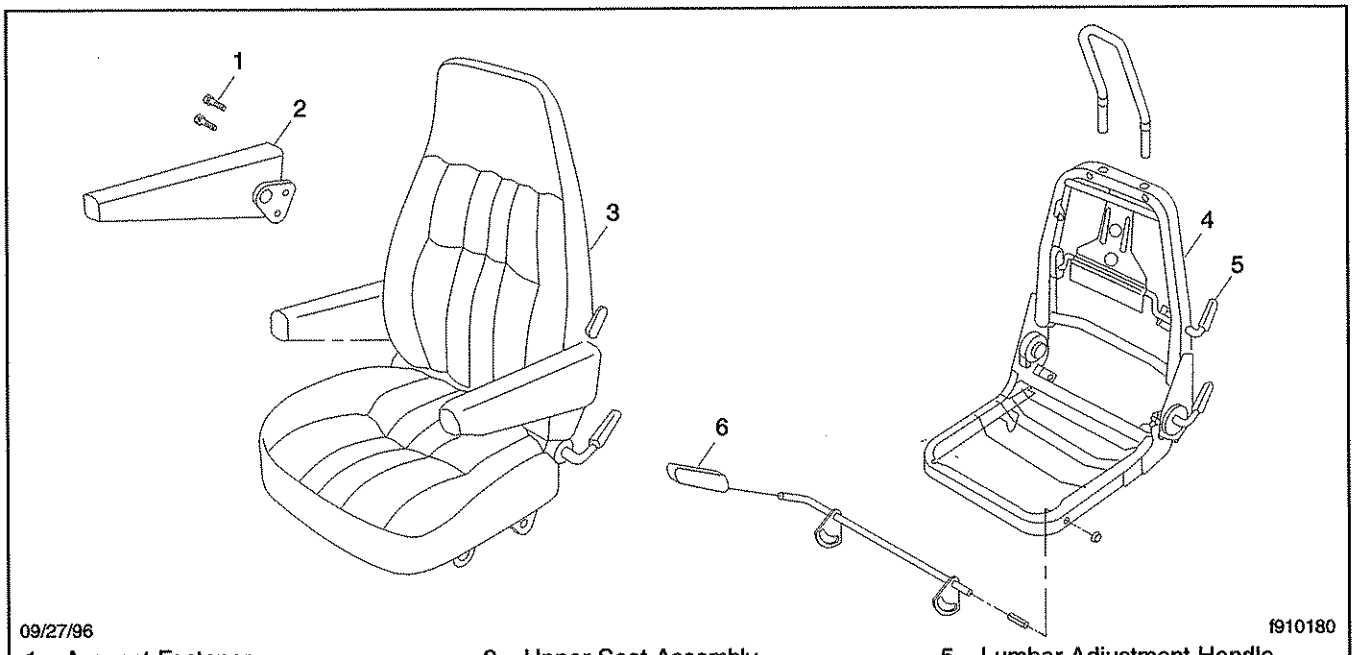
Seat Cover/Pad Assembly Removal and Installation

Removal (See Fig. 1)

1. Remove the upper seat assembly from the suspension using the instructions in **Subject 120.**
2. Remove the seat cover and pad from the seat frame assembly. Note the location of the fasteners on the existing seat cover. Do not remove the small vinyl patch from the seat tilt handle, unless it needs replacement.

Installation (See Fig. 1)

1. Place a new pad over the seat frame making sure the back edge of the pad is hooked over the rear support tube. If the seat is equipped with a seat tilt adjustment handle, make a cut in the bottom edge of the pad (right side) to fit around the handle.
2. Place the cover over the seat tilt handle and the top of the seat pad. Fold the rear half of the cover forward to expose the three tie-down tabs. Push the tie-down tabs through the holes in the foam. Reposition the cover and turn the seat over.
3. Pull the tie-down tabs tight and attach them to the center support wire (third wire from the rear). Use one hog ring per tab.
4. Insert the longest wire into the looped material sewn to the bottom of the cover. Place the shorter wire into the rear flap of the cover.
5. Pull the rear corners of the side panels rearward around the back corners of the frame. Attach the material with one hog ring per side.
6. Starting at the front of the seat cover and working rearward, hog ring the wire through the holes in the seat frame. Ten hog wires are required for the frame. Fold the rear flap down and toward the front of the seat. Pull the flap tightly and fasten it with three hog rings to the most rearward foam support wire.
7. Install the upper seat assembly onto the suspension, using the instructions in **Subject 120.**



