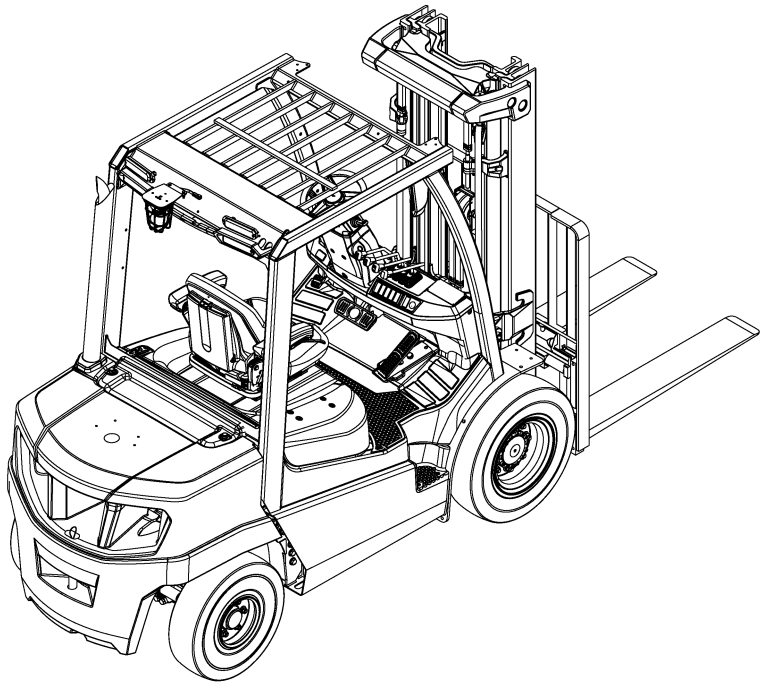
OPERATOR'S CAB

H2.0A, H2.5A6, H2.5A, H3.0A, H3.5A (H40A, H50A6, H60A, H70A) [R177]



HYSTER

PART NO. 4277932

0100 SRM 2298

SAFETY PRECAUTIONS
MAINTENANCE AND REPAIR

- The Service Manuals are updated on a regular basis, but may not reflect recent design changes to the product. Updated technical service information may be available from your local authorized Hyster® dealer. Service Manuals provide general guidelines for maintenance and service and are intended for use by trained and experienced technicians. Failure to properly maintain equipment or to follow instructions contained in the Service Manual could result in damage to the products, personal injury, property damage or death.
- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure the crane, cables, and chains have the capacity to support the weight of the load.
- Do not lift heavy parts by hand, use a lifting mechanism.
- Wear safety glasses.
- DISCONNECT THE BATTERY before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable on internal combustion lift trucks.
- Always use correct blocks to prevent the unit from rolling or falling. See HOW TO PUT THE LIFT TRUCK ON BLOCKS in the **Operating Manual** or the **Periodic Maintenance** section.
- Keep the unit clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **HYSTER ® APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the **WARNING** and **CAUTION** notes in the instructions.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

NOTE: The following symbols and words indicate safety information in this manual:

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.

On the lift truck, the WARNING symbol (and word, if present) are on orange background. The CAUTION symbol (and word, if present) are on yellow background.

WARNING

Installing improper electrical accessories or installing an electrical accessory incorrectly can increase the risk of equipment damage, personal injury and fire. DO NOT install electrical accessories to the truck unless you have been trained and authorized to do so. Personnel installing the electrical accessories must document the changes made to the truck. DO NOT install accessories which affect the truck's compliance with standard ANSI/ITSDF B56.1, UL 558, or UL 583, or which otherwise affect the safe operation of the truck.

WARNING

Installing improper electrical accessories or installing an electrical accessory incorrectly can increase the risk of equipment damage, personal injury and fire. DO NOT install electrical accessories to the truck unless you have been trained and authorized to do so. Personnel installing the electrical accessories must document the changes made to the truck. DO NOT install accessories which affect the truck's compliance with standard EN 1175:2020.

WARNING

California Proposition 65 - Operating, servicing and maintaining a powered industrial truck can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

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Introduction

GENERAL
202001-001

NOTE: For any fasteners in this manual that feature standard torque specifications, please refer to **Metric and Inch (SAE) Fasteners** 8000SRM0231 for correct specifications.

Overhead guard and cab repair

OVERHEAD GUARD REPAIR 202001-003

REMOVE

WARNING

DO NOT operate the lift truck without the overhead guard correctly fastened to the lift truck.

WARNING

DO NOT weld mounts for lights or accessories to the overhead guard. Changes that are made by welding, or by drilling holes that are too big or in the wrong location, can reduce the strength of the overhead guard.

See your dealer for Hyster lift trucks BEFORE performing any changes to the overhead guard.

NOTE: The lifting device can be connected to any number of positions on the overhead guard depending upon the lifting device available. The ideal choices are a four point sling connected to all four corners on the top of the overhead guard, or a two point sling connected to two opposite corners of the overhead guard. If a single point hoist is used, make sure that the lift point is as close to the center of the overhead guard as possible. If during the initial start of the lift, the overhead guard is off balance, lower immediately and move the hoist to a more centered point.

No welding or drilling on overhead guard is permitted as per previous WARNING.

1. Connect appropriate lifting device to the overhead guard. See Figure 1.

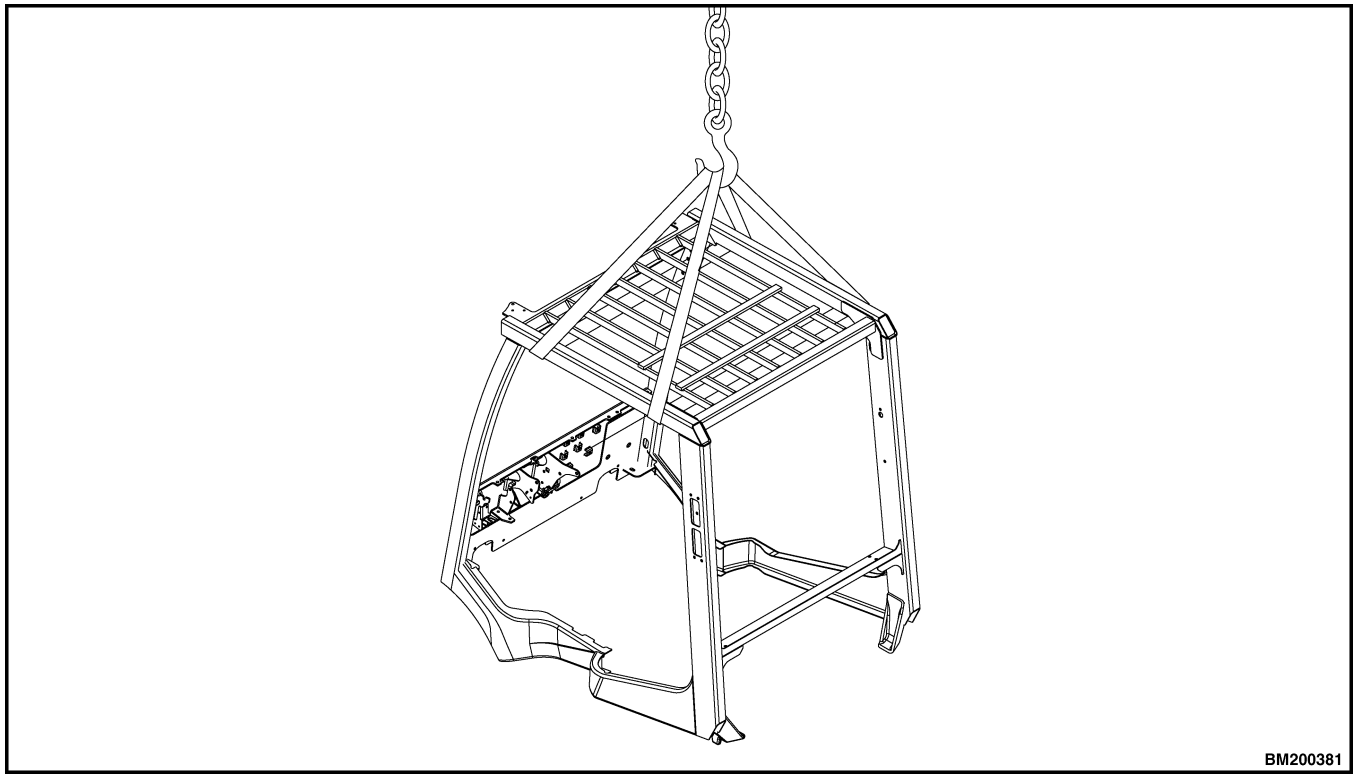


Figure 1. Overhead Guard Lift

NOTE: Note routing of electrical wire harnesses prior to disconnecting. Tag electrical connectors during removal to aid in installation.

2. Disconnect all wires harness connectors between the frame and the overhead guard.

3. Remove the seat from the hood. See Seat repair-Full Suspension in this manual.

4. Remove the hood from the lift truck. See Covers repair in **Frame and Main Components** 8000SRM2306 manual.

NOTE: The following procedures describe the steps for removing one leg of the overhead guard. Repeat the process for both legs.

5. Remove the overhead guard rear legs:

For premium overhead guard option

- Remove the capscrews (item 1, Figure 2) retaining the overhead guard rear legs to the spacers (item 4).
- Remove the capscrews (item 3, Figure 2) retaining the spacers (item 4) to the frame.

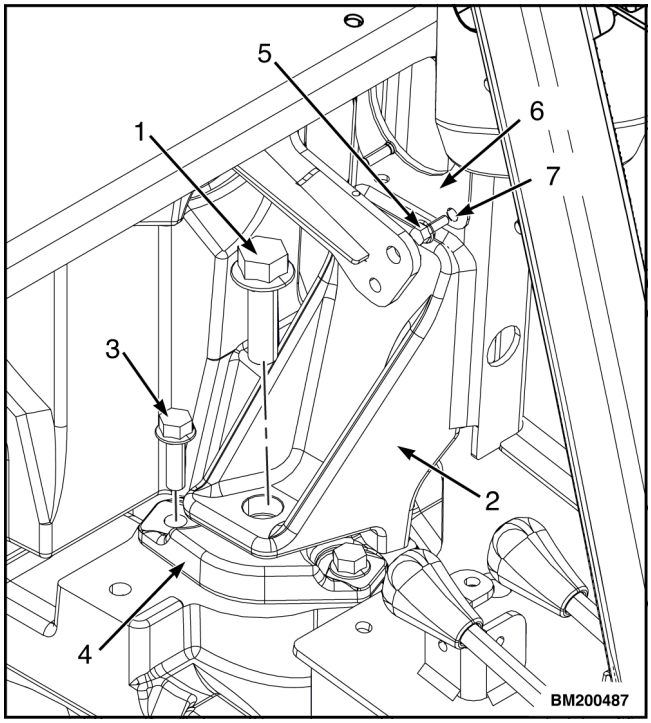
For rectangle overhead guard option

- Remove the capscrews (item 1, Figure 3) retaining the overhead guard rear legs to the spacers (item 4).
- Remove the capscrews (item 3, Figure 3) retaining the spacers (item 4) to the frame.

For figure 8 overhead guard option

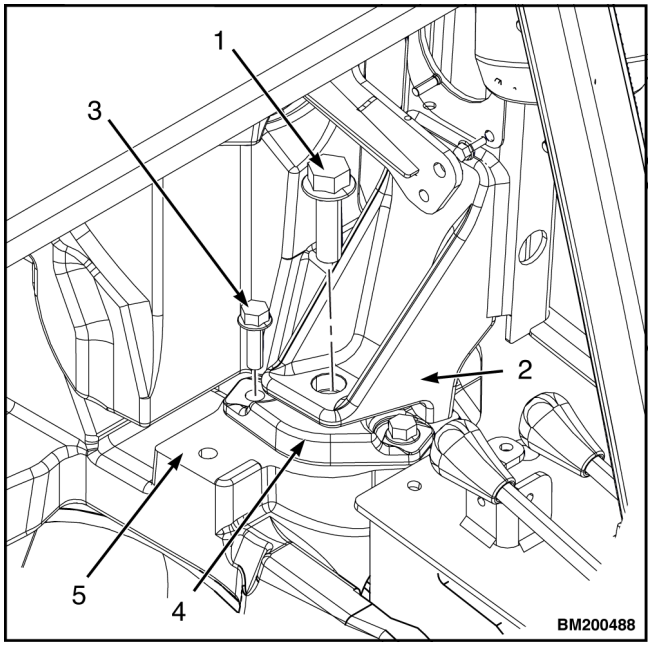
- Remove the capscrew and washer (item 1 and 2, Figure 4) retaining the overhead guard rear legs to the large washers and isolators (item 4 and 5).
- Remove the capscrew (item 6, Figure 4) retaining the isolators (item 4) to the frame.

NOTE: The figure below displays the attaching hardware for one rear leg of the overhead guard. The other rear leg will be similar.



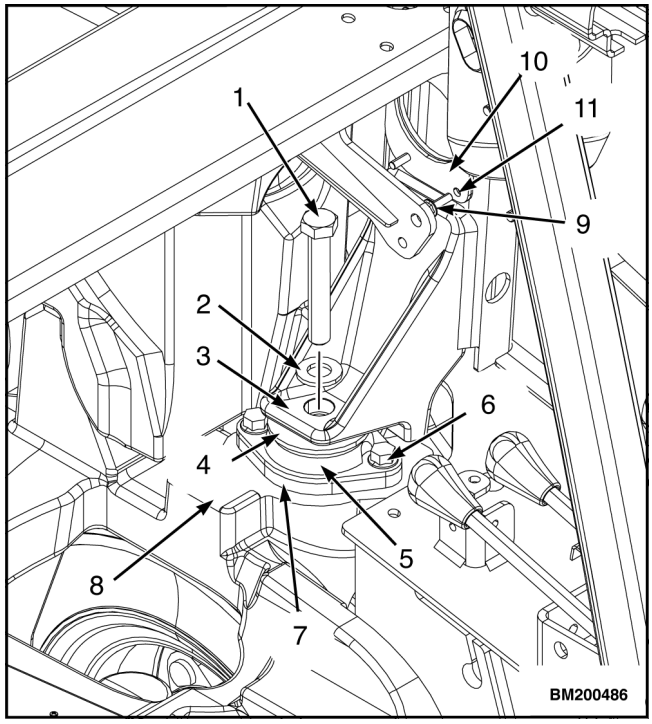
1. CAPSCREW
2. OVERHEAD GUARD
3. CAPSCREW
4. SPACER
5. CAPSCREW
6. PLATE
7. INSERT

Figure 2. Overhead Guard Rear Legs (Premium Option)



1. CAPSCREW
2. OVERHEAD GUARD
3. CAPSCREW
4. SPACER
5. FRAME

Figure 3. Overhead Guard Rear Legs (Rectangle Option)



1. CAPSCREW
2. WASHER
3. OVERHEAD GUARD
4. WASHER
5. ISOLATOR
6. CAPSCREW
7. SPACER
8. FRAME
9. CAPSCREW
10. PLATE
11. INSERT

Figure 4. Overhead Guard Rear Legs (Figure 8 Option)

6. Remove the floor mat and floor plate from the lift truck. See **Frame and Main Components** 8000SRM2306 manual for removal procedure.

7. Remove the overhead guard front legs:

For premium overhead guard option

- Remove the capscrews (item 1, Figure 5) retaining the overhead guard front legs to the spacers (item 5).
- Remove the capscrews (item 4, Figure 5) retaining the spacers (item 5) to the frame.

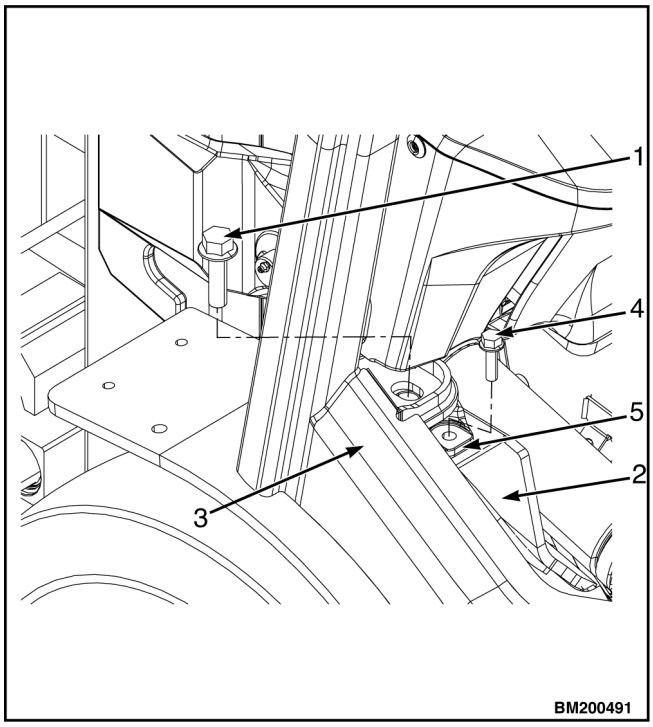
For rectangle overhead guard option

- Remove the capscrews and washers (item 1 and 2, Figure 6) retaining the overhead guard front legs to the frame (item 5).

For figure 8 overhead guard option

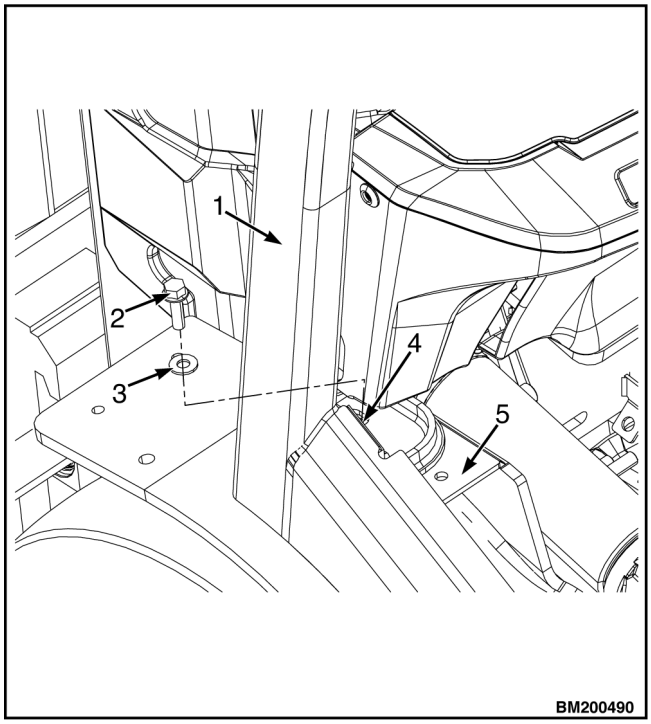
- Remove the capscrews and washers (item 1 and 2, Figure 7) retaining the overhead guard front legs to the large washers and isolators (item 4 and 6).
- Remove the capscrews (item 5, Figure 7) retaining the isolators (item 4) to the spacer.

NOTE: The figure below displays the attaching hardware for one front leg of the overhead guard. The other front leg will be similar.



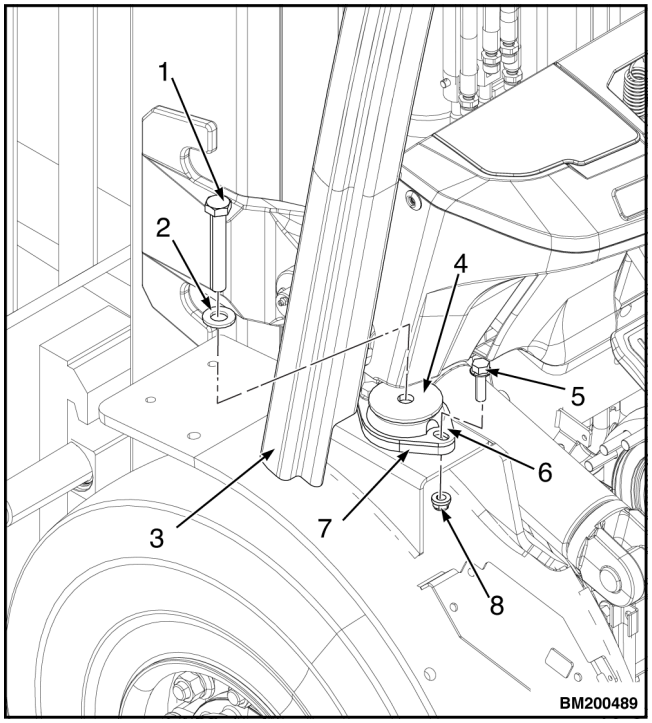
1. CAPSCREW
2. FRAME
3. OVERHEAD GUARD
4. CAPSCREW
5. SPACER

Figure 5. Overhead Guard Front Legs (Premium Option)



1. OVERHEAD GUARD
2. CAPSCREW
3. WASHER
4. LOCKWASHER
5. FRAME

Figure 6. Overhead Guard Front Legs (Rectangle Option)



1. CAPSCREW
2. WASHER
3. OVERHEAD GUARD
4. WASHER
5. CAPSCREW
6. ISOLATOR
7. SPACER
8. NUT

Figure 7. Overhead Guard Front Legs (Figure 8 Option)

8. Use the lifting device to remove the overhead guard from the frame.

INSTALL

NOTE: Make sure electrical wire harnesses are routed as noted during removal to ensure that wires do not get pinched.

1. Use the lifting device to install the overhead guard to the frame. See Figure 1.

NOTE: The following procedures describe the steps for installing one leg of the overhead guard. Repeat the process for both legs.

2. Secure the front legs:

For premium overhead guard option

- Insert the capscrews (item 1, Figure 5) to retain the overhead guard front leg to the spacer (item 5) and tighten. Torque to 225 to 250 N•m (166.0 to 184.4 lbf ft).
- Insert the capscrews (item 4, Figure 5) retaining the spacers (item 5) to the frame. Torque to 54 to 60 N•m (39.8 to 44.3 lbf ft).

For rectangle overhead guard option

- Insert the capscrew (item 2, Figure 6) with washer to retain the overhead guard front leg to the frame and tighten. Torque to 225 to 250 N•m (166.0 to 184.4 lbf ft).

For figure 8 overhead guard option

- Insert the capscrews and washers (item 1 and 2, Figure 7) to retain the overhead guard front legs to the large washers and isolators (item 4 and 6). Torque to 100 to 113 N•m (73.8 to 83.3 lbf ft).
- Insert the capscrews (item 5, Figure 7) retaining the isolators (item 4) to the spacer and tighten. Torque to 54 to 60 N•m (39.8 to 44.3 lbf ft).

3. Install the floor mat and floor plate to the lift truck. See Covers repair in **Frame and Main Components** 8000SRM2306 manual for procedure.

4. Secure the rear legs:

For premium overhead guard option

- Insert the capscrews (item 1, Figure 2) to retain the overhead guard rear legs to the spacers (item 4). Torque to 225 to 250 N•m (166.0 to 184.4 lbf ft).
- Insert the capscrews (item 3, Figure 2) to retain the spacers (item 4) to the frame. Torque to 54 to 60 N•m (39.8 to 44.3 lbf ft).

For rectangle overhead guard option

- Insert the capscrews (item 1, Figure 3) to retain the overhead guard rear legs to the spacers (item 4). Torque to 225 to 250 N•m (166.0 to 184.4 lbf ft).
- Insert the capscrews (item 3, Figure 3) to retain the spacers (item 4) to the frame. Torque to 54 to 60 N•m (39.8 to 44.3 lbf ft).

For figure 8 overhead guard option

- Insert the capscrews and washers (item 1 and 2, Figure 4) to retain the overhead guard rear legs to the large washers and isolators (item 4 and 5). Torque to 100 to 113 N•m (73.8 to 83.3 lbf ft).
- Insert the capscrew (item 6, Figure 4) to retain the isolators (item 4) to the frame. Torque to 54 to 60 N•m (39.8 to 44.3 lbf ft).

5. Install the hood to the lift truck. See Covers repair in **Frame and Main Components** 8000SRM2306 manual for procedure.

6. Install the seat to the hood. See Seat repair-Full Suspension in this manual for procedure.

7. Connect the electrical wire harness connectors as tagged during removal.

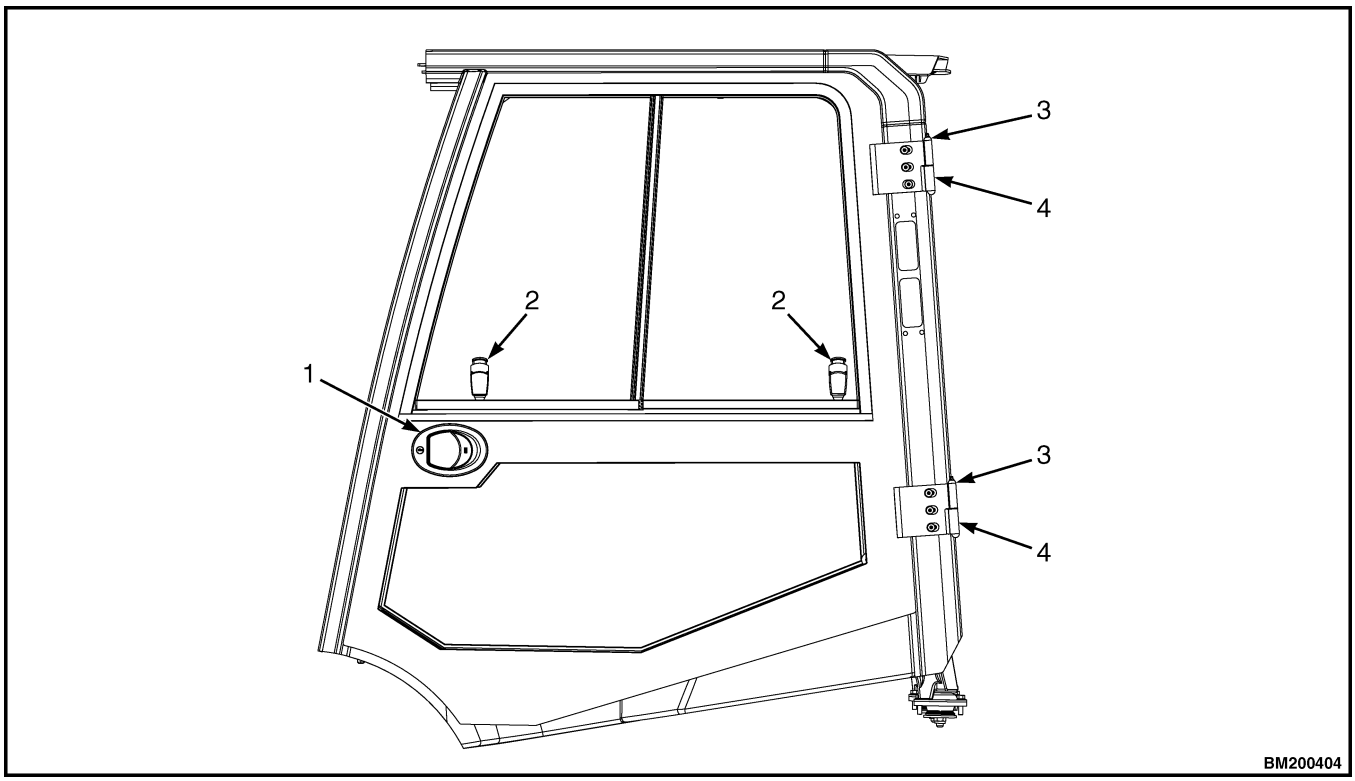
CAB COMPONENTS REPAIR 202001-004

STEEL DOORS

CAUTION

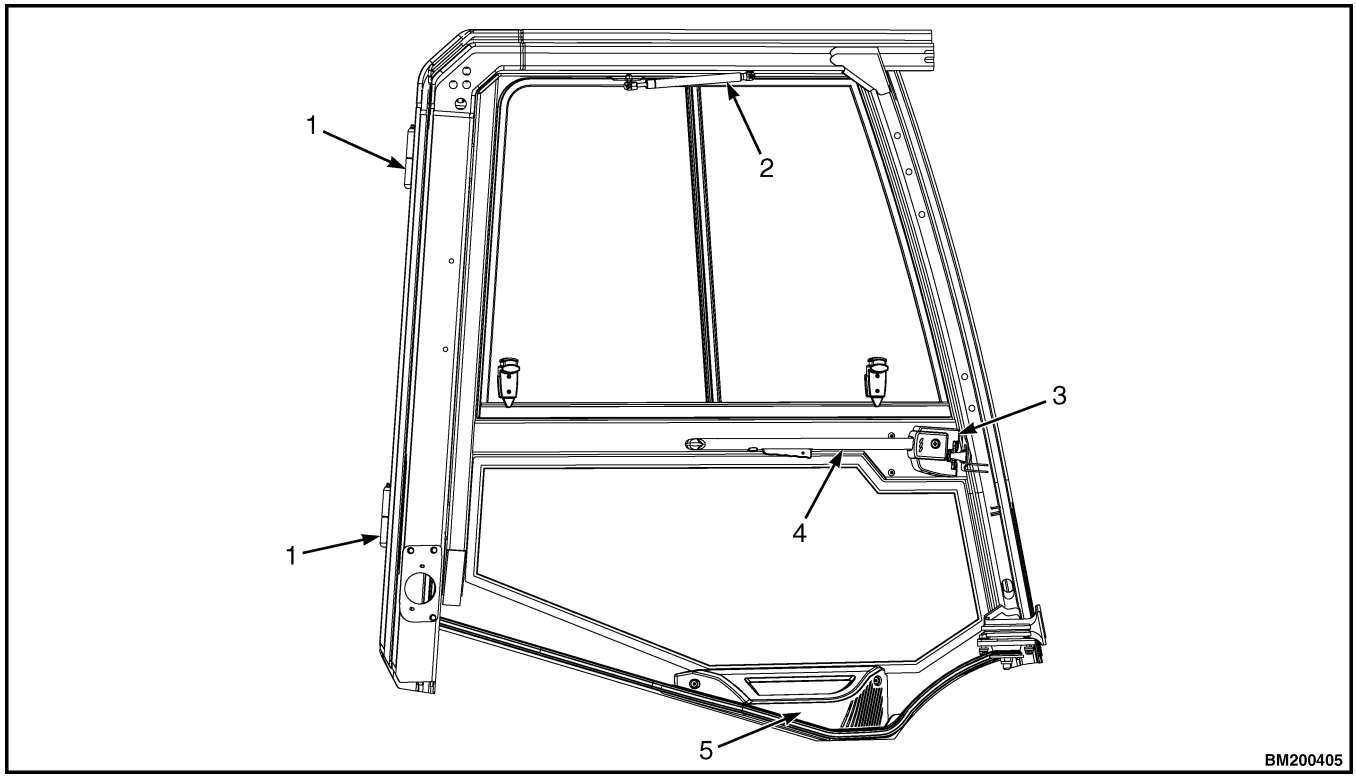
The steel door is heavy and weighs 100 kg (221 lb). Use a lifting device capable of supporting 100 kg (221 lb).

NOTE: Only Left Hand (LH) door will be shown, Right Hand (RH) door is similar. Windows are glass, use care when handling.



1. DOOR HANDLE
2. SLIDING WINDOW POSITIONING LOCKS
3. GREASE FITTING
4. DOOR HINGE
5. OVERHEAD GUARD SUPPORT POST, LH, REAR

Figure 8. LH Steel Door (Outside View)

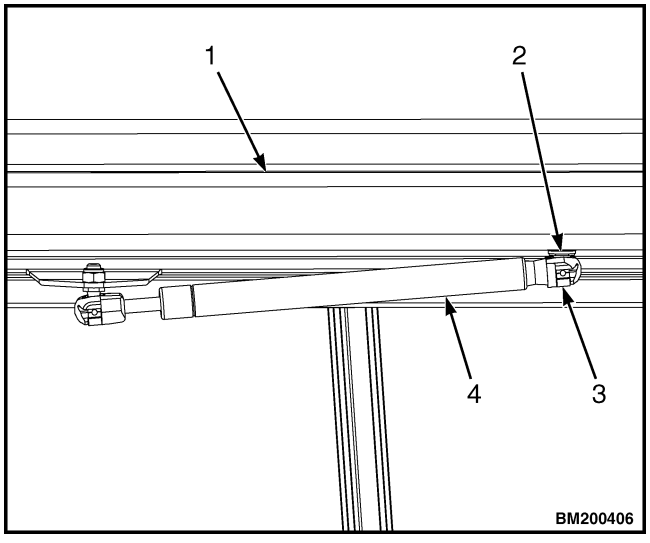


1. DOOR HINGE
2. GAS SPRING
3. DOOR LATCH ASSEMBLY
4. DOOR GRAB HANDLE
5. AIR OVERPRESSURE VENT (LH DOOR ONLY)

Figure 9. LH Steel Door, (Inside View)

Remove

1. Disconnect gas spring from ball stud. Temporarily secure gas spring to window with adhesive tape to prevent movement.



1. OVERHEAD GUARD
2. BALL STUD
3. GAS SPRING END CONNECTOR
4. GAS SPRING

Figure 10. Gas Spring

2. Unlock door (if locked) and pull outward on door handle to unlatch door mechanism.

3. Carefully lift door assembly off hinge pins.

4. Protect the door if long-term storage is being performed.

Install (Existing)

NOTE: If a door was previously installed on the truck, follow the steps below. If door is being installed as a kit for the first time, follow the next procedure **Install (New)**. Only LH door will be shown, RH door is similar.

1. Carefully lower door assembly onto hinge pins.

2. Close door and ensure latch door mechanism engages.

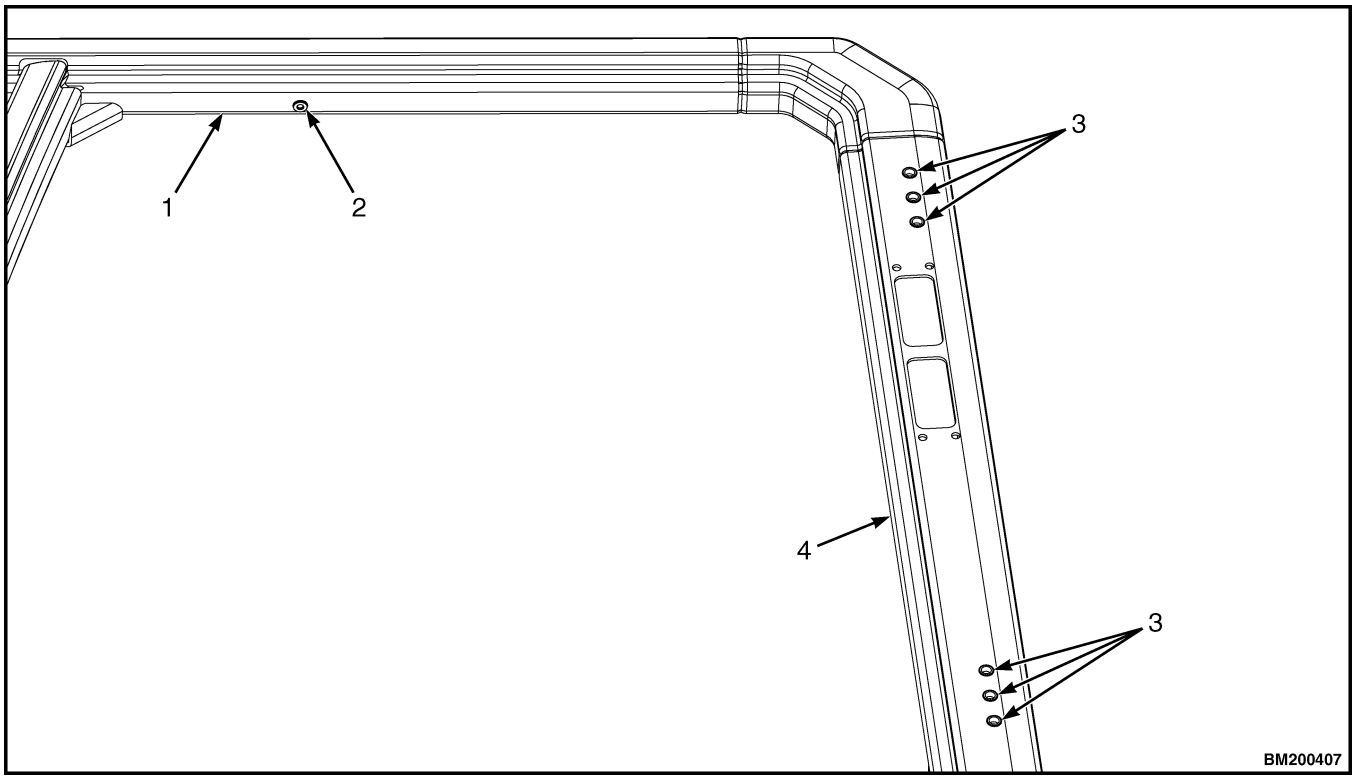
3. Remove adhesive tape securing gas spring to window. Connect gas spring to ball stud.

4. Ensure door opens and closes smoothly and latch mechanism is operating properly.

Install (New)

NOTE: This procedure is for installing a door for the first time as if from a purchased kit. Only LH door will be shown, RH door is similar.

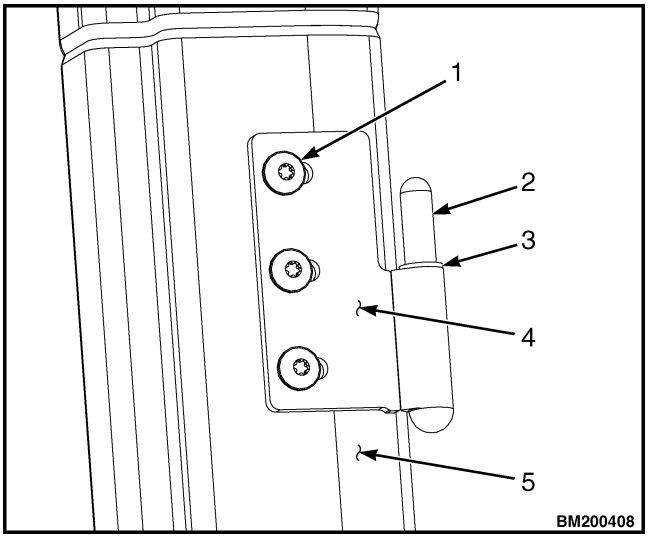
1. Install 7 nut inserts into overhead guard (3 for each hinge bracket and 1 for gas spring ball stud).



1. OVERHEAD GUARD SUPPORT POST, LH, TOP
2. NUT INSERT (BALL STUD)
3. NUT INSERT (DOOR HINGE)
4. OVERHEAD GUARD SUPPORT POST, LH, REAR

Figure 11. Nut Inserts

2. Attach 2 hinge brackets (item 4, Figure 12) to rear overhead guard support post (item 5, Figure 12) with capscrews (item 1, Figure 12).Torque capscrews to 19 N•m (14 lbf ft).



1. CAPSCREW
2. HINGE PIN
3. BRASS WASHER
4. HINGE BRACKET
5. OVERHEAD GUARD SUPPORT POST, LH, REAR

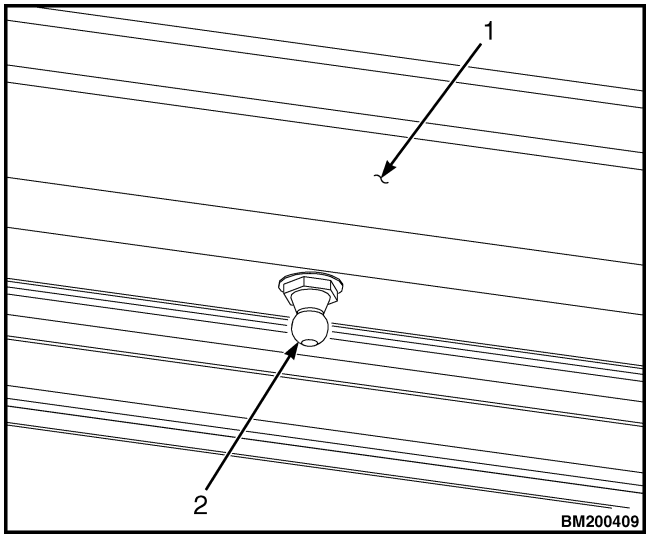
Figure 12. Hinge Bracket (Top Shown)

NOTE: Top hinge shown, bottom hinge is installed the same.

3. Install brass washer (item 3, Figure 12) onto hinge pin (item 2, Figure 12).

4. Lubricate hinge pin with Multi-Purpose grease (with moly).

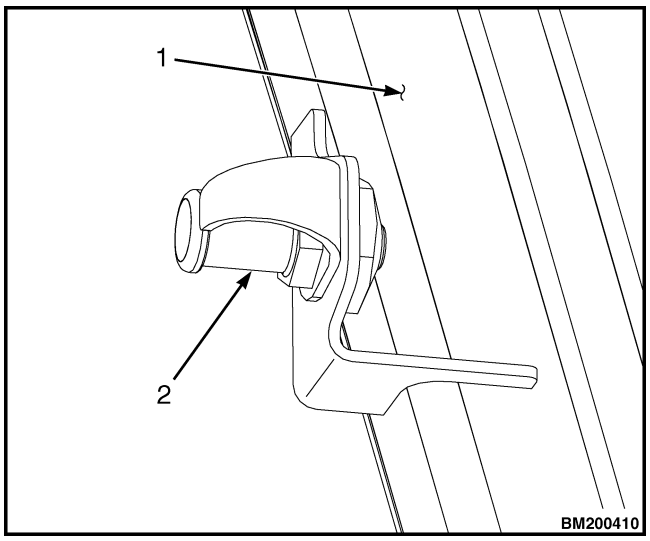
5. Install ball stud (vendor supplied) to overhead guard and torque to 25 N•m (18.4 lbf ft).



1. OVERHEAD GUARD
2. BALL STUD

Figure 13. Ball Stud

6. Install striker bolt (vendor supplied) to overhead guard front leg. Torque striker bolt to 65 N•m (48 lbf ft).



1. OVERHEAD GUARD SUPPORT POST, FRONT, LH
2. STRIKER BOLT

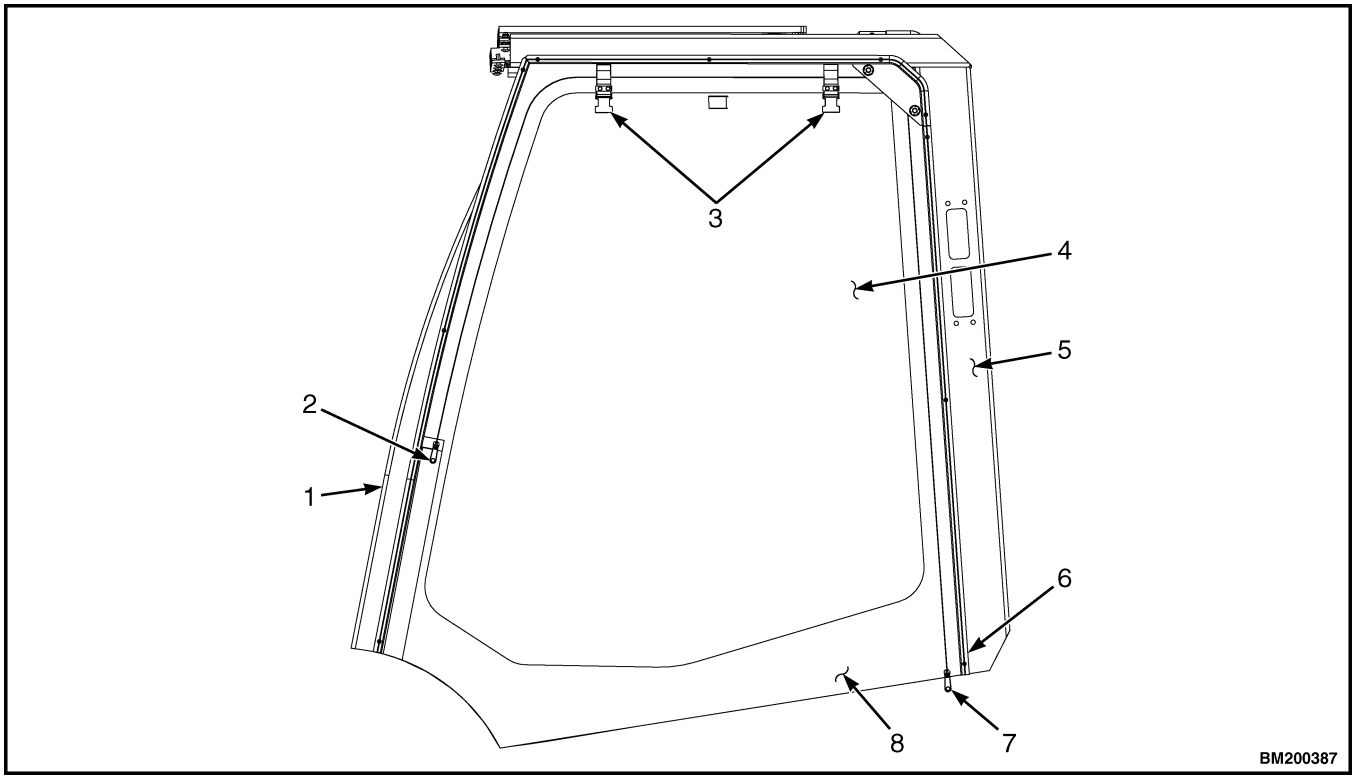
Figure 14. Striker Bolt

7. Carefully lift door assembly and lower onto hinge pins.

8. Adjust hinge brackets to ensure uniform clearance between door and overhead guard and to ensure correct latch operation.
9. Connect gas spring (item 4, Figure 10) to ball stud (item 2, Figure 10).
10. Ensure door opens and closes smoothly and latch mechanism is operating properly.

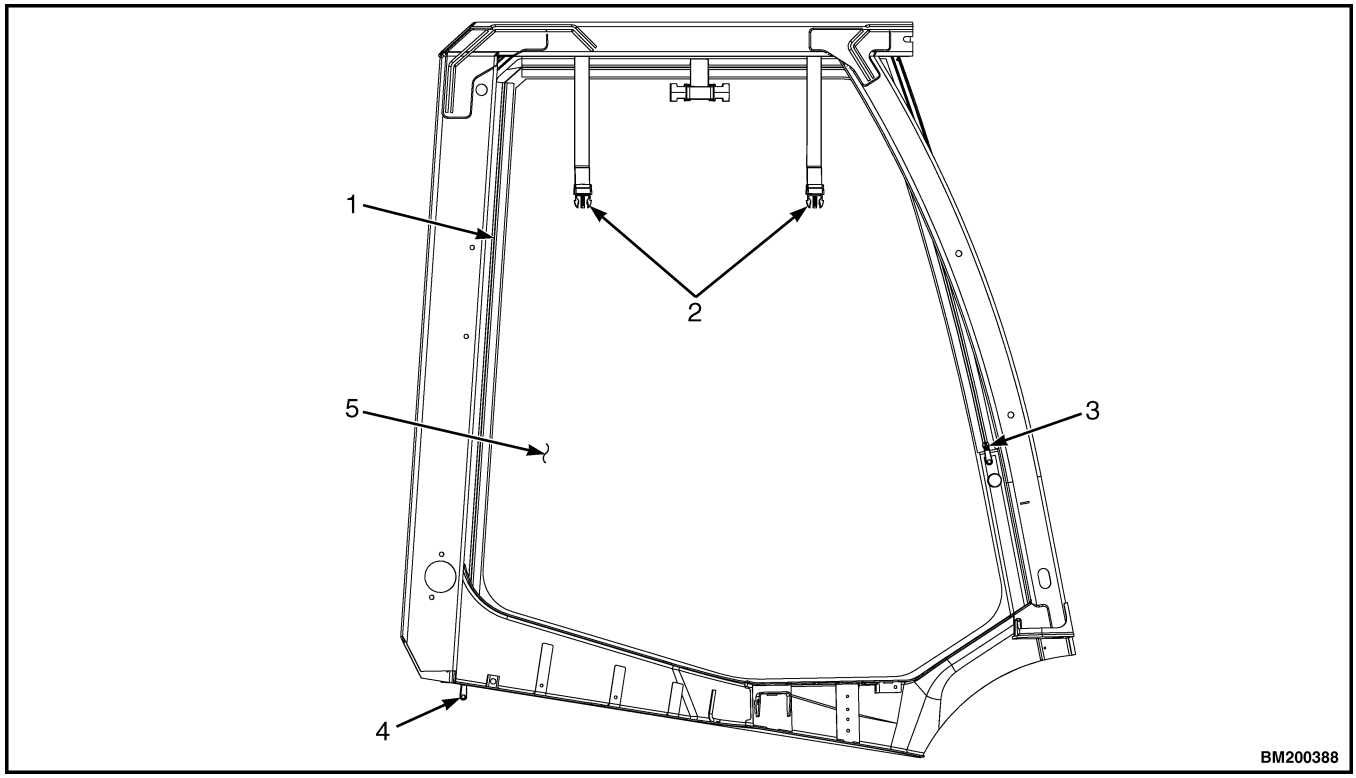
PVC DOORS

NOTE: Only LH door will be shown, RH door is similar.



