



# Body Service Manual



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## Introduction

Congratulations on operating a Reach vehicle with a quality Utilimaster® body. Utilimaster is dedicated to serving our customers' needs through the excellence of our products, services, and information. Please read and follow the instructions in this document for safe and optimal operation and maintenance of this vehicle.

This manual contains drawings and photos to aid in servicing the vehicle, and it may include maintenance information on some items installed but not manufactured by Utilimaster Corporation. Items such as chassis and drive train components or certain interior furnishings may be covered by separate manufacturer-supplied information. Information provided here is intended to assist Utilimaster customers and is in no way meant to replace or supersede instructions provided by other suppliers for their products.

This Service Manual provides *basic* servicing information for Reach vehicle bodies built by Utilimaster Corporation. See the ***Reach—Body Operator's Guide*** for expanded descriptions on the features and options unique to the Reach. For information on chassis and drive train operations, see the ***Isuzu's NPR Stripped Chassis Owner's and Driver's Manual***. For additional technical documentation on parts and wiring, see the references in the More Information and Publications section.

Utilimaster Corporation attempts to provide accurate, complete, and useful information. All information contained in this manual is based on the latest product information available at the time of publication. However, because of the Utilimaster policy of continual product improvement, Utilimaster reserves the right to amend the information in this document at any time without prior notice.

## Reach Customer Service

**HOTLINE 574-862-3362**

**Monday–Friday 6:30 a.m. to 6 p.m. Eastern Standard Time Zone**

**Email: [reach@utilimaster.com](mailto:reach@utilimaster.com)**

*NOTE: The information in this document is generic. Images and procedures may differ from those for vehicles you are servicing. Because Utilimaster manufactures customized vehicle bodies, this document cannot list and illustrate every possible option for every vehicle. The most common body options are described here. Use this information as a guideline.*

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## Notes, Cautions, and Warnings

Reading through the procedures, you will see NOTES, CAUTIONS, and WARNINGS. Each is there for a specific purpose.

**NOTES** give additional information that will help you complete the procedure.

**CAUTIONS** warn against making an error that could damage the vehicle.

**WARNINGS** remind you to be careful when there is risk of personal injury.



***When you see this symbol, read this statement first! This alert highlights information that may reduce the risk of personal injury or vehicle damage.***

Below are some basic WARNINGS that you should heed when you work on the vehicle's body. They are not all-inclusive and common sense must be used when servicing vehicles.

- Always read and understand all instructions before starting a repair.
- Always wear safety glasses and other appropriate protective equipment (gloves, steel-toed shoes, face shields, knee pads, hearing protection).
- Put the transmission in Park and set the parking brake before working on the vehicle.
- Be sure that the ignition switch is Off and remove the keys unless otherwise required by the procedure.
- Always use safety stands, ramps, lifts, and/or wheel blocks whenever you are underneath the vehicle.
- Put a lockout tag on the steering wheel when you are working under a vehicle (unless the repair requires otherwise).
- Only operate engines in a well-ventilated area.
- Keep your hair, clothing, and body away from the radiator fan, belts, and pulleys when engine is running.
- Avoid contact with hot metal parts or fluids when checking or servicing. Always allow the vehicle cooling system to cool before opening a radiator cap.
- Always remove rings, watches, hanging jewelry, and loose clothing before working in tight areas.
- Read and understand all warning labels.
- Always use proper ladders or scaffolding to perform required jobs.
- Always make sure tools are in proper working condition and have guards and safety devices in place.
- Use only the recommended tools for a specific job.
- Utilimaster recommends that only a licensed/certified automotive technician services the vehicle's air-conditioning system.
- If at any time you lack confidence in performing a specific repair procedure or in operating the tools safely to perform the repair, STOP! Call your local dealer or a Utilimaster representative.
- Do NOT drive a forklift inside the cargo area of this vehicle.

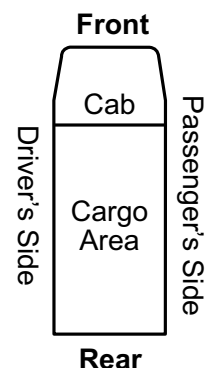
## “Before You Go” Inspection Checklist

Before driving, inspect the following:

- ☐ Visually inspect the tires for possible underinflation or damage. Test tire inflation pressure with a quality pressure gauge at least weekly.
- ☐ Check wheels for cracks, damage, or any missing or loose lug nuts.
- ☐ Check for signs of fluid leaks under the vehicle.
- ☐ Check the oil, antifreeze, brake, washer, and power steering fluid levels.
- ☐ Check belts and hoses for cracking or fraying.
- ☐ Check exterior of vehicle for damage or loose parts.
- ☐ Check all doors, latches, and locks for proper operation.
- ☐ Make sure all safety equipment is present, up-to-date, and not damaged.
- ☐ Check the windshield for cracks and chips.
- ☐ Check windshield wiper operation and washer spray pattern.
- ☐ Check all lights including headlight high beams, flashers, and turn signals. Exterior lights must illuminate properly to meet Federal Motor Vehicle Safety Standards for nighttime operation.
- ☐ Adjust the driver's seat position.
- ☐ Adjust all mirrors.
- ☐ Inspect, fasten, and adjust the seat belt.
- ☐ When starting the engine, check for warning lights on the instrument panel.
- ☐ Check the operation of the heater and defroster.
- ☐ Check all switches on the dash and the steering column for proper operation.
- ☐ Check other options and features, such as a rear-vision camera system.

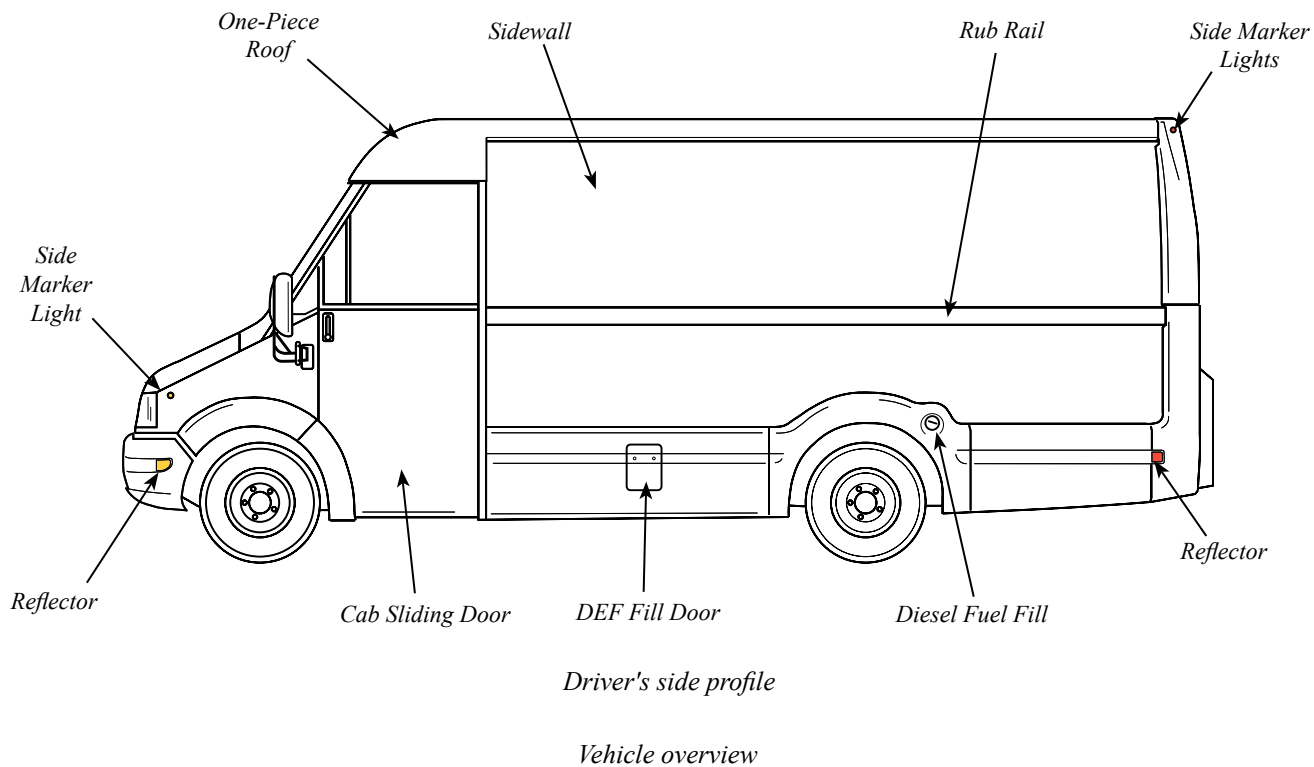
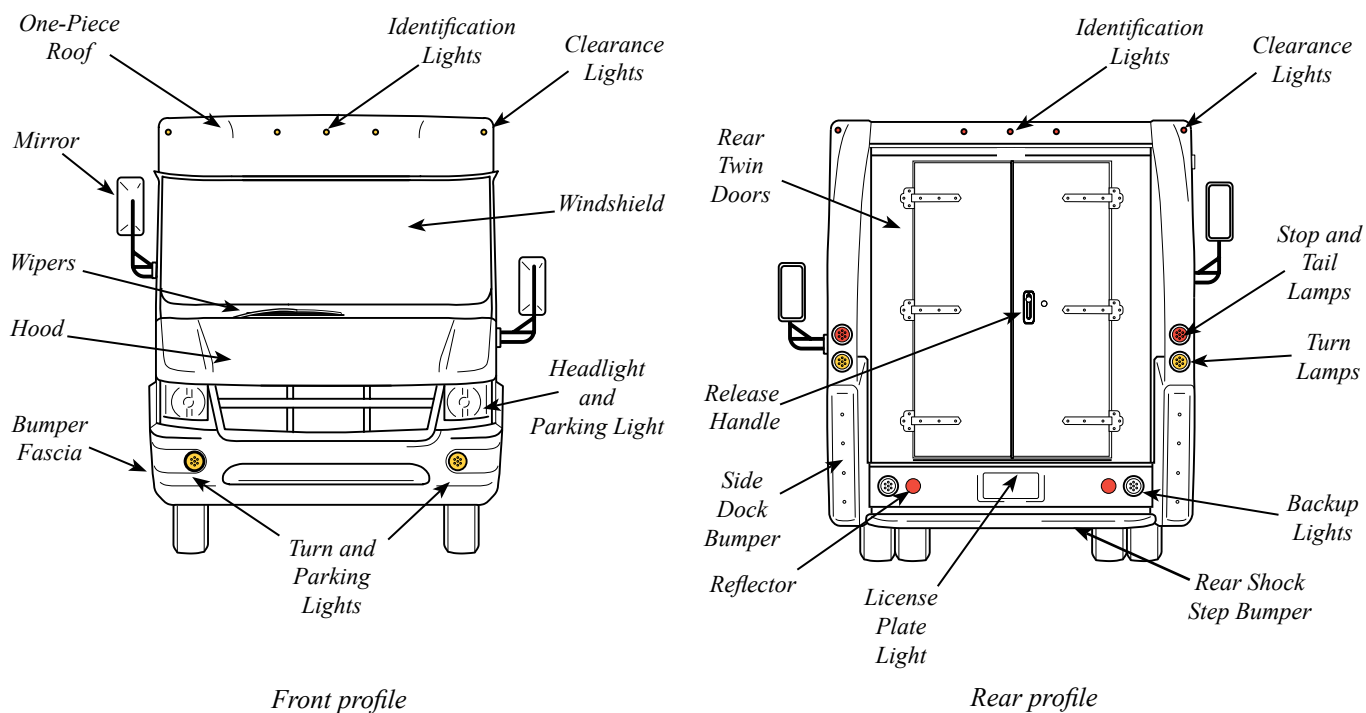
## Vehicle Orientation

*NOTE: When referring to part locations on corresponding sides of the vehicle, refer to them as “Driver’s side,” “Passenger’s side,” “Front,” “Rear,” “Cab,” or “Cargo Area.”*



*Vehicle orientation*

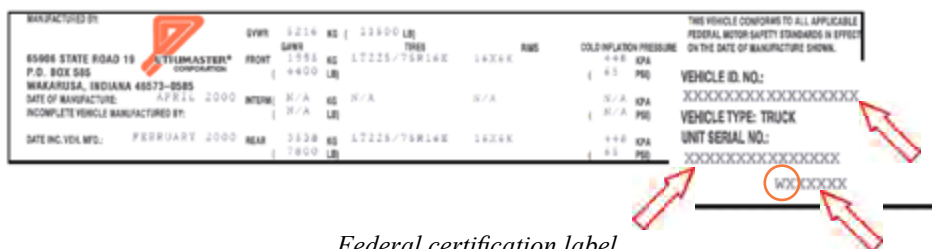
## Vehicle Overview





## VIN, Body Serial, and Work Order Numbers

The 17-digit chassis **Vehicle Identification Number (VIN)** is the legal identifier for this vehicle and is the number recorded in the license plate registration. The VIN is recorded on a label attached to the bulkhead wall above the passenger's seat and on the **Federal Certification Label**. The Federal Certification Label is located on either the driver's rear door post or on the driver's door below the door latch. This label is a plastic decal (about 11" long and 2" high) that contains a variety of manufacturing information (including the **VIN** and **Work Order Number**).



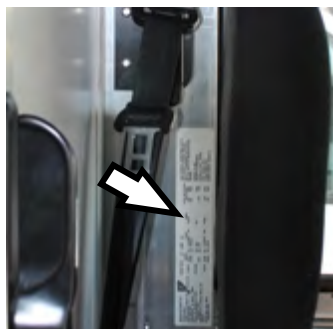
*Federal certification label*

The 15-digit **Utilimaster Body (or Unit) Serial Number** is recorded on the **Federal Certification Label**.

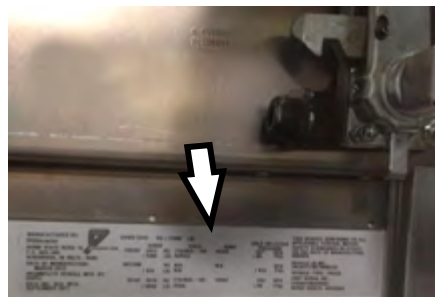
The **Body Serial Number** or 7-digit **Work Order Number** can also be used to identify the body for service inquiries.



*Chassis VIN tag*



*Federal certification label on driver's door post*



*Federal certification label on driver's door*

## Service Procedures

### Batteries



**WARNING:** Always remove the (BLACK) Negative cable first and connect it last.



**WARNING:** Batteries that are improperly connected, jumped, or charged can potentially explode and discharge acid, causing vehicle damage and personal injury. Carefully follow the chassis manufacturer's recommendations for those procedures.



**WARNING:** Battery posts and related accessories may contain lead and lead compounds. Wash hands after handling.



**WARNING:** Always wear proper protective equipment when working around batteries.



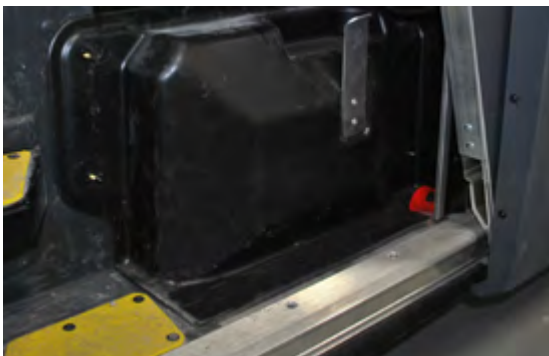
**CAUTION:** Note the location of the battery and the cable routing and reinstall in exactly the same way. When reattaching the Positive (RED) cables, the doubling of the two cables must be in the same positions as before.

### Access

*NOTE: The access panel for the batteries is located in the driver's side step well.*

### Disconnect

1. Make sure ignition switch is Off.
2. Disconnect the **Negative (BLACK)** battery cable(s) **first**.
3. Tuck the battery cable away from the terminal to prevent accidental contact.



*Battery access panel in driver's step well*

## Body Panel Repair



**WARNING:** Use the proper protective equipment (rubber gloves, mask) appropriate to the process.



**WARNING:** Adequate ventilation is required when working in a confined area with fiberglass and fiberglass-related repairs.



**CAUTION:** Utilimaster recommends that body panel repairs be done by an experienced body shop or at Utilimaster's Customer Service Department in Wakarusa, Indiana. Contact Utilimaster Customer Service Department for further assistance.



**CAUTION:** Read and understand ALL product instructions and safety procedures. The effectiveness of the repair can be compromised by environmental conditions and poor application. Product application and safety instructions provided by the manufacturers always supersede information provided by Utilimaster.

### Overview

This section summarizes the various repair options for the composite body panels (hood, sidewalls, and roof) on the Reach vehicle. They are listed in order of severity of damage and difficulty of repair.

**Gelcoat Damage:** The exterior body of the Reach has a gelcoat finish. Unlike painted surfaces, superficial damage to the gelcoat can often be buffed out to its original finish. Dents and deep scratches can be covered by applying a layer of gelcoat that is sanded and buffed back to its finished look. Adding the color of the original body to the gelcoat before application eliminates need for paint.

**Minor Damage:** Damage that penetrates the composite (glass-reinforced) substructure but does NOT go through to the other side *OR* a hole no larger than a golf ball can be repaired with a commonly obtained resin and fiberglass matting kit.

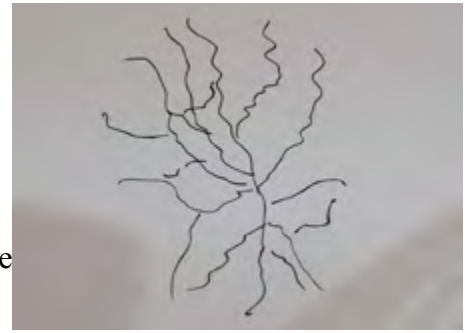
**Major Damage:** A hole or damaged area larger than a golf ball should be cut out, and a replacement plug of new material should be bonded in its place.

**Extreme Damage:** Damage that impacts multiple areas (roof, side wall, rear structure) and requires replacing structural aluminum extrusions should be evaluated by an experienced technician familiar with the Reach design before attempting the repair.

## Gelcoat Repair

Use the gelcoat repair process for dents and scratches that do NOT penetrate the composite substructure.

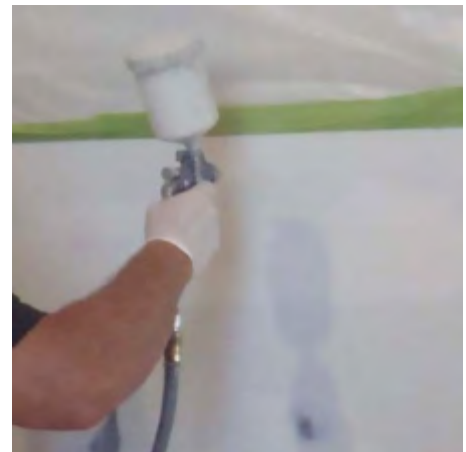
1. Use a marker to highlight all cracks.
2. Remove any decals or body graphics in the repair area.
3. Use a die grinder with a rotary file bit to open and roughen the edges and remove any loose debris.
4. Sand 1–2" beyond the perimeter of the repair area.
5. Inspect the damage for cracks in substructure. If there is damage to the substructure, proceed to the *Minor Repair* section.
6. Mask off or cover areas to avoid overspray.
7. Thoroughly clean the area with alcohol or acetone.
8. Mix gelcoat and hardener in container and thin with acetone to make a mixture that can be applied with a sprayer. Tint to OEM color.
9. Spray a thick layer of gelcoat over the repair area, feathering out toward edges.
10. Allow gelcoat to dry.
11. Thoroughly clean area with acetone.
12. Sand with 120-grit sandpaper until flush with surface.
13. Check for low spots and holes. Apply more gelcoat feathering out toward the edges and sand with 120-grit sandpaper. Repeat as necessary.
14. Allow to dry.
15. Sand with 120–240-grit, **wet** sandpaper.
16. Use a buffer and rubbing compound to smooth the surface.
17. Use a buffer with wax, polishing, or glazing compound to blend the area.



*Mark cracks*



*Use a die grinder to clean out gelcoat*



*Spraying on gelcoat*



*Buffing the gelcoat*

## Minor Composite Repair



**WARNING:** Use the proper protective equipment (rubber gloves, mask) appropriate to the process.



**WARNING:** Adequate ventilation is required when working in a confined area with fiberglass and fiberglass-related repairs.



**CAUTION:** Utilimaster recommends that body panel repairs be done by an experienced body shop or at Utilimaster's Customer Service Department in Wakarusa, Indiana. Contact Utilimaster Customer Service Department for further assistance.



**CAUTION:** Read and understand ALL product instructions and safety procedures. The effectiveness of the repair can be compromised by environmental conditions and poor application. Product application and safety instructions provided by the manufacturers always supersede information provided by Utilimaster.

Minor repair is necessary with damage that penetrates the composite (glass-reinforced) substructure that does NOT go through to the other side *OR* holes no larger than a golf ball.

1. Remove any decals or body graphics in the repair area.
2. Use a grinder to remove the damaged material. Grind area to form a V-shape to allow the fiberglass to be feathered into the panel.

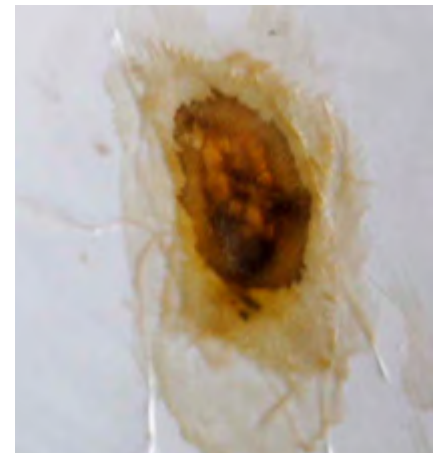
**NOTE:** For cracks, drill a hole at each end to prevent the crack from growing.

3. Vacuum area to remove debris.
4. Clean area with alcohol.
5. Mask off or cover areas to protect from dripping resin.
6. Repair area with resin and fiberglass matting.
7. Allow the resin to dry.
8. Sand with 80–120-grit sandpaper.
9. Add more resin and matting as necessary and allow to dry.
10. Sand with 120–240-grit, **wet** sandpaper.
11. Repair gelcoat.

[See Repair Gelcoat.](#)



*Grind damaged section.*



*Resin and fiberglass matting*

## Major Composite Repair



**WARNING:** Use the proper protective equipment (rubber gloves, mask) appropriate to the process.



**WARNING:** Adequate ventilation is required when working in a confined area with fiberglass and fiberglass-related repairs.



**CAUTION:** Utilimaster recommends that floor repairs be done by an experienced body shop or at Utilimaster's Customer Service Department in Wakarusa, Indiana. Contact Utilimaster Customer Service Department for further assistance.



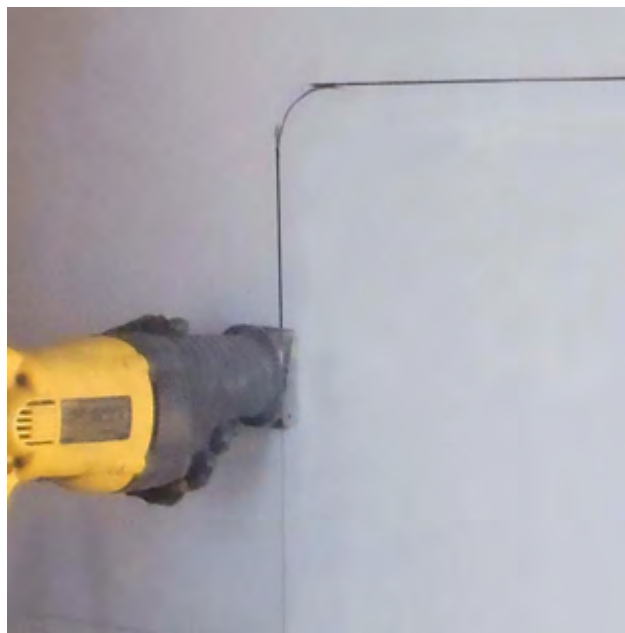
**CAUTION:** Read and understand ALL product instructions and safety procedures. The effectiveness of the repair can be compromised by environmental conditions and poor application. Product application and safety instructions provided by the manufacturers always supersede information provided by Utilimaster.



**CAUTION:** When cutting repair area, ensure that there are no components underneath the vehicle that can be damaged during the process.

Major repair is necessary when damage to the composite (glass-reinforced) substructure is larger than a golf ball.

1. Remove any decals or body graphics in the repair area.
2. Remove anything mounted inside the vehicle that would be affected by the repair process.
3. Measure the damaged area and use a straight edge and square to cut out a replacement plug from a new panel. The plug should be at least 1" larger than the damaged area on all sides.
4. Place the plug over the area to be removed and trace the perimeter.
5. Use a saw or die grinder to cut out the damaged area.
6. Test fit plug and modify as necessary. Replacement plug should NOT have any more than 1/16" gap on any side when test fitting the plug.
7. Use a rotary file or grinder to smooth the edges of the hole.
8. Sand with 80–120-grit sandpaper.



*Cut out damaged area*



9. Bevel all the edges of the hole and plug.
10. Use 120-grit sandpaper to sand 1–2" past the edges of the opening and plug.



**CAUTION:** Do NOT get resin on the clamps or mounting fixtures.

11. Center plug in the opening and secure with clamps or fasteners.

*NOTE: The plug can be held in place with wood blocks and screws that can be removed after the first resin application.*

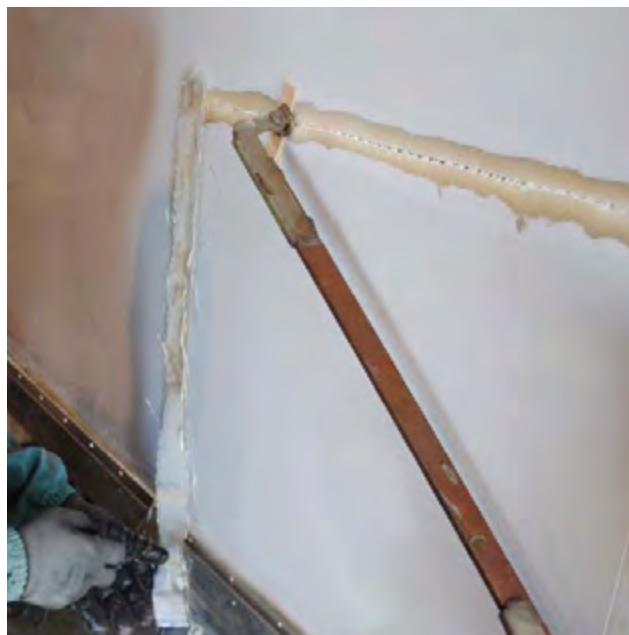
12. Remove plug and set aside.
13. Mask off or cover areas to avoid dripping resin.
14. Clean the repair area with alcohol.



**CAUTION:** The replacement panel needs to be mounted flat and flush with the body surface.

15. Coat all four sides of the plug and the hole with resin, place in the opening, and secure with clamps.
16. Center the plug in the opening and secure with clamps or fasteners.
17. Bond the perimeter of the plug to the body with resin and fiberglass matting.
18. Allow resin to dry.
19. Remove temporary support, and apply resin to gaps, low spots, and holes.
20. Allow to dry.
21. Sand with 80–120-grit sandpaper.
22. Add more resin and matting, and repeat sanding until surfaces are smooth.
23. Sand with 120–240-grit, **wet** sandpaper.
24. Repair gelcoat.

[See Repair Gelcoat.](#)



*Bond plug in place with resin and matting.*

## Bumpers

### Front Fascia



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

#### Removal

1. Open hood.

[See Open Hood.](#)

2. Remove grille.

[See Remove Grille.](#)

3. Remove two M6 screws in headlight bezel.
4. Remove two M4 screws in headlight bezel and set bezel aside.
5. Remove two M6 screws in top center of fascia.



*Screw locations on top of fascia*

6. Remove four M6 screws from underside of fascia.



*Screw locations on underside of fascia*

7. Unplug turn lights.
8. Remove two M6 nuts and bolts from the bracket under headlight.



*Turn light*



*Bracket under headlight*



9. Remove two M6 nuts from steel bumper bracket.



*Steel bumper brackets*

10. Repeat on opposite side.
11. Set bumper fascia aside.

## Installation



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure steel bumper brackets to M6 bolts that are attached to the fascia.
2. Plug in turn lights.
3. Secure fascia bracket under headlight with two M6 bolts and nuts.



*Turn light*



*Bracket under headlight*

4. Secure underside of fascia with four M6 screws.
5. Torque to 7–8 ft•lbs.



*Screw locations on underside of fascia*

6. Secure top of fascia with two M6 screws.
7. Torque to 7–8 ft•lbs.



*Screw locations on top of fascia*

8. Secure headlight bezel with two M6 screws.
9. Torque to 7–8 ft•lbs.
10. Secure headlight bezel with two M4 screws.
11. Install grille.  
[See Install Grille.](#)
12. Secure prop rod into rest position and close hood.

## Rear Bumper

### Shock Absorbers



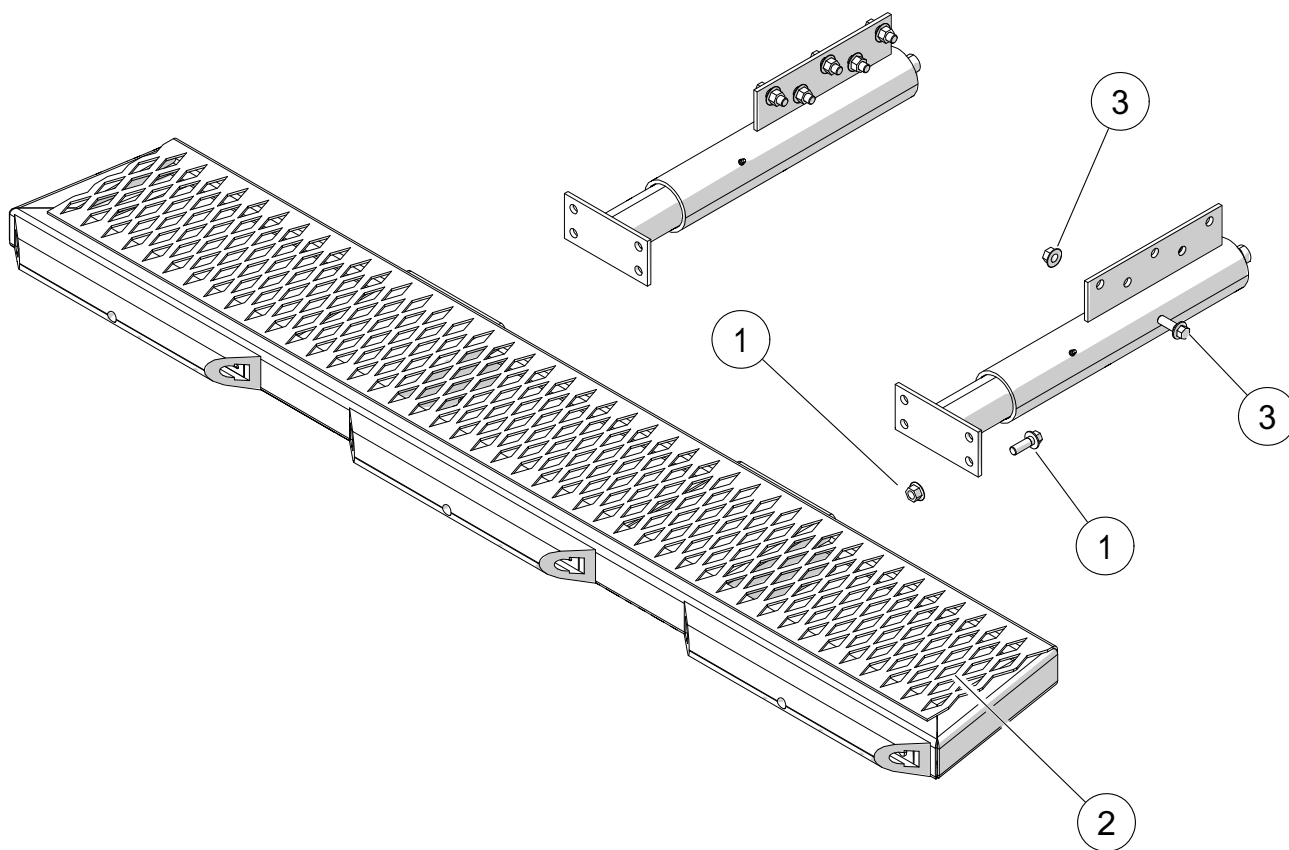
**WARNING:** Always support the bumper to keep it from falling.



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove eight M12 hex-head bolts and nuts from shock absorbers.
2. Set step bumper aside.
3. Remove hex-head bolts and nuts in frame extension(s) and remove shock absorber(s).



## Shock Absorbers



**WARNING:** Always support the bumper to keep it from falling.

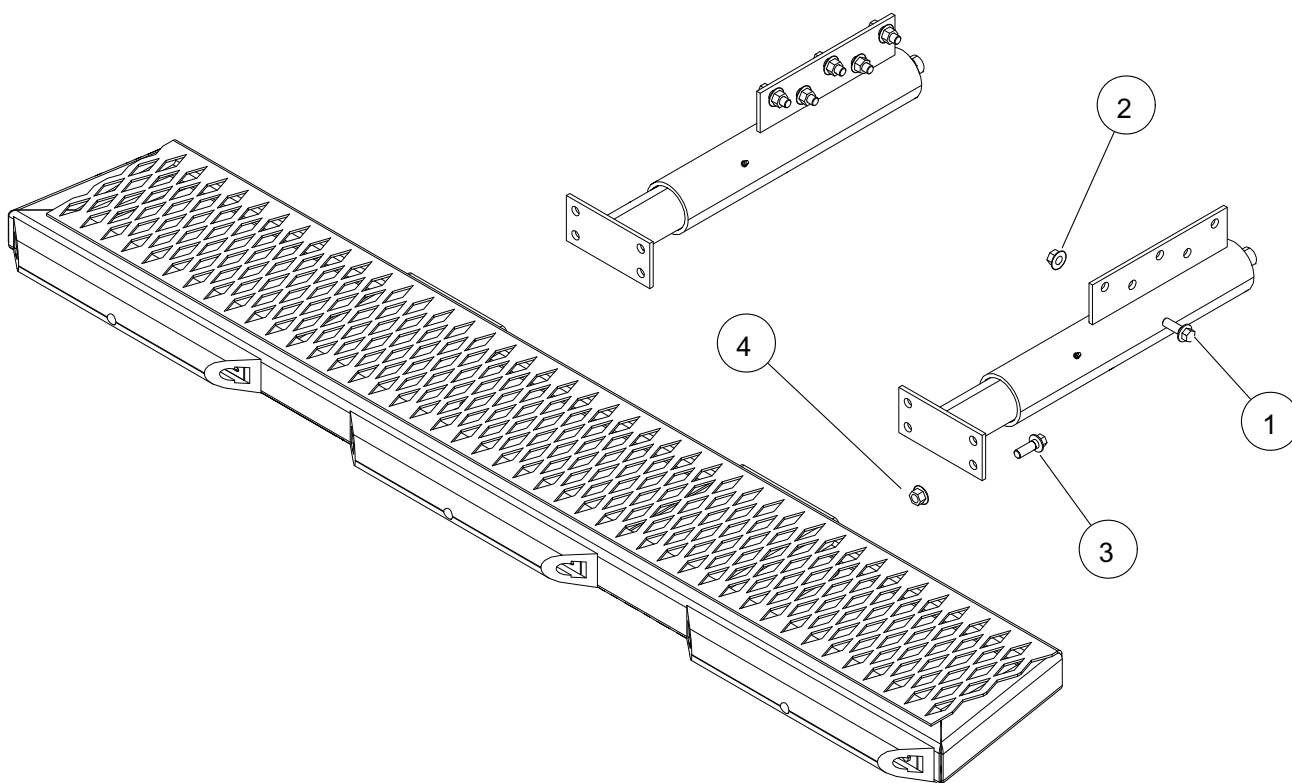


**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

## Installation

1. Secure shock absorber(s) to frame extension(s) with M12 hex-head bolts and nuts.
2. Torque nuts to 60–71 ft•lbs.
3. Secure rear step bumper to each shock absorber(s) with four M12 hex-head bolts and nuts.
4. Torque nuts to 60–71 ft•lbs.

[See Bumper Maintenance.](#)



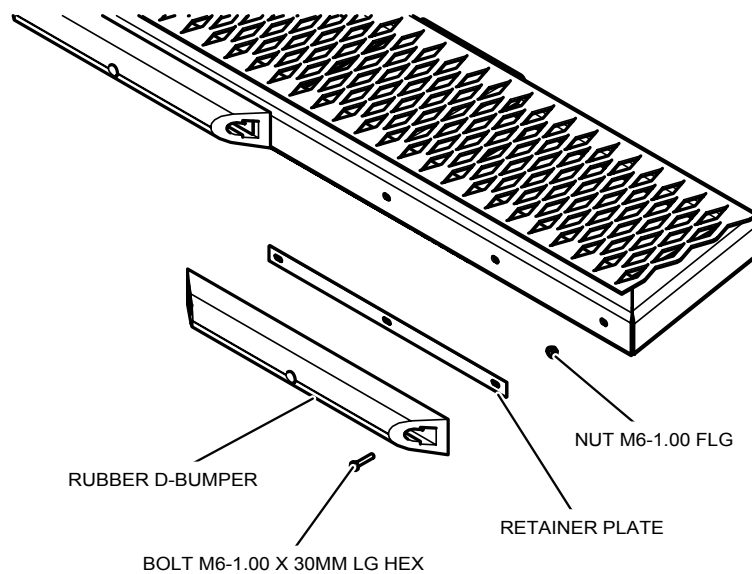
## D-Bumper



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove M6 bolts and nuts from D-bumper through access holes.
2. Set D-bumper and retainer plate aside.



### Installation

1. Insert retainer plate into D-bumper.
2. Secure D-bumper with M6 bolts and nuts.
3. Torque nuts to 7–8 ft•lbs.

## Side Dock Bumpers



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

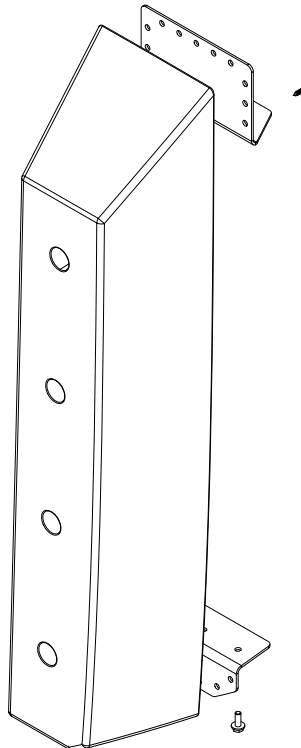
### Removal

1. Remove lower post cladding.  
[See Remove Lower Post Cladding.](#)
2. Remove M6 hex-head screws from top and bottom brackets.
3. Remove #8 x 5/8" screws from brackets.
4. Set dock bumper aside.

### Installation

1. Secure brackets to side dock bumpers with #8 x 5/8" screws.
2. Secure M6 hex-head screws in top and bottom brackets.
3. Install lower post cladding.

[See Install Lower Post Cladding.](#)



## Cladding

### Front Fender



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

#### Removal

1. Remove three screws in wheel liner.
2. Remove M6 nut from stud that is attached to the fender. The nut is located inside the engine compartment.
3. Remove two M6 nuts from studs that are attached to fender. These nuts are located above the wheel liner.
4. Remove two M6 screws from cladding at front door post.
5. Lift cladding out of channel and set aside.



*Screw locations in wheel liner*

#### Installation

1. Set cladding onto channel.
2. Secure cladding at front door post with two M6 screws.
3. Secure cladding above wheel liner with two M6 nuts.
4. Secure cladding inside engine compartment with one M6 nut.
5. Torque to 7–8 ft•lbs.
6. Secure wheel liner with three screws.



*Nut location inside engine compartment*



*Nut locations above wheel liner*



*Screw locations in doorway*



## Rear

There are five pieces to the rear cladding; two lower pieces on either side of the door around the dock bumpers, two upper pieces on either side of the door above the lower pieces, and the header above the door. Each process describes the removal and installation of only one piece. Repeat the process on the opposite side if necessary.



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Lower Post Removal

*NOTE: The dock bumpers do NOT need to be removed to replace the lower post cladding.*

*NOTE: If not removing header, remove bottom two M6 screws in upper post cladding.*

1. Remove five M6 screws in lower post cladding.
2. Remove rear turn light and brake light from lower post cladding.  
[See Remove Grommet Mounted Light.](#)
3. Slide lower post cladding from underneath upper post cladding and set aside.

### Lower Post Installation

1. Install rear turn light and brake light in lower post cladding.  
[See Install Grommet Mounted Light.](#)
2. Secure lower post cladding with five M6 screws.
3. Torque to 7–8 ft•lbs.



Upper post cladding screw



Lower post cladding



## Upper Post Removal



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

This process describes the removal and installation of the header and one side of the upper post cladding. Repeat the process on the opposite side if necessary.

1. Remove six M6 screws from bottom of header.
2. Remove 12 Allen head screws from top of header.
3. Remove header and lay on top of roof.



*Header cladding*

4. Disconnect wires to clearance lights.
5. Disconnect camera cable.
6. Remove seven M6 screws in upper post cladding and set aside.

## Upper Post Installation

1. Secure upper post cladding with seven M6 screws.
2. Torque to 7–8 ft•lbs.
3. Set header on roof.
4. Connect cable to camera.
5. Connect wires to clearance lights.
6. Secure bottom of header with six M6 screws.
7. Torque to 7–8 ft•lbs.
8. Secure top of header with 12 Allen head screws.



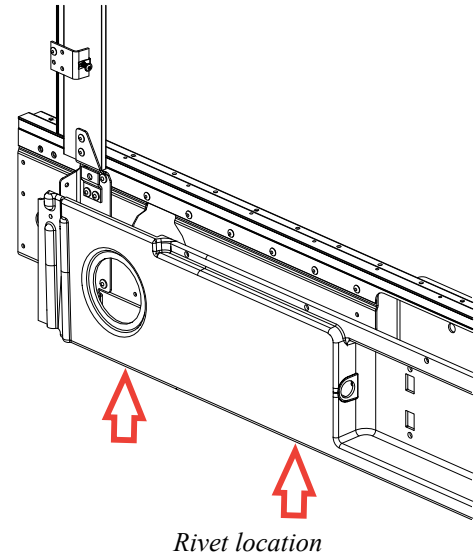
*Upper post cladding*



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Kickplate Removal

1. Remove lower post cladding  
[See Remove Lower Post Cladding.](#)
2. Unplug taillights.
3. Remove 12 rivets from the rear threshold and set threshold aside.  
[See Remove Blind Rivet.](#)
4. Remove seven rivets from the bottom lip of the kickplate cladding.  
[See Remove Blind Rivet.](#)
5. Remove two M6 screws at the top corners of the kickplate cladding.
6. Set kickplate cladding aside.