1. Armrest Fastener
2. Armrest
3. Upper Seat Assembly
4. Seat Frame Assembly
5. Lumbar Adjustment Handle
6. Seat Tilt Adjustment Handle

Fig. 1, Upper Seat Assembly

Contents

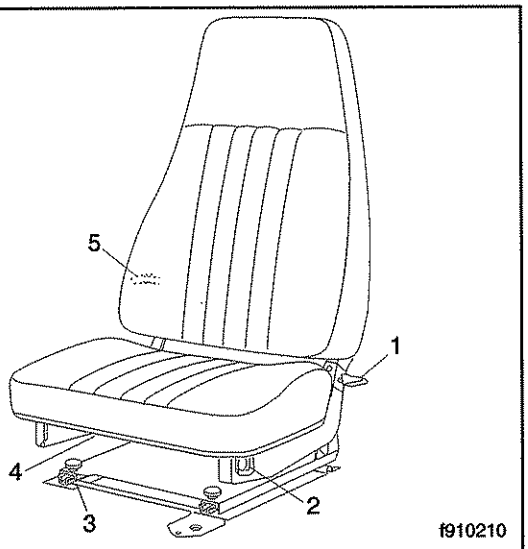
Subject	Subject Number
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Seat Removal and Installation	100
Air Spring Removal and Installation	110
Shock Absorber Removal and Installation	120
Isolator and Slides Removal and Installation	130
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General Information

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

The Dura-Form air suspension seats offer lumbar support, back cushion tilt adjustment, height adjustment, a fore and aft isolator system, and seat cushion adjustment. See **Fig. 1**.

For complete operating instructions, see **Chapter 2** of the *Business Class Trucks Driver's Manual.*



1. Back Cushion Tilt Adjustment
2. Height Adjustment
3. Isolator and Fore-Aft Adjustment
4. Seat Cushion Adjustment
5. Lumbar Support

Fig. 1, Dura-Form Seat

Seat Removal and Installation

Removal

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Press the seat height adjustment rocker switch until the seat is adjusted to its maximum height.
3. If the seat is equipped with a seat suspension shroud, remove the shroud. It is held in place with Velcro and upholstery-panel fasteners.

   If the seat is equipped with a rubber bellows seat suspension cover, raise the rubber bellows.
4. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the air suspension lower base and the rear crosstube of the lower arm.
5. Drain the vehicle air reservoirs. Then, press the seat height adjustment rocker switch until all air is exhausted from the air spring.
6. Disconnect the air valve air-supply hose at the quick-connect union behind the seat.
7. Using an 11/16-inch wrench or a T50 Torx® wrench, unscrew the capscrews that attach the seat-belt straps and tether straps to the intermediate-connecting-point threaded rod.
8. Remove the capscrews and washers that attach the seat to the cab deck. Remove the seat and both mounting support channels from the cab.

Installation

1. Place the seat on the cab deck. Position a mounting support channel at the front edge, and another at the rear edge of the seat base. Insert the capscrews through the washers, the support channels, and the seat base. Tighten the capscrews 27 lbf·ft (37 N·m).
2. Attach the brackets of the seat-belt straps and tether straps to the intermediate-connecting-point threaded rod. Tighten the capscrews 40 lbf·ft (54 N·m).
3. Connect the air valve air-supply hose by pressing the pneumatic tubing into the quick-connect union behind the seat.
4. Start the engine and allow the air reservoirs to fill. Press the seat height adjustment rocker switch until the seat is adjusted to its maximum height. If the seat is equipped with a rubber bellows seat suspension cover, raise the rubber bellows. Remove the wooden block that supports the seat suspension.
5. If the seat is equipped with a seat suspension shroud, install the shroud.
6. Remove the chocks from the tires.

Air Spring Removal and Installation

Removal

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Press the seat height adjustment switch until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the lower housing and the upper housing.
4. Drain the vehicle air reservoirs. Then press the seat height adjustment switch until all the air is exhausted from the air spring.
5. Disconnect the 7/16-inch air fitting at the bottom of the air spring. Remove the 3/4-inch jam nut.
6. Remove the 1/2-inch hexhead bolt and lockwasher at the top of the air spring.
7. Compress the air spring and rotate it forward to lift it out.