1. OVERHEAD GUARD SUPPORT POST, FRONT, LH
2. ZIPPER 1 START POINT
3. QUICK RELEASE FEMALE BUCKLE
4. TRANSPARENT PANEL
5. OVERHEAD GUARD SUPPORT POST, REAR, LH
6. SELF-TAPPING SCREW
7. ZIPPER 2 START POINT
8. DOOR SUPPORT CLOTH

Figure 15. PVC Door, LH, Outside



1. DOOR SUPPORT CLOTH
2. STRAP WITH QUICK RELEASE MALE BUCKLE
3. ZIPPER 1 START POINT
4. ZIPPER 2 START POINT
5. TRANSPARENT PANEL

Figure 16. PVC Door, LH, Inside

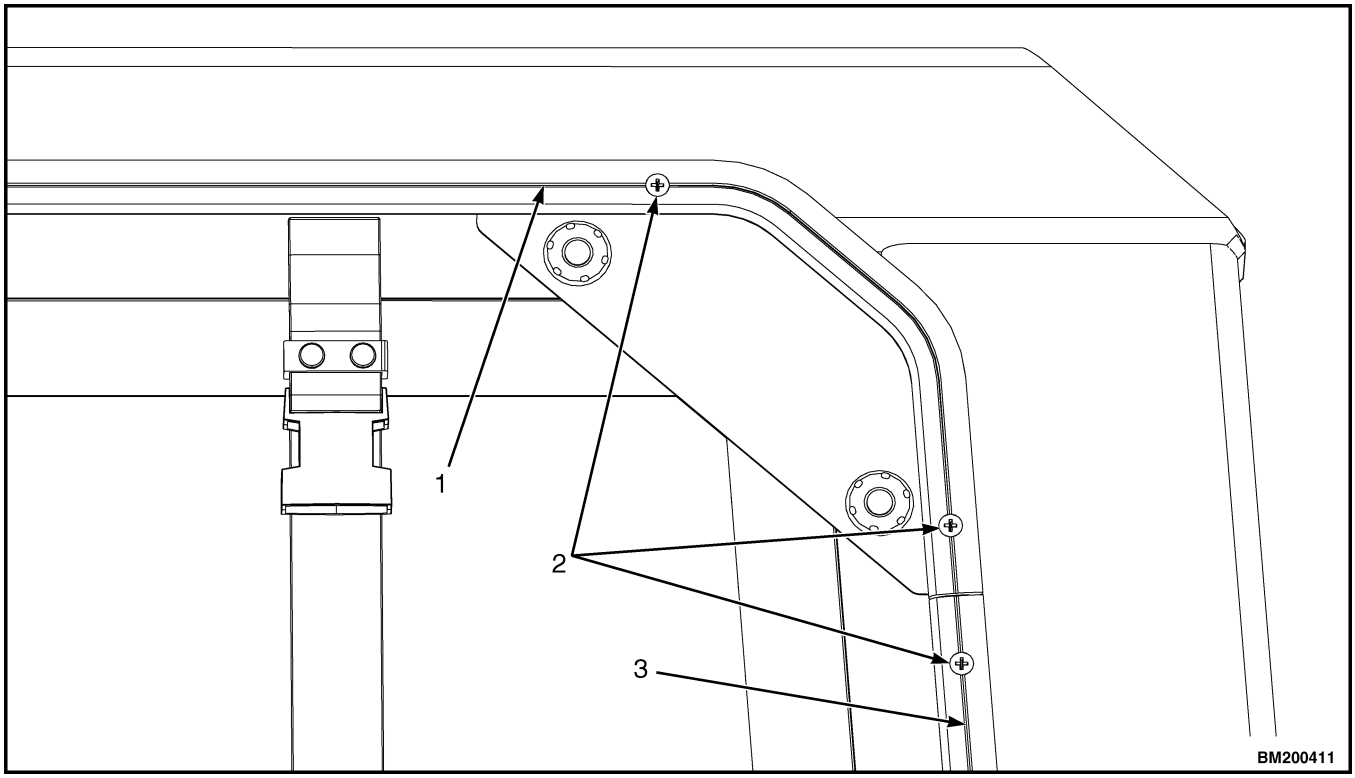
Remove

NOTE: The aluminum frame sections are held in place by self-adhesive foam tape and self-tapping screws. An edge bead is contained within the aluminum frame sections. The LH and RH sections both have 3 self-tapping screws each and the top section has 4 self-tapping screws.

1. Unzip both zippers (items 2 and 7, Figure 15), roll up the transparent panel (item 4, Figure 15), and secure using straps (item 2, Figure 16) and quick release buckles (item 3, Figure 15).

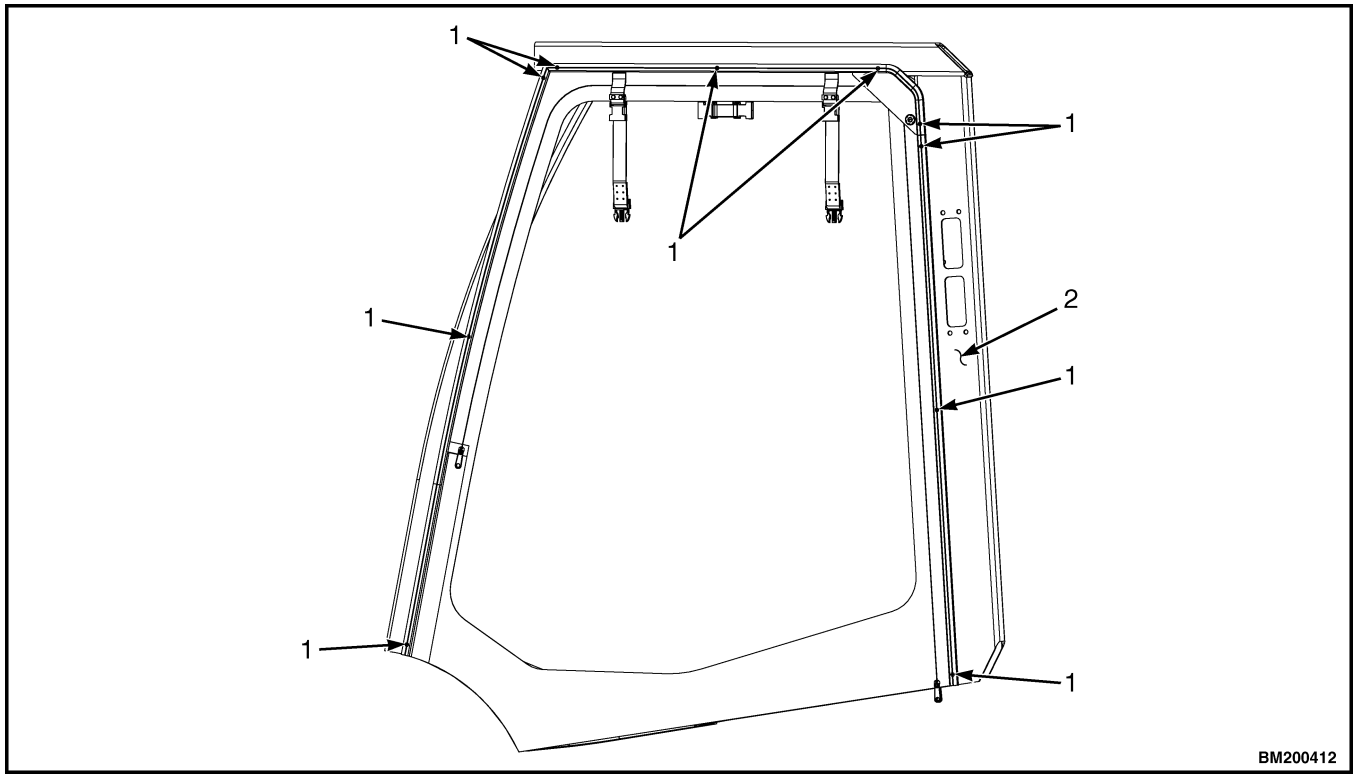
2. Remove (10) self-tapping screws (item 2, Figure 17) (item 1, Figure 18) from aluminum frame sections.

NOTE: The three aluminum frame sections are LH, top, and RH. The graphic below does not show the LH section.



1. TOP FRAME SECTION
2. SELF-TAPPING SCREW
3. RH FRAME SECTION

Figure 17. Aluminum Frame Sections (Closeup)



1. SELF-TAPPING SCREW
2. OVERHEAD GUARD SUPPORT POST, REAR, LH

Figure 18. Self-Tapping Screw Locations

NOTE: The rolled up transparent panel in Step 1 is attached to the top frame section. Use care when removing to prevent damage to the panel.

3. Remove frame sections and self-adhesive foam tape from overhead guard sections.

Install

NOTE:

1. Start at RH top corner of overhead guard. Position LH, top, and RH frame sections lining up butt joint at RH and miter joint at LH corner.

2. Tape all frame sections to the overhead guard with masking tape.

3. Using each hole in the frame sections as a template and drill guide, drill through the frame sections using a 3.7-3.75 mm (0.1457-0.1476 in.) drill bit.

WARNING

Compressed air can move particles so that they cause injury to the user or to other personnel. Make sure that the path of the compressed air is away from all personnel. Wear protective goggles or a face shield to prevent injury to the eyes.

4. Remove the frame sections and blow away all swarf around holes in the overhead guard and frame section using airline.

5. Lubricate door beading with white paraffin and slide into top frame section and slide into top frame section first.

6. Slide RH corner patch onto top frame section ensuring Velcro tabs are facing inboard.

7. Slide LH door beading into the LH frame section.

8. Slide RH door beading into RH frame section.

9. Remove backing tape from top frame section and fix to overhead guard ensuring holes line up. Secure with 4 screws. Torque screws to 3 N•m (26.5 lbf in).

10. Remove backing tape from LH frame section and fix to overhead guard ensuring holes line up. Secure with 3 screws. Torque screws to 3 N•m (26.5 lbf in).

11. Unzip door to remove tension. Remove backing tape from RH frame section and fix to overhead guard ensuring holes line up. Secure with 3 screws. Torque screws to 3 N•m (26.5 lbf in).

12. Zip door completely to ensure zippers operate smoothly.

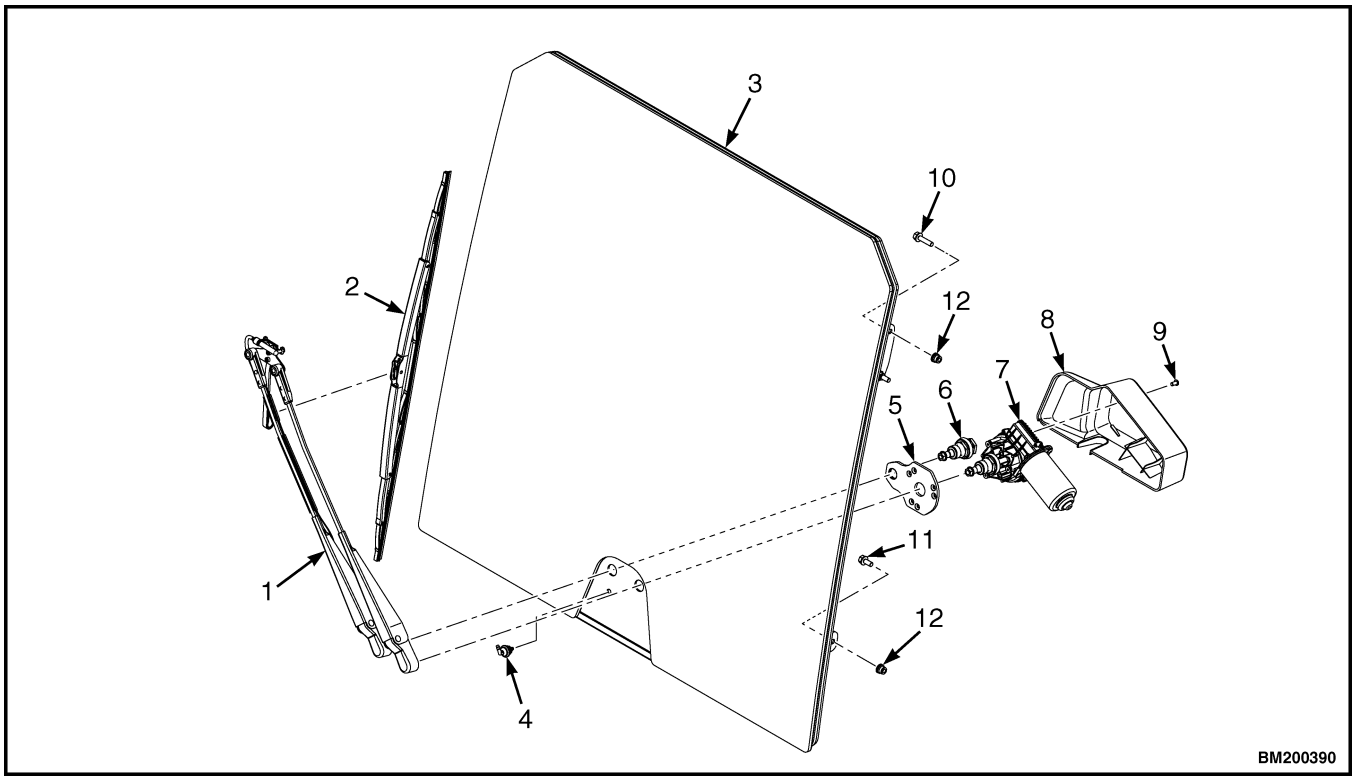
13. Ensure all screws are fitted flush and paintwork has not been damaged.

14. Unzip door and roll up to prevent damage. Secure with straps and buckles.

SCREENS

NOTE: Front, top, or rear screens may be installed on your truck. Wipers are standard with front and rear screens and optional for top screens.

Front Screen and Wiper

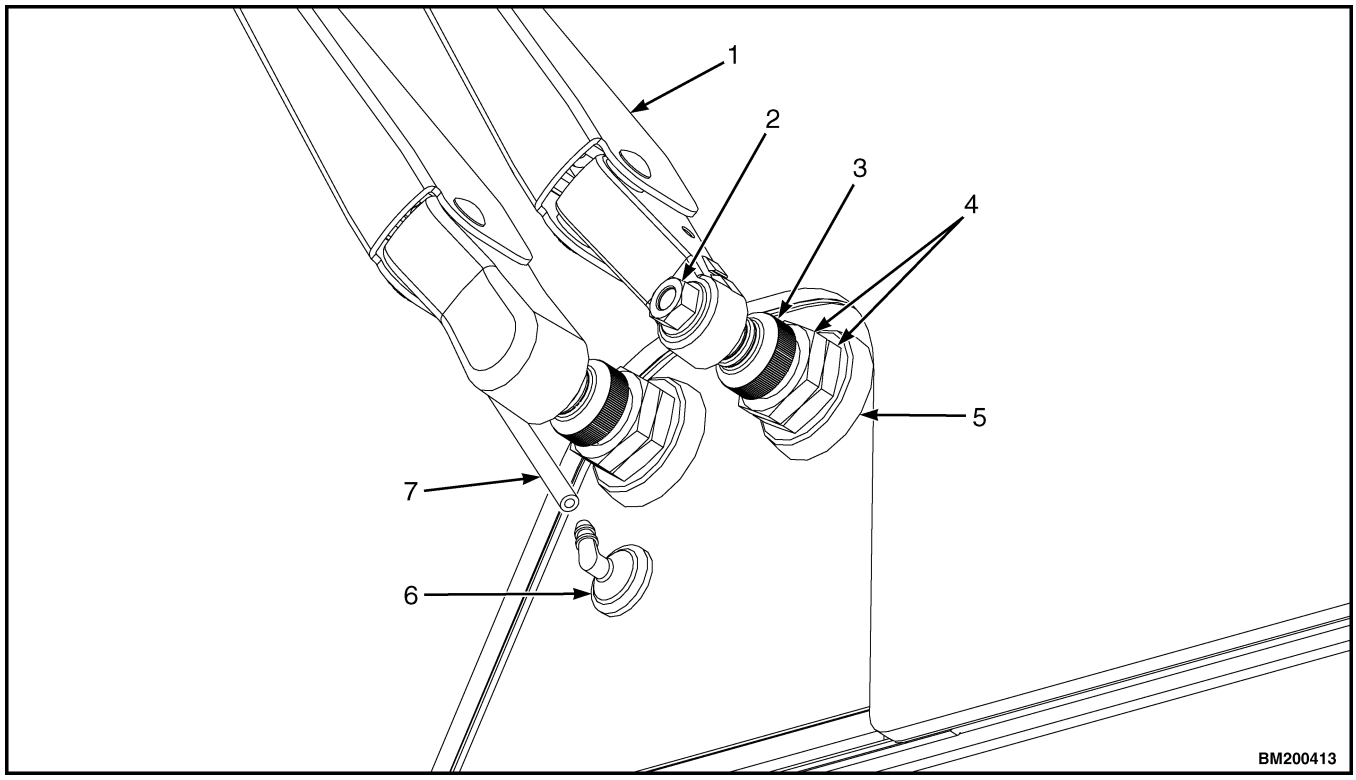


1. WIPER ARM
2. WIPER BLADE
3. FRONT SCREEN
4. ELBOW FITTING
5. WIPER MOTOR MOUNT BRACKET
6. DRIVEN SPINDLE WIPER
7. WIPER MOTOR
8. WIPER MOTOR COVER
9. SCREW
10. CAPSCREW
11. CAPSCREW
12. INSERT

Figure 19. Front Screen and Wiper

Remove

1. Raise the hood and disconnect the battery. See Battery service in **Electrical, software, and controls** 2200SRM2304 .
2. Remove 2 screws (item 9, Figure 19), and wiper motor cover (item 8, Figure 19) from wiper motor (item 7, Figure 19).
3. Disconnect electrical harness from wiper motor.
4. Remove wiper blade (item 2, Figure 19) from wiper arm (item 1, Figure 19).
5. Disconnect washer fluid line (item 7, Figure 20) from barbed elbow (item 6, Figure 20).

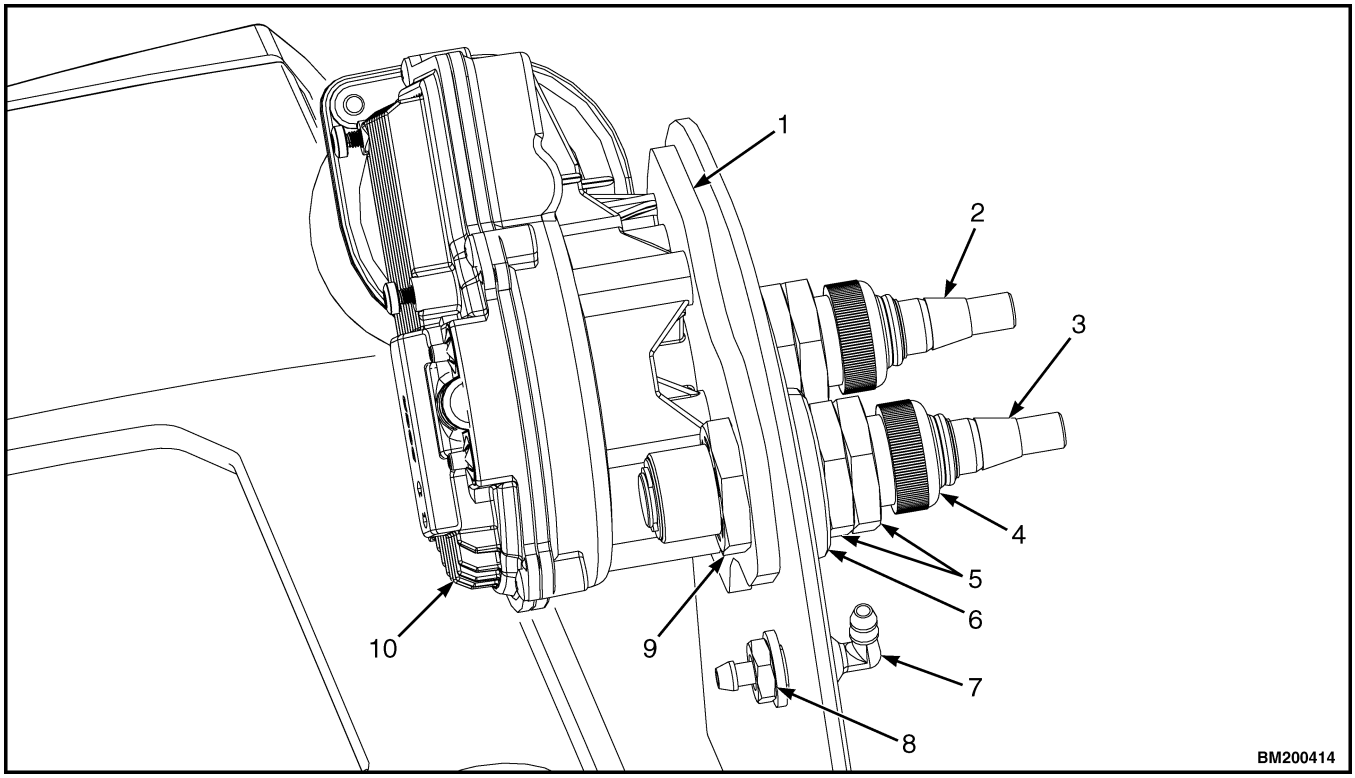


NOTE: SOME COMPONENTS REMOVED FOR CLARITY.

1. WIPER ARM
2. HEX FLANGED NUT
3. PLASTIC CAP
4. HEX NUT
5. SEALING WASHER AND FLAT WASHER
6. WASHER HOSE BULKHEAD FITTING
7. WASHER FLUID LINE

Figure 20. Wiper Arm Hardware

6. Raise wiper arm hinged covers and remove hex flanged nuts (item 2, Figure 20) and wiper arm (item 1, Figure 20) from spindles.
7. Remove plastic cap (item 4, Figure 20), 2 hex nuts (item 5, Figure 20), and sealing washer and flat washer (item 6, Figure 20) from driven spindle (item 3, Figure 21).



1. WIPER MOTOR MOUNTING BRACKET
2. MOTOR DRIVE SPINDLE
3. DRIVEN SPINDLE
4. PLASTIC CAP
5. HEX NUT
6. SEALING WASHER AND FLAT WASHER
7. WASHER HOSE BULKHEAD FITTING
8. HEX NUT, WASHER, AND GASKET
9. HEX NUT
10. WIPER MOTOR

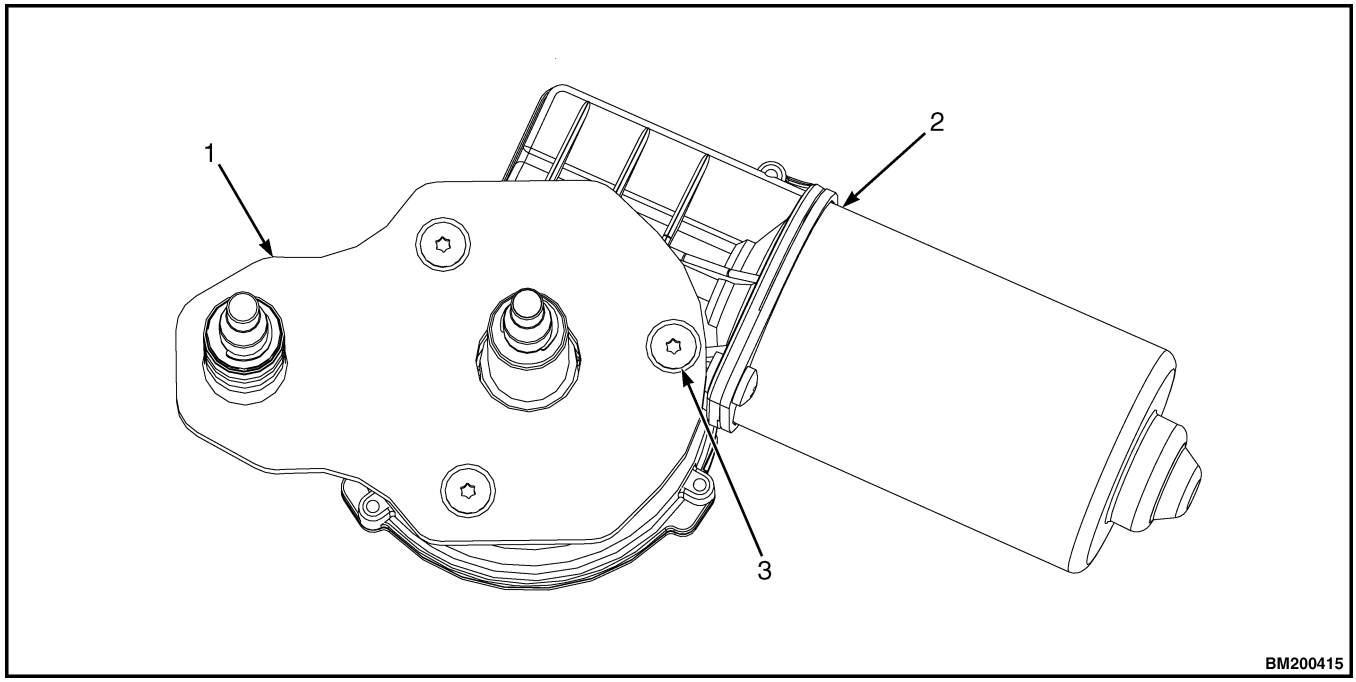
Figure 21. Motor and Spindle Hardware

8. Repeat Steps 5 and 6 of this procedure for motor drive spindle (item 2, Figure 21).

9. Remove driven spindle (item 3, Figure 21) from wiper motor mounting bracket (item 1, Figure 21).

10. Remove hex nut, washer, and gasket (item 8, Figure 21) and washer hose bulkhead fitting (item 7, Figure 21).

11. Remove 3 countersunk capscrews (item 3, Figure 22) and wiper motor (item 2, Figure 22) from wiper motor mounting bracket (item 1, Figure 22).



1. WIPER MOTOR MOUNTING BRACKET
2. WIPER MOTOR
3. COUNTERSUNK CAPSCREWS

Figure 22. Wiper Motor

12. Remove 4 capscrews (item 10, Figure 19) from top bracket, 2 capscrews (item 11, Figure 19) from bottom bracket and front screen (item 3, Figure 19) from overhead guard.

Install

1. Install self-adhesive seal (item 2, Figure 23) onto front, RH overhead guard support post (item 1, Figure 23). Align with top horizontal surface on the front cowl crossmember (item 3, Figure 23) and against the vertical edge of overhead guard support post.

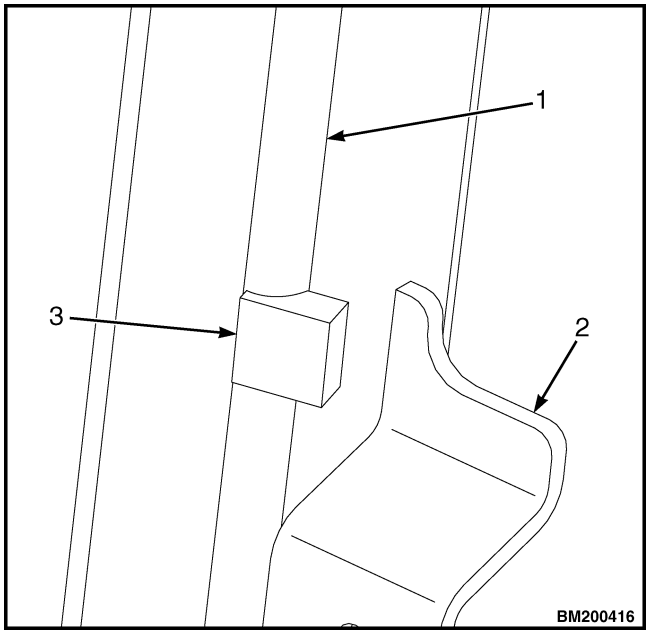


Figure 23. Seal

Legend for Figure 23.

NOTE: RH SIDE IS SHOWN, LH SIDE IS INSTALLED THE SAME.

1. OVERHEAD GUARD SUPPORT POST, FRONT, RH
2. SYNTHETIC RUBBER SELF-ADHESIVE SEAL
3. FRONT COWL CROSSMEMBER

NOTE: Apply Loctite 242 to capscrews.

2. Install front screen (item 3, Figure 19) to overhead guard using 4 capscrews (item 10, Figure 19) for top bracket, and 2 capscrews (item 11, Figure 19) for bottom bracket. Ensure even and consistent gap between screen and overhead guard support legs. Ensure self-adhesive seal is adequately compressed. Torque capscrews to 19.2 N•m (14.4 lbf ft).

3. Install wiper motor (item 2, Figure 22) to wiper motor mounting bracket (item 1, Figure 22) using 3 countersunk capscrews (item 3, Figure 22). Torque countersunk capscrews to 8-9 N•m (71-80 lbf in).

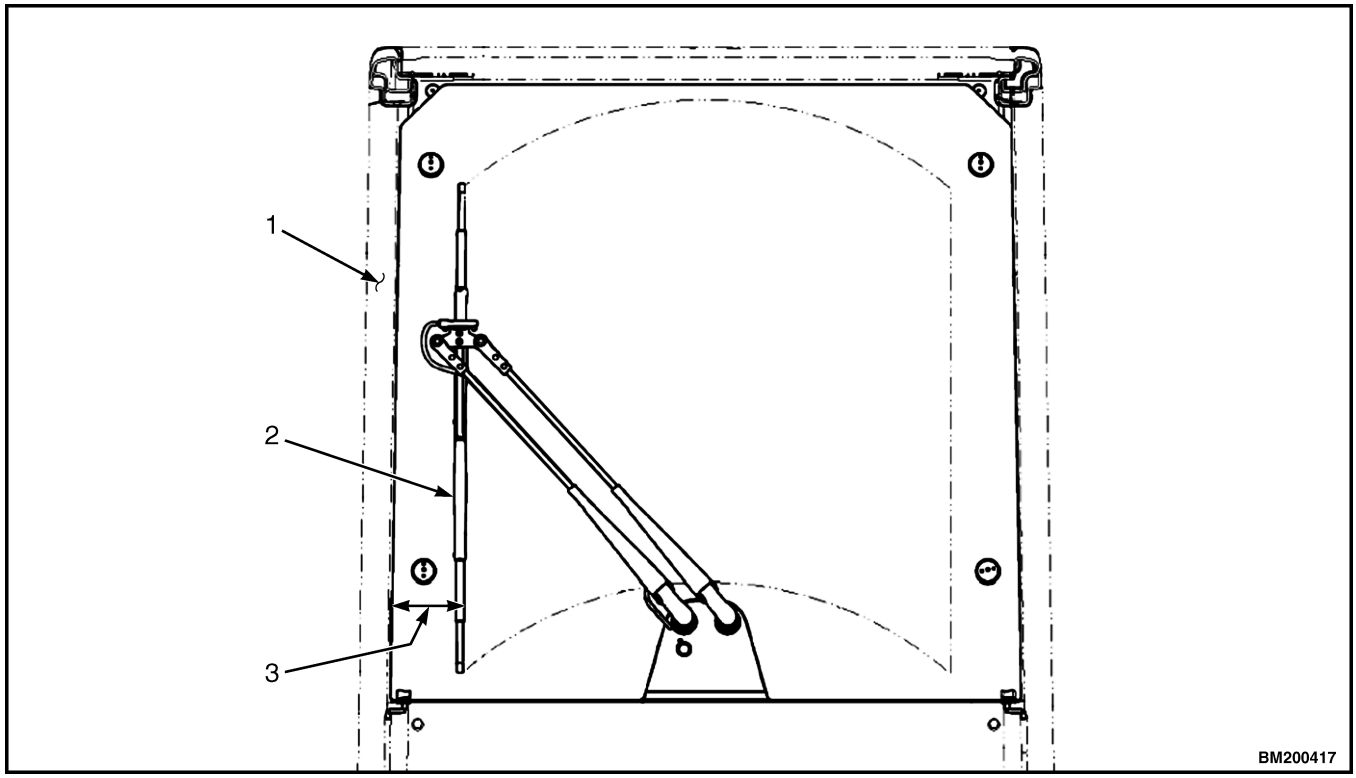
4. Install sealing washer and flat washer (item 6, Figure 20), 2 hex nuts (item 5, Figure 20) and plastic cap (item 4, Figure 20) onto motor drive spindle. Torque hex nuts to 35-40 N•m (26-30 lbf ft).

5. Install sealing washer and flat washer (item 6, Figure 21), 2 hex nuts (item 5, Figure 21) and plastic cap (item 4, Figure 21) onto driven spindle (item 3, Figure 21). Torque hex nuts to 35-40 N•m (26-30 lbf ft).

NOTE: Ensure wiper motor is in parked position.

6. Install wiper blade (item 2, Figure 19) to wiper arm (item 1, Figure 19).

7. Align wiper arm and blade assembly with splines on motor drive spindle and driven spindle. Install assembly onto spindles.



1. OVERHEAD GUARD SUPPORT POST, FRONT, RH
2. WIPER ARM
3. DISTANCE = 114.3MM (4.5 IN.)

Figure 24. Wiper Position

8. Set blade position as shown in Figure 17 and install hex flange nuts. Torque nuts to 23-25 N•m (17-18 lbf ft).

NOTE: Ensure gasket is present and correctly seated on the outside surface.

9. Install washer hose bulkhead fitting (item 7, Figure 21) with hex nut, washer, and gasket (item 8, Figure 21). Torque nut to 0.8 N•m (7.1 lbf in).

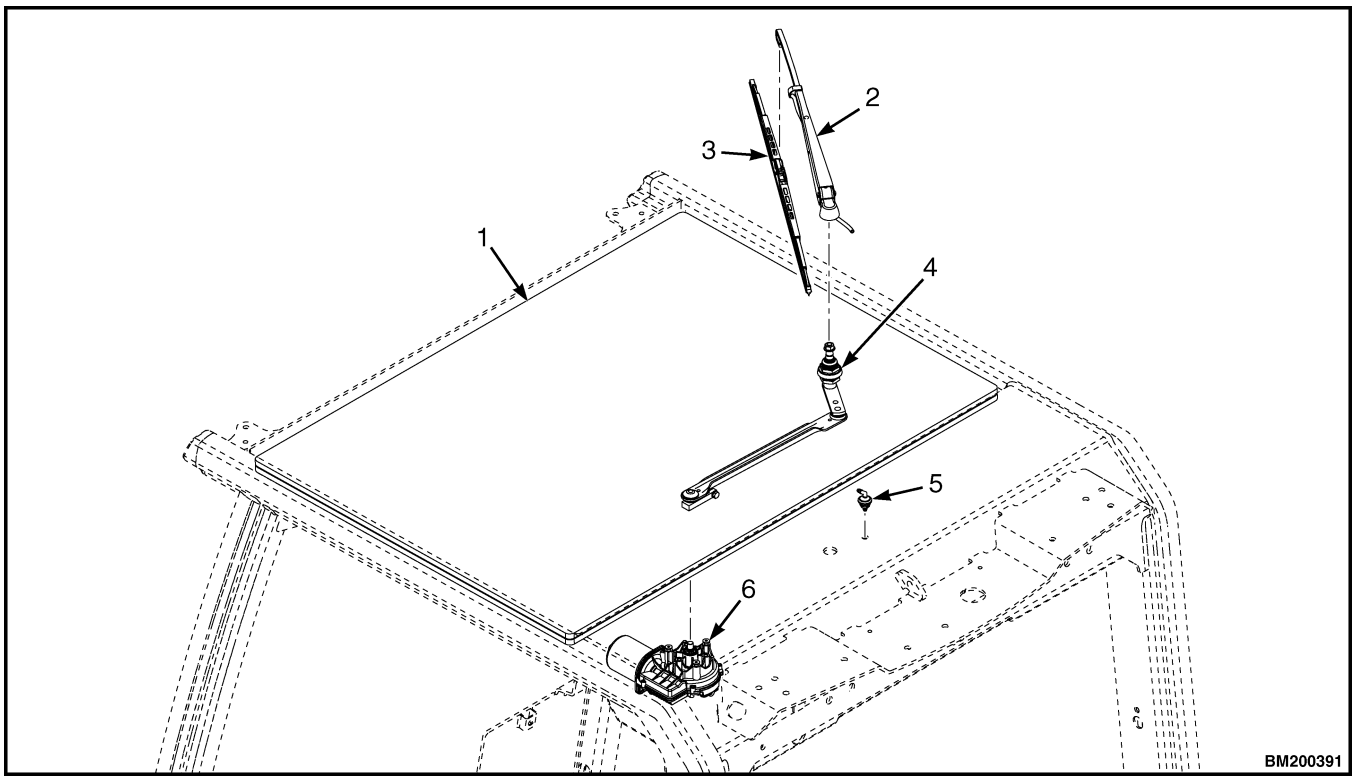
10. Connect washer fluid line (item 7, Figure 20) to washer hose bulkhead fitting (item 6, Figure 20).

11. Connect electrical harness to wiper motor.

12. Install wiper motor cover (item 8, Figure 19) to wiper motor (item 7, Figure 19) with 2 screws (item 9, Figure 19).

13. Connect battery and close hood. Refer to Battery service in for details.

Top Screen and Wiper



1. TOP SCREEN
2. WIPER ARM
3. WIPER BLADE
4. MOTOR LINKAGE
5. WASHER HOSE BULKHEAD FITTING
6. WIPER MOTOR

Figure 25. Top Screen and Wiper

Top Screen Remove

NOTE: The top screen is bonded to the overhead guard with adhesive. No other securing devices are used. See Figure 26.

1. Using piano wire, or similar device, cut out the previous bond around the entire perimeter.

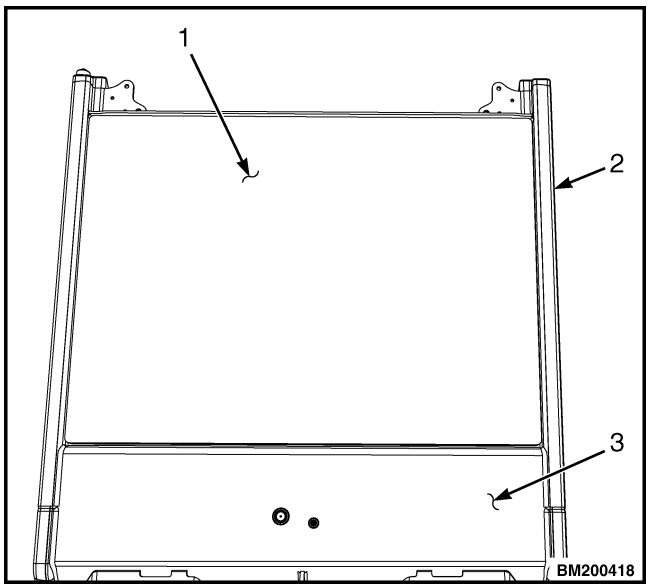


Figure 26. Top Screen

Legend for Figure 26.

1. TOP SCREEN
2. OVERHEAD GUARD
3. REAR CANOPY ROOF PLATE

2. Carefully remove the glass top screen.

Top Screen Install

NOTE: Manufacturer markings and approvals label on screen must be located at the right rear corner as viewed from above.

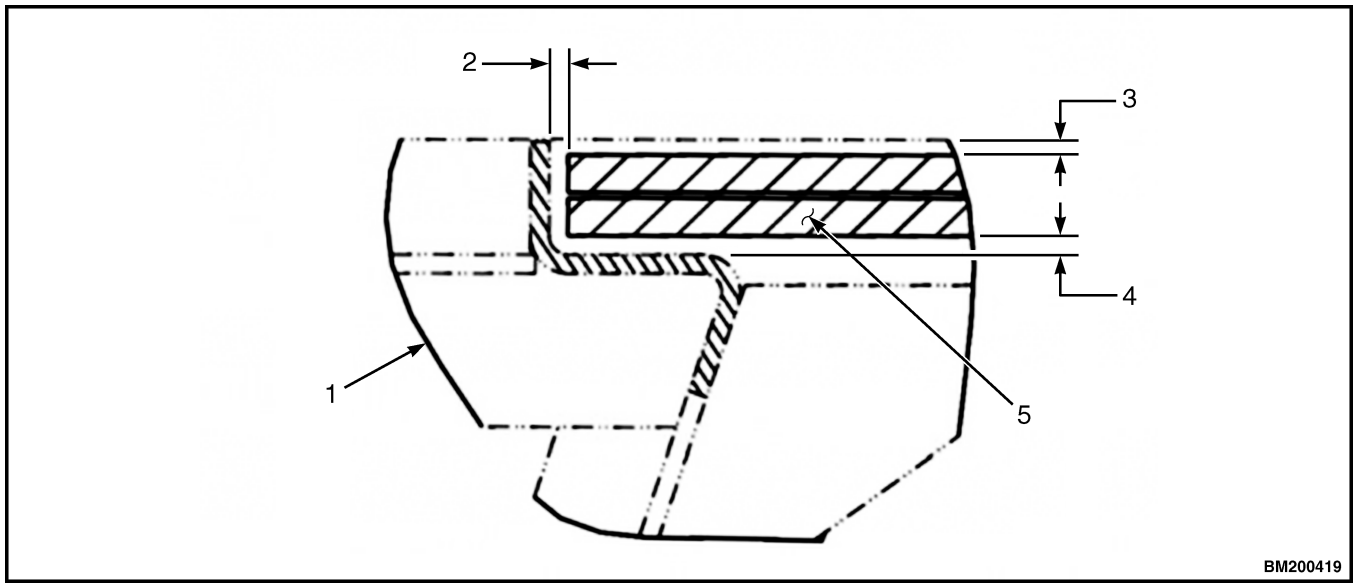
1. Ensure all old adhesive has been removed.

2. Prepare all gluing surfaces of overhead guard top plate with activator and primer.

3. Prepare bottom gluing surface of glass panel with activator.

4. Apply a suitable sized bead of adhesive to the underside perimeter of glass panel.

5. Install glass panel into overhead guard top plate. See Figure 27.



1. OVERHEAD GUARD
2. PERIMETER GAP, 5MM (0.2 IN.)
3. GAP BELOW OVERHEAD GUARD, 4MM (0.16 IN.)
4. ADHESIVE BEAD DEPTH (INSTALLED), 5MM (0.2 IN.)
5. GLASS PANEL

Figure 27. Glass Panel Clearances

6. Ensure the glass panel is installed with a 5mm (0.2 in.) gap all around and the top surface is 4mm (0.16 in.) below the top surface legs of the overhead guard.

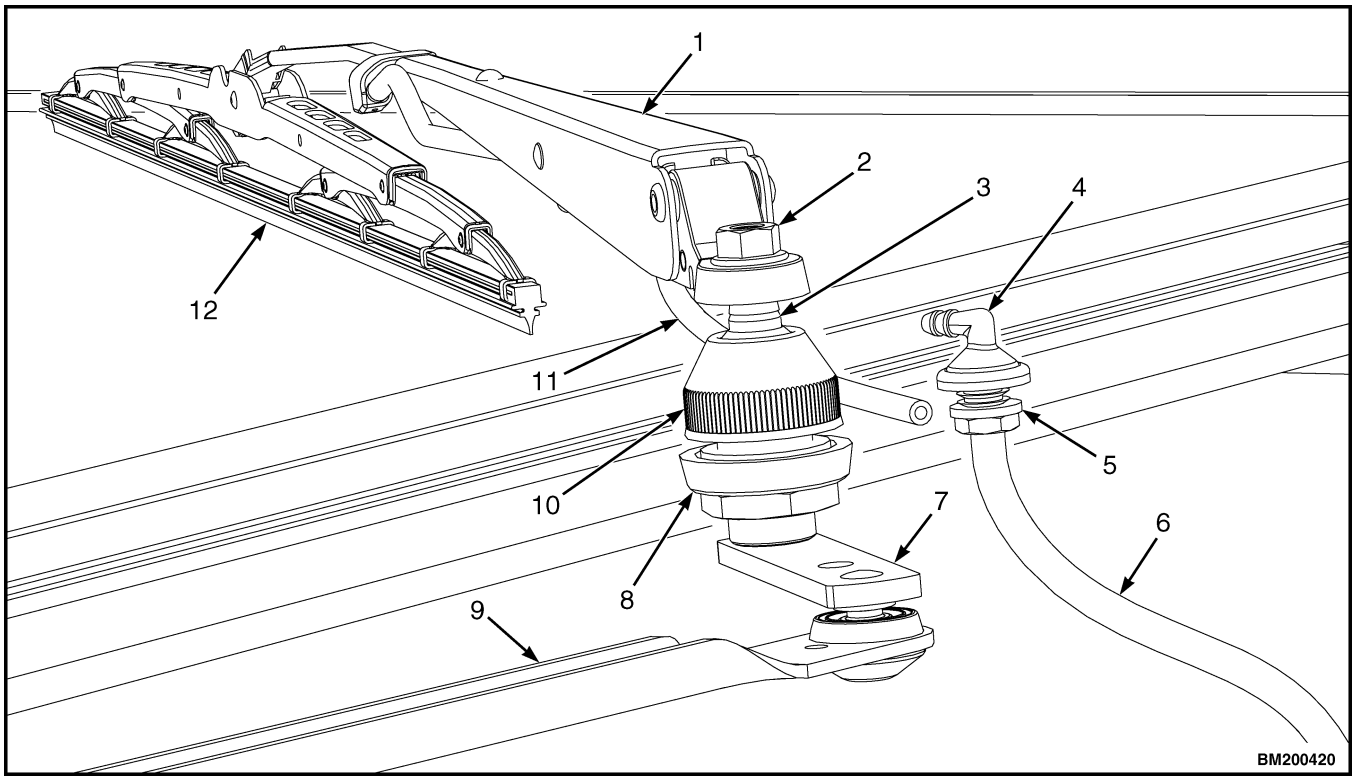
7. Backfill the gap around the outside perimeter of the glass panel. Smooth the surface of the backfilled area (masking may be required to achieve a good visual appearance.

Top Wiper Remove

NOTE: Wiper assembly and motor are mounted to the rear canopy roof plate.

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Disconnect washer fluid line (item 11, Figure 28) from washer hose bulkhead fitting (item 4, Figure 28).



NOTE: REAR CANOPY ROOF PLATE NOT SHOWN FOR COMPONENT CLARITY.

1. WIPER ARM
2. HEX FLANGE NUT
3. WIPER ARM SPINDLE
4. WASHER HOSE BULKHEAD FITTING
5. HEX NUT, WASHER, AND GASKET
6. WASHER SUPPLY HOSE
7. WIPER ARM LINKAGE
8. SEALING WASHER
9. MOTOR LINKAGE
10. PLASTIC CAP
11. WASHER FLUID LINE
12. WIPER BLADE

Figure 28. Top Wiper

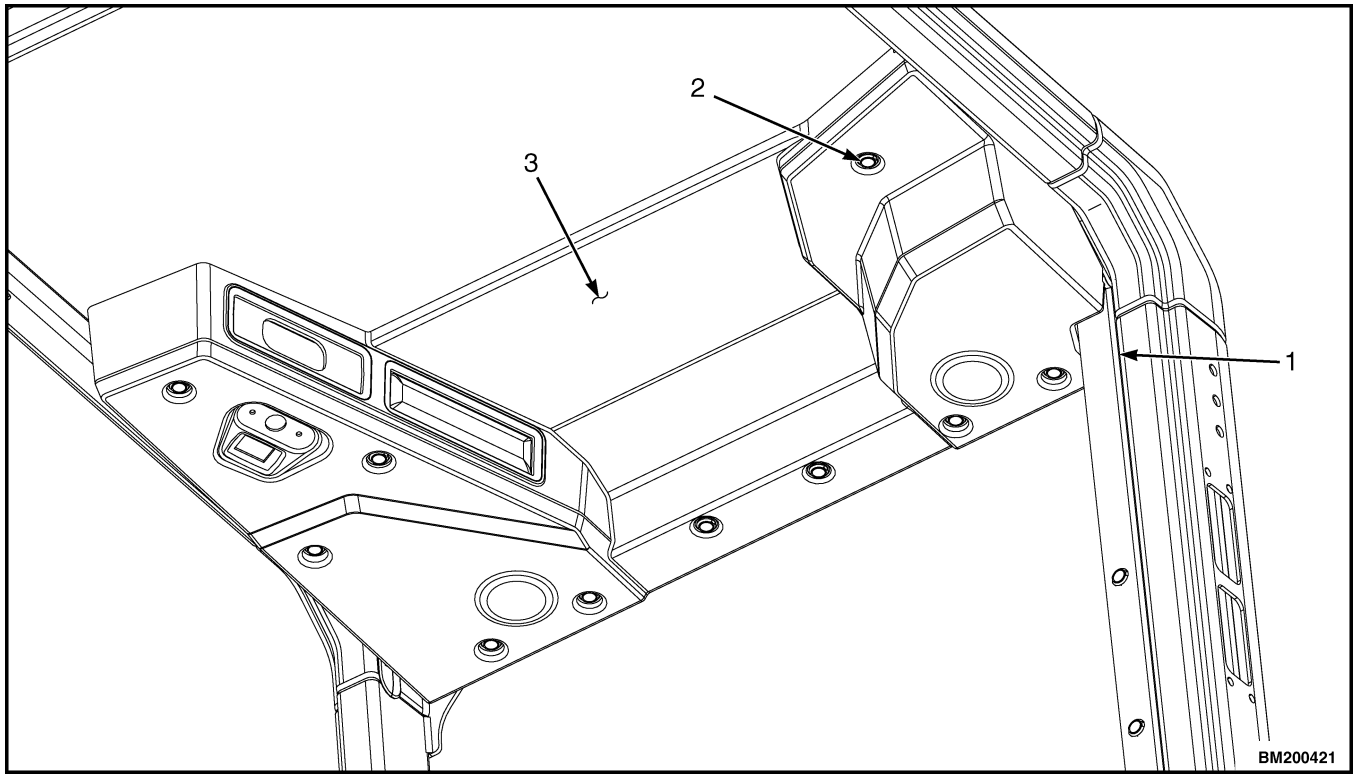
3. Remove wiper blade (item 12, Figure 28) from wiper arm (item 1, Figure 28).

4. Lift wiper arm hinged cover (not shown) and remove hex flange nut (item 2, Figure 28) and wiper arm (item 1, Figure 28) from wiper arm spindle (item 3, Figure 28).

5. Remove plastic cap (item 10, Figure 28), hex nut and washer (not shown) from wiper arm spindle (item 3, Figure 28).

NOTE: To access wiper motor and linkage the headliner must be removed.

6. Remove (10) push rivets (item 2, Figure 29) and headliner (item 3, Figure 29) from rear overhead guard (item 1, Figure 29).



NOTE: VIEW IS FROM UNDERNEATH LOOKING UPWARD.