*Screw location on kickplate cladding*

### Kickplate Installation

1. Secure kickplate cladding at the top corners with M6 screws.
2. Torque to 7–8 ft•lbs.
3. Secure kickplate cladding at the bottom lip with seven rivets.  
[See Install Blind Rivet.](#)
4. Secure rear threshold with 12 rivets.  
[See Install Blind Rivet.](#)
5. Plug in taillights.
6. Install lower post cladding.  
[See Install Lower Post Cladding.](#)

## Sidewall

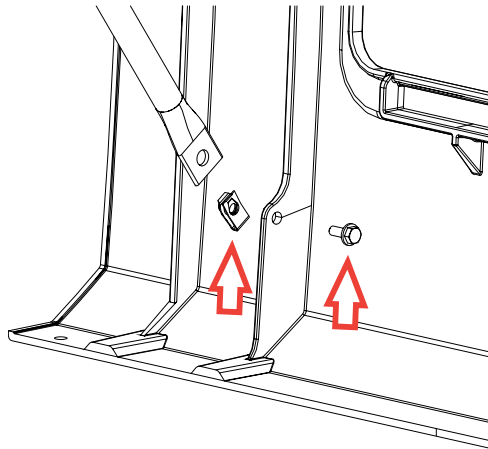


**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

*NOTE: The rear fender cladding must be removed prior to removing the sidewall cladding.*

1. Remove M6 bolts at the U-nuts from braces located underneath the vehicle.



*Bolt and U-nut on cladding brace*

2. Remove M6 screws from cladding.



*Sidewall cladding*



3. Lift cladding out of channel and set aside.



*Cladding channel*

**Installation**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Set cladding onto channel.
2. Secure cladding with M6 screws.
3. Torque to 7–8 ft•lbs.

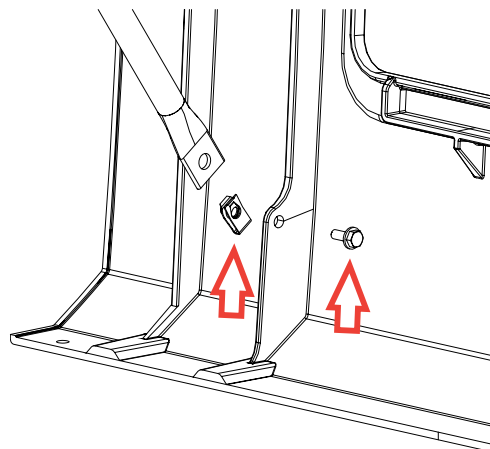


*Cladding channel*

4. Secure braces to cladding with M6 bolts.
5. Torque to 7–8 ft•lbs.

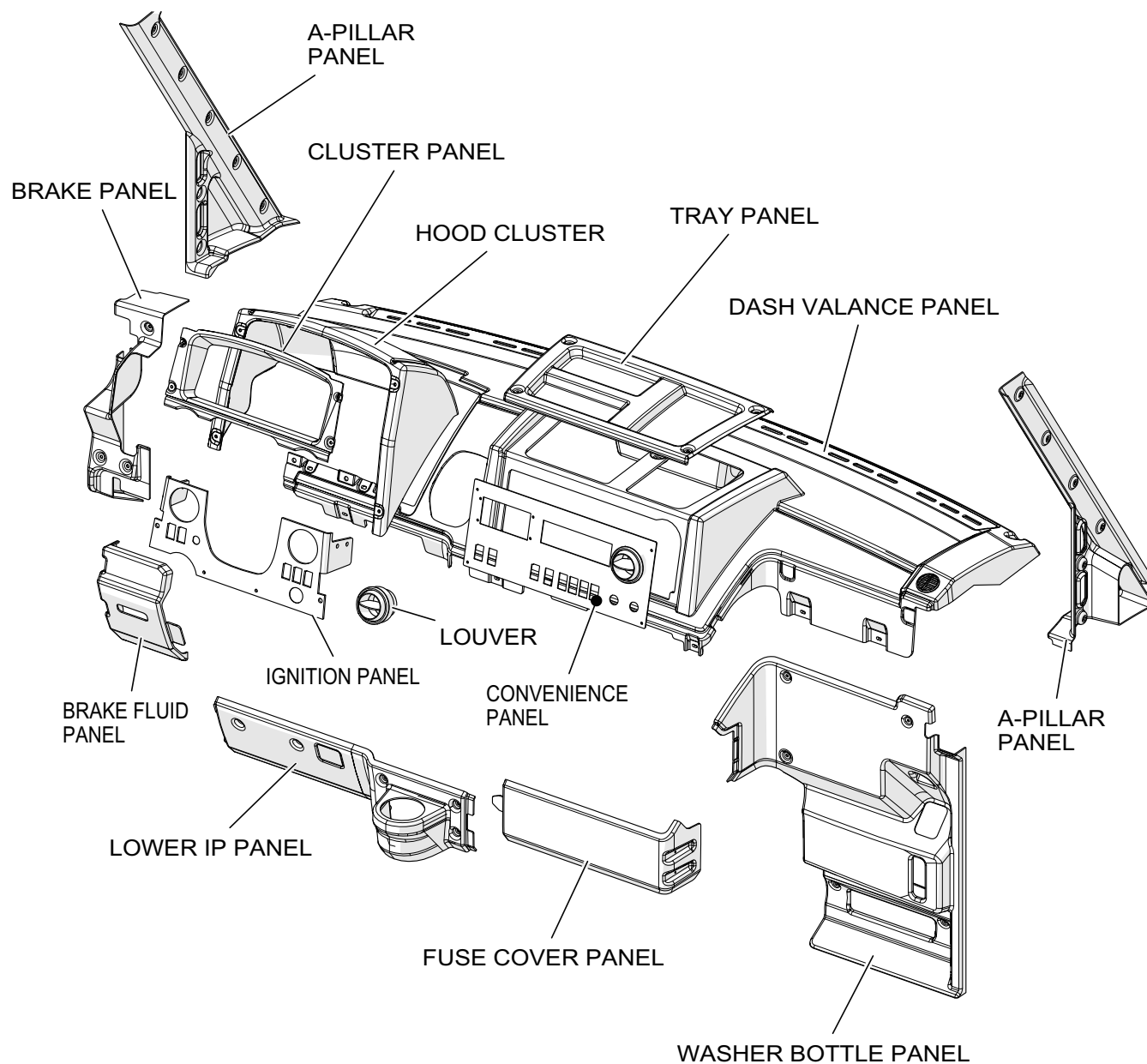


*Sidewall cladding*



*Bolt and U-nut on cladding brace*

## Dash Panels



## A-Pillar



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

**NOTE:** On driver's side, remove four M6 screws from A-pillar grab handle prior to removing A-pillar.

[See Remove A-Pillar Grab Handle.](#)

1. Remove seven M6 scrivets from A-pillar.

[See Remove Scrivet.](#)

2. Set A-pillar aside.

### Installation

1. Secure A-pillar with seven M6 scrivets.

[See Install Scrivet.](#)

**NOTE:** On driver's side, secure grab handle to A-pillar with four M6 screws and torque to 7–8 ft •lbs.

[See Remove A-Pillar Grab Handle.](#)



A-pillar

## Brake Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove three #8 Phillips head screws from brake panel.
2. Remove brake panel and set aside.

### Installation

1. Secure brake panel to dash with three #8 Phillips head screws.
2. Torque to 23–27 in•lbs.



Brake panel



## Cluster Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove hood cluster panel.  
[See Remove Hood Cluster Panel.](#)
2. Remove four M6 screws from cluster panel and set panel aside.

### Installation

1. Secure cluster panel to dash with four M6 screws.
2. Torque to 7–8 ft•lbs.
3. Install hood cluster panel.

[See Install Hood Cluster Panel.](#)



*Cluster panel*

## Dash Valance Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal



*Dash valance panel*

1. Remove A-pillars.  
[See Remove A-Pillars.](#)
2. Remove handrail and washer bottle cover.  
[See Remove Handrail.](#)
3. Remove eight #8 Phillips head screw from lower IP panel.

4. Remove brake fluid panel from dash by turning thumb screws counterclockwise.
5. Remove brake panel.  
[See Remove Brake Panel.](#)
6. Remove hood cluster panel.  
[See Remove Hood Cluster Panel.](#)
7. Remove cluster panel.  
[See Remove Cluster Panel.](#)
8. Remove tray panel.  
[See Remove Tray Panel.](#)
9. Remove dash vent by lifting with a flat blade screwdriver and pulling spring clip out to one side.
10. Remove stereo.

[See Remove Stereo.](#)

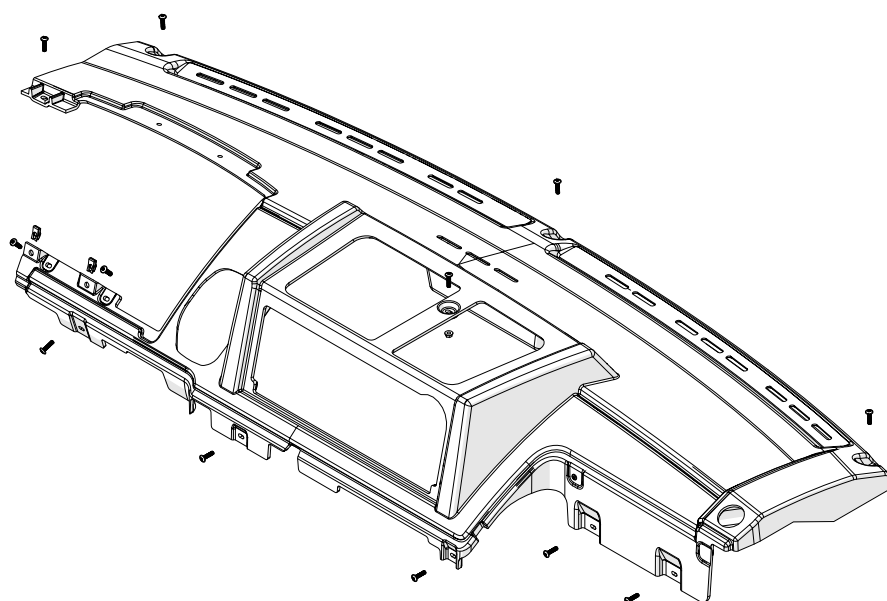
11. Disconnect wiring harness to heater controls.
12. Disconnect wiring harness to switches.
13. Disconnect wiring harness to 12V outlet.
14. Remove air louver by holding the front of the louver and turning the back counterclockwise.
15. Remove four #8 Phillips head screws from the convenience panel.
16. Remove M6 screw and nut from center of dash valance panel.
17. Remove eleven M6 screws from the panel.
18. Remove panel and set aside.



*Dash vent*



*Air louver*

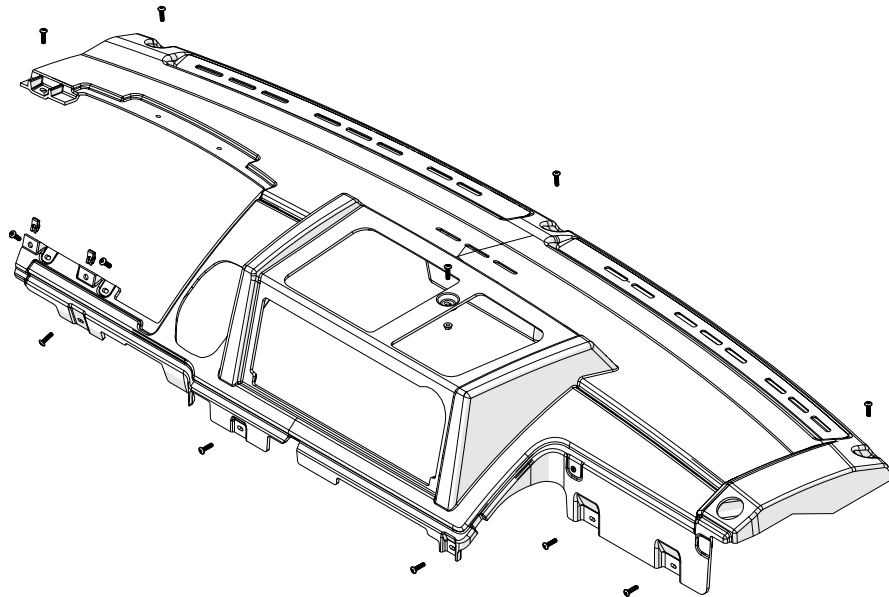


*Screw locations*



**Installation**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.



*Screw locations*

1. Secure panel with M6 nut and screw in the center of dash valance panel.
2. Secure panel with eleven M6 screws.
3. Torque to 15–25 in•lbs.
4. Secure convenience panel to dash with four #8 Phillips head screws.
5. Torque to 23–27 in•lbs.
6. Secure air louver by holding the front of the louver and turning the back clockwise.
7. Connect wiring harness to switches.
8. Connect wiring harness to heater controls.
9. Connect wiring harness to 12V outlet.
10. Install stereo.  
[See Install Stereo.](#)
11. Secure dash vent by pushing in spring clip with a flat blade screwdriver.
12. Install tray panel.  
[See Install Tray Panel.](#)
13. Install cluster panel.  
[See Install Cluster Panel.](#)



*Air louver*



*Dash vent*



*Dash valance panel*

14. Install cluster hood panel.

See *Install Cluster Hood Panel.*

15. Install brake panel.

See Install Brake Panel.

16. Secure brake fluid panel with two thumb screws.

17. Secure lower IP panel with eight #8 Phillips head screws.

18. Torque to 23–27 in•lbs.

19. Install handrail and washer bottle panel.

See *Install Handrail*.

20. Install A-pillars.

See *Install A-Pillars*.

## Fuse Access

The fuse panels are mounted below the convenience panel behind the dash fascia. The fuse panel on the left is for the Utilimaster body features, and the panel on the right is for the chassis functions.



### Fuse panels

TYPE 1 (C100) BREAKERS	F12	HVAC A/C	F8	ROOF ACCY SW	F4	EMPTY
	20A		F7	POWER SEAT	15A	PWR WDO
	F11	HVAC MAIN	F6	O/H ACCY SW	F2	EMPTY
	F10	WIPERS	15A		F1	EMPTY
	30A*		F5	B/U MON-RADIO		
F9	EMPTY	10A				

*Standard fuse label*

TYPE C (SEAT) INDICATOR	F12	F11	HVAC A/C
	20A	20A	HVAC MAIN
	30A*	F10	WIPERS
		F9	EMPTY
FAN INDICATOR	F8	F7	EMPTY
	15A	F6	POWER SEAT
		F5	EMPTY
		F4	B/U MON-RADIO
		F3	
TYPE A (SEAT) INDICATOR	F4	F3	KYLS SYS
	15A	F2	EMPTY
		F1	EMPTY

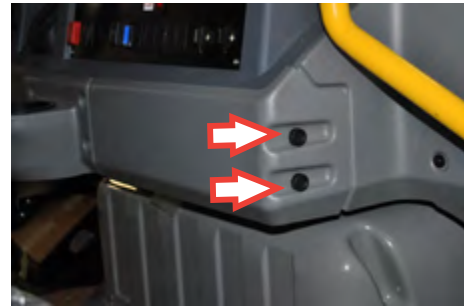
*TT keyless fuse label*

**Removal**

1. Remove fuse cover panel from dash by turning two thumb screws counterclockwise.

**Installation**

1. Install fuse cover panel to dash with two thumb screws.



*Location of thumb screws*

**Hood Cluster Panel**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

**Removal**

1. Remove six screws from hood cluster panel.
2. Remove panel and set aside.

**Installation**

1. Secure hood cluster panel to dash with six M6 screws.
2. Torque to 7–8 ft•lbs



*Hood cluster panel*

## Overhead Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove M4 screws from visors.
2. Remove rear vision monitor.  
[See Remove Rear Vision Monitor.](#)
3. Remove eight #8 Phillips head screws from speakers.
4. Disconnect wiring harnesses from speakers and set aside.
5. Remove scrivets from trim panel above both doors and overhead panel.  
[See Remove Scrivet.](#)
6. Set trim panels and overhead panel aside.

### Installation



*Overhead panel*



*Trim panel*

1. Secure trim panel above both doors and overhead panel with scrivets.  
[See Install Scrivet.](#)
2. Connect wiring harnesses to speakers.
3. Secure speakers to panel with eight #8 Phillips head screws.
4. Torque to 23–27 in•lbs.
5. Install rear vision monitor.  
[See Install Rear Vision Monitor.](#)
6. Secure visors with M4 screws.

## Tray Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove four M6 screws from tray panel.
2. Remove panel and set aside.

### Installation

1. Secure tray panel to dash with four M6 screws.
2. Torque to 7–8 ft•lbs.



*Tray panel*

## Washer Bottle Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove fire extinguisher.  
[See Remove Fire Extinguisher.](#)
2. Remove fuse cover panel.  
[See Remove Fuse Cover Panel.](#)
3. Remove five #8 Phillips head screws and washers from washer panel.
4. Remove one M6 screw from panel.
5. Remove panel and set aside.

### Installation

1. Secure washer panel to dash with one M6 screw.
2. Torque to 7–8 ft•lbs.
3. Secure panel to dash with five washers #8 Phillips head screws.
4. Torque to 23–27 in•lbs.
5. Install fuse cover panel.  
[See Install Fuse Cover Panel.](#)
6. Install fire extinguisher.  
[See Install Fire Extinguisher.](#)



*Washer bottle panel*

## Door Ajar Switch

Door ajar switches can be located at any of the doors. This type of switch indicates when a door is open.

### Removal

*NOTE: Keep all hardware for reinstallation.*

1. Use a Phillips head screwdriver to loosen the two screws to remove wires.
2. Use a Phillips head screwdriver to remove the two screws and lock nuts from switch.
3. Remove switch from mounting bracket and set aside.

### Installation

1. Use a Phillips head screwdriver to secure switch onto mounting bracket with two screws and two lock nuts.
2. Place wires on screws and tighten with a Phillips head screwdriver.



*Door ajar switch*

## Doors, Bulkhead



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

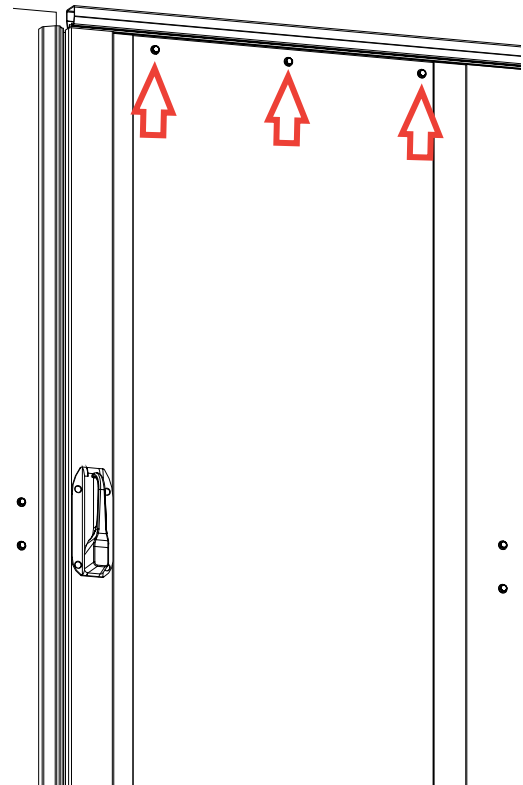
1. Slide door to closed position.
2. Remove three M6 bolts in door roller assembly.
3. Lift door out of floor track toward passenger's side.
4. Set door aside.

### Installation

1. Slide door into floor track toward driver's side first.
2. Secure door into roller assembly with three M6 bolts.
3. Torque bolts to 7–8 ft•lbs.
4. Adjust if necessary.

### Catch Adjustment

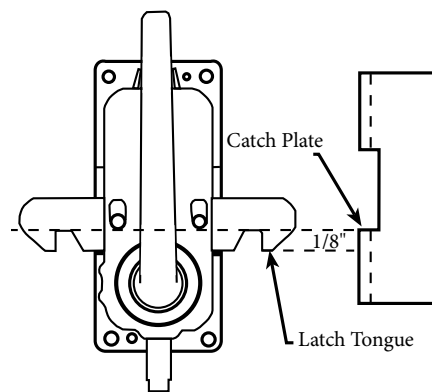
1. Loosen two M6 nuts on catch.
2. Slide door into closed position.
3. Align catch with latch on door.
4. Cycle door to ensure that it seals properly and latch engages catch.
5. Adjust again if necessary.
6. Torque to 7–8 ft•lbs.



Door roller assembly bolt locations



Bulkhead door catch



Check latch and catch alignment



## Antenna, Bulkhead TT Keyless



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

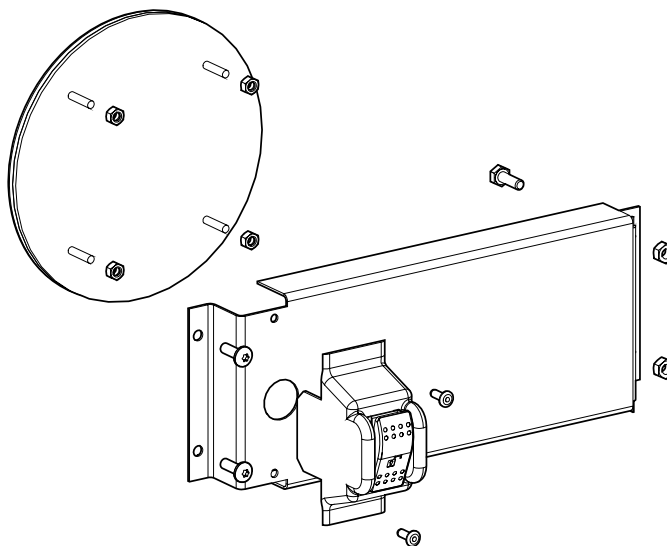
### Removal

1. Remove two rivets from the bulkhead door switch.  
[See Remove Blind Rivet.](#)
2. Remove wires from switch and set aside.
3. Remove two 1/4-20 Torx® screws from the antenna cover.
4. Remove two 1/4-20 nuts and bolts from the bulkhead wall and antenna cover and set aside.
5. Disconnect harness from antenna.
6. Remove four 10-24 locknuts from the antenna and set aside.

### Installation

1. Secure antenna with four 10-24 locknuts.
2. Connect harness to antenna.
3. Secure antenna cover to bulkhead wall with two 1/4-20 nuts and bolts.
4. Secure antenna cover with two 1/4-20 screws.
5. Secure wires to bulkhead door switch.
6. Secure switch with two rivets.

[See Install Blind Rivet.](#)



*Bulkhead door antenna*



## Guide, Door



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove bulkhead door.  
[See Remove Bulkhead Door.](#)
2. Use a Torx® bit to remove 11 screws and set aside.

### Installation

1. Use a Torx® bit to install guide with 11 screws.
2. Torque to 7–8 ft•lbs.
3. Install bulkhead door.

[See Install Bulkhead Door.](#)

### Seals

#### Removal

1. Open door.
2. Use a small flat blade screwdriver to lift and pull out seal from channel.
3. Discard seal.

#### Installation

1. Check jamb for any residual tape. Clean with isopropyl alcohol if necessary.
2. Dry fit seal to jamb and trim if necessary.
3. Remove paper backing from seal and install into jamb.
4. Cycle door open and closed to ensure seal is adhered to jamb.



*Bulkhead door guide*



*Bulkhead door seal*

## Doors, Cab Slider

*NOTE: The cab door handle and locking options vary. Some of the most common types are described here.*

To **open the locked door** from **outside the cab**, insert the key and turn clockwise 1/4 turn until lock pops out, then turn key back counter-clockwise 1/4 turn and remove the key. Push on the paddle latch towards the rear of the vehicle to slide the door open. The door will latch again in the fully open position.

To **open** the door from **inside the cab**, push the top of the handle toward the rear of the vehicle. The handle unlatches the door so the door can slide toward the back of the vehicle. The door latches again in the open position.

*NOTE: The door handles do NOT automatically unlock when the door is opened.*

To **close** the door from inside or outside, push the top of the handle toward the front of the vehicle and slide the door until the latch catches.

To **lock** the doors from the **inside**, push the lever below the interior handle up.

To **unlock** the door, pull down on the lever.

*NOTE: When the interior lock is engaged, the key cannot open the lock from the outside.*

To **lock** the door from the **outside**, insert the key and turn clockwise and push in the lock button on the exterior handle.

*NOTE: With this type of push-button lock, be careful NOT to leave the keys inside the vehicle and lock yourself out.*



*Exterior side door handle with push button lock*



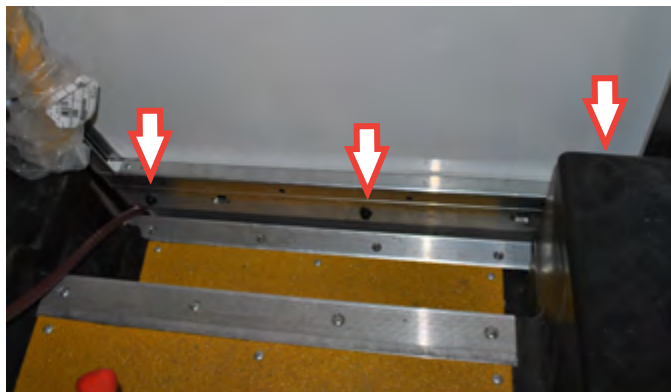
*Interior side door handle and lock*

## Adjustment



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Loosen three M10 bolts in guide.
2. Adjust guide up to prevent the door from rattling or down if the door is too tight.
3. Cycle door open and closed.
4. Adjust again if necessary.
5. Torque bolts to 34–40 ft•lbs.



*Screw locations in guide*

## Removal



**CAUTION:** Use care when removing door to avoid damaging the paint.

*NOTE: In order to remove driver's side door, the driver's side mirror must be removed.*

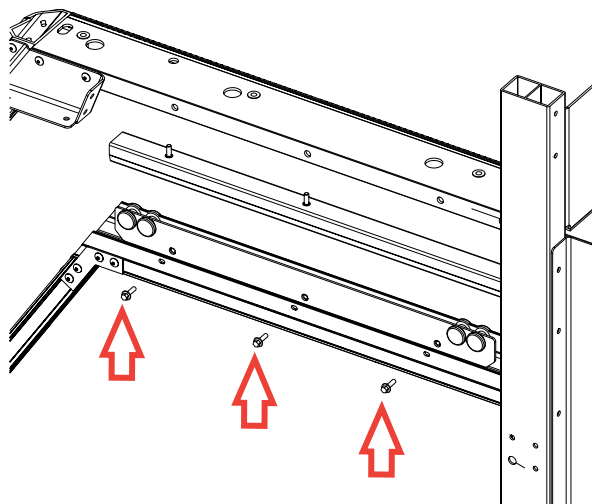
[See Remove Driver's Side Mirror.](#)

1. Remove guide.  
[See Remove Guide.](#)
2. Remove three M6 scrivets from trim panel above door.  
[See Remove Scrivet.](#)
3. Set trim panel aside.



*Scrivet location on trim panel*

4. Remove ten M6 bolts in B-pillar.
5. Set B-pillar aside.
6. Remove three M6 bolts from roller assembly at top of door.



*Roller assembly screw locations*



*B-pillar*

7. Lift door from front and pull out towards A-pillar.
8. Set door aside.

## Installation

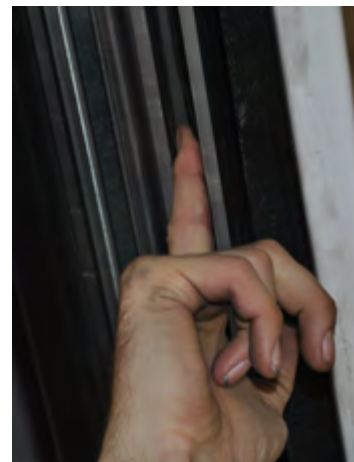


**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.



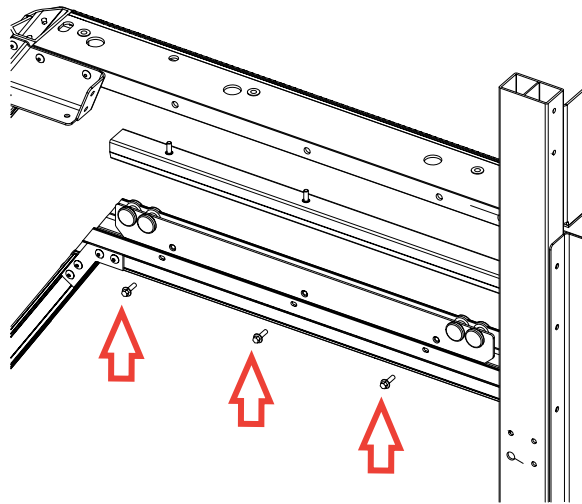
**CAUTION:** Use care when installing door to avoid damaging the paint.

1. Install door at B-pillar first. Ensure that groove on the door is inserted between the upper V-seals.



*Upper V-seals*

2. Secure roller assembly at top of door with three M6 bolts.
3. Torque to 7–8 ft•lbs.



*Roller assembly screw locations*

4. Secure B-pillar with ten M6 bolts.
5. Torque to 7–8 ft•lbs.
6. Secure trim panel above door with three M6 scrivenets.

[See Install Scrivet.](#)



*Scrivet location on trim panel*

7. Install guide.
8. Install driver's side mirror.

[See Install Guide.](#)

[See Install Driver's Side Mirror.](#)



*B-pillar*

## Antenna, Cab Door TT Keyless



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

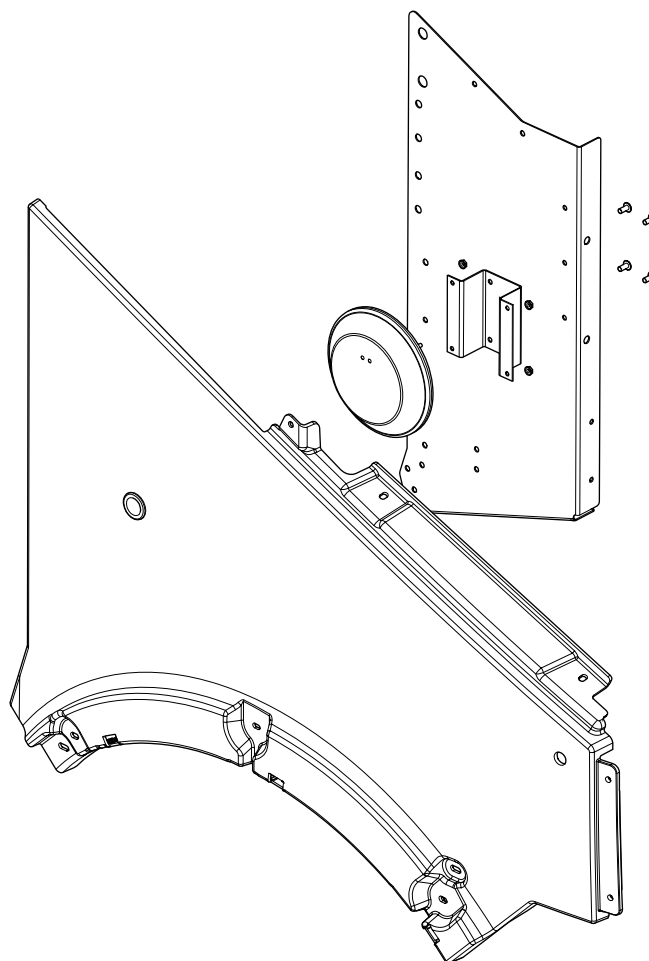
### Removal

1. Remove the front quarter fender.  
[See Remove Front Quarter Fender.](#)
2. Disconnect wire harness.
3. Remove four 10-24 locknuts from antenna and set aside.

### Installation

1. Secure antenna with four 10-24 locknuts.
2. Connect wire harness.
3. Install the front quarter fender.

[See Install Front Quarter Fender.](#)



*Sliding door antenna*

## Catch, Front Standard

### Adjustment



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: If driver's side, remove brake panel.*

[See Remove Brake Panel.](#)

*NOTE: If passenger's side, remove washer bottle panel.*

[See Remove Washer Bottle Panel.](#)

1. Remove two M6 bolts on catch.
2. Close door.
3. Align catch with latch on door.
4. Cycle door to ensure that it seals properly and latch engages catch.
5. Adjust again if necessary.
6. Torque to 7–8 ft•lbs.

*NOTE: If driver's side, install brake panel.*

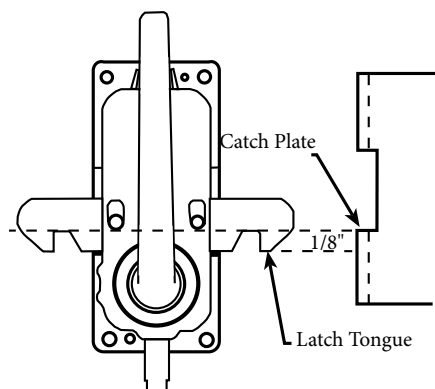
[See Install Brake Panel.](#)

*NOTE: If passenger's side, install washer bottle panel.*

[See Install Washer Bottle Panel.](#)



Catch bolt locations



Check latch and catch alignment



**Removal**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.



**CAUTION:** If crimp is broken on nutsert and bolt will not loosen or tighten, please contact Utilimaster for assistance.

*NOTE: If driver's side, remove brake panel.*

[See Remove Brake Panel.](#)

*NOTE: If passenger's side, remove washer bottle panel.*

[See Remove Washer Bottle Panel.](#)

1. Remove two M6 bolts on catch.
2. Set catch aside.



*Catch bolt locations*

**Installation**

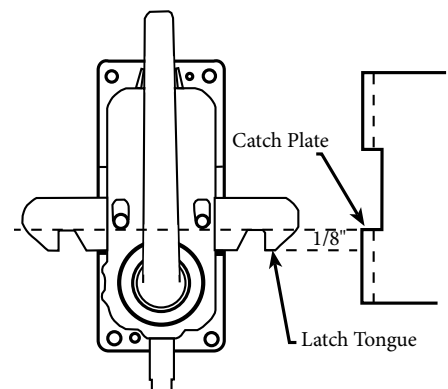
1. Secure catch with two M6 bolts.
2. Adjust catch if necessary.
3. Torque to 7–8 ft•lbs.

*NOTE: If driver's side, install brake panel.*

[See Install Brake Panel.](#)

*NOTE: If passenger's side, install washer bottle panel.*

[See Install Washer Bottle Panel.](#)



*Check latch and catch alignment*



## Catch, Front Keyless

### Adjustment



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: If driver's side, remove brake panel.*

[See Remove Brake Panel.](#)

*NOTE: If passenger's side, remove washer bottle panel.*

[See Remove Washer Bottle Panel.](#)

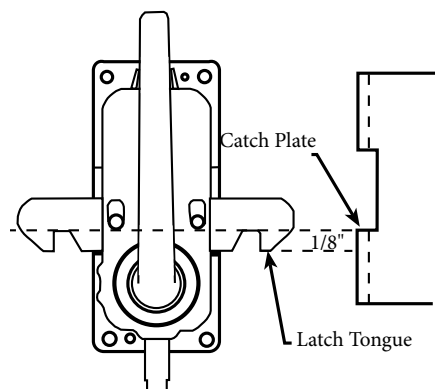
1. Remove two M6 bolts on catch.
2. Close door.
3. Align catch with latch on door.
4. Cycle door to ensure that it seals properly and latch engages catch.
5. Adjust again if necessary.
6. Torque to 7–8 ft•lbs.

*NOTE: If driver's side, install brake panel.*

[See Install Brake Panel.](#)

*NOTE: If passenger's side, install washer bottle panel.*

[See Install Washer Bottle Panel.](#)



*Check latch and catch alignment*

**Removal**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: If driver's side, remove brake panel.*

[See Remove Brake Panel.](#)

*NOTE: If passenger's side, remove washer bottle panel.*

[See Remove Washer Bottle Panel.](#)

1. Disconnect wire harness.



*Wire harness*

2. Remove M6 screw from ground wire and remove ground wire.



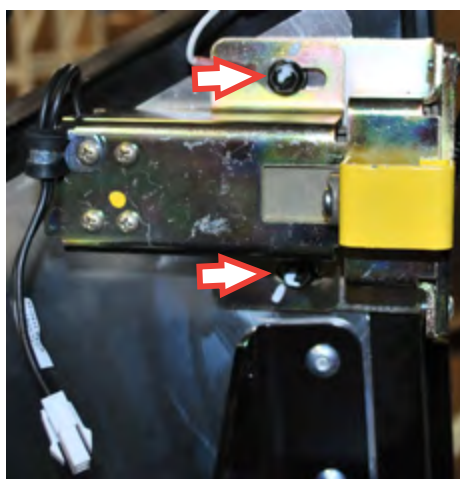
*Ground wire*

3. Remove 10-24 x 1/2" Phillips head screw and nut from latch extension and set extension aside.



*Screw location on latch extension*

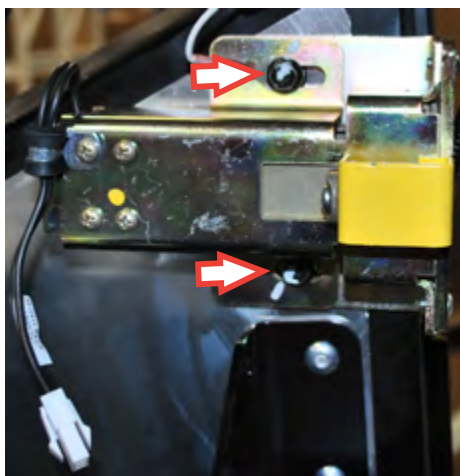
4. Remove two M6 bolts on catch and set catch aside.



*Screw location on latch*

### Installation

1. Secure catch with two M6 bolts.



*Screw location on latch*

2. Secure latch extension with 10-24 x 1/2" Phillips head screw and nut.
3. Torque to 33–38 in•lbs.



*Screw location on latch extension*

4. Secure ground wire to M6 screw.
5. Torque to 7–8 ft•lbs.



*Ground wire*

6. Connect wire harness.



*Wire harness*

7. Adjust catch if necessary.
8. Torque to 7–8 ft•lbs.

*NOTE: If driver's side, install brake panel.*

[See Install Brake Panel.](#)

*NOTE: If passenger's side, install washer bottle panel.*

[See Install Washer Bottle Panel.](#)

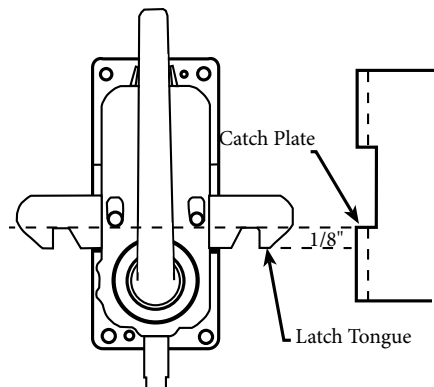
## Catch, Rear



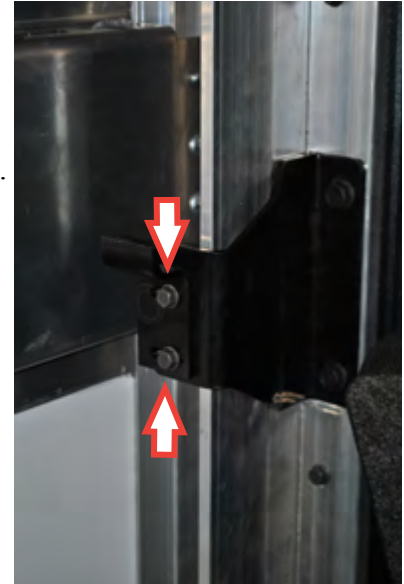
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Adjustment

1. Loosen two M6 bolts on catch.
2. Open door.
3. Align catch with latch on door.
4. Cycle door to ensure that it seals properly and latch engages catch.



Check latch and catch alignment



Bolt locations in catch

5. Adjust again if necessary.
6. Torque bolts 7–8 ft•lbs.



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove two M6 bolts on catch.
2. Set catch aside.

### Installation

1. Secure catch with two M6 bolts.
2. Adjust catch if necessary.
3. Torque to 7–8 ft•lbs.

## Door Ajar Micro Switch, Keyless



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove wires from back of switch.
2. Remove two 8-32 Phillips head screws from the solenoid.
3. Remove two 4-40 Phillips head screws and nuts from switch, and set switch aside.

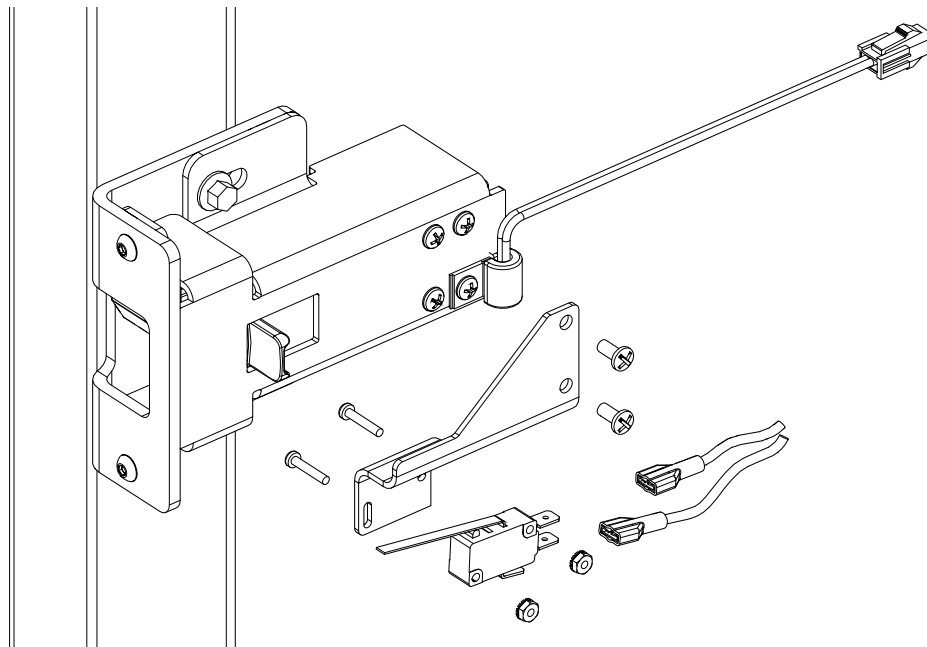
### Installation

1. Secure switch to mounting bracket with two 4-40 Phillips head screws and nuts.

*NOTE: Leave fasteners loose for final adjustment. Make final adjustment so that the lever of the switch is positioned in the opening.*

2. Secure bracket to solenoid with two 8-32 Phillips head screws. Ensure lever of switch goes through the opening at bottom of solenoid.
3. Secure wires to the two posts of the switch leaving the middle one empty.
4. Press lever to test switch. Lever should move freely and an audible click should be heard. Cycle the door to ensure that when engaged the door latch depresses the lever and the door ajar light goes out when both cab doors are closed.

*NOTE: Light turns off when BOTH cab doors are closed.*



*Keyless solenoid with door ajar micro switch*



## Guide



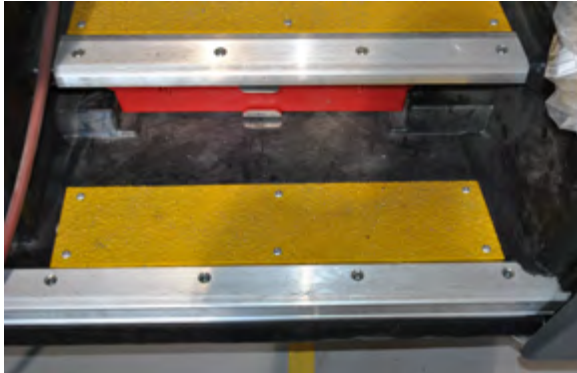
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove sidewall cladding.