Installation

1. Compress the air spring and install it by rotating it rearward.
2. Install the 1/2-inch hexhead bolt and lockwasher at the top of the air spring. Tighten 15 to 20 lbf·ft (20 to 27 N·m).
3. Apply pipe sealant to the threads of the elbow. Insert the tube into the fitting until the tube bottoms in the fitting, then tighten one wrench turn past finger tight. Tighten the pipe threads on the fitting 12 to 18 lbf·ft (16 to 24 N·m).
4. Connect the air fitting to the air spring with the 3/4-inch jam nut. Tighten 72 to 96 lbf·in (800 to 1100 N·cm).
5. Start the engine and allow the air reservoirs to fill. Press the seat height adjustment switch until the seat is adjusted to its maxium height, then remove the wooden block.
6. Remove the chocks from the tires.

Shock Absorber Removal and Installation

Removal

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Press the seat height adjustment switch until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the lower housing and the upper housing.
4. Remove the 5/16-inch nut at the top of the shock absorber.
5. Remove the retaining ring and the shock pin at the bottom of the shock absorber.
6. Remove the shock absorber.

Installation

1. Install the shock absorber.
2. Install the 5/16-inch nut at the top of the shock absorber. Tighten 10 to 15 lbf·ft (14 to 20 N·m).

NOTE: The pin hole closest to the air spring is the firmer ride.

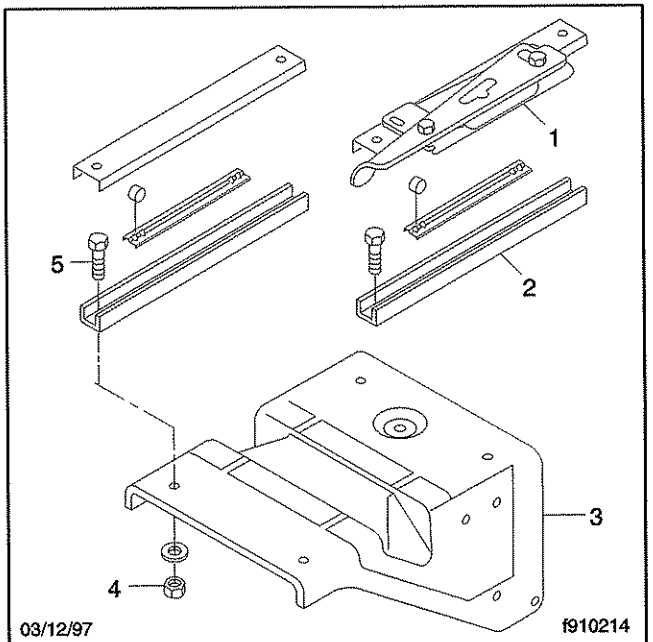
3. Install the shock pin and the retaining ring at the bottom of the shock absorber.
4. Remove the wooden block from the seat, and the chocks from the tires.

Isolator and Slides Removal and Installation

Removal (See Fig. 1)

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Press the seat height adjustment switch until the seat is adjusted to its maximum height.
3. Cut a wooden block to the length required to support the seat at its maximum height, and place the block between the lower housing and the upper housing.
4. Remove the seat/back assembly using the instructions in **Subject 140**.
5. Using a 1/2-inch socket and a 1/2-inch wrench, remove the isolator assembly.



1. Isolator Plate and Handle
2. Slide
3. Upper Housing
4. Nut
5. Screw

Fig. 1, Isolator and Slides Assembly

Installation (See Fig. 1)

1. Using a 1/2-inch socket or wrench and a screwdriver, install the isolator assembly.
2. Install the seat/back assembly using the instructions in **Subject 140**.
3. Remove the wooden block from the seat, and the chocks from the tires.

Seat/Back Assembly Removal and Installation

Removal

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Using a 1/2-inch socket and a 1/2-inch wrench, remove the four mounting bolts.
3. Remove the seat/back assembly.

Installation

1. Place the seat/back assembly onto the isolator assembly.
2. Using a 1/2-inch socket and a 1/2-inch wrench, install the four mounting bolts.
3. Remove the chocks from the tires.