1. OVERHEAD GUARD, REAR
2. PUSH RIVET
3. HEADLINER

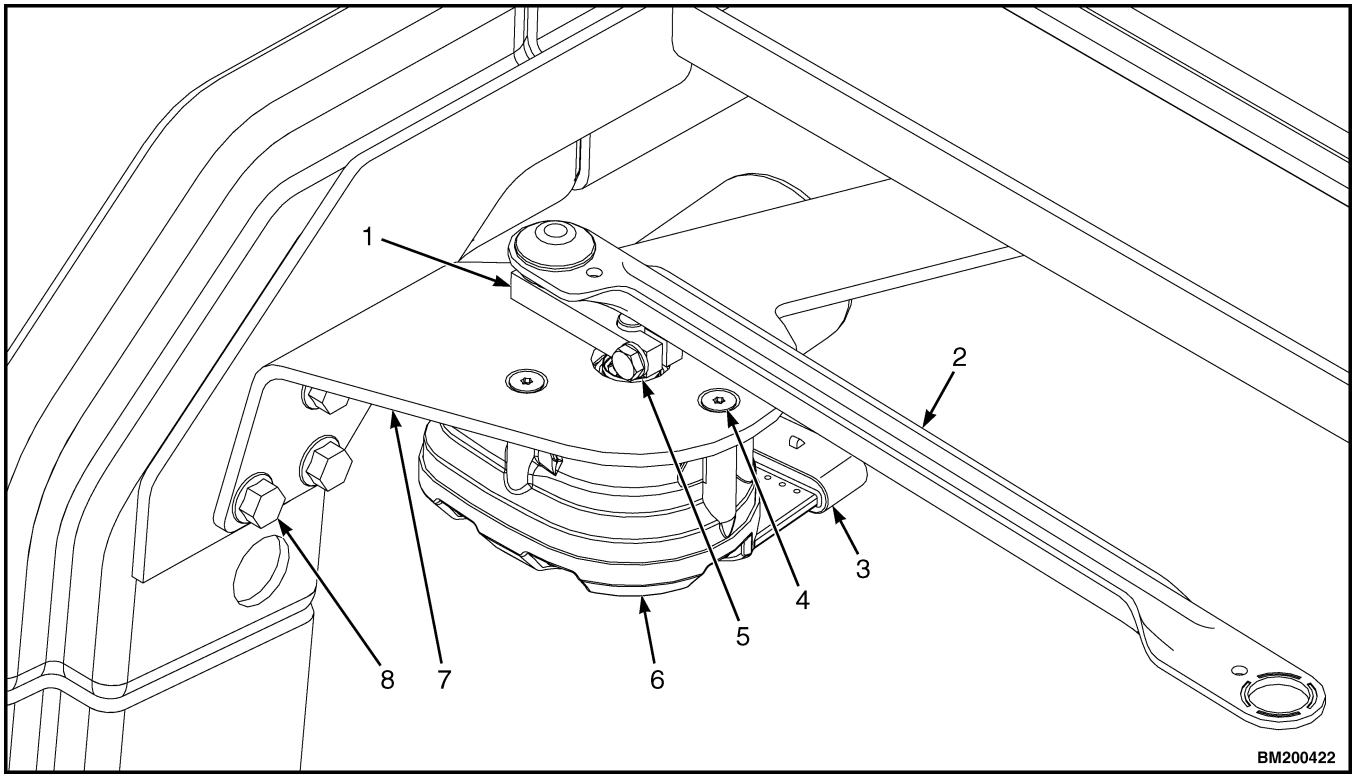
Figure 29. Headliner

7. Disconnect washer supply hose (item 6, Figure 28), remove hex nut, washer, and gasket (item 5, Figure 28), and washer hose bulkhead fitting (item 4, Figure 28) from rear canopy roof plate (not shown).

8. Disconnect motor linkage (item 9, Figure 28) from wiper arm linkage (item 7, Figure 28) and remove wiper arm spindle (item 3, Figure 28) from rear canopy roof plate (not shown).

9. Disconnect electrical harness from electrical connector (item 3, Figure 30).

10. Remove 3 capscrews (item 8, Figure 30), bracket (item 7, Figure 30), and wiper motor assembly (item 6, Figure 30) from overhead guard.



1. LINKAGE CRANK
2. MOTOR LINKAGE
3. ELECTRICAL CONNECTOR
4. COUNTERSUNK CAPSCREW
5. CAPSCREW
6. WIPER MOTOR
7. BRACKET
8. CAPSCREW

Figure 30. Top Wiper Motor Mounting

11. Remove capscrew (item 5, Figure 30), linkage crank (item 1, Figure 30), and motor linkage (item 2, Figure 30) from wiper motor (item 6, Figure 30).

12. Remove countersunk capscrews (item 4, Figure 30) and wiper motor (item 6, Figure 30) from bracket (item 7, Figure 30).

Top Wiper Install

NOTE: Wiper motor is supplied in the correct parked position.

1. Attach wiper motor (item 6, Figure 30) to bracket (item 7, Figure 30) with 3 countersunk capscrews (item 4, Figure 30). Torque capscrews to 8-9 N•m (71-80 lbf in).

NOTE: Align linkage crank and wiper motor splines ensuring crank is oriented normal to the overhead guard mounting face of the motor mount bracket and to the LH side of the truck.

2. Install linkage crank (item 1, Figure 30) to wiper motor (item 6, Figure 30) with capscrew (item 5, Figure 30). Torque capscrew to 7-8 N•m (62-71 lbf in).

3. Attach motor linkage (item 2, Figure 30) to linkage crank (item 1, Figure 30).

4. Install wiper motor assembly (item 6, Figure 30) and bracket (item 7, Figure 30) to overhead guard with 3 capscrews (item 8, Figure 30). Torque capscrews to 25.6 N•m (19 lbf ft).

5. Connect electrical harness to electrical connector (item 3, Figure 30).

6. Install wiper arm spindle (item 3, Figure 28) with sealing washer (item 8, Figure 28) into rear canopy roof plate (not shown). Connect motor linkage (item 9, Figure 28) to wiper arm linkage (item 7, Figure 28).

7. Install washer hose bulkhead fitting (item 4, Figure 28) into rear canopy roof plate (not shown), with hex nut, washer, and gasket (item 5, Figure 28). Torque hex nut to 0.6 N•m (5.3 lbf in).

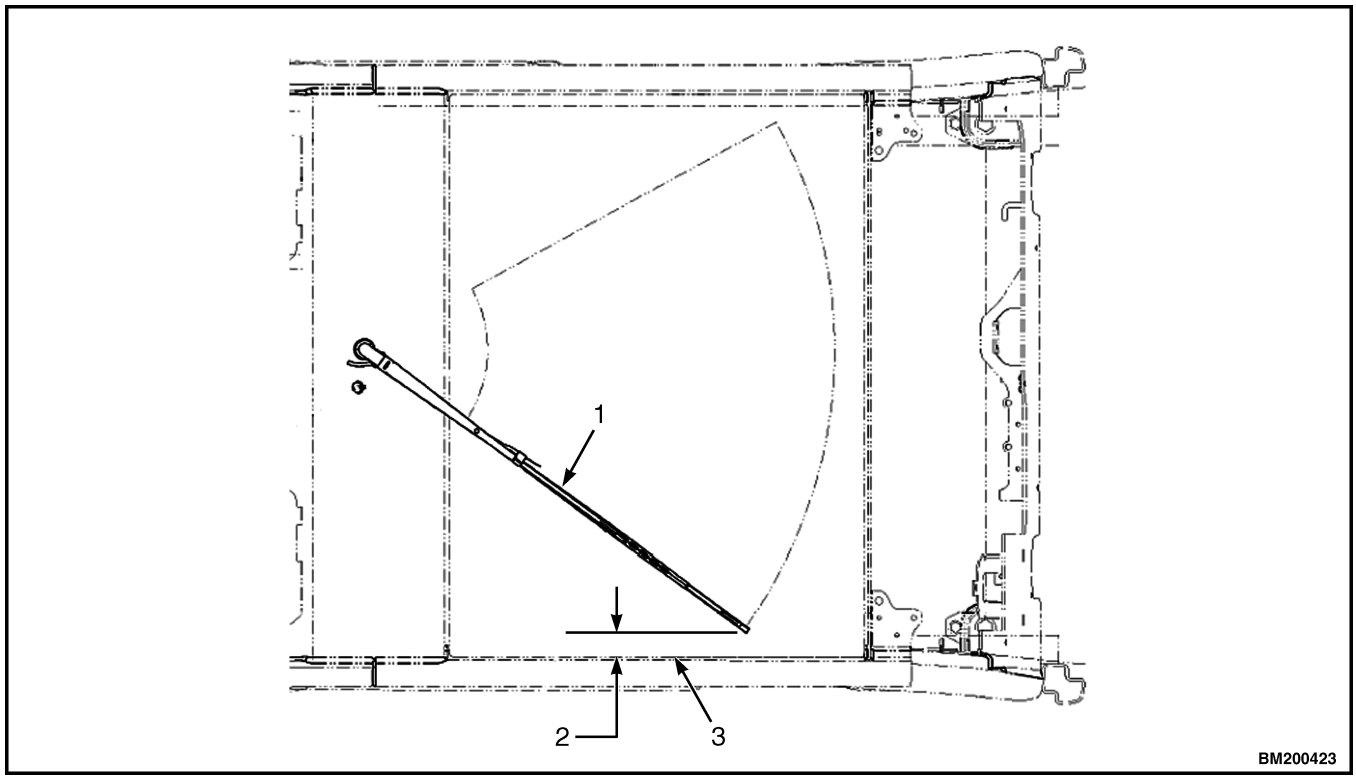
8. Connect washer supply hose (item 6, Figure 28) to washer hose bulkhead fitting (item 4, Figure 28).

9. Install headliner (item 3, Figure 29) to rear overhead guard (item 1, Figure 29) with (10) push rivets (item 2, Figure 29).

10. Install hex nut and washer (not shown) to wiper arm spindle (item 3, Figure 28). Torque hex nut to 35-40 N•m (26.30 lbf ft). Install plastic cap (item 10, Figure 28) onto wiper arm spindle (item 3, Figure 28).

11. Install wiper arm (item 1, Figure 28) on wiper arm spindle (item 3, Figure 28) with hex flange nut (item 2, Figure 28). Torque hex flange nut to 20-25 N•m (15.18 lbf ft).

NOTE: Ensure wiper arm and blade are aligned correctly. Tip of blade should be 42 mm (1.6 in.) from glass edge.



1. WIPER ARM
2. DISTANCE = 42MM (1.6 IN.)
3. GLASS EDGE

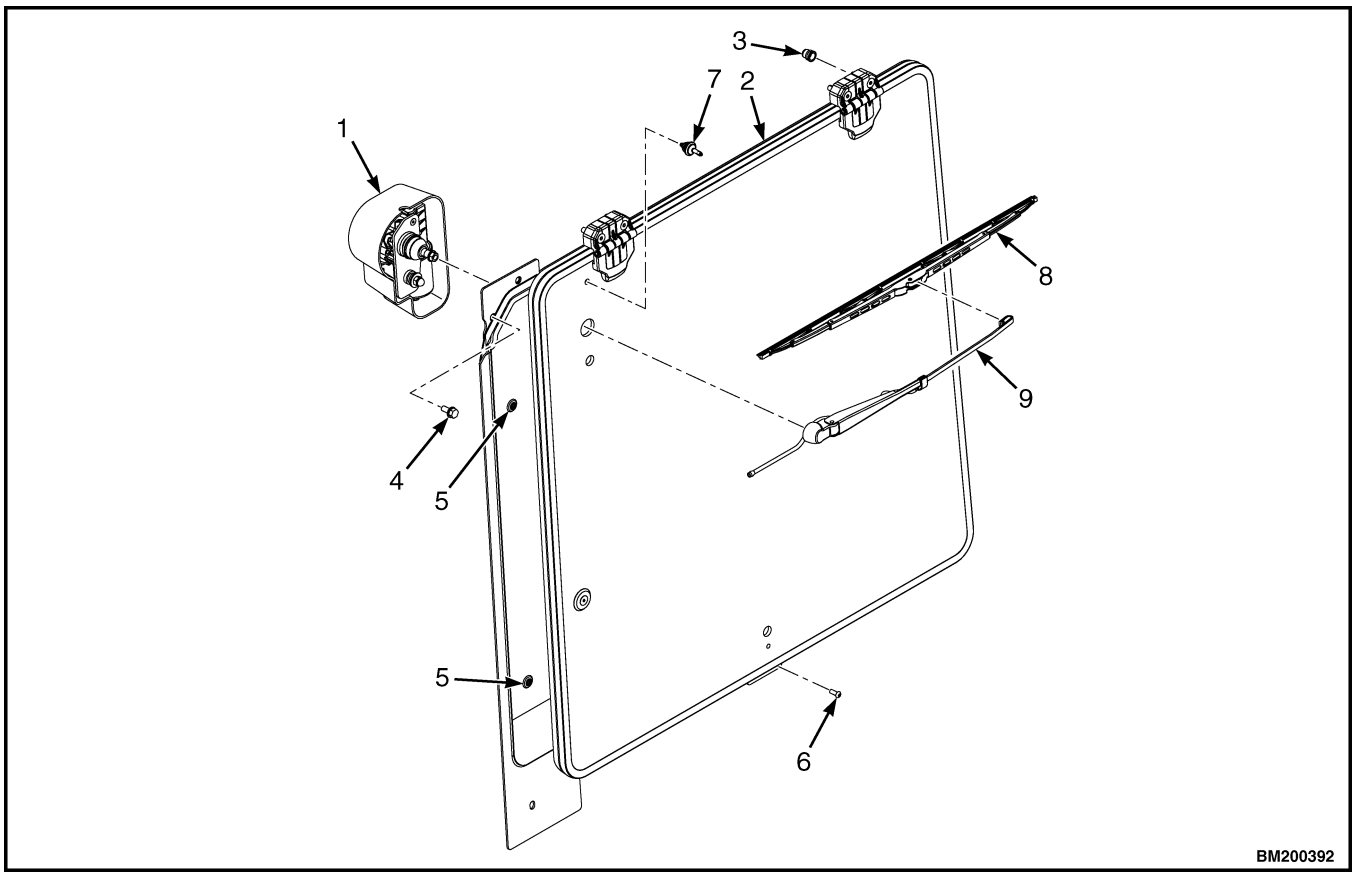
Figure 31. Top Arm Alignment

12. Install wiper blade (item 12, Figure 28) on wiper arm (item 1, Figure 28).

13. Connect washer fluid line (item 11, Figure 28) to washer hose bulkhead fitting (item 4, Figure 28).

14. Connect battery and close hood. Refer to Battery service in for details.

Rear Screen and Wiper



1. WIPER MOTOR
2. REAR SCREEN
3. INSERT
4. CAPSCREW
5. PLUG
6. SCREW
7. WASHER HOSE BULKHEAD FITTING
8. WIPER BLADE
9. WIPER ARM

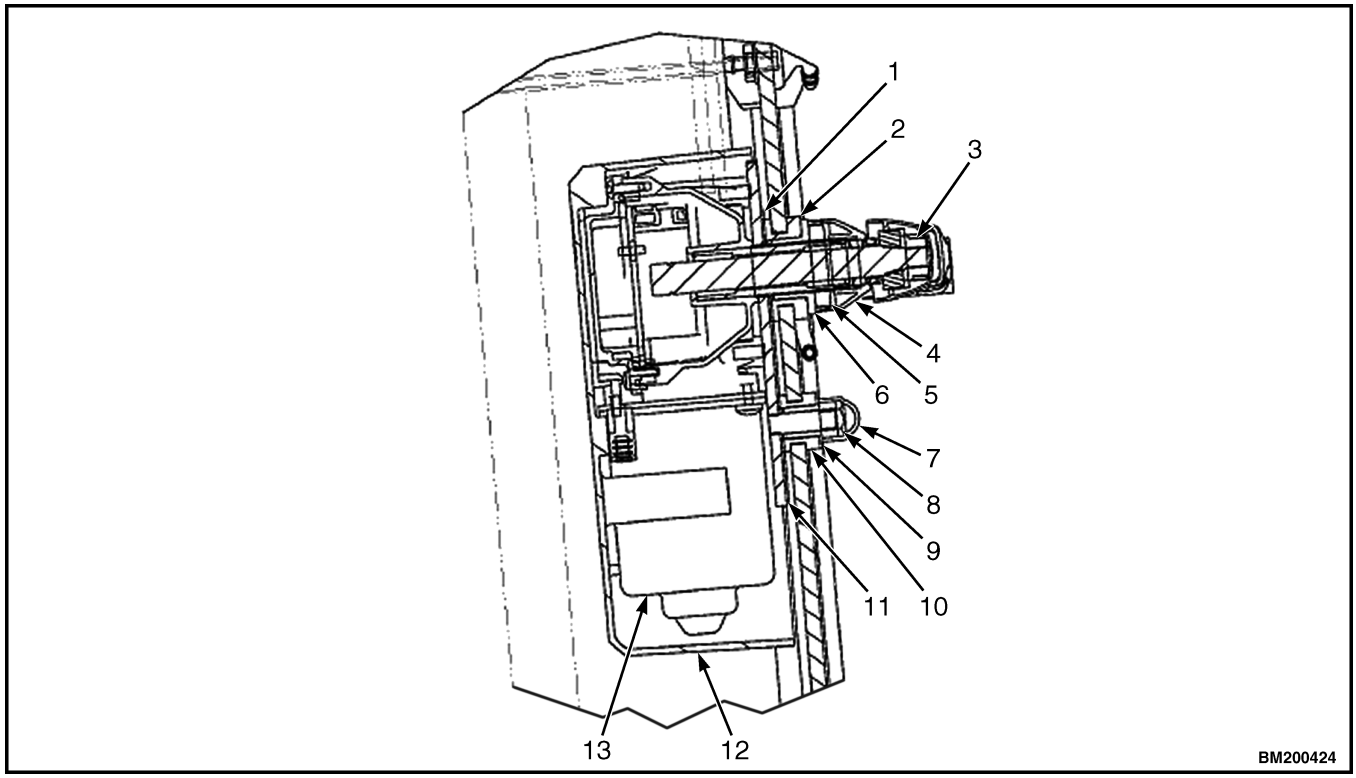
Figure 32. Rear Screen and Wiper

Remove

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Disconnect wiper arm washer tube, part of wiper arm, (item 9, Figure 32) from washer hose bulkhead fitting (item 7, Figure 32). Remove wiper blade (item 8, Figure 32) from wiper arm (item 9, Figure 32).

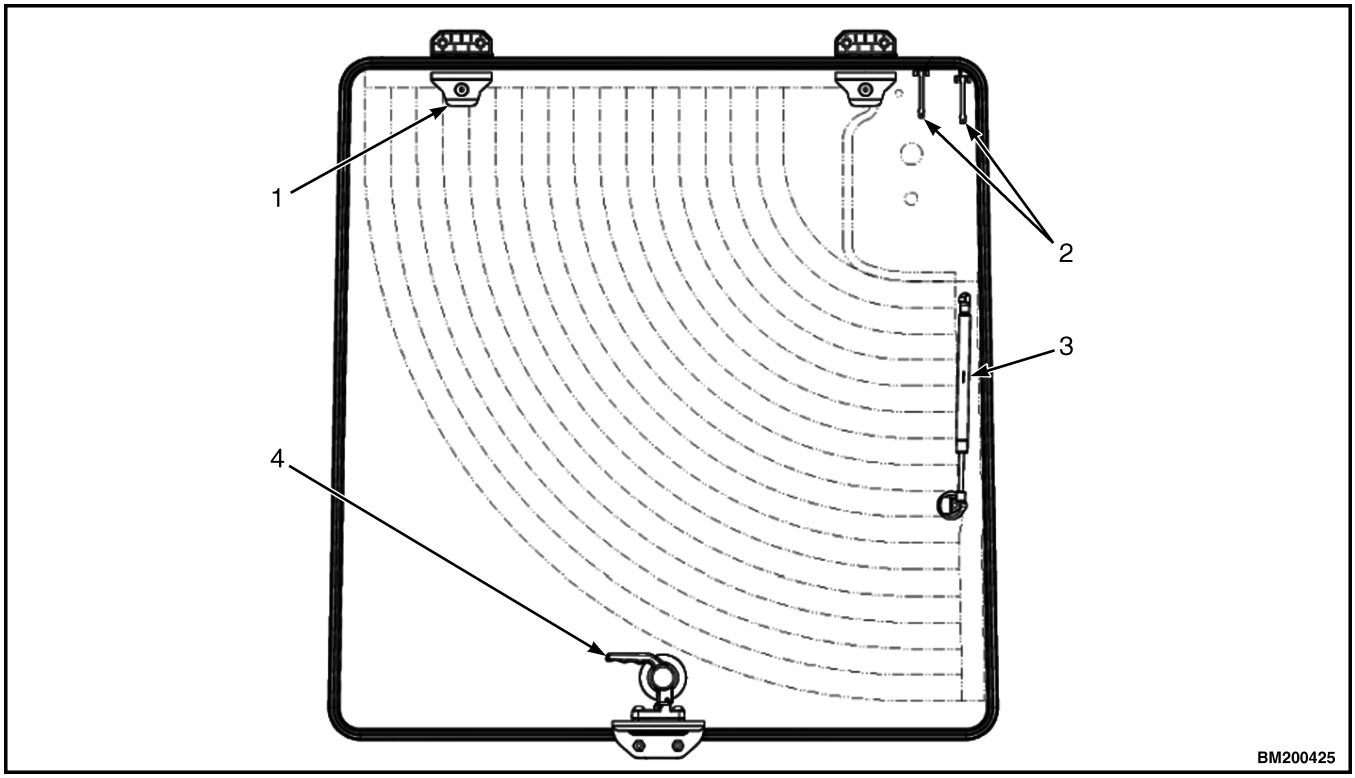
3. Lift wiper arm hinged cover (not shown) and remove hex flange nut (item 3, Figure 33), and remove wiper arm (item 9, Figure 32), from wiper motor (item 13, Figure 33).



1. HARNESS RETENTION BRACKET
2. SHOCK ABSORBING WASHER (THICKER FLANGE TO THE OUTSIDE)
3. HEX FLANGE NUT
4. SPINDLE COVER
5. HEX NUT
6. BUSHING
7. CAP
8. HEX NUT
9. BUSHING
10. SHOCK ABSORBING WASHER (THICKER FLANGE TO THE OUTSIDE)
11. HARNESS RETENTION BRACKET
12. MOTOR COVER
13. WIPER MOTOR

Figure 33. Rear Motor Mounting

4. Disconnect heating grid flexible terminals (item 2, Figure 34) from electrical connector (not shown).



1. HINGE
2. HEATING GRID FLEXIBLE TERMINALS
3. GAS STRUT
4. LATCH

Figure 34. Rear Screen, Inside

5. Remove gas strut (item 3, Figure 34) from ball studs on glass screen and LH panel.

6. Disconnect wiper motor connector from electrical harness.

7. Remove cap, (item 7, Figure 33), hex nut (item 8, Figure 33), bushing (item 9, Figure 33), and shock absorbing washer (item 10, Figure 33).

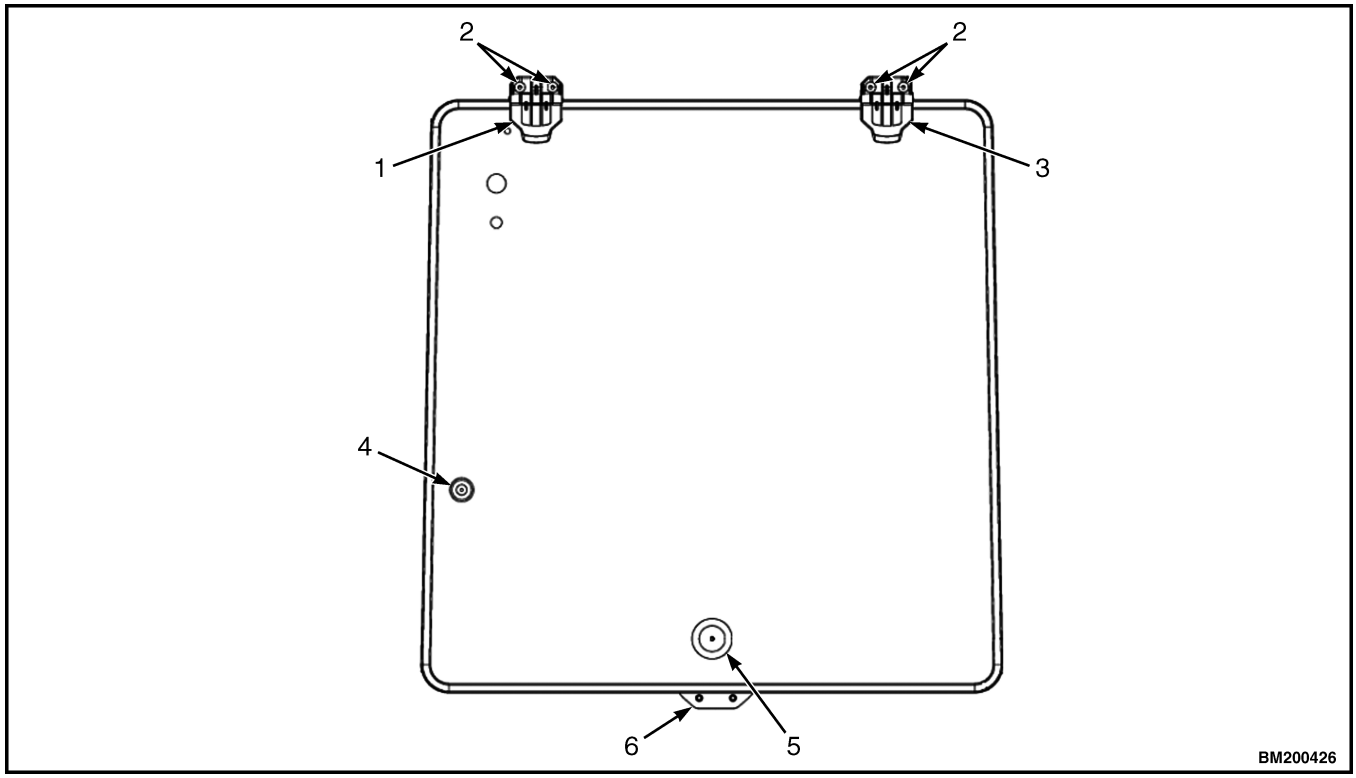
8. Remove motor cover (item 12, Figure 33), from wiper motor (item 13, Figure 33).

9. Remove spindle cover (item 4, Figure 33), hex nut (item 10, Figure 33), bushing (item 6, Figure 33), and shock absorbing washer (item 2, Figure 33).

10. Carefully remove wiper motor (item 13, Figure 33) from rear screen.

NOTE: Rear screen hinges are attached to roof plate.

11. Unlatch rear screen latch (item 4, Figure 34), remove 2 countersunk capscrews (item 2, Figure 35), from LH hinge (item 1, Figure 35), 2 countersunk capscrews (item 2, Figure 35) from RH hinge (item 3, Figure 35), and remove rear screen from roof plate (not shown).



1. LH HINGE
2. COUNTERSUNK CAPSCREW
3. RH HINGE
4. BACKSIDE OF BALL STUD (FOR GAS STRUT)
5. BACKSIDE OF LATCH
6. BRACKET WITH LATCH BLOCK (ATTACHED TO REAR CROSSMEMBER)

Figure 35. Rear Screen, Outside

12. Carefully cover glass screen with protective material to prevent breakage.

Install

NOTE: Use hinge spacer blocks supplied with kit (not shown).

1. Install rear screen to roof plate (not shown), attach LH hinge (item 1, Figure 35) with 2 countersunk capscrews (item 2, Figure 35), attach RH hinge (item 3, Figure 35) with 2 countersunk capscrews (item 2, Figure 35). Torque countersunk capscrews to 19.2 N•m (14.2 lbf ft). Latch rear screen latch (item 4, Figure 34).

2. Install shock absorbing washer (item 2, Figure 33) with thicker flange to the outside, and shock absorbing washer (item 10, Figure 33) with thicker flange to the outside, through the rear screen. Insert bushing (item 6, Figure 33) into shock absorbing washer (item 2, Figure 33), and bushing (item 9, Figure 33) into shock absorbing washer (item 10, Figure 33).

3. Install harness retention bracket (item 1, Figure 33) onto wiper motor (item 13, Figure 33).

4. Install wiper motor (item 13, Figure 33) with harness retention bracket (item 1, Figure 33) onto rear screen.

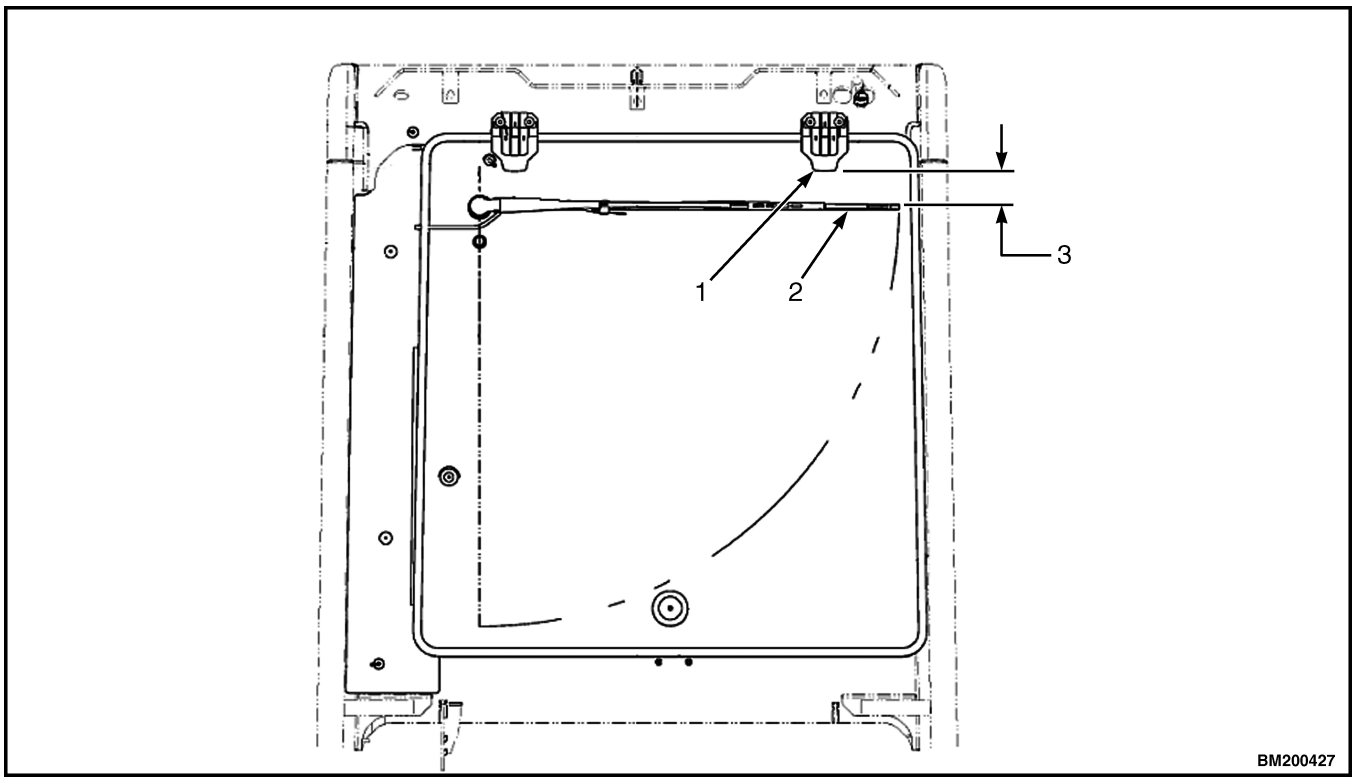
5. Install hex nut (item 5, Figure 33) on spindle. Torque hex nut to 35-40 N•m (26.30 lbf ft). Install spindle cover (item 4, Figure 33).

6. Install hex nut (item 8, Figure 33). Torque hex nut to 8-9 N•m (71-80 lbf in). Install cap (item 8, Figure 33).

7. Attach wiper blade (item 8, Figure 32) to wiper arm (item 9, Figure 32).

NOTE: Ensure wiper motor is in parked position.

8. Install wiper blade (item 8, Figure 32) and wiper arm (item 9, Figure 32) to spindle, aligning with splines. Set blade position horizontally as shown below.



1. HINGE
2. WIPER ARM
3. GAP = 57.3MM (2.25 IN.)

Figure 36. Rear Wiper Gap

9. Lift wiper arm hinged cover (not shown) and install hex flange nut (item 3, Figure 33). Torque hex flange nut to 23-25 N•m (16.96-18.44 lbf ft).

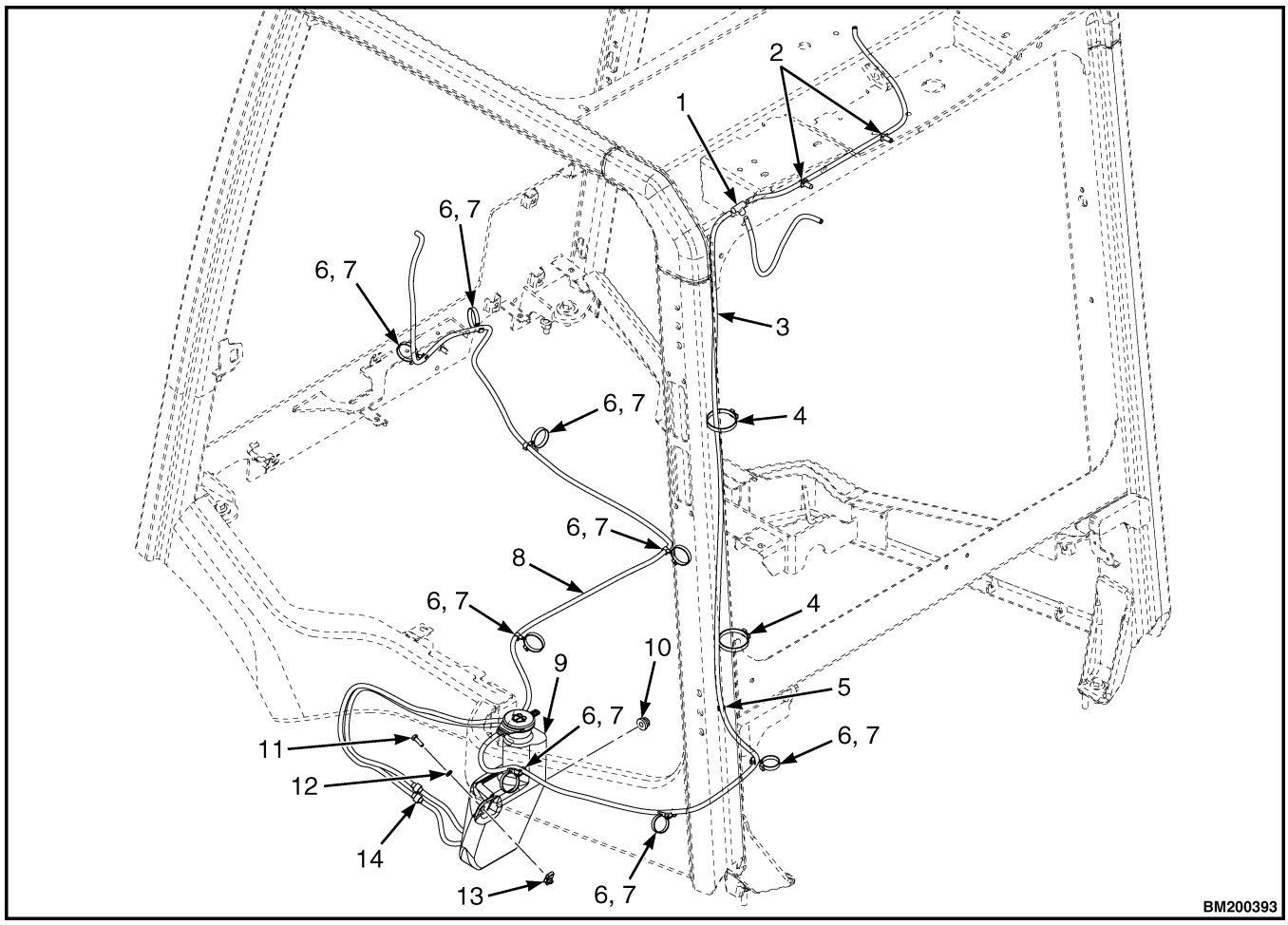
10. Connect wiper motor connector to electrical harness.

11. Install gas strut (item 3, Figure 34) to ball studs on glass screen and LH panel.

12. Connect wiper arm washer tube, part of wiper arm, (item 9, Figure 32) to washer hose bulkhead fitting (item 7, Figure 32).

13. Connect battery and close hood. Refer to Battery service in for details.

WASHER FLUID TANK AND SUPPLY LINES



1. T-FITTING
2. CABLE CLIP
3. REAR AND TOP WASHER LINE
4. STRAP CLAMP
5. GROMMET
6. SWIVEL CLAMP
7. SWIVEL CLAMP
8. FRONT WASHER LINE
9. WASHER FLUID TANK
10. GROMMET
11. CAPSCREW
12. WASHER
13. FOLDOVER NUT
14. CAP

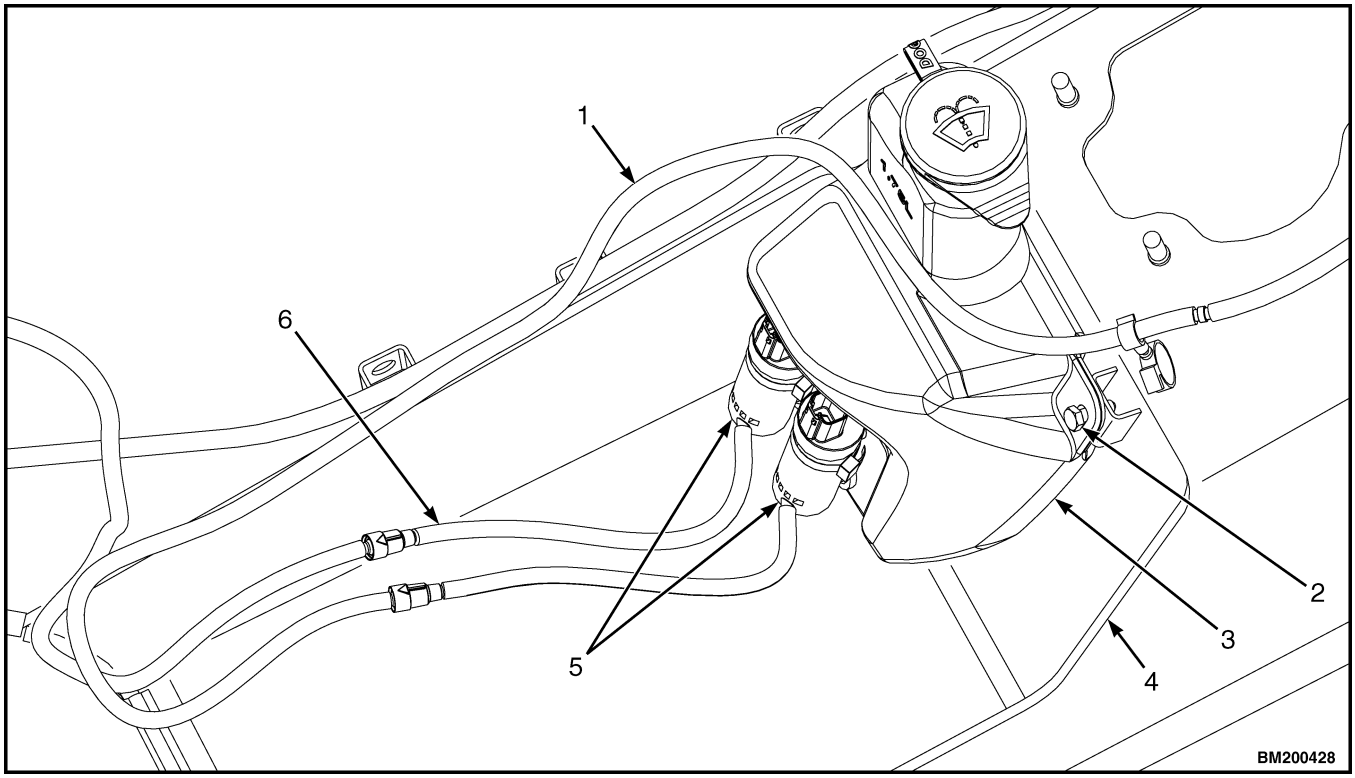
Figure 37. Washer Fluid Tank and Supply Lines

Remove (Washer Fluid Tank)

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Disconnect electrical connectors from pumps (item 5, Figure 38) and disconnect front washer hose (item 6, Figure 38) and rear washer hose (item 1, Figure 38) from washer fluid tank (item 3, Figure 38).

3. Remove capscrew (item 2, Figure 38) and washer fluid tank (item 3, Figure 38) from LH frame channel (item 4, Figure 38).



1. REAR WASHER HOSE
2. CAPSCREW
3. WASHER FLUID TANK
4. LH FRAME CHANNEL
5. PUMPS
6. FRONT WASHER HOSE

Figure 38. Washer Fluid Tank

Install (Washer Fluid Tank)

1. Install washer fluid tank (item 3, Figure 38) to LH frame channel (item 4, Figure 38) with capscrew (item 2, Figure 38).

2. Connect front washer hose (item 6, Figure 38) and rear washer hose (item 1, Figure 38) to washer fluid tank (item 3, Figure 38). Connect electrical connectors to pumps (item 5, Figure 38).

3. Connect battery and close hood. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

Remove (Supply Lines)

NOTE: Connections to front, top, and rear washer hose bulkhead fittings are not shown for clarity.

1. Disconnect front washer line (item 8, Figure 37) from washer hose bulkhead fitting.

2. Disconnect rear and top washer line (item 3, Figure 37) from washer hose bulkhead fitting.

3. Disconnect front washer line (item 8, Figure 37) and rear and top washer line (item 3, Figure 37) from washer fluid tank (item 9, Figure 37) and remove supply lines.

Install (Supply Lines)

NOTE: Ensure supply lines are routed through swivel clamps, strap clamps, and secured with cable clips where appropriate (refer to Figure 37).

1. Install supply lines and connect rear and top washer line (item 3, Figure 37) and front washer line (item 8, Figure 37) to washer fluid tank (item 9, Figure 37).

2. Connect rear and top washer line (item 3, Figure 37) to washer hose bulkhead fitting.

3. Connect front washer line (item 8, Figure 37) to washer hose bulkhead fitting.

4. Connect battery and close hood. Refer to in for details.

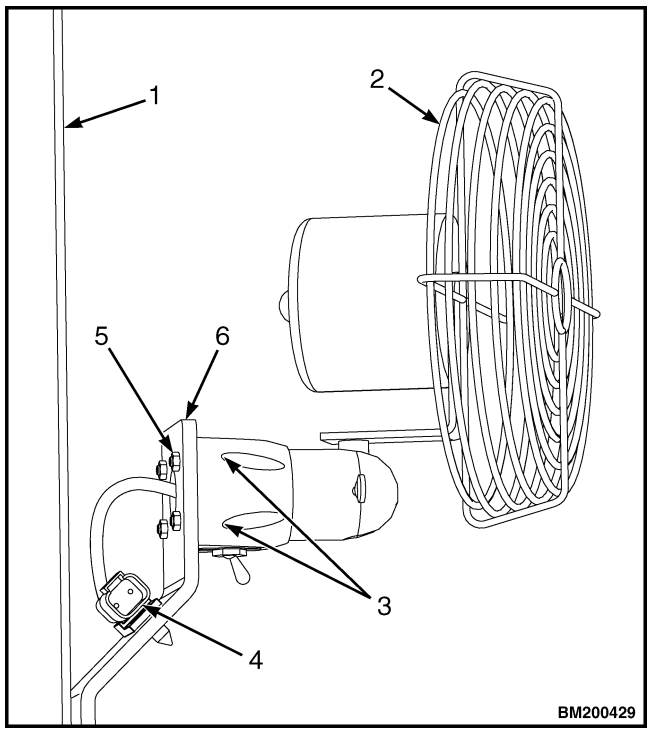
OPERATOR FAN

NOTE: Operator fan is mounted on the LH overhead guard leg harness cover which is attached to the rear LH overhead guard support post.

Remove

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Disconnect harness from electrical connector (item 4, Figure 39) and remove electrical connector from mounting bracket (item 6, Figure 39).



1. LH OVERHEAD GUARD LEG HARNESS COVER
2. FAN
3. SCREW (RECESSED INTO FAN BODY)
4. ELECTRICAL CONNECTOR
5. NUT
6. MOUNTING BRACKET

Figure 39. Operator Fan

3. Remove 4 screws (item 3, Figure 39), 4 nuts (item 5, Figure 39), and fan (item 2, Figure 39) from mounting bracket (item 6, Figure 39).

Install

1. Install fan (item 2, Figure 39) to mounting bracket (item 6, Figure 39) with fan 4 screws (item 3, Figure 39), and 4 nuts (item 5, Figure 39).

2. Connect harness to electrical connector (item 4, Figure 39) and attach electrical connector to mounting bracket (item 6, Figure 39).

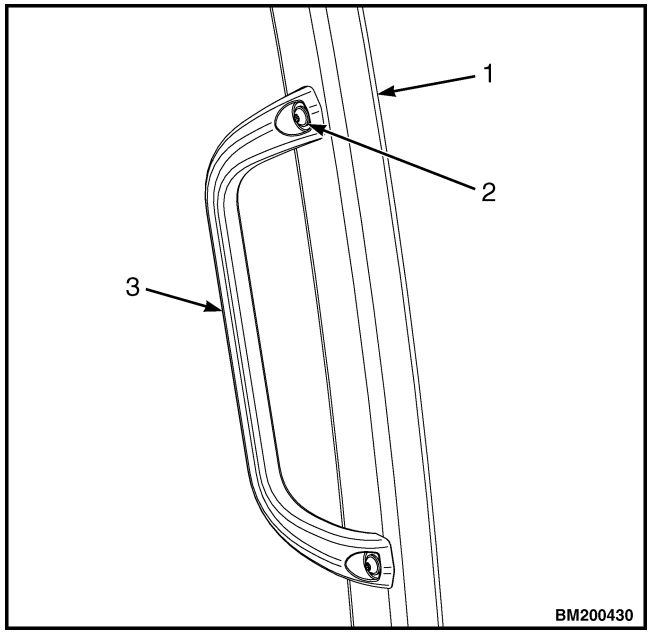
3. Connect battery and close hood. Refer to Battery service in for details.

FRONT GRAB HANDLE

NOTE: Front grab handle is attached to the LH front overhead guard support post.

Remove

1. Remove 2 screws (item 2, Figure 40) and grab handle (item 3, Figure 40) from LH front overhead guard support post (item 1, Figure 40).



1. OVERHEAD GUARD SUPPORT POST, LH, FRONT
2. SCREW
3. GRAB HANDLE

Figure 40. Front Grab Handle

Install

1. Attach grab handle (item 3, Figure 40) to LH front overhead guard support post (item 1, Figure 40) with 2 screws (item 2, Figure 40). Torque screws to 12 N • m (8.9 lbf ft).

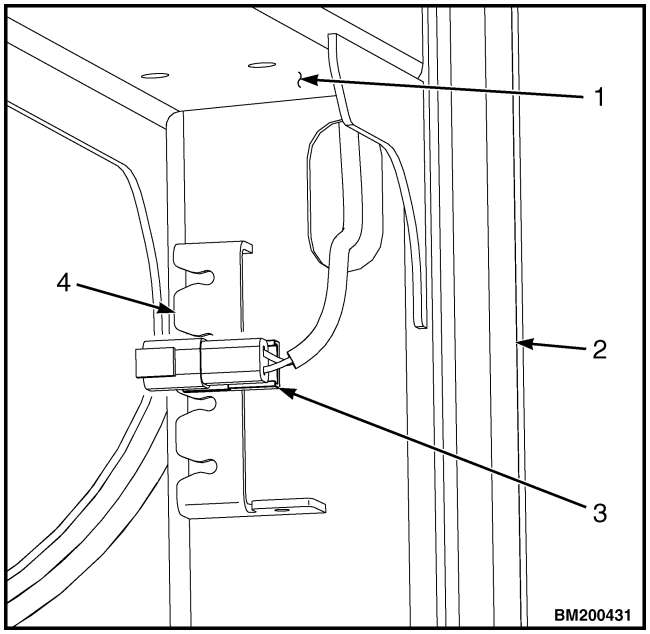
REAR DRIVE HANDLE WITH HORN BUTTON

NOTE: Electrical wiring is routed through the rear, RH overhead guard support post.

Remove

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Disconnect electrical connector (item 3, Figure 41) from wiring harness and remove connector from harness bracket (item 4, Figure 41).

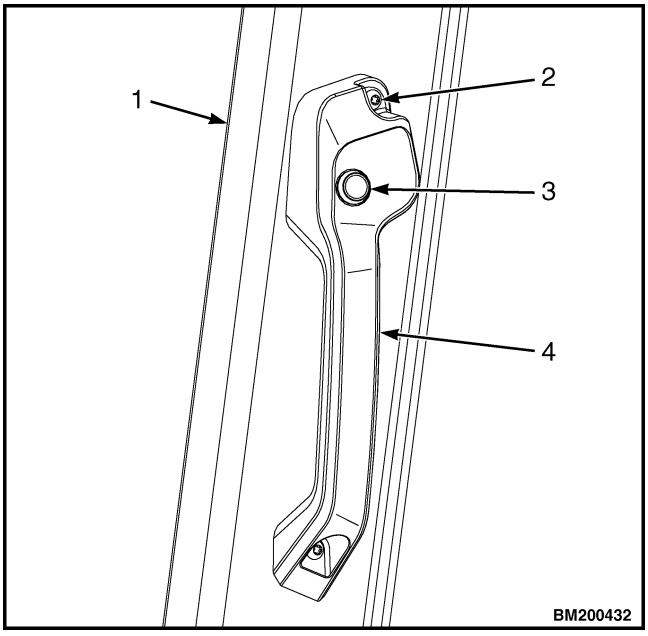


1. REAR CROSSMEMBER
2. OVERHEAD GUARD SUPPORT POST, REAR, RH
3. ELECTRICAL CONNECTOR
4. HARNESS BRACKET

Figure 41. Rear Drive Handle Connector

NOTE: Do not remove wiring from horn button. The wires are soldered into the switch.

3. Remove 2 screws (item 2, Figure 42) and rear drive handle (item 4, Figure 42) from RH overhead guard support post (item 1, Figure 42).



1. OVERHEAD GUARD SUPPORT POST, REAR, RH
2. SCREW
3. HORN BUTTON
4. REAR DRIVE HANDLE

Figure 42. Rear Drive Handle with Horn Button

4. Carefully pull wiring with electrical connector out of RH overhead guard support post (item 1, Figure 42.

Install

1. Feed wiring with electrical connector down into RH overhead guard support post (item 1, Figure 42.

2. Attach electrical connector (item 3, Figure 41) to harness bracket (item 4, Figure 41) and connect electrical connector to wiring harness.

3. Install rear drive handle (item 4, Figure 42) to RH overhead guard support post (item 1, Figure 42) with 2 screws (item 2, Figure 42). Torque screws to 2.55-2.75 N•m (22.6-24.3 lbf in).