[See Remove Sidewall Cladding.](#)

2. Remove five M6 screws from threshold and one M6 screw from underneath vehicle. Leave threshold in place.

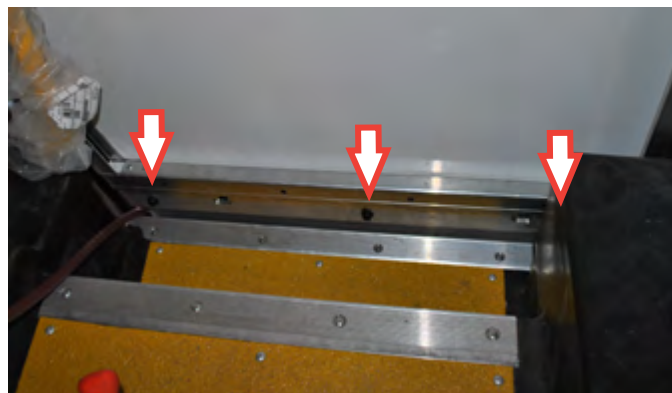


*Threshold*



*Screw location underneath vehicle*

3. Remove three M10 bolts from guide.
4. Rotate threshold to remove guide.

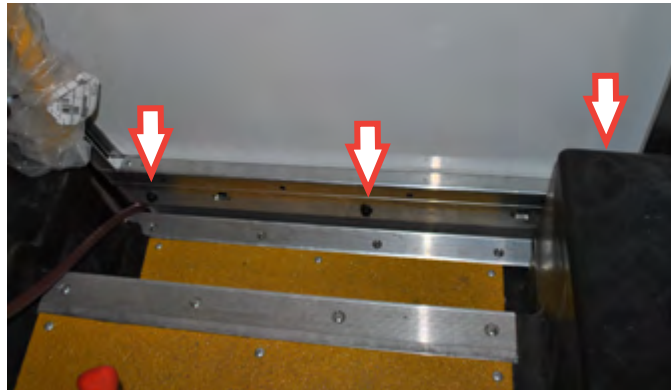


*Screw locations in guide*

**Installation**

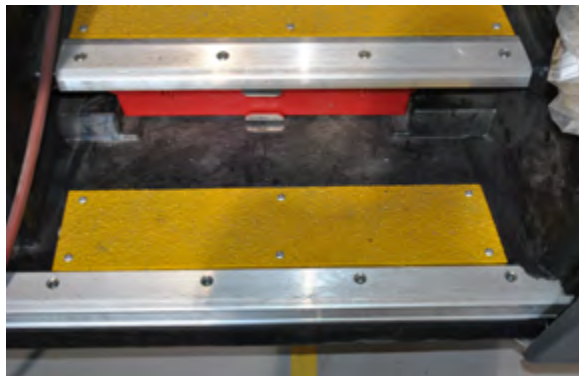
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Rotate threshold to install guide.
2. Secure guide with three M10 bolts.
3. Torque to 34–40 ft•lbs.



*Screw locations in guide*

4. Secure threshold with five M6 screws and one M6 screw underneath vehicle.
5. Torque to 7–8 ft•lbs.



*Threshold*



*Screw location underneath vehicle*

6. Install sidewall cladding.

[See Install Sidewall Cladding.](#)

## Latch

There are several types of latches both locking and non-locking on various parts of the vehicle.

*NOTE: The cab door handle and locking options vary. Some of the most common types are described here.*

### Non-Locking Handles

On doors with lever handle latches, push the top of the handle in the direction you wish to move the door.

### Locking Handles

To **open** the door from the keyed side, insert the key in the lock and turn clockwise 1/4 turn until the plunger pops out, then turn counter-clockwise 1/4 turn and remove the key. Push the paddle to open the door.

To **open** the door from the non-keyed side, push the door latch lever and slide the door open.

To **close** the door, slide the door closed until the latch catches.



*Exterior side door handle with push button lock*



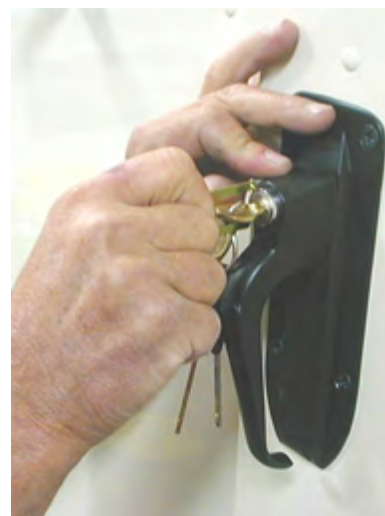
*Interior side door handle and lock*

**Lock Cylinder Removal**

1. Insert key in lock and rotate clockwise to the 3 o'clock position.
2. Insert lockset removal tool, rotate counterclockwise, and pull out lockset.

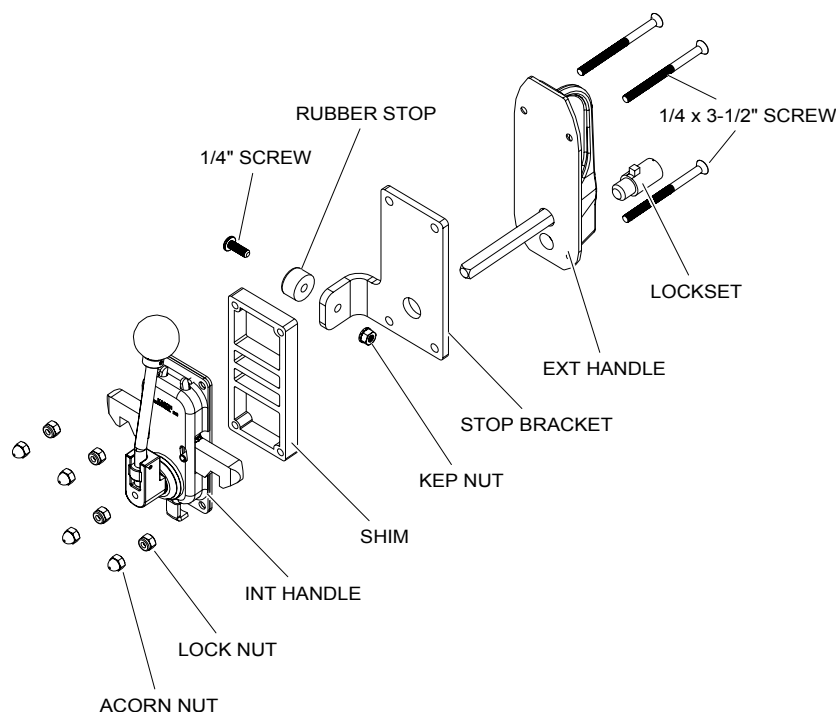
**Lock Cylinder Installation**

1. Insert key in lockset.
2. Compress tab while inserting lockset into door handle and then rotate clockwise.

*Lock cylinder***Removal**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Remove acorn nuts from the interior of door mechanism.
2. Remove locknuts.
3. Holding interior handle and exterior handle, pull apart mechanism. The interior handle, shim, stop bracket, and exterior handle will all be removed.

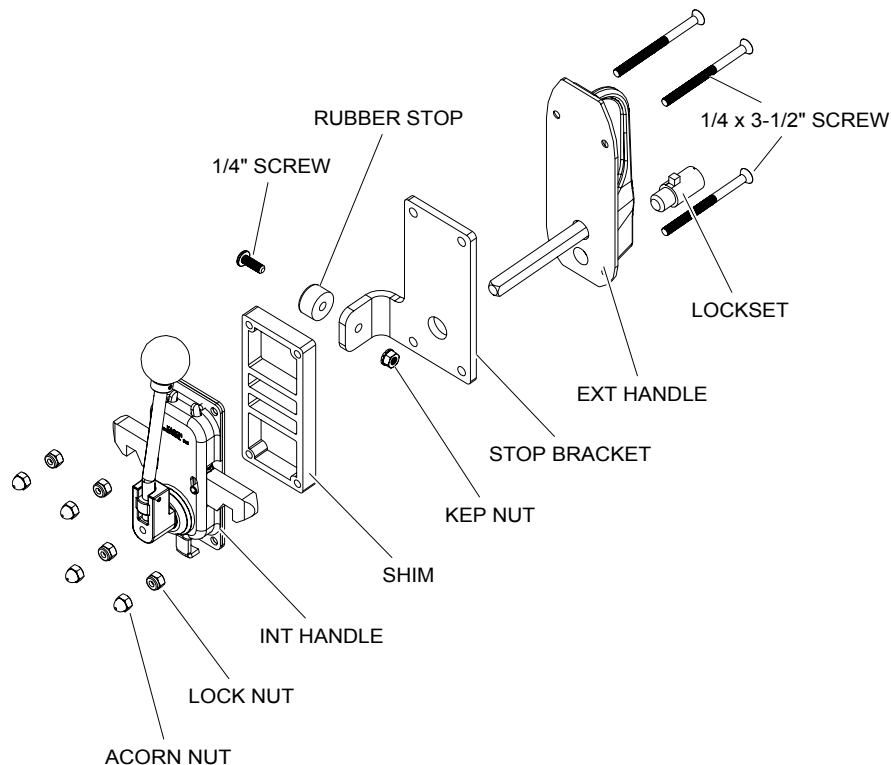
*Latch assembly*

**Installation**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Align exterior handle with door.
2. Insert four 1/4 x 3-1/2" screws into handle from exterior.
3. Set stop bracket in place.
4. Set shim in place.
5. Align interior handle with screws and push together.
6. Secure latch with locknuts.
7. Torque to 7–8 ft•lbs.
8. Secure acorn nuts.

[See Door Maintenance.](#)



*Latch assembly*

**Magnet, Ajar Light TT Keyless**

The door ajar switch is mounted on the passenger's side rear roll-up door post. The door ajar light magnet is located on the rear roll-up door.

**Removal**

*NOTE: Keep all hardware for reinstallation.*

1. Pull the wires out of access hole and cut off butt connectors.
2. Remove two Phillips head screws and nut keps.
3. Remove switch from mounting bracket and set aside.

**Installation**

1. Secure magnet with two Phillips head screws and nut keps.
2. Secure wires with butt connectors.
3. Push butt connectors back into hole.



*Ajar light magnet*

## Seals

### A-Pillar Seal Removal

1. Open door.
2. Use a small flat blade screwdriver to lift and pull out seal from channel.
3. Discard seal.

### A-Pillar Seal Installation

1. Dry fit seal to jamb.
2. Check jamb for any residual tape and clean with isopropyl alcohol if necessary.
3. Remove paper backing from seal and install in jamb.
4. Cycle door open and closed to ensure seal is adhered to jamb.



*A-pillar seal*

### B-Pillar Inner Flocked Seal Removal



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: Replacing inner flocked seal requires replacement of both extrusion and seal.*

1. Remove three M6 scrivenets from trim panel above door.

[See Remove Scrivet.](#)

2. Set trim panel aside.
3. Remove ten M6 bolts in B-pillar.
4. Remove two M8 bolts from rear catch assembly.
5. Set rear catch assembly aside.
6. Remove and discard B-pillar.



*Scrivet location*

### B-Pillar Inner Flocked Seal Installation

1. Secure rear catch assembly to B-pillar with two M8 bolts.
2. Torque to 17–21 ft•lbs.
3. Secure B-pillar with ten M6 bolts.
4. Torque to 7–8 ft•lbs.
5. Secure trim panel above door with three M6 scrivenets.

[See Install Scrivet.](#)



*Rear catch assembly*



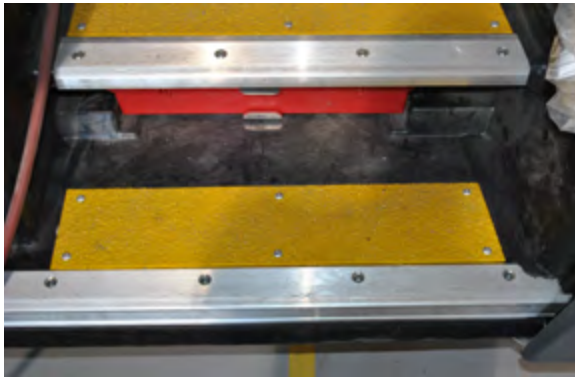
## Threshold



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove sidewall cladding.  
[See Remove Sidewall Cladding.](#)
2. Remove five M6 screws from threshold and one M6 screw from underneath vehicle.
3. Rotate threshold to remove and set aside.



*Threshold*



*Screw location underneath vehicle*

### Installation

1. Rotate threshold to install.
2. Secure threshold with five M6 screws and one M6 screw underneath vehicle.
3. Torque to 7–8 ft•lbs.
4. Install sidewall cladding.

[See Install Sidewall Cladding.](#)

## Window, Slider



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove cab sliding door.  
[See Remove Cab Slider Door.](#)
2. Remove rivets from sliding window.  
[See Remove Blind Rivet.](#)
3. Lift out window.
4. Remove foam tape and discard.
5. Set window aside.

### Installation

1. Place replacement window in door frame and, from inside, mark rivet holes around perimeter of window frame.
2. Drill holes into replacement window frame.
3. Install new foam tape to window.
4. Install window with rivets.  
[See Install Blind Rivet.](#)
5. Install cab sliding door.  
[See Install Cab Slider Door.](#)

## Latch



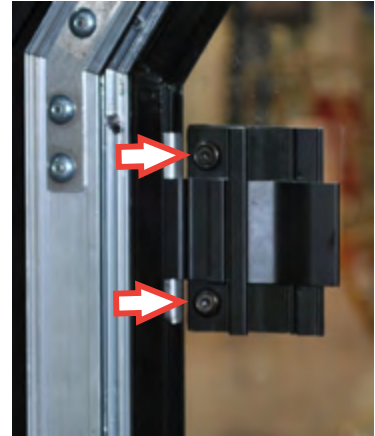
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove two Torx® head screws.
2. Set latch aside.

### Installation

1. Check window for any residual tape and clean with isopropyl alcohol if necessary.
2. Secure pressure-sensitive tape to back of latch.
3. Secure latch with T20 Torx head screws, finishing washers, and retainer buttons.



*Torx head screws on sliding window latch*

## Doors, T-Series Rear Roll-up



**WARNING:** Do NOT use the rear door pull strap to support yourself when entering or exiting the rear. The strap can break or pull the door down on you. Use the grab handles for aid getting in and out of the back.



**WARNING:** A roll-up door counterbalance spring is wound under high tension. Only qualified technicians should adjust this spring.



**WARNING:** Failure to secure cargo will increase the risk of injury in a collision or sudden stop.



**WARNING:** A moving door can cause injury or death. Stand clear of the opening while the door is moving.



**WARNING:** Read the safety and warning decals provided by the manufacturer. Never paint over the decals, and replace them if they are faded.



**CAUTION:** To prevent damage to the cargo or vehicle, be sure that the rear door is closed and latched before driving the vehicle.

*NOTE: The information in this document applies to our most common roll-up door options. If your vehicle is equipped with a different roll-up door, refer to the door manufacturer's service guide for operation, adjustment, and maintenance instructions.*

To **unlock** the door from the **outside**, insert the key in the lock and turn clockwise 1/4 turn until thumb lock pops out. Rotate key counter-clockwise 1/4 turn, and remove the key from the lock.

To **open** the door from the **outside**, push down on the lower door lift handle to relieve tension on the latches and rotate the release handle clockwise until the latches release.

To **open** the door from the **inside**, push down on the door to relieve tension on latches, and push the lever toward the passenger's side of vehicle until the side latches release.

To **lock** the door from the **outside**, insert the key and turn clockwise and push in on thumb lock.



Rear roll-up door latch and grab handle

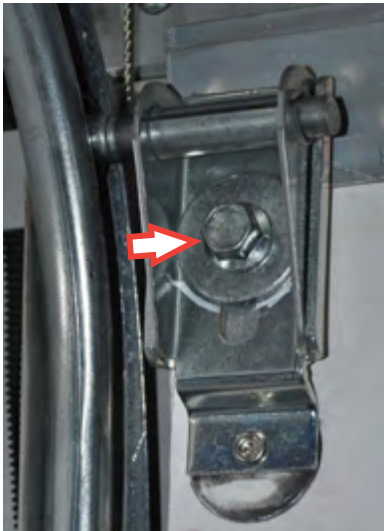


Rear roll-up door handle

## Adjustment

1. Check that the door has no more than 1/4" maximum play, does NOT bind in the track, and is centered in opening.
2. Add or subtract washers on roller shafts to achieve proper door operation. A maximum of four spacer washers should be at the second from top joint roller and the second from bottom joint roller on each side.
3. Loosen both bolts on slides located at top of door to adjust top panel in and out.
4. Loosen both locknuts on catches located at bottom of door so that it sits flush on threshold.

[See Roll-up Door Maintenance.](#)



*Slide bolt location*



*Catch locknuts location*



*Door roller*



**WARNING:** The counterbalance spring is wound under high tension and can cause severe injury or death. Release the tension as described prior to performing repairs.

Installation, repairs, and adjustments must be made by trained service personnel using proper tools and instructions.

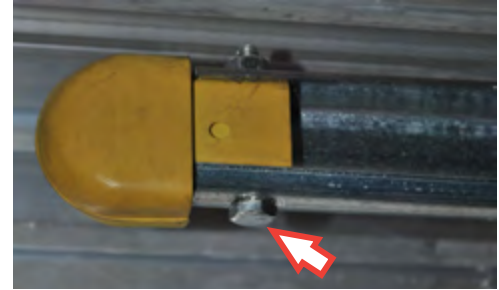
Use two heavy-gauge steel winding bars with the proper dimensions. Do NOT use bent winding bars, screwdrivers, or punches for spring winding.

## Removal

1. Close door.
2. Remove cables.  
[See Remove Cables.](#)
3. Remove the hex head bolt and nut from stops located at the end of the track and remove stops.
4. Slowly move door up and remove from top of track.

## Installation

1. Lift and slowly slide door into top of tracks.
2. Install cables.  
[See Install Cables.](#)
3. Secure the stops located at the end of the track with hex head bolts, lock washers, and nuts.



Stop bolt

## Cables



**WARNING:** Do NOT raise the door with the winding bar in place. Raising the door with the winding bar in place can cause injury or damage to the equipment.

## Removal

*NOTE: It is recommended to replace both cables even if only one cable is frayed or damaged.*

1. Close door.
2. Insert a winding bar that is 1/2" in diameter and 18" long into one of the spring-winding plug holes.
3. Raise the bar to allow insertion of a second winding bar into the lower hole.
4. Release the tension enough to allow the second bar to rest against the top panel.

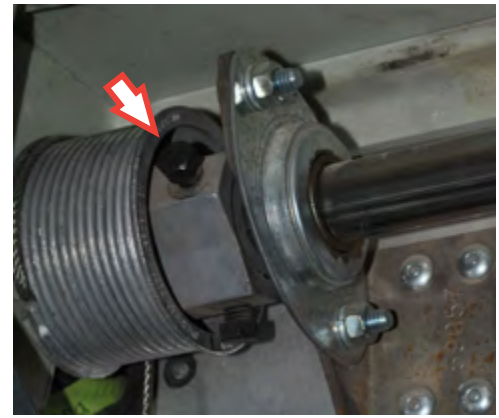


Spring-winding plug

5. Release the cable drum from the shaft by loosening the two set screws on the cable drum and remove cable.
6. Remove rivets from bottom roller and remove roller from door.

[See Remove Blind Rivet.](#)

7. Remove cable from roller and set aside.



*Cable drum set screws*

#### Installation



**CAUTION:** Ensure the drums are against the counterbalance shaft bearings, the setscrews are properly tightened, and the cables have equal tension.

Rotating the counterbalance assembly too far may cause the cables to jump off the cable drum.

1. Place cable on roller.
  2. Secure bottom roller with rivets.
- [See Install Blind Rivet.](#)
3. Bring cable ends to top of door and tape to the inside of the vehicle.
  4. With door closed, bring cable up between drum and header and hook cable end in the slot in outer groove of cable drum.
  5. Push cable drum tight against the bearing and starting in first groove, wind cable on drum. Ensure it properly tracks in each groove of drum.
  6. Ensure cable drum is tight against the bearing and tighten bolts on cable drum.
  7. Adjust spring.

[See Adjust Spring.](#)



*Bottom roller with cable*



## Panels



**CAUTION:** Do NOT drill through the outside panel of a hollow core door.

### Removal

*NOTE:* Before removing the bottom panel, the cable needs to be removed.

[See Remove Cables.](#)

*NOTE:* Remove hardware from panels to be used on replacement panels.

1. Close door and clamp track below panel to be removed.
2. Remove rivets in hinges. Insert a punch in one of the rivet holes to stabilize the panel while removing the remaining rivets.

[See Remove Blind Rivet.](#)

*NOTE:* If removing the top panel, remove the bolts and washers in both top rollers.

3. Remove the rollers.

[See Remove Rollers.](#)

4. Lift the door panels, above panel to be replaced, into horizontal track and secure with clamps on the track.
5. Remove punches and lift out the panel.



Door hinge



Top roller

### Installation

1. Clamp the panel into position and lower the door from the horizontal track.
2. Drill the holes on the new panel, using the holes on the hinge as a guide.

*NOTE:* If installing the top panel, secure the bolts and washers in both top rollers.

3. Install the rollers.

[See Install Rollers.](#)

4. Secure hinges with rivets.

[See Install Blind Rivet.](#)

*NOTE:* If installing the bottom panel, the cables needs to be installed.

[See Install Cables.](#)

*NOTE:* Install any applicable hardware on panels.

## Rollers

### Removal

1. Open door.
2. Remove rivets from end hinge.  
[See Remove Blind Rivet.](#)
3. Remove roller from track and set aside.

### Installation

1. Insert roller into hinge.
2. Place roller into track.
3. Install end hinge with 1/4 x 1-1/8" elevator bolt and nut.
4. Lubricate with a light oil (Utilimaster P/N 04202540).



*Door roller*

## Seals

### Brush Seal Removal

1. Open roll-up door.
2. Remove rivets.  
[See Remove Blind Rivet.](#)
3. Discard seal.

### Brush Seal Installation

1. Dry fit new brush seal.
2. Install brush seal with rivets.  
[See Install Blind Rivet.](#)



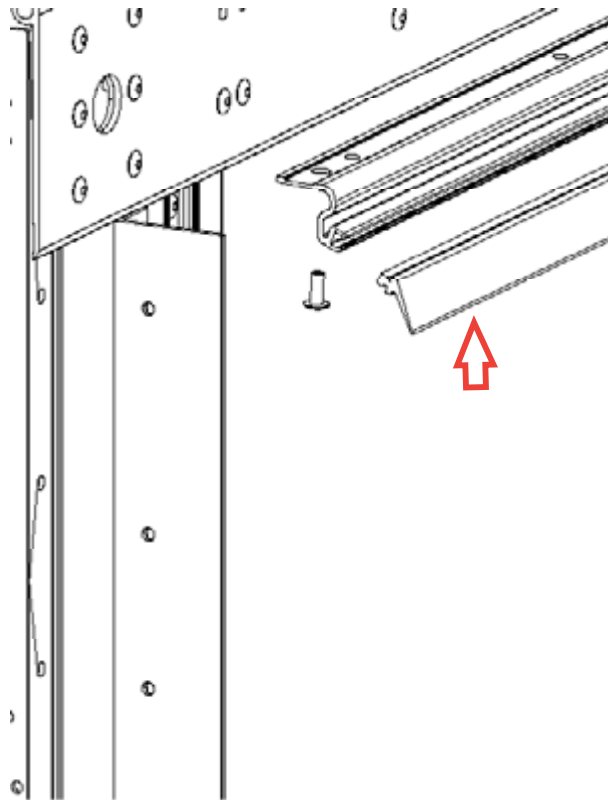
*Brush seal*

**Header Seal Removal**

1. Remove rear header cladding.  
[See Remove Header Cladding.](#)
2. Remove rivets in extrusion and remove extrusion.  
[See Remove Blind Rivet.](#)
3. Use a flat-blade screwdriver to pry apart the crimped extrusion.
4. Remove seal from track and discard.

**Header Seal Installation**

1. Slide seal into upper track.
2. Crimp the extrusion.
3. Install extrusion with rivets.  
[See Install Blind Rivet.](#)
4. Install rear header cladding.  
[See Install Header Cladding.](#)

*Header seal*

## Spring

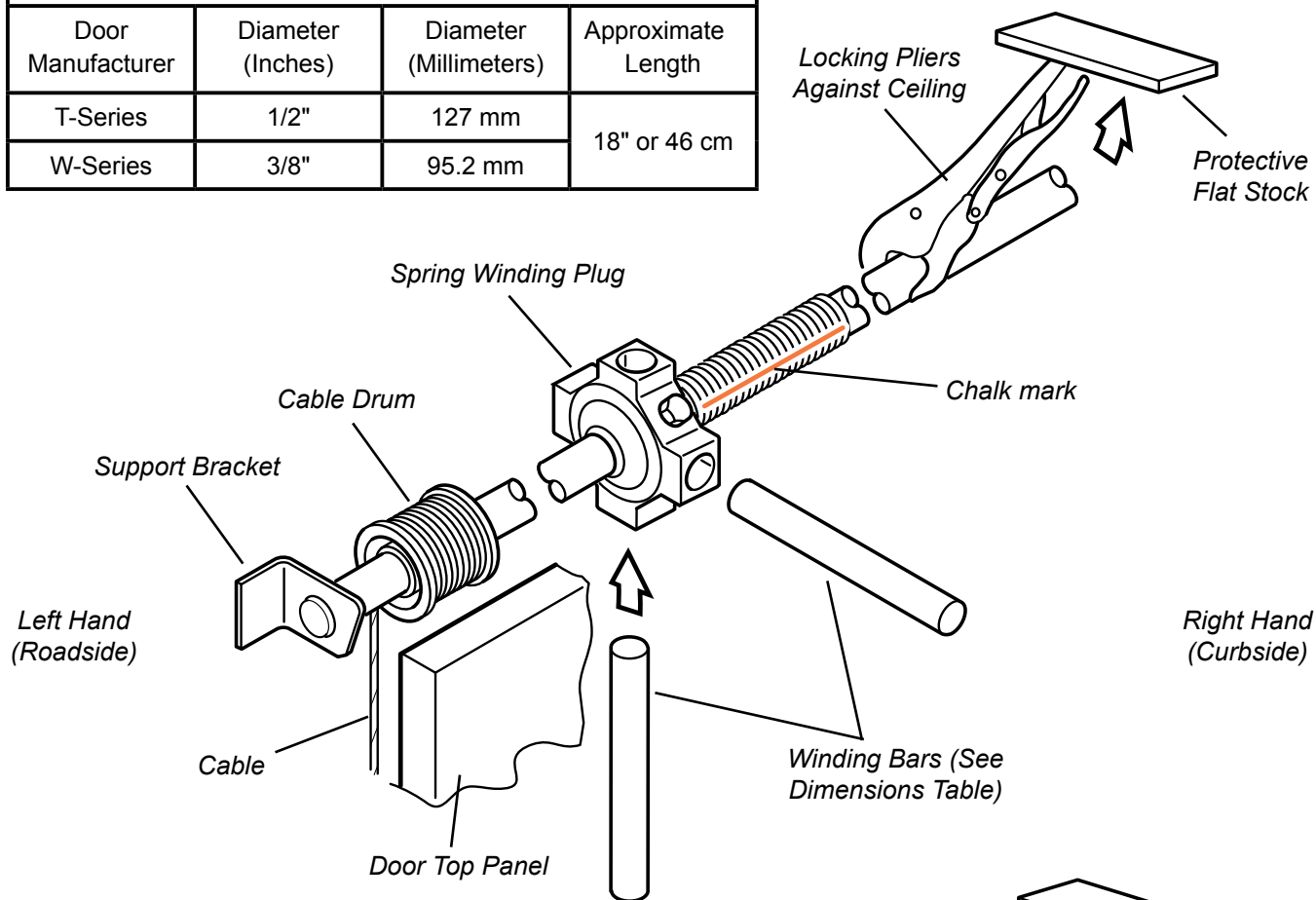
### Adjustment

*NOTE: A properly counterbalanced door should remain in the same position when stopped. If the door leaves the floor by itself, the spring is wound too tightly, and a few quarter turns should be released. If the door tends to drop when stopped, a few more quarter turns should be added.*

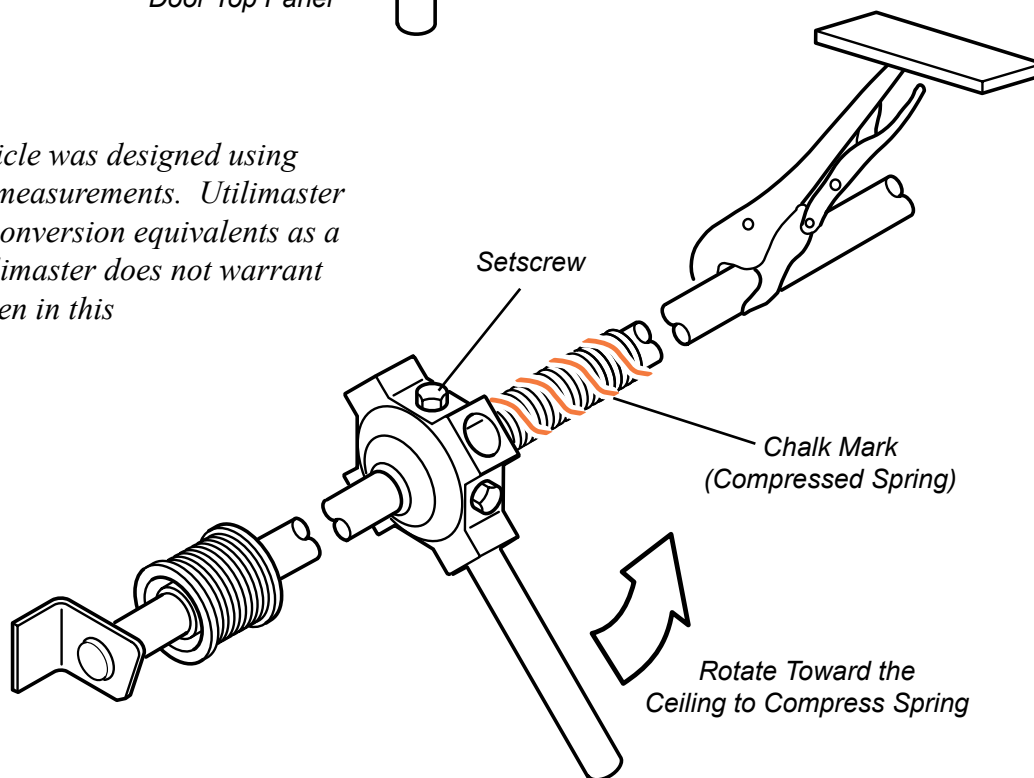
*NOTE: To determine the amount of turns on a newly installed spring, measure from the bottom of the door to the header. Divide that measurement by ten and then add three. This number is the approximate number of turns needed to wind the spring. Turns are counted by using the chalk marks, which show up as stripes as the spring is wound.*

1. Close door and clamp counterbalance shaft from the inside with handle of locking pliers against the ceiling to keep cables tight. Protect the roof from the pliers with a piece of plywood or sheet metal.
2. Insert a heavy-gauge steel winding bar into one of the spring-winding plug holes.
3. Loosen setscrews on spring-winding plug.
4. Insert a winding bar that is 1/2" in diameter and 18" long into one of the spring-winding plug holes.
5. Raise the bar to allow insertion of second winding bar into next spring-winding plug.
6. Continue to raise bar to wind spring.
7. Tighten setscrews.
8. Remove locking pliers and winding bars.
9. Cycle door to check operation.
10. Adjust again if necessary.
11. Lubricate with a light oil (Utilimaster P/N 04202540).

Winding Bar Dimensions			
Door Manufacturer	Diameter (Inches)	Diameter (Millimeters)	Approximate Length
T-Series	1/2"	127 mm	18" or 46 cm
W-Series	3/8"	95.2 mm	



*NOTE: This vehicle was designed using English (S.A.E.) measurements. Utilimaster provides metric conversion equivalents as a courtesy, but Utilimaster does not warrant metric values given in this manual.*



*Winding counterbalance spring*

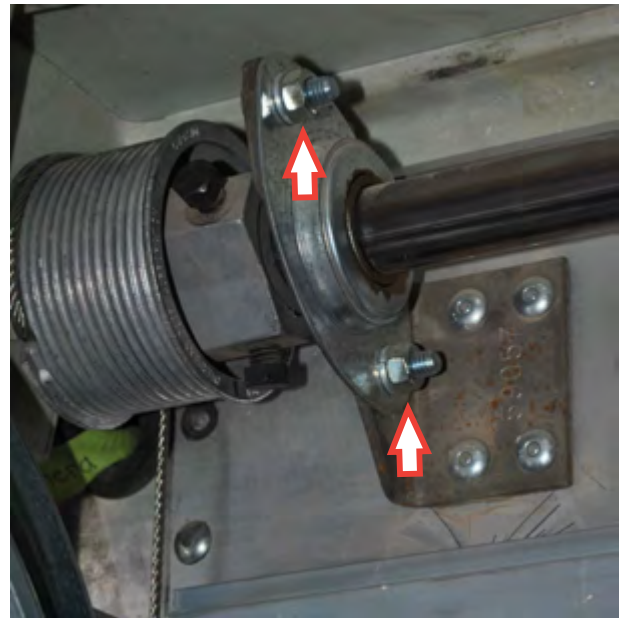
### Removal

1. Remove cables.  
[See Remove Cables.](#)
2. Remove six bolts located on anchor brackets.
3. Remove spring and set aside.

### Installation

1. Place spring into anchor brackets and secure with six bolts, lock washers, and nuts.
2. Run a chalk mark the full length of the spring.
3. Install cables.

[See Install Cables.](#)



*Anchor bracket bolts*

## Doors, W-Series Rear Roll-up



**WARNING:** Do NOT use the rear door pull strap to support yourself when entering or exiting the rear. The strap can break or pull the door down on you. Use the grab handles for aid getting in and out of the back.



**WARNING:** A roll up-door counterbalance spring is wound under high tension. Only qualified technicians should adjust this spring.



**WARNING:** A moving door can cause injury or death. Stand clear of the opening while the door is moving.



**WARNING:** Read the safety and warning decals provided by the manufacturer. Never paint over the decals, and replace them if they are faded.



**CAUTION:** To prevent damage to the cargo or vehicle, be sure that the rear door is closed and latched before driving the vehicle.

*NOTE: The information in this document applies to our most common roll-up door options. If your vehicle is equipped with a different roll-up door, refer to the door manufacturer's service guide for operation, adjustment, and maintenance instructions.*

To **unlock** the door from the **outside**, insert the key in the lock of the rear roll-up door release handle and turn clockwise 1/4 turn until thumb lock pops out. Rotate key counter-clockwise 1/4 turn, and remove the key from the lock.

To **open** the door from the **outside**, push down on the lower door lift handle to relieve tension on the latches and rotate the release handle clockwise until the latches release.

To **open** the door from the **inside**, push down on the door to relieve tension on latches, and push the lever toward the passenger's side of vehicle until the side latches release.

To **lock** the door from the **outside**, insert the key and turn clockwise and push in on thumb lock.



*Rear roll-up door release handle*



*Rear roll-up door lift handle*

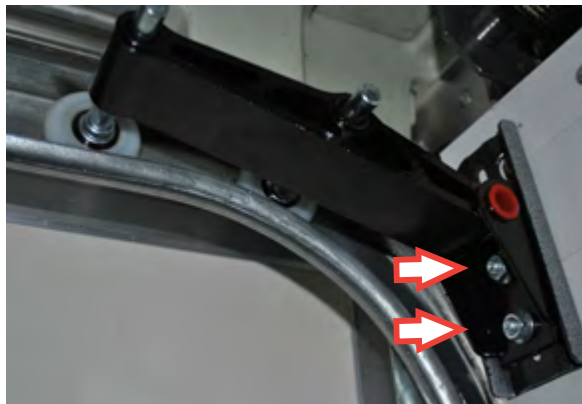


## Adjustment

*NOTE: Adjusting the roller bracket up moves the panel in. Adjusting the roller bracket down moves the panel out. The door may jam if adjusted too tightly.*

1. Check that the door does NOT bind in the track, and is centered in opening.
2. Position top roller brackets so that the top panel is vertical and seals along both the top and sides.
3. Tighten nuts.

[See Roll-up Door Maintenance.](#)



*Nut location on top roller bracket*



**WARNING:** The counterbalance springs are wound under high tension and can cause severe injury or death. Release the tension as described prior to performing repairs.

Installation, repairs, and adjustments must be made by trained service personnel using proper tools and instructions.

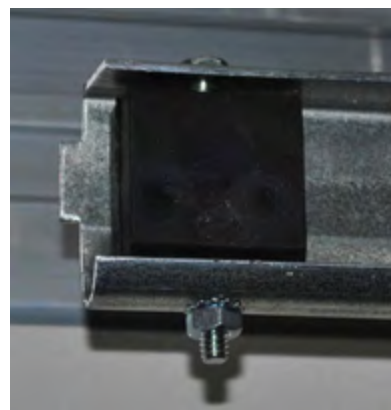
Use two heavy-gauge steel winding bars with the proper dimensions. Do NOT use bent winding bars, screwdrivers, or punches for spring winding.

## Removal

1. Close door.
2. Remove cables.  
[See Remove Cables.](#)
3. Remove the nuts, washers, and bolts from stops located at the end of each track and set aside.
4. Slowly move door up and remove from tracks.

## Installation

1. Lift and slowly slide door into top of tracks.
2. Install cables.  
[See Install Cables.](#)
3. Secure stops located at the end of each track with bolts, washers, and nuts.
4. Adjust spring.  
[See Adjust Spring.](#)



*Stop bolt*

## Antenna, TT Keyless



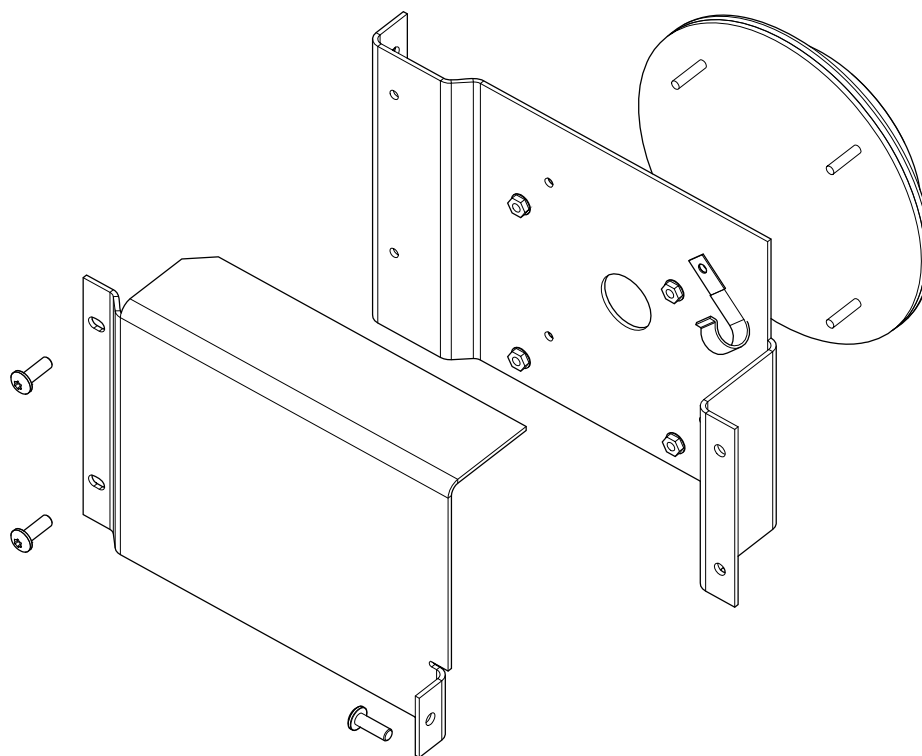
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove three 1/4-20 Torx® screws from the antenna cover.
2. Remove four 1/4-20 Torx screws from the mounting bracket.
3. Disconnect wire harness from antenna.
4. Remove four 10-24 locknuts from the antenna and set aside.

### Installation

1. Secure antenna to bracket with four 10-24 locknuts. Ensure LEDs are at the top when installed.
2. Route and secure wire harness through J-clip, and connect wire harness to antenna.
3. Secure mounting bracket with four 1/4-20 Torx screws.
4. Secure cover with three 1/4-20 Torx screws.



Rear door antenna

## Cables



**WARNING:** To avoid injury or damage to the equipment, do **NOT** raise the door with the winding bar in place.

### Removal

**NOTE:** It is recommended to replace both cables even if only one cable is frayed or damaged.

1. Close door.
2. Insert a winding bar that is 1/2" in diameter by 10" long into one of the spring-winding plug holes.
3. Raise the bar to allow insertion of a second winding bar into the lower hole.
4. Release the tension enough to allow the second bar to rest against the top panel.
5. Release the cable drum from the shaft by loosening the two set screws on the cable drum and remove cable.
6. Remove the cotter and anchor pins to remove cable from bottom door panel.



Spring winding plug holes



Cable drum

### Installation



**CAUTION:** Ensure the drums are against the counterbalance shaft bearings, the setscrews are properly tightened, and the cables have equal tension.

**Rotating the counterbalance assembly too far may cause the cables to jump off the cable drum.**

**NOTE:** The cable must be wound from the outermost groove toward the inside of the drum.

1. Secure the cable end to the anchor bracket with an anchor pin.
2. Secure anchor pin with a cotter pin.
3. Enter loose end of cable into slot in open end of cable drum.
4. Kink cable to follow first groove in drum and wind the spring so that the cable follows the grooves tightly. Cable must come off the bottom of the drum to be installed properly. Rotate spring by hand to put tension onto cable.
5. Slide spring assembly along shaft until cable from bottom of drum is in line with cable anchor and tighten setscrews.
6. Adjust spring.

[See Adjust Spring.](#)



Cotter and anchor pins

## Latch, TT Keyless



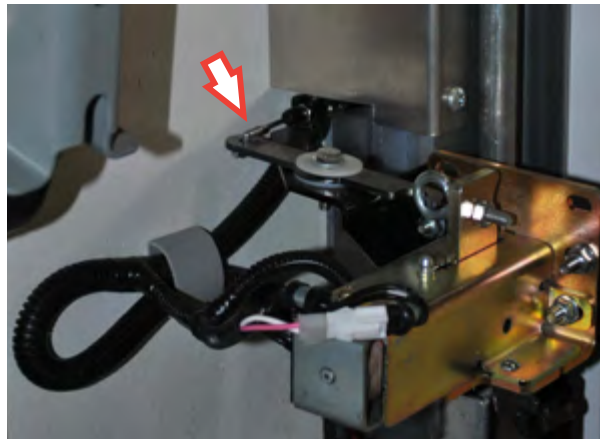
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Disconnect the wire harness from the latch.
2. Remove manual release cable from latch.
3. Remove four 1/4-20 nuts, washers, and bolts from latch and set aside.

### Installation

1. Secure latch with four 1/4-20 bolts, washers, and nuts.
2. Torque to 7–8 ft•lbs.
3. Secure manual release cable to latch.
4. Connect wire harness to latch.



*Manual release cable*

## Panels



**CAUTION:** Do NOT drill through the outside panel of a hollow core door.

### Removal

*NOTE: Before removing the bottom panel, the cables needs to be removed.*

[See Remove Cables.](#)

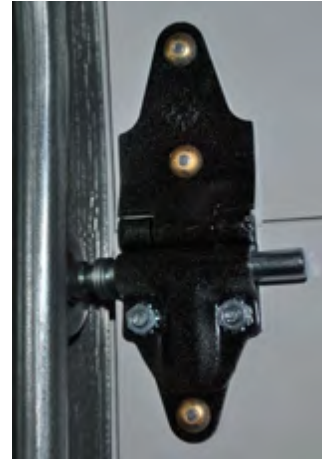
*NOTE: Remove hardware from panels to be used on replacement panels.*

1. Close door and clamp track below panel to be removed.
2. Remove rivets in hinges. Insert a punch in one of the rivet holes to stabilize the panel while removing the remaining rivets.