Air Valve Removal and Installation

Removal (See Fig. 1)

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Drain the vehicle air reservoirs. Then press the seat height adjustment rocker switch until all air is exhausted from the air spring.
3. Reach behind and inside the air control panel and compress the two retaining fingers together on the air valve.
4. Remove the air valve by pushing it outward through the slot in the control panel.
5. Compress the gray retaining ring on the valve body inlet port toward the valve, and pull on the air hose to remove it from the valve.
6. Repeat the previous step for the outlet port.

Installation (See Fig. 1)

IMPORTANT: When installing the air lines, make sure they are connected to the same valve port they were removed from, and are firmly pressed into place. The new air line will insert approximately 1/2-inch when installed properly.

1. Install the air lines in the valve. Pull outward slightly on the new air lines to ensure a solid installation. Do not compress the air line retaining rings when verifying the installation.
2. Make sure the valve is properly oriented, and firmly press the complete valve back into the slot in the air control panel until you hear a "click." The "click" assures the valve retaining fingers are properly secured to the air control panel.
3. Start the engine and allow the air reservoirs to fill.
4. Remove the chocks from the tires.

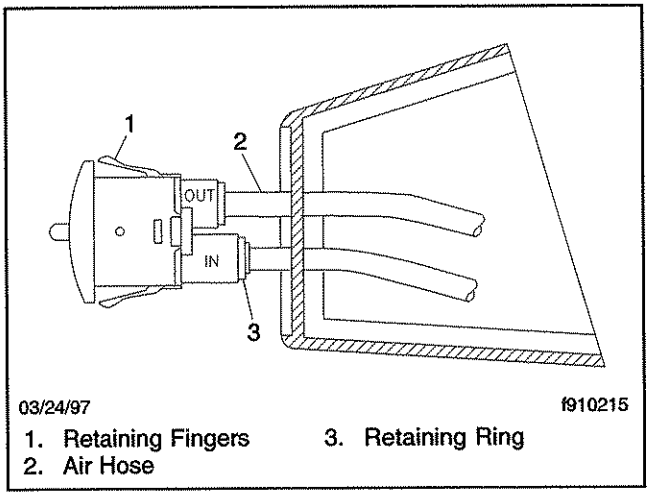


Fig. 1, Air Valve Assembly

Armrest Removal and Installation

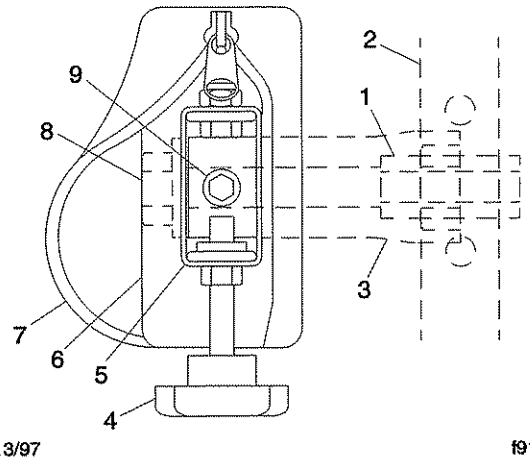
Removal (See Fig. 1)

NOTE: Call Dura-Form Customer Service at 800–553–3013 to answer any questions concerning any Dura-Form seat style not covered by the information provided.

1. Apply the parking brakes, and chock the tires.
2. Unzip the armrest cover.
3. Remove the socket head screw from the pivot bar in the armrest.
4. Loosen the armrest bolt.
5. Remove the armrest.
6. Remove the pivot arm from the seat back.

Installation

1. Locate the hole in the side of the armrest foam and make an incision. See **Fig. 2.**



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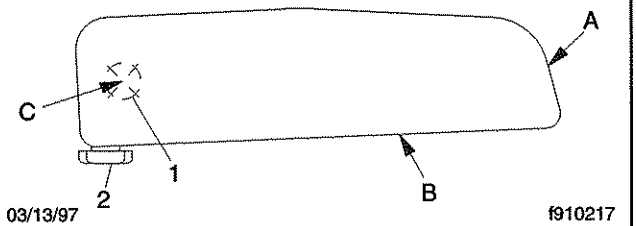
1. Coupling Nut (welded to seat frame assembly)
2. Seat Frame Assembly
3. Pivot Bar
4. Adjustment Knob
5. Armrest Tube
6. Armrest Foam
7. Armrest Cover
8. Armrest Bolt
9. Socket Head Screw

Fig. 1, Armrest, Rear View

2. Locate the coupling nut (welded to the seat frame assembly). Make an incision in the seat back cover. See **Fig. 3.**
3. Insert the pivot bar through the incision in the seat back cover. Slide the pivot bar over the coupling nut with the hole for the socket head screw facing rearward. See **Fig. 1.**

NOTE: The seat back cover and foam will hold the pivot bar in place while the remainder of the armrest is prepared for assembly.