4. Connect battery and close hood. Refer to Battery service in for details.

12 VOLT POWER SUPPLY WITH 2 USB CHARGING PORTS

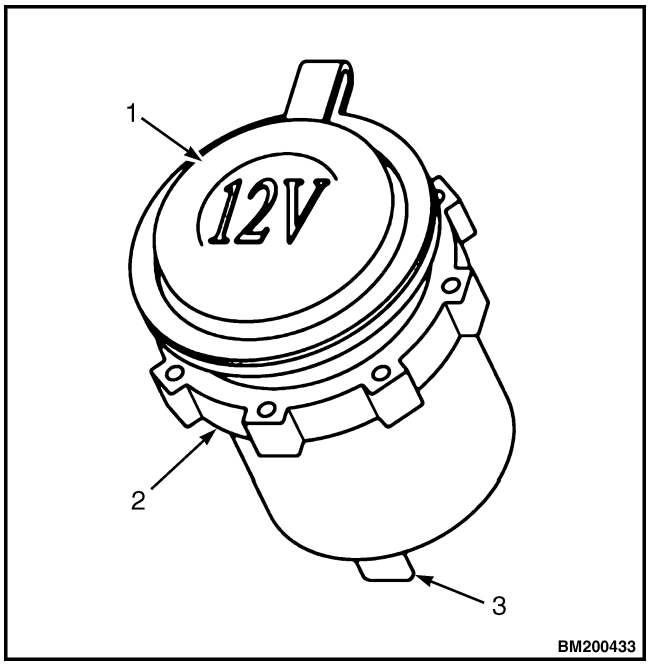
NOTE: Dash not shown for component clarity. Remove and install procedures for 12 Volt Power Supply and USB Charging Ports will be shown separately.

Remove (12 Volt Power Supply)

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Remove LH and RH kick panels. Refer to **Frame and Main Components** 8000SRM2306 for details.

3. Disconnect wire harness from terminals (item 3, Figure 43), remove nut (item 2, Figure 43) and power supply with cover (item 1, Figure 43) from dash.



1. POWER SUPPLY (15A) WITH COVER
2. NUT
3. TERMINALS (ONE SHOWN)

Figure 43. 12 Volt Power Supply

Install (12 Volt Power Supply)

1. Insert power supply with cover (item 1, Figure 43) into dash, install nut (item 2, Figure 43) and connect wire harness to terminals (item 3, Figure 43).

2. Install LH and RH kick panels. Refer to **Frame and Main Components** 8000SRM2306 for details.

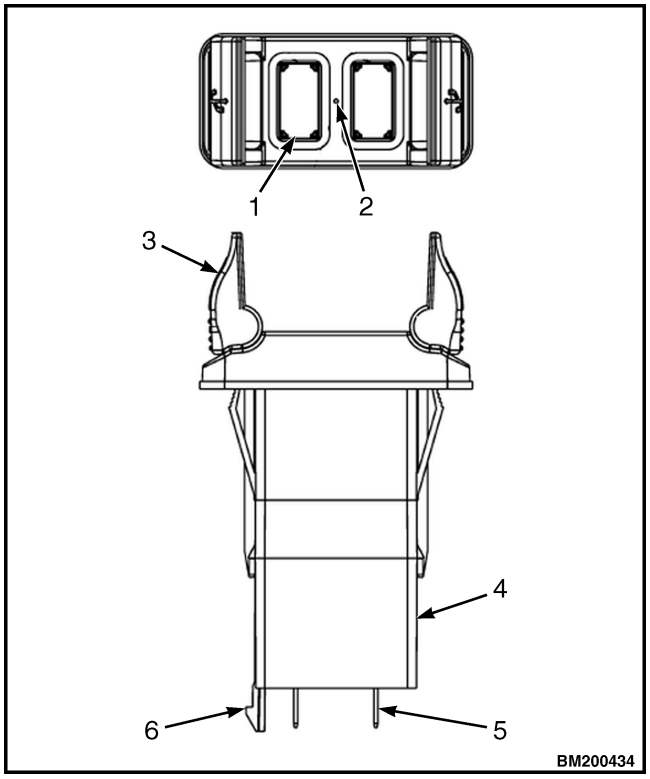
3. Connect battery and close hood. Refer to Battery service for details.

Remove (USB Charging Ports)

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Remove LH and RH kick panels. Refer to **Frame and Main Components** 8000SRM2306 for details.

3. Disconnect wire harness from terminals (item 5, Figure 44), depress spring tab (item 6, Figure 44) and remove charging port assembly (item 4, Figure 44) from dash.



1. CHARGING PORTS
2. GREEN LED CHARGING INDICATOR LIGHT
3. SPRING LOADED DOORS
4. CHARGING PORT ASSEMBLY
5. SPRING TAB
6. TERMINALS

Figure 44. USB Charging Ports

Install (USB Charging Ports)

1. Insert charging port assembly (item 4, Figure 44) into dash until spring tab (item 5, Figure 44) audibly clicks in place. Connect wire harness to terminals (item 6, Figure 44).

2. Install LH and RH kick panels. Refer to **Frame and Main Components** 8000SRM2306 for details.

3. Connect battery and close hood. Refer to Battery service in for details.

DOME LIGHT

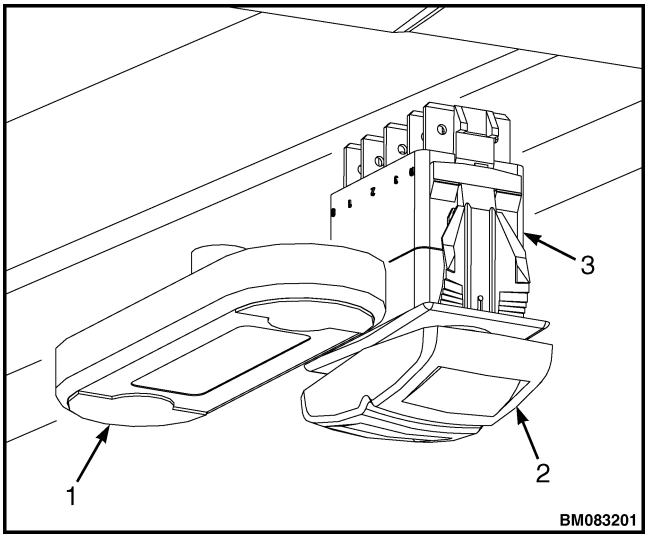
The dome light and rocker switch are located on the right side of the cab and is mounted in the headliner.

NOTE: Headliner graphic is currently unavailable at this time.

Remove

1. Raise the hood and disconnect the battery. Refer to Battery service in **Electrical, software, and controls** 2200SRM2304 for details.

2. Gently pry rocker switch from headliner.



1. DOME LIGHT
2. ROCKER SWITCH
3. CONNECTOR

Figure 45. Dome Light and Rocker Switch

3. Disconnect electrical connector.

4. Remove rocker switch from headliner.

Install

1. Connect electrical connector.

2. Insert rocker switch into headliner.

3. Connect battery and close hood. Refer to Battery service in for details.

NOISE ABATEMENT (SOUND LINERS) 202001-287

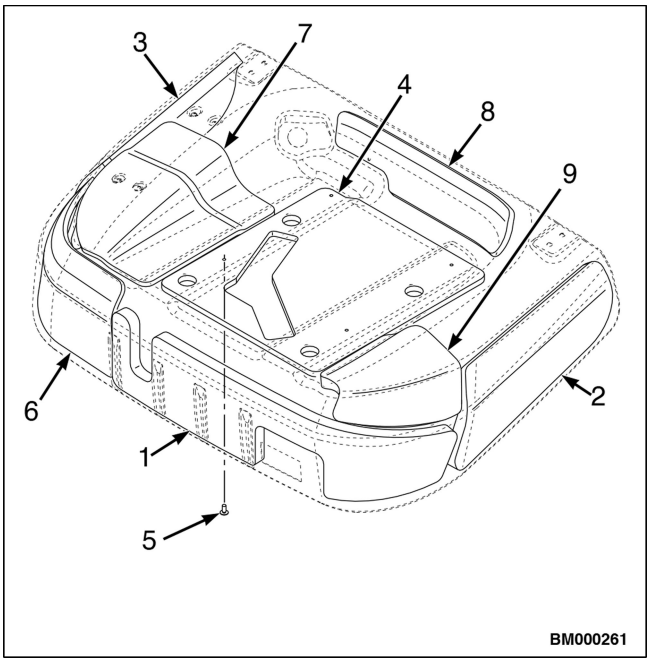
HOOD LINERS

Remove

1. Lift up the hood to access the underside.

2. Locate the sound liner that needs to be replaced. See Figure 46.

3. Pull the liner off of the surface of the hood and scrape off all remaining adhesive residue.



1. HOOD LINER, FRONT
2. HOOD LINER, LH
3. HOOD LINER, RH
4. HOOD LINER, SEAT PAN
5. FASTENER
6. HOOD LINER, CORNER
7. HOOD LINER, FRONT
8. HOOD LINER
9. HOOD LINER

Figure 46. Hood liners

Install

1. Locate new sound liner. See **Parts Manual** for correct part number.

2. Remove the film from the back of the sound liner to reveal the adhesive.

3. Carefully place the sound liner in position with the adhesive side touching the mating surface. See Figure 46.

4. Close the hood.

OVERHEAD GUARD LINERS

Remove

1. From the inside of the overhead guard, locate the sound liner that needs to be replaced. See Figure 47.

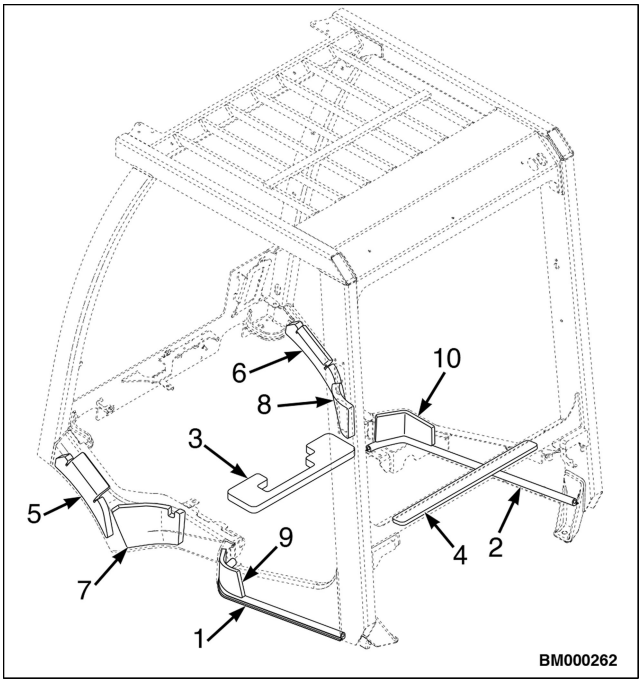
2. Pull the liner off of the surface of the overhead guard and scrape off all remaining adhesive residue.

Install

1. Locate new sound liner. See **Parts Manual** for correct part number.

2. Remove the film from the back of the sound liner to reveal the adhesive.

3. Carefully place the sound liner in position with the adhesive side touching the mating surface. See Figure 47.



1. SEAL
2. SEAL
3. SOUND LINER, FLOORPLATE
4. SOUND LINER, OHG BACK CROSSMEMBER
5. SOUND LINER, FRONT SIDE PANEL (LH)
6. SOUND LINER, FRONT SIDE PANEL (RH)
7. SOUND LINER, STEP PANEL (LH)
8. SOUND LINER, STEP PANEL (RH)
9. SOUND LINER, REAR SIDE PANEL (LH)
10. SOUND LINER, REAR SIDE PANEL (RH)

Figure 47. Overhead guard liners

DASH PANEL LINERS

Remove

1. Locate the sound liner that needs to be replaced. See Figure 48.

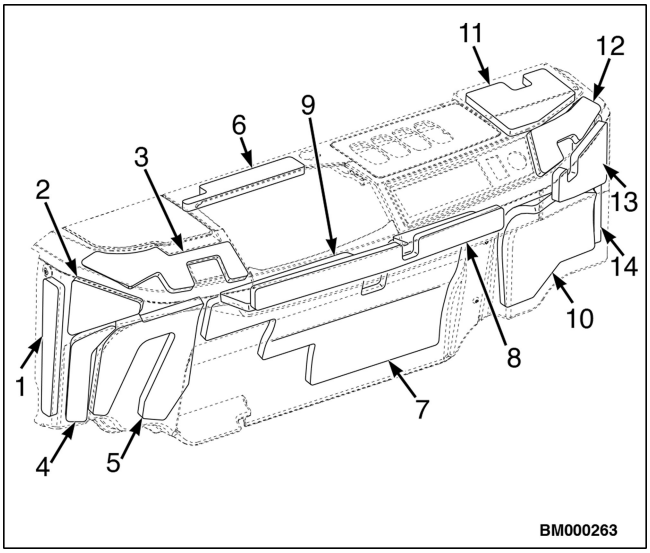
2. Pull the liner off of the surface of the dash panel and scrape off all remaining adhesive residue.

Install

1. Locate new sound liner. See **Parts Manual** for correct part number.

2. Remove the film from the back of the liner to reveal the adhesive.

3. Carefully place the sound liner in position with the adhesive side touching the mating surface. See Figure 48.



1. SOUND LINER, KICK PANEL (SIDE, LH)
2. SOUND LINER, KICK PANEL (SIDE, LH)
3. SOUND LINER, DASH (SIDE, LH)
4. SOUND LINER, KICK PANEL (LOWER, LH)
5. SOUND LINER, KICK PANEL (PARK BRAKE, LH)
6. SOUND LINER, DASH (CENTER)
7. SOUND LINER, KICK PANEL
8. SOUND LINER, KICK PANEL (CENTER)
9. SOUND LINER, KICK PANEL (CENTER, LOW)
10. SOUND LINER, KICK PANEL (LOWER, RH)
11. DASH, NAMEPLATE (BOTTOM)
12. SOUND LINER, DASH (SIDE, RH)
13. SOUND LINER, KICK PANEL (UPPER, RH)
14. SOUND LINER, KICK PANEL (SIDE, RH)

Figure 48. Dash panel liners

Heater and air conditioner repair

HEATER REPAIR 202001-005

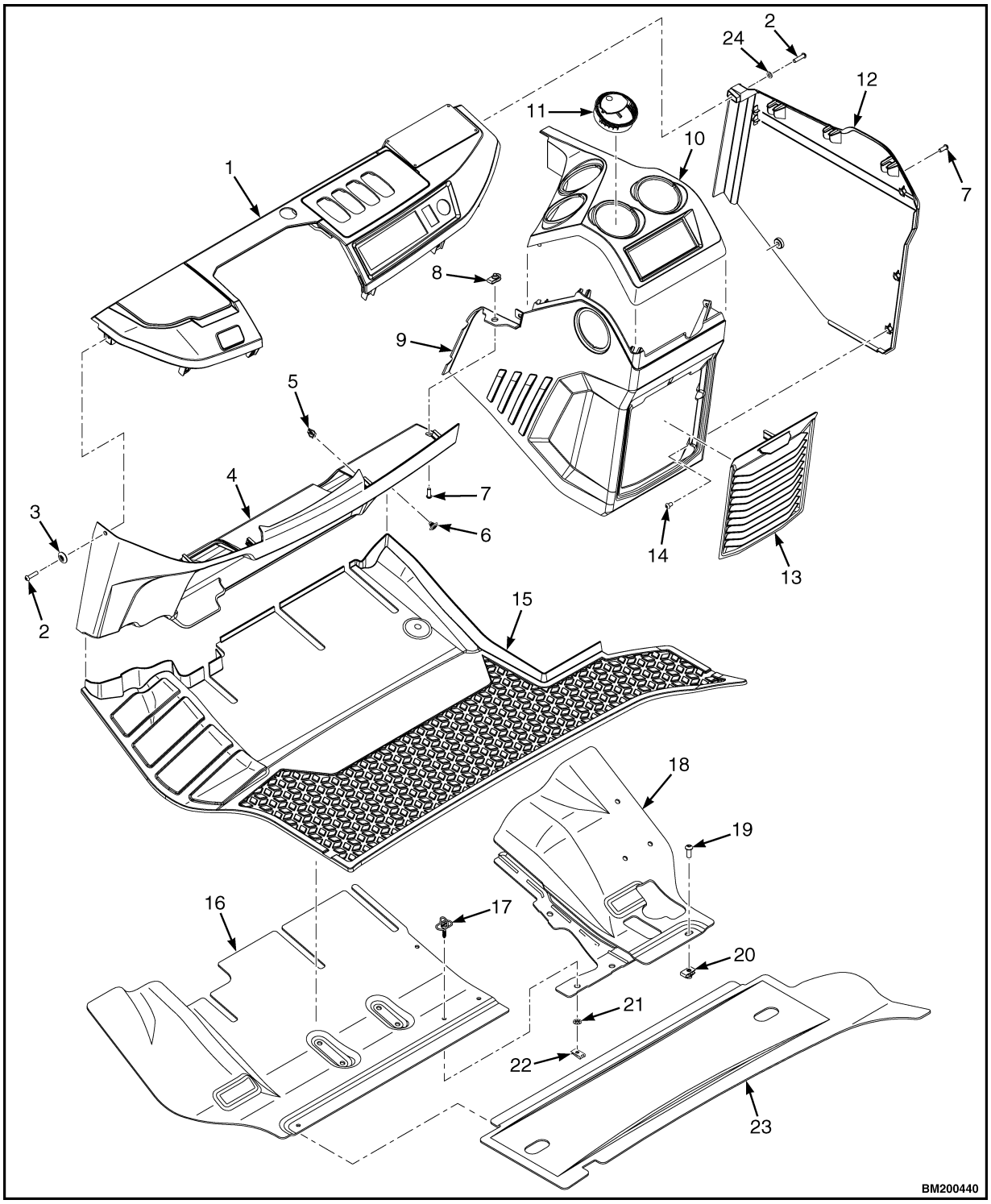


Figure 49. Heater Covers

Legend for Figure 49.

1. DASH PANEL
2. SCREW
3. WASHER
4. LEFT HAND (LH) KICK PANEL COVER
5. CLIP
6. PLUG
7. BUTTON HEAD SCREW
8. FOLDOVER NUT
9. COVER, LH
10. COVER, TOP
11. VENT
12. COVER, RIGHT HAND (RH)
13. GRILL COVER
14. SCREW
15. FLOORMAT
16. FLOORPLATE
17. FASTENER
18. FLOORPLATE MOUNT
19. SCREW
20. FOLDOVER NUT
21. RETAINER
22. FASTENER
23. REAR PLATE
24. WASHER

HEATER

Remove

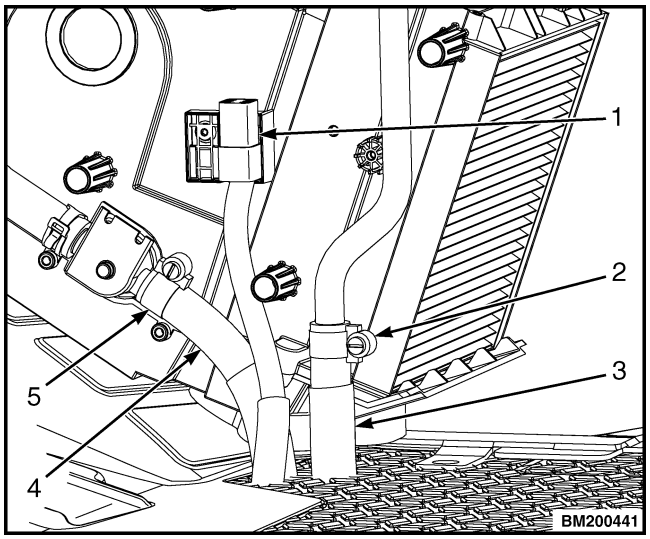
1. Remove grill cover (item 13, Figure 49) from Left Hand (LH) cover (item 9, Figure 49).

2. Remove screw, (item 2, Figure 49), washer (item 24, Figure 49), button head screw (item 7, Figure 49), 3 screws (item 14, Figure 49) and RH cover (item 12, Figure 49) from LH cover (item 9, Figure 49).

3. Remove top cover (item 10, Figure 49) from LH cover (item 9, Figure 49).

4. Remove button head screw (item 7, Figure 49), screw (not shown), and LH cover (item 9, Figure 49) from heater assembly.

5. Disconnect electrical connector (item 1, Figure 50) from wire harness.



1. ELECTRICAL CONNECTOR
2. HOSE CLAMP
3. HEATER RETURN HOSE
4. HEATER SUPPLY HOSE
5. HOSE CLAMP

Figure 50. Heater and Hoses

WARNING

DO NOT remove the radiator cap from the radiator when the engine is hot. When the radiator cap is removed, the pressure is released from the system. If the system is hot, the steam and boiling coolant can cause burns.

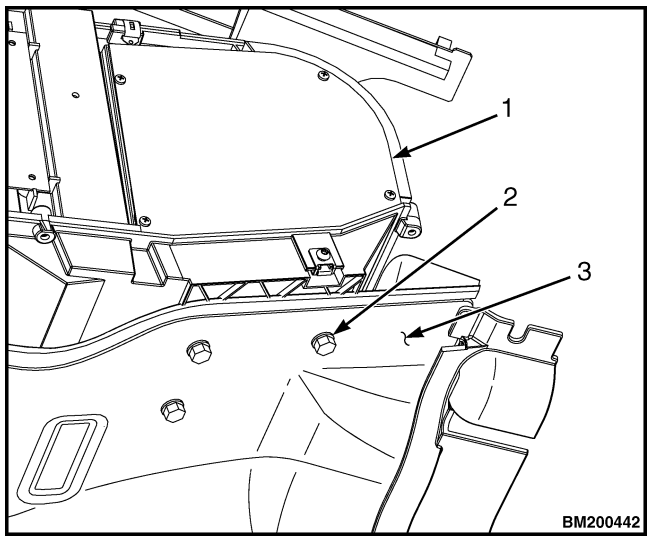
6. Remove the radiator cap to release the pressure and place it back on the radiator.

NOTE: Tag heater supply and return hoses for correct installation.

7. Loosen hose clamp (item 2, Figure 50) on heater return hose (item 3, Figure 50) and disconnect hose from heater outlet port. Insert plug into heater return hose.

8. Loosen hose clamp (item 5, Figure 50) on heater supply hose (item 4, Figure 50) and disconnect hose from heater inlet port. Insert plug into heater supply hose.

9. Remove 3 capscrews (item 2, Figure 51) and heater unit (item 1, Figure 51) from floorplate (item 3, Figure 51).



1. HEATER UNIT
2. CAPSCREWS
3. FLOORPLATE

Figure 51. Heater Unit Bottom Bolts

Install

1. Install heater unit (item 1, Figure 51) to floorplate (item 3, Figure 51) with 3 capscrews (item 2, Figure 51). Torque capscrews to 25.6 N•m (18.9 lbf ft).

2. Remove plug from heater supply hose. Connect heater supply hose (item 4, Figure 50) to heater inlet port. Tighten hose clamp (item 5, Figure 50). Torque hose clamp to 3.44 N•m (30.45 lbf in).

3. Remove plug from heater return hose. Connect heater return hose (item 3, Figure 50) to heater outlet port. Tighten hose clamp (item 2, Figure 50). Torque hose clamp to 3.44 N•m (30.45 lbf in).

4. Connect electrical connector (item 1, Figure 50) to wire harness.

5. Install LH cover (item 9, Figure 49) to heater assembly with button head screw (item 7, Figure 49), and screw (not shown). Torque screw (item 7, Figure 49), and screw (not shown) to 0.85 N•m (7.5 lbf in).

6. Install top cover (item 10, Figure 49) on LH cover (item 9, Figure 49).

7. Install RH cover (item 12, Figure 49) to LH cover (item 9, Figure 49) with screw, (item 2, Figure 49), washer (item 24, Figure 49), button head screw (item 7, Figure 49), and 3 screws (item 14, Figure 49). Torque screw, (item 2, Figure 49) to 0.50 N•m (4.4 lbf in). Torque button head screw (item 7, Figure 49) to 0.85 N•m (7.5 lbf in). Torque 3 screws (item 14, Figure 49) to 0.85 N•m (7.5 lbf in).

8. Install grill cover (item 13, Figure 49) onto LH cover (item 9, Figure 49).

9. Start engine and warm the engine to normal operating temperature.

10. Set the heater temperature setting to maximum temperature to remove trapped air and check that the heater functions correctly.

11. Check coolant level. If needed fill coolant to the correct level.

AIR CONDITIONER REPAIR 202001-006

AIR CONDITIONING

NOTE: The following security precautions must be observed before attempting any maintenance, service, or repair to the air conditioning unit, or any its components.

Safety Precautions

WARNING

• The filter dryer may contain liquid refrigerant. Loosen the fitting nuts SLOWLY to avoid leakage. Avoid contact with exposed skin or eyes.

• Never perform any soldering or welding procedures to parts within, or in the vicinity of, the closed refrigeration circuit. The heating effect can cause pressure to increase within the unit and create a potential for explosion.

• Refrigerant bottles must be handled with care when filled. Refrigerant bottles must never be used or stored in sun or other heat sources, for extended periods of time. The highest allowable temperature of a filled refrigerant bottle must not exceed 45°C (122°F).

• Any maintenance or repair of the unit must be performed with the motor OFF, and the blower separated from the current circuit, to avoid potential injury.

• The unit may contain hot components. Wait for unit to cool completely and use caution to avoid potential injury.

CAUTION

• Repairs to the air conditioning system that require discharging and/or refilling of the refrigeration fluid must be performed only by a certified air conditioning specialist.

• Never use compressed air for leak testing. Pressurized refrigerants and air can undergo combustion when exposed to an ignition source.

• Observe the requirements of DIN EN 378-4 for maintenance and repair as well as recovery, reuse and disposal of unit.

• The refrigeration system must be kept free from chlorine and substances containing chlorine, as well as oils and greases, to avoid contamination that may cause damage to the unit.

• Personal Protective Equipment must be worn when performing all maintenance and repair tasks.

• Air conditioning unit must be emptied of all refrigerant before performing any maintenance or repair tasks.

• DO NOT drain refrigerant into the open air. Use a vacuum to suction.

• Always confirm there is no packaging material or any other residue in the unit before starting.

• In the event of an emergency, always confirm the air conditioning unit is powered OFF.

• Only refrigerant R134a must be used, according to DIN 8960.

• Please follow the safety data sheet for refrigerant R134a.

• Do not add any fluorescent additives (e.g., leak detection liquids) to the refrigerant.

• DO NOT use compressed air to clean the air conditioning unit.

General Statements for Repairs

NOTE: Before beginning any maintenance or repair procedures, see the Safety Precautions section above.

CAUTION

Repairs to the air conditioning system that require discharging and/or refilling of the refrigeration fluid must be performed only by a certified air conditioning specialist.

Residual Pressure

Residual pressure may still remain even after the unit has been emptied. This should initially be released with extreme care by first slowly loosening the connections. The connections can be fully separated afterward.

Refrigeration Circuit

• While performing any work in the refrigeration circuit, all the openings must be closed and made airtight so that no moisture can get into the unit.

• Do not perform any work on refrigeration circuit outdoors during inclement weather.

• During any instance when work is performed within the refrigeration circuit, or a change of components is required, the receiver dryer must also be replaced.

• Removed refrigerant may not be used again.

AIR CONDITIONER (A/C) REPAIR

The air conditioning system consists of Heating, Ventilation, and Air Conditioning (HVAC) unit, condenser, and A/C compressor.

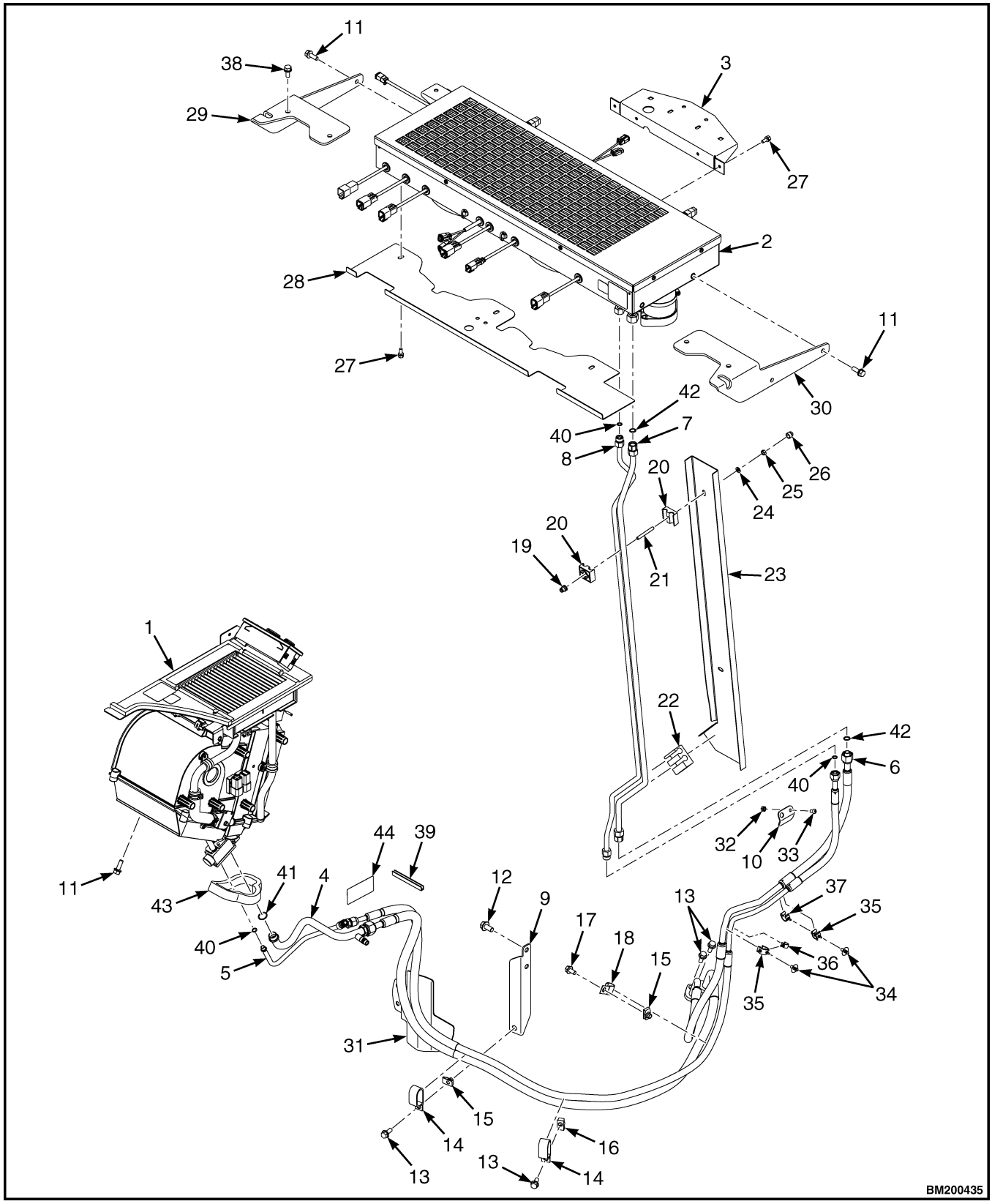


Figure 52. Air Conditioner System

Legend for Figure 52.

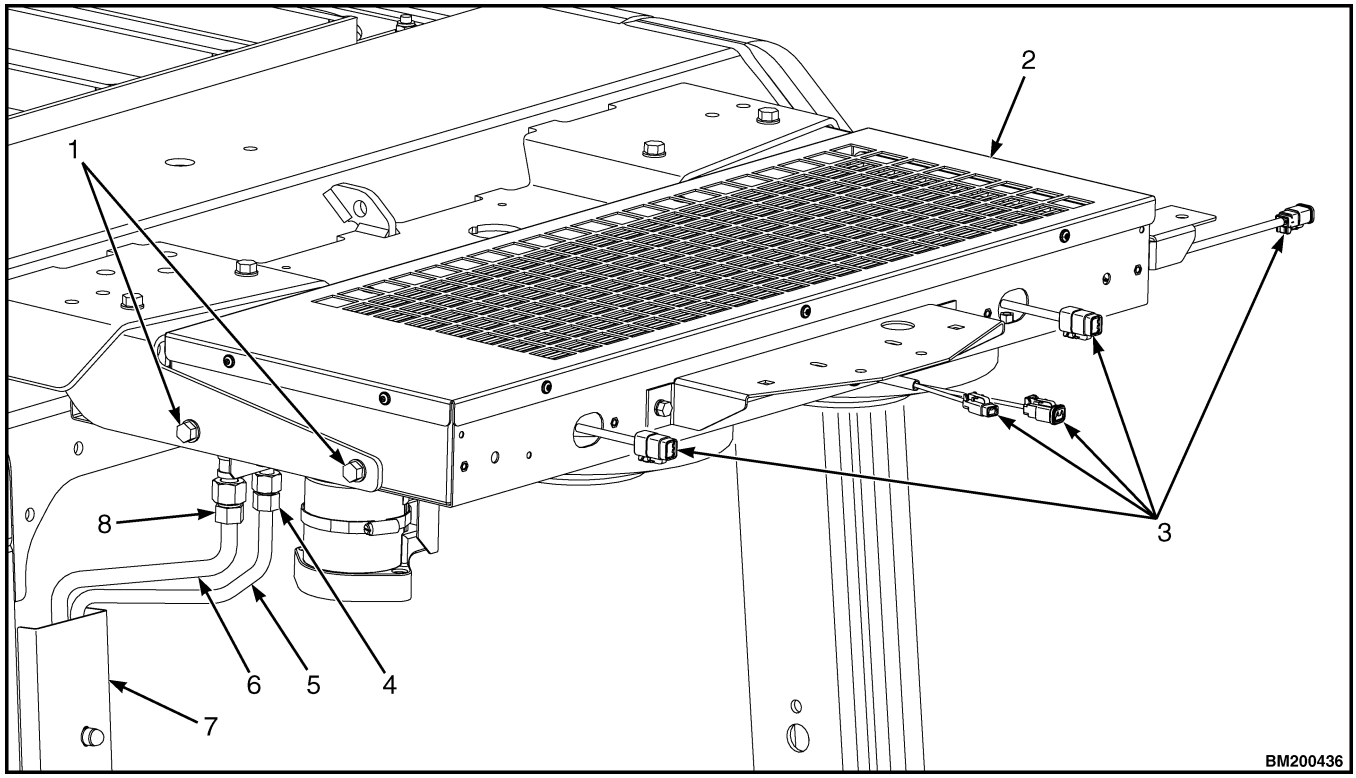
1. HVAC UNIT
2. CONDENSER
3. BRACKET - CONDENSER, REAR LIGHT
4. HOSE ASSY - #10 A/C REFRIGERANT
5. TUBE ASSY
6. TUBE ASSY
7. TUBE ASSY - #8 A/C REFRIGERANT
8. TUBE ASSY - #6 A/C REFRIGERANT
9. BRACKET
10. PLATE - HVAC A/C HOSE
11. CAPSCREW
12. CAPSCREW
13. CAPSCREW
14. CLAMP
15. NUT (FOLD OVER)
16. NUT (FOLD OVER)
17. CAPSCREW
18. CLAMP
19. INSERT
20. CLAMP (2 HALVES)
21. STUD
22. FOAM - SEAL, REAR A/C TUBE
23. HEAT SHIELD
24. WASHER
25. NUT
26. CAP
27. CAPSCREW
28. PLATE
29. BRACKET (RH)
30. BRACKET (LH)
31. HEAT SHIELD - DPF
32. NUT
33. SCREW
34. CLAMP (BASE)
35. CLAMP
36. CLAMP (SWIVEL)
37. CLAMP (SWIVEL)
38. CAPSCREW
39. TRIM
40. O-RING
41. O-RING
42. O-RING
43. SEAL
44. LABEL , A/C DECAL 1.3KG

Remove Condenser

CAUTION

Repairs to the air conditioning system that require discharging and/or refilling of the refrigeration fluid must be performed only by a certified air conditioning specialist.

1. Contact a certified air conditioning specialist to extract the refrigerant from the air conditioning system.



1. CAPSCREW
2. CONDENSER
3. WIRE HARNESS CONNECTORS
4. #6 A/C REFRIGERANT TUBE FITTING
5. #6 A/C REFRIGERANT TUBE
6. #8 A/C REFRIGERANT TUBE
7. HEAT SHIELD
8. #8 A/C REFRIGERANT TUBE FITTING

Figure 53. Condenser

2. Disconnect wire harness connectors (item 3, Figure 53).

3. Disconnect #8 A/C refrigerant tube fitting (item 8, Figure 53) and #8 A/C refrigerant tube (item 6, Figure 53) from condenser (item 2, Figure 53). Plug the tube and port.

4. Disconnect #6 A/C refrigerant tube fitting (item 4, Figure 53) and #6 A/C refrigerant tube (item 5, Figure 53) from condenser (item 2, Figure 53). Plug the tube and port.

5. Remove four capscrews (item 1, Figure 53) and condenser (item 2, Figure 53) from brackets.

Install Condenser

1. Attach condenser (item 2, Figure 53) to brackets with four capscrews (item 1, Figure 53). Torque capscrews to 25.6 Nm (18.9 lbf-ft).

NOTE: Unplug the tubes and ports before installing tubes. Ensure O-rings are present and lubricate with Polyalkylene Glycol (PAG) oil before installing.

2. Connect #6 A/C refrigerant tube (item 5, Figure 53) and #6 A/C refrigerant tube fitting (item 4, Figure 53) to condenser (item 2, Figure 53). Torque fitting to 28 Nm (20.7 lbf-ft).

3. Connect #8 A/C refrigerant tube (item 6, Figure 53) and #8 A/C refrigerant tube fitting (item 8, Figure 53) to condenser (item 2, Figure 53). Torque fitting to 34 Nm (25.1 lbf-ft).

4. Connect wire harness connectors (item 3, Figure 53).

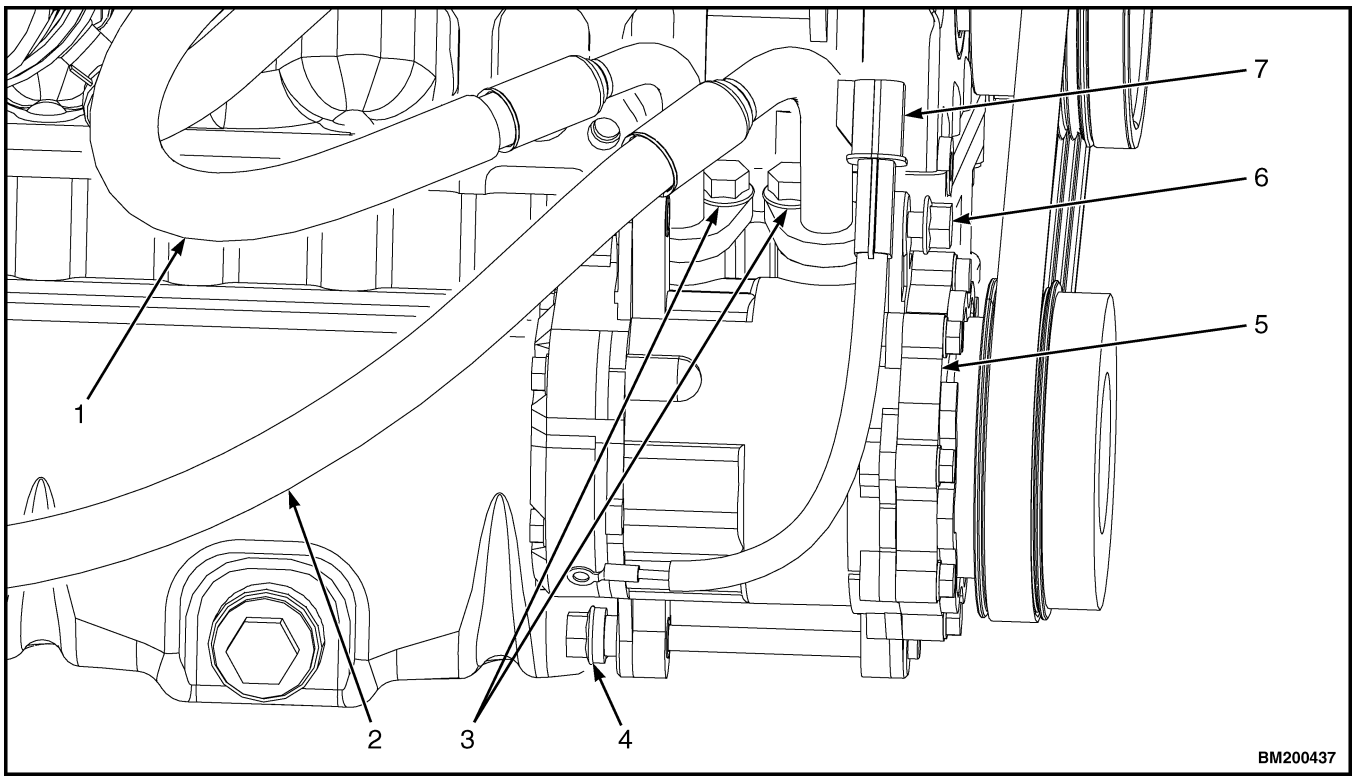
5. Contact a qualified and certified technician to fill the air conditioning system with refrigerant.

Remove A/C Compressor

CAUTION

Repairs to the air conditioning system that require discharging and/or refilling of the refrigeration fluid must be performed only by a certified air conditioning specialist.

1. Contact a certified air conditioning specialist to extract the refrigerant from the air conditioning system.
2. Disconnect wire harness (item 7, Figure 54).



1. #8 A/C REFRIGERANT HOSE
2. #10 A/C REFRIGERANT HOSE
3. CAPSCREW
4. CAPSCREW
5. A/C COMPRESSOR
6. CAPSCREW
7. WIRE HARNESS

Figure 54. A/C Compressor

3. Remove A/C compressor belt from crankshaft pulley.
4. Remove capscrew (item 3, Figure 54) and #8 A/C refrigerant hose (item 1, Figure 54) from A/C compressor (item 5, Figure 54).
5. Remove capscrew (item 3, Figure 54) and #10 A/C refrigerant hose (item 2, Figure 54) from A/C compressor (item 5, Figure 54).
6. Remove capscrew (item 6, Figure 54), capscrew (item 4, Figure 54) and A/C compressor (item 5, Figure 54) from engine.

Install A/C Compressor

1. Install A/C compressor (item 5, Figure 54) on engine with capscrew (item 4, Figure 54) and capscrew (item 6, Figure 54). Torque capscrews to 25 Nm (18.4 lbf-ft).

NOTE: Ensure O-rings are present and lubricate with Polyalkylene Glycol (PAG) oil before installing.

2. Insert #10 A/C refrigerant hose (item 2, Figure 54) into A/C compressor (item 5, Figure 54) and secure with capscrew (item 3, Figure 54). Torque capscrew to 12 Nm (8.9 lbf-ft).

3. Insert #8 A/C refrigerant hose (item 1, Figure 54) into A/C compressor (item 5, Figure 54) and secure with capscrew (item 3, Figure 54). Torque capscrew to 12 Nm (8.9 lbf-ft).

4. Install A/C compressor belt on crankshaft pulley.

5. Connect wire harness (item 7, Figure 54).

6. Contact a qualified and certified technician to fill the air conditioning system with refrigerant.

Remove Tubes and Expansion Block Valve

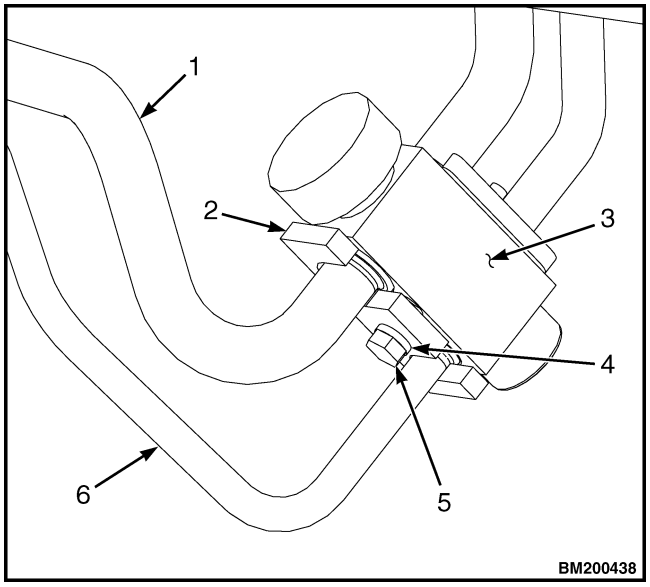
CAUTION

Repairs to the air conditioning system that require discharging and/or refilling of the refrigeration fluid must be performed only by a certified air conditioning specialist.

NOTE: The HVAC unit includes the heater. Please follow the Remove and Install procedures (Heater Repair) for the heater. The only additional steps are provided in the following procedures for removing and installing the air conditioning lines.

1. Contact a certified air conditioning specialist to extract the refrigerant from the air conditioning system.

2. Remove capscrew (item 5, Figure 55), washer (item 4, Figure 55), and slotted mounting plate (item 2 Figure 55) from expansion block valve (item 3, Figure 55).



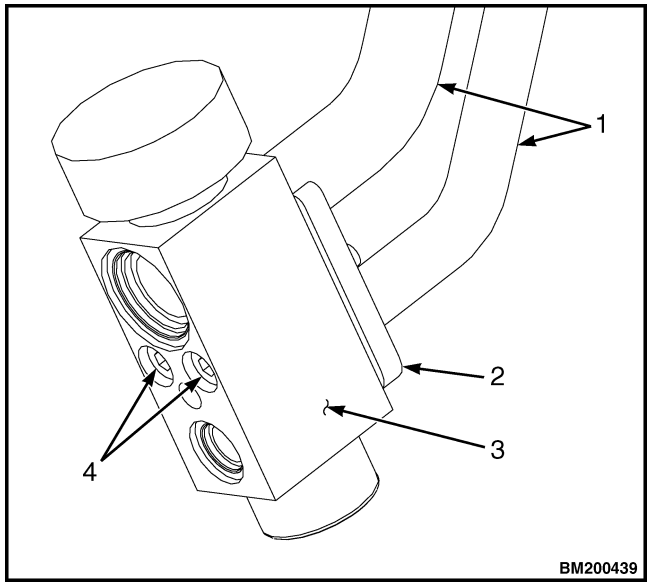
NOTE: COMPONENTS REMOVED FOR CLARITY.

1. #10 A/C REFRIGERANT HOSE
2. SLOTTED MOUNTING PLATE
3. EXPANSION BLOCK VALVE
4. WASHER
5. CAPSCREW
6. TUBE ASSEMBLY

Figure 55. Expansion Block Valve

3. Remove tube assembly (item 6, Figure 55) and #10 A/C refrigerant hose (item 1, Figure 55) from expansion block valve (item 3, Figure 55).

4. Remove two capscrews (item 4, Figure 56), slotted mounting plate (item 2, Figure 56), and expansion block valve (item 3, Figure 56) from A/C tubes (item 1, Figure 56).



1. A/C TUBES
2. SLOTTED MOUNTING PLATE
3. EXPANSION BLOCK VALVE
4. CAPSCREW

Figure 56. Expansion Block Valve Removal

Install Tubes and Expansion Block Valve

NOTE: Ensure O-rings are present and lubricate with Polyalkylene Glycol (PAG) oil before installing.

1. Install expansion block valve (item 3, Figure 56) onto A/C tubes (item 1, Figure 56) with slotted mounting plate (item 2, Figure 56) and secure with two capscrews (item 4, Figure 56).

NOTE: Ensure O-rings are present and lubricate with Polyalkylene Glycol (PAG) oil before installing.

2. Insert tube assembly (item 6, Figure 55) and #10 A/C refrigerant hose (item 1, Figure 55) into expansion block valve (item 3, Figure 55).

3. Install slotted mounting plate (item 2 Figure 55) on expansion block valve (item 3, Figure 55) with washer (item 4, Figure 55) and capscrew (item 5, Figure 55). Torque capscrew to 8 Nm (5.9 lbf-ft).

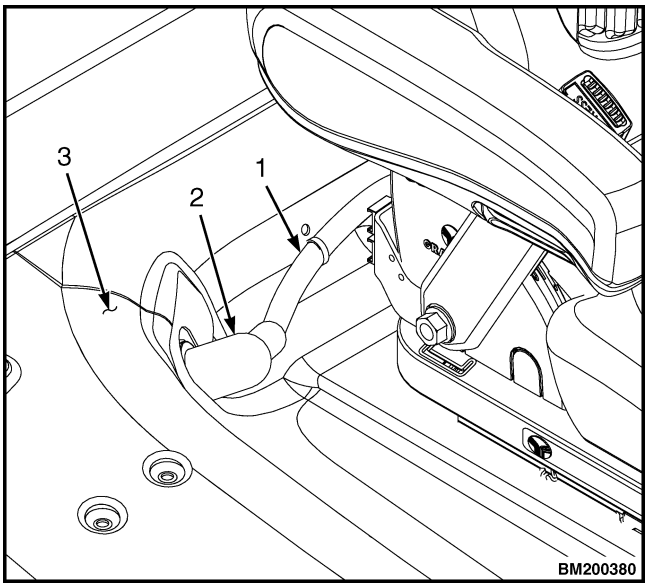
4. Contact a qualified and certified technician to fill the air conditioning system with refrigerant.

Operator station repair

SEAT REPAIR-FULL SUSPENSION 202001-007

REMOVE

1. Disconnect the seat wire harness connector from the connector on the main chassis harness, using the access hole located in the hood. See Figure 57.



1. SEAT WIRE HARNESS
2. SEAT WIRE HARNESS CONNECTOR
3. HOOD

Figure 57. Seat wire harness connector

2. Release the latch on the hood. Open and raise the hood. See Figure 58.

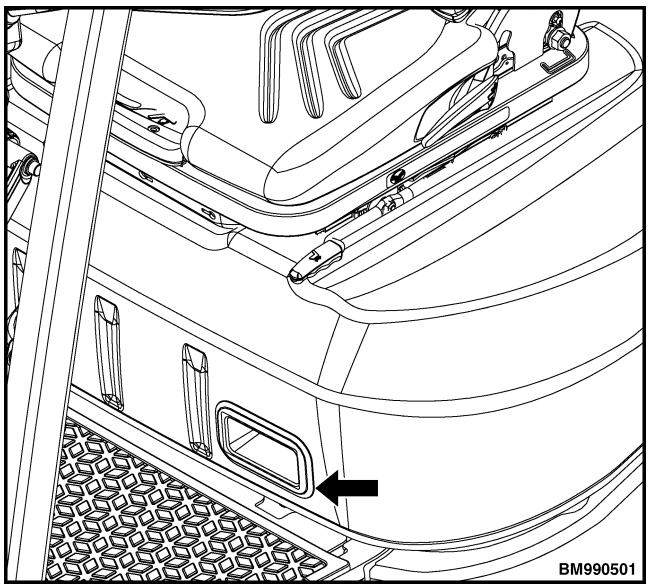
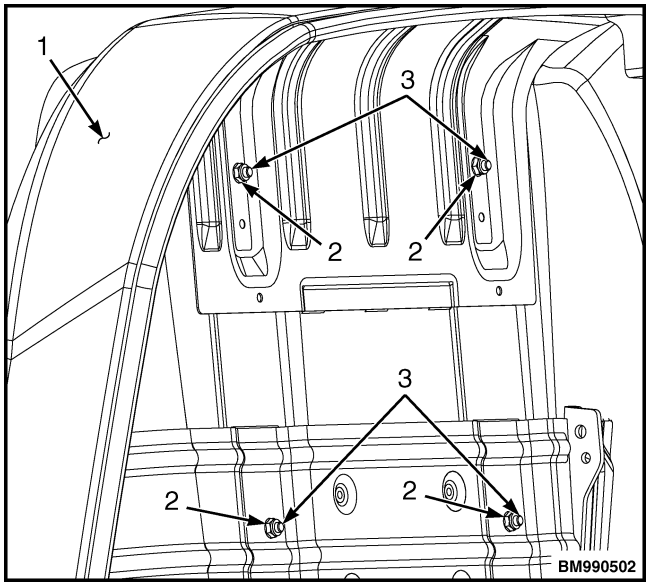


Figure 58. Hood latch

3. Locate the four lockwashers on the underside of the hood that attach to the four studs from the seat assembly. Remove the nuts. See Figure 59.