[See Remove Blind Rivet.](#)

*NOTE: If removing the top panel, remove the bolts and washers in both top rollers.*

3. Remove rollers.
- [See Remove Rollers.](#)
4. Lift the door panels, above panel to be replaced, into horizontal track and secure with clamps on the track.
5. Remove punches and lift out the panel.



*Roller hinge*



*Top roller bracket*

**Installation**

**CAUTION:** Do NOT drill through the outside panel of a hollow core door.

1. Clamp the panel into position and lower the door from the horizontal track.
2. Drill the holes on the new panel, using the holes on the hinge as a guide.

*NOTE: If installing the top panel, secure the bolts and washers in both top rollers.*

3. Install rollers.

[See Install Rollers.](#)

4. Secure hinges with rivets.

[See Install Blind Rivet.](#)

*NOTE: If installing the bottom panel, the cables need to be installed.*

[See Install Cables.](#)

*NOTE: Install any applicable hardware on panels.*



*Roller hinge*



*Top roller bracket*

## Rollers

### Removal

1. Open door.
2. Remove nuts that secure the roller retainer.
3. Remove roller from track and set aside.

### Installation

1. Insert hinge or roller bracket into retainer.
2. Place roller into track.
3. Install the hinge or roller bracket and tighten the nuts.
4. Lubricate with a light oil (Utilimaster P/N 04202540).



*Bottom roller bracket*



*Roller hinge*



## Seals

### Brush Seal Removal

1. Open door.
2. Remove rivets.  
[See Remove Blind Rivet.](#)
3. Use a flat-blade screwdriver to pry apart the crimped extrusion.
4. Remove seal and discard.

### Brush Seal Installation

1. Test fit brush seal and cut to proper length with bolt cutters.
2. Insert the brush seal into the extrusion end.
3. Crimp the extrusion.
4. Secure seal with rivets.

[See Install Blind Rivet.](#)



*Brush seal*

### Top Seal Removal

1. Open door and clamp track to prevent door from moving.
2. Use a flat-blade screwdriver to pry apart the crimped extrusion and remove seal.

### Top Seal Installation

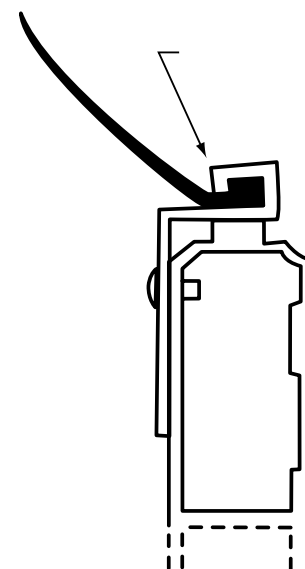
1. Slide seal into extrusion.
2. Crimp the extrusion.

### Threshold Seal Removal

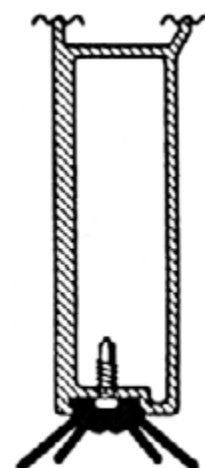
1. Open door and clamp track to prevent door from moving.
2. Remove the Phillips head screws from the threshold seal.
3. Remove seal and discard.

### Threshold Seal Installation

1. Place the seal, angle edge first, into the extrusion and rotate into position.
2. Secure with #8 screws.



*Top seal*



*Bottom seal*

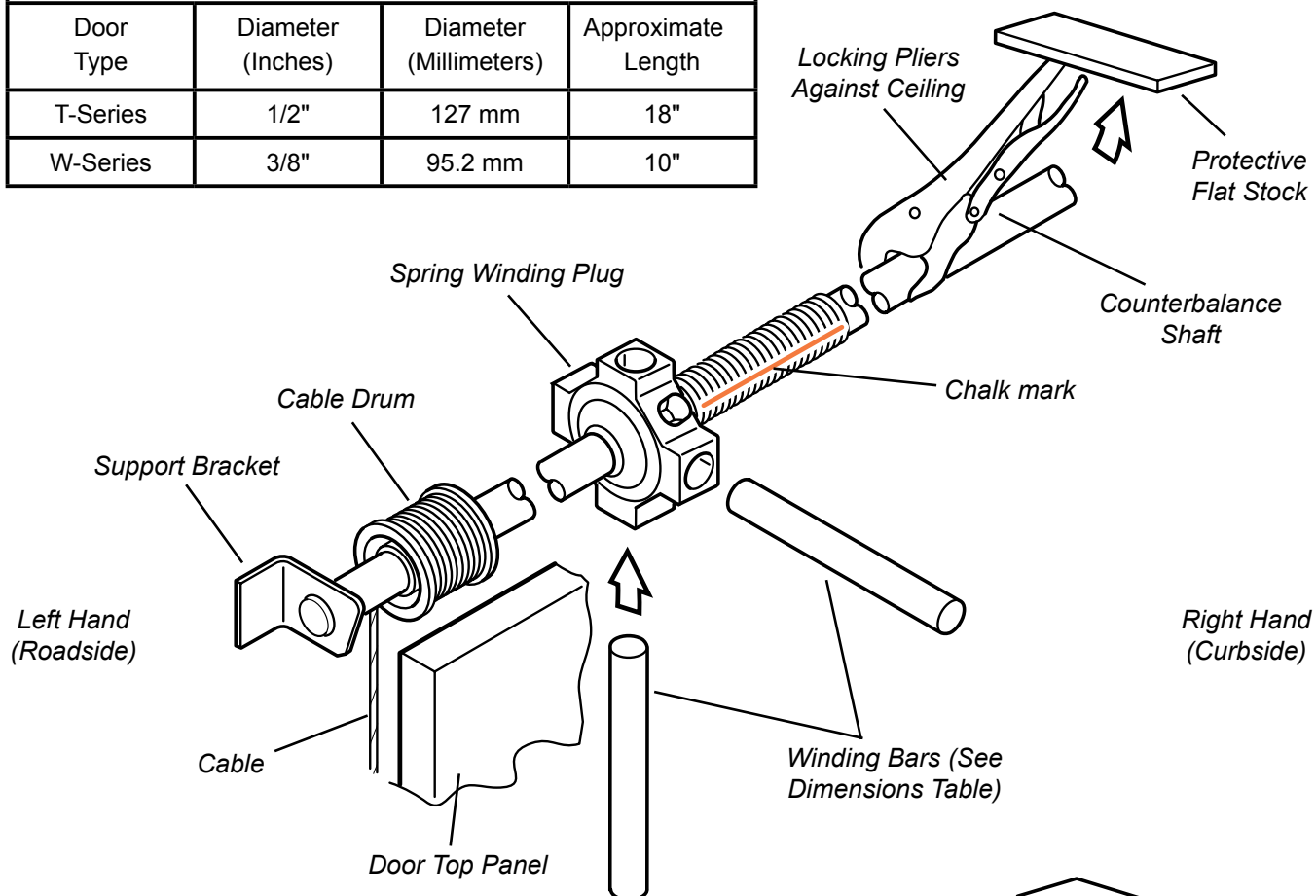
## Spring

### Adjustment

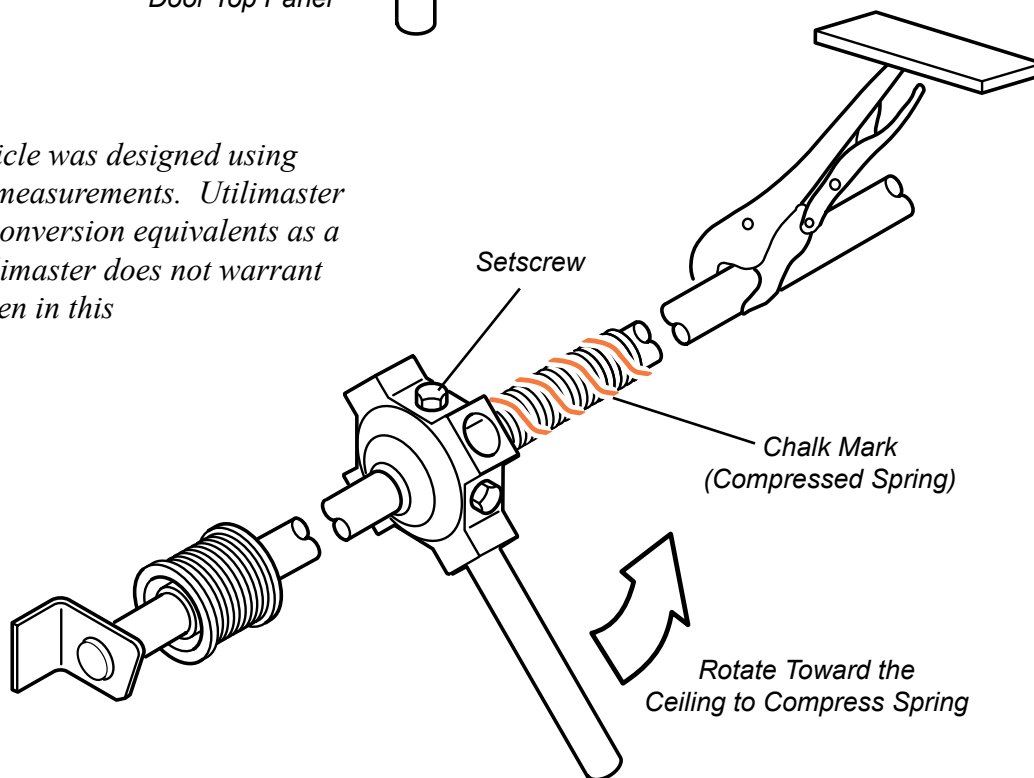
*NOTE: A properly counterbalanced door should remain in the same position when stopped. If the door leaves the floor by itself, the spring is wound too tightly, and a few quarter turns should be released. If the door tends to drop when stopped, a few more quarter turns should be added.*

1. Close door and clamp counterbalance shaft from the inside with handle of locking pliers against the ceiling to keep cables tight. Protect the roof from the pliers with a piece of plywood or sheet metal.
2. Insert a winding bar that is 1/2" in diameter and 10" long into one of the spring-winding plug holes.
3. Loosen setscrews on spring-winding plug.
4. Insert a second winding bar into one of the spring-winding plug holes.
5. Raise the bar to allow insertion of second winding bar into next spring-winding plug.
6. Using two winding bars walk spring plugs and shaft around until 3-1/2 to 4 turns have been applied to shaft.
7. Tighten setscrews.
8. Remove locking pliers and winding bars.
9. Cycle door to check operation.
10. Adjust again if necessary.
11. Lubricate with a light oil (Utilimaster P/N 04202540).

Winding Bar Dimensions			
Door Type	Diameter (Inches)	Diameter (Millimeters)	Approximate Length
T-Series	1/2"	127 mm	18"
W-Series	3/8"	95.2 mm	10"



*NOTE: This vehicle was designed using English (S.A.E.) measurements. Utilimaster provides metric conversion equivalents as a courtesy, but Utilimaster does not warrant metric values given in this manual.*



*Winding counterbalance spring*

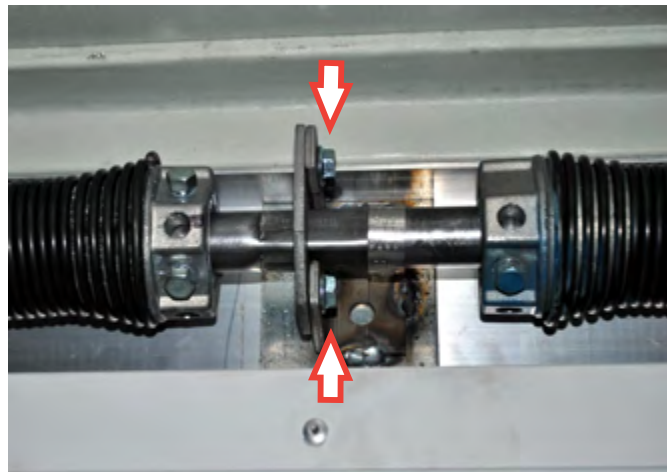
### Removal

1. Remove cables.  
[See Remove Cables.](#)
2. Remove two bolts located on anchor brackets.
3. Remove spring and set aside.

### Installation

1. Place spring into anchor brackets and secure with two bolts, lock washers, and nuts.
2. Install cables.

[See Install Cables.](#)



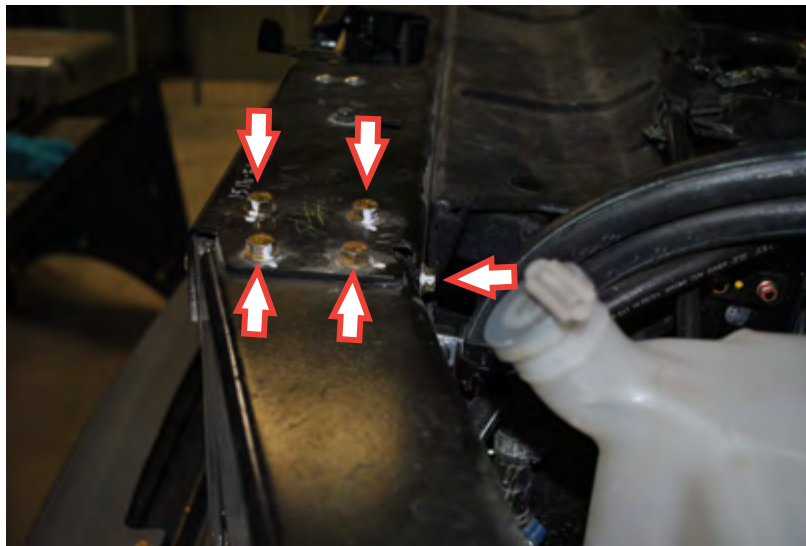
*Anchor bracket bolts*

## Engine

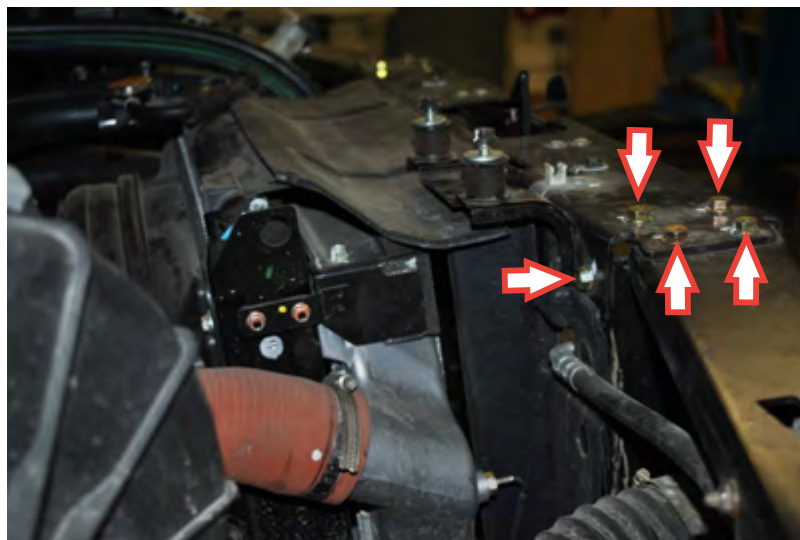
This process describes the removal of items on the body for removal of the engine.

### Removal

1. Remove hood.  
[See Remove Hood.](#)
2. Remove grille and grille screen.  
[See Remove Grille Screen.](#)
3. Remove two M6 bolts from hood latch and set off to the driver's side.
4. Remove ten M8 bolts from the front, upper support structure.
5. Remove front, upper support structure and set aside.



*Driver's side upper support structure bolts*

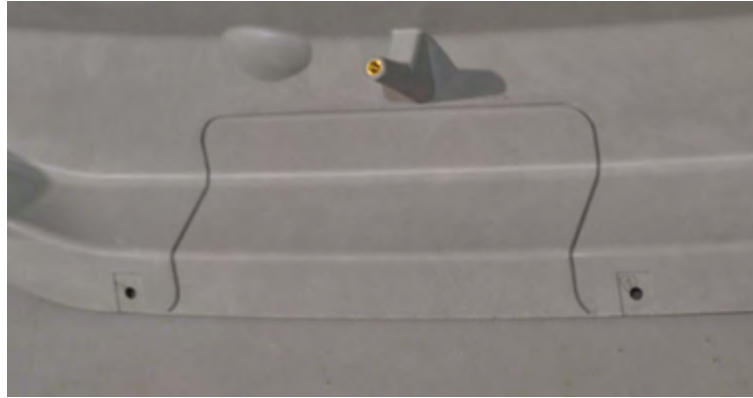


*Passenger's side upper support structure bolts*

6. Remove wiper arms.

[See Remove Wiper Arms.](#)

7. Remove six #8 screws from the bottom of the leaf screen.
8. Remove five M6 screws from the top of leaf screen and set leaf screen aside.
9. Use a reciprocating saw to remove cowl knockout panel by cutting out the designated area.



*Cowl knockout panel*

10. Proceed with engine removal process.

## Installation

Once engine work has been completed, proceed with the steps below to install the items on the body.



**CAUTION:** Read and understand ALL methacrylate structural adhesive application instructions and safety procedures. Effectiveness of the repair can be compromised by environmental conditions or poor application. Follow structural adhesive manufacturer's application instructions and recommendations for cure time. Safety and application instructions provided by manufacturers always supersede information provided by Utilimaster.

1. Apply structural adhesive cowl to the knockout panel.

[See Structural Adhesive Installation.](#)

2. Place panel over opening and press firmly.
3. Apply weight to the panel and allow structural adhesive to bond.
4. Secure top of leaf screen with five M6 screws.



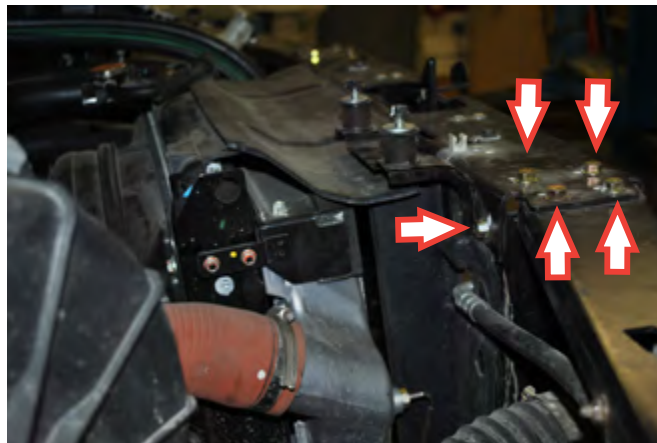
*Cowl knockout filler*



5. Torque to 7–8 ft•lbs.
6. Secure bottom of leaf screen with six #8 screws.
7. Install wiper arms.  
[See \*Install Wiper Arms.\*](#)
8. Secure ten M8 bolts to the front upper support structure.
9. Torque to 17–21 ft•lbs.



*Driver's side upper support structure bolts*



*Passenger's side upper support structure bolts*

10. Secure hood latch with two M6 screws.
11. Torque to 7–8 ft•lbs.
12. Install grille screen and grille.  
[See \*Install Grille Screen.\*](#)
13. Install hood.

[See \*Install Hood.\*](#)



**Cover****Removal**

1. Release two rubber latches on sides of engine cover.
2. Remove cover and set aside.

**Installation**

1. Slide cover between guides.
2. Secure two rubber latches on both sides of engine cover.

*Engine cover***Gasket****Removal**

1. Remove engine cover.
2. Remove gasket and discard.

**Installation**

1. Press gasket onto engine cover.
2. Install engine cover.

*Engine cover gasket***Strap****Removal**

1. Use a die grinder to cut off the pin holding the strap.
2. Remove strap and discard.

**Installation**

1. Secure strap to mounting bracket with a #10 x 1-3/4" bolt and lock nut.

*Fastener on strap**Replacement bolt and nut on strap*

## Fenders

### Front Cladding

[See Cladding, Front Fender.](#)

### Front Quarter Fender



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

*NOTE: On driver's side, remove mirror head before removing front quarter fender.*

[See Remove Mirrors.](#)

1. Remove front fender cladding.  
[See Remove Front Fender Cladding.](#)
2. Remove three M6 screws behind A-pillar seal.
3. Remove lower M6 screw in A-pillar trim.
4. Remove two M6 screws along the top rail of engine compartment.



*Screw location behind A-pillar seal*



*Screw location in A-pillar*



*Screw location on top rail of engine compartment*

5. Remove two M6 screws on quarter fender.
6. Remove two M6 screws on outside edge of headlight bezel.
7. Set fender aside.

### Installation



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure two M6 screws on outside of headlight bezel.
2. Secure two M6 screws along top rail of the engine compartment.
3. Secure one M6 screw in lower portion of A-pillar.
4. Secure three M6 screws behind A-pillar seal.
5. Torque to 7–8 ft•lbs.
6. Install front fender cladding.

[See Install Front Fender Cladding.](#)



*Screw location on qaurter fender*



*Screw location in headlight bezel*



*Screw location in A-pillar*



*Screw location behind A-pillar seal*

## Front Wheel Liner

### Removal

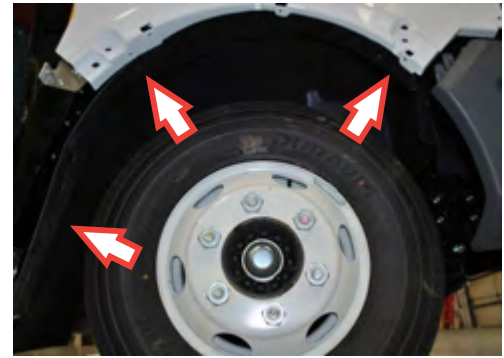
1. Remove three #8 Phillips head screws in front wheel liner.
2. Set front wheel liner aside.

### Installation

1. Secure front wheel liner with three #8 Phillips head screws.

## Sidewall Cladding

[See Cladding, Sidewall.](#)



*Screw locations in wheel liner*

## Fire Extinguisher



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Release clip to remove fire extinguisher from bracket and set aside.
2. Remove two M6 screws from bracket.
3. Remove bracket and set aside.

### Installation

1. Secure the bracket with two M6 screws.
2. Torque to 7–8 ft•lbs.
3. Secure fire extinguisher in bracket.



*Fire extinguisher*

## Composite Repair, Cargo Floor



**WARNING:** Use the proper protective equipment (rubber, mask, etc.) appropriate to the process.



**WARNING:** Adequate ventilation is required when working in a confined area with fiberglass and fiberglass-related repairs.



**CAUTION:** Utilimaster recommends that floor repairs be done by an experienced body shop or at Utilimaster's Customer Service Department in Wakarusa, Indiana. Contact Utilimaster Customer Service Department for further assistance.



**CAUTION:** Read and understand ALL product instructions and safety procedures. The effectiveness of the repair can be compromised by environmental conditions and poor application. Product application and safety instructions provided by the manufacturers always supersede information provided by Utilimaster.

### Overview

This section summarizes the repair options for the composite cargo floor. They are listed in order of severity of the damage and difficulty of the repair.

**Minor Damage:** Damage such as cuts, gouges, and through holes no larger than a golf ball can be repaired with a commonly obtained resin and fiberglass matting kit.

**Major Damage:** Through holes larger than a golf ball should be cut out and a replacement plug of new material be bonded in its place.

**Severe Damage:** Damage that impacts multiple areas (roof, sidewall, rear structure) and requires replacing structural aluminum extrusions should be evaluated by an experienced technician familiar with the Reach design before attempting the repair.

### Minor Repair

Minor repair for cuts, gouges, and through holes no larger than a golf ball.

1. Use a grinder to remove the damaged material. Grind area to form a V-shape to allow the fiberglass to be feathered into the panel.

*NOTE: For cracks, drill a hole at each end to prevent the crack from growing.*

2. Use 120-grit sandpaper to sand 1–2" past the edges of the opening.
3. Vacuum area to remove debris. Ensure no debris is in the foam core.
4. Clean area with alcohol.
5. Mask off or cover areas to protect from dripping resin.
6. Repair area with resin and fiberglass matting.
7. Allow the resin to dry.
8. Sand with 80–120-grit sandpaper.
9. Add more resin and matting as necessary and repeat sanding.
10. Sand with 120–240-grit wet sandpaper.



## Major Repair

Major repairs are for through holes larger than a golf ball.



**WARNING:** Use the proper protective equipment (rubber, mask, etc.) appropriate to the process.



**WARNING:** Adequate ventilation is required when working in a confined area with fiberglass and fiberglass-related repairs.



**CAUTION:** Utilimaster recommends that floor repairs be done by an experienced body shop or at Utilimaster's Customer Service Department in Wakarusa Indiana. Contact Utilimaster Customer Service Department for further assistance.



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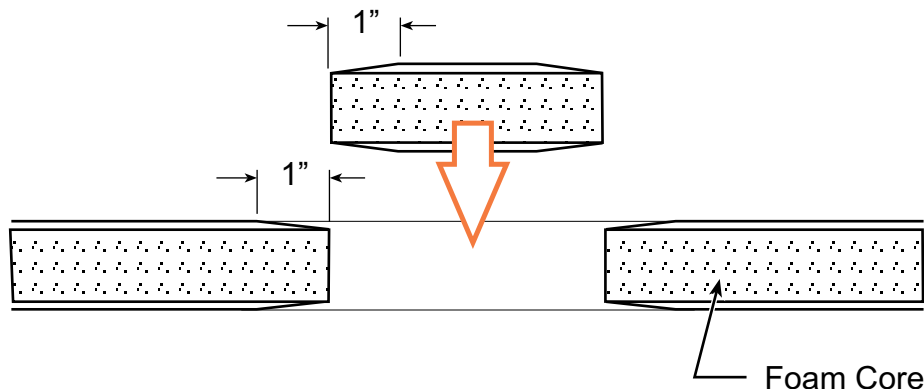


**CAUTION:** When cutting repair area, ensure that there are no components underneath the vehicle that can be damaged during the process.

1. Measure the damaged area and use a straight edge and square to cut out a replacement plug from a new panel. The plug should be at least 1" larger than the damaged area on all sides.
2. Place the plug over the area to be removed and trace the perimeter.
3. Use a saw or die grinder to cut out the damaged area.
4. Test fit plug and modify as necessary. Replacement plug should NOT have any more than 1/16" gap on any side when test fitting the plug.
5. Use a rotary file or grinder to smooth the edges of the hole.
6. Sand with 80–120-grit sandpaper.
7. Taper all the edges of the area 1" to allow the fiberglass repair to be feathered into the panel.



*Cut out damaged area*



*Taper all edges of the area*



8. Use 120-grit sandpaper to sand 1–2" past the edges of the opening and plug.
9. Center the plug in the opening, and secure with clamps or fasteners.

*NOTE: The plug can be held in place with wood blocks and screws that should be removed after the first resin application.*

10. Remove plug and set aside.



**CAUTION: Do NOT get resin on the clamps or mounting fixtures.**

11. Mask off or cover areas to avoid dripping resin.
12. Clean the repair area with alcohol.

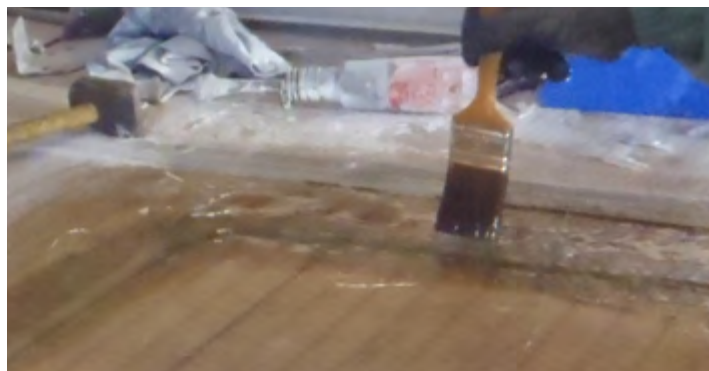


**CAUTION: The replacement panel needs to be mounted flat and flush with the body surface.**

13. Coat all four sides of the plug and the hole with resin, wrap all edges with matting material, and place in the opening.

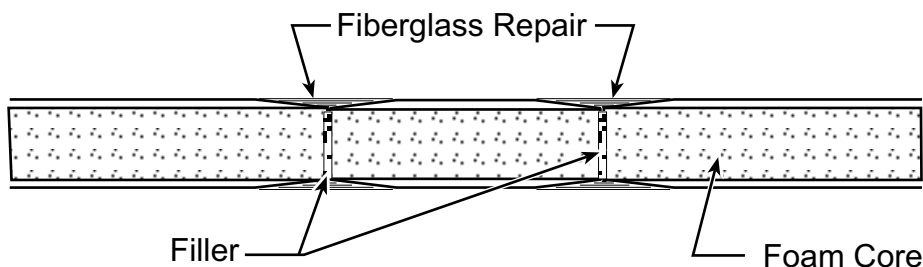


*Fiberglass matting*



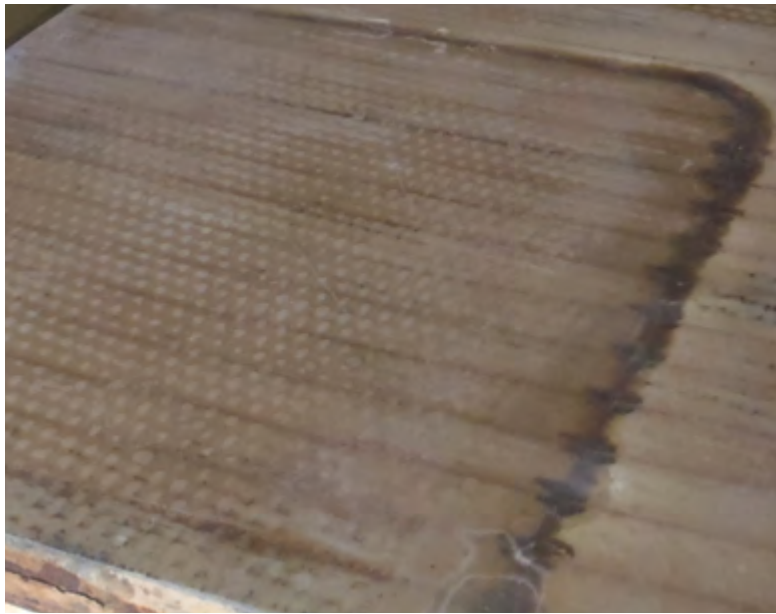
*Coat with resin*

14. Center the plug in the opening, and secure with clamps or fasteners.



*Center plug in opening*

15. Bond the perimeter of the plug to the body with resin and fiberglass matting.
16. Allow resin to dry.
17. Remove clamps and apply resin to gaps, low spots, and holes.
18. Allow to dry.
19. Sand with 80–120-grit sandpaper.
20. Add more resin and matting and repeat sanding until surfaces are smooth.
21. Sand with 120–240-grit **wet** sandpaper.



*Repaired floor*

## Fuel Sending Unit Access Panel

### Composite Floor

Located in the cargo area is an access panel for the fuel sending unit. In order to remove panel, the floor mat around the panel will need to be removed.

### Removal



**CAUTION:** Place a wood block underneath the pry bar to prevent damage to the floor.

1. Remove floor mat from around access panel in the center of floor at the rear of the wheel well. An outline of the access panel should be visible.
2. Use a heat gun to release the structural adhesive from the panel.  
[See Structural Adhesive Removal.](#)
3. Use a flat pry bar to carefully lift up the access panel.



*Fuel sending unit access panel under matting*

### Installation

1. Apply structural adhesive to the panel.  
[See Structural Adhesive Installation.](#)
2. Center access panel over opening in floor and press firmly.
3. Apply weight to the panel and allow structural adhesive to bond to floor.
4. Secure floor mat to floor with spray structural adhesive and roll with a floor weight to bond.



*Fuel sending unit access panel*



*Fuel sending unit*

## Glass

### Tools and Materials



**WARNING:** Use rubber gloves and any appropriate breathing apparatus as recommended by the manufacturer of the kit.

To avoid injuring yourself or others, use extreme care when handling glass, the pneumatic knife, and utility knife.

Safety and application instructions provided with sealants, adhesives, and other products should always supersede information provided by Utilimaster.



**CAUTION:** A properly bonded windshield is critical to the structural integrity of the vehicle. Utilimaster recommends that professional automotive glass specialists replace the windshield and windows.

Glass adhesives and sealants have a short shelf life. Close attention must be paid to cleaning surfaces and to timing during installation.

Review the Sealant section in this manual.

The following information can be shared with auto glass shops.

If you do the job yourself, you will need the following:

- Replacement glass
  - Windshield glass—laminated safety glass (P/N 09801779)
  - Driver's side quarter window glass (P/N 09801831)
  - Passenger's side quarter window glass (P/N 09801780)
- Windshield pneumatic knife (optional)
- Wire style cutter
- Isopropyl alcohol
- Glass bonding replacement kit
- Masking tape
- Caulking gun
- Medium Red Scotch Brite™ (to roughen surfaces)
- Clean cotton rag or lint-free paper towel
- Glass replacement tool kit(s)

**Windshield Tool Kit (P/N 23003394SK)**

The Utilimaster windshield replacement tool kit consists of:

- Foam seal, interior (P/N 05705865)
- Seal, exterior (P/N 05705896)
- Windshield support blocks (P/N F542662)
- Windshield spacers (P/N 08612036)
- Poly-stick
- Utility knife

**Driver's Side Quarter Window Glass Tool Kit (P/N 23003395SK)**

The Utilimaster driver's side quarter glass replacement tool kit consists of:

- Quarter glass support blocks (P/N T542683)
- Quarter glass spacers (P/N 08612037)
- Quarter glass trim, driver's side (P/N 05705843)
- Poly-stick
- Utility knife



*Material kit*

**Passenger's Side Quarter Window Glass Tool Kit (P/N 23003396SK)**

The Utilimaster driver's side quarter glass replacement tool kit consists of:

- Quarter glass support blocks (P/N T542683)
- Quarter glass spacers (P/N 08612037)
- Quarter glass trim, passenger's side (P/N 05705844)
- Poly-stick
- Utility knife

**Glass Bonding Material Kit (P/N 23005015SK)**

The Utilimaster bonded window replacement material kit consists of:

Activator (P/N 12605959)

Primer (P/N 12605827)

Urethane Adhesive Sealant (P/N 12605956)

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## Windshield Removal



**WARNING:** Use extreme caution to avoid injuring yourself or others when cutting the sealant.

1. Remove A-pillar trim.  
[See Remove A-Pillar Trim.](#)
2. Remove hood.  
[See Remove Hood.](#)
3. Remove wiper arms.  
[See Remove Wiper Arms.](#)
4. Remove six #8 screws from the bottom of the leaf screen.
5. Remove five M6 screws from the top of leaf screen and set aside.
6. From the outside of the vehicle, use a utility knife to remove the outer seal located at the top of the windshield.
7. From the outside of the vehicle, insert the blade of a windshield pneumatic knife, utility knife, or wire style cutter to cut out the urethane seal around perimeter of windshield. Try to leave at least 1/8" thick section of sealant on the frame.
8. Remove the foam seal along the dash if necessary.
9. Carefully remove the damaged glass and discard.

## Quarter Glass Removal

1. Remove mirror.

[See Remove Mirrors.](#)

2. Remove A-pillar trim.

[See Remove A-Pillar Trim.](#)

3. Remove front quarter fender.

[See Remove Front Quarter Fender.](#)

4. Remove trim.

5. Cut the urethane sealant with a pneumatic knife or utility knife. The use of a wire style cutter may be required to remove the urethane sealant that is closer to the body of the vehicle. Try to leave at least 1/8" thick section of sealant on the frame.

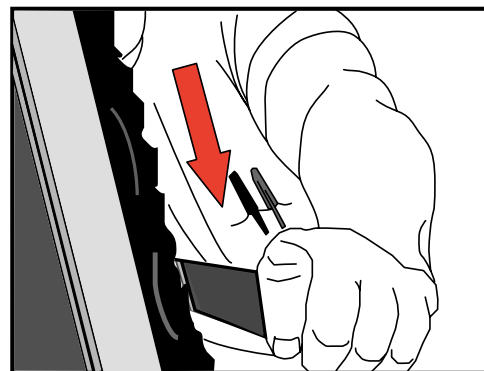
6. Remove quarter glass and discard.

## Substructure Prep



**CAUTION:** Do NOT use lacquer thinner or mineral spirits.

1. If the old adhesive is bonded firmly to the frame and not peeling from the surface, trim the bead down to 1/16" to 1/8". If old adhesive is loose, remove all adhesive down to metal surface.
2. Use Medium Red Scotch Brite® to roughen surface of any bare metal area of mounting frame.
3. Clean entire aluminum bond area with isopropyl alcohol. Allow two minutes drying time.
4. Wiping in one direction, use a clean cotton rag or lint-free paper towel and apply activator to the exposed metal of mounting frame. Turn rag several times to avoid transferring dirt and oil. Drying time is ten minutes.
5. Brush a light coat of primer (P/N 12605827) on exposed metal of mounting frame. Drying time is ten minutes.



*Trim sealant bead*



## Glass Prep and Bonding



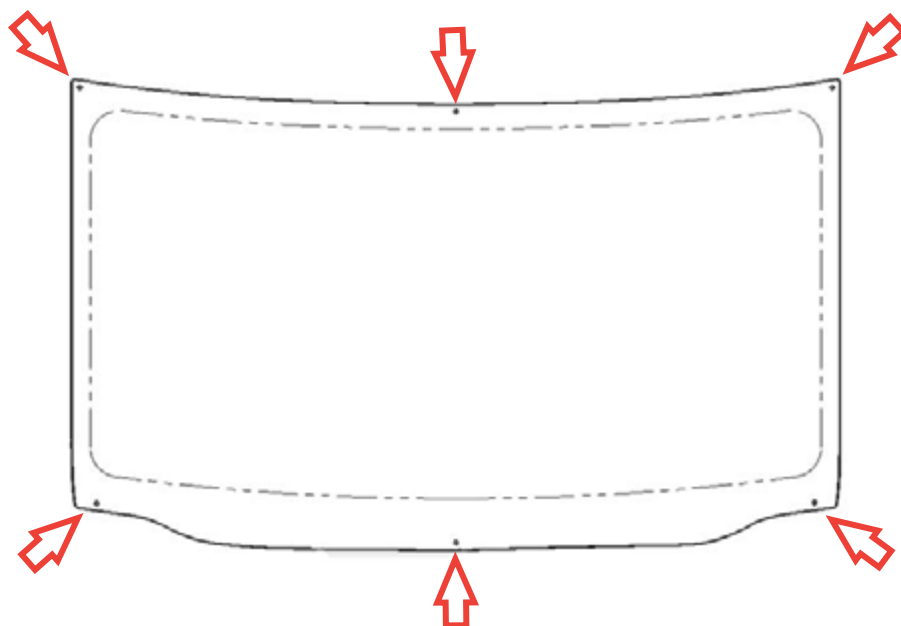
**CAUTION:** Bonding glass is a sensitive process. All steps should be followed closely and without substitutions. Professional automotive glass installers are recommended.

1. For **windshield replacement**, set the nylon windshield support blocks (P/N F542662) on the support stops located at the bottom of the windshield.



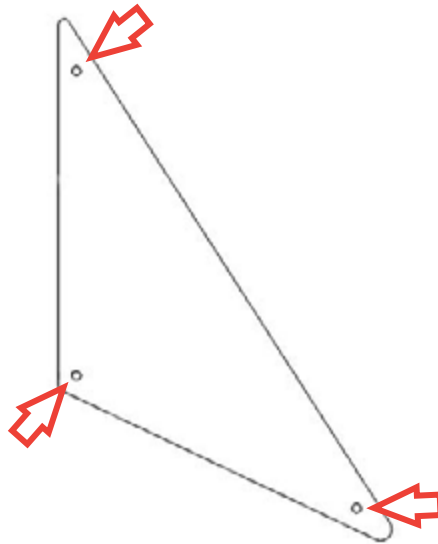
*Windshield support block*

2. Check replacement window for fit.
3. Clean glass with 2-to-1 mixture of isopropyl alcohol and water. Drying time is two minutes. Avoid heavy soaps or ammonia. Auto glass replacement dealers also have recommended cleaners.
4. Wiping in one direction, use a clean cotton rag or lint-free paper towel and apply the activator on the bonding area (frit band). Turn rag several times to avoid transferring dirt and oil. Drying time is ten minutes. Finish the installation process within two hours.
5. For windshield installation, apply spacers on the inside of the glass in all four corners and in the center on the top and bottom.



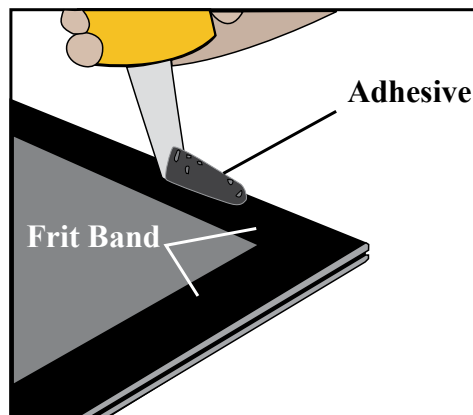
*Spacer placement for windshield*

6. For quarter glass installation, apply spacers on the inside of the glass in all three corners.



*Spacer placement for quarter glass*

7. Using a caulking gun, apply a bead of urethane adhesive (approximately 5/16" wide x 1/2" tall) directly to the glass frit band or mounting flange. Use a V-shaped nozzle for the optimal bead shape.
8. Close any voids at corners or elsewhere by smoothing over with a poly-stick.



*Frit band and adhesive*

## Windshield Installation



**CAUTION:** Glass must be installed within ten minutes of applying adhesive to ensure a good bond.



**CAUTION:** Do NOT use mineral spirits or alcohol.



**CAUTION:** Do NOT wash the windows for at least 24 hours following installation. Chemicals like those found in washer fluid can retard the adhesives.

**NOTE:** Recommended minimum thickness of adhesive layer after installation is 1/4".

1. Install foam seal along dash if necessary.
2. Install glass onto vehicle and align to correct position using the support blocks.
3. Press gently around the entire perimeter of glass to make a good adhesive contact. Use the Poly-stick to clean up any excess adhesive.
4. Clean area with a mild soap solution (use sparingly).
5. Heat seal and install seal along top of windshield.
6. Secure top of leaf screen with five M6 screws.
7. Torque to 7–8 ft•lbs.
8. Secure bottom of leaf screen with six #8 screws.
9. Install wiper arms.

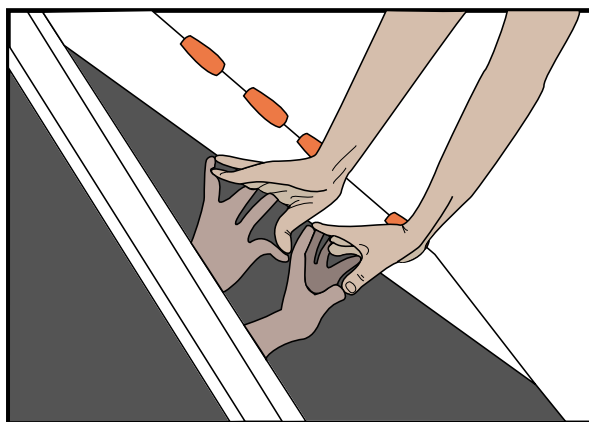
[See Install Wiper Arms.](#)

10. Install the hood.

[See Install the Hood.](#)

11. Install A-pillar trim.

[See Install A-Pillar Trim.](#)



*Install glass*

## Quarter Glass Installation



**CAUTION:** Glass must be installed within ten minutes of applying adhesive to ensure a good bond.



**CAUTION:** Do NOT use mineral spirits or alcohol.



**CAUTION:** Do NOT wash the windows for at least 24 hours following installation. Chemicals like those found in washer fluid can retard the adhesives.