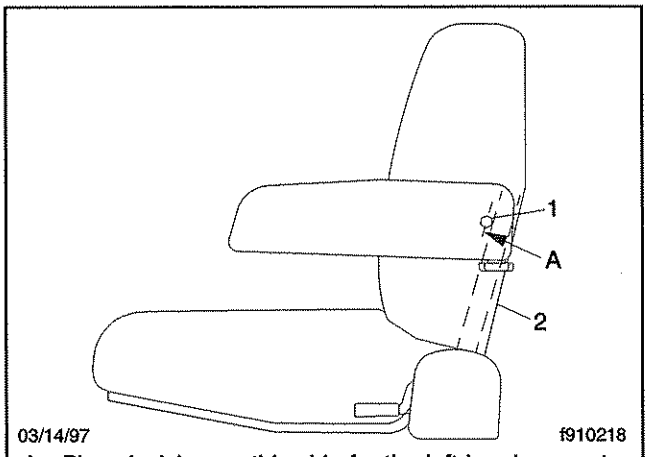
4. Unzip the armrest cover and assemble the armrest bolt, the metal washer, and the plastic washers



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A. Front
B. Bottom
C. Place incision on this side for the left-hand armrest. Place on the opposite side for the right-hand armrest.
1. Hole
2. Adjustment Knob

Fig. 2, Armrest



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A. Place incision on this side for the left-hand armrest. Place on the opposite side for the right-hand armrest.
1. Coupling Nut (welded to seat frame assembly)
2. Seat Back

Fig. 3, Coupling Nut Location

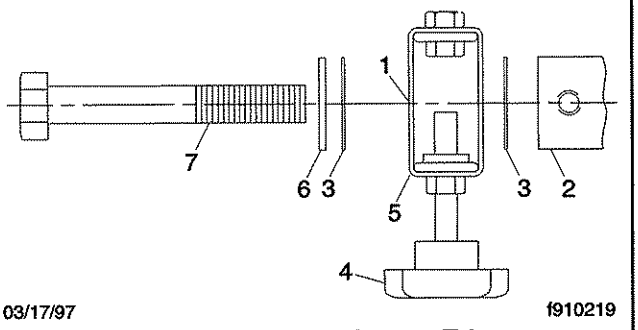
Armrest Removal and Installation

through the hole in the side of the armrest tube. See **Fig. 4**. The armrest tube must be clamped between the two plastic washers when assembly is complete.

5. Slide the assembled armrest over the pivot bar. Tighten the armrest bolt 22 to 23 lbf·ft (29 to 31 N·m). See **Fig. 1**.

IMPORTANT: The pivot bar must be seated against the seat frame while the armrest bolt is tightened.

6. Install the socket head screw into the pivot bar. See **Fig. 1**. Tighten 10 to 16 lbf·ft (13 to 21 N·m).
7. Zip up the armrest cover.
8. Remove the chocks from the tires.



1. Small Hole
2. Pivot Bar
3. Plastic Washer
4. Adjustment Knob
5. Armrest Tube
6. Metal Washer
7. Armrest Bolt

Fig. 4, Armrest Assembly

Specifications

Fastener Torques		
Description	**Size**	**Torque**
Seat Base Hexhead Capscrews	3/8–16	27 lbf.ft (37 N.m)
Intermediate-Connecting-Point Rod Capscrews	11/16	40 lbf.ft (54 N.m)
Air Spring Hexhead Bolt	1/2	15–20 lbf.ft (20–27 N.m)
Air Spring Fitting Pipe Threads	—	12–18 lbf.ft (16–24 N.m)
Air Fitting to Air Spring Jam Nut	3/4	72–96 lbf.in (800–1100 N.cm)
Shock Absorber Nut	5/16	10–15 lbf.ft (14–20 N.m)
Armrest Bolt	—	22–23 lbf.ft (29–31 N.m)
Socket Head Screw	—	10–16 lbf.ft (13–21 N.m)

Table 1, Fastener Torques