1. HOOD
2. LOCKNUT
3. STUD

Figure 59. Seat attachment

4. Close and latch the hood.

5. Lift the seat up so the four studs are free of the hood.

6. If replacing the seat as an assembly, proceed to Install. If replacing a component of the seat, see the steps below.

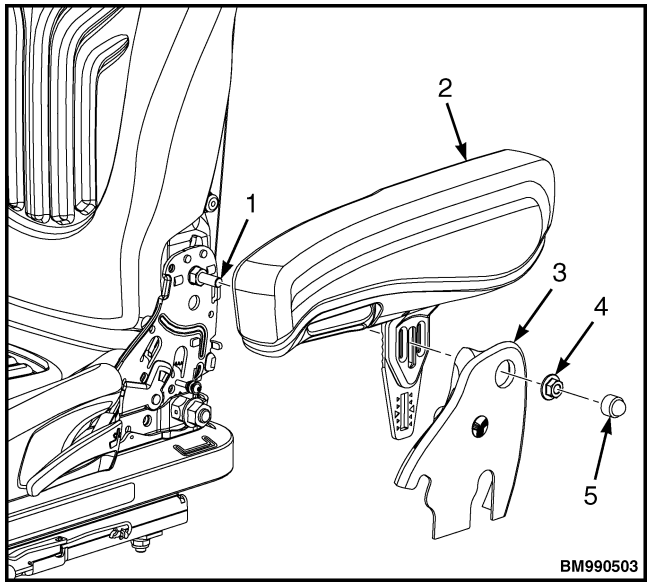
DISASSEMBLE

Armrests

1. Remove the cap (item 5, Figure 60) protecting the nut that attaches the left-hand (LH) cover.

2. Remove the nut and the LH cover from the LH armrest. See Figure 60.

3. Remove the LH armrest. See Figure 60.



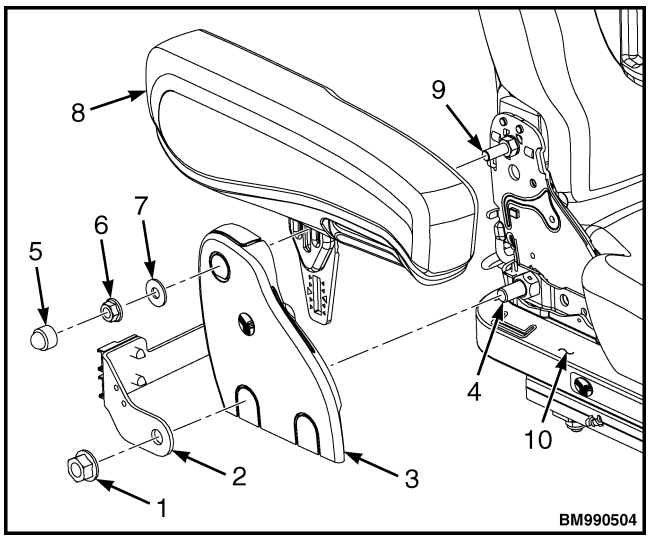
1. CAPSCREW
2. LH ARMREST
3. LH COVER
4. NUT
5. CAP

Figure 60. LH armrest and cover

4. Loosen the nut (item 1, Figure 61) retaining the bracket (item 2, Figure 61) and the right-hand (RH) cover to the seat.

5. Remove the cap (item 5, Figure 61), nut (item 6), washer (item 7), and RH cover (item 3) retaining the RH armrest.

6. Remove the RH armrest. See Figure 61.

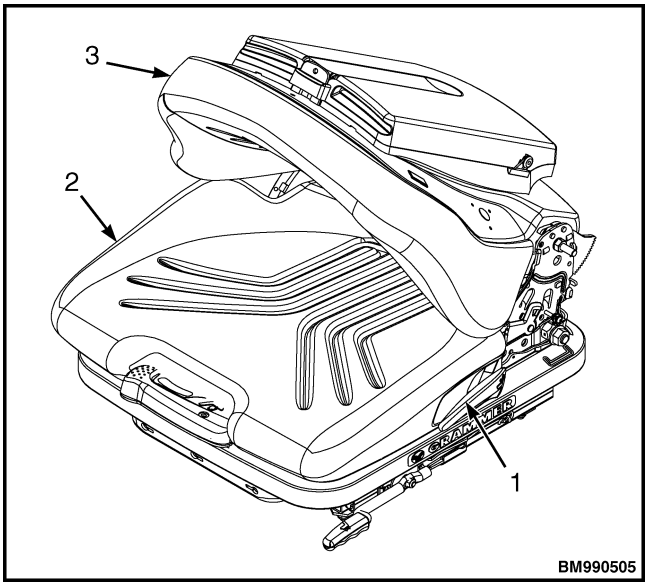


1. NUT
2. BRACKET
3. RH COVER
4. CAPSCREW
5. CAP
6. NUT
7. WASHER
8. RH ARMREST
9. CAPSCREW
10. SEAT

Figure 61. RH armrest and cover

Seats

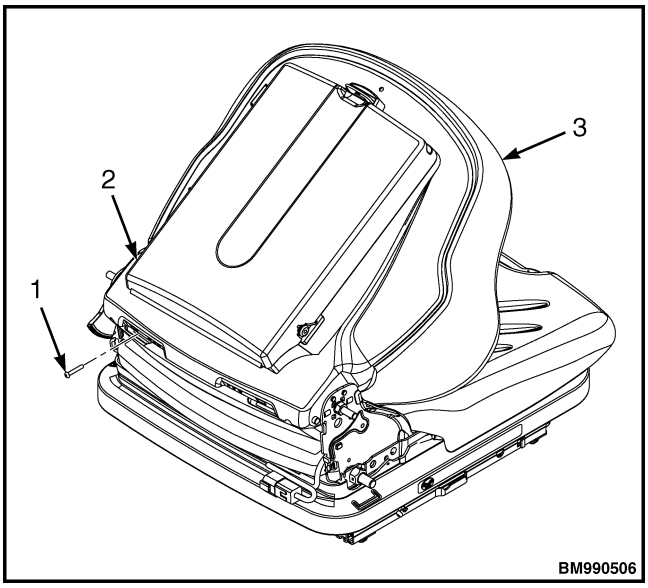
1. Lift up on the latch to fold the backrest of the seat forward toward the bottom seat cushion. See Figure 62.



1. LATCH
2. BOTTOM SEAT CUSHION
3. BACKREST

Figure 62. Fold backrest forward

2. Remove the two screws retaining the back cushion to the backrest. See Figure 63.

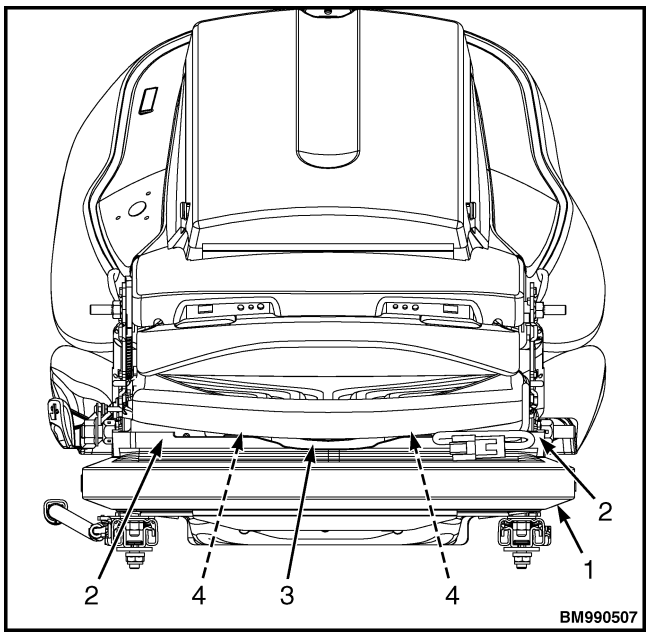


1. SCREW
2. BACKREST
3. BACK CUSHION

Figure 63. Remove the back cushion

3. Pull the back cushion free of the backrest. See Figure 63.

4. From the rear of the seat, locate the seat tab (item 3, Figure 64) and pull it out and up until the smaller tabs (item 4) on the cushion insert are clear of the seat pan.



1. SEAT PAN
2. METAL LIP OF SEAT PAN
3. SEAT TAB
4. CUSHION TABS

Figure 64. Backrest and seat pan

5. Make sure there is a gap between the cushion and the metal lip of the seat pan. See Figure 64.

6. Slide the bottom seat cushion toward the front of the seat to remove it from the seat pan. See Figure 65.

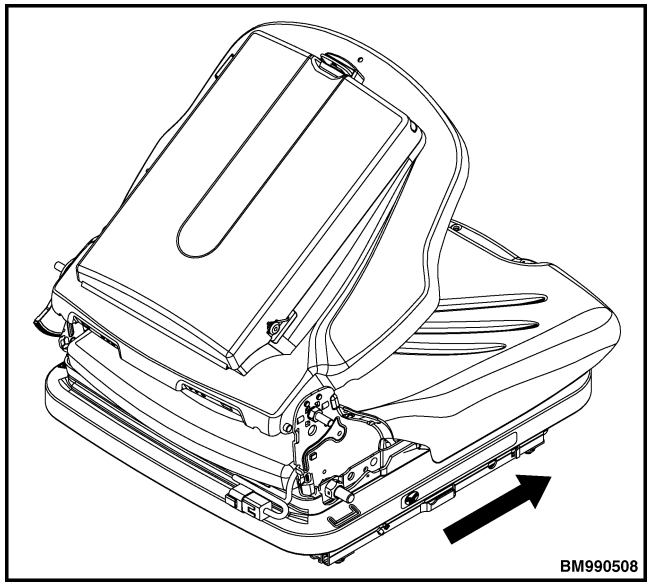
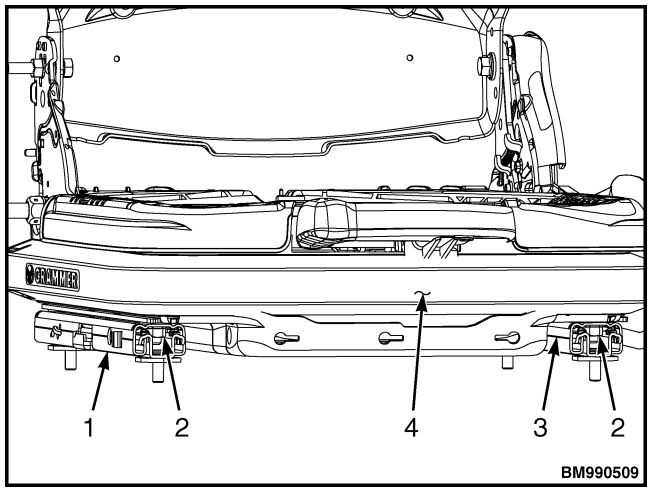


Figure 65. Remove bottom seat cushion

Suspension (Seat pan)

1. Locate the nuts retaining the LH and RH rails. See Figure 66.

2. Pull the bellows up enough to access the bolts that attach to the nuts. Use two socket wrenches to remove the nuts on the LH rail. Remove the nuts on the RH rail. See Figure 66.



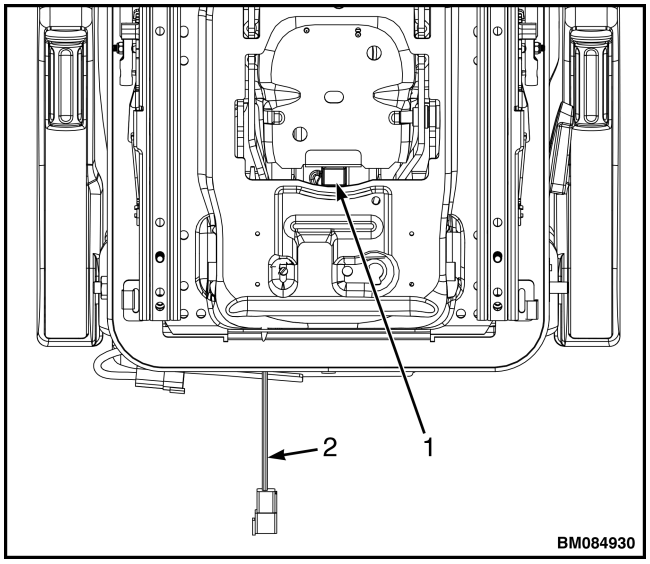
1. RH RAIL
2. NUT
3. LH RAIL
4. BELLOWS

Figure 66. Rails

3. Pull the bellows down to remove.

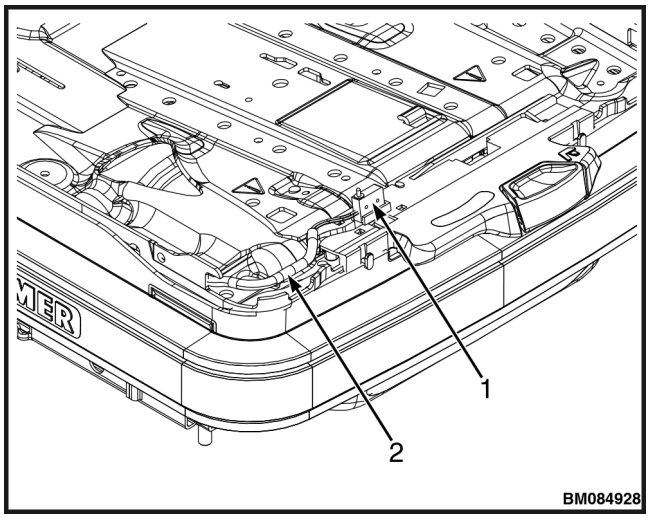
Operator Presence Sensor

1. Confirm the OPS connector (item 2, Figure 67 or Figure 68) has been disconnected from the main wire harness.



1. OPS
2. OPS CONNECTOR

Figure 67. OPS (Tiancheng full-suspension seat)



1. OPS
2. OPS CONNECTOR

Figure 68. OPS (Grammar full-suspension seat)

2. Remove the Operator Presence Sensor (item 1, Figure 67 or Figure 68) from the seat.

ASSEMBLE

Operator Presence Sensor

1. Locate new Operator Presence Sensor.
2. Insert the new Operator Presence Sensor (Figure 67 or Figure 68) into the bottom of the seat.
3. Connect the OPS connector (item 2, Figure 67 or Figure 68) to the chassis wire harness.

Suspension (Seat pan)

1. Install the bellows.
2. Install the nuts to retain the LH and RH rails. See Figure 66.
3. Pull the bellows up enough to access the bolts that attach to the nuts. Use two socket wrenches to tighten the nuts on the LH rail. Tighten the nuts on the RH rail. See Figure 66. Torque to 25 N•m (18.4 lbf ft).

Seats

1. Install the bottom seat cushion onto the seat pan.
   a. Locate the metal tabs on the seat pan. See Figure 69.

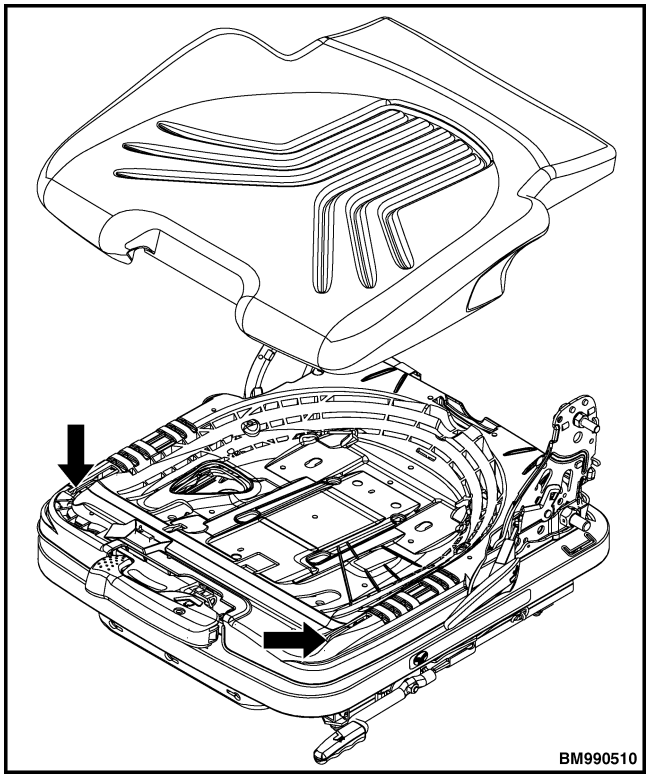


Figure 69. Seat pan tabs

   b. Locate the slots on the underside of the seat cushion. See Figure 70.

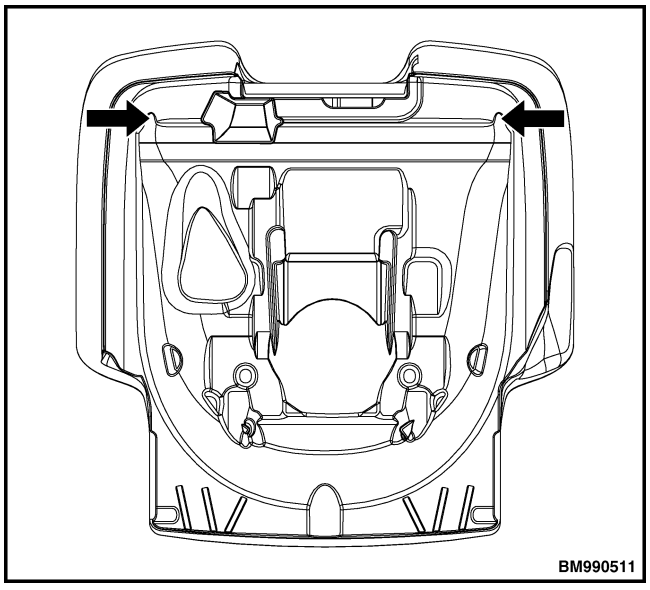


Figure 70. Underside of seat cushion

   c. Install the seat cushion onto the seat pan, aligning the two slots with the two tabs.

2. Slide the cushion toward the rear of the seat. See Figure 71.

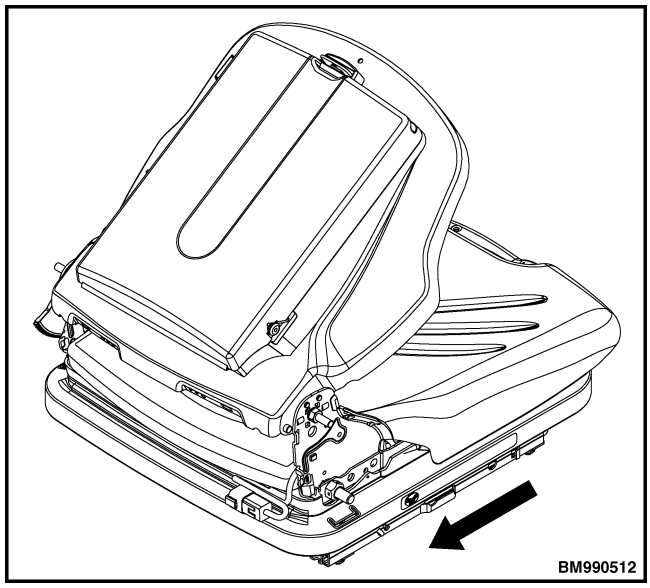


Figure 71. Install bottom seat cushion

3. From the rear of the seat, make sure the seat tab is clear of the metal lip of the seat pan. See Figure 64.

4. Press down on the bottom seat cushion until it locks into place and you here an audible 'click'.

5. Align the two clips of the back cushion with the two grooves in the backrest. Slide the back cushion in place in the backrest. See Figure 72.

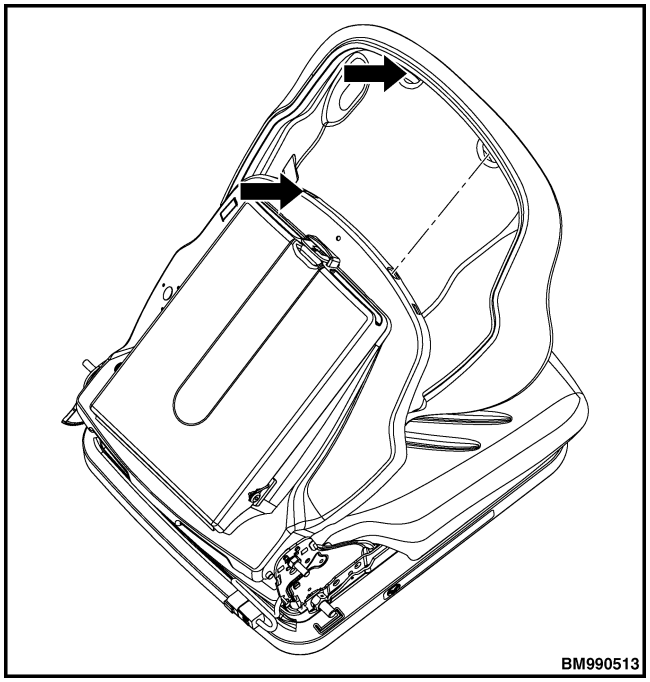


Figure 72. Install back cushion

6. Insert the two capscrews to retain the back cushion to the backrest. See Figure 63.

Armrests

1. Install the RH armrest. See Figure 61.

2. Insert the washer and nut (item 6), to retain the RH armrest. Tighten the nut to 9 to 13 N•m (6.6 to 9.6 lbf ft). See Figure 61.

3. Install the RH cover. See Figure 61.

4. Install the cap (item 5, Figure 61) on the nut that attaches the RH cover.

5. Install the bracket and the nut (item 2, Figure 61) to retain the bracket to the right-hand (RH) cover. Tighten to standard torque.

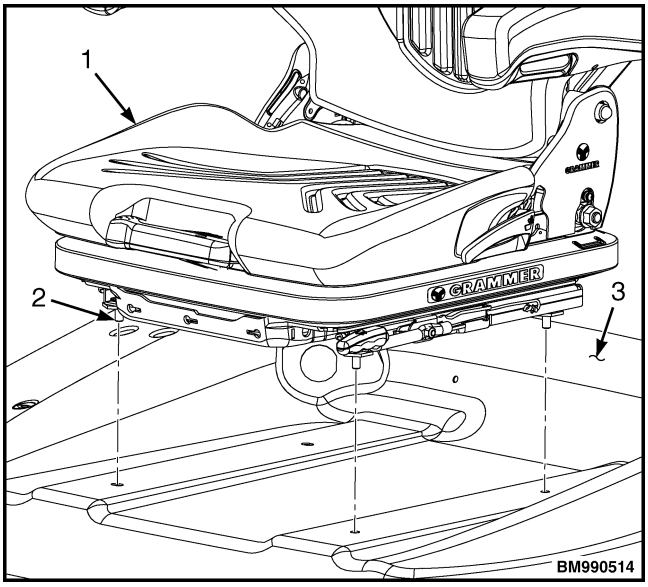
6. Install the LH armrest. See Figure 60.

7. Install the nut and the LH cover to the LH armrest. See Figure 60. Tighten the nut to standard torque.

8. Install the cap (item 5, Figure 60) on the nut that attaches the LH cover.

INSTALL

1. Lower the new seat assembly on to the hood, fitting the four studs of the seat assembly into the four holes on the hood. See Figure 73.



1. SEAT
2. STUD
3. HOOD

Figure 73. Install seat

NOTE: With the studs properly seated into the holes on the hood, the seat should not slide when the hood is opened slowly and carefully.

2. Release the latch on the hood. Very carefully, open and raise the hood. See Figure 58.

3. Insert the four lockwashers on the underside of the hood and attach to the four studs from the seat assembly. See Figure 59.

4. Tighten the nuts to standard torque.

5. Close the hood.

6. Connect the seat wire harness connector to the main chassis connector, using the access hole located in the hood. See Figure 57.

SEAT REPAIR-NON SUSPENSION SEAT 202001-243

REMOVE

1. Disconnect the wire harness connector from the Operator Presence Sensor (OPS) connector. See Figure 74.

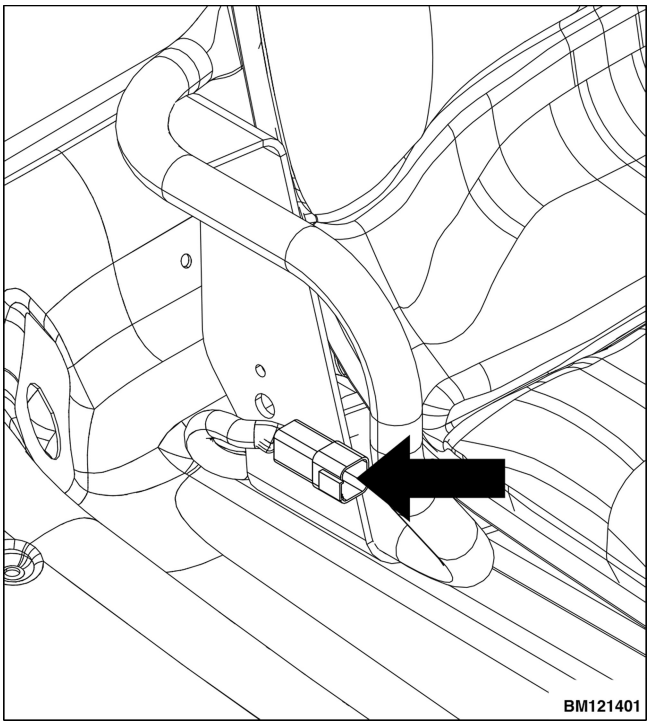


Figure 74. OPS connector

2. Release the latch on the hood. Open and raise the hood. See Figure 75.

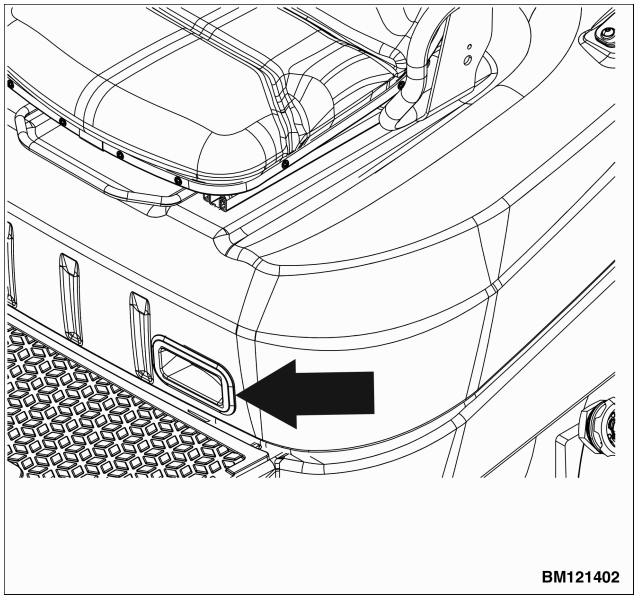
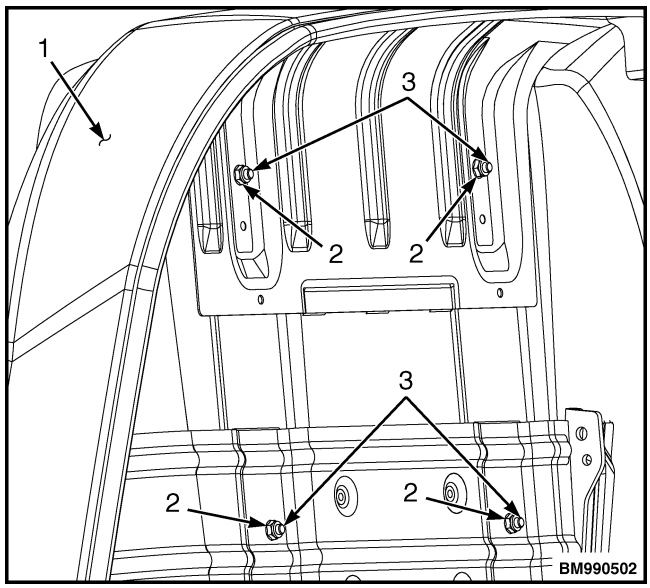


Figure 75. Hood latch

3. Locate the four locknuts on the underside of the hood that attach to the four studs from the seat assembly. Remove the locknuts. See Figure 76.



1. HOOD
2. LOCKNUT
3. STUD

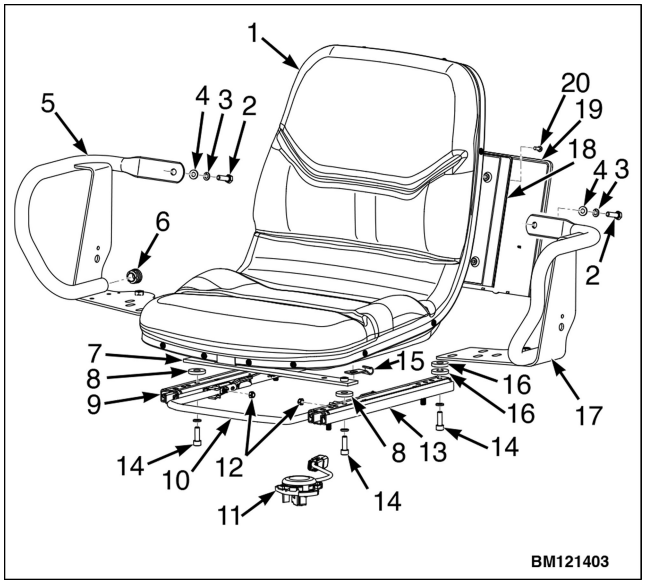
Figure 76. Seat attachment

4. Close and latch the hood.

5. Lift the seat up so the four studs are free of the hood.

6. If replacing the seat as an assembly, proceed to Install. If replacing a component of the seat, see the steps below.

DISASSEMBLE



1. SEAT
2. BOLT
3. SPRING WASHER
4. WASHER
5. HIP RESTRAINT (RH)
6. CAP
7. PLATE
8. SPACER
9. SEAT RAIL (RH)
10. HANDLE
11. OPERATOR PRESENCE SENSOR
12. NUT
13. SEAT RAIL (LH)
14. SCREW
15. HARNESS RETENTION CLIP
16. SPACER
17. HIP RESTRAINT (LH)
18. DOCUMENT BOX
19. COVER
20. SCREW

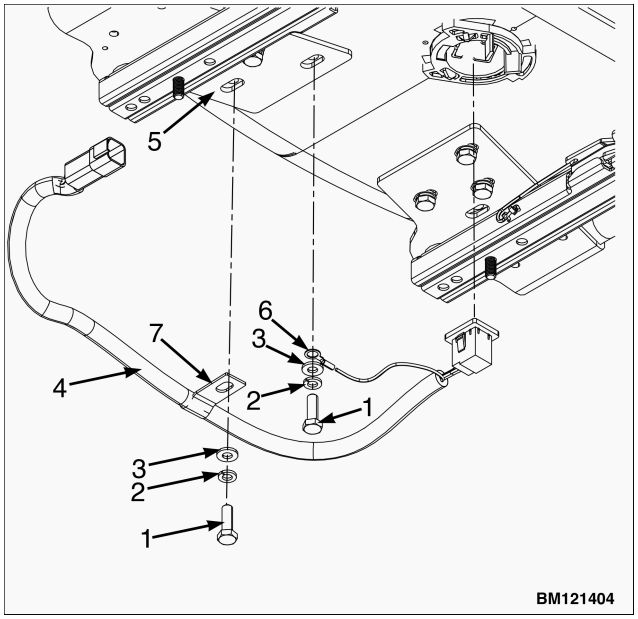
Figure 77. Seat Assembly

Operator Presence Sensor

1. Confirm the OPS connector has been disconnected from the wire harness.

2. Loosen the bolt retaining the OPS harness ring terminal to the bottom plate of the armrest. Remove the bolt, lockwasher and washer. See Figure 78.

3. Loosen the bolt retaining the OPS harness bracket to the bottom plate of the armrest. Remove the bolt, lockwasher and washer. See Figure 78.



1. BOLT
2. LOCKWASHER
3. WASHER
4. OPS
5. ARMREST BOTTOM PLATE
6. TERMINAL RING
7. OPS BRACKET

Figure 78. Remove/install the OPS

4. Remove the Operator Presence Sensor.

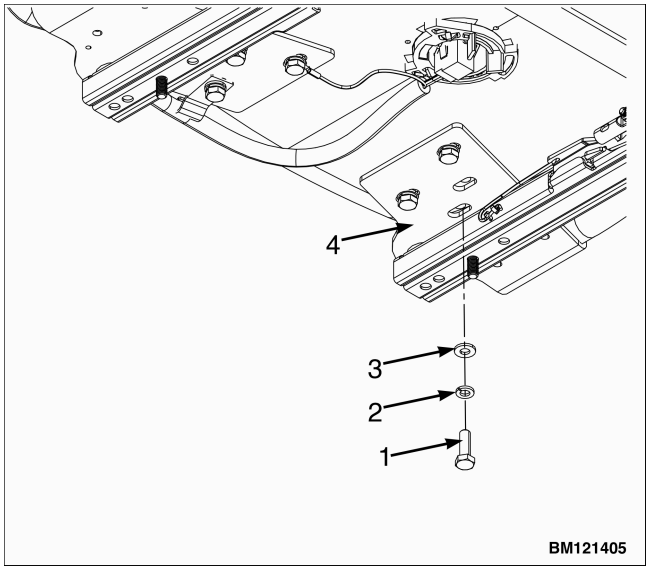
Armrests

NOTE: The following steps describe the procedure for removing one armrest. Repeat the process for the other armrest.

1. Loosen the bolt (item 2, Figure 77) retaining the armrest to the back of the seat.

2. Remove the bolt, spring washer and washer (item 2, 3 and 4, Figure 77).

3. Loosen the three bolts retaining the bottom plate of the armrest to the seat. Remove the bolts, lockwashers and washers. See Figure 79.



1. BOLT
2. LOCKWASHER
3. WASHER
4. ARMREST BOTTOM PLATE

Figure 79. Bottom of armrest

4. Remove the armrest.

Seat rails

1. Locate the screws (item 14, Figure 77) retaining the LH and RH rails (item 9 and 13).

2. Remove the screws and spacers (item 8, Figure 77) on the RH rail.

3. Remove the screws and spacers (item 8 and 16, Figure 77) on the LH rail.

4. Remove the rails.

ASSEMBLE

Seat rails

1. Install the rails.

2. Insert the screws and spacers (item 8, Figure 77) to retain the RH rail.

3. Insert the screws and spacers (item 8 and 16, Figure 77) to retain the LH rail.

Armrests

NOTE: The following steps describe the procedure for installing one armrest. Repeat the process for the other armrest.

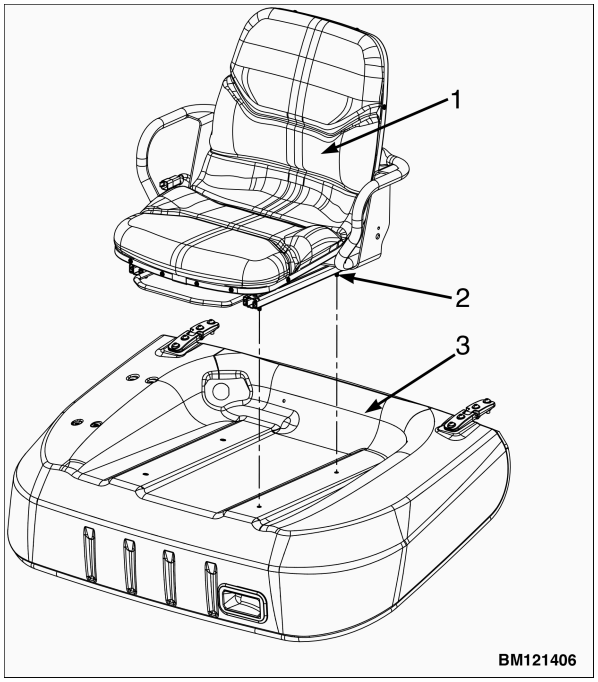
1. Align the armrest to the back of the seat.
2. Insert the bolt, spring washer and washer (item 2, 3 and 4, Figure 77) to retain the armrest to the back of the seat.
3. Insert the bolts, lockwashers and washers to retain the bottom plate of the armrest to the seat. See Figure 79.

Operator Presence Sensor

1. Locate new Operator Presence Sensor.
2. Insert the new Operator Presence Sensor into the bottom of the seat and twist to lock. See Figure 78.
3. Insert the bolt, lockwasher and washer to retain the OPS harness bracket to the bottom plate of the armrest. See Figure 78.
4. Insert the bolt, lockwasher and washer to retain the OPS harness ring terminal to the bottom plate of the armrest. See Figure 78.
5. Connect the OPS connector to the chassis wire harness.

INSTALL

1. Lower the new seat assembly on to the hood, fitting the four studs of the seat assembly into the four holes on the hood. See Figure 80.



1. SEAT
2. STUD
3. HOOD

Figure 80. Install seat

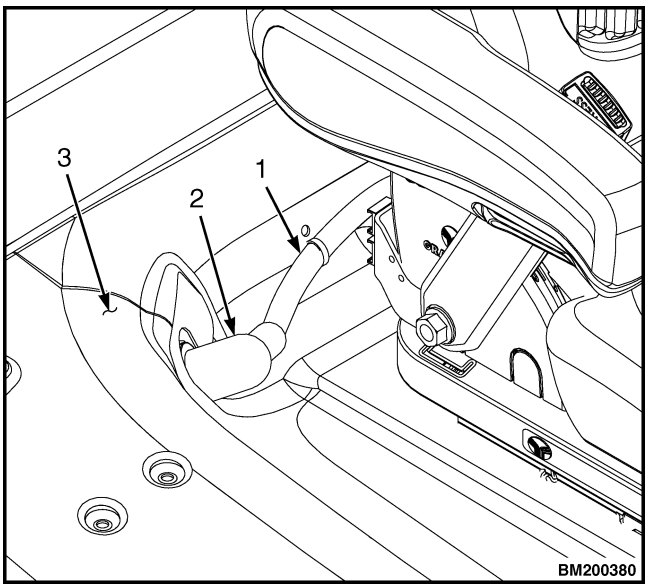
NOTE: With the studs properly seated into the holes on the hood, the seat should not slide when the hood is opened slowly and carefully.

2. Release the latch on the hood. Very carefully, open and raise the hood. See Figure 75.
3. From the underside of the hood, install the four lockwashers and nuts and secure on the four studs from the seat assembly. See Figure 76.
4. Tighten the nuts to standard torque.
5. Close the hood.
6. Connect the wire harness connector to the OPS connector. See Figure 74

SEAT REPAIR-AIR SUSPENSION 202001-244

REMOVE

1. Disconnect the seat wire harness connector from the connector on the main chassis harness, using the access hole located in the hood. See Figure 81.



1. SEAT WIRE HARNESS
2. SEAT WIRE HARNESS CONNECTOR
3. HOOD

Figure 81. Seat wire harness connector

2. Release the latch on the hood. Open and raise the hood. See Figure 82.

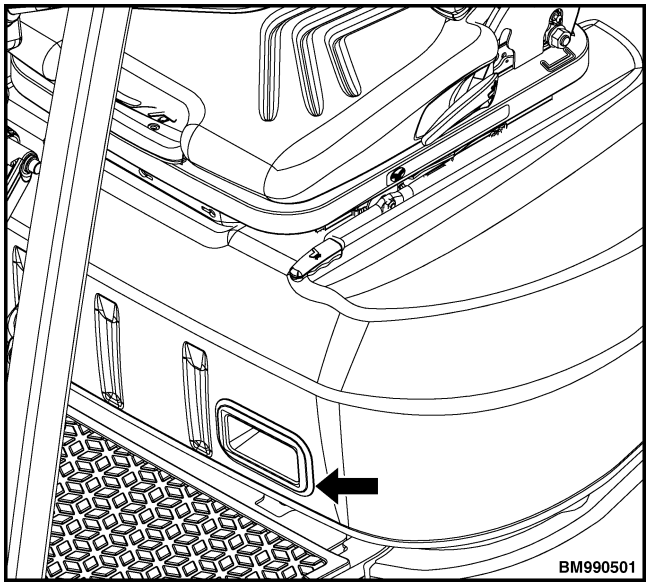
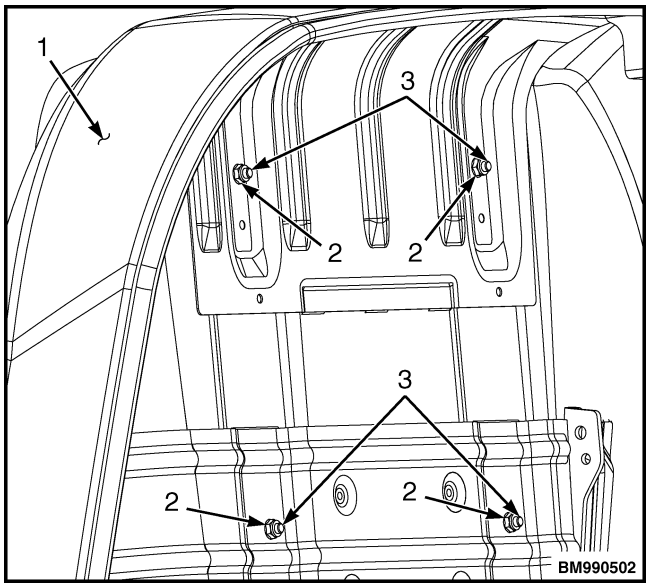


Figure 82. Hood latch

3. Locate the four locknuts on the underside of the hood that attach to the four studs from the seat assembly. Remove the nuts. See Figure 83.



1. HOOD
2. LOCKNUT
3. STUD

Figure 83. Seat attachment

4. Close and latch the hood.

5. Lift the seat up so the four studs are free of the hood.

6. If replacing the seat as an assembly, proceed to Install. If replacing a component of the seat, see the steps below.

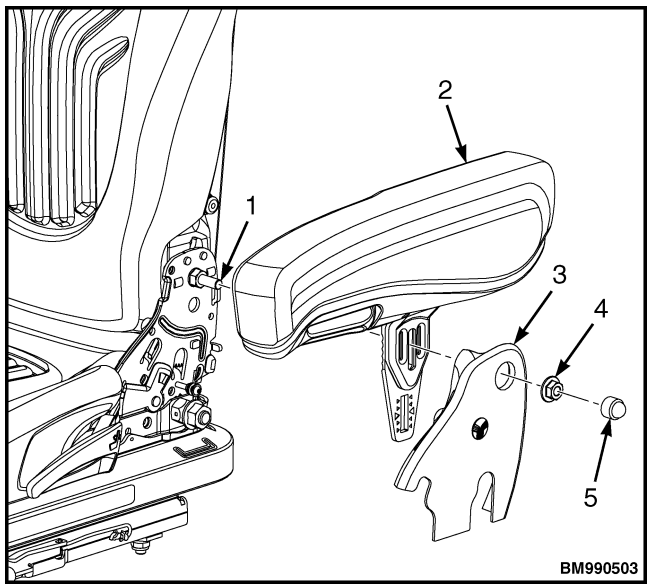
DISASSEMBLE

Armrests

1. Remove the cap (item 5, Figure 84) protecting the nut that attaches the left-hand (LH) cover.

2. Remove the nut (item 4, Figure 84) and the LH cover (item 3) from the LH armrest (item 2).

3. Remove the LH armrest. See Figure 84.



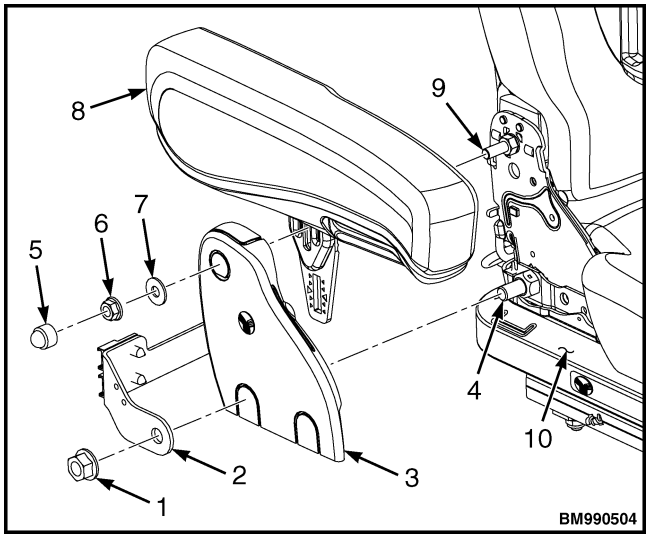
1. CAPSCREW
2. LH ARMREST
3. LH COVER
4. NUT
5. CAP

Figure 84. LH armrest and cover

4. Loosen the nut (item 1, Figure 85) retaining the bracket (item 2, Figure 85) and the right-hand (RH) cover (item 3) to the seat.

5. Remove the cap (item 5, Figure 85), nut (item 6), and washer (item 7) retaining the RH armrest.

6. Remove the RH armrest (item 8, Figure 85).

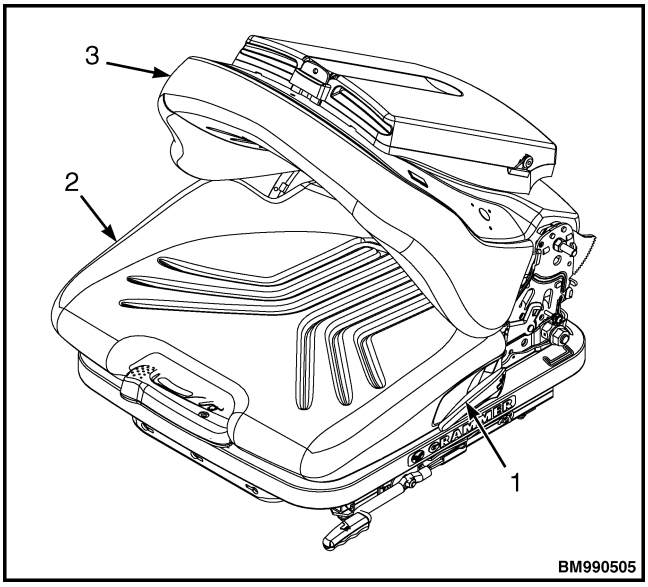


1. NUT
2. BRACKET
3. RH COVER
4. CAPSCREW
5. CAP
6. NUT
7. WASHER
8. RH ARMREST
9. CAPSCREW
10. SEAT

Figure 85. RH armrest and cover

Seat cushions

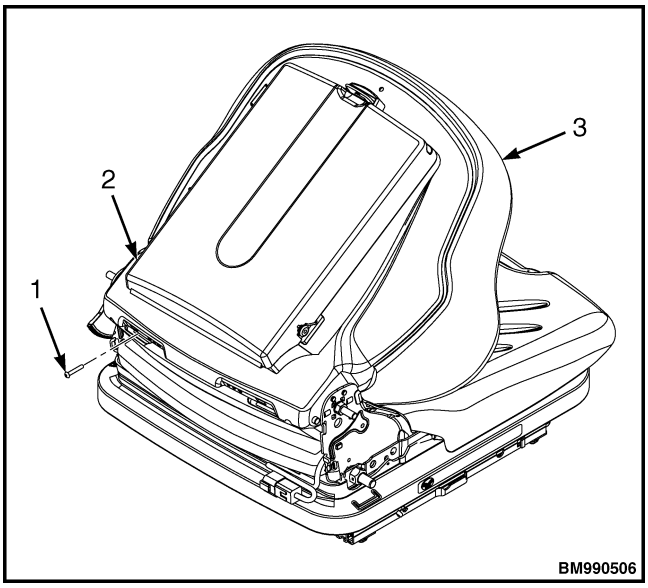
1. Lift up on the latch to fold the backrest of the seat forward toward the bottom seat cushion. See Figure 86.



1. LATCH
2. BACKREST
3. BOTTOM SEAT CUSHION

Figure 86. Fold backrest forward

2. Remove the two screws retaining the backrest cushion to the backrest frame. See Figure 87.



1. SCREW
2. BACKREST FRAME
3. BACKREST CUSHION

Figure 87. Backrest cushion screws

3. Use a flat screwdriver to press down on the two tabs retaining the upper part of the backrest cushion to the backrest frame. See Figure 88.