*NOTE: Recommended minimum thickness of adhesive layer after installation is 1/4".*

1. Install glass onto frame.
2. Press gently around the entire perimeter of glass to make a good adhesive contact. Use the poly-stick to clean up any excess adhesive.
3. Clean area with a mild soap solution (use sparingly). Do NOT use mineral spirits or alcohol.

4. Replace trim.
5. Install front quarter fender.

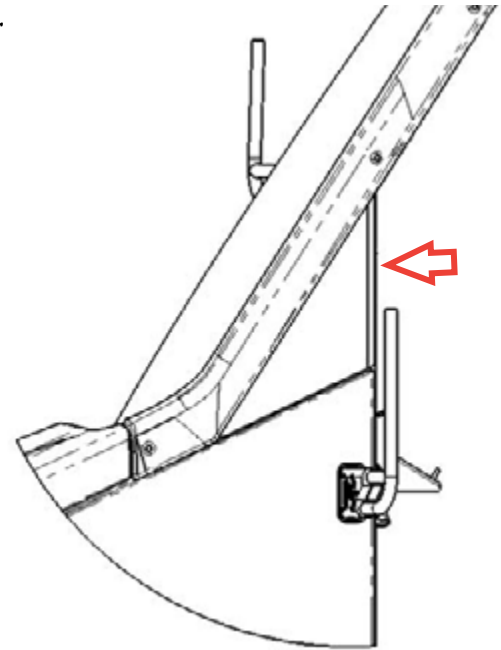
[See Install Front Quarter Fender.](#)

6. Install A-pillar trim.

[See Install A-Pillar Trim.](#)

7. Install mirrors.

[See Install Mirrors.](#)



*Quarter glass trim*

## Grille and Grille Screen



**CAUTION:** Discard ALL used fasteners and replace with new.

### Removal

1. Open hood.  
[See Open Hood.](#)
2. Remove pine-tree fasteners from grille.  
[See Remove Pine-Tree Fasteners.](#)
3. Set grille aside.



*Grille*

### Installation

1. Install pine-tree fasteners to the grille.  
[See Install Pine-Tree Fasteners.](#)

## Handrail and Grab Handles

### Grab Handle, A-Pillar



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

#### Removal

1. Remove four M6 screws from A-pillar grab handle and set aside.

#### Installation

2. Secure grab handle to A-pillar with four M6 screws.
3. Torque to 7–8 ft•lbs.



*A-pillar grab handle*



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

#### Removal

1. Remove the four M8 bolts.
2. Set grab handle aside.

#### Installation

1. Secure the mounting brackets with four M8 bolts.
2. Torque to 17–21 ft•lbs.



*Bolt location on rear grab handle*

## Handrail



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove fuse cover panel.  
[See Remove Fuse Cover Panel.](#)
2. Remove fire extinguisher.  
[See Remove Fire Extinguisher.](#)
3. Remove washer bottle panel.  
[See Remove Washer Bottle Panel.](#)
4. Remove front wheel liner.  
[See Remove Front Wheel Liner.](#)
5. Remove two M8 bolts at the lower handrail from behind the wheel liner.
6. Remove M6 bolt from upper handrail mounting bracket.
7. Remove handrail and set aside.



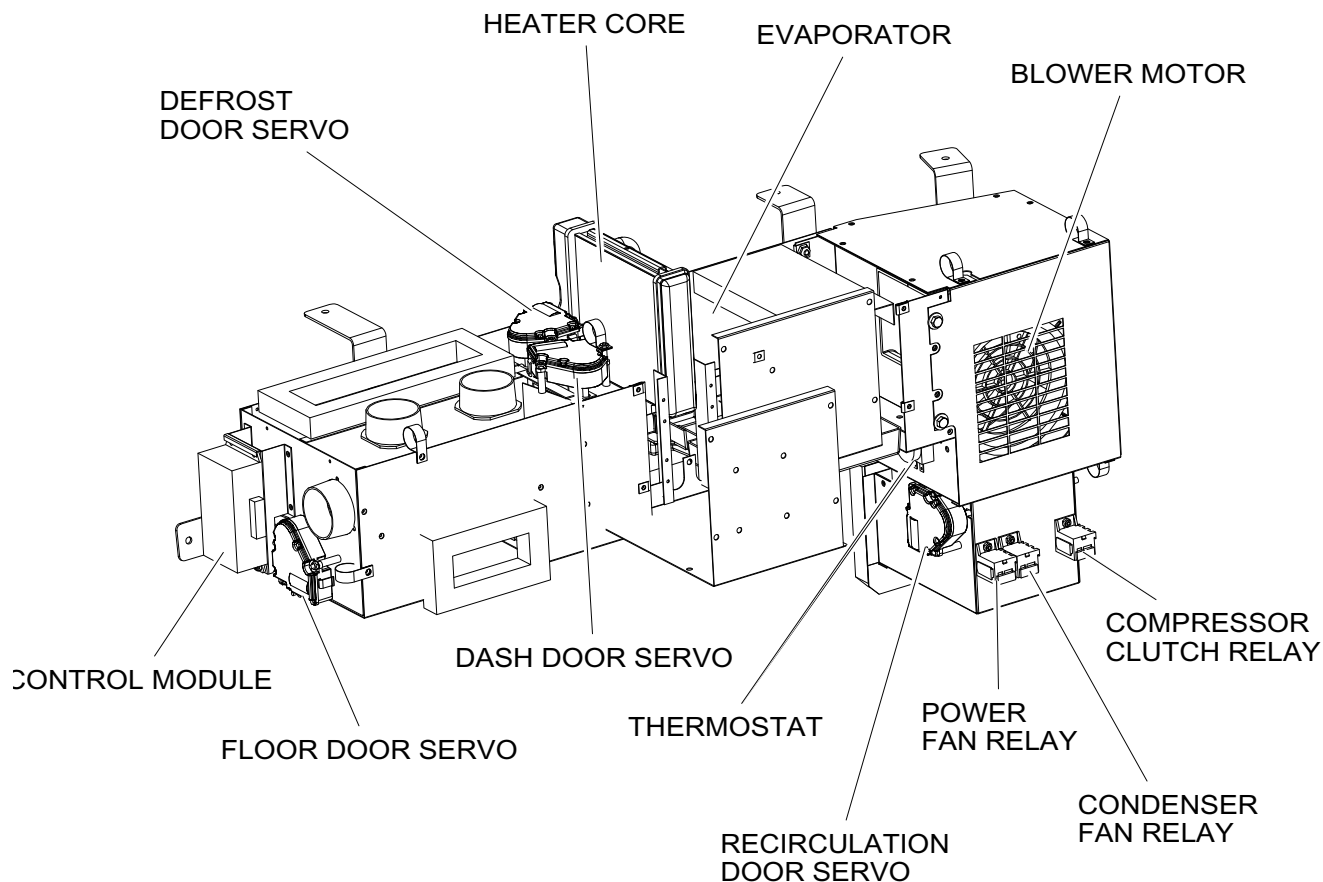
Handrail

### Installation

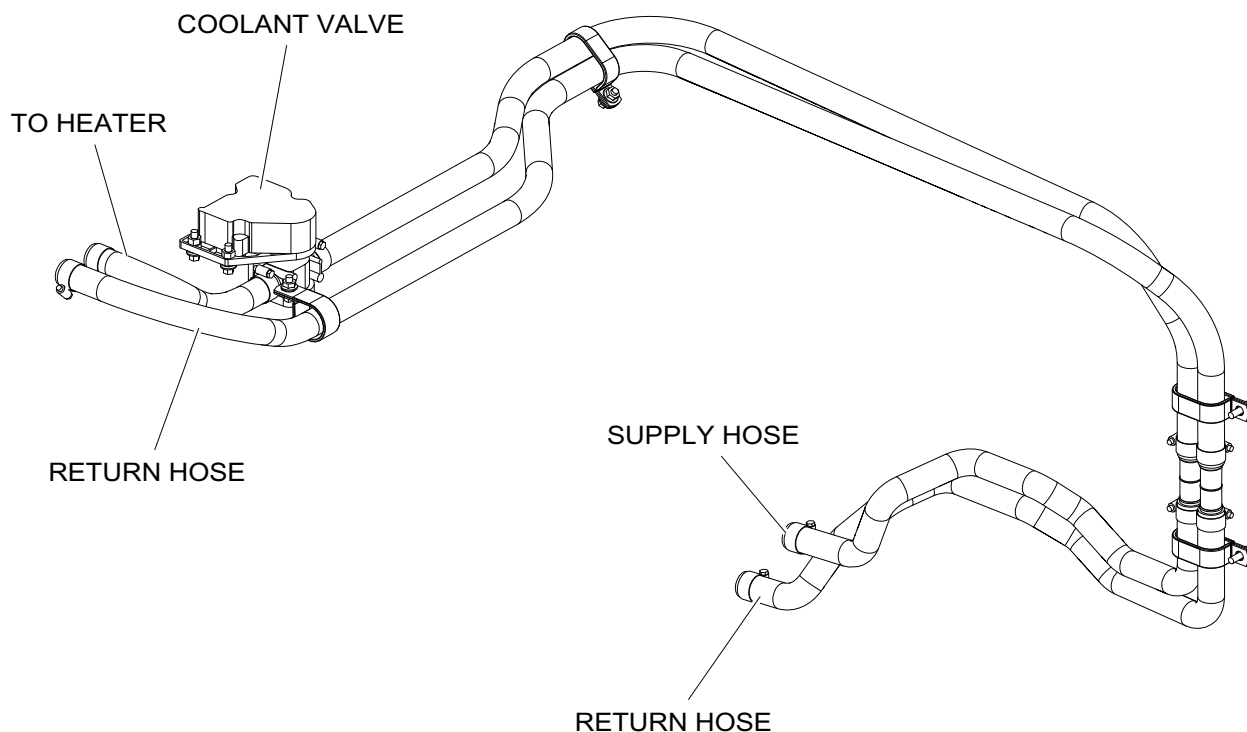
1. Secure handrail to upper mounting bracket with M6 bolt.
2. Torque to 7–8 ft•lbs.
3. Secure bottom of handrail with two M8 bolts from inside the wheel liner.
4. Torque to 17–21 ft•lbs.
5. Install front wheel liner.  
[See Install Front Wheel Liner.](#)
6. Install washer bottle panel.  
[See Install Washer Bottle Panel.](#)
7. Install fuse cover panel.  
[See Install Fuse Cover Panel.](#)



## Heater, Air Conditioning, and Ventilation (HVAC) System



*Heater plenum with air-conditioning viewed from inside.*



*Heater hose routing viewed from under the hood.*

## Blower Motor

The blower motor is located inside the heater plenum on the passenger side of the vehicle.

*NOTE: 1/4" drive ratchet with magnetic sockets, a 5/16" offset ratchet wrench or gear wrench, and a 1/4" drive shallow socket will make the process easier.*



**WARNING:** Utilimaster recommends the only a licensed/certified automotive technician services the vehicle's air-conditioning system.

## Removal

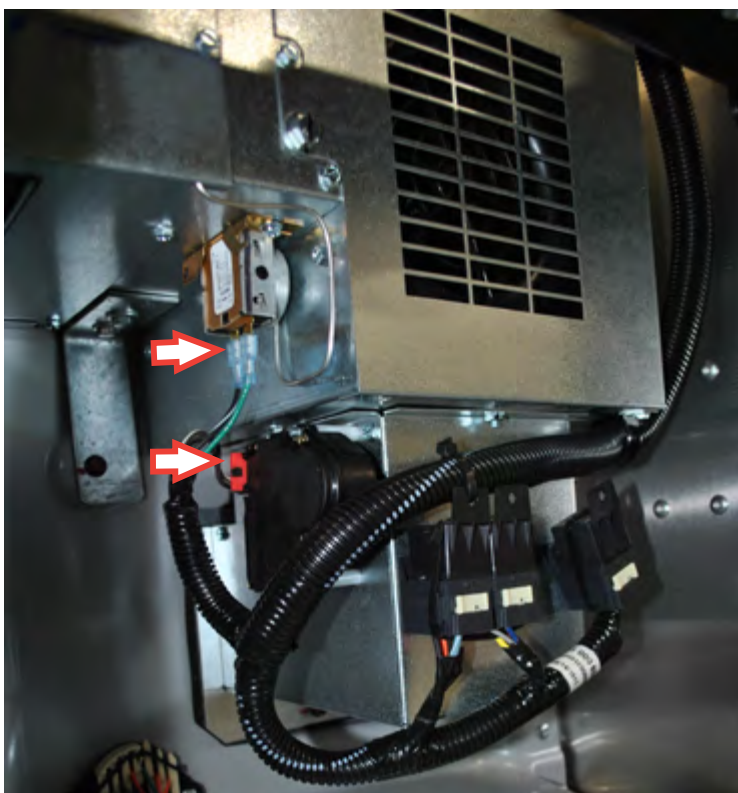
*NOTE: Keep all hardware for reinstallation.*

*NOTE: The thermostat is located above the mode (servo) motor mounted to the left of the blower housing.*

1. Remove dash valance panel.

[See Remove Dash Valance Panel.](#)

2. Disconnect the wires from the thermostat and servo motor.



*Thermostat and servo motor wires*

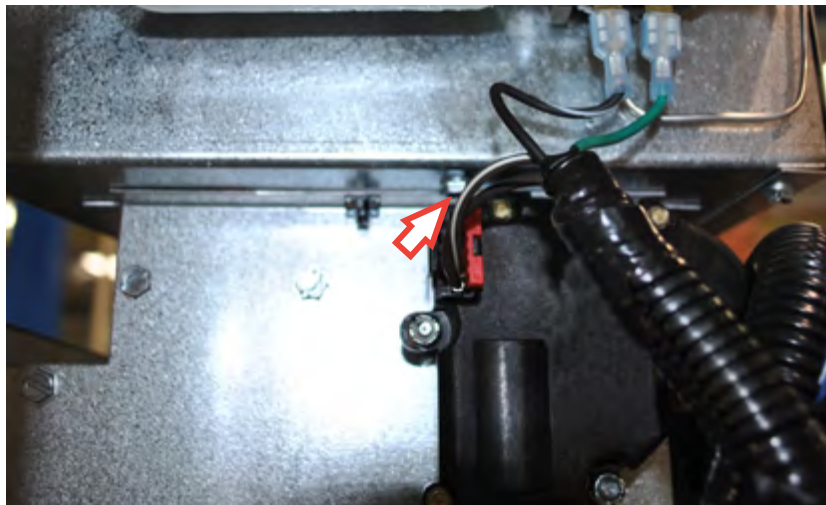
3. Remove three locknuts and nylon spacers from motor and set aside.

4. Remove one #10 x 1/2" screw from the blower motor support bracket to the right of the relays.



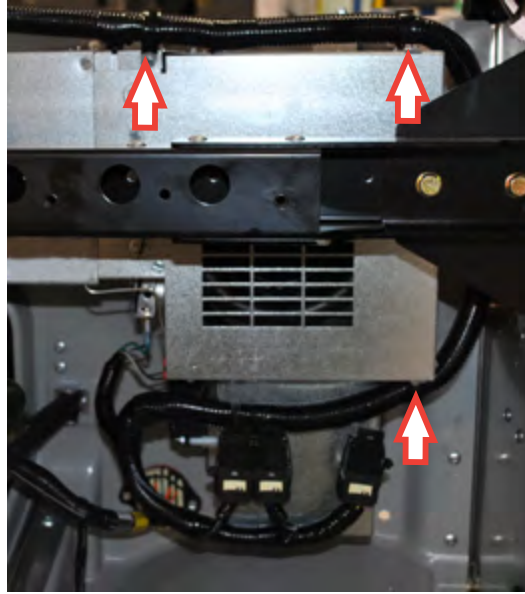
*Screw on right-hand side of blower motor support bracket*

5. Remove one #10 x 1/2" screw from the blower motor support bracket located above the servo motor.



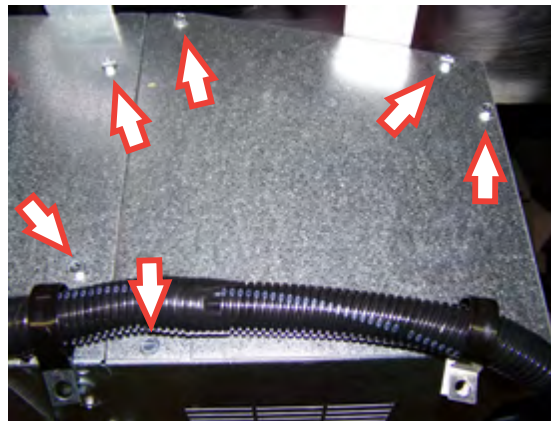
*Screw on left-hand side of blower motor support bracket*

6. Remove the #10 x 1/2" screws in the three P-clamps located on the blower housing.



*P-clamps*

7. Remove the six #10 x 1/2" screws from top cover of the blower housing.



*Screws on cover of blower housing*

8. Use a pair of needle nose pliers to remove blower motor wire grommet.



*Blower motor wire grommet*

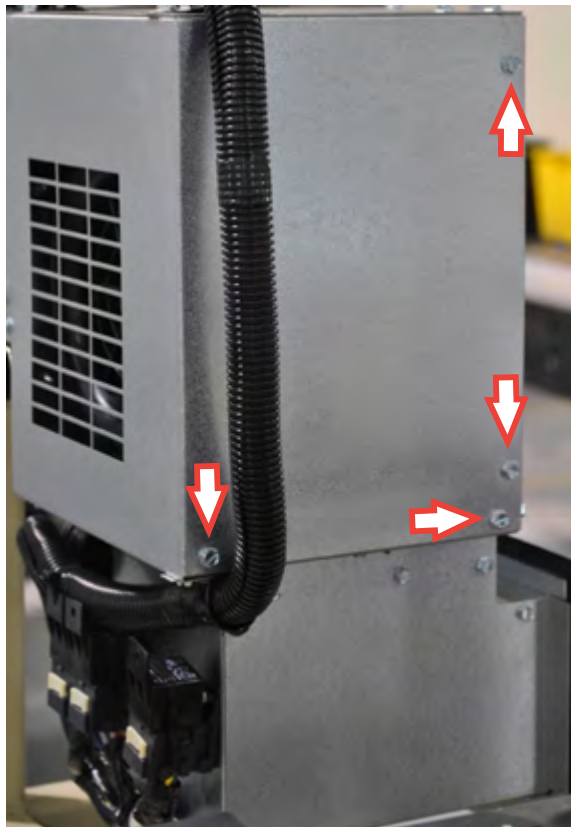


9. Remove a section of wires from the convoluted tubing and slide wires and tubing through slot in blower housing. Remove case top and set aside.



*Pull wires and convoluted tubing out separately.*

10. Use a ratchet wrench or gear wrench to remove four #10 x 1/2" screws from the blower housing.



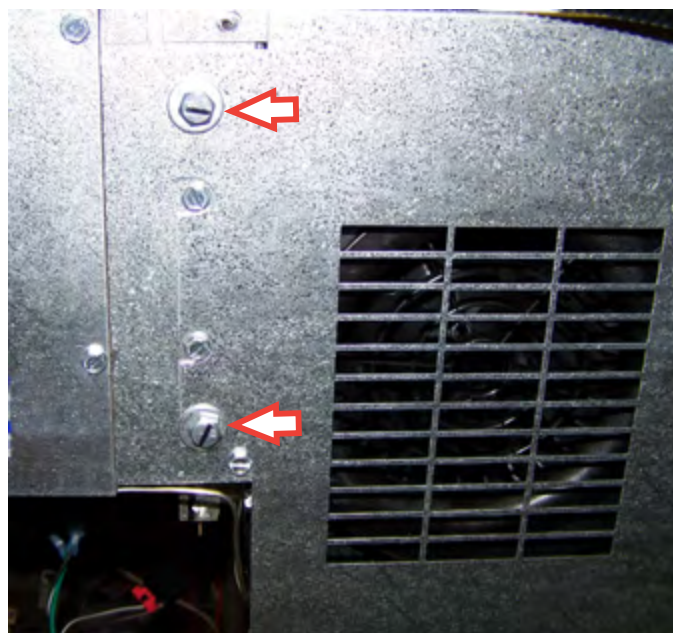
*Screws on blower motor housing*

11. Remove one #10 x 1/2" screw from the blower housing above relays.



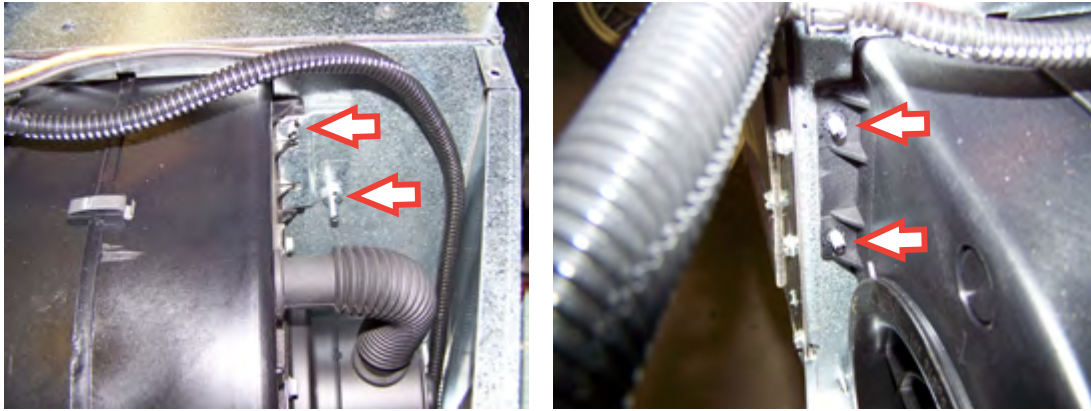
*Screw on blower motor housing*

12. Remove two 1/4-20 bolts and flat washers from the blower housing and set housing aside.



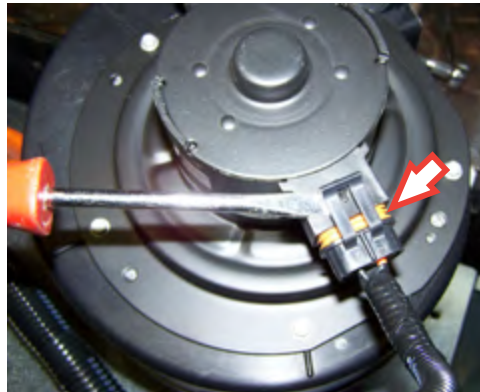
*Bolts on blower motor housing*

13. Remove four 3/8" nuts and bracket that secure the motor to housing. Remove motor from housing.



*Nuts that secure motor to housing*

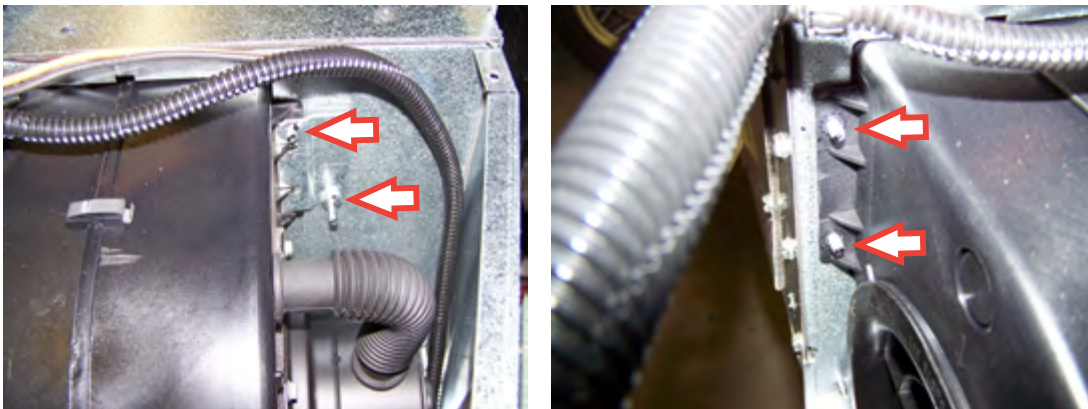
14. Use a screwdriver to disconnect blower harness.



*Blower harness*

#### Installation

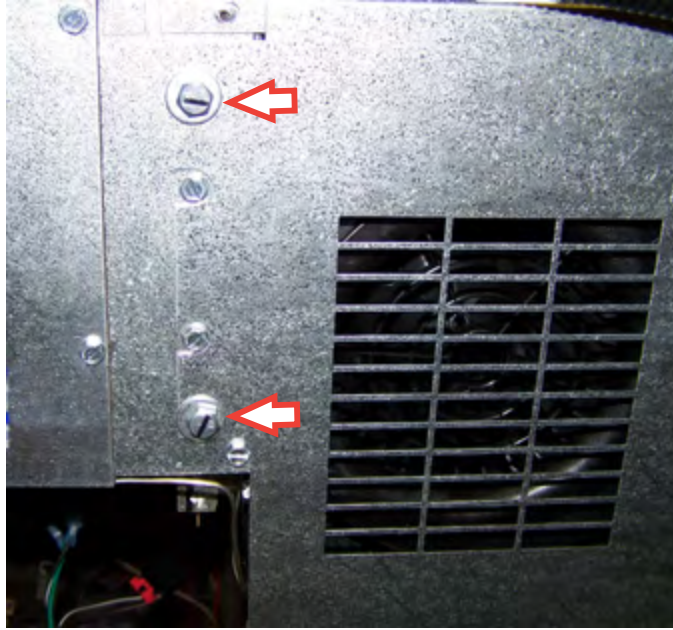
1. Secure the blower harness to the blower motor.
2. Secure the motor to the blower mounting plate and bracket with four 3/8" nuts.



*Nuts that secure motor to housing*



3. Secure blower housing with two flat washers and two 1/4-20 bolts.



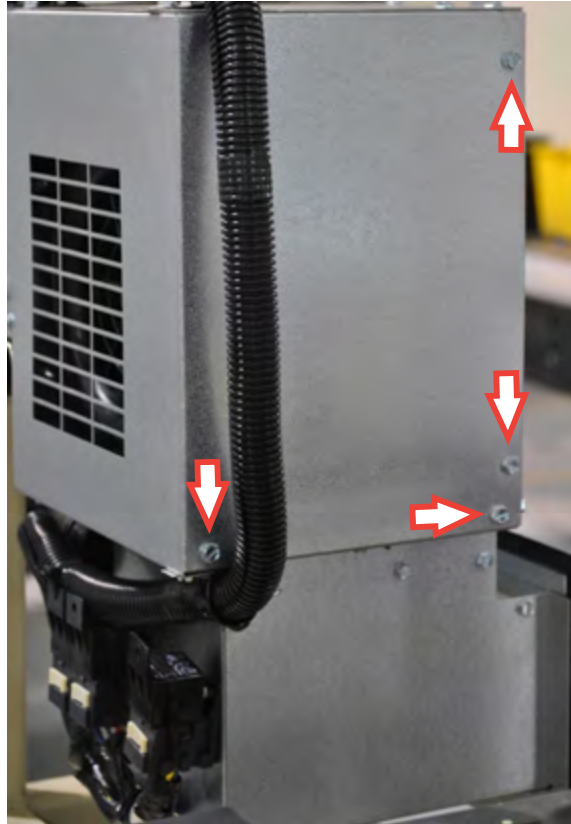
*Bolts on blower motor housing*

4. Secure housing above the relays with one #10 x 1/2" screw.



*Screw on blower motor housing*

5. Secure the end of housing with four #10 x 1/2" screws.



*Screws on blower motor housing*

6. Place case top on the blower housing and slide wires and convoluted tubing through slot in blower housing. Place wires into convoluted tubing.



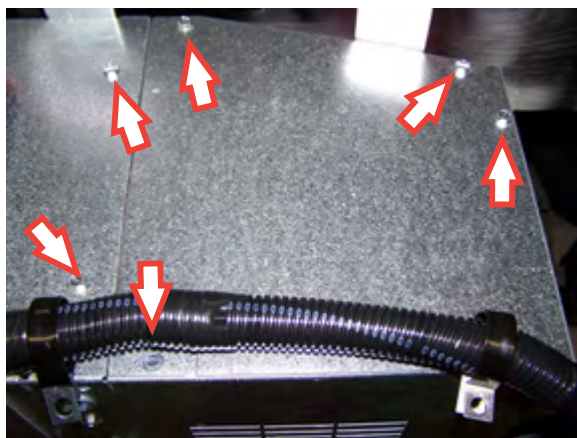
*Place wires into convoluted tubing.*

7. Secure the blower motor grommet.



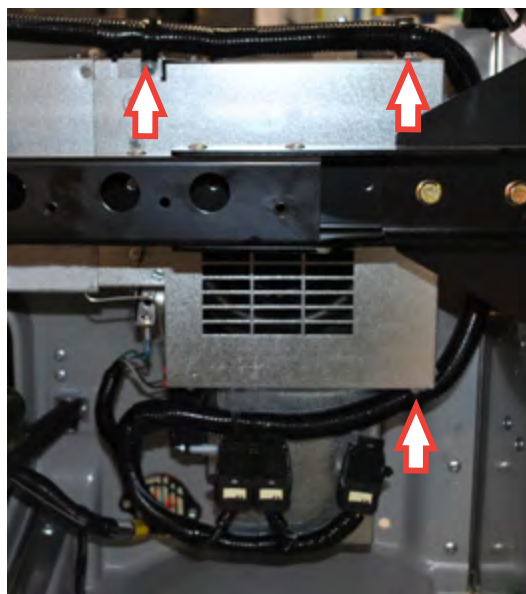
*Blower motor grommet*

8. Secure top cover of blower housing with six #10 x 1/2" screws.



*Screws on cover of blower housing*

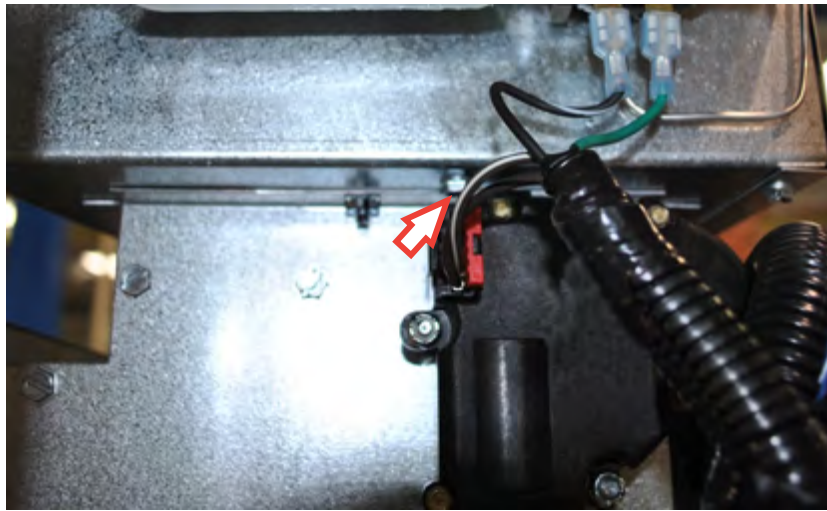
9. Secure the P-clamps with three #10 x 1/2" screws.



*P-clamps*



10. Slide blower motor support bracket into place and secure one #10 x 1/2" screw above the servo motor.



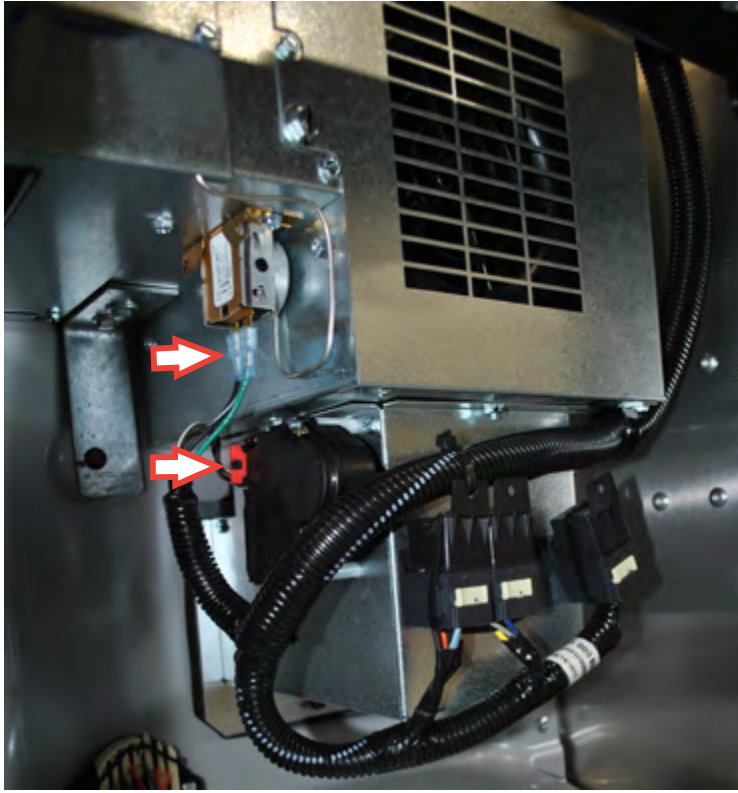
*Screw on left-hand side of blower motor support bracket*

11. Secure other end of blower motor support bracket with one #10 x 1/2" screw to the right of the relays.



*Screw on right-hand side of blower motor support bracket*

12. Secure servo motor with three locknuts and nylon spacers.
13. Secure the thermostat and electric motor wires.



*Thermostat and servo motor wires*

14. Install dash valance panel.

[See Install Dash Valance Panel.](#)

## Condenser

The condenser is located on the passenger's side of the vehicle behind the bumper fascia.



**WARNING:** Utilimaster recommends that only a licensed/certified automotive technician services the vehicle's air-conditioning system.



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove front fascia.  
[See Remove Front Fascia.](#)
2. Drain the air-conditioning system of all refrigerant and disconnect air-conditioning hoses from the condenser.
3. Remove five M8 screws from the bracket and remove bracket from bumper.
4. Remove 14 blind rivets from condenser.  
[See Remove Blind Rivet.](#)
5. Remove condenser and set aside.

### Installation

1. Secure condenser to bracket with 14 blind rivets.  
[See Install Blind Rivet.](#)
2. Secure bracket to bumper with five M8 screws.
3. Torque to 17–21 ft•lbs.
4. Reconnect air-conditioning hoses.
5. Charge air-conditioning system with 30 ounces of refrigerant.
6. Start vehicle and check air-conditioning performance.
7. Install front fascia.

[See Install Front Fascia.](#)



Condenser

## Control Module

The control module is located on the left end of the heater plenum.

*NOTE: 1/4" drive ratchet with magnetic sockets will make the process easier.*

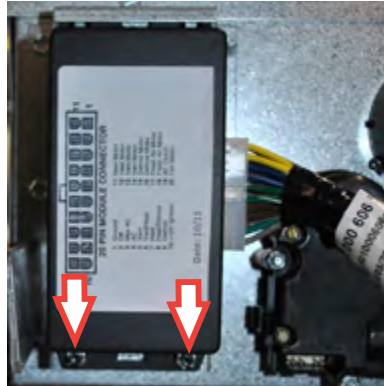
### Removal

*NOTE: Keep all hardware for reinstallation.*

1. Remove dash valance panel.

[See Remove Dash Valance Panel.](#)

2. Remove two 8-32 nuts.



*Nuts on control module*

3. Pull out on the bottom of control module until module clears studs and gently pull downward.
4. Disconnect wire harness. Inspect wires and connector pins for any defects and set aside.

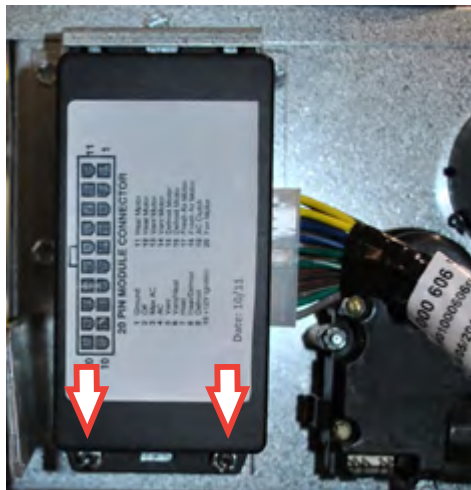


*Wire harness*



## Installation

1. Inspect connector pins for defects and replace if necessary.
2. Connect wire harness to control module.
3. Slide control module under lip of bracket.
4. Secure control module with two 8-32 nuts.



*Nuts on control module*

5. Turn ignition key to On position and check all functions of heat and air-conditioning system.
6. Install dash valance panel.

[See Install Dash Valance Panel.](#)

## Dryer



**WARNING:** Utilimaster recommends that only a licensed/certified automotive technician services the vehicle's air-conditioning system.

### Dryer Removal

*NOTE: Keep all hardware for reinstallation.*

*NOTE: The expansion valve must be replaced when replacing the dryer.*

1. Drain the air-conditioning system of all refrigerant.
2. Remove grille.

[See Remove Grille.](#)

3. Remove grille screen.

[See Remove Grille Screen.](#)

4. Remove air intake from air cleaner assembly.
5. Disconnect air-conditioning hoses from dryer.



*Air intake*

6. Remove trinary switch.

[See Remove Trinary Switch.](#)

7. Remove two screws from dryer mounting bracket and set aside.

### Expansion Valve Removal

*NOTE: The hoses do not need to be removed from the manifold.*

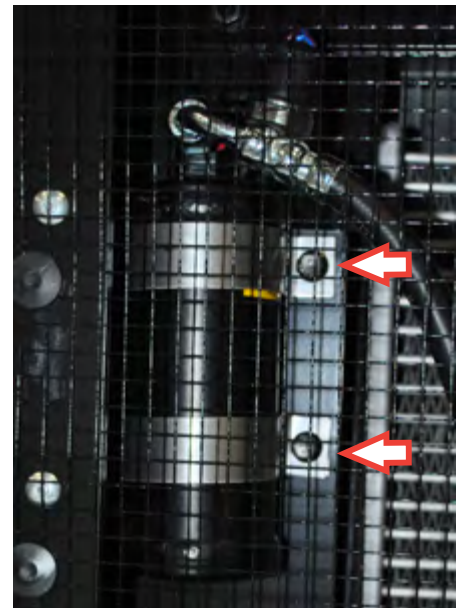
1. Remove bolt from evaporator manifold and set manifold aside.
2. Remove two bolts from expansion valve and discard valve.

### Expansion Valve Installation

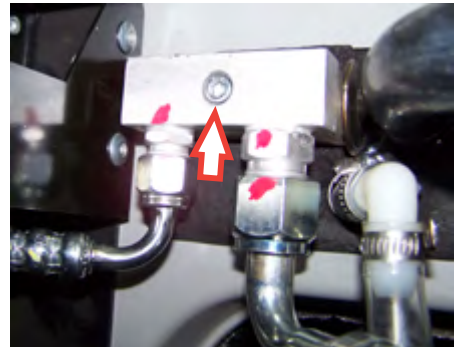
1. Lubricate new O-rings with mineral oil and install on expansion valve.
2. Secure expansion valve to evaporator with two bolts.
3. Torque to 30–35 ft•lbs.
4. Secure manifold to expansion valve with bolt.
5. Torque to 10 ft•lbs.

### Dryer Installation

1. Install trinary switch.  
[See Install Trinary Switch.](#)
2. Lubricate two new #6 O-rings and attach to dryer.
3. Secure dryer hoses.
4. Torque to 30–35 ft•lbs.
5. Secure dryer with two screws.
6. Torque to 12 ft•lbs.
7. Charge air-conditioning system with 30 ounces of refrigerant.
8. Start vehicle and check air-conditioning performance.
9. Install grille screen.  
[See Install Grille Screen.](#)
10. Install grille.  
[See Install Grille.](#)



*Screws on dryer mounting bracket*



*Manifold bolt*



*Evaporator valve bolts*

**Trinary Switch**

The trinary switch is located on the dryer behind the grille. The switch has three functions: high pressure cut-out, low pressure cut-out, and condenser fan operation.

**Removal**

1. Disconnect wire harness.
2. Remove switch by turning counterclockwise and set aside.

**Installation**

1. Lubricate rubber seal inside switch with mineral oil.
2. Secure switch by turning clockwise.
3. Connect wire harness.



*Switch on dryer*

## Evaporator

The evaporator is located inside the heater plenum on the passenger side of the vehicle.

*NOTE: 1/4" drive ratchet with magnetic sockets will make the process easier.*



**WARNING:** Utilimaster recommends that only a licensed/certified automotive technician services the vehicle's air-conditioning system.

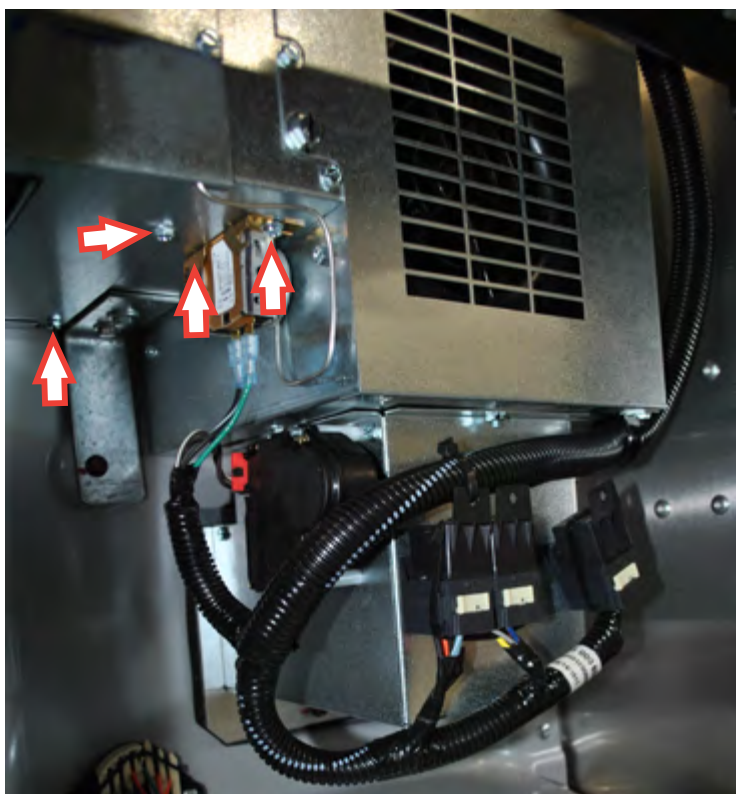
### Removal

*NOTE: Keep all hardware for reinstallation.*

1. Remove heater core.

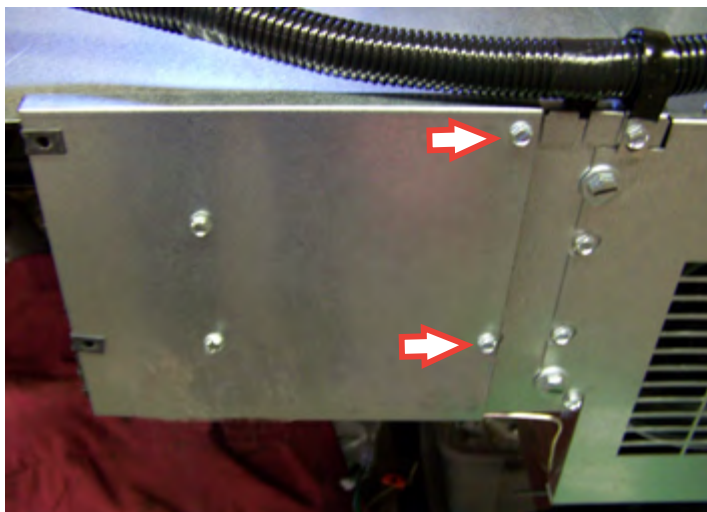
[See Remove Heater Core.](#)

2. Drain the air-conditioning system of all refrigerant and disconnect air-conditioning hoses from the expansion valve located under the hood on the firewall.
3. Remove two #10 x 1/2" screws from thermostat and two #10 x 1/2" screws from evaporator case.