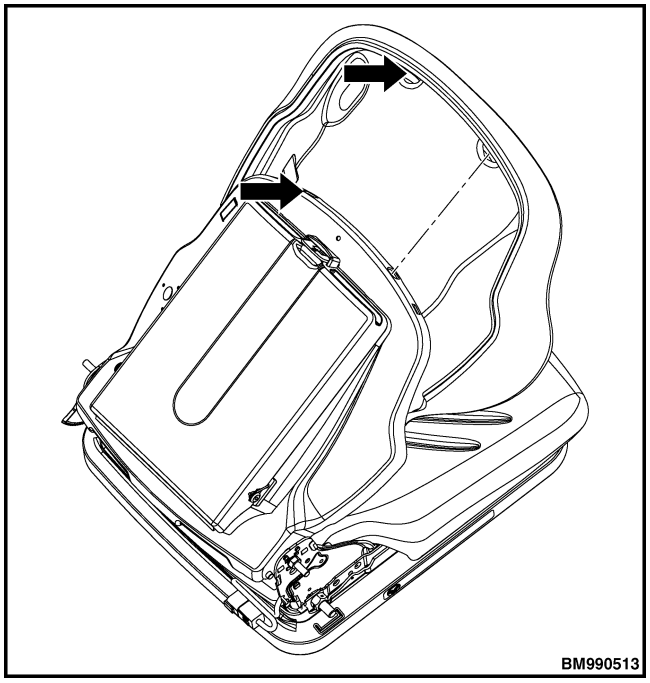


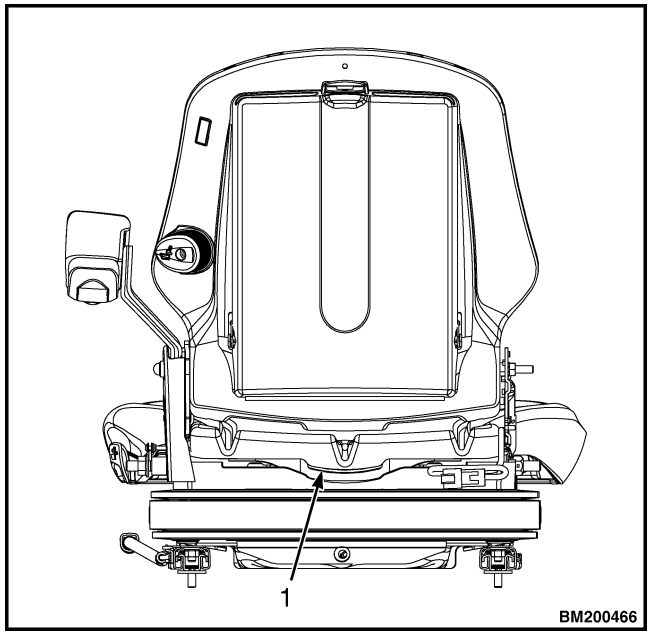
Figure 88. Backrest cushion tabs

WARNING

Support the backrest frame when removing the backrest cushion. If not supported, the backrest frame may fall forward and cause injury.

4. With one hand supporting the backrest frame, lift the back cushion upward from the backrest frame to remove the cushion. See Figure 87.

5. From the rear of the seat, locate the catcher grip. See Figure 89.



1. CATCHER GRIP

Figure 89. Catcher grip

6. Pull the catcher grip backwards then lift up. See Figure 89.

7. Use both hands to grasp the bottom seat cushion on the front right and left side. Press down on the bottom cushion and pull toward the front of the seat to remove the bottom cushion from the seat pan. See Figure 90.

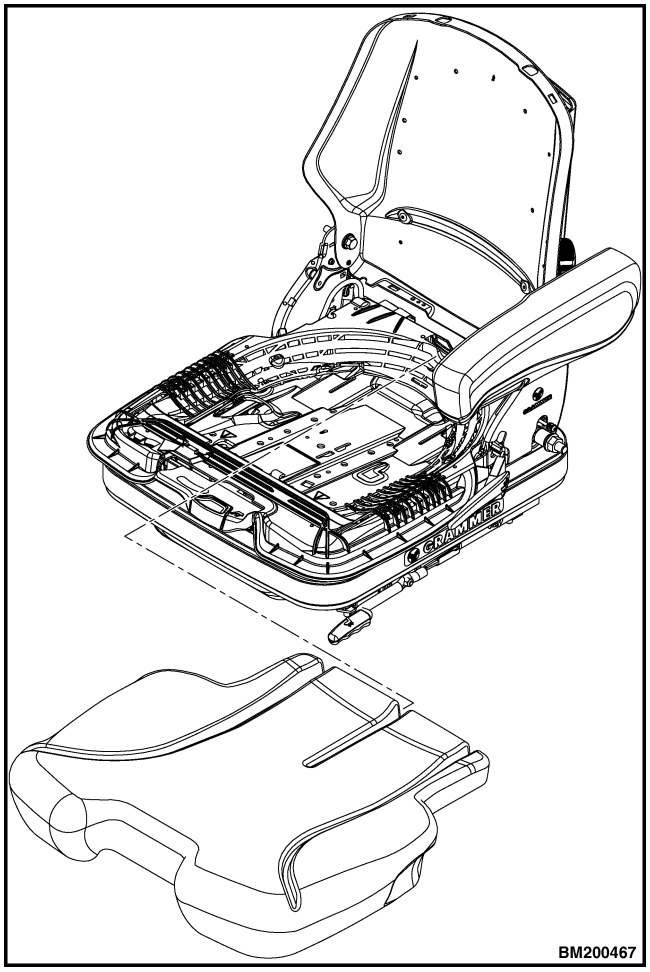


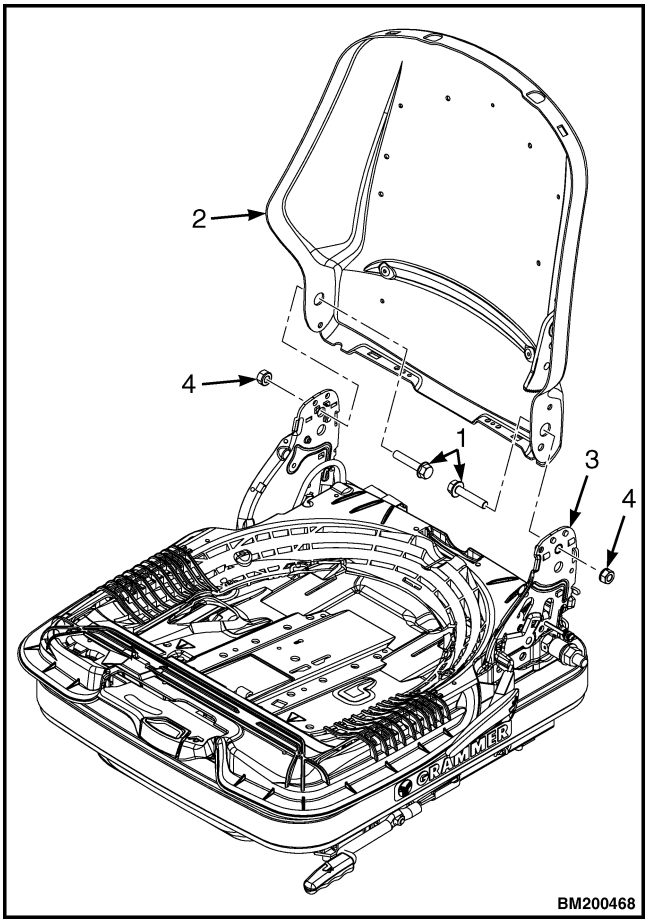
Figure 90. Bottom seat cushion

Backrest

1. Follow previous steps to remove the backrest cushion, seat cushion and armrests.

2. Loosen and remove the two flange bolts and nuts retaining the backrest frame to the seat frame. See Figure 91.

3. Lift the backrest frame up and out of the seat frame to remove. See Figure 91.



1. FLANGE BOLT
2. BACKREST FRAME
3. SEAT FRAME
4. NUT

Figure 91. Backrest frame

Level adjustment handle

CAUTION

The level adjustment handle is wedged into two latching tabs on the left and right side. Remove carefully, as not to deform the handle.

1. Press down on the level adjustment handle.

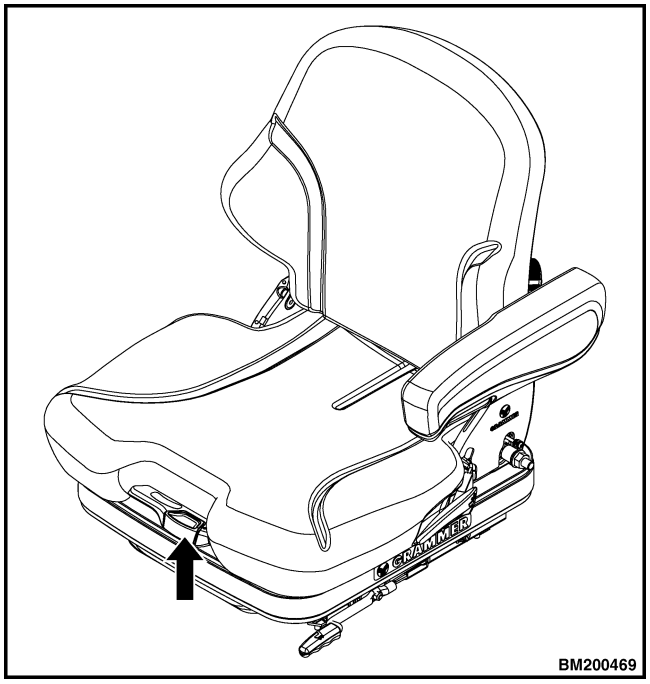
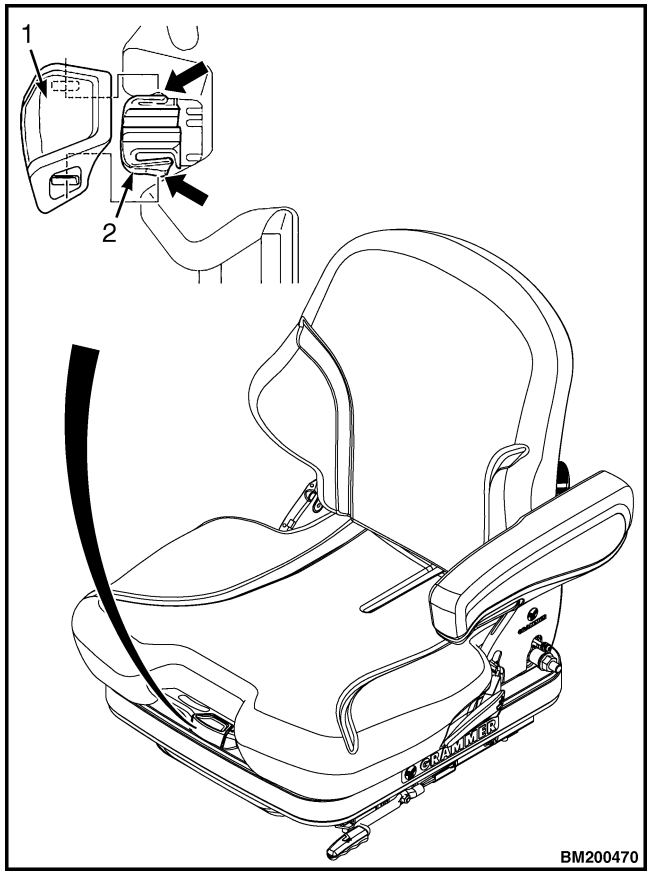


Figure 92. Level adjustment handle

2. Use a screwdriver to press on the catches through the openings in the level adjustment handle. See Figure 93.



1. HANDLE
2. LEVER

Figure 93. Level adjustment handle assembly

3. Firmly grasp the handle and remove it from the lever. See Figure 93.

Bellows

NOTE: For Step 2 through Step 11, see Figure 94.

1. Follow steps above to remove the seat bellows.

2. Pull out the two anchor ties from the seat plate (item 6) and the bellows (item 2).

3. Push the seat switch cable harness (item 7) forward between the seat plate (item 6) and the backrest frame (item 1) and place it onto the seat plate to protect the seat switch cable harness from being damaged.

4. Remove the two mushroom-shaped pins (item 10) from the seat plate.

5. Remove two bellows lugs (item 11) from the seat plate.

6. Remove the six keyhole pins (item 9) from the seat plate on the right, left and back sides.

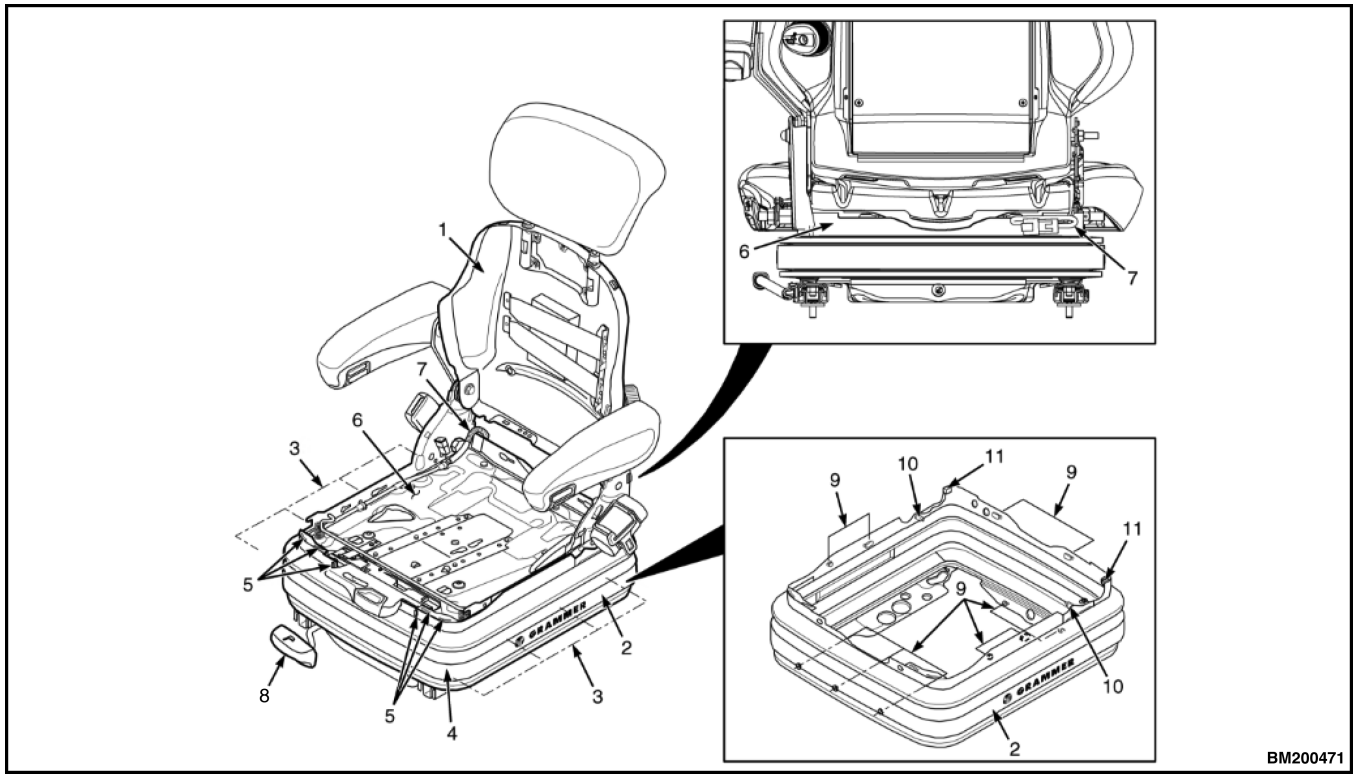
7. Remove the bellows (item 2) on the front side from the six hooks (item 5).

8. Remove three keyhole pins (item 9) from the lower part of the suspension (item 4) at the front and two keyhole pins from the lower part of the suspension at the back.

9. Remove the bellows from the eight hooks (item 3) on the left and right sides from the lower part of the suspension.

10. Pull the back part of the bellows down over the lower part of the suspension.

11. Pull the front part of the bellows over the lower part of the suspension and the handle for fore/aft adjustment (item, 8). Remove the bellows (item, 2) in downward direction.

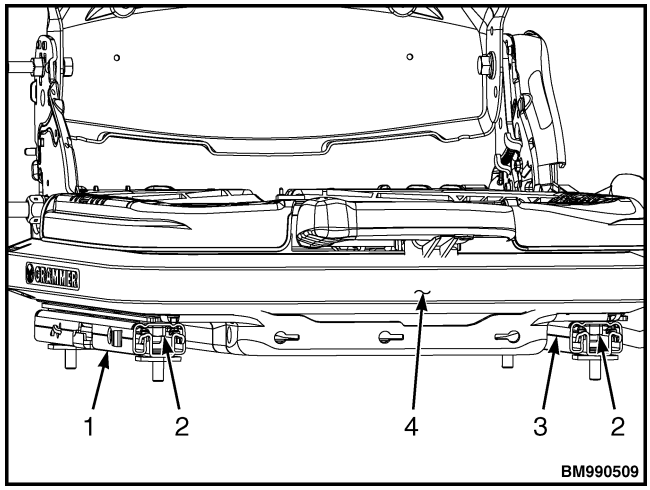


1. BACKREST FRAME
2. BELLOWS
3. HOOKS (LOWER SUSPENSION)
4. LOWER SUSPENSION
5. HOOK (SEAT PLATE)
6. SEAT PLATE
7. SEAT SWITCH CABLE HARNESS
8. FORE/AFT ADJUSTMENT HANDLE
9. KEYHOLE PIN
10. MUSHROOM-SHAPED PIN
11. BELLOWS LUG

Figure 94. Bellows

Suspension (Seat pan)

1. Locate the nuts retaining the LH and RH rails. See Figure 95.



1. RH RAIL
2. NUT
3. LH RAIL
4. BELLOWS

Figure 95. Rails

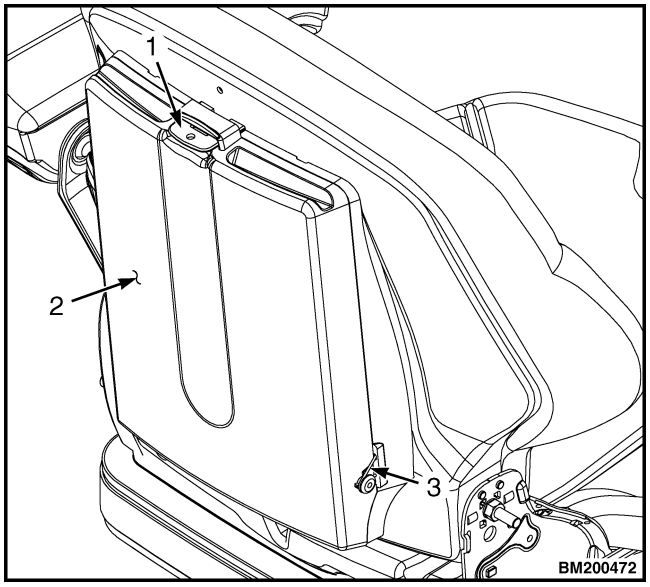
2. Pull the bellows up enough to access the bolts that attach to the nuts. Use two socket wrenches to remove the nuts on the LH rail. Remove the nuts on the RH rail. See Figure 95.

3. Pull the bellows down to remove.

Storage box

1. Press down on the tab to open the cover of the storage box. See Figure 96.

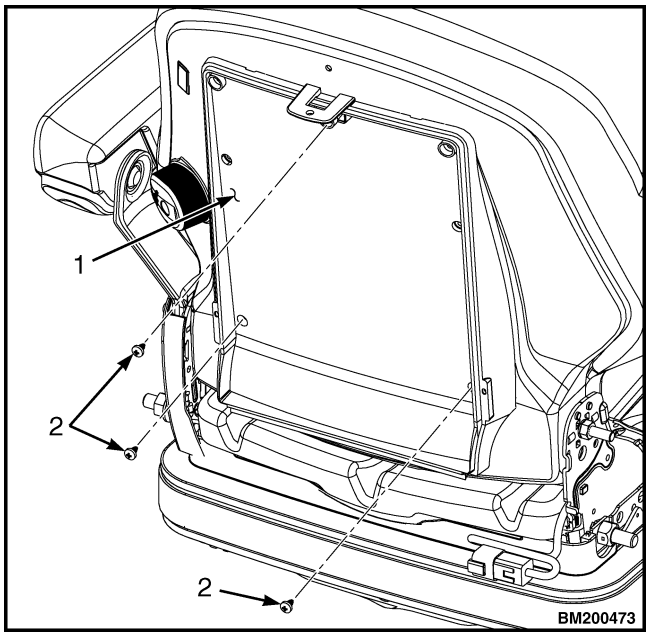
2. Remove the hooks from the storage box. See Figure 96.



1. TAB
2. STORAGE BOX COVER
3. HOOK

Figure 96. Storage box cover

3. Loosen and remove the three self-tapping screws retaining the storage box to the backrest frame. See Figure 97.



1. STORAGE BOX
2. SELF-TAPPING SCREWS

Figure 97. Storage box

4. Remove the storage box.

Backrest adjustment

1. Follow previous steps above to remove the backrest cushion, seat cushion and armrests.

2. Remove the seat belt. See Operator restraint system repair.

WARNING

Take care when manipulating the backrest frame without the backrest cushion, as the backrest frame may fall forward and cause injury. Confirm the backrest frame is supported before moving to the next step.

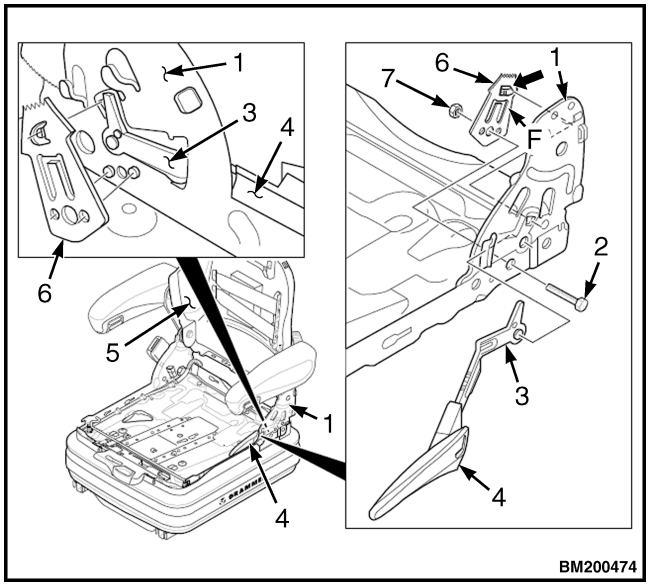
3. Unlock the backrest frame by pulling the handle for the backrest adjustment and fold it completely forwards.

4. Loosen the bolt and remove the bolt and hex nut (item 2 and 7, Figure 98).

5. Remove the tooth plate (item 6, Figure 98).

6. Pull the actuator lever (tem 3) with the handle for backrest adjustment (item 4) from the backrest fixture (item 1, Figure 98).

7. Remove the backrest adjustment handle (item 4, Figure 98).



1. BACKREST FIXTURE
2. BOLT
3. ACTUATOR LEVER
4. BACKREST ADJUSTMENT HANDLE
5. BACKREST FRAME
6. TOOTH SHEET
7. HEX NUT

Figure 98. Backrest adjustment

Seat switch cable harness

1. Follow previous steps above to remove the backrest cushion, seat cushion and armrests.

NOTE: See Figure 99 for all steps in the following procedure.

2. Pull out the two anchor ties (item 13) from the seat plate (item 2) and bellows (item 1).

3. Disconnect the cable harness (item 8) and remove the cable harness and bellows from the seat plate (item 2).

4. Unhook the switching bracket (item 12) from the seat plate. Turn the switching bracket up, then press it slightly to the right while pulling it out in upward direction on the left side of the seat plate to remove the switching bracket.

5. Pull the two compression springs (item 10) off the bushings (item 9) by lifting upward and remove the compression springs.

6. Bore the two rivet heads and remove the blind rivets (item 11). Remove the two bushings (item 9).

7. Bore the two rivet heads and remove the blind rivets (item 7). Remove the switch plate (item 6).

8. Press down on the catchers on the housing (item 3).

9. Push the cover (item 4) forward over the catchers and lift the cover upward to remove.

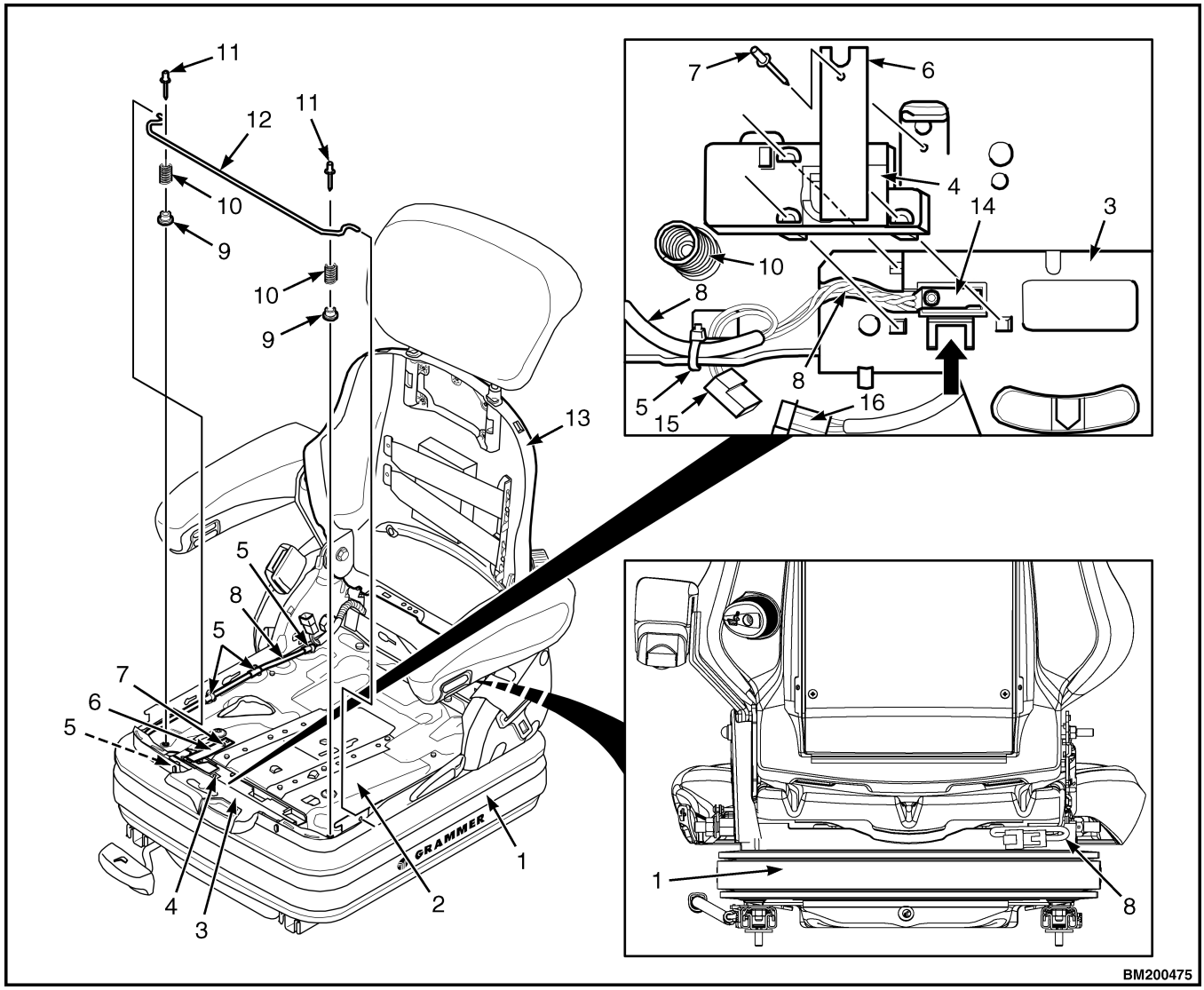
10. Pull out the seat switch (item 14) from the housing (item 3) and lay it down on the seat plate.

11. Disconnect the plug-in connection between the connector plug of the switch/control (item 15) and the connector plug of the control (item 16).

12. Mark the places where the cable harness (item 8) is fixed to the seat plate with four cable ties (item 5). Remove the cable ties.

13. Push the connector plug of the switch/control (item 15) upward through the opening of the seat plate (item 2).

14. Pull out the cable harness in a forward direction between the seat plate and backrest frame (item 17). Remove the cable harness.



1. BELLOWS
2. SEAT PLATE
3. HOUSING
4. COVER
5. CLIP
6. SWITCH PLATE
7. BLIND RIVETS
8. CABLE HARNESS
9. BUSHINGS
10. COMPRESSION SPRING
11. BLIND RIVETS
12. SWITCHING BRACKETS
13. BACKREST FRAME
14. SEAT SWITCH
15. SWITCH CONTROL
16. CONNECTOR PLUG
17. SEAT FRAME

Figure 99. Seat switch and mechanism

Shock absorber

1. Follow previous steps above to remove the backrest cushion, seat cushion and bellows.

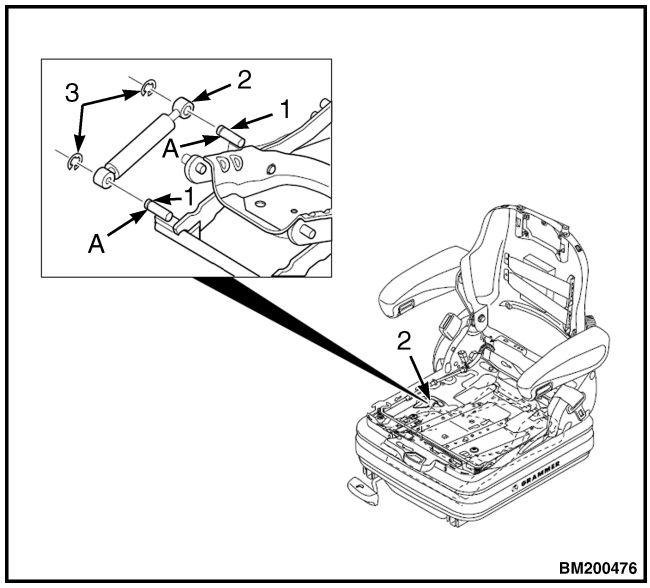
WARNING

Secure the suspension at the back between the lower part and the upper part of the suspension with suitable spacers. Failure to secure the suspension can cause injury.

2. Raise the seat to the highest position and secure.

3. Loosen and remove the two circlips (item 3, Figure 100) from the axles (item 1).

4. Remove the shock absorber from the axles. See Figure 100.



A. AXLE SURFACE

1. AXLES
2. SHOCK ABSORBER
3. CIRCLIP

Figure 100. Shock absorber

Seat plate

1. Follow all the previous steps in this section to remove other seat components.

WARNING

Secure the suspension at the back between the lower part and the upper part of the suspension with suitable spacers. Failure to secure the suspension can cause injury.

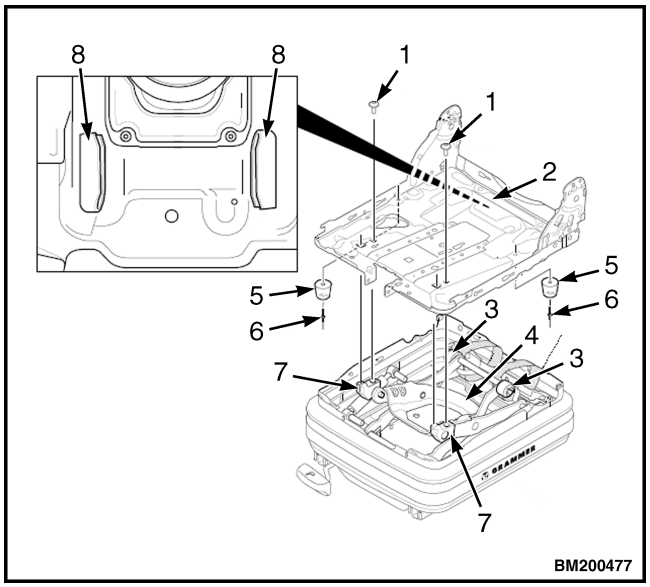
2. Raise the seat to the highest position and secure.

3. Unscrew the two screws (item 1, Figure 101) retaining the seat plate (item 2) to the fixed bearings (item 7).

4. Unhook the two fixed bearings from the seat plate.

5. Push the seat plate as far backwards as possible. Unhook the two guide rails (item 1, Figure 101) at the bottom of the seat plate from the two plastic rollers by turning the rollers to the right.

6. Lift the seat plate up to remove.



1. SCREWS
2. SEAT PLATE
3. PLASTIC ROLLERS
4. SWINGING STRUCTURE
5. BUFFERS
6. BLIND RIVETS
7. FIXED BEARINGS
8. GUIDE RAILS

Figure 101. Seat plate

Static belt

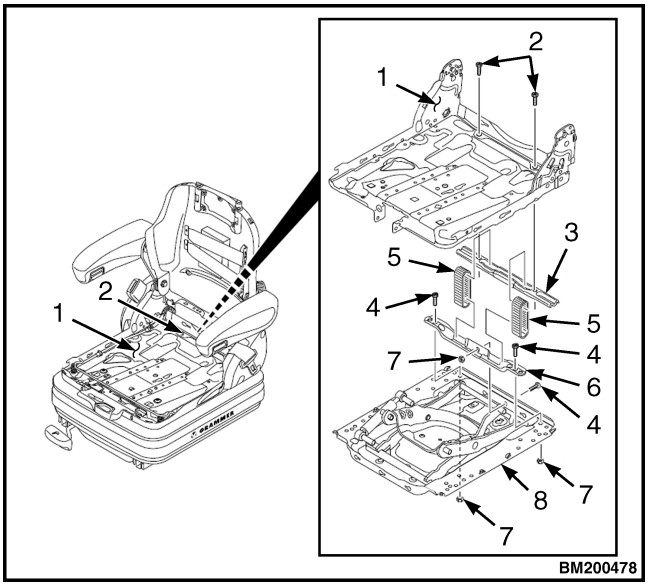
1. Follow previous steps above to remove the seat plate.

2. Remove the two capscrews (item 2, Figure 102) from the upper part of the suspension (item 1).

3. Pull out the upper strip (item 3, Figure 102) from the two webbings (item 5).

4. Remove the three capscrews (item 4, Figure 102) and nuts from the lower part of the suspension (item 8).

5. Remove the lower strip (item 6, Figure 102) and two webbings (item 5).



1. UPPER SUSPENSION
2. CAPSCREW
3. UPPER STRIP
4. CAPSCREWS
5. STATIC BELT (WEBBING)
6. LOWER STRIP
7. NUTS
8. LOWER SUSPENSION

Figure 102. Static belt

Compressor

NOTE: For Step 3 through Step 10 below, see Figure 103.

1. Follow previous steps above to remove the seat plate.

WARNING

Secure the suspension at the back between the lower part and the upper part of the suspension with suitable spacers. Failure to secure the suspension can cause injury.

2. Raise the seat to the highest position and secure.

3. Disconnect the compressed-air hose (item 8) from the housing (item 7) and air spring.

4. Disconnect the compressed-air hose from the compressor holder (item 5).

5. Disconnect the right-angle plug (item 9) and plug (item 10) from the compressor (item 4).

6. Bore out the rivet head and drive out the rivet (item 3).

7. Take the hook (item 2) off of the seat plate (item 1) and press it down.

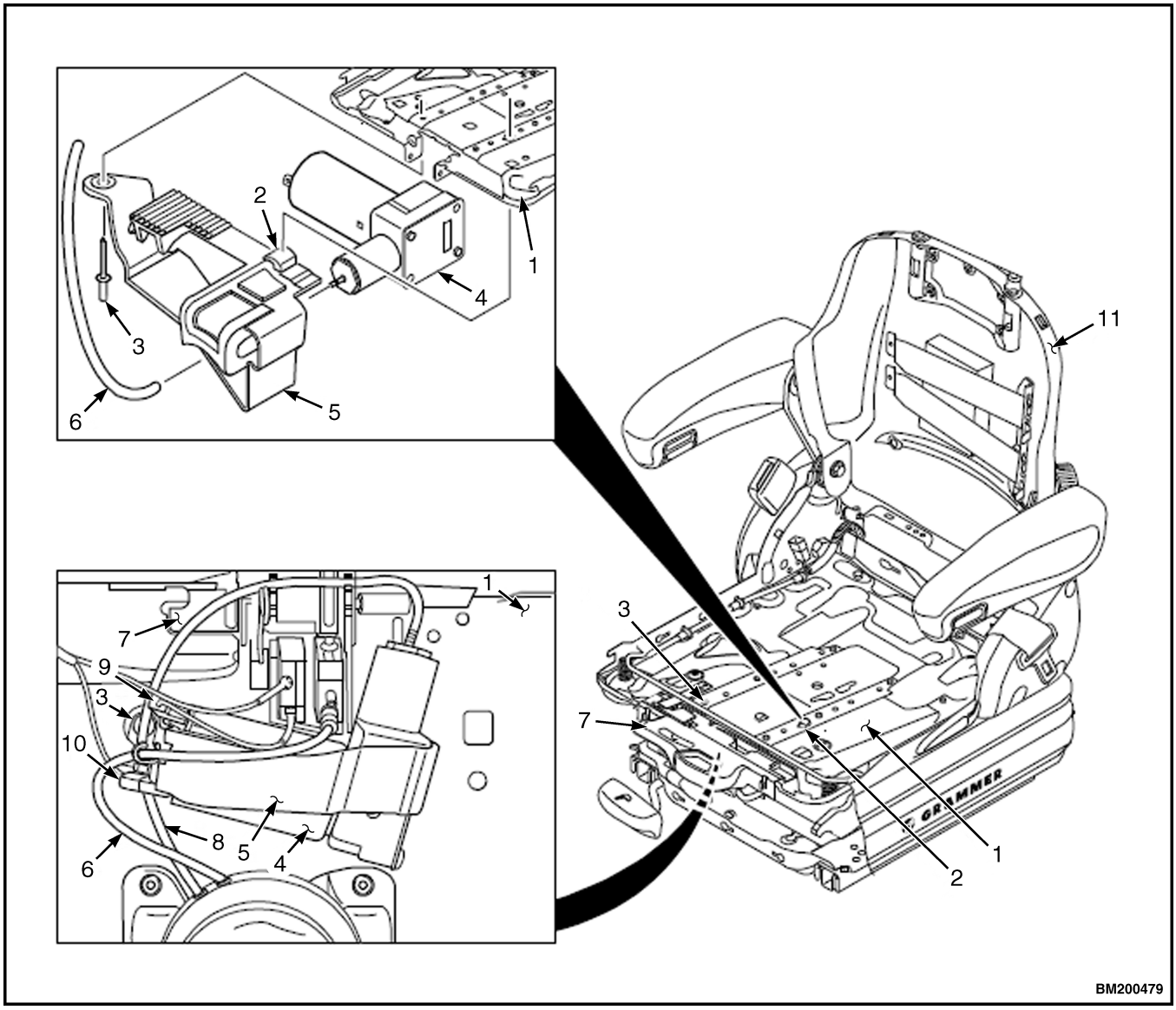
8. Pull forward on the compressor holder (item 5) to remove the compressor holder and compressor.

9. Pull out the compressor to remove it from the compressor holder.

WARNING

Do not use a screwdriver to lift the compressed-air hose from the compressor. Heat the compressed air hose at the compressor with a hot-air blower to remove.

10. Remove the compressed-air hose from the compressor.



1. SEAT
2. HOOK
3. RIVET
4. COMPRESSOR
5. COMPRESSOR HOLDER
6. AIR HOSE
7. HOUSING
8. COMPRESSED-AIR HOSE
9. RIGHT-ANGLE PLUG
10. CONNECTOR
11. BACKREST FRAME

Figure 103. Compressor

Air spring

1. Follow previous steps above to remove the compressor.

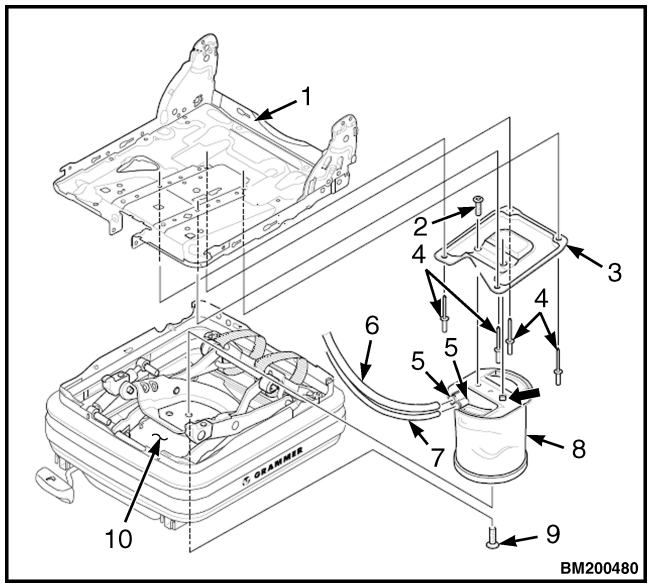
2. Remove the countersunk screw (item 9, Figure 104) retaining the air spring to the swinging structure (item 10).

3. Disconnect the compressed air hose (item 6, Figure 104) and (item 7) air hose from the air spring (item 8).

4. Remove the plate (item 3, Figure 104) with the air spring attached.

5. Remove the countersunk screw (item 2, Figure 104) retaining the plate (item 3) to the air spring (item 8).

6. Remove the air spring.



1. SEAT PLATE
2. COUNTER SUNK SCREW
3. PLATE
4. BLIND RIVET
5. RETAINING RING
6. COMPRESSED AIR HOSE
7. AIR HOSE
8. AIR SPRING
9. COUNTER SUNK SCREW
10. SWINGING STRUCTURE

Figure 104. Air spring

Swinging structure

NOTE: For Step 2 through Step 9, see Figure 105.

1. Follow previous steps above to remove the air spring.

2. Remove the two top plastic rollers (item 2) from the roller axles on the swinging structure (item 1).

3. Remove the two fixed bearings (item 5) with bushings (item 4) from the axles of the swinging structure.

4. Release the swinging structure bolt (item 8) and pull it out from the swinging structure and the lower part of the suspension (item 7).

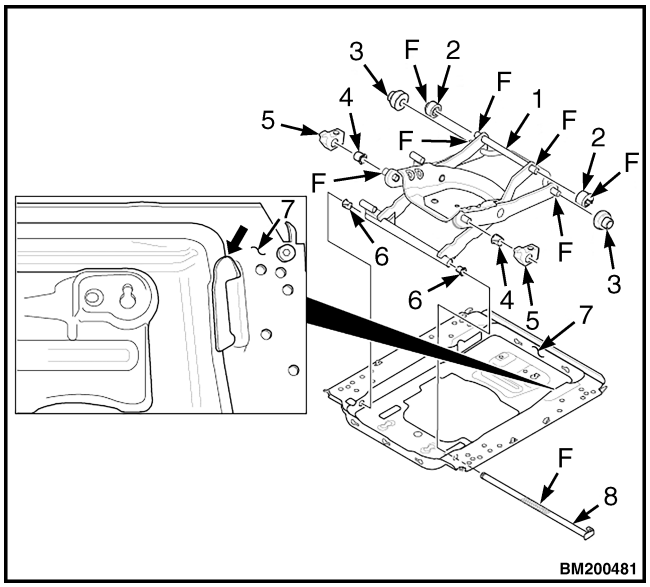
5. Remove the two bushings (item 6) from the swinging structure.

6. Push the swinging structure backwards and extend it until the swinging structure with the left bottom plastic roller (item 3) can be taken out through the cut-out (see arrow on inset of Figure 105) of the running surface in the lower part of the suspension (item 7).

7. Lift the swinging structure on the left side and slide it with the bottom plastic rollers through the cut-out on the lower part of the suspension.

8. Remove the swinging structure with the right bottom plastic roller from the running surface of the lower part of the suspension, and take it off in upward direction.

9. Remove the two bottom plastic rollers from the roller axles of the swinging structure.



1. SWINGING STRUCTURE
2. PLASTIC ROLLERS, TOP
3. PLASTIC ROLLERS, BOTTOM
4. BUSHINGS
5. FIXED BEARINGS
6. BUSHINGS
7. LOWER SUSPENSION
8. SWINGING STRUCTURE BOLT

Figure 105. Swinging structure

ASSEMBLE

Swinging structure

1. Install the two bottom plastic rollers (item 3, Figure 105) to the roller axles of the swinging structure (Item 1).
2. Install the swinging structure with the right bottom plastic roller to the running surface of the lower part of the suspension (item 7).
3. Pull the swinging structure forward until the bottom plastic roller can be inserted through the cut-out of the running surface in the lower part of the suspension.
4. Install the two bushings (item 6, Figure 105) on to the swinging structure.
5. Install the swinging structure bolt (item 8, Figure 105) to retain the swinging structure to the lower part of the suspension.
6. Install the swinging structure with the right bottom plastic roller from the running surface of the lower part of the suspension.
7. Install the two fixed bearings (item 5, Figure 105) with bushings (item 4, Figure 105) to the fixed bearing axles of the swinging structure.
8. Install the two top plastic rollers (item 2, Figure 105) to the roller axles on the swinging structure.
9. Follow steps to install the air spring and other removed seat components.

Air spring

1. Insert the countersunk screws (item 2, Figure 104) to attach the plate (item 3) to the air spring (item 8).
2. Install the air spring with the plate attached.
3. Connect the compressed air hose (item 6, Figure 104) and air hose (item 7) to the air spring.
4. Install the countersunk screw (item 9, Figure 104) to retain the air spring plate to the swinging structure (item 10).
5. Follow steps to install the compressor and the other removed seat components.

Compressor

1. Connect the compressed-air hose (item 8, Figure 103) to the compressor (item 4).
2. Install the compressor (item 4) into the compressor holder (item 5, Figure 103).
3. Connect the hook (item 2, Figure 103) to the seat plate (item 1).
4. Connect the right-angle plug (item 9, Figure 103) and plug (item 10) to the compressor.
5. Connect the compressed-air hose (item 8, Figure 103) to the compressor holder.
6. Connect the other end of the compressed-air hose to the air spring.
7. Connect the compressed-air hose to the housing (item 7, Figure 103).
8. Follow previous steps above to install the seat plate and other removed components.

Seat plate

1. Lower the seat plate into place and hook the two guide rails at the bottom of the seat plate to the two plastic rollers.
2. Align the two holes in the seat plate with the fixed bearing.
3. Insert the two screws (item 1, Figure 101) to retain the seat plate to the fixed bearing. Torque to 25 N•m (18.4 lbf ft).
4. Follow all the previous steps in this section to install other seat components.

Static belt

WARNING

The seat displacement is limited by the webbings. Always make sure that the same webbing length is installed on the right and left side.

1. Install the webbings (item 5, Figure 102) into the depressions of the lower strip (item 6).
2. Install the three capscrews (item 4, Figure 102) and nuts (item 7, Figure 102) to the lower part of the suspension (item 3). Torque to 25 N•m (18.4 lbf ft).
3. Install the webbings (item 5, Figure 102) into the depressions of the upper strip (item 3).
4. Install the two capscrews (item 2, Figure 102) from the upper part of the suspension (item 1). Torque to 25 N•m (18.4 lbf ft).
5. Follow previous steps above to install the backrest cushion, seat cushion and bellows.

Shock absorber

1. Apply acid-free multi-purpose lubricant to the entire surface (item F, Figure 100) of each axle.
2. Install the shock absorber to the axles. See Figure 100.
3. Install the two circlips (item 3, Figure 100) to retain the shock absorbers to the axles.
4. Follow the previous steps above to install the backrest cushion, seat cushion and bellows.

Seat switch cable harness

NOTE: See Figure 99 for all steps in the following procedure.

1. Install the cable harness (item 8) and feed the cable harness in between the seat plate (item 2) and backrest frame (item 17).
2. Install the connector plug of the switch/control (item 15) through the opening of the seat plate (item 2).
3. Install the cable ties (item 5) to retain the cable harness (item 8) to the seat plate (item 2). Tighten the locking heads of the cable ties from the outside below the seat plate.
4. Connect the plug-in connection to the connector plug of the switch/control (item 15) and the connector plug of the control (item 16).
5. Install the seat switch (item 14) to the housing (item 3).
6. Install the cover (item 4) and pull the cover down over the catchers. Secure the catchers to the housing (item 3).
7. Install the switch plate (item 6).
8. Install the two bushings (item 9).
9. Install the two compression springs (item 10) on the bushings (item 9).
10. Install the switching bracket (item 12) to the seat plate, making sure the switching bracket is fully seated on the compression springs (item 10) to allow for correct switching function of the seat switch (item 14).
11. Install the cable harness (item 8) and bellows to the seat plate (item 2) and connect the cable harness.
12. Install the two anchor ties (item 13) to the seat plate (item 2) and bellows (item 1).
13. Follow previous steps above to install the backrest cushion, seat cushion and armrests.

Backrest adjustment

1. Install the backrest adjustment handle on the actuator lever (item 4, Figure 98).
2. Align the actuator lever (item 3, Figure 98) in place on the backrest fixture (item 1). Insert the bolt (item 2) to retain the actuator lever to the backrest fixture.
3. Locate the tooth sheet and apply acid-free multi-purpose lubricant to the entire inner surface of the tooth sheet.
4. Align the tooth sheet (item 6, Figure 98) in place on the backrest fixture.
5. Install the nut onto the bolt. Torque to 25 N•m (18.4 lbf ft).
6. Install the seat belt. See Operator restraint system repair.
7. Follow previous steps above to install the backrest cushion, seat cushion and armrests.

Handles

CAUTION

The level adjustment handle is wedged into two latching tabs on the left and right side. Remove carefully, as not to deform the handle.

1. Install the Level Adjustment Handle onto the lever.
2. Pull up on the Level Adjustment Handle.

Storage box

1. Align the storage box on the backrest frame. See Figure 97.
2. Insert the three self-tapping screws to retain the storage box to the backrest frame. See Figure 97. Torque to 1.6 N•m (14.2 lbf in).
3. Install the hooks to the storage box. See Figure 96.
4. Close the cover of the storage box until the tab on top is secure. See Figure 96.

Bellows

1. Install the front part of the bellows (item 2, Figure 94) over the lower part of the suspension (item 4) and the handle for fore/aft adjustment (item 8).
2. Pull the back part of the bellows up over the lower part of the suspension.
3. Install the bellows on the eight hooks (item 3, Figure 94) on the left and right sides from the lower part of the suspension.
4. Insert three keyhole pins (item 9, Figure 94) to the lower part of the suspension (item 4) at the front and two keyhole pins from the lower part of the suspension at the back.
5. Attach the bellows on the front side to the six hooks (item 5).
6. Insert the six keyhole pins to the seat plate (item 6, Figure 94) on the right, left and back sides.
7. Install the two bellows lugs (item 11, Figure 94) to the seat plate.
8. Install the two mushroom-shaped pins (item 10, Figure 94) to the seat plate.
9. Install the two anchor ties to the seat plate (item 6) and the bellows (item 2).