*Screws on thermostat and evaporator case*

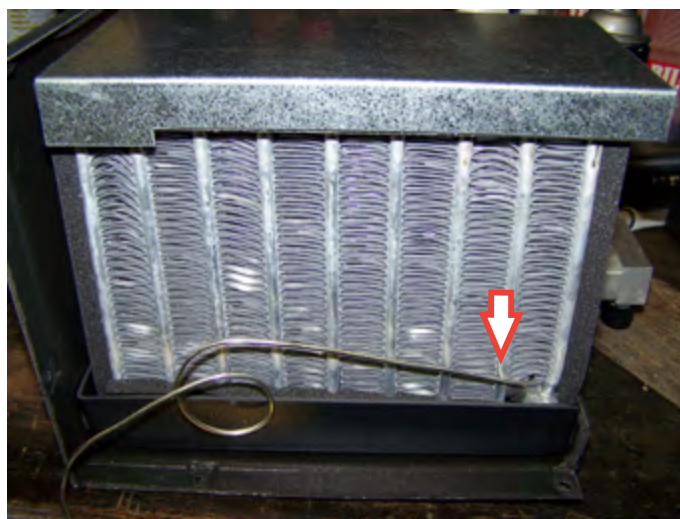
4. Supporting the evaporator assembly, remove two #10 x 1/2" screws and remove evaporator.



*Screws on evaporator assembly*

*NOTE: Before removing the capillary tube, identify location for proper reinstallation.*

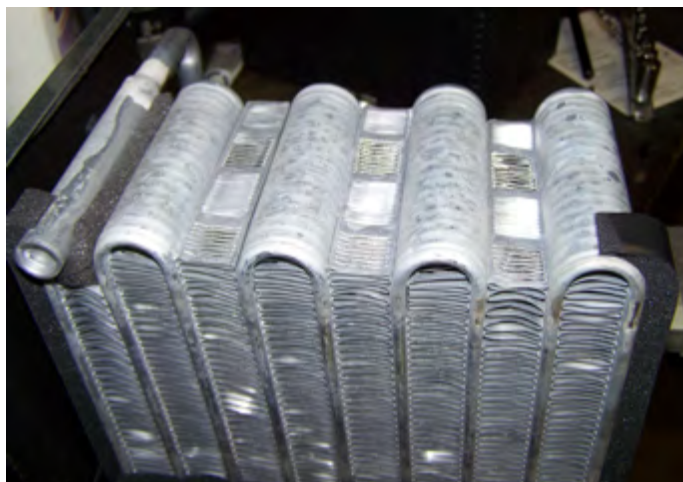
5. Remove the thermostat capillary tube from coil.



*Capillary tube*

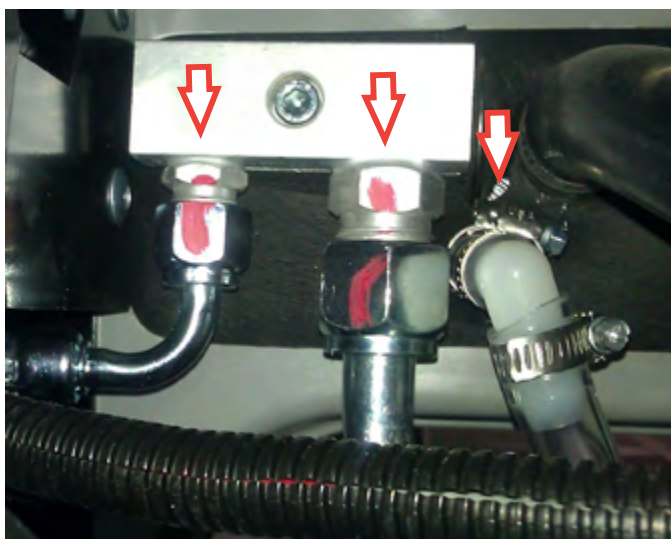


6. Remove top seal plate from evaporator coil.



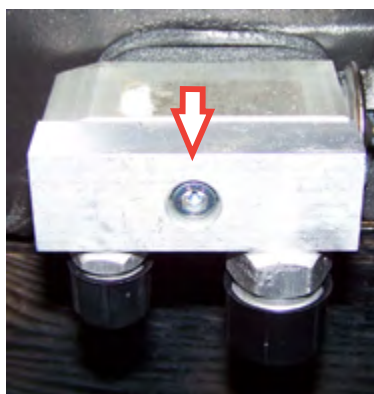
*Top seal plate removed*

7. Remove air-conditioning hoses.



*Air-conditioning hoses*

8. Remove bolt from manifold and set manifold aside.



*Manifold bolt*



9. Remove two bolts from expansion valve and set valve aside.



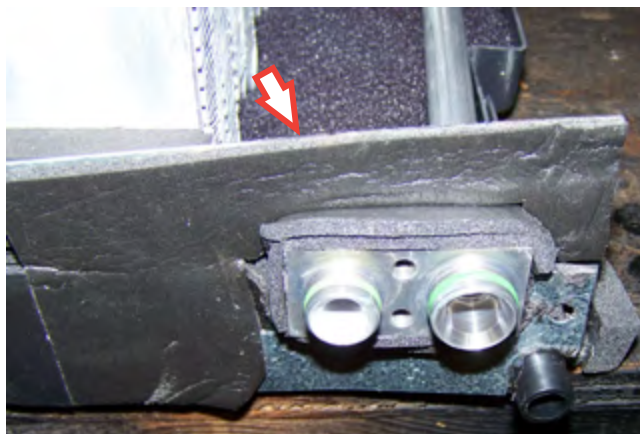
*Evaporator valve bolts*

10. Remove foam seal from inside evaporator assembly at seal plate.



*Foam seal*

11. Lift seal plate to remove evaporator coil and set aside.



*Seal plate*

12. Lift evaporator coil out of the drain pan and set aside.



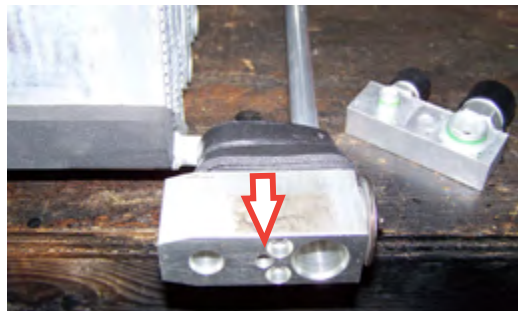
*Evaporator coil*

### Installation

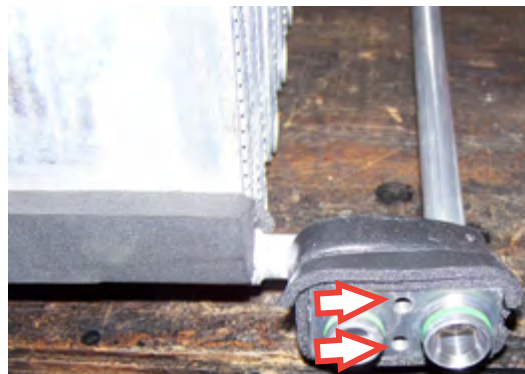


**CAUTION:** Check replacement coil before installing. The coil is charged with nitrogen. Remove one of the caps on manifold and listen for a release of pressure. If no pressure is present, do NOT use coil.

1. Remove bolt from manifold on replacement coil. Remove manifold and set aside.
2. Remove two bolts on expansion valve on replacement coil. Remove valve and set aside.



*Manifold bolt*



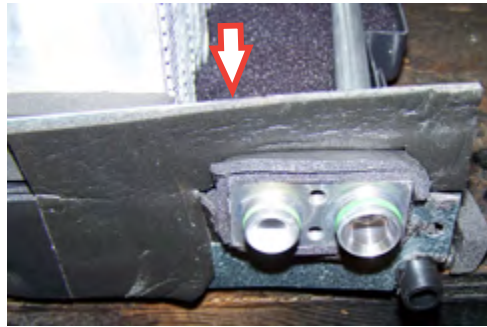
*Expansion valve bolts*

3. Set coil in drain pan and insert evaporator manifold through opening.



*Evaporator manifold*

4. Move foam seal to back side of the evaporator case bracket.

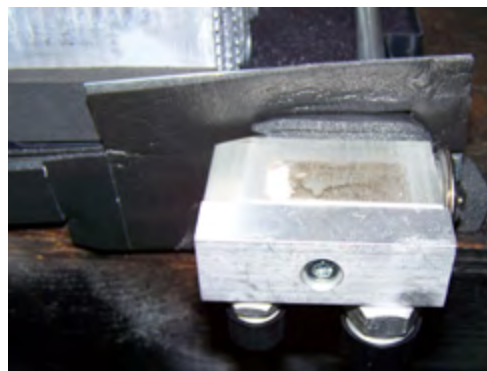


*Foam seal*



**CAUTION:** Lubricate o-rings with mineral oil prior to installation.

5. Secure expansion valve with two bolts.
6. Secure manifold with bolt.



*Expansion valve and manifold*

7. Push down on seal bracket until holes in bracket and evaporator case align. Use foam seal packaged with replacement evaporator to seal space between bracket and evaporator manifold.



*Foam seal*

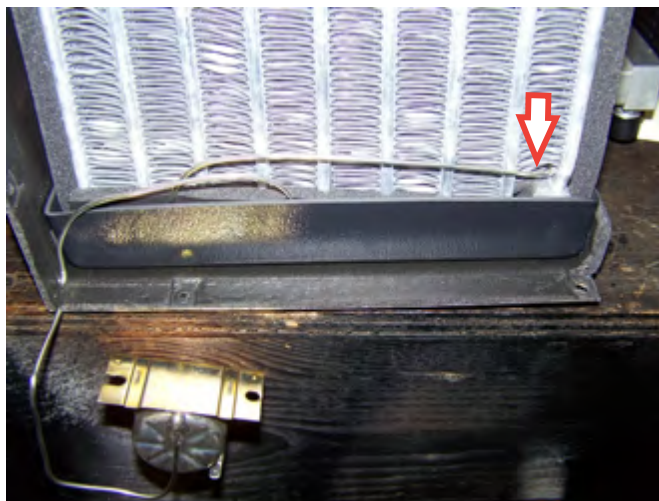
8. Secure top seal plate to evaporator coil.



*Top seal plate*

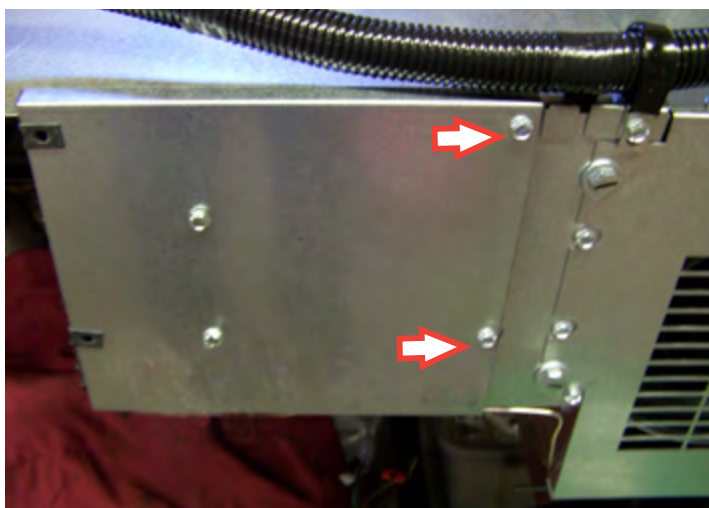


9. Install thermostat into coil. Ensure capillary tube is installed in the same location as the original coil.



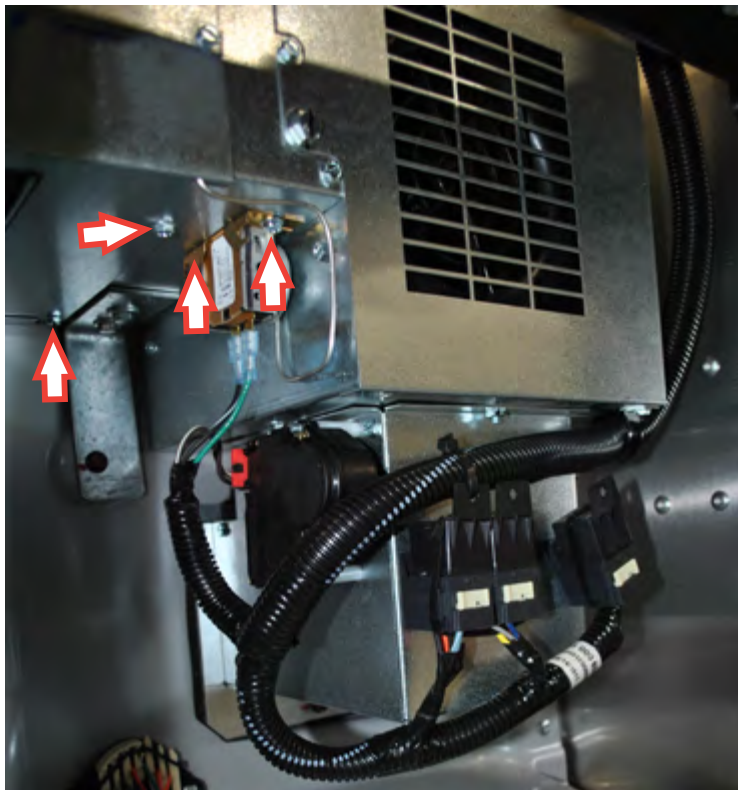
*Capillary tube*

10. Secure evaporator assembly with two #10 x 1/2" screws.



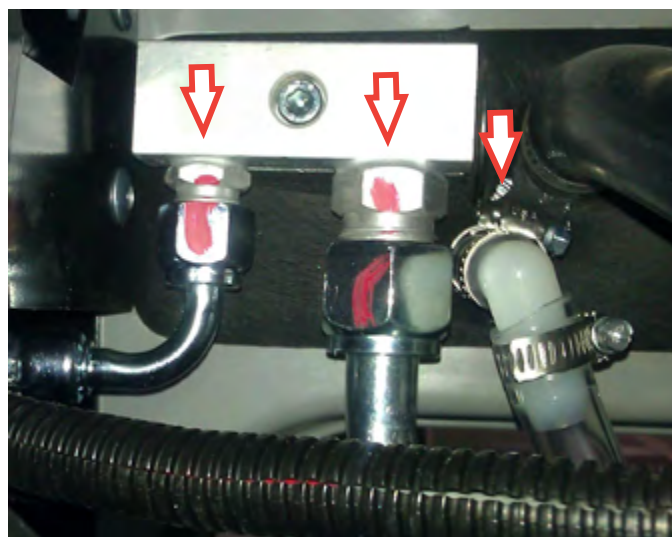
*Screw location on evaporator assembly*

11. Secure the thermostat with two #10 x 1/2" screws and the evaporator case with two #10 x 1/2" screws.



*Screws on thermostat and evaporator case*

12. Reconnect air-conditioning hoses.



*Air-conditioning hoses*



13. Install heater core.  
[See Install Heater Core.](#)
14. Charge air-conditioning system with 30 ounces of refrigerant.
15. Start vehicle and check air-conditioning performance.

## Heater Core

*NOTE: 5/16" drive ratchet with magnetic sockets will make the process easier.*



**WARNING:** Utilimaster recommends that only a licensed/certified automotive technician services the vehicle's air-conditioning system.

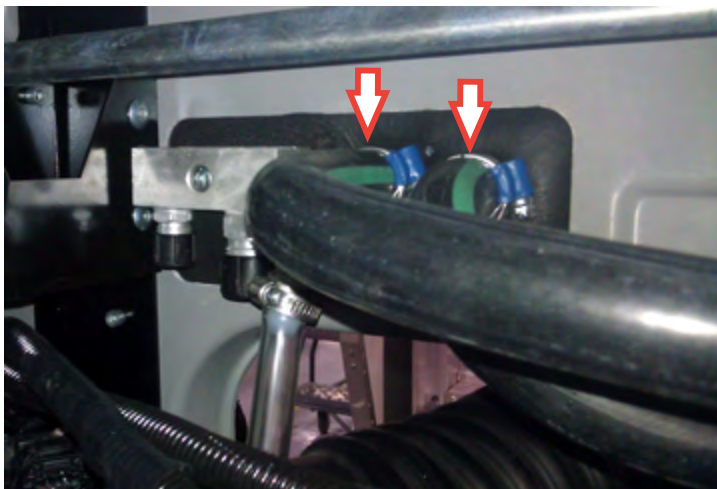


**CAUTION:** The system is required to be refilled by vacuum anytime coolant system has been opened.

## Removal

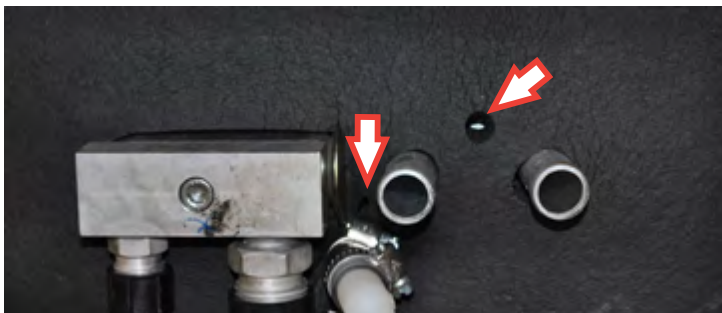
*NOTE: Keep all hardware for reinstallation.*

1. Under the hood on the passenger side, clamp heater and drain hoses and remove from evaporator assembly.



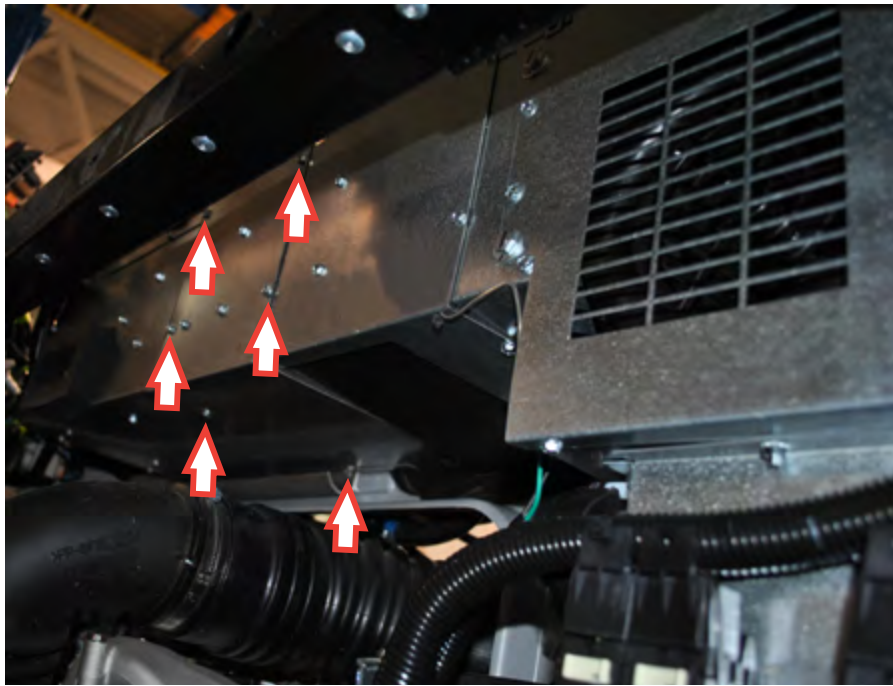
*Heater hoses*

2. Remove two #10 x 1/2" screws through the access holes in the foam seal.



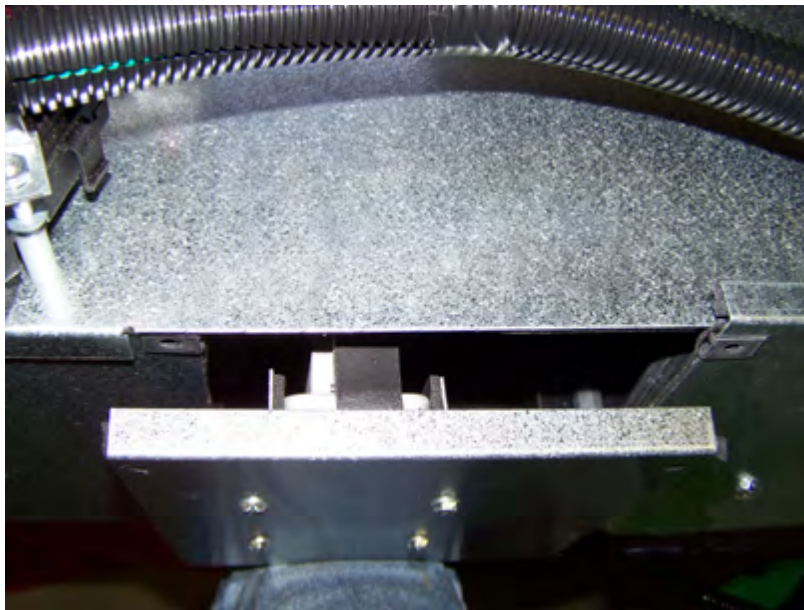
*Screw location behind foam seal*

3. Remove dash valance panel.  
[See Remove Dash Valance Panel.](#)
4. Remove six #10 x 1/2" screws on evaporator case.



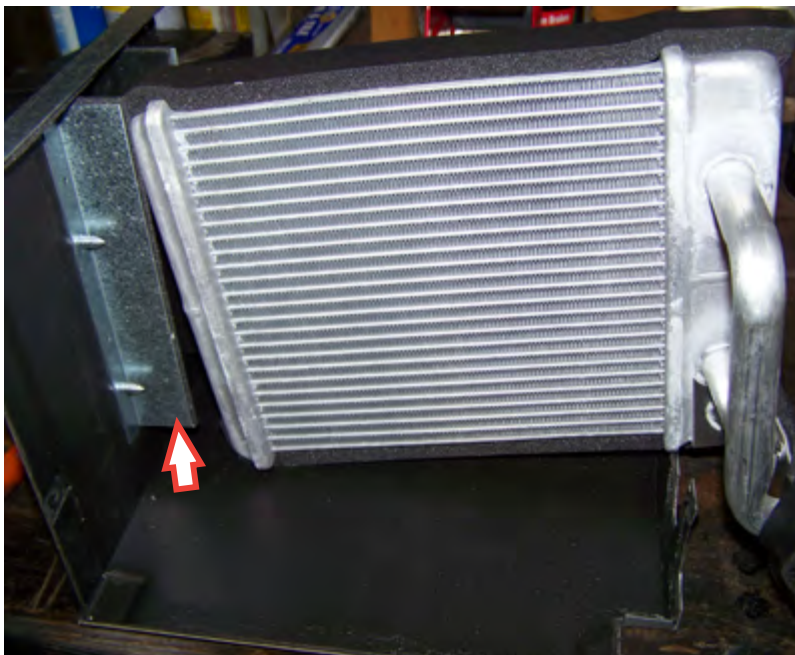
*Screws on evaporator case*

5. Remove coil (core) assembly by pulling towards the rear of the vehicle and angling the assembly down.



*Heater core assembly*

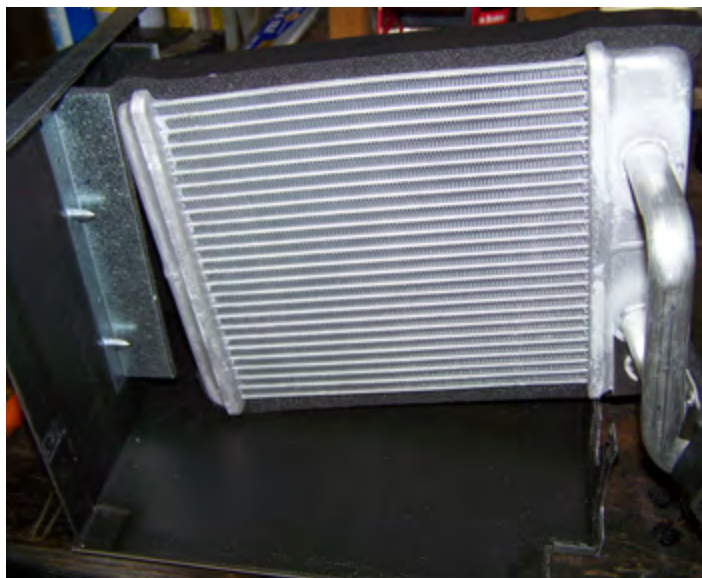
6. Remove by raising heater core out of bracket.



*Heater core*

#### Installation

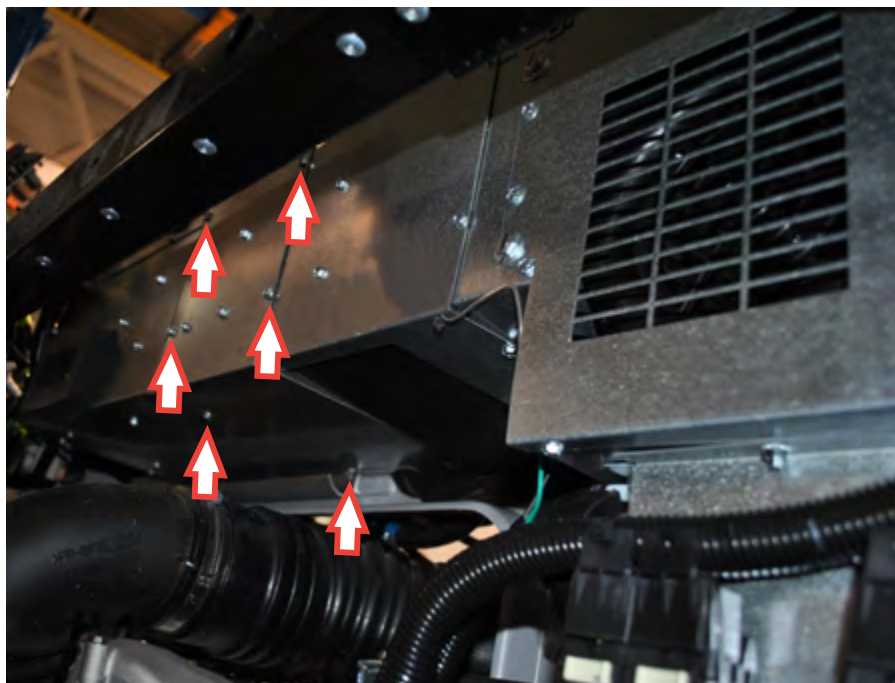
1. Place heater core assembly into the case with bracket on inside of drain pan.



*Heater core*

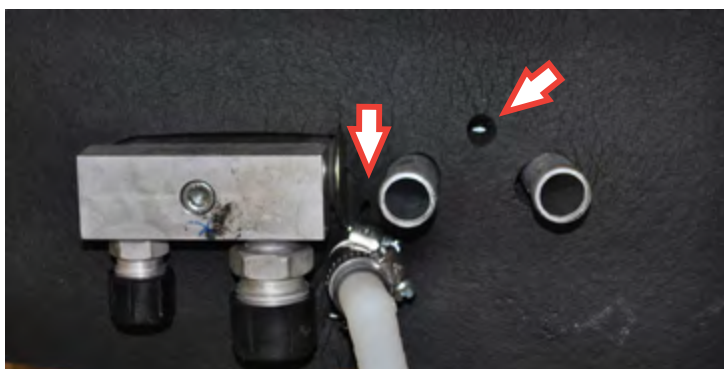


2. Secure heater assembly to evaporator case with six #10 x 1/2" screws.



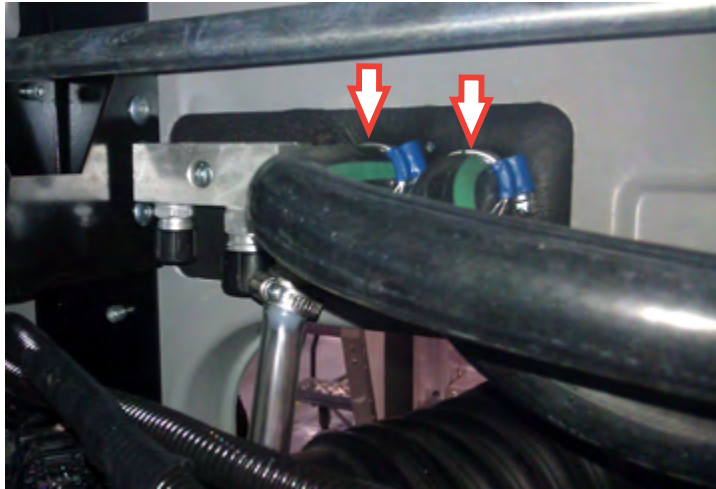
*Screws on evaporator case*

3. Secure heater with two #10 x 1/2" screws through access holes in foam seal.



*Screw location behind foam seal*

4. Reconnect heater and drain hoses to evaporator assembly located under the hood and unclamp hoses.



*Heater hoses*



**CAUTION:** The system is required to be refilled by vacuum anytime the coolant system has been opened.

5. Replace engine coolant that has been drained or lost.
6. Vacuum fill the system.
7. Check that system is operating properly.
8. Install dash valance panel.

[See Install Dash Valance Panel.](#)

## Heater Valve

The coolant valve is located under the hood mounted to the cowl in the center of the vehicle.



*Location of heater valve*

### Removal



**CAUTION:** The system is required to be refilled by vacuum anytime coolant system has been opened.

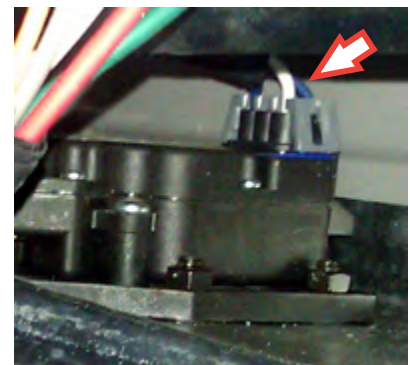
**NOTE:** Keep all hardware for reinstallation.

1. Remove air intake from air cleaner assembly.



*Air intake*

2. Clamp heater hoses on both sides of the valve.
3. Disconnect wire harness from the valve.
4. Remove two bolts and nuts from the driver's side of the heater valve.
5. Loosen heater hose clamps and remove heater hoses from valve.
6. Remove two bolts and nuts from passenger's side of the heater valve.
7. Remove heater valve and set aside.

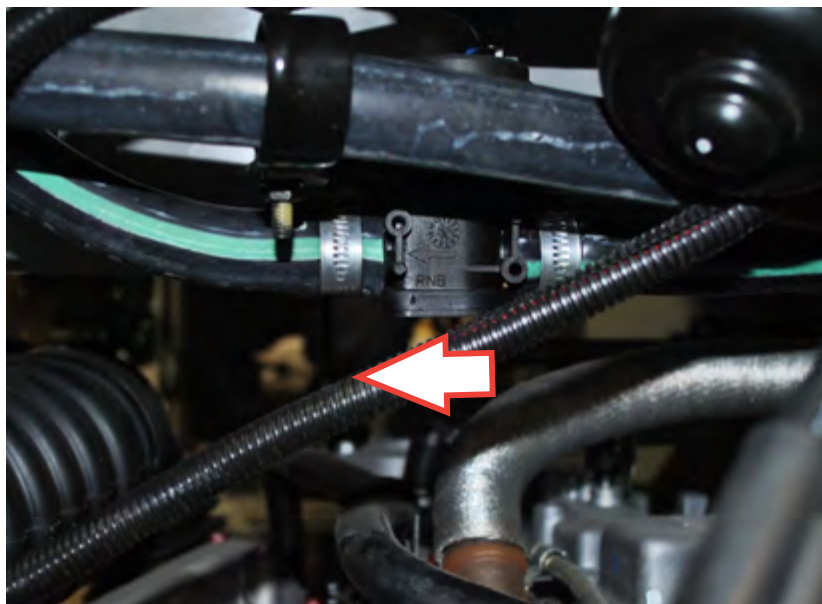


*Wire harness*



**Installation**

1. Secure heater hoses to valve with directional arrow pointing toward passenger's side.
2. Torque clamps to 17–21 ft•lb.



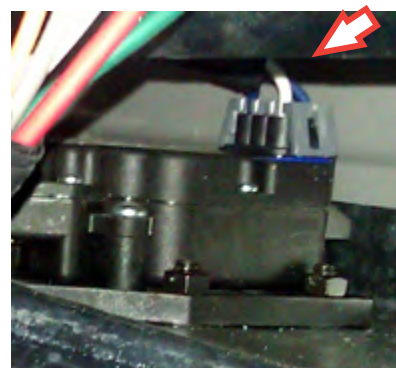
*Directional arrow points towards passenger's side.*

3. Connect wire harness to valve.
4. Secure water valve with four bolts and nuts.
5. Remove clamps from heater hoses.



**CAUTION:** The system is required to be refilled by vacuum anytime the coolant system has been opened.

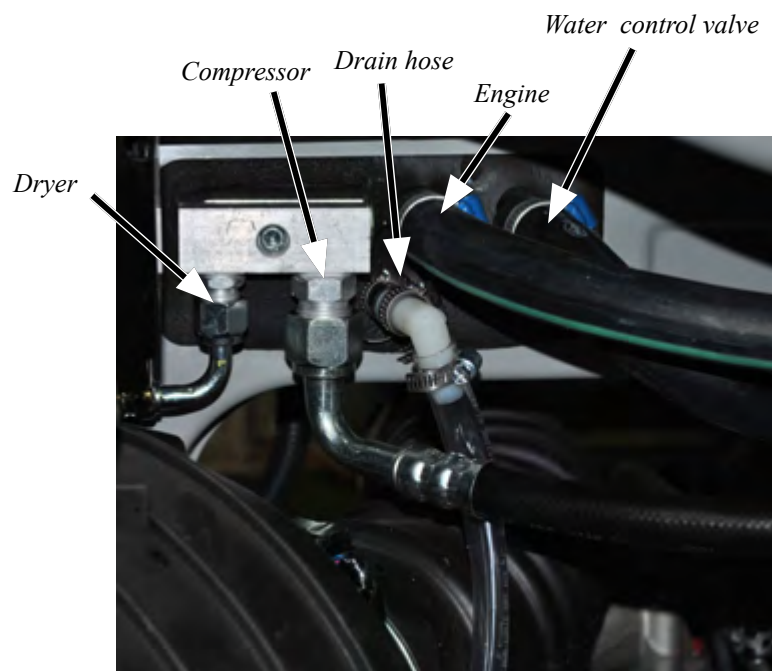
6. Replace antifreeze that has been drained or lost.
7. Vacuum fill the system.
8. Start engine and check that the system is operating properly.



*Wire harness*

## Hoses

The hoses for the heating and air conditioning unit are located under the hood.



## Mode (Servo) Motor

There are four mode (servo) motors on the heating and air-conditioning unit. The motors operate the recirculation, floor, dash, and defrost doors. All motors are serviced the same.

*NOTE: To access the floor, dash, or defrost servo motors, remove the dash valance panel.*

[See Remove Dash Valance Panel.](#)

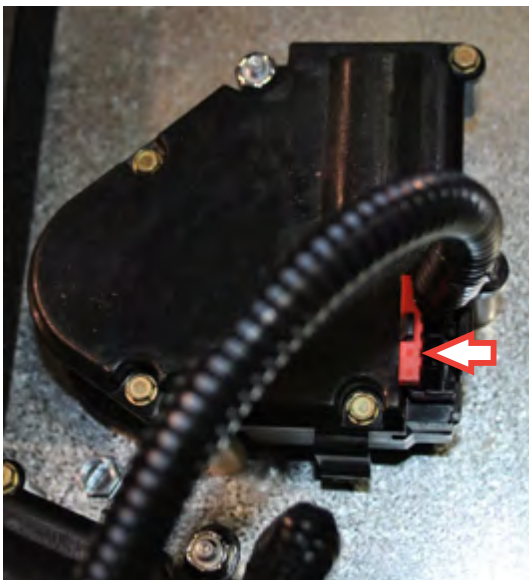
*NOTE: To access the recirculation servo motor, remove the washer bottle panel.*

[See Remove Washer Bottle Panel.](#)

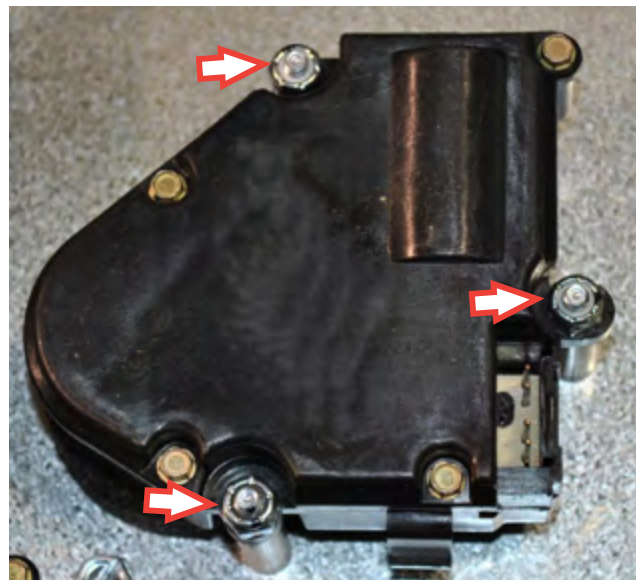
## Removal

*NOTE: Keep all hardware for reinstallation.*

1. Remove the wire harness by pressing the tab on the top of the servo motor.
2. Remove three 8/32" locknuts.
3. Pull motor off mounting studs and set aside.



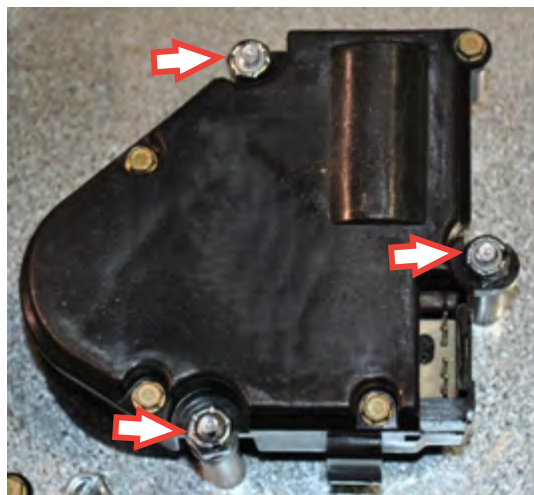
*Servo motor wire harness*



*Locknuts on servo motor*

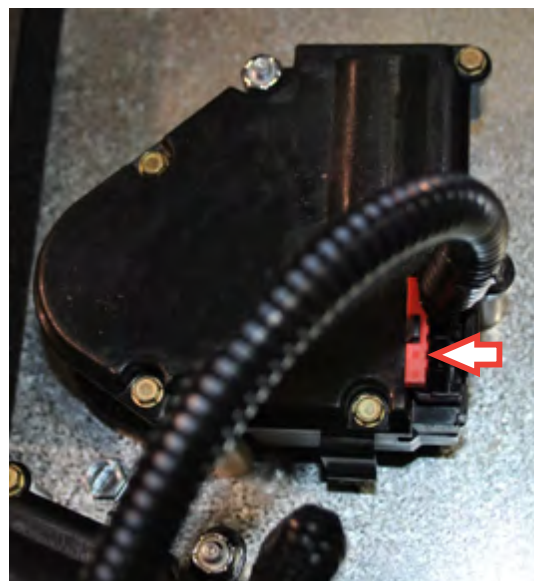
**Installation**

1. Align shaft on door with socket on motor. Push down carefully until motor bottoms out on nylon spacers.
2. Secure motor with three 8/32" locknuts.



*Locknuts on servo motor*

3. Reconnect wire harness to servo motor.



*Servo motor wire harness*

4. Turn ignition key to on position and check motor operation.

*NOTE: Install dash valance panel if floor, dash, or defrost servo motors were accessed.*

[See Install Dash Valance Panel.](#)

*NOTE: Install washer bottle panel if recirculation servo motor was accessed.*

[See Install Washer Bottle Panel.](#)

## Resistor

To access the blower resistor, the blower motor must first be removed. The blower resistor is located behind an access panel on the blower housing.

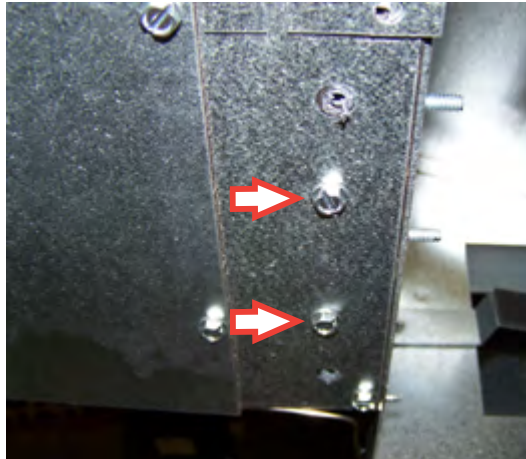
### Removal

*NOTE: Keep all hardware for reinstallation.*

1. Remove blower motor.

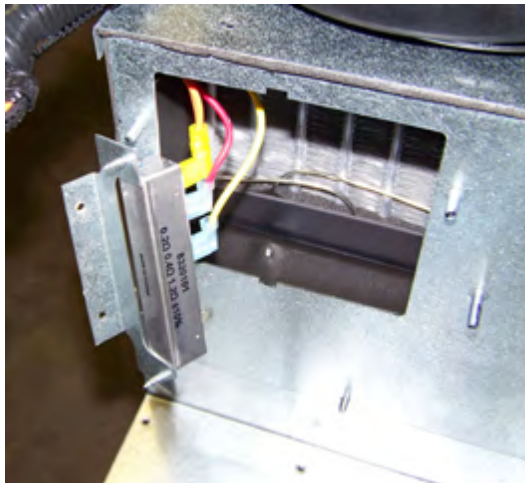
[See Remove Blower Motor.](#)

2. Remove two #10 x 1/2" screws located between the two bolts holding blower housing to evaporator case.



*Screws on blower housing*

3. Pull blower resistor through opening and remove two #10 x 1/2" screws.
4. Identify colors of wires and locations. Disconnect wires.