Suspension (Seat pan)

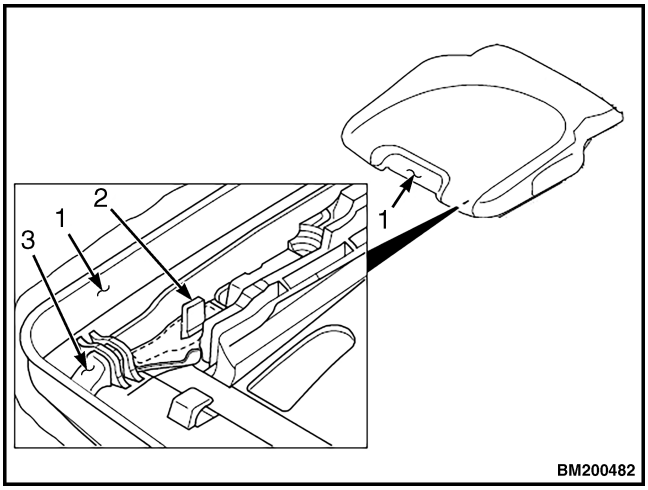
1. Install the bellows.
2. Install the nuts to retain the LH and RH rails. See Figure 95.
3. Pull the bellows up enough to access the bolts that attach to the nuts. Use two socket wrenches to tighten the nuts on the LH rail. Tighten the nuts on the RH rail. See Figure 95. Torque to 25 N•m (18.4 lbf ft).

Backrest

1. Align the backrest frame to the seat frame. See Figure 91.
2. Insert one of the flange bolts to retain the backrest frame to the seat frame. See Figure 91.
3. Install the nut on the outside of the seat frame and tighten the bolt while making sure the two opposite side of the nut are oriented vertically to allow for installation of the armrest. Torque the bolt to 2 N•m (1.48 lbf ft).
4. Follow procedures to install armrest, bottom cushion and backrest cushion.

Seat cushions

1. If installing a new bottom seat cushion, locate the two locking hooks (item 2, Figure 106) on the underside of the cushion. Break the locking hooks at the perforation.



1. SEAT
2. LOCKING HOOK
3. HOLDER

Figure 106. Locking hooks

2. Install the bottom seat cushion onto the seat pan.

a. Locate the metal locking hooks on the seat pan. See Figure 107.

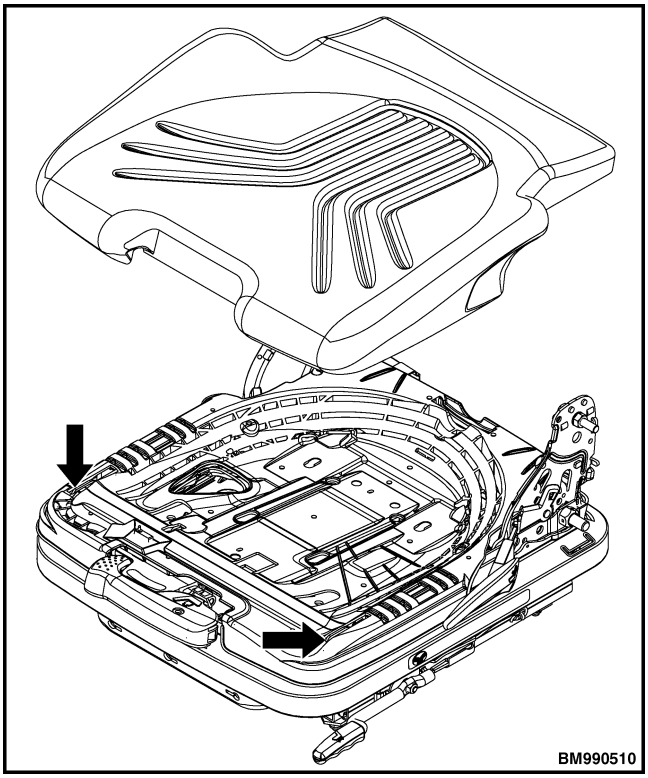


Figure 107. Seat pan tabs

b. Locate the slots (holders) on the underside of the seat cushion. See Figure 108 and (item 3, Figure 106).

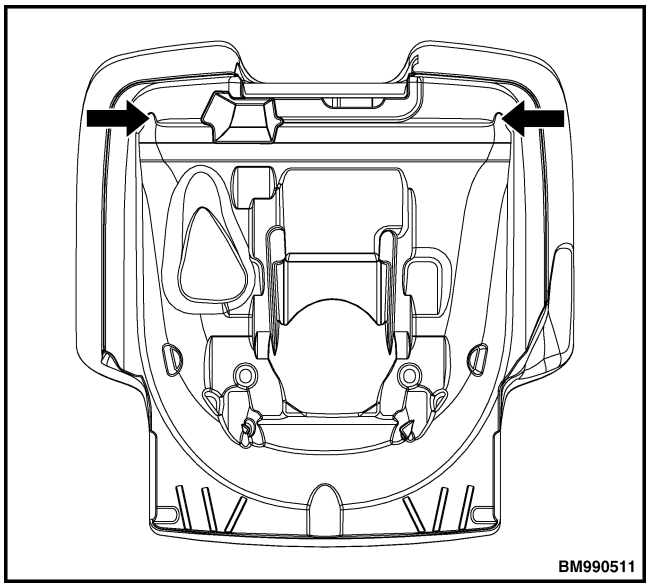


Figure 108. Underside of seat cushion

c. Install the seat cushion onto the seat pan, aligning the two holders with the two hooks on the seat pan.

3. Press down the front part of the seat cushion on the left and right sides. Slide the bottom cushion to the rear part of the seat pan with the two holders on the two hooks.

4. Press in the middle at the rear of the seat cushion until the catcher grip locks. You will hear an audible "click". See Figure 89.

5. Check the function of the seat switch by pressing onto the front left and right sides of the seat cushion several times and listen for an audible snap of the switch.

6. Check to confirm the bellows are not being squeezed or distorted between the seat cushion and seat plate. Release bellows, if necessary.

WARNING

Support the backrest frame when installing the backrest cushion. If not supported, the backrest frame may fall forward and cause injury.

7. Align the two clips of the backrest cushion with the two grooves in the backrest frame. Slide the backrest cushion in place in the backrest frame. See Figure 88.

8. Insert the two capscrews to retain the back cushion to the backrest. See Figure 87. Torque to 2.5 N•m (1.8 lbf ft).

Armrests

1. Install the RH armrest. See Figure 85.

2. Insert the washer and nut (item 6), to retain the RH armrest. Tighten the nut to 25 N•m (18.4 lbf ft). See Figure 85.

3. Install the RH cover. See Figure 85.

4. Install the cap (item 5, Figure 85) on the nut that attaches the RH cover.

5. Install the bracket and the nut (item 2, Figure 85) to retain the bracket to the right-hand (RH) cover. Tighten to standard torque.

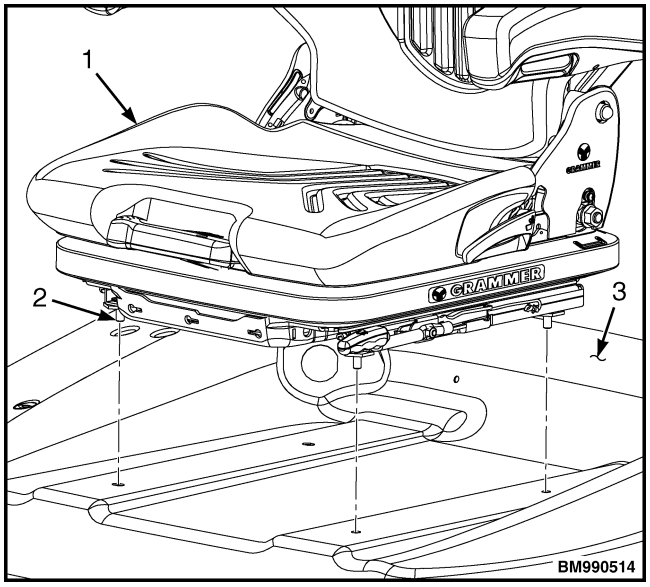
6. Install the LH armrest. See Figure 84.

7. Install the nut and the LH cover to the LH armrest. See Figure 84. Tighten the nut to standard torque.

8. Install the cap (item 5, Figure 84) on the nut that attaches the LH cover.

INSTALL

1. Lower the new seat assembly on to the hood, fitting the four studs of the seat assembly into the four holes on the hood. See Figure 109.



1. SEAT
2. STUD
3. HOOD

Figure 109. Install seat

NOTE: With the studs properly seated into the holes on the hood, the seat should not slide when the hood is opened slowly and carefully.

2. Release the latch on the hood. Very carefully, open and raise the hood. See Figure 82.

3. Insert the four lockwashers on the underside of the hood and attach to the four studs from the seat assembly. See Figure 83. .

4. Tighten the nuts to standard torque.

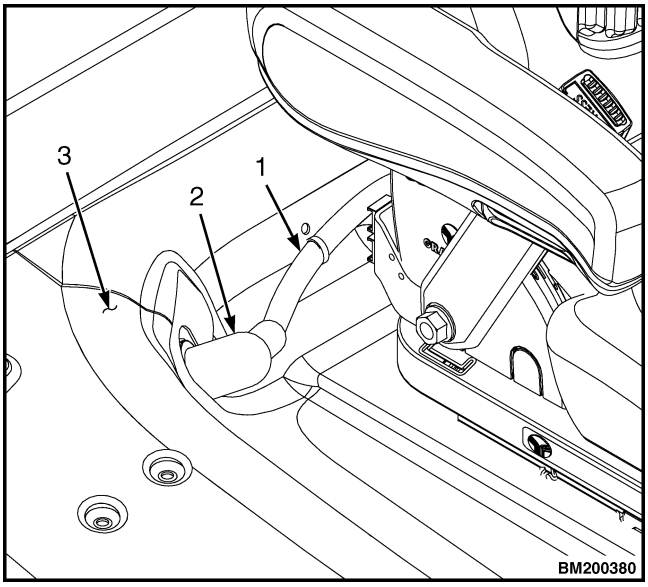
5. Close the hood.

6. Connect the seat wire harness connector to the main chassis connector, using the access hole located in the hood. See Figure 81.

SEAT REPAIR-VALUE VINYL 202001-277

REMOVE

1. Disconnect the seat wire harness connector from the connector on the main chassis harness, using the access hole located in the hood. See Figure 110.



1. SEAT WIRE HARNESS
2. SEAT WIRE HARNESS CONNECTOR
3. HOOD

Figure 110. Seat wire harness connector

2. Release the latch on the hood. Open and raise the hood. See Figure 111.

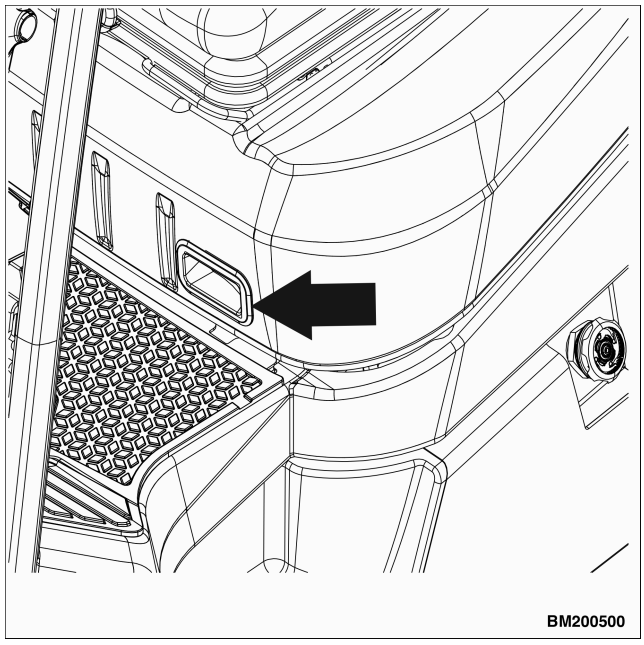
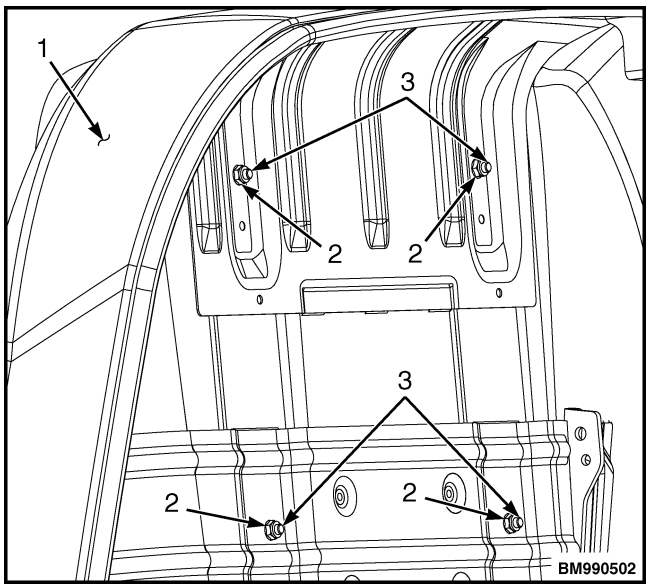


Figure 111. Hood latch

3. Locate the four lockwashers on the underside of the hood that attach to the four studs from the seat assembly. Remove the nuts. See Figure 112.



1. HOOD
2. LOCKNUT
3. STUD

Figure 112. Seat attachment

4. Close and latch the hood.

5. Lift the seat up so the four studs are free of the hood.

Bottom seat cushion

NOTE: The seat cushion attaches to the seat pan by a plastic tab in the center of the bottom of the seat cushion. DO NOT pry at the center section of the seat cushion, as this will risk breaking the plastic tab.

1. From the rear of the seat, use a flat head screw driver to pry upward on the left side of the seat cushion. See Figure 113.

Figure 113. Pry from left side

2. From the rear of the seat, use a flat head screw driver to pry upward on the right side of the seat cushion. See Figure 114.

Figure 114. Pry from right side

3. The tab in the center of the seat cushion should now be free of the seat pan. See Figure 115.

Figure 115. Center tab

4. From the rear of the seat, push the seat cushion forward until the two grooves on the underside of the seat cushion slide free of the two tabs on the seat pan. See Figure 116.

Figure 116. Push seat cushion forward

5. Remove the bottom seat cushion.

DISASSEMBLE

Armrests

1. Remove the cap (item 5, Figure 117) protecting the nut that attaches the left-hand (LH) cover.

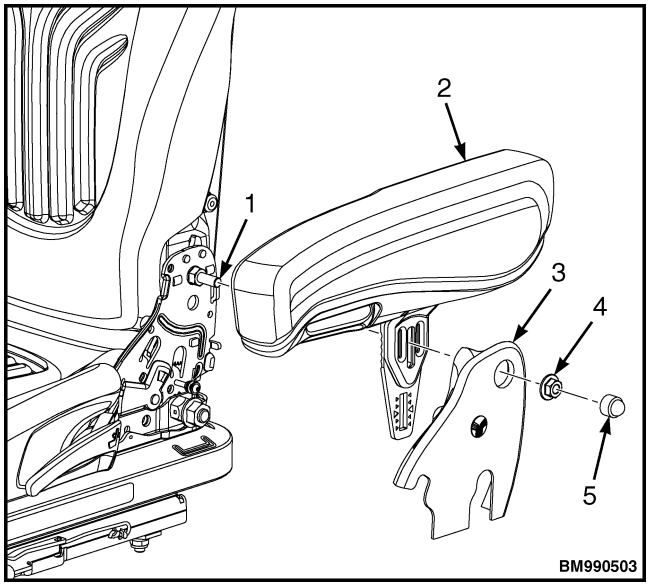
2. Remove the nut and the LH cover from the LH armrest. See Figure 117.

3. Remove the LH armrest. See Figure 117.

4. Loosen the nut (item 1, Figure 118) retaining the bracket (item 2, Figure 118) and the right-hand (RH) cover to the seat.

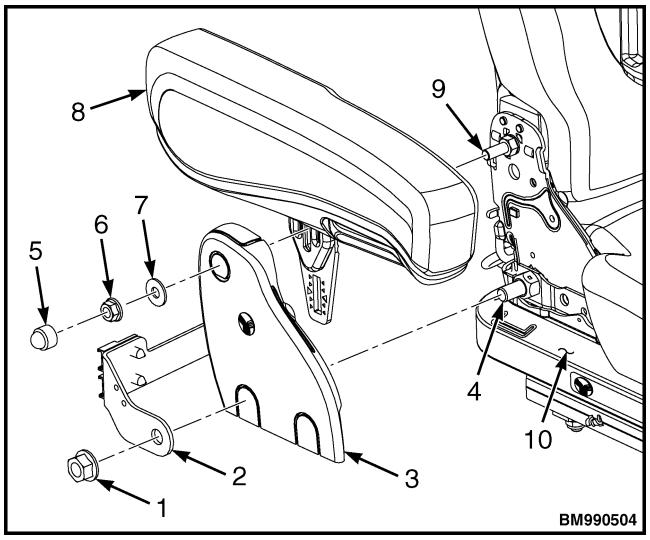
5. Remove the RH cover. Remove the cap (item 5), nut (item 6), and washer (item 7) retaining the RH armrest. See Figure 118.

6. Remove the RH armrest. See Figure 118.



1. CAPSCREW
2. LH ARMREST
3. LH COVER
4. NUT
5. CAP

Figure 117. LH armrest and cover



1. NUT
2. BRACKET
3. RH COVER
4. CAPSCREW
5. CAP
6. NUT
7. WASHER
8. RH ARMREST
9. CAPSCREW
10. SEAT

Figure 118. RH armrest and cover

ASSEMBLE

Armrests

1. Install the RH armrest. See Figure 118.

2. Insert the washer and nut (item 6), to retain the RH armrest. Tighten the nut to 9 to 13 N•m (6.6 to 9.6 lbf ft). See Figure 118.

3. Install the RH cover. See Figure 118.

4. Install the cap (item 5, Figure 118) on the nut that attaches the RH cover.

5. Install the bracket and the nut (item 2, Figure 118) to retain the bracket to the right-hand (RH) cover. Tighten to standard torque.

6. Install the LH armrest. See Figure 117.

7. Install the nut and the LH cover to the LH armrest. See Figure 117. Tighten the nut to standard torque.

8. Install the cap (item 5, Figure 117) on the nut that attaches the LH cover.

INSTALL

Bottom seat cushion

1. Locate the two tabs on the underside of the seat cushion.

Figure 119. Tabs

2. Align the two tabs with the grooves on the seat pan.

Figure 120. Grooves

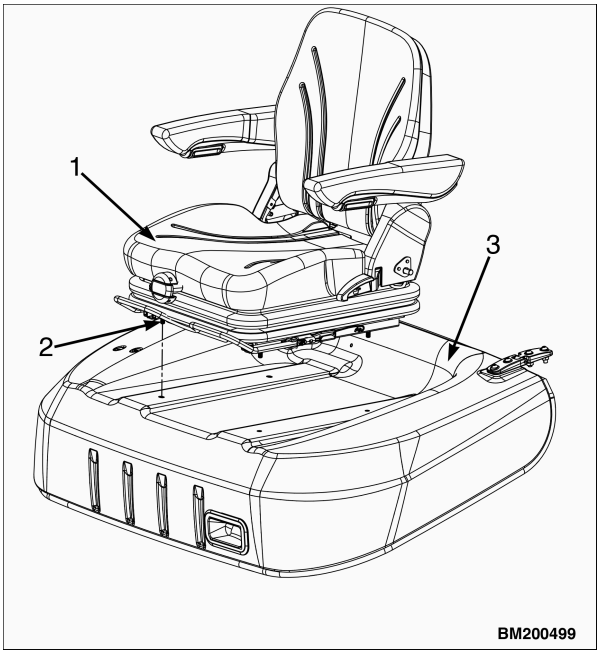
3. Slide the bottom seat cushion toward the back of the seat until the tabs are seated firmly in the grooves.

4. Align the center tab on the bottom seat cusion to the hole in the seat pan. See Figure 115.

5. Press down on the center of the seat cushion until the center tab connects to the seat pan. You should hear an audible 'click'.

Figure 121. Press down on seat cushion

1. Lower the new seat assembly on to the hood, fitting the four studs of the seat assembly into the four holes on the hood. See Figure 122.



1. SEAT
2. STUD
3. HOOD

Figure 122. Install seat

NOTE: With the studs properly seated into the holes on the hood, the seat should not slide when the hood is opened slowly and carefully.

2. Release the latch on the hood. Very carefully, open and raise the hood. See Figure 111.

3. Insert the four lockwashers on the underside of the hood and attach to the four studs from the seat assembly. See Figure 112.

4. Tighten the nuts to standard torque.

5. Close the hood.

6. Connect the seat wire harness connector to the main chassis connector, using the access hole located in the hood. See Figure 110.

OPERATOR RESTRAINT SYSTEM REPAIR 202001-008

DESCRIPTION

NOTE: The seat belt can be either black or red.

The seat belt, armrests, seat and mounting, hood, and latches are all part of the operator restraint system. Each item must be checked to make sure it is attached securely, functions correctly, and is in good condition. See Figure 123.

Seat belt-operational checkout

NOTE: The following seat belt operation checks must be performed three times before replacing the seat belt assembly.

- With the hood closed and in the locked position, pull the seat belt slowly from the retractor assembly. Make sure the seat belt pulls out and retracts smoothly. If the seat belt cannot be pulled from the retractor assembly or the belt will not retract, replace the seat belt assembly.
- With the hood closed and in the locked position, pull the seat belt with a sudden jerk. Make sure the seat belt will not pull from the retractor assembly. If the seat belt can be pulled from the retractor, when it is pulled with a sudden jerk, replace the seat belt assembly.
- With the hood in the open position, make sure the seat belt will not pull from the retractor assembly. If the seat belt can be pulled from the retractor, with the hood in the open position, replace the seat belt assembly.

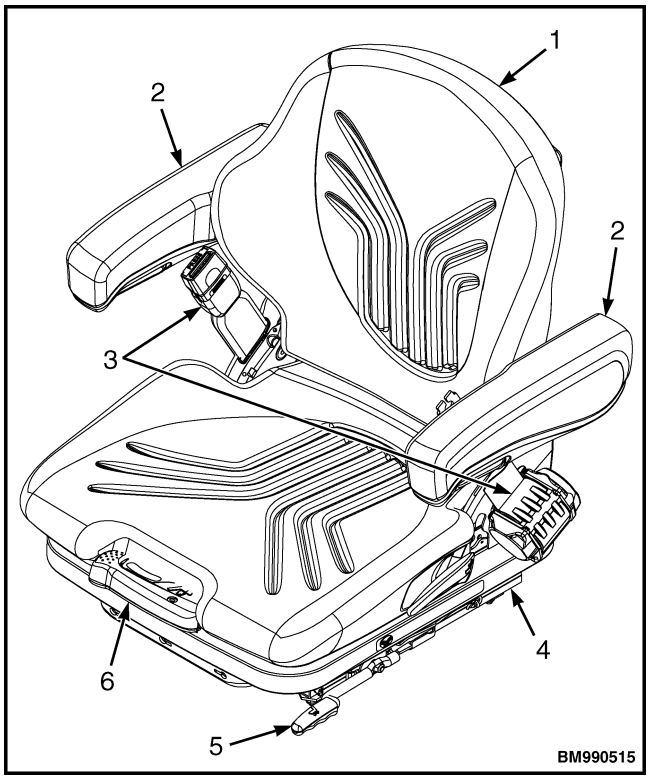
Emergency Locking Retractor (ELR)

When the ELR style seat belt is properly buckled across the operator, the belt will permit slight operator repositioning without activating the locking mechanism. If the truck tips, travels off a dock, or comes to a sudden stop, the locking mechanism will be activated and hold the operator's lower torso in the seat.

A seat belt that is damaged, worn or does not operate properly will not provide protection when it is needed. The retracting portion of the seat belt must fasten correctly into the buckle portion. The seat belt must be in good condition. Replace the seat belt if damage or wear is evident. See Remove and Install for procedure.

Make sure the seat rails and latch striker are not loose. The seat rails must lock securely in position but move freely when unlocked. The seat rails must be securely attached to the hood. The hood must be fully closed.

Adjust the hood, hood latch, and latch striker when any of the parts of the operator restraint system are installed or replaced. See Covers repair in **Frame and Main Components** 8000SRM2306 for the adjustment procedures for the hood.



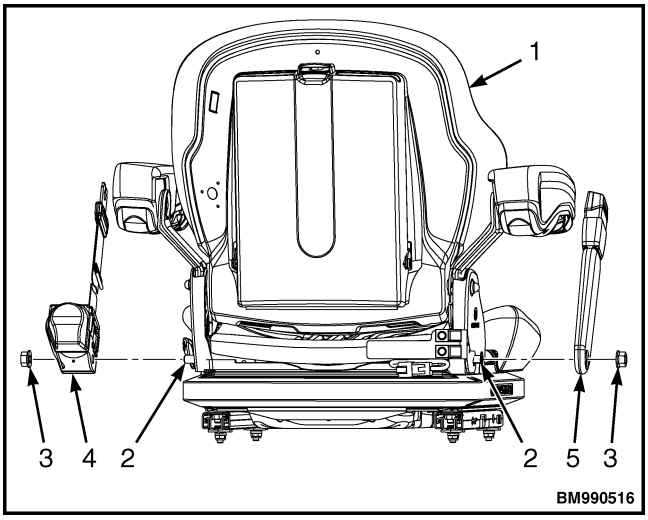
1. SEAT
2. ARMRESTS
3. SEAT BELT
4. SEAT RAIL
5. FORWARD/BACKWARD ADJUSTMENT
6. OPERATOR WEIGHT ADJUSTMENT

Figure 123. Operator Restraint System

Remove

1. Loosen the nut attaching the retracting portion (item 4, Figure 124) of the seat belt to the seat assembly.

2. Loosen the nut attaching the buckle portion (item 5, Figure 124) of the seat belt to the seat assembly.



1. SEAT
2. BOLT
3. NUT
4. RETRACTING PORTION
5. BUCKLE PORTION

Figure 124. Seat belt

Install

1. Insert the nut to attach the retracting portion (item 4, Figure 124) of the seat belt to the seat assembly. Tighten to standard torque.

2. Insert the nut to attach the buckle portion (item 5, Figure 124) of the seat belt to the seat assembly. Tighten to standard torque.

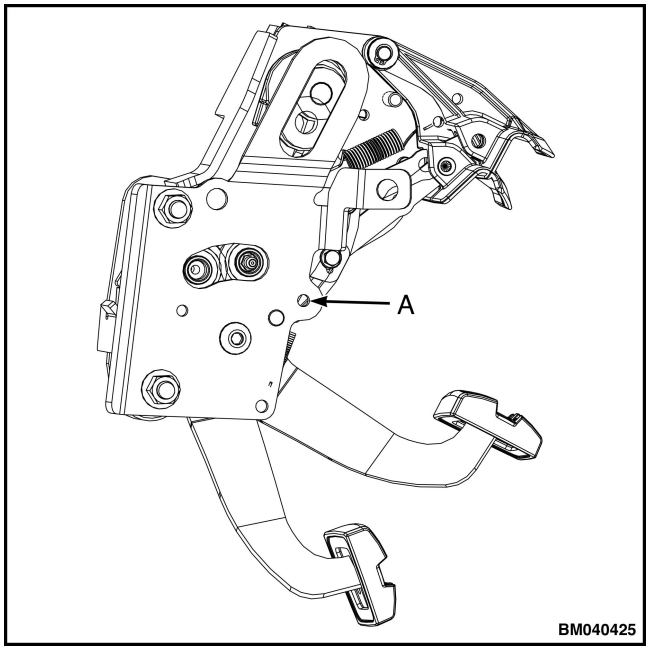
3. Perform checks to confirm new seat belt is functioning properly. See Seat belt-operational checkout.

PEDALS AND LINKAGE REPAIR 202001-009

BRAKE PEDAL

Remove

1. Apply the lockout feature to the park brake. See Figure 125.

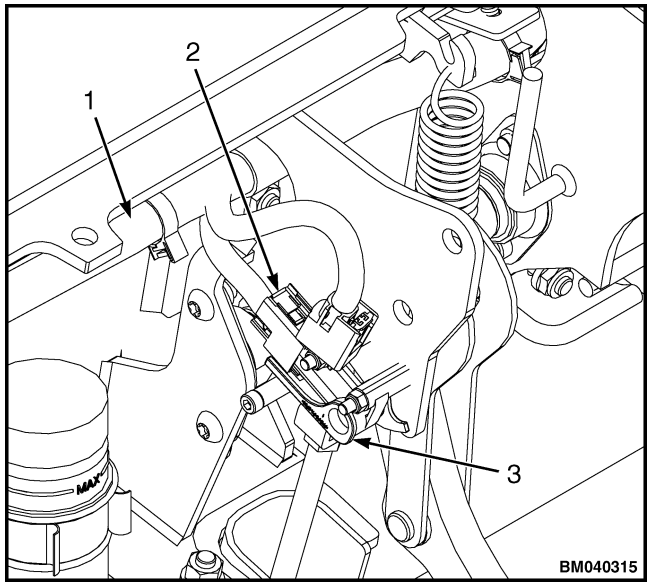


A. PARK BRAKE LOCKOUT

Figure 125. Park brake lockout

2. Remove the floor plate, lower kick panel, and seal plate from the lift truck. See Covers repair, in **Frame and Main Components** 8000SRM2306.

3. Disconnect the brake pedal sensor from the connector on the chassis wire harness. See Figure 126.

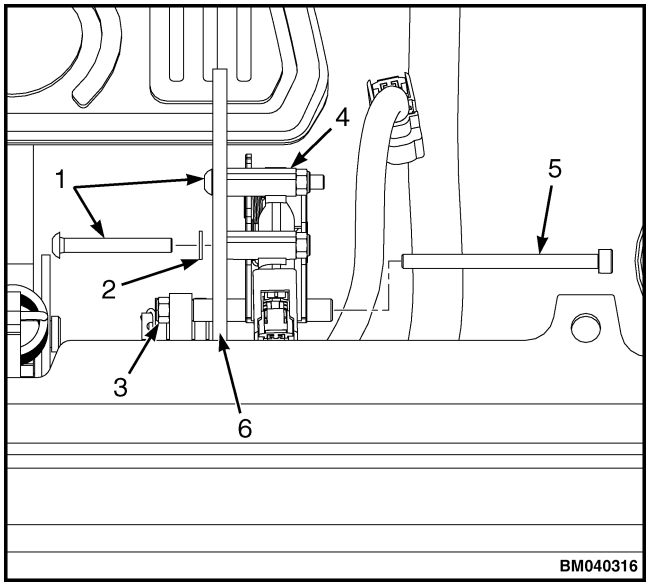


1. WIRE HARNESS
2. CONNECTOR
3. BRAKE PEDAL SENSOR

Figure 126. Brake pedal sensor connector

4. Remove the long capscrew (item 5, Figure 127) connecting the brake pedal sensor to the brake pedal assembly.

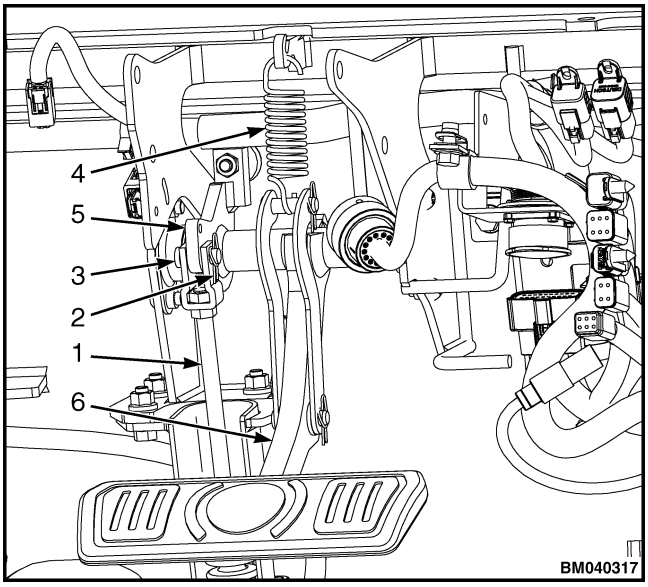
5. Remove the two capscrews (item 1) retaining the brake pedal sensor to the cowl. See Figure 127.



1. CAPSCREW
2. WASHER
3. NUT
4. BRAKE PEDAL SENSOR
5. CAPSCREW
6. COWL

Figure 127. Brake pedal sensor

6. Remove the cotter pin that retains the pin holding the master cylinder clevis to the brake pedal linkage. See Figure 128.



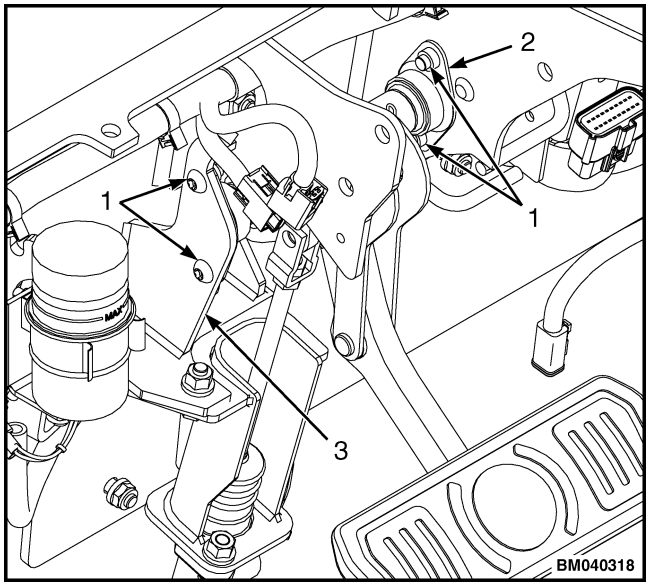
1. MASTER CYLINDER
2. COTTER PIN
3. PIN
4. SPRING
5. BRAKE PEDAL LINKAGE
6. BRAKE PEDAL

Figure 128. Brake pedal linkage

NOTE: Take care when removing the spring, as it is under tension. Do not lose the spring, as it will need to be reinstalled later.

7. Release the spring. See Figure 128.

8. Remove the four capscrews retaining the brake pedal linkage to the cowl. See Figure 129.



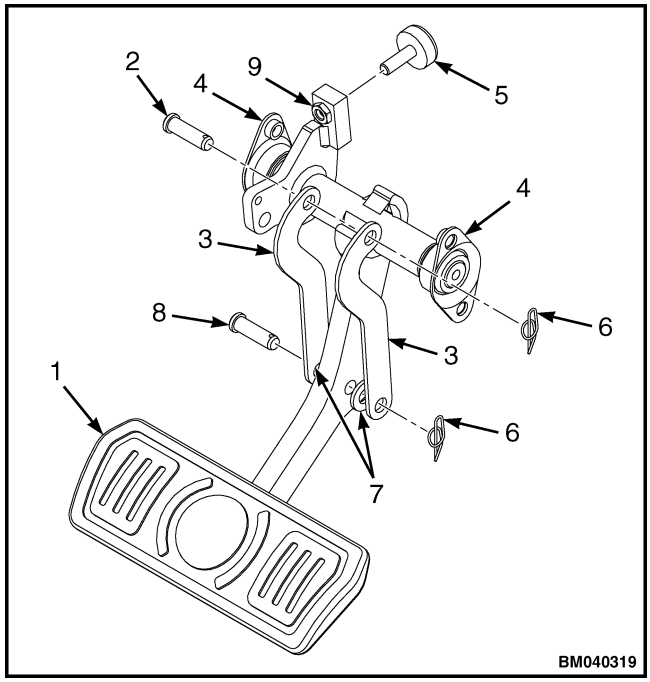
1. CAPSCREW
2. BRAKE PEDAL LINKAGE
3. COWL

Figure 129. Brake pedal

9. Pull the brake pedal linkage from the cowl to remove the brake pedal assembly. See Figure 129.

10. Remove the top pin and cotter pin retaining the two links to the brake pedal. See Figure 130.

11. Remove the bottom pin, washers and cotter pin retaining the links to the brake pedal. Remove the links. See Figure 130.



1. BRAKE PEDAL
2. TOP PIN
3. LINK
4. BUSHING
5. STOP SCREW
6. COTTER PIN
7. WASHER
8. BOTTOM PIN
9. NUT

Figure 130. Brake pedal assembly

12. Unthread the stop screw from the brake pedal and nut. Remove the stop screw. See Figure 130.

Install

1. Insert the stop screw by threading it through the hole in the brake pedal. Install the nut to finger tight.

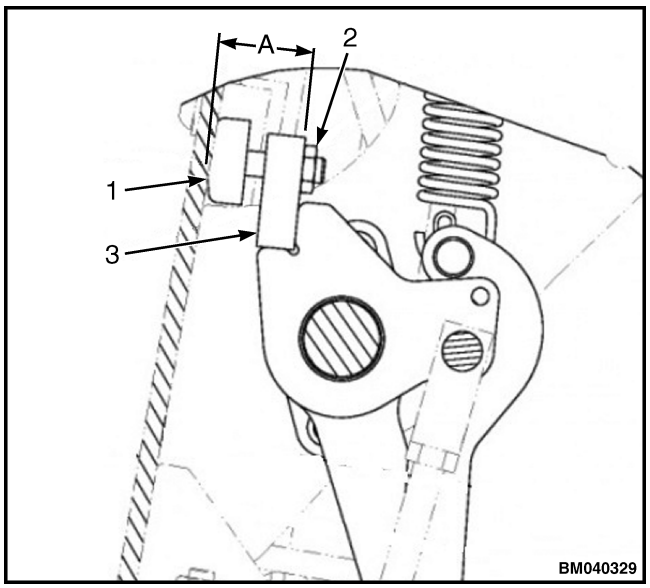
2. Apply a thin coating of multipurpose grease (with moly) to the pins (item 2, 8 Figure 130).

3. Use a twisting motion to insert the bottom pin through the links, washers and brake pedal. Insert the cotter pin to retain the pin. See Figure 130.

4. Use a twisting motion to insert the top pin through the links and brake pedal. Insert the cotter pin to retain the pin. See Figure 130.

5. Insert the four capscrews to retain the brake assembly to the cowl. See Figure 129.

6. Adjust dimension "A" of stop screw to 28.2 to 29 mm (1.12 to 1.14 in.), as shown in Figure 131. Hold the stop screw in place and tighten the nut to standard torque.



1. STOP SCREW
2. NUT
3. BRAKE PEDAL

Figure 131. Stop screw adjustment

7. Attach one end of the spring to the cowl. Stretch the spring to attach the bottom to the brake pedal assembly. See Figure 128.

8. Apply a thin coating of multipurpose grease (with moly) to the pin (item 3, Figure 128).

9. Use a twisting motion to insert the pin through the master cylinder clevis and brake pedal. Insert the cotter pin to retain the pin. See Figure 128. The master cylinder push rod must be adjusted prior to operating the pedal. See Adjust section below.

10. Insert the two capscrews to retain the brake pedal sensor to the cowl. See Figure 127.

11. Insert the long capscrew (item 5, Figure 127) to connect the brake pedal sensor to the brake pedal assembly.

12. Connect the brake pedal sensor to the connector on the chassis wire harness. See Figure 126.

13. Install the seal plate, lower kick panel, and floor plate into the lift truck. See Covers repair, in **Frame and Main Components** 8000SRM2306.

Adjust

Bore diameter:		19.05
Stroke:		28
Operating pressure:	Normal maximum:	10 MPa (1450 psi)
	Must withstand:	22 MPa (3191 psi)
Pressure port specifications:	Service brake pressure port:	M10x1 PER SAE JI290 (04.76 Nominal tube O.D.)
	Pressure sensing port:	M12x1.5 PER SAE JI290 (06.00 Nominal tube O.D.)
Expected pressure at master cylinder inlet/brake line pressure		8.5 to 11 bar (123.2 to 159.5 psi)
Operating temp range:		-18 to 100°C (0 to 212°F)
Residual check valve pressure		48 to 158 kPa (7 to 23 psi)

Follow the procedure below to adjust the free play of the Brake Pedal Assembly after installation.

NOTE: Confirm the pedal assembly is fully assembled on the cowl, the input rod was installed properly and pedal up-stop has been adjusted, before proceeding to adjust the pedal free-play.

1. Locate the lock nut (item 2, Figure 132) on the master cylinder, directly under the master cylinder clevis (item 7).

2. Loosen the nut 1/4 turn clockwise (as viewed from top) and hold both lower nut (item 2) and captive nut (item 8) from rotation with respect to clevis (item 7) (pinch both with clevis between the thumb and fingers).

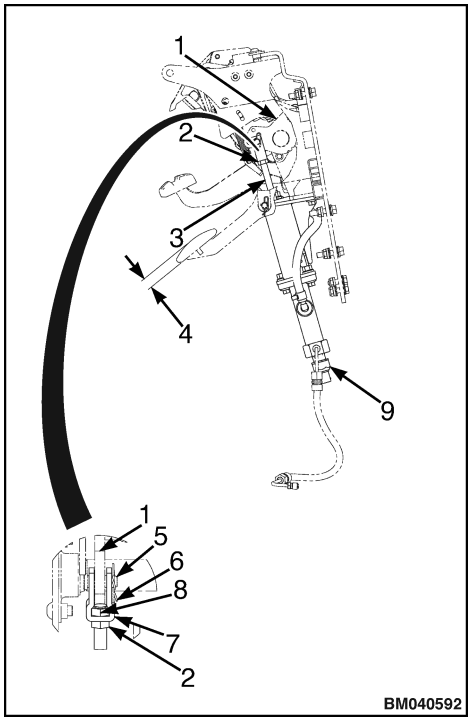
3. Turn the push rod (item 2, Figure 132) on the master cylinder counterclockwise until the push rod can be moved side to side along the pin without binding.

4. Turn the push rod (item 3, Figure 132) clockwise until evidence of contact in side to side movement is experienced.

5. Turn the push rod counterclockwise 1.0 to 1.5 turns.

6. Tighten the lock nut (item 2, Figure 132) against the clevis. Torque to 17 to 23 N•m (13 to 17 lbf ft).

7. Verify the pedal free play is 7 to 11 mm (0.28 to 0.43 in.) from the crown of the pedal (item 4, Figure 132).



1. PEDAL CRANK
2. LOCK NUT
3. PUSH ROD
4. PEDAL FREE PLAY
5. ROD END PIN
6. COTTER PIN
7. CLEVIS
8. CAPTIVE NUT
9. PRESSURE TRANSDUCER

Figure 132. Master cylinder adjustment

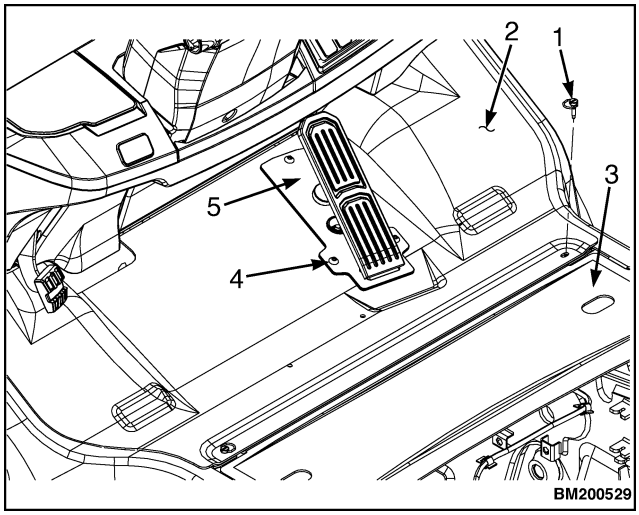
THROTTLE PEDAL (MANUAL)

Remove

1. Lift up the floormat to reveal the floor plate. See Covers repair in **Frame and Main Components** 8000SRM2306.

2. Remove the rear floorplate (item 3, Figure 133).

3. Remove the two fasteners that retain the front floor plate (item 1, Figure 133).



1. FASTENER
2. FRONT FLOOR PLATE
3. REAR FLOOR PLATE
4. CAPSCREW
5. THROTTLE PEDAL

Figure 133. Floor plate

4. Slide the front floor plate (item 2, Figure 133) rearward approximately 150 mm (6 in.).

5. Rotate the front floor plate and pivot about the back edge to expose the throttle cable connection. See Figure 134.

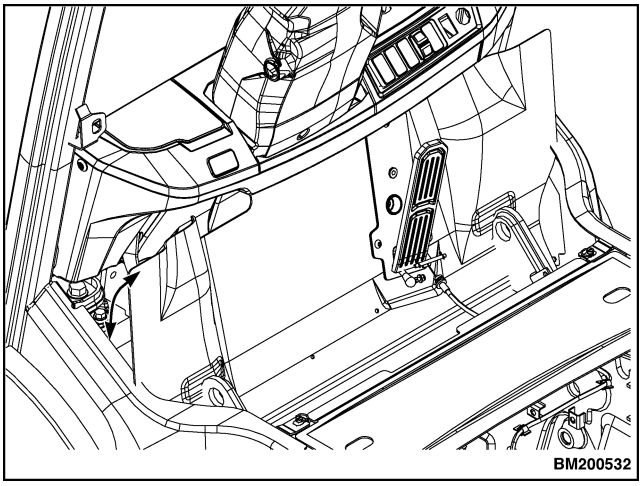
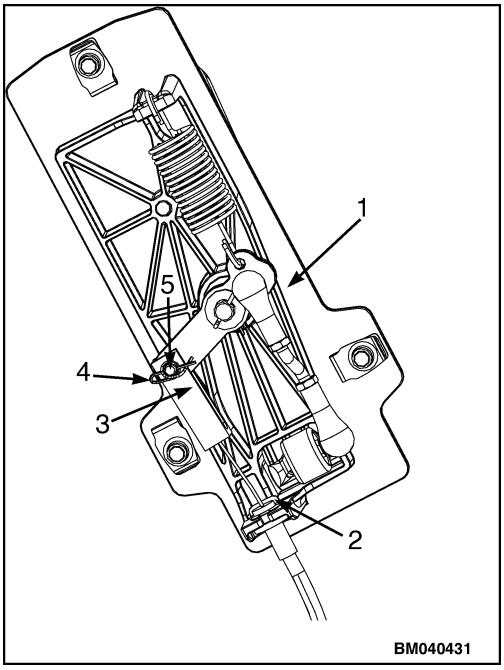


Figure 134. Pivot floor plate

6. Remove the throttle cable circlip (item 2, Figure 135).



1. PEDAL
2. CIRCLIP
3. THROTTLE CABLE
4. LOCKING COTTER PIN
5. CLEVIS PIN

Figure 135. Throttle cable

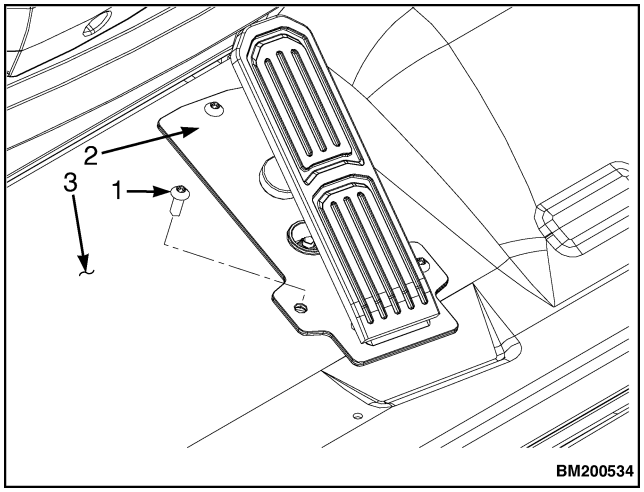
7. Pull the cable free from the mounting slot on the throttle pedal while holding the floor plate vertically.

8. Lay the front floorplate flat against the hood crossmember.

9. Remove the locking cotter pin (item 4, Figure 135) and clevis pin (item 5).

10. Remove the front floor plate from the lift truck.

11. Remove the three capscrews (item 1, Figure 136) retaining the throttle pedal to the floor plate and remove the pedal.



1. CAPSCREW
2. THROTTLE PEDAL
3. FLOOR PLATE

Figure 136. Throttle pedal

Install

1. Align the three holes on the throttle pedal with the three holes in the floor plate.

2. Insert the capscrews (item 1, Figure 136) through the throttle pedal and floor plate. Secure the capscrews underneath with the clip nuts. Tighten to standard torque.

3. Place front floor plate vertically on the lift truck.

4. Install the throttle cable (item 3, Figure 135) on the throttle pedal and secure with the circlip (item 2).

5. Insert the cotter pin (item 5, Figure 135) to attach the throttle cable to the pedal with the locking cotter pin (item 4).

6. Rotate the front floor plate (item 2, Figure 133) about the back edge.

7. Slide the front floorplate forward approximately 150 mm (6 in.).

8. Install the rear floor plate (item 3, Figure 133).

9. Insert the two fasteners (item 1, Figure 133) to secure the front floor plate. See Figure 133. Tighten to standard torque.