*Blower resistor*

5. Remove resistor and set aside.



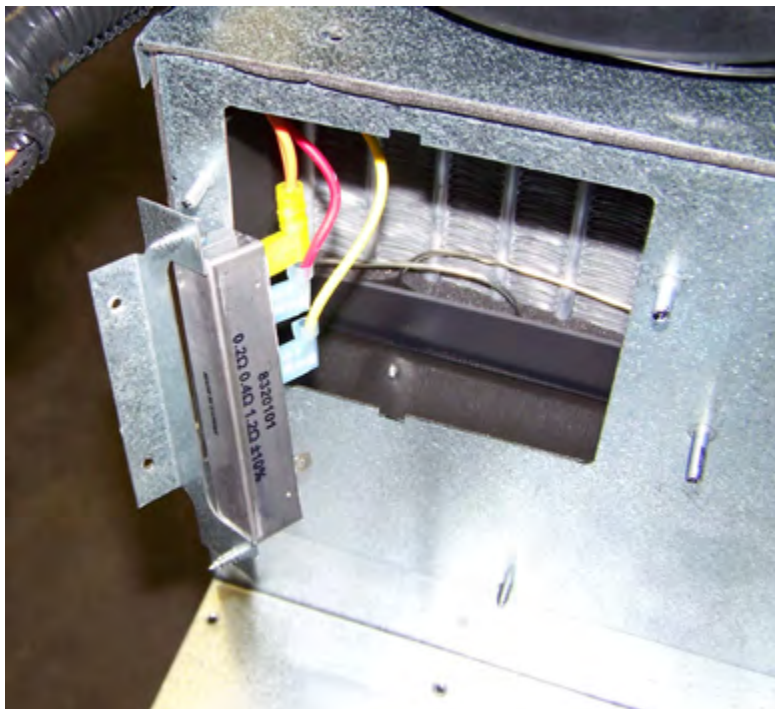
### Installation

1. Use a pair of pliers to gently squeeze the female spade terminals for a more secure connection.



*Spade terminals*

2. Secure resistor with two #10 x 1/2" screws and reconnect wires in the order removed.

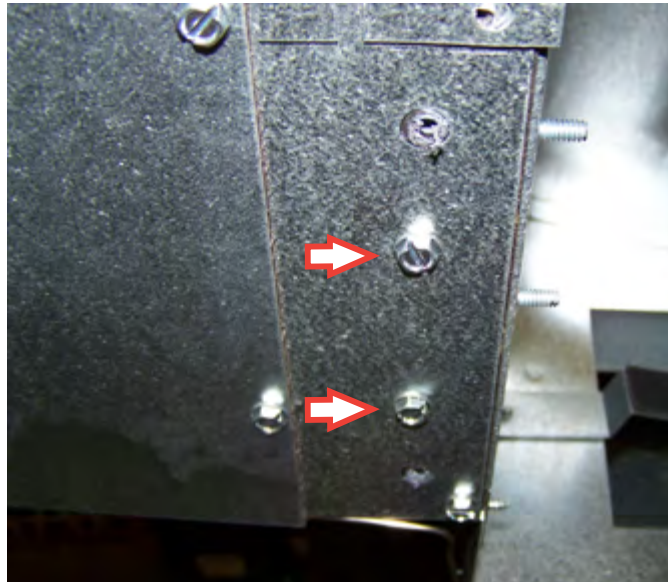


*Blower resistor*



3. Secure the blower housing to the evaporator case with two #10 x 1/2" screws.
4. Install blower motor.

[See Install Blower Motor.](#)

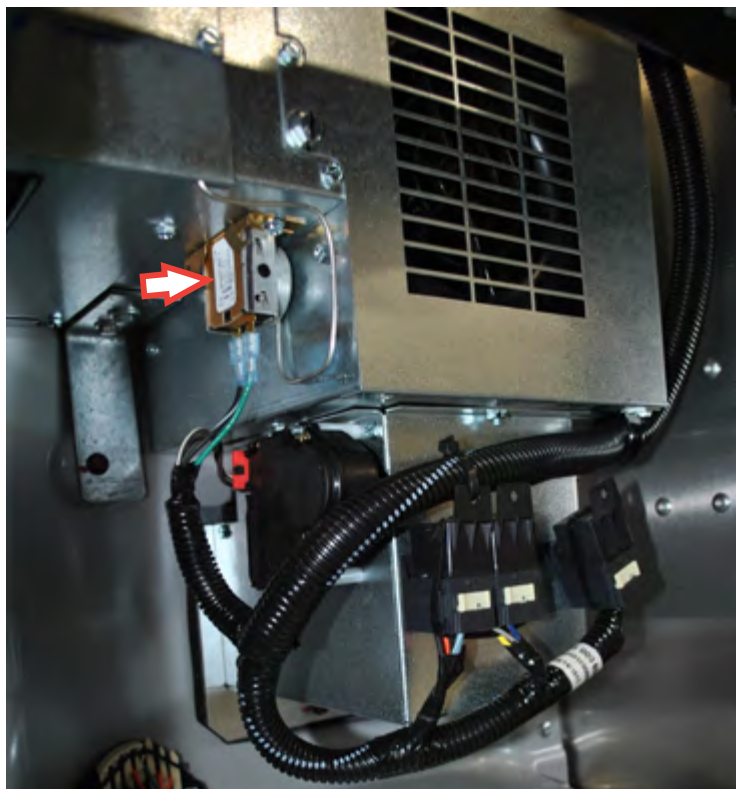


*Screws on blower housing*

### Thermostat

The thermostat is located on the passenger side of the vehicle left of the blower motor. Remove the washer bottle panel to access.

[See Remove Washer Bottle Panel.](#)



*Thermostat*

## Hood



**WARNING:** Always support the hood to keep it from falling.

### Open

1. Pull interior hood release.
2. Pull secondary latch to the left to release.
3. Raise hood and support with prop rod.



*Hood release*



*Secondary latch*

### Adjustment



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Hinges

1. Open hood.  
[See Open Hood.](#)
2. Loosen two M8 bolts on hood hinge bracket.
3. Adjust hood.
4. Secure prop rod into rest position and close hood.
5. Check alignment and adjust if necessary.
6. Torque to 17–21 ft•lbs.



*Hood hinge bracket*

**Overslam Bumpers**

1. Loosen jam nut to adjust hood bumper.
2. Turn bumper to raise or lower.
3. Close hood to check adjustment.
4. Repeat if necessary.
5. Tighten jam nut.
6. Repeat on opposite side if necessary.

*Jam nut***Removal**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Open hood.  
[See Open Hood.](#)
2. Remove hood hinge shoulder screw and nut.
3. Repeat on opposite side.
4. Set hood aside.

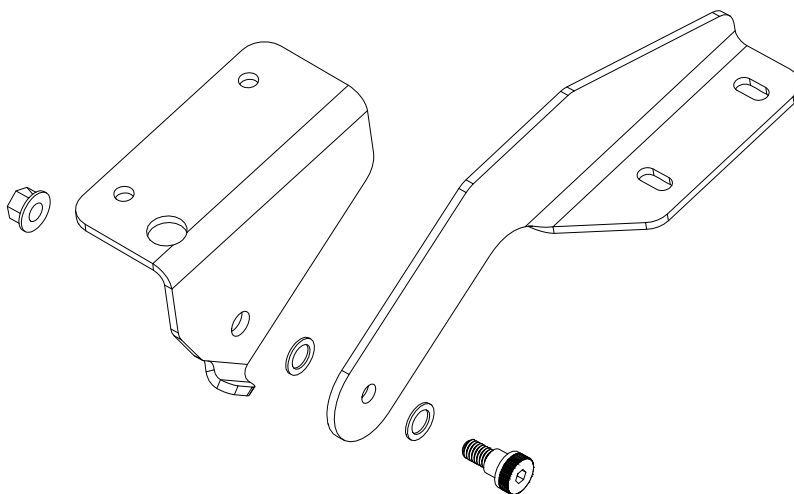
*Hood hinge*

## Installation



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure hood hinge and hood hinge bracket with shoulder screw and two nylon washers.
2. Secure nut onto shoulder screw.
3. Repeat on opposite side.
4. Adjust if necessary.  
[See Adjust Hood.](#)
5. Torque to 17–21 ft•lbs.



*Shoulder screw installation*

## Disassembly

1. Remove hood.  
[See Remove Hood.](#)
2. Remove four M8 bolts at hood hinges.
3. Set hood hinges aside.



*Hood hinge*

4. Remove four M8 bolts in hood hinge brackets.
5. Set hood hinge brackets aside.



*Hood hinge bracket*

6. Remove two M6 bolts in hood catch.
7. Set hood catch aside.

## Assembly



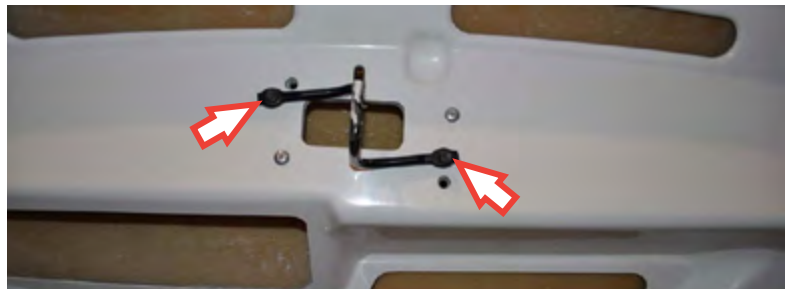
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure hood catch with two M6 bolts.
2. Torque to 7–8 ft•lbs.
3. Secure hood hinge brackets with M8 bolts.
4. Torque to 17–21 ft•lbs.
5. Secure hood hinges with M8 bolts.
6. Close hood and check latch alignment.
7. Adjust if necessary.

[See Adjust Hood.](#)

8. Install Hood.

[See Install Hood.](#)



*Hood catch*

## Hood Latch



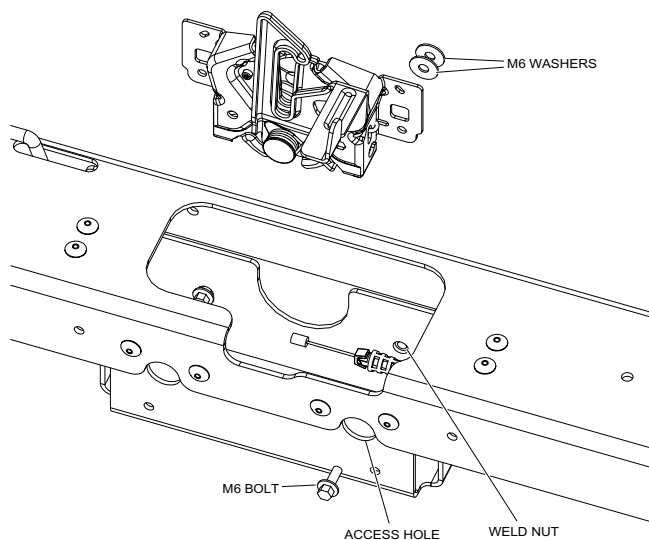
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Open hood.  
[See Open Hood.](#)
2. Remove grille.  
[See Remove Grille.](#)
3. Remove two M6 bolts through access holes.

*NOTE: For installation of latch, note location and quantity of washers to ensure proper alignment for installation.*

4. Remove latch from mount.
5. Disconnect cable from latch release.
6. Remove cable from guide.
7. Set hood latch aside.



Latch release



Cable guide



**Installation**

**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure hood release cable.



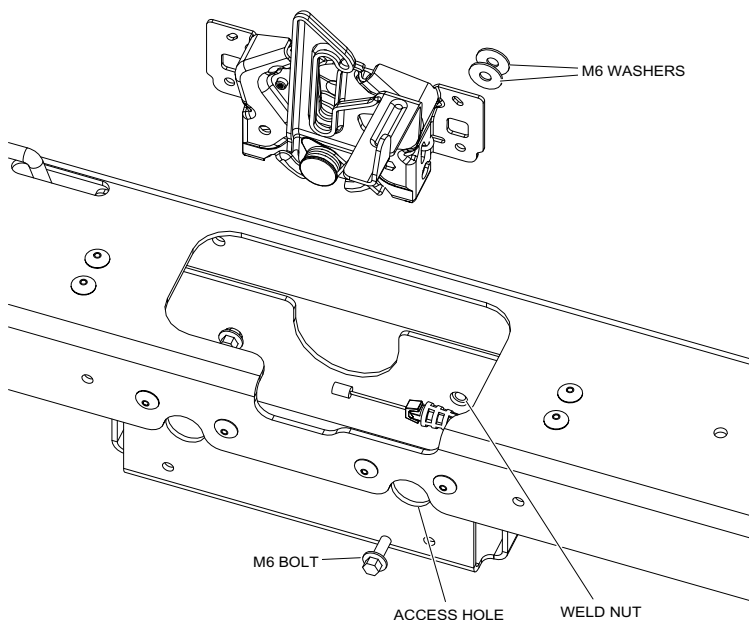
*Cable guide*



*Latch release*

2. Secure latch into mount with M6 bolts and washers through access holes.

*NOTE: More than one washer may be needed in order for catch to properly secure latch.*



3. Check alignment and adjust if necessary.
4. Torque to 7–8 ft•lbs.
5. Install grille.

[See Install Grille.](#)

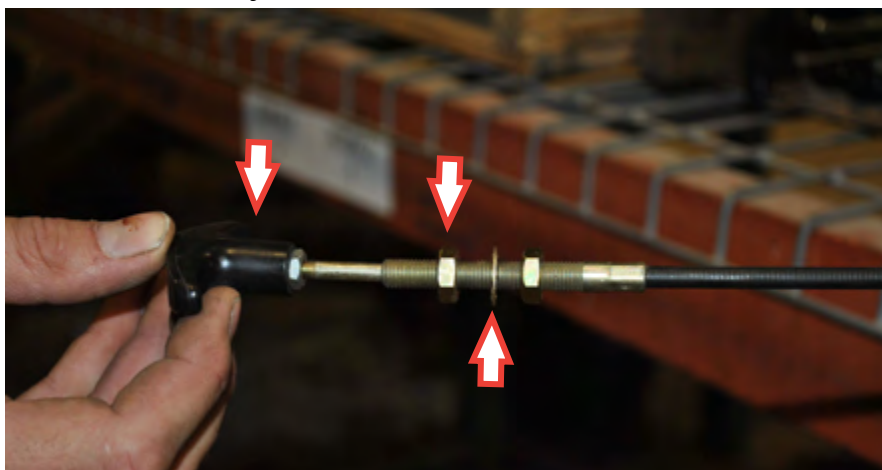
## Hood Cable



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Open hood.  
[See Open Hood.](#)
2. Remove grille.  
[See Remove Grille.](#)
3. Remove hood latch.  
[See Remove Hood Latch.](#)
4. Remove cable from securement clamps.
5. Remove hood release handle, jam nut, and washer.



*Hood release handle*

6. Pull cable through backside of mounting bracket.
7. Pull cable through cowl panel.
8. Set hood release cable aside.



*Mounting bracket*

**Installation**

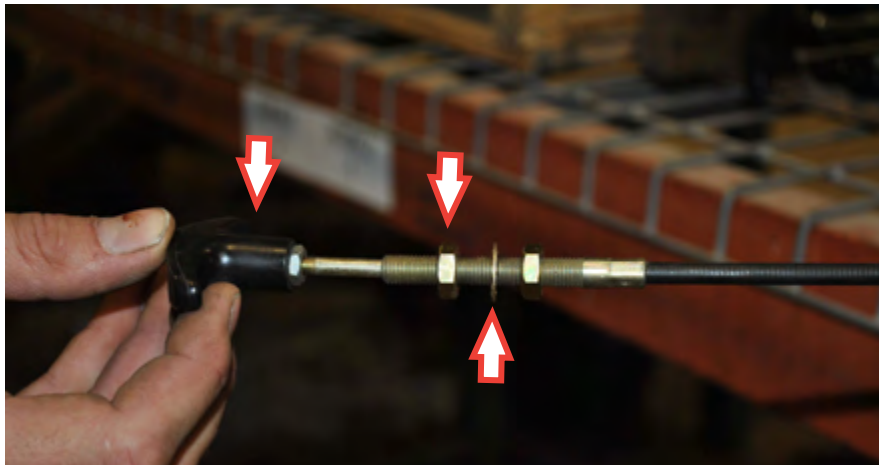
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Push cable through rubber grommet in cowl panel.
2. Push cable through backside of mounting bracket.



*Mounting bracket*

3. Secure washer, jam nut, and hood release handle onto cable.



*Hood release handle*

4. Tighten jam nuts on both sides of mounting bracket.
5. Install hood latch.

[See Install Hood Latch.](#)

6. Secure cable with clips under hood.
7. Install grille.

[See Install Grille.](#)

## Lights

### Grommet Mounted

Grommet-mounted lights are used in a variety of areas including: back-up lights, rear turn lights, cab and cargo dome lights, and brake lights. Bullet lights, mini-marker lights, and 4" round lights are all grommet-mounted lights.



**CAUTION:** *The slit on the rear of the grommet must be pointed down to allow water to drain.*

### Removal

*NOTE: To remove the 4" round light, insert a flat-blade screwdriver between the light and rubber grommet to separate the light from the grommet.*

*remove*

*all other lights, push light out through front of grommet.*

*NOTE: To ease in the removal and installation process, lightly spray the grommet and light with soapy water.*

1. Turn off ignition and all lights.
2. Remove light from grommet.
3. Disconnect wire harness from light and set aside.
4. Remove and replace grommet if necessary.

### Installation

1. Install grommet.
2. Connect wire harness to light.

3. Push light carefully through the front of the grommet.

## Headlights

### Adjustment

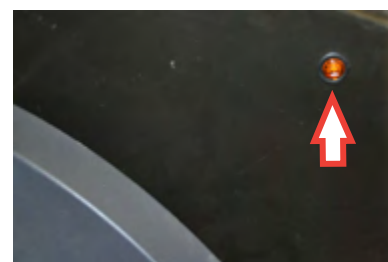
*NOTE: If no headlight-aiming tool is available, perform steps 8–11 as a temporary solution until a properly calibrated headlight-aiming tool can be obtained.*

1. Turn off ignition.
2. Remove any load from the vehicle.
3. Check that the vehicle has at least a half tank of fuel.
4. Check that the tires are properly inflated according to the tire manufacturer's recommendation.
5. Check headlights to ensure they are clean.
6. Park on level surface.



To

*Place screwdriver between light and grommet*



*Marker light*

7. Use a headlight-aiming tool to gauge correct alignment of headlights. Follow manufacturer's instructions for the device.
8. For information on headlight adjustment see the *Isuzu's NPR Stripped Chassis Owner's and Driver's Manual*.

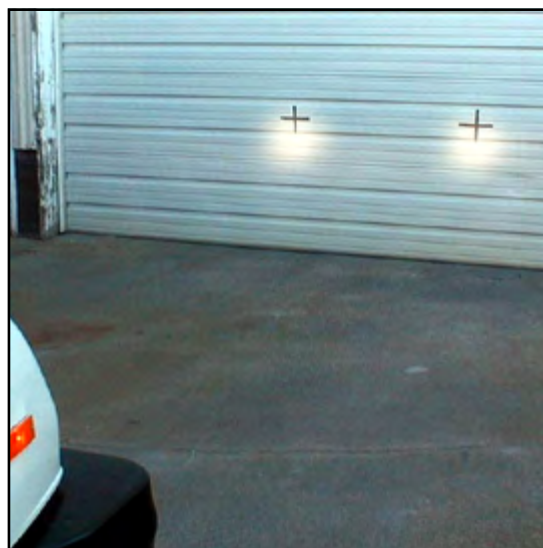


*Headlight adjustment wheels*

9. If no headlight-aiming tool is available, park vehicle on level surface near a wall and mark the point opposite the center of each headlight.
10. Draw or tape a cross through each mark.
11. Park vehicle 25 feet away facing surface.
12. Adjust the low beam headlights so that the majority of the beam is below the horizontal target marks and centered on the vertical target marks.



*Improperly aligned pattern*



*Properly aligned pattern*



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Turn off ignition and all lights.
2. Remove grille.  
[See Remove Grille.](#)
3. Remove two M6 screws in headlight bezel.
4. Remove two M4 screws in headlight bezel and set bezel aside.
5. Disconnect wire harness.
6. Remove four M8 bolts and set headlight aside.

### Installation

1. Turn off ignition and all lights.
2. Secure headlight with four M8 bolts.
3. Torque to 65–75 ft•lbs.
4. Connect to wire harness.
5. Secure headlight bezel with two M6 screws.
6. Torque to 7–8 ft•lbs.
7. Secure headlight bezel with two M4 screws.
8. Install grille.  
[See Install Grille.](#)
9. Adjust headlight.  
[See Adjust Headlight.](#)



*Screw location on headlight bezel*



*Bolt locations*



## Headlight Bulb



**WARNING:** The headlight bulb may be very hot. Use caution when removing.



**CAUTION:** When installing the headlight bulb, do NOT touch the bulb with fingers. Oils from fingers can cause the bulb to blow out.

### Removal

1. Turn off ignition and all lights.
2. Disconnect wire harness.
3. Remove rubber cover by pulling on the tabs.
4. Release spring securing headlight bulb.
5. Remove bulb from socket and discard.

### Installation

1. Turn off ignition and all lights.
1. Place bulb in headlight housing.
2. Secure spring over bulb.
3. Push rubber cover onto headlight.
4. Connect wire harness.



*Wire harness*



*Tabs located on rubber cover*



*Spring securing headlight bulb*

## Parking Light

### Removal

1. Turn off ignition and all lights.
2. Turn the socket counterclockwise.
3. Pull parking light out of socket and discard.

### Installation

1. Turn off ignition and all lights.
2. Secure new bulb into socket and place into headlight housing.
3. Secure the socket by turning clockwise.



*Parking light socket*

## Switches, Convenience Panel



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

Light switches are used in different locations throughout the vehicle. The removal and installation process is typically the same for all switches.

1. Turn off ignition and all lights.
2. Remove four #8 Phillips head screws from tray and set tray aside.
3. Disconnect switch from wire harness.
4. Squeeze tab on back of switch to remove through front of dash panel.
5. To remove actuator, lift up on one end of the actuator until it releases from the switch.



*Light switches*



*Screw location on tray*

### Installation

1. Turn off ignition and all lights.
2. To install actuator, line up pin on actuator with hole on switch and press together.
3. Push switch through front of dash panel.
4. Connect switch to wire harness.
5. Secure tray with four #8 Phillips head screws.
6. Torque to 23–27 in•lbs.



*Switch and actuator*

## Turn, Front Fascia

### Removal

1. Turn off ignition and all lights.
2. Remove front fascia.  
[See Remove Front Fascia.](#)
3. Unplug the wire harness.
4. Remove three Phillips head screws from light and set aside.

### Installation

1. Turn off ignition and all lights.
2. Secure with three Phillips head screws
3. Plug in wire harness.
4. Install front fascia.

[See Install Front Fascia.](#)



*Front turn signals*



*Screw locations*

## Mirrors

### Adjustment



**WARNING:** To prevent breakage and possible injury, do **NOT** push directly on the glass. Push on the mirror frames only.



**WARNING:** Objects seen in convex mirrors are closer than they may appear.

To receive maximum benefit from the outside mirrors, adjust the driver's side mirror so you can see just a small amount of the side of the vehicle. Have someone assist you by adjusting the passenger's side and driver's side mirrors while sitting back in the driver's seat. Some exterior mirrors are convex. A convex mirror's surface is curved to increase the visible area, but use these mirrors with care, especially when changing lanes and backing up.

### Removal



**CAUTION:** Discard **ALL** used fasteners and replace with new. If using a fastener that does **NOT** have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: On driver's side, remove front quarter before removing mirror arm.*

[See Remove Front Fender.](#)

*NOTE: On passenger's side, remove A-pillar trim before removing mirror arm.*

[See Remove A-Pillar Trim.](#)

1. Remove four Phillips head screws from mirror access cap and set cap aside.
2. Loosen four 3/16" hex head screws that hold the mirror head on to the mirror arm.
3. Set mirror head aside.

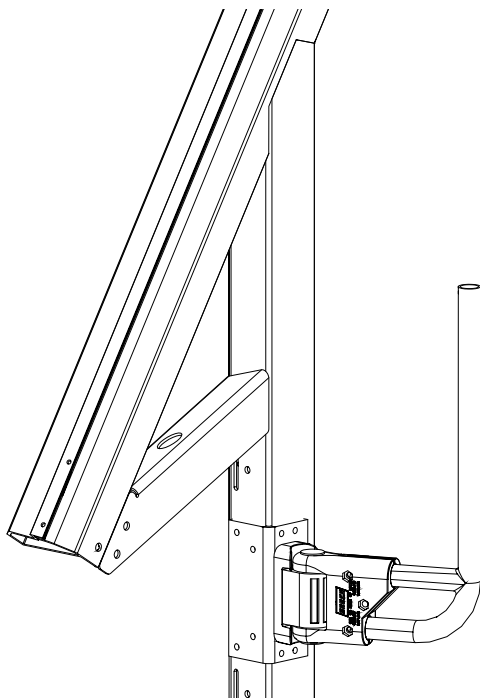


*Mirror access cap screw location*

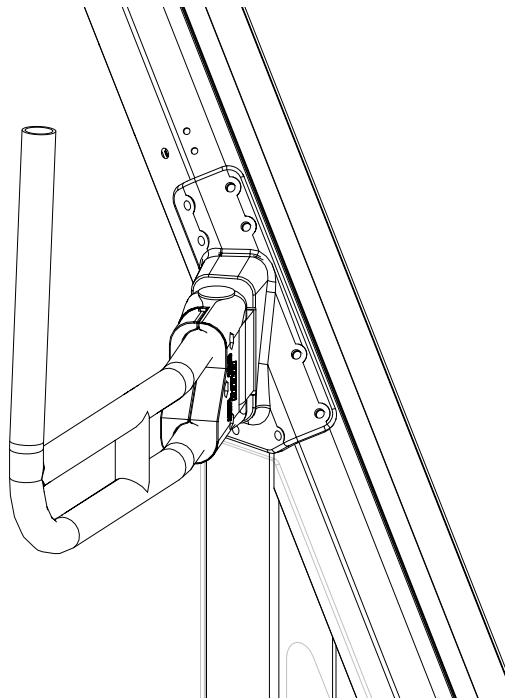
4. Remove eight rivets from mirror arm.

[See Remove Blind Rivet.](#)

5. Set mirror arm aside.



*Driver's side arm*



*Passenger's side arm*

## Installation



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Secure mirror arm with eight rivets.  
[See Install Blind Rivet.](#)
2. Secure mirror head with four 3/16" hex head screws.
3. Torque to 4–5 in•lbs.
4. Secure mirror access cap with four Phillips head screws.
5. Torque to 4–5 in•lbs.

*NOTE: On driver's side, install front fender after installing mirror arm.*

[See Install Front Fender.](#)

*NOTE: On passenger's side, install A-pillar trim after installing mirror arm.*

[See Install A-Pillar Trim.](#)

## Modules, Isuzu

The Isuzu DRL unit, Mimamori unit, intermittent wiper relay, and turn signal flasher are located behind the washer bottle.

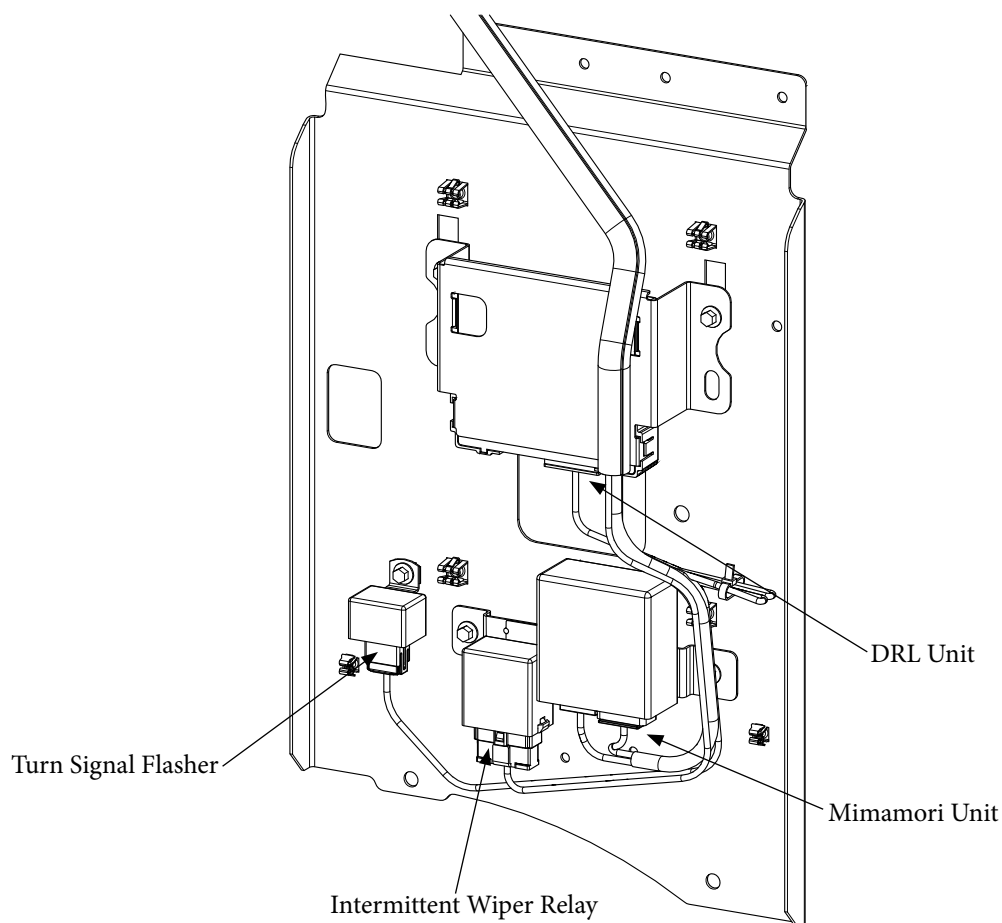
### Removal

1. Remove the washer bottle.  
[See Remove Bottle and Pump.](#)
2. Disconnect harness from the module.
3. Remove module from bracket and discard.

### Installation

1. Secure module to bracket.
2. Connect harness to module.
3. Install the washer bottle.

[See Install Bottle and Pump.](#)





## Rear Structure

### Removal

*NOTE: The dock bumpers do NOT need to be removed to remove the rear structure.*

1. Remove upper post cladding.

[See Remove Upper Post Cladding.](#)

2. Remove lower post cladding.

[See Remove Lower Post Cladding.](#)

3. Remove cables from rear roll-up door.

[See Remove Cables T-Series Rear Roll-Up Door.](#)

[See Remove Cables W-Series Rear Roll-Up Door.](#)

4. Push rear roll-up door up to door stops and clamp in place.

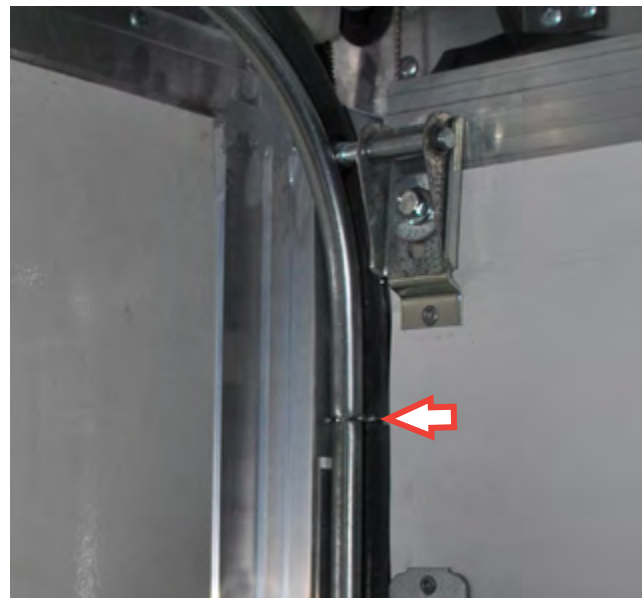
5. Disconnect rear structure harness on driver's side.



*Rear structure harness*

6. Remove rivets from roll-up door tracks at the vertical to horizontal transition. The lower track will stay attached to the rear structure.

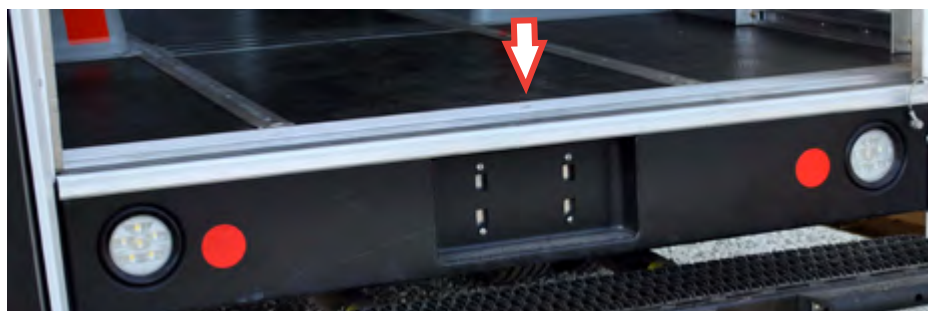
[See Remove Blind Rivet.](#)



*Rear roll-up door track*

7. Remove 12 rivets from rear threshold and set aside.

[See Remove Blind Rivet.](#)



*Rear threshold*

8. Remove 19 pin and collar fasteners from exterior of roof.

[See Remove Pin and Collar Fasteners.](#)

9. Remove 38 rivets from the backside of the corner posts. Do **NOT** remove the rivets from the sidewalls.

[See Remove Blind Rivet.](#)

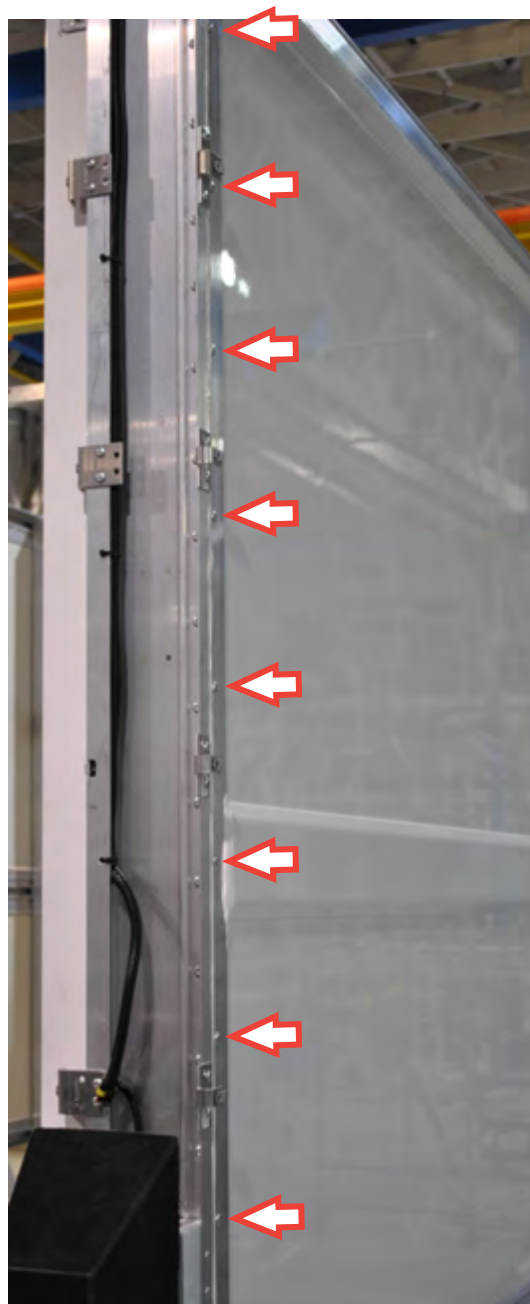
10. Remove 21 rivets from the floor.

[See Remove Blind Rivet.](#)

11. Use a flat pry bar to remove the rear structure from the sidewall. When prying outward, use a razor blade to cut the seal between the structures.
12. Remove rear structure and set aside.



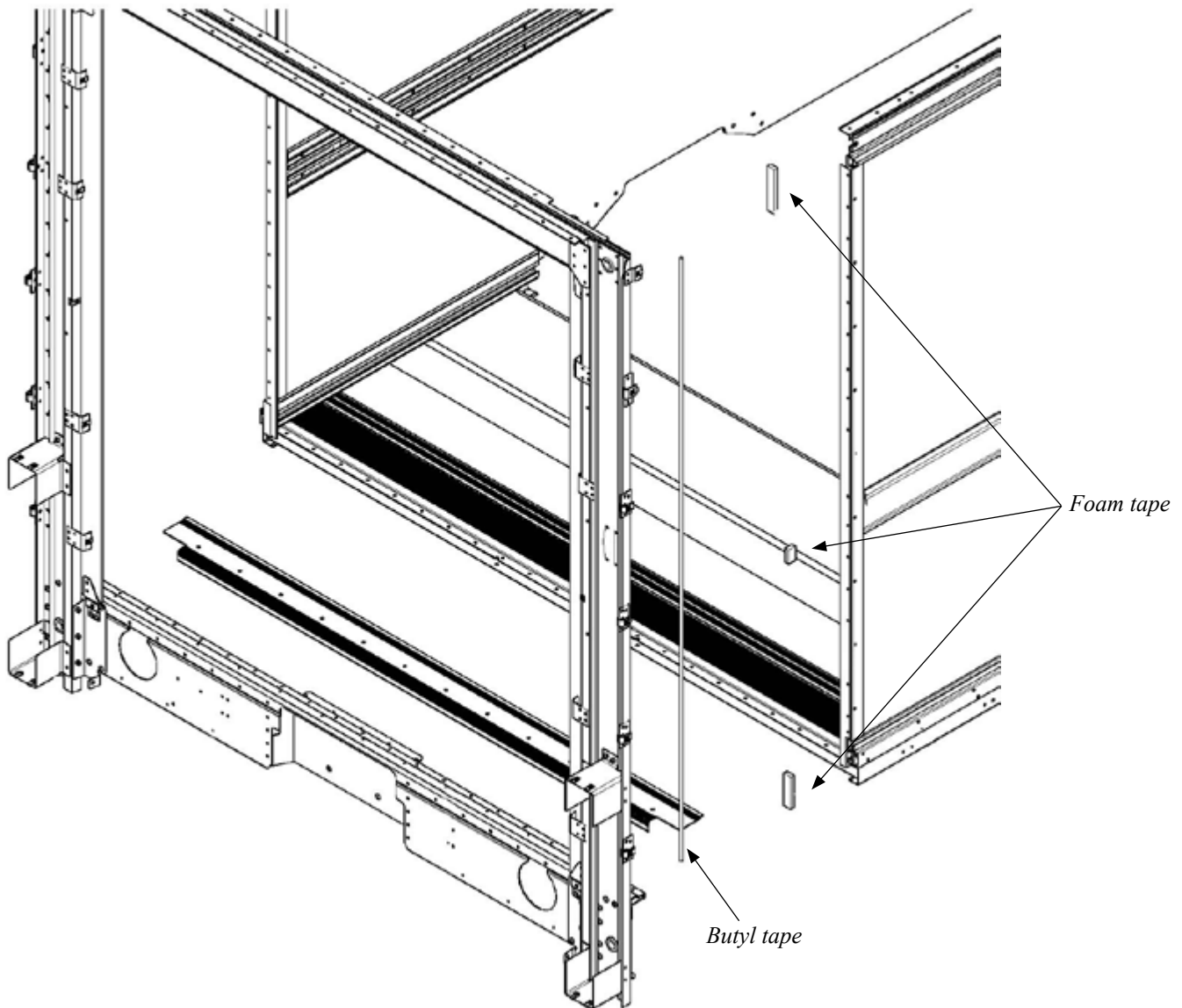
*Rivets on backside of corner post*



*Rivets on sidewall*

**Installation**

1. Remove old tape and clean surfaces with isopropyl alcohol.
2. Apply 3/8" butyl tape in radius grooves in rear structure.
3. Install 1" foam tape on upper corners of rear structure, center slot of both sidewalls, and lower corner of both sidewalls.
4. Lift rear structure into position on vehicle.



*Install tape on rear structure.*

5. Install 19 pin and collar fasteners to exterior of roof.

[See Install Pin and Collar Fasteners.](#)

6. Secure the floor with 21 rivets.

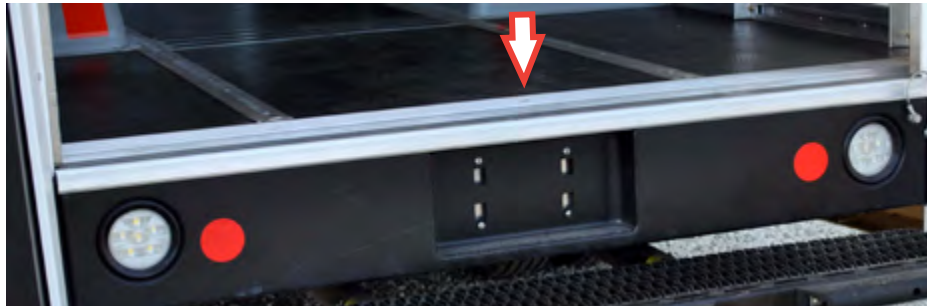
[See Install Blind Rivet.](#)

7. Secure the sidewalls with 38 rivets.

[See Install Blind Rivet.](#)

8. Install rear threshold with counter sunk rivets.

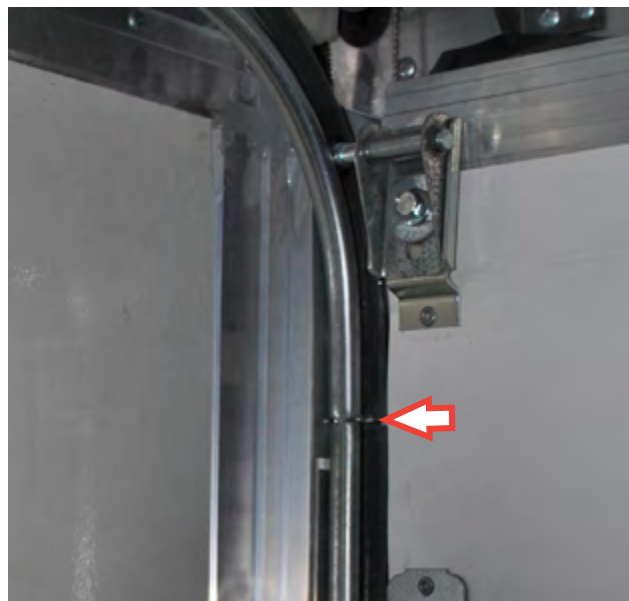
[See Install Blind Rivet.](#)



*Rear threshold*

9. Attach rivets to the roll-up door track at the vertical and horizontal transition.

[See Install Blind Rivet.](#)



*Rear roll-up door track*

10. Connect the rear structure harness on driver's side.



*Rear structure harness*

11. Remove clamps from roll-up door and install cables.  
[See Install Cables T-Series Rear Roll-Up Door.](#)  
[See Install Cables W-Series Rear Roll-Up Door.](#)
12. Install lower post cladding.  
[See Install Lower Post Cladding.](#)
13. Install upper post cladding.  
[See Install Upper Post Cladding.](#)



## Rear Vision System

### Camera

#### Removal

1. Remove rear header cladding.  
[See Remove Rear Header Cladding.](#)
2. Disconnect camera cable.
3. Hold the rear of the camera and turn the lens counterclockwise.
4. Remove cable and camera from the rear of the header and set aside.

#### Installation

1. Clean camera lens if necessary.
2. Place the camera in the back side of the header with the flat side of the camera at 12 o'clock position.
3. Hold the back side of the camera and turn the lens clockwise.
4. Connect camera cables.
5. Install rear header cladding.

[See Install Rear Header Cladding.](#)



*Flat side of camera*

### Monitor

#### Removal

1. Remove overhead dash panel.  
[See Remove Overhead Dash Panel.](#)
2. Disconnect monitor cable from the signal splitter.
3. Remove monitor by turning handle on mounting bracket arm and set monitor aside.

#### Installation

1. Secure monitor to mounting bracket arm by turning handle.
2. Secure cable to signal splitter.
3. Install overhead dash panel.

[See Install Overhead Dash Panel.](#)



*Handle on mounting bracket arm*



## Seats



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Driver's

#### Height Adjustment Cable

##### Removal

1. Unhook rubber bellow from top of seat base.
2. Remove cable from gas strut release arm.
3. Remove two screws from lever mounting bracket.  
Remove lever and cable and discard.

##### Installation

1. Place lever into mounting bracket and secure with two screws.
2. Secure cable to gas strut release arm.
3. Secure rubber bellow to seat base.



*Rubber bellow*



*Height adjustment cable*



*Screw location on lever mounting bracket*

## Jump Seat

### Spring

#### Removal

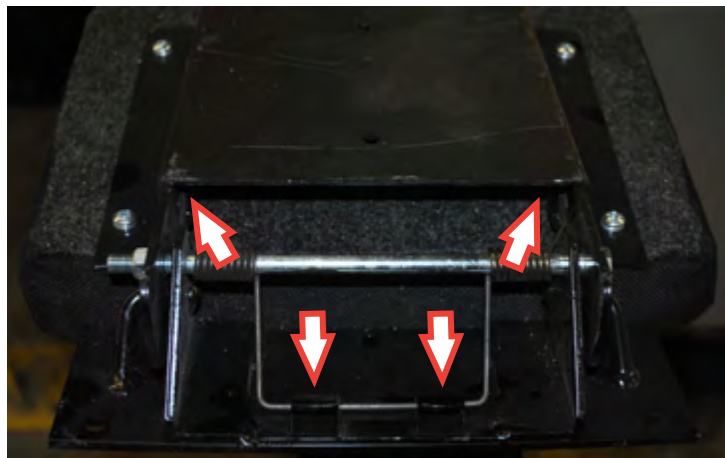
1. Remove the nut, washer, and bolt from the jump seat. Keep for reinstallation.
2. Remove spring from clips and discard.

#### Installation

1. Secure spring to clips.
2. Secure spring to seat with bolt, washer and nut.



*Bolt location on jump seat*



*Clip location*

## Seat Belt



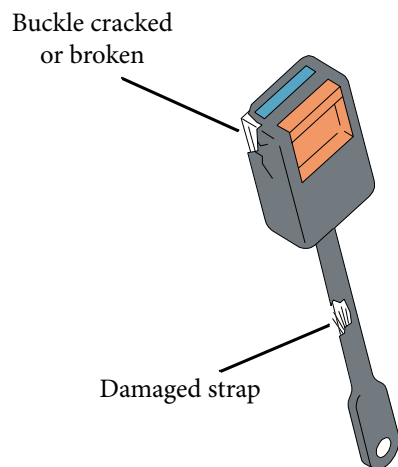
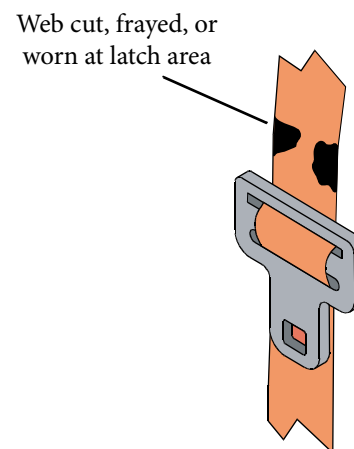
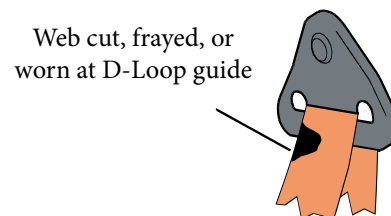
**WARNING:** If there is any damage to the belt or retractor, always replace the entire assembly.

### Inspection

Inspect the belt daily. Check for cuts, frays, and loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the seat belt assembly.

A seat belt system should be replaced immediately if it shows any problems, such as:

- Cuts, fraying, abrasion, or other wear to the seat belt webbing.
- Significant discoloration due to ultraviolet exposure.
- Significant dirt.
- Damage to the buckle, latch plate, retractor, or hardware.



*Signs of wear*

## Removal

**WARNING:** When a seat belt is replaced, the entire assembly must be replaced.



Use the new mounting hardware furnished with the replacement belt. Do NOT use old hardware when installing replacement seat belts.

The retractor must be located in the proper position on the bracket for the seat belt web to release and function properly.



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

*NOTE: Refer to the instructions provided with the seat belt.*

1. Remove 7/16-20 nut and bolt from buckle and discard buckle.
2. Remove cover from retractor and remove 7/16-20 nut and bolt.
3. Remove 7/16-20 nut and bolt from seat belt on the side of the seat.
4. Remove 7/16-20 nut and bolt from seat belt on the B-pillar and discard seat belt.



*Bolt location on buckle*

## Installation

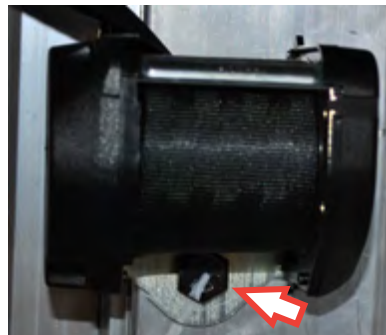
1. Secure seat belt at B-pillar with 7/16-20 bolt, washer and nut.
2. Secure seat belt to the side of the seat with 7/16-20 bolt, washer and nut.
3. Secure retractor with 7/16-20 bolt.
4. Secure buckle on the side of the seat with 7/16-20 bolt and nut.
5. Torque to 39–45 ft•lbs.



*Bolt location on B-pillar*



*Retractor cover*



*Bolt location on retractor*

## Stereo



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove tray panel.  
[See Remove Tray Panel.](#)
2. Disconnect wiring harness from radio.
3. Remove four #8 Phillips head screws from convenience panel.
4. Tilt convenience panel forward, remove radio from retaining clips, and set radio aside.



*Convenience panel*

### Installation

1. Secure radio with retaining clips.
2. Secure convenience panel to dash with four #8 Phillips head screws.
3. Torque to 23–27 in•lb.
4. Connect wiring harness to radio.
5. Install tray panel.

[See Install Tray Panel.](#)

## Swell Latches

Swell latches are a quick release latch used on the DEF access door.

### Release

1. Flip up handle of latch.

### Securing



**CAUTION:** The handle may break if the acorn nut is too tight.

*NOTE: Swell latches can be adjusted by tightening or loosening the acorn nut.*

1. Push door in tight and secure swell latch.

### Removal

1. Release swell latches and remove door.
2. Remove acorn nut and rubber bushing from handle.
3. Remove handle from door and set aside.

### Installation

1. Secure handle to door with rubber bushing and acorn nut.
2. Tighten acorn nut with fingers.
3. If necessary, adjust acorn nut so that swell latch closes securely.



*Swell latches*



*Acorn nut, rubber bushing, and handle*



## Wiper System

### Arms

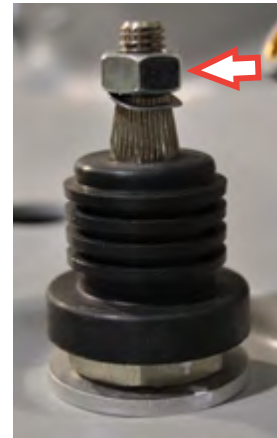
#### Removal

*NOTE: When removing or installing wiper arms, ensure the wiper system is parked and ignition key in the off position.*

1. Disconnect washer fluid hose.
2. Lift cap and remove M8 nut and wavy washer from wiper pivot arm. Keep nut and wavy washer for reinstallation.
3. Set wiper arm aside.



Washer fluid hose



Pivot arm nut

#### Installation

*NOTE: When removing or installing wiper arms, ensure the wiper system is parked and ignition key in the off position.*

1. Secure wiper arm to pivot shaft with M8 nut and wavy washer.
2. Torque nut to 10.4–13.3 ft•lbs.
3. Reconnect washer fluid hose.

## Bottle and Pump



**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove washer bottle panel.  
[See Remove Washer Bottle Panel.](#)
2. Remove four M6 bolts from washer fluid bottle.
3. Disconnect wire harness for washer fluid pump.
4. Remove washer fluid hose from pump.

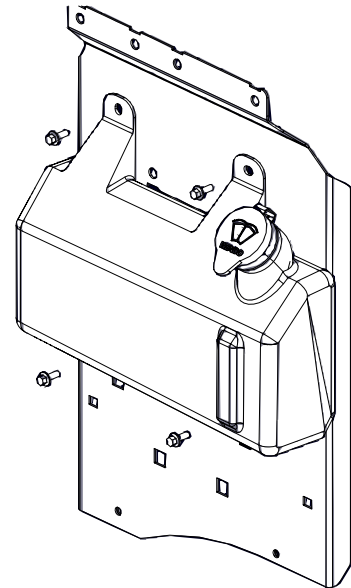
*NOTE: The pump can be pulled out from the back of the bottle.*

5. Set bottle and pump aside.

### Installation

1. Secure washer fluid hose to pump.
2. Secure wire harness to washer fluid pump.
3. Secure washer fluid bottle with four M6 bolts.
4. Torque to 7–8 ft•lbs.
5. Install washer bottle panel.

[See Install Washer Bottle Panel.](#)



*Washer bottle bolt locations*

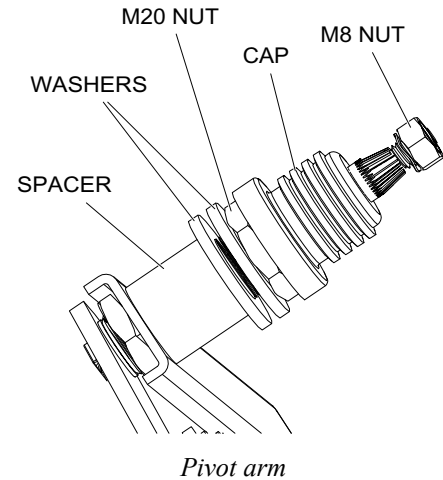
## Linkage Assembly



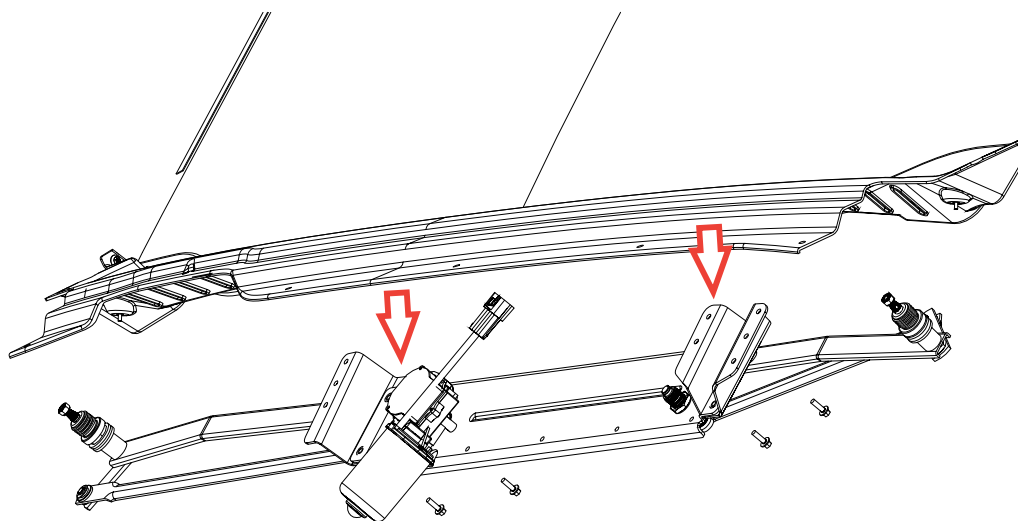
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

### Removal

1. Remove wiper arms.  
[See Remove Wiper Arms.](#)
2. Remove rubber caps from pivot arms.
3. Remove M20 nuts and washers from pivot arms. Keep for reinstallation.
4. Remove four M6 bolts from wiper mount brackets.
5. Remove two bolts and nuts from brace mounting studs.
6. Move linkage assembly as far over to the passenger's side, then pull out through the driver's side. Set linkage assembly aside.



*Nut locations on brace mounting studs*



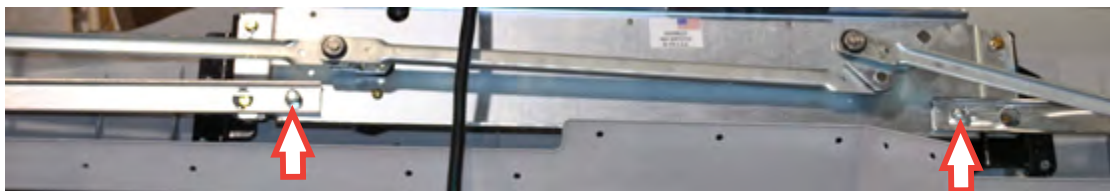
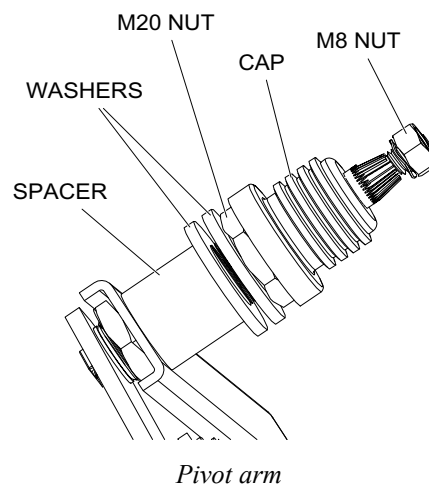
*Bolt location on wiper mount brackets*

**Installation**

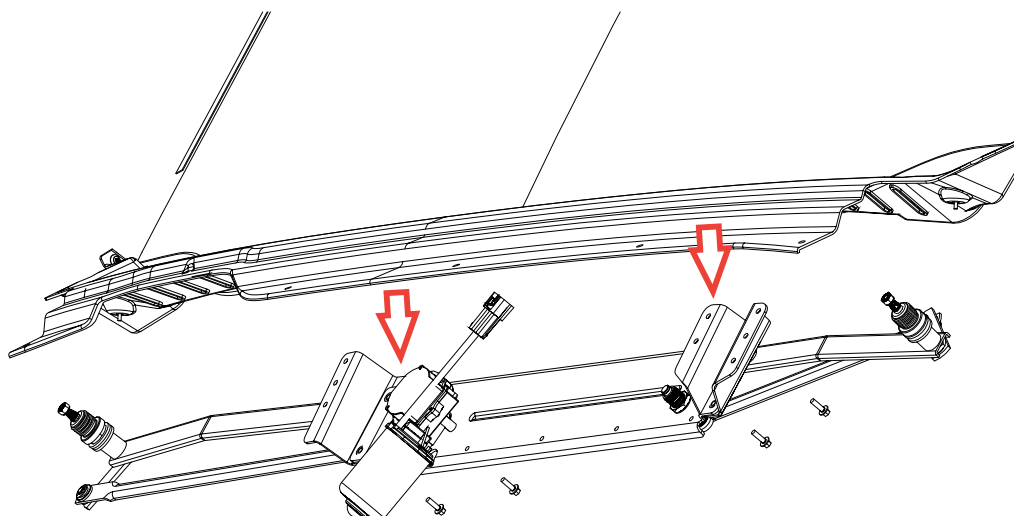
**CAUTION:** Discard ALL used fasteners and replace with new. If using a fastener that does NOT have preapplied thread lock, apply a medium-grade liquid thread lock.

1. Install linkage assembly with spacers and washers.
2. Secure brace mounting studs with two bolts and nuts.
3. Secure linkage assembly to wiper mount brackets with four M6 bolts.
4. Torque to 7–8 ft•lbs.
5. Secure pivot arm with washers and M20 nuts.
6. Torque 13–16 ft•lbs.
7. Secure rubber caps to pivot arms.
8. Install wiper arms.

[See Install Wiper Arms.](#)



*Nut locations on brace mounting studs*

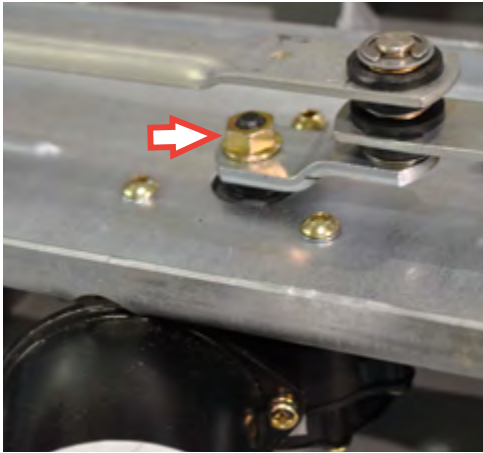


*Bolt location on wiper mount brackets*

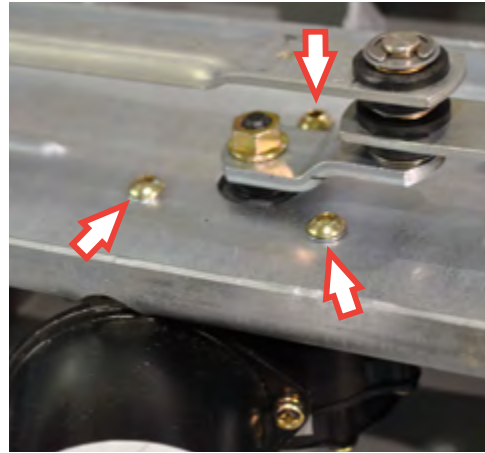
## Motor

### Removal

1. Remove linkage assembly.  
[See Remove Linkage Assembly.](#)
2. Remove the M8 nut to remove motor from linkage pivot shaft. Keep nut for reinstallation.
3. Remove the three screws to remove motor from mounting plate. Keep screws for reinstallation.
4. Set motor aside.



*Bolt location on pivot shaft*



*Screw locations on mounting plate*

### Installation

1. Secure the motor to the mounting plate with three screws.
2. Secure the linkage pivot shaft to the motor with nut.
3. Torque to 17–21 ft•lbs.
4. Install the linkage assembly.

[See Install Linkage Assembly.](#)

## Tools, Fasteners, and Adhesive Tapes

### Recommend Tools

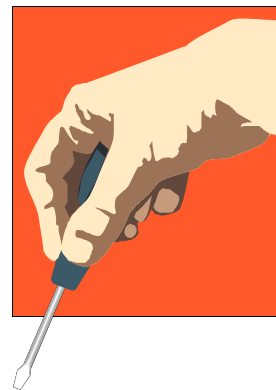


**WARNING:** Always wear safety glasses and other proper protective equipment (gloves, steel-toed shoes, face shields, knee pads, hearing protection) as appropriate to the process.

Below are some tools that may also be required in addition to the more commonly used hand tools (drills, wrenches, etc.) for vehicle body repair.

*NOTE: Although not required, the slightly larger #11 bit is recommended instead of the 3/16" bit, and the F-bit in place of the 1/4" bit, for more clearance when inserting the fasteners.*

- Torque wrenches (any quality sets with in•lb, ft•lb, or [N•m] measurements)
- Hand punch or an air hammer with a punch attachment
- Die grinder with blades
- DVOM (Digital Voltmeter)
- Terminal tool kit (Snap-On TT600 or equal)
- Methacrylate structural adhesive applicator (P/N 12606017)



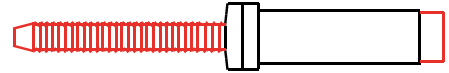


## Fastener Replacement

### BOM® Fastener

#### Removal

Use a die grinder to cut off the BOM fastener. Use a center punch to knock out the center pin. The remaining ring may need to be drilled out.



*BOM fastener*

#### Replacement

A BOM fastener should be replaced per original specifications. However, in some applications it may be able to be replaced with a Grade 8 bolt and a Grade 8 locknut of like diameter. If replacing with a nut and bolt, always remember to use flat washers against all aluminum surfaces.

### Blind Rivet

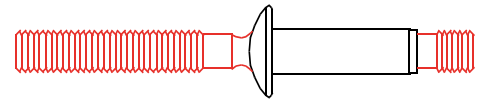
*NOTE: Includes Monobolt®, Magna-Bulb®, Magna-loc®, Hemlock®, and POP® rivets.*

#### Removal

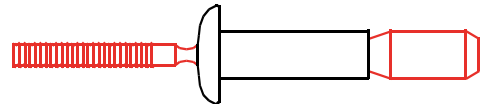
1. Use a center punch (or an air hammer with a punch attachment) to knock the stem out of the fastener.
2. Drill off the head of the blind rivet using a #11 (or 3/16" [5 mm]) or F (or 1/4" [6 mm]) drill bit (depending on blind rivet size). The back stem should fall off.

*NOTE: Be very careful not to enlarge the hole while drilling off the head. If the hole does become enlarged, you will need to put a larger fastener in its place.*

3. Use a center punch to knock out the center pin.



*Magna-Bulb*



*Magna-loc*



*POP rivet*

#### Replacement

Use a rivet gun to replace it.

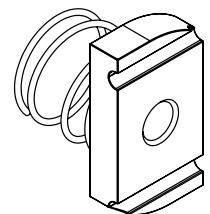
### Channel Nut

#### Removal

Use a small screwdriver to turn the channel nut 90°.

#### Replacement

Insert channel nut horizontally and turn 90°.



*Channel nut*

## Nut, Locknut



**CAUTION:** Utilimaster uses center-lock-type locknuts, which distort the threads of the nut and bolt. This type should NOT be reused after disassembly. Discard ALL used fasteners and replace with new.

### Removal

Remove with an appropriate open-end, box-end wrench or socket and ratchet.



**CAUTION:** Do NOT use Loctite® thread locker on the threads of a nutsert.

### Replacement

Nylon insert nuts and KEPS® nuts are reusable. If locknuts are NOT available, use lock washers and a thread adhesive like Loctite®. Flange head nuts and bolts can be used in place of flat washers. Always use flat washers against aluminum surfaces.

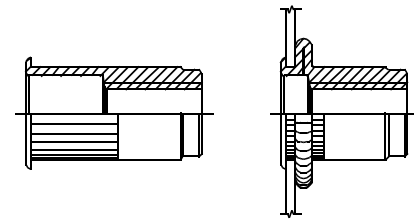
Slowly torque the new bolt to the appropriate value. (Using a power tool to spin the fastener quickly may lower its effectiveness.)

## Nut, Nutsert

*NOTE: A nutsert is a threaded insert that is crimped into place. A nutsert needs only to be removed if it is damaged and cannot be rethreaded with a tap.*

### Removal

Remove the nutsert either with a die grinder, or by holding the backside with pliers and drill out using a 25/64" drill bit.



Nutsert

### Installation

Using a nutsert insert tool, replace nutsert with one meeting original specifications. If a nutsert of original specifications or the installation tool is not available, it may be replaced with a nut, bolt, and flat washers. The replacement fasteners should be approved by Utilimaster Customer Service. If replacing with a nut and bolt, it is important to use flat washers on both sides of the material.

## Nut, Torque Seal

The torque seal appears as a small painted line across a bolt thread and nut or across a bolt and washer seam. If the seal line is broken (out of alignment), the fastener has loosened.

*NOTE: Torque seal indicates a fastener has loosened but does not prevent it.*

### Removal

After bolt is removed, scrap off any seal residue remaining on a reusable surface.

### Installation

When the fastener installation is complete, apply a small bead of torque seal or paint stick across the new bolt threads, nut, head, and/or washer.

## Pine-Tree Fastener

### Removal

1. Use a center punch (or an air hammer with a punch attachment) to place a hole in the center of the head of the fastener.
2. Drill out the head of the fastener using an F-drill bit.
3. Use a center punch to knock out the center pin.

### Installation

Use a rubber mallet to install the pine-tree fastener.

## Pin-and-Collar Fastener

### Removal

*NOTE: Use low-RPM drill speed to avoid overheating the pin.*

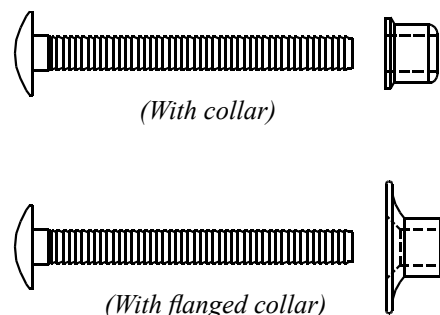
From **either side**, use a die grinder to cut off the rivet. Or from the **head side**, use the appropriate-size drill bit (3/16" [5 mm], 1/4" [6 mm], or 3/8" [10 mm]), to **drill off the head** of the pin. Punch out the center of the remaining pin.

### Installation

Use a Huck® rivet gun to replace it.

If a Huck rivet gun is not available, replace the fastener with a Grade 8 bolt and locknut of like diameter. For additional locking capacity, use Loctite thread locker.

*NOTE: Flat washers are required against aluminum surfaces.*



Magna-Grip®

## Scrivet

### Removal

Use a Phillips head screw driver to remove. If necessary use a flat blade screwdriver to lift out scrivet.

### Installation

Gently push in to install.



## Tape, Double-Faced Adhesive

### Removal

Use a razor knife to cut along the length of the tape while pulling apart the joined flat surfaces. Scrape off remnants as much as possible. Clean with a solvent.

### Installation

Apply to one surface from a fresh roll. Do **NOT** remove the tape paper until the other surface is properly positioned. Once the tape sticks to a surface, you will **not** be able to reposition it without starting over.

## Tape, Vinyl Barrier

White vinyl tape is used wherever steel and aluminum surfaces adjoin in order to prevent corrosion.

### Removal

Peel or scrape off.

### Installation

Use a fresh roll to adjoining surfaces.

*NOTE: Vinyl tape rolls can be ordered with the following part numbers:*

*1" [25.4 mm] wide roll.....P/N 12303707*

*2" [50.8 mm] wide roll.....P/N 12303706*

*3" [76.2 mm] wide roll.....P/N 12303705*

*4" [101.6 mm] wide roll.....P/N 12605947*

## Thread Lock



**CAUTION:** Do **NOT** use Loctite® thread locker on the threads of a nutsert.



**CAUTION:** Using a power tool to spin the fastener quickly may lower the effectiveness of the seal.

Thread lock (threadlock or threadlocker) is a liquid sealant designed for the adhering and sealing of threaded fasteners. It prevents fasteners becoming loose from shock and vibration and reduces corrosion. Whenever thread lock is recommended, **ALWAYS** use the medium grade thread lock, commonly called "blue," that allows disassembly with standard hand tools.

### Removal

Bolts with thread adhesive cannot be reused. After bolt is removed, scrape off any seal residue remaining on a reusable surface.

### Installation

Slowly torque the new bolt to the appropriate value.

Refer to Loctite® Thread locker Blue 242® or equal product.

## Sealant



**WARNING:** Always wear proper protective equipment when appropriate for the process.



**WARNING:** Safety and application instructions provided with sealants, adhesives, and other products should always supersede information provided by Utilimaster.

### Overview

The one-compound polyurethane sealants Utilimaster uses remain permanently elastic (less cracking due to shrinkage), can be painted, and require no mixing. They bond as well as seal, thus reducing the number of mechanical fasteners needed and reduce noise and corrosion.

### Removing Parts With Adhesive or Sealant

After removing the relevant fasteners, use a razor knife to cut the sealant. If necessary, continue cutting while gently prying apart the sections. Clean the reusable surfaces with isopropyl alcohol before applying new sealant.

### Applying Sealant

The following statements provide an overview of using polyurethane sealants:

- **Manufacturer's Recommendations:** Always follow manufacturer's cautions and recommendations for protective equipment, application, and cleanup.
- **Conditions:** Recommended application temperatures are 40° [5° C] to 100° F [37° C]. For cold-weather applications, store sealants at approximately 70° F [21° C] and remove them just prior to using. Make sure joint is frost free.
- **Surface:** Clean the surface with a strong jet of compressed air, sandblast, or solvent. Remove all loose particles and old sealant. The surface must be clean, dry, free of grease or rust, and of sound quality.
- **Priming:** Usually no priming is required. Since substrate type and uniformity can vary, a pretest is recommended. Sealant manufacturers have primers when substrates require them. Since compatibility among manufacturers is in question, do not mix and match different manufacturers' primers and sealants.
- **Application:** Cut the tip of the plastic nozzle to joint size. Puncture the airtight seal. Install with a hand- or power-operated caulking gun. For best performance, sealant should be gunned in the joint where the joint slot is at the midpoint of its designed expansion and contraction. Dip a Polystick in a soapy solution to ease spreading the adhesive to seal any gaps.
- **Limitations:**
  - For curing, permit sufficient exposure to air.
  - Do NOT apply over silicones or in the presence of curing silicones.
  - During cure, avoid contact with alcohol and alcohol-containing solvents.For best results, use open cartridges up the same day.

## Towing the Vehicle



**WARNING:** *When servicing a vehicle, follow safe practices, including these recommendations:*

- Always wear safety glasses and other protective equipment as appropriate to the process.
- NEVER attempt a towing operation that jeopardizes the safety of the wrecker operator, bystanders, or passing motorists.
- Operators should refrain from going under a vehicle which is being lifted by towing equipment unless the vehicle is adequately supported by safety stands.
- Vehicles must not be towed at speeds in excess of 55 MPH [88km/h].
- Always attach towing equipment to main structural components. NEVER tow the vehicle by the bumpers, tow hooks, or brackets.
- Always use towing equipment appropriately sized and designed for the express purpose of towing vehicles.
- Always follow the wrecker manufacturer's instructions.
- Always make sure that safety chains are used when towing and ensure that they are appropriately rated.
- The towing service must be qualified and follow best contemporary industry practices.
- A sling or draw bar lift is NOT recommended for towing the Reach vehicle.
- Loose or protruding parts of damaged vehicles should be secured prior to moving.
- Do NOT flat tow for more than one mile at a maximum speed of 30 MPH.
- If the drive shaft is removed, the parking brake is inoperable.
- Always chock the wheels of the towed vehicle when connecting and BEFORE disconnecting it to prevent it from rolling.



**CAUTION:** *Proper equipment must be used to prevent damage to towed vehicles.*



**CAUTION:** *Do NOT lift the vehicle by the rear bumper or frame extensions.*

Always follow state and local laws, related to the towing of vehicles.

### Using a Lowboy Trailer

Because the height of the Reach is not typically suitable for a standard flatbed trailer or rollback truck, a lowboy trailer is the preferred method for moving the vehicle.

### Towing From the Front

If a lowboy trailer is not available, the recommended method of towing is with a front axle lift. The drive shaft should be removed from the rear axle and left attached to the transmission to prevent fluid loss from the transmission. Secure the drive shaft under unit. The rear axle shaft may need to be removed if there is damage or suspicion of damage to the rear end.



## Towing From the Rear

Towing from the rear should be avoided if at all possible. Weight transfer from lifting the rear axle can cause steering instability with the towing vehicle. Lifting of the rear can also create a situation of exceeding the front Gross Axle Weight Rating (GAWR) of the Reach vehicle especially if it is loaded.

If the rear axle is damaged, a frame lift can be used as long as the forks are long enough to lift vehicle from the **chassis frame rails**. Do NOT lift the vehicle by the rear bumper or frame extensions. Frame extensions vary by truck length. Use care to ensure that the frame lift is located sufficiently forward to lift the chassis frame rails. Use height adapters to maximize the clearance between the Reach and the towing equipment. Chain the axle up on both sides prior to lifting the Reach to provide maximum wheel clearance.



*Lift the rear at the chassis frame rails  
(chains not yet installed).*

## Flat Towing

Flat towing the Reach is NOT recommended; however, if the circumstance requires it, use a chain and space bar specifically designed for this purpose. Do NOT tow for more than one mile at a maximum speed of 30 MPH.

## Emergency Repairs

Problems with the Utilimaster body are unlikely to disable a vehicle enough to make it undrivable. For body related questions, contact a Utilimaster service technician. **For information on chassis and drive train operations see the Isuzu's NPR Stripped Chassis Owner's and Driver's Manual.**

## Maintenance Information



**WARNING:** *When servicing a vehicle, follow safe practices, including these recommendations:*

- Always wear safety glasses and other protective equipment as appropriate to the process.
- Become familiar with all warning labels.
- Always maintain firm footing and control of tools.
- Use safety stands and/or wheel blocks whenever you are underneath the vehicle.
- Be sure that the ignition switch is Off unless otherwise required by the procedure.
- Put the transmission in Park and set the parking brake before working on the vehicle.
- Operate the engine only in a well-ventilated area.
- Keep yourself and your clothing away from the radiator fan, belts, and any moving parts when the engine is running.
- Avoid contact with hot metal parts, such as the radiator or exhaust system.
- Do NOT smoke while working on the vehicle.
- Always remove rings, watches, hanging jewelry, and loose clothing before working on a vehicle. Tie long hair securely behind your head.
- Keep hands and other objects clear of the radiator fan blades. The electric fan can start at any time even though the ignition is Off. Disconnect the fan when working under the hood.
- Avoid breathing AC refrigerant and lubricant vapor or mist. Exposure may irritate eyes, nose, and throat. Utilimaster recommends that a licensed automotive air-conditioning specialist work on the vehicle's air-conditioning system.
- In the winter, establish adequate visibility by clearing ice from windows BEFORE driving the vehicle.
- Periodically inspect seats and safety belts for condition, operation and secure mounting. Have any problems corrected immediately.
- Check all lights daily for burned-out bulbs. Replace if necessary.

## Maintenance Safety Considerations



**CAUTION:** *Remember these recommendations when cleaning:*

- Do NOT use high-pressure power-washers.
- Avoid harsh cleaning solutions.
- Do NOT clean in the hot sun or at elevated temperatures.
- Commercial cleaners may damage plastic or metal surfaces.
- Do NOT use razor blades or other sharp objects that could score the glass or other surfaces.
- Do NOT use an open flame to melt ice on windows or any other part of the vehicle body.

## Cleaning



**WARNING:** Use appropriate protective measures, such as chemical-resistant gloves and good ventilation, while using cleaning solutions on the vehicle.

### General Tips

Clean stains as soon as possible before they set.

If you use foam or solvent-based cleaner, always use in a well-ventilated area and follow directions on the can.

Wash and wax the body periodically to preserve the body finish.

Wipe interior surfaces with a clean, damp cloth using only a mild soap and water.

Clean debris from screen covering the heater air intake.

### Body Exterior

Wash and wax the body periodically to preserve the body finish, but avoid harsh cleaning solutions or high-pressure washes.

During the winter, wash off road salts frequently.

### Cargo Area

Sweep debris from floor surface.

### Instrument Panel and Interior Plastic Components

Use a clean, damp cloth with mild soap and warm water to wipe down surfaces.

### Seats

Gently brush or scrape excess dirt from material, and vacuum to remove any loose dirt.

Use warm water and a clean, damp cloth to rub the stained area. Repeat application until dirt is removed.

If a stain persists, automotive stores can provide vinyl/leather cleaners for vinyl seats or (foam or solvent) fabric cleaners for fabric seats. Use in a well-ventilated area, and follow directions on the can.

Keep seat belts clean and dry.

### Windows

#### Tempered and Safety Glass

Use mild soap or detergent and a clean sponge or soft cloth to wash windows. Rinse well with clean water. To prevent water spots, dry with a chamois or moist cellulose sponge.

Fresh paint, grease, and smeared glazing compounds can be removed easily before drying by rubbing lightly with naphtha or isopropyl alcohol. Naphtha also works to remove labels and stickers. Butyl cellosolve works well for removal of dried paints and marking pen inks. After using any of these chemicals, do a final wash with warm water and a mild soap or detergent, then rinse thoroughly with clean water.

## Engine and Heater Coolant



**CAUTION:** To avoid possible heater or engine damage, use only engine coolant recommended by the chassis manufacturer.



**CAUTION:** Any time the engine and heater coolant system is opened, it must be refilled using a vacuum system.

To avoid possible heater or engine damage, use only engine coolant(s) recommended by the chassis manufacturer.

## Lubrication

Lubricate hinges, latches, seals, and locks as described in the body maintenance checklist.

[See Body Maintenance Checklist.](#)

## Manufacturers' Recommendations

Safety, application, and operation instructions provided by the manufacturer with sealants, adhesives, cleaners, and other equipment should always supersede information provided by Utilimaster.

## Maintenance Checklist

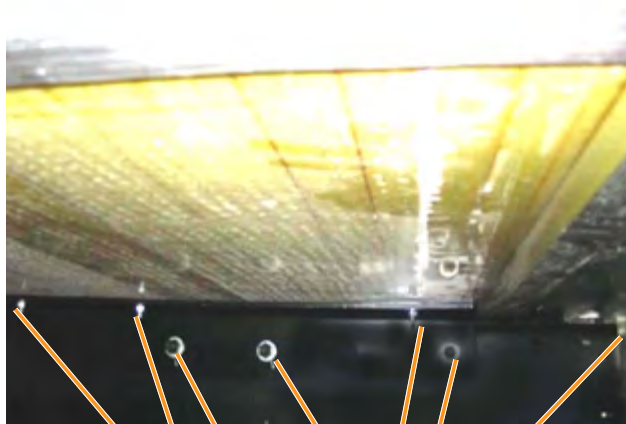
By design, the Utilimaster body is low maintenance. However, Utilimaster recommends the items on the following pages should be checked every three to four months, unless otherwise stated.

For more detailed service instructions, see the More Information and Publications section on how to download/order the Utilimaster service manuals.

The daily inspection checklist should be included with every periodic inspection. See the "Before You Go" Operation Inspection section.

### Body Mounting Fasteners

- ☐ Check for loose fasteners underneath the chassis, particularly the bolts that mount the body to the chassis.



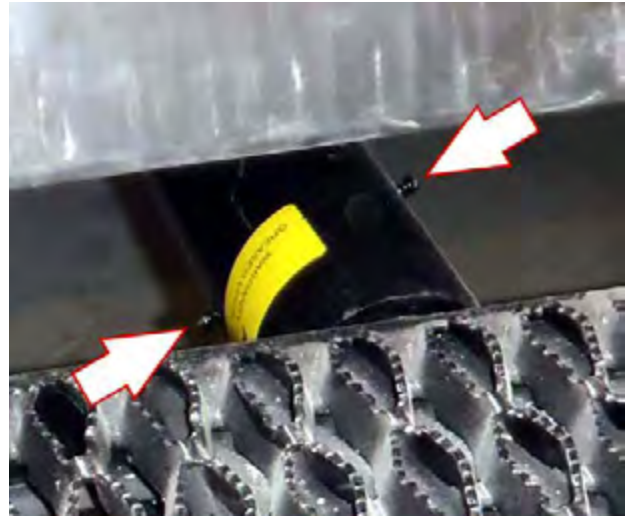
*Body mounting bolts*

## Bumpers

- ☐ Check for loose bolts on the bumper and brackets.
- ☐ Check for damaged or bent components.
- ☐ Lubricate the rear shock-absorbing bumper fittings with #2 grease (one shot from a hand pump every three to six months, depending on use and conditions).



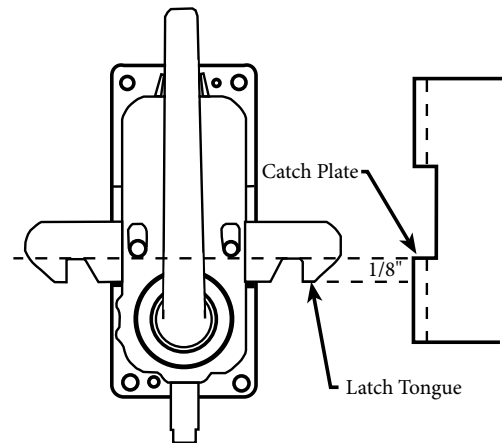
*Rear shock-absorbing bumper*



*Rear shock-absorbing bumper grease fittings*

## Doors, General

- ☐ Check operation of the door locks at each door from both the inside and outside.
- ☐ Lubricate the lock cylinders with a lightweight oil.
- ☐ Check that interior and exterior handles are securely mounted.
- ☐ Check alignment of latches and catches. At least 1/8" of the door handle latch tongue needs to engage the catch plate.
- ☐ Check for wear on the catch plates and latch tongue.
- ☐ Inspect and clean rubber seals around door edges.
- ☐ Check operation of the windows.



*Check latch and catch alignment*



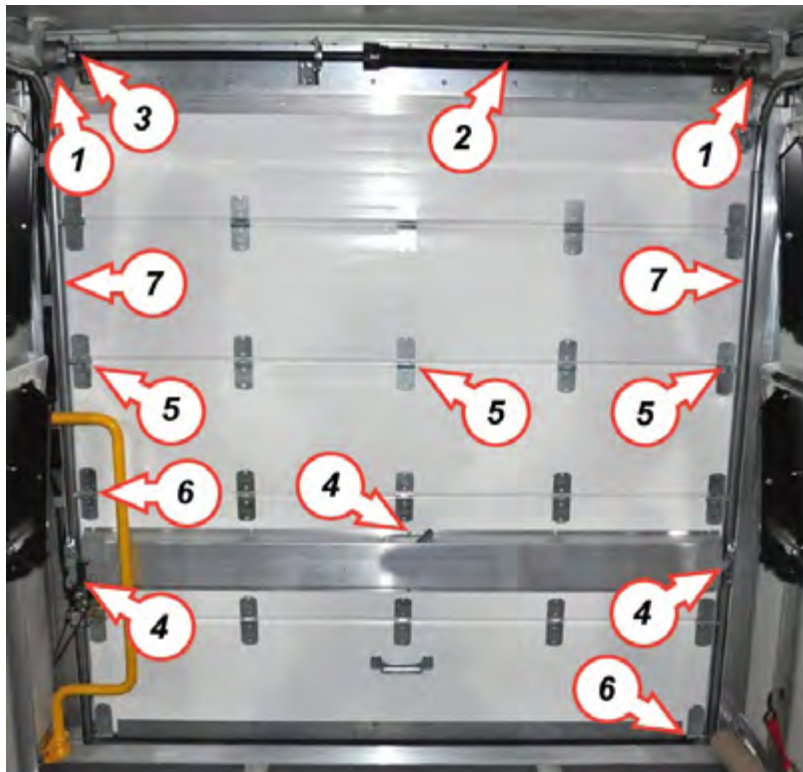
## Doors, Roll-up



**CAUTION:** Do NOT use grease on roll-up doors. Do NOT get oil on rubber seals. Wipe up any drips immediately.

Check the condition of the door and components:

- ☐ Check that the door opens easily and closes tightly.
- ☐ Check the condition of the pull-down strap for fraying or wear.
- ☐ Check the condition of the latches.
- ☐ Check for loose fasteners or components.
- ☐ Check that the rear door is centered in the opening.



*Lubrication points on rear roll-up door*

Lubricate the following rear roll-up door parts with a light oil (Utilimaster P/N 04202540, or equivalent).

- ☐ Roller drums and shafts—wipe off excess oil (#1, #3).
- ☐ Spring—lubricate the spring along its entire length to prevent rusting (#2).
- ☐ Latches and lock levers (#4).
- ☐ All hinges—wipe off excess oil (#5).
- ☐ Rollers (#6).
- ☐ Clean and lubricate track (#7).



**Driver Conveniences**

- ☐ Check heating and air-conditioning controls for proper operation.
- ☐ Check all dash controls for proper operation.

**Grab Handles and Handrails**

- ☐ Check that all grab handles and handrails are securely mounted.

**Hood**

- ☐ Check hood catches for alignment and excessive wear.
- ☐ Check hood prop rod for proper operation.

**Mirrors**

- ☐ Check tightness of the mirror mounting bolts.
- ☐ Check that mirror arms securely lock into detents.

**Reflective Tape**

- ☐ Check that all reflective tape is securely attached.

**Seats and Belts**

- ☐ Check tightness of bolts for seat belt and pedestal.
- ☐ Check seat belt for proper operation and signs of fraying or wear.

**Tires**

- ☐ Check pressure and condition of tires **weekly**.

**Wipers**

- ☐ Check tightness of wiper linkage connections.
- ☐ Check condition of wiper blades.

## Ordering Parts

Utilimaster has an electronic parts catalog and ordering system that will save your team time and money by providing 24-hour access to vehicle parts and the OEM bill of material.

Go to: <http://parts.utilimaster.com>



## How to Order

To order parts for this vehicle, gather the following information:

- Chassis VIN
- Complete description of all the parts necessary (see the Utilimaster body parts manual).
- Shipping information

*NOTE: Customer Service prefers payment by Visa, MasterCard, Discover, or American Express credit cards. Purchase Orders from customers with established open accounts are also accepted.*

**Then contact Utilimaster Customer Service by one of the following methods:**

- Call 800-237-7806 (or 574-862-3219) and ask for the Parts Department.
- Fax the order with the above information to 574-862-7637.
- Email the order with the above information to [CustSvc@Utilimaster.com](mailto