10. Install the floormat over the floor plate. See Covers repair in **Frame and Main Components** 8000SRM2306.

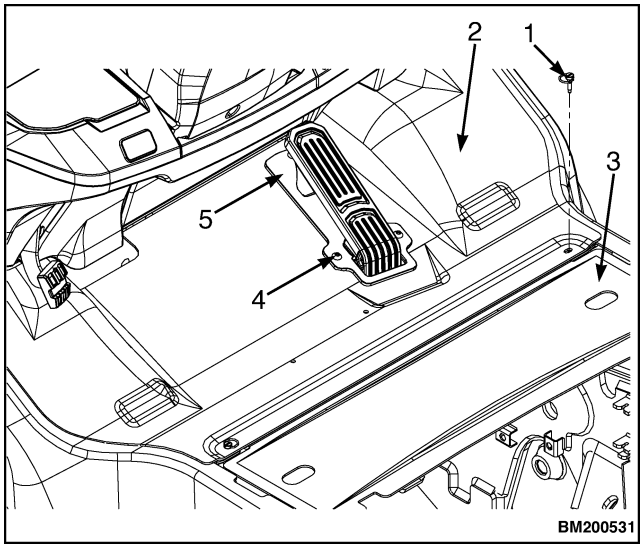
THROTTLE PEDAL (ELECTRONIC)

Remove

1. Lift up the floormat to reveal the floor plate. See Covers repair in **Frame and Main Components** 8000SRM2306.

2. Remove the rear floor plate (item 3, Figure 137).

3. Remove the two fasteners (item 1, Figure 137) that retain the front floor plate.



1. FASTENER
2. FRONT FLOOR PLATE
3. REAR FLOOR PLATE
4. CAPSCREW
5. THROTTLE PEDAL

Figure 137. Floor plate

4. Slide the front floor plate rearward approximately 150 mm (6 in.).

5. Rotate the front floor plate and pivot about the back edge to expose the harness connection. See Figure 138.

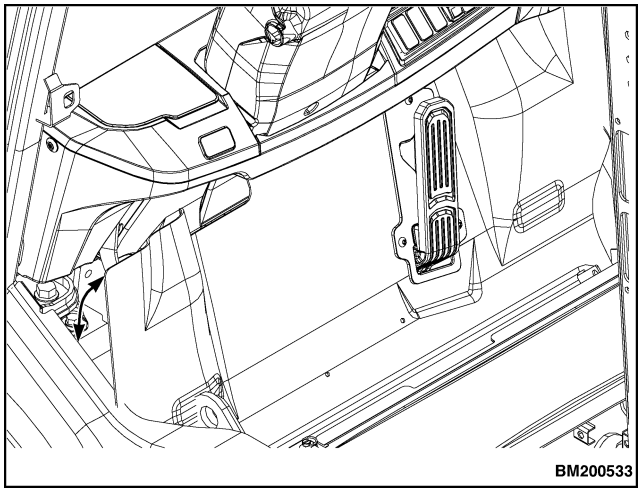
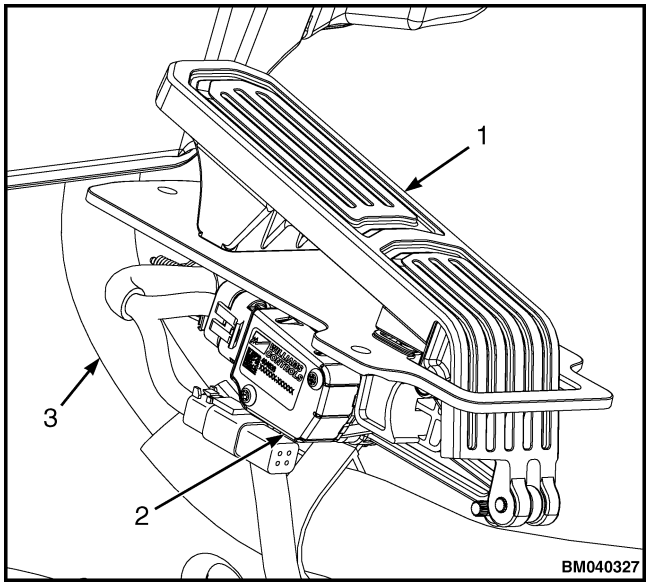


Figure 138. Pivot floor plate

6. Disconnect the chassis wire harness (item 3, Figure 139) from the throttle pedal sensor (item, 2).

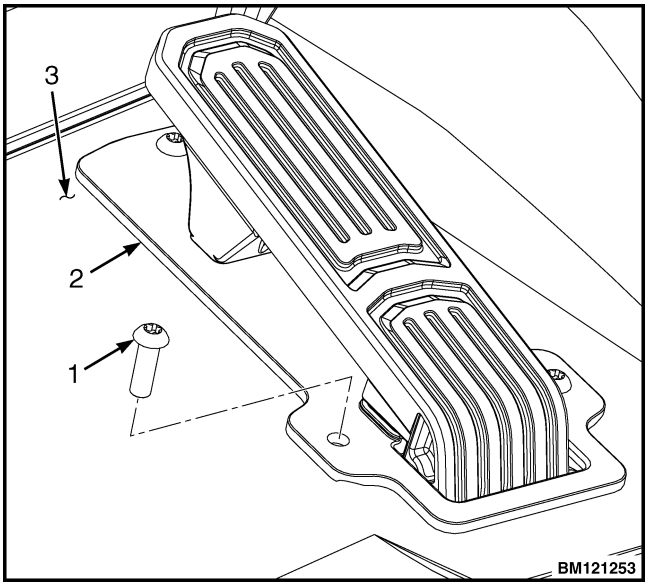


1. THROTTLE PEDAL
2. THROTTLE PEDAL SENSOR
3. CHASSIS WIRE HARNESS

Figure 139. Throttle pedal sensor

7. Remove the floor plate from the lift truck.

8. Remove the three capscrews (item 1, Figure 140) retaining the throttle pedal to the floor plate and remove the pedal.



1. CAPSCREW
2. THROTTLE PEDAL
3. FLOOR PLATE

Figure 140. Throttle pedal

Install

1. Align the three holes on the throttle pedal with the three holes in the floor plate.

2. Insert the three capscrews (item 1, Figure 136) through the throttle pedal and floor plate. Secure the capscrews underneath with the clip nuts. Tighten to standard torque.

3. Place front floor plate vertically on the lift truck.

4. Connect the chassis wire harness (item 3, Figure 139) to the throttle pedal sensor (item 2).

5. Pivot the front floor plate about the back edge.

6. Slide the front floor plate forward approximately 150 mm (6 in.).

7. Install the rear floor plate (item 3, Figure 137).

8. Insert the two fasteners (item 1, Figure 137) to secure the front floor plate and tighten to standard torque.

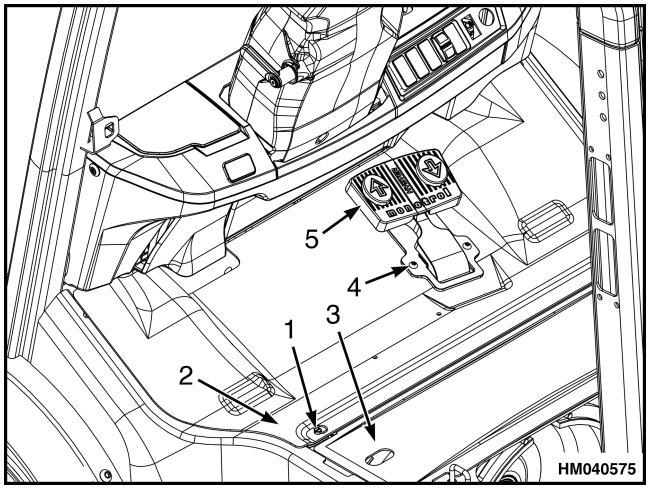
9. Install the floormat over the floor plate. See Covers repair in **Frame and Main Components** 8000SRM2306.

MONOTROL® PEDAL

Remove

1. Lift up the floormat to reveal the floor plate. See **Frame and Main Components** 8000SRM2306.

2. Remove the rear floor plate (item 3, Figure 141).



1. FASTENER
2. FRONT FLOOR PLATE
3. REAR FLOOR PLATE
4. CAPSCREW
5. THROTTLE PEDAL

Figure 141. Floor plate

3. Remove the two fasteners (item 1, Figure 141) that retain the front floor plate.

4. Slide the front floor (item 2, Figure 141) plate rearward approximately 150 mm (6 in.).

5. Rotate the front floor plate and pivot about the back edge to expose the throttle cable connection. See Figure 142.

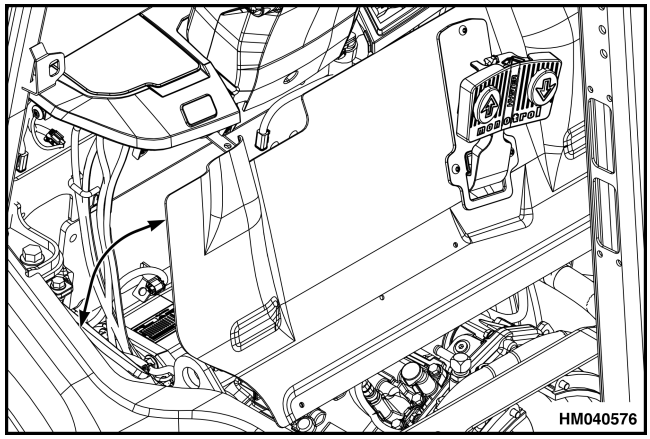
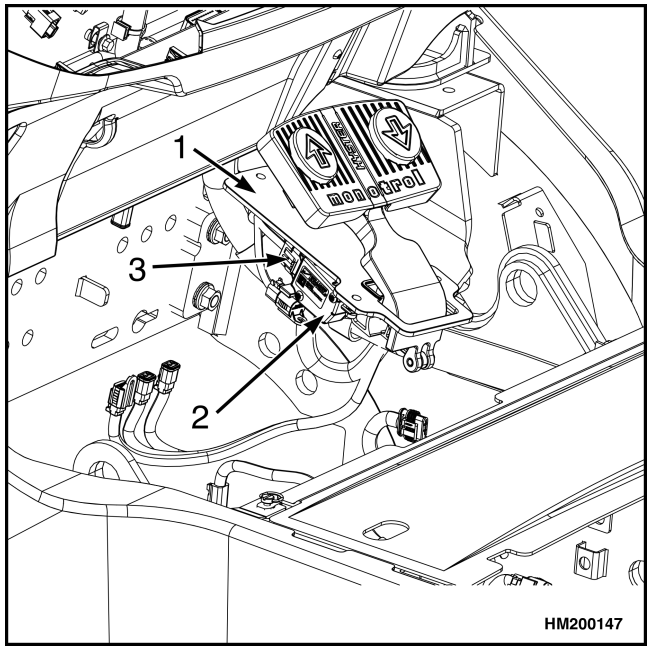


Figure 142. Pivot floor plate

6. Disconnect the chassis wire harness (item 3, Figure 143) from the Monotrol® pedal sensor (item 2).

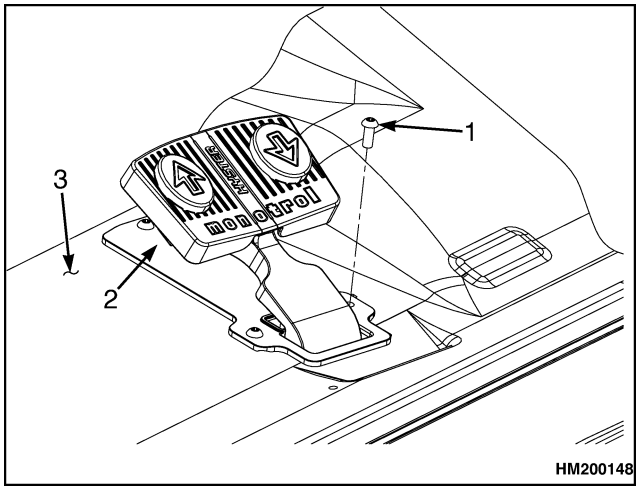


1. PEDAL
2. PEDAL SENSOR
3. CHASSIS WIRE HARNESS

Figure 143. Monotrol® pedal sensor

7. Remove the floor plate from the lift truck.

8. Remove the three capscrews retaining the Monotrol® pedal to the floor plate and remove the pedal. See Figure 144.



1. CAPSCREW
2. THROTTLE PEDAL
3. FLOOR PLATE

Figure 144. Monotrol® pedal

9. Remove the Monotrol® pedal from the lift truck.

Install

1. Align the three holes on the Monotrol® pedal with the three holes in the floor plate.

2. Insert the capscrews through the Monotrol® pedal and floor plate (see Figure 144). Secure the capscrews underneath with the clip nuts. Tighten to standard torque.

3. Place front floor plate vertically on the lift truck.

4. Connect the chassis wire harness (item 3, Figure 143) to the throttle pedal sensor (item 2).

5. Pivot the front floor plate about the back edge.

6. Slide the front floor plate forward approximately 150 mm (6 in.).

7. Install the rear floor plate (item 3, Figure 141).

8. Insert the two fasteners (item 1, Figure 141) to secure the front floor plate and tighten to standard torque.

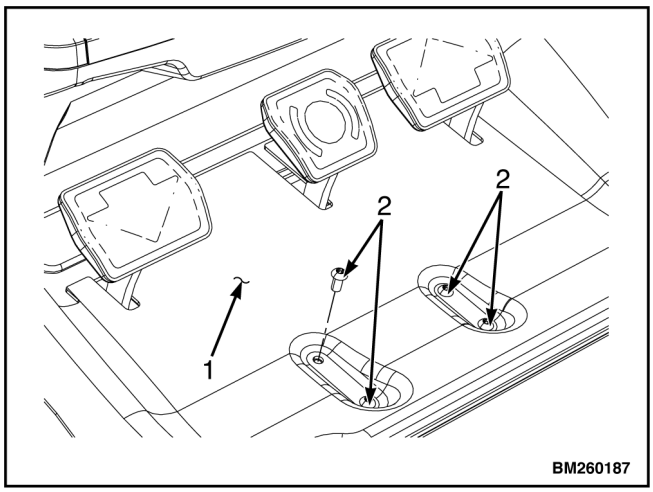
9. Install the floormat over the floor plate. See Covers repair in **Frame and Main Components** 8000SRM2306.

DUAL PEDAL

Remove

1. Lift up the floormat to reveal the floor plate.

2. Remove the four capscrews retaining the dual pedal to the floor plate. See Figure 145.

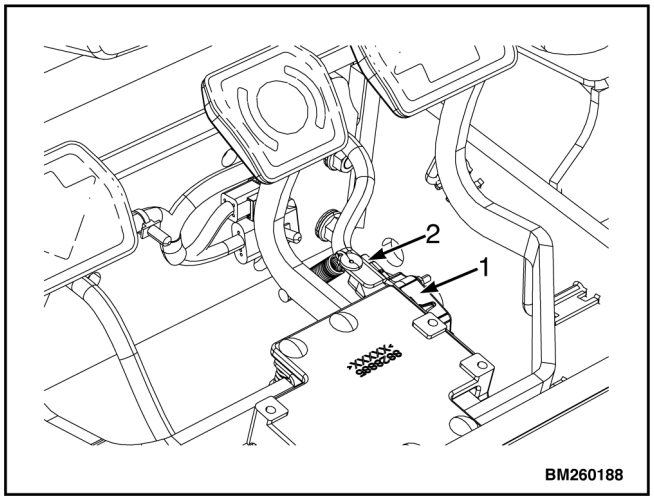


1. FLOOR PLATE
2. CAPSCREW

Figure 145. Dual pedal

3. Remove the floor plate to access the dual pedal sensor. See Covers repair in **Frame and Main Components** 8000SRM2306.

4. Disconnect the dual pedal sensor from the connector on the wire harness. See Figure 146.



1. DUAL PEDAL SENSOR
2. CONNECTOR

Figure 146. Dual pedal sensor

5. Remove the dual pedal from the lift truck.

Install

1. Lower the dual pedal into the lift truck.

2. Connect the connector on the wire harness to the dual pedal sensor. See Figure 146.

3. Insert the capscrews through the floor plate and into the dual pedal (see, Figure 145). Tighten to standard torque.

PARK BRAKE

The foot-operated manual park brake tucks out of the way when applied to allow additional space for mounting and dismounting the truck. To release the manual park brake, pull up on the hand-release lever to the left of the steering column under the dash. Make sure the service brakes are adjusted and operation of automatic adjuster mechanism is correct before the park brake is adjusted.

Lift trucks with a with a Monotrol® Foot Directional Control pedal:

The switch energizes the seat warning circuit when the hand lever is released. This switch puts the transmission in **NEUTRAL** by de-energizing the direction solenoid. There is also a switch on the left-hand side of the bracket. This switch prevents the engine from starting unless the park brake is applied.

Adjust

NOTE: The park brake must be disengaged to make tension adjustments.

The brakes must be burnished for this to be accurate. Completing this adjustment with unburnished brakes will yield a higher pedal effort.

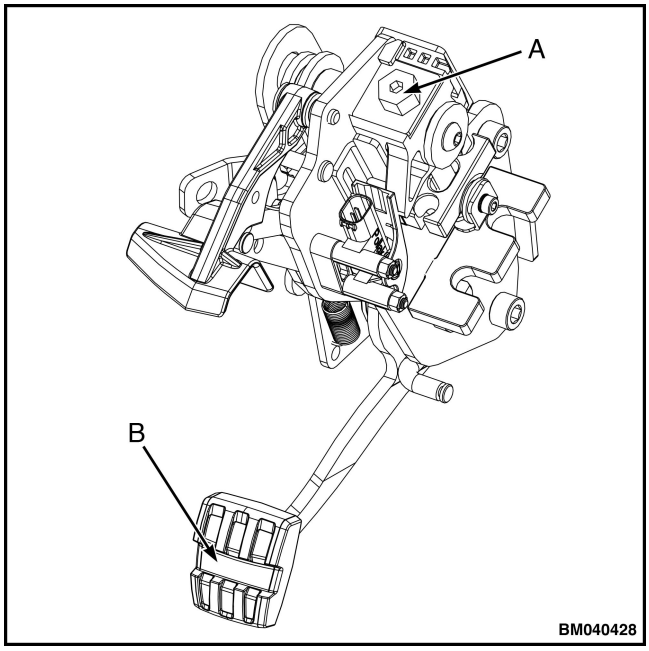
NOTE: The park brake should only be adjusted by a trained service technician.

NOTE: Check the park brake funciton by parking on a 15% grade. The truck should not roll with the park brake applied when on grade with rated load and burnished brakes. Burnished brakes typically require 200 stops for new trucks or new replacement brakes. Unburnished brakes can be tested without a load on a 15% grade but should be readjusted once brakes are burnished.

A 15% grade is a slope that increases 1.5 mm in 10 mm (1.5 ft) in (10 ft). If a 15% grade is not available, use the steepest grade that is less than 15%.

1. Apply the service brake while on a 15% grade without the park brake applied.

2. With the service brake applied, turn the adjustment bolt as shown in a half-turn clockwise with a 6mm allen wrench or similar tool to increase park brake hold force. Ensure the spring nests in the gear wheel pocket and contacts the gear wheel in the counter clockwise direction.



1. CABLE TENSION ADJUSTMENT BOLT
2. PEDAL

Figure 147. Adjustment bolt

3. Apply the park brake and release the service brake.

4. If the truck rolls in grade after service brake is released, then repeat Step 1 through Step 3.

5. Actuate the park brake a minimum of three additional times before verifying the final adjustment setting.

6. Do not tighten the adjustment bolt so that the brake is applied when the park brake pedal is released. Test by confirming the truck rolls without the park brake or service brake applied.

Releasing the cable adjustment

The following procedure must be performed if cables are to be replaced or if cable tension is too high.

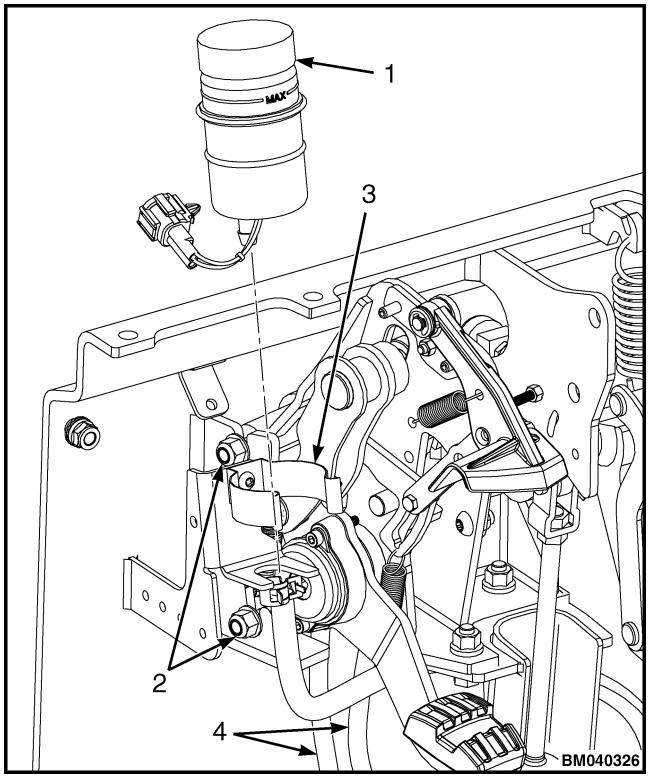
1. Confirm the truck is on a level surface. Apply the service brake or block the wheels.

2. Disengage the park brake.

3. The adjuster bolt will spin freely when clear of the locking spring. The locking spring must be pulled in the aft direction to disengage with the gear wheel. This can be accomplished by pulling on the end of the spring with a set of needle nose pliers until it clears the wheel, or inserting a large flat head screwdriver between the spring and gear wheel and turning the screwdriver while rotating the wheel counter clockwise.

Remove

1. Block the front and rear wheels. See How to put a lift truck on blocks.
2. Release the park brake.
3. Disconnect the wire harness connector from the park brake connector.
4. Remove the brake fluid reservoir. See Figure 148.
5. Remove the upper and lower park brake mounting bolts. See Figure 148.



1. RESERVOIR
2. UPPER AND LOWER PARK BRAKE MOUNTING BOLTS
3. RESERVOIR MOUNTING BRACKET
4. PARK BRAKE CABLES

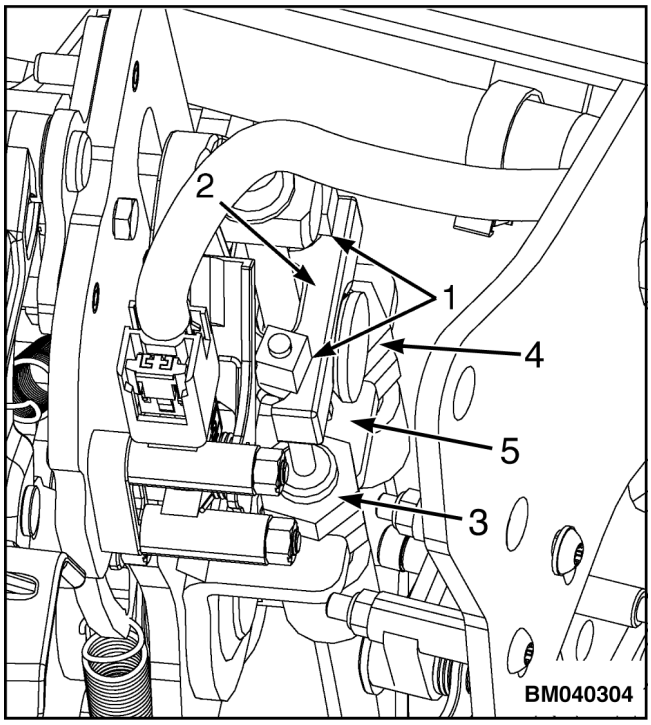
Figure 148. Park brake remove

6. Remove the park brake from the cowl with the cables still attached.
7. Loosen the nut on the left hand park brake cable and remove the left hand park brake cable from the mount. See Figure 149.
8. Loosen the nut on the right hand park brake cable and remove the right hand park brake cable from the mount. See Figure 149.

Install

1. Add grease to the spherical surfaces in the equalizer bracket. Make sure grease does not come in contact with the adjuster bolt (item 2, Figure 150).
2. Attach the left hand and right hand park brake cables to the cable mount (item 5, Figure 149) and equalizer bar (item 2).

3. Adjust the jam nuts on the cable housing at the ends of each cable. See Figure 149.



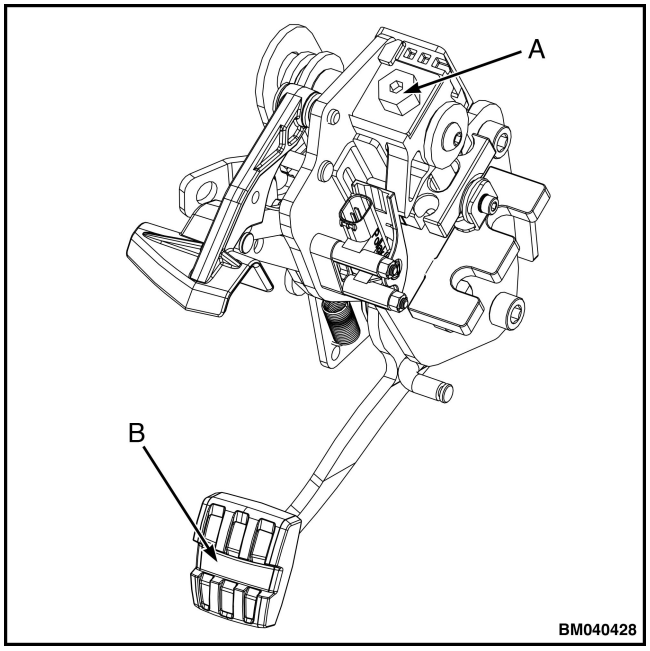
1. JAM NUTS
2. EQUALIZER BAR
3. LEFT HAND PARK BRAKE CABLES
4. RIGHT HAND PARK BRAKE CABLES
5. CABLE BRACKET

Figure 149. Park brake cables

4. When the cable ends are properly adjusted, the equalizer bar will be perpendicular to the direction of travel when fully engaged.

5. Actuate the park brake several times and verify the equalizer bar is still perpendicular to the actuation path and cable ends are even when fully engaged.

6. Visually inspect the sensor arm (1, Figure 150) for continuous contact troughout the full range of pedal operation.



1. SENSOR ARM
2. CABLE TENSION ADJUSTER BOLT
3. EQUALIZER BAR
4. CABLE BRACKET
5. PEDAL
6. PARK BRAKE LOCKOUT

Figure 150. Park brake

7. Lower the park brake assembly into the notches of the park brake bracket. See Figure 148.

8. Torque the mounting bolts to 78 to 84 N•m (56 to 62 lbf ft).

9. Connect the park brake harness to the connector on the park brake sensor.

10. Install the service brake reservoir. See Figure 148.

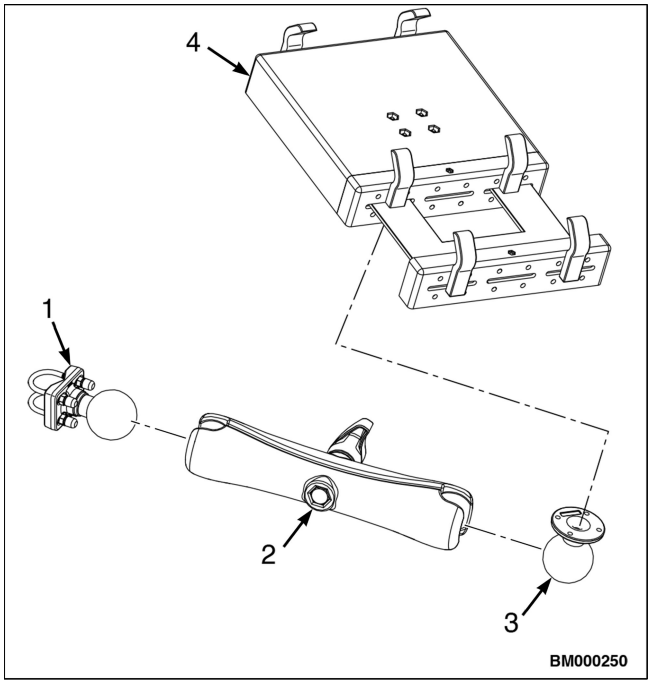
Accessories and options

ACCESSORY OPTIONS 202001-281

Different accessory options may be attached to an accessory bar mounted inside the overhead guard on the front right leg. The following optional accessories can be attached to the accessory bar.

- Monitor holder
- Tablet holder
- Phone holder
- Cup holder
- Scanner holder
- Tape dispenser holder
- Stretch film roller

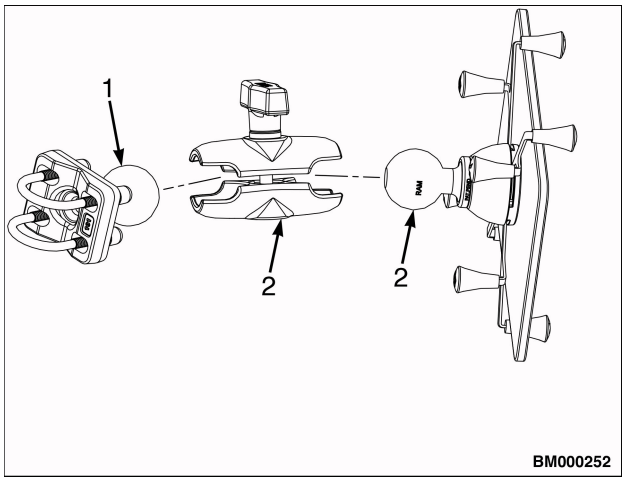
MONITOR HOLDER



1. MOUNT TO ACCESSORY BAR
2. TIGHTENING MOUNT
3. ACCESSORY MOUNT
4. MONITOR HOLDER

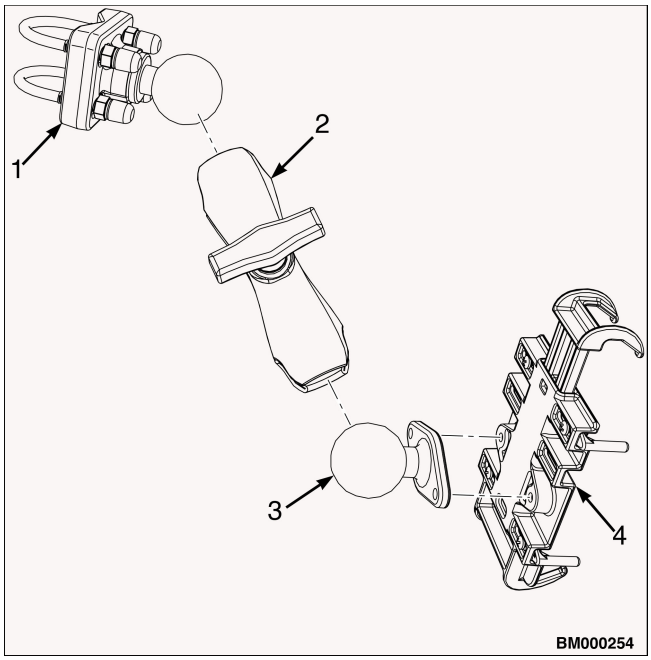
Figure 151. Monitor holder

TABLET HOLDER



1. MOUNT TO ACCESSORY BAR
2. TIGHTENING MOUNT
3. TABLET HOLDER

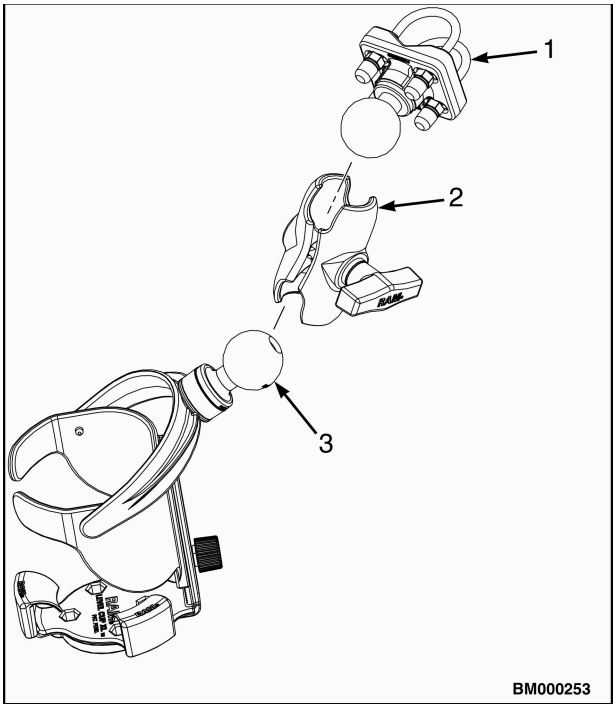
PHONE HOLDER



1. MOUNT TO ACCESSORY BAR
2. TIGHTENING MOUNT
3. ACCESSORY MOUNT
4. PHONE HOLDER

Figure 153. Phone holder

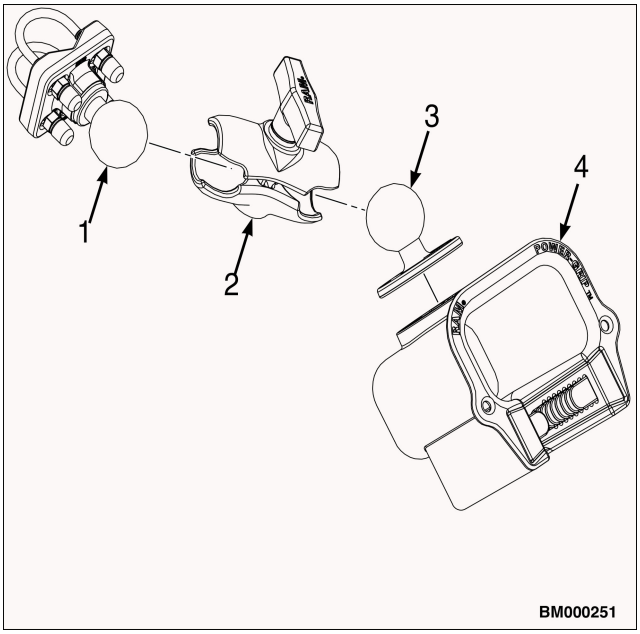
CUP HOLDER



1. MOUNT TO ACCESSORY BAR
2. TIGHTENING MOUNT
3. CUP HOLDER

Figure 154. Cup holder

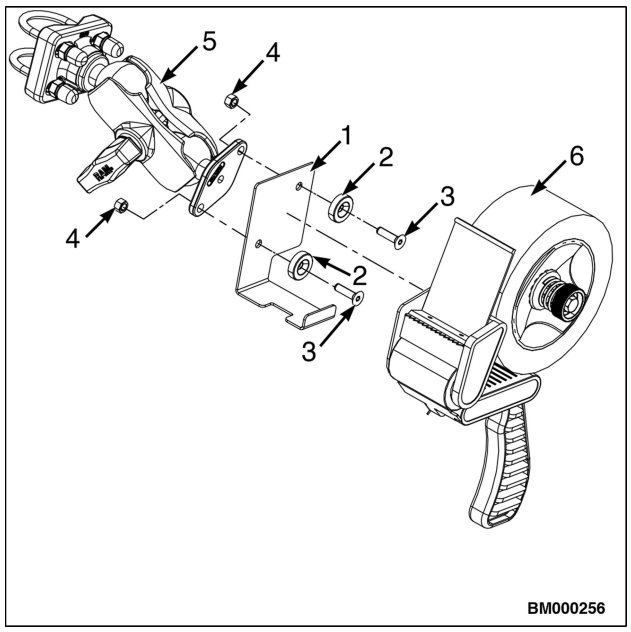
SCANNER HOLDER



1. MOUNT TO ACCESSORY BAR
2. TIGHTENING MOUNT
3. ACCESSORY MOUNT
4. SCANNER HOLDER

Figure 155. Scanner holder

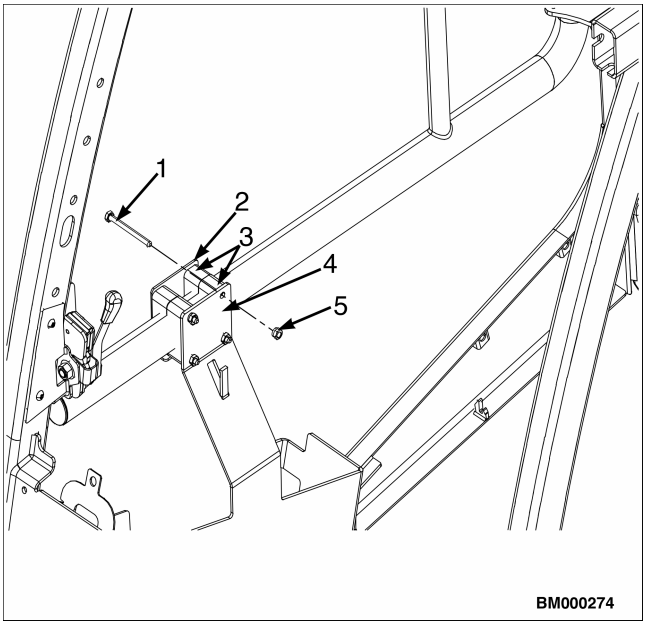
TAPE DISPENSER



1. PLATE-TAPE DISPENSER
2. MAGNET
3. SCREW
4. NUT
5. ACCESSORY MOUNT
6. TAPE DISPENSER

Figure 156. Tape dispenser holder

STRETCH FILM ROLLER



1. SCREW
2. PLATE
3. ISOLATORS
4. FILM ROLLER ARM
5. NUT

Figure 157. Stretch film roller

ACCESSORY BAR-FIXED 202001-282

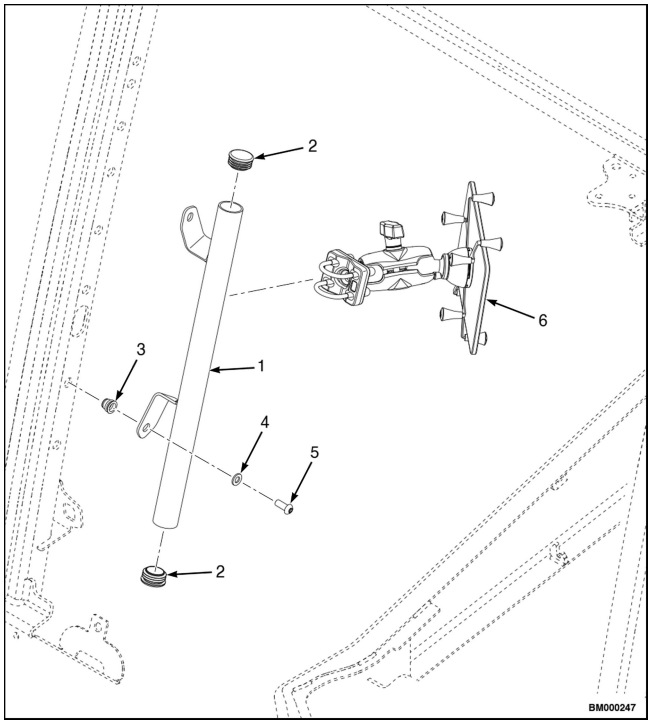
The fixed accessory bar is mounted inside the overhead guard on the front right leg. See Accessory options for optional accessories that can be attached to the accessory bar.

REMOVE

1. Loosen the u-clamp mount attaching the accessory (item 6, Figure 158) to the accessory bar (item 1).

2. Loosen the two screws (item 5, Figure 158) attaching the accessory bar to the leg of the overhead guard. Remove the screws and washers.

3. Remove the accessory bar from the leg of the overhead guard.



1. ACCESSORY BAR
2. PLUG
3. INSERT
4. WASHER
5. SCREW
6. ACCESSORY OPTION

Figure 158. Fixed accessory bar

INSTALL

1. Align the holes on the accessory bar (item 1, Figure 158) with the two holes on the right front leg of the overhead guard.

2. Install washers and capscrews (item 4, 5, Figure 158) to retain the accessory bar to the right front leg of the overhead guard.

3. Tighten to 19.2 N • m (14.2 lbf ft).

4. Attach accessory (item 6, Figure 158) and tighten u-clamp mount.

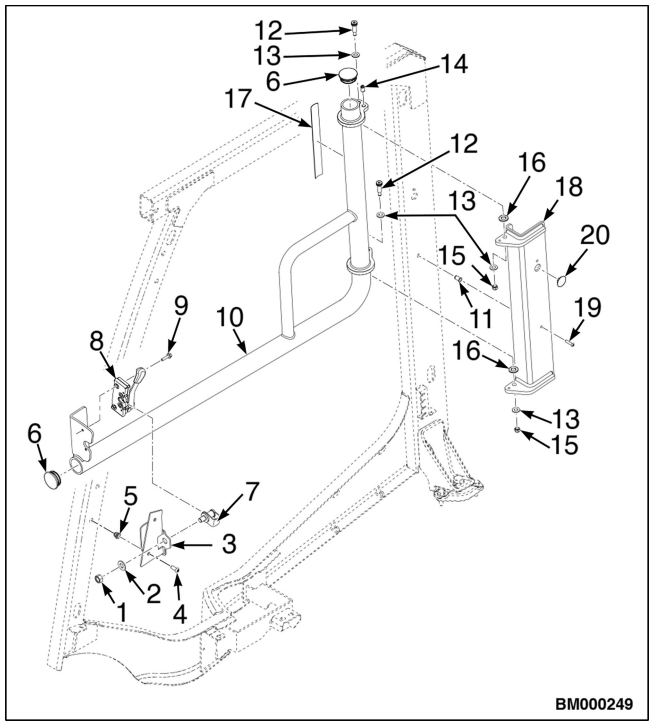
ACCESSORY BAR-SWING OUT (RECTANGLE OHG) 202001-283

The swing-out accessory bar is mounted inside the overhead guard on the rear right leg and latches to the front right leg. See Accessory options for optional accessories that can be attached to the accessory bar.

REMOVE

1. Loosen the two screws (item 4, Figure 159) retaining the striker plate to the right front leg of the overhead guard.

2. Loosen the two screws (item 12, Figure 159) attaching the accessory bar to the mounting bracket (item 18) attached to the right rear leg of the overhead guar. Remove the screws, washers and nuts.



1. NUT
2. WASHER
3. STRIKER PLATE
4. SCREW
5. INSERT
6. END PLUG
7. LATCH-STRIKER PIN
8. LATCH
9. CAPSCREW
10. ACCESSORY BAR
11. INSERT
12. SCREW
13. WASHER
14. PLUNGER
15. NUT
16. THRUST BEARING
17. LABEL
18. MOUNTING BRACKET
19. SCREW
20. PLUG

Figure 159. Swing-out accessory bar (rectangle frame option)

3. Remove the accessory bar from the mounting bracket.

4. If necessary, remove the two screws (item 19, Figure 159) retaining the mounting bracket to the overhead guard and remove the mounting bracket.

INSTALL

1. If the mounting bracket was removed, it must be installed before installing the accessory bar. Align the two holes on the mounting bracket with the two holes in the right rear leg. Install the screws to retain the mounting bracket to the overhead guard.

2. Tighten the screws to 8.6 N•m (76.1 lbf in).

3. Align the accessory bar (item 1, Figure 159) in place on the mounting bracket (item 18) attached to the right rear leg of the overhead guard.

4. Install screws (item 12, Figure 159) washers and nuts to retain the accessory bar to the mounting bracket.

5. Tighten the nuts. Torque to 21 N•m (15.5 lbf in).

6. Align the two holes on the striker plate with the two holes on the front right leg of the overhead guard. Insert the two screws (item 6, Figure 159) to retain the striker plate. Tighten to standard torque.

ACCESSORY BAR-SWING OUT (FIGURE 8 OHG) 202001-284

The swing-out accessory bar is mounted inside the overhead guard on the rear right leg and latches to the front right leg. See Accessory options for optional accessories that can be attached to the accessory bar.

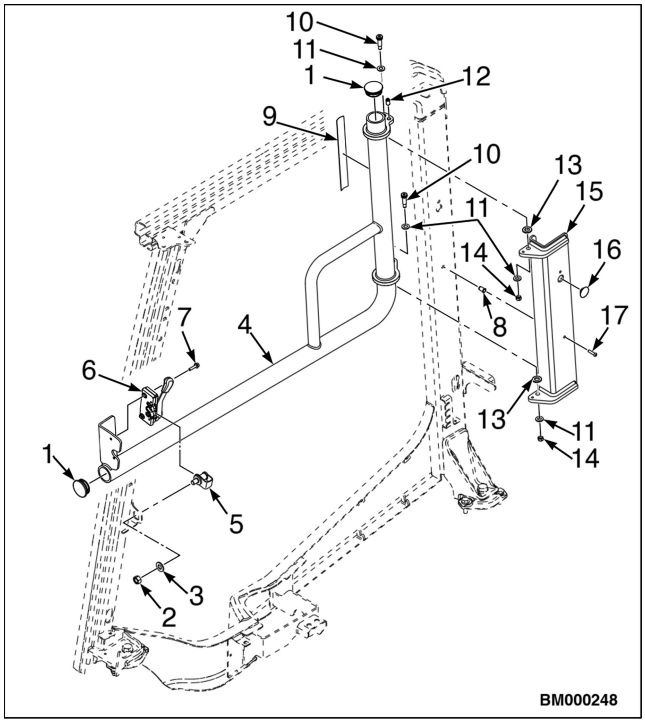
REMOVE

1. Remove the nut (item 2, Figure 160) retaining the latch striker pin to the right front leg of the overhead guard.

2. Loosen the two screws (item 10, Figure 160) attaching the accessory bar to the mounting bracket (item 15) attached to the right rear leg of the overhead guar. Remove the screws, washers and nuts.

3. Remove the accessory bar from the mounting bracket.

4. If necessary, remove the two screws (item 17, Figure 160) retaining the mounting bracket to the overhead guard and remove the mounting bracket.



1. END PLUG
2. NUT
3. WASHER
4. ACCESSORY BAR
5. LATCH STRIKER PIN
6. LATCH
7. CAPSCREW
8. INSERT
9. LABEL
10. SCREW
11. WASHER
12. PLUNGER
13. THRUST BEARING
14. NUT
15. MOUNTING BRACKET
16. PLUG
17. SCREW

Figure 160. Swing-out accessory bar (figure 8 frame option)

INSTALL

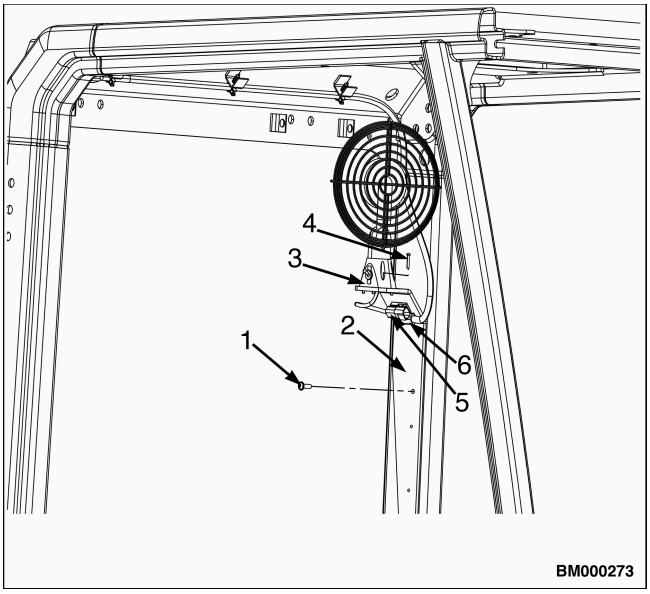
1. If the mounting bracket was removed, it must be installed before installing the accessory bar. Align the two holes on the mounting bracket with the two holes in the right rear leg. Install the screws to retain the mounting bracket to the overhead guard.
2. Tighten the screws to 8.6 N•m (76.1 lbf in).
3. Align the accessory bar (item 4, Figure 160) in place on the mounting bracket (item 15) attached to the right rear leg of the overhead guard.
4. Install screws (item 10 Figure 160) washers and nuts to retain the accessory bar to the mounting bracket.
5. Tighten the nuts. Torque to 21 N•m (15.5 lbf in).
6. Align the latch striker pin with the hole on the front right leg of the overhead guard. Install the nut (item 2, Figure 160) to retain the latch striker pin. Tighten the nut to standard torque.

OPERATOR FAN 202001-286

Some lift trucks may feature an optional operator fan that is mounted to the rear left leg of the overhead guard.

REMOVE

1. Disconnect the connector on the fan from the connector on the operator fan jumper harness. See Figure 161.
2. Remove the two capscrews retaining the fan mounting bracket to the overhead guard. See Figure 161.
3. From the four access holes on the fan base, remove the four button head screws retaining the fan base to the mounting bracket. See Figure 161.
4. Remove the fan.



1. SCREW
2. FAN MOUNTING BRACKET
3. FAN
4. BUTTON HEAD SCREW
5. FAN CONNECTOR
6. FAN JUMPER HARNESS CONNECTOR

Figure 161. Operator fan

Install

1. Align the four holes on the fan base with the four holes on the fan mounting bracket. See Figure 161.
2. Insert the four button head screws into the four access holes on the fan base to secure to the mounting bracket. See Figure 161.
3. Tighten screws to standard torque.
4. Insert the two capscrews to retain the fan mounting bracket to the overhead guard. See Figure 161.
5. Tighten capscrews to standard torque.
6. Connect the connector on the fan to the connector on the operator fan jumper harness. See Figure 161.

SUN SHADE
202001-285

The cab and the overhead guard may feature an optional sun screen on the top and front windshield.

REMOVE

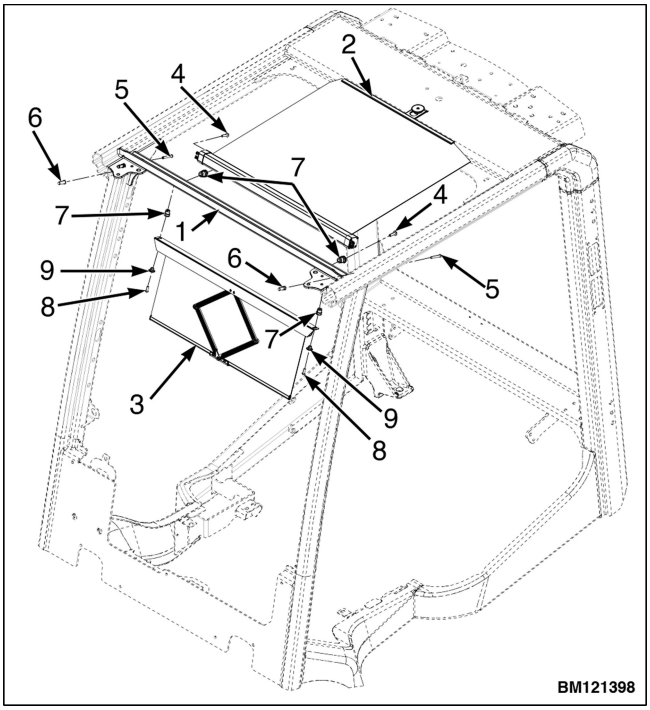
1. Locate the top screen. See Figure 162.

2. Remove the two screws (item 4, Figure 162) that attach the top sun shade to the mounting bracket (item 1).

3. Locate the front screen. See Figure 162.

4. Remove the two screws (item 8, Figure 162) and plugs (item 9) that attach the front sun shade to the mounting bracket (item 1).

5. Remove the screw (item 5, Figure 162) from the insert and mounting bracket (item 1) to remove the mounting bracket.



1. MOUNTING BRACKET
2. SUNSHADE-TOP
3. SUNSHADE-FRONT
4. SCREW
5. SCREW
6. INSERT
7. INSERT
8. SCREW
9. PLUG

Figure 162. Sun shades

INSTALL

1. Align the mounting bracket in place on the overhead guard. See Figure 162.
2. Insert the screw (item 5, Figure 162) and insert (item 6) to retain the mounting bracket (item 1) to the overhead guard.
3. Tighten screws to standard torque.
4. Locate new front screen.
5. Align the holes in the front screen with the holes on the mounting bracket. See Figure 162.
6. Install the two inserts (item 7, Figure 162), plugs (item 9) and screws (item 8) to attach the front sun shade to the mounting bracket (item 1).
7. Tighten screws to standard torque.
8. Locate new top screen.
9. Align the holes on the top screen with the holes on the mounting bracket. See Figure 162.
10. Insert the two screws (item 4, Figure 162) and inserts (item 7) that attach the top sun shade to the mounting bracket (item 1).
11. Torque screws to 1.5 N•m (13.3 lbf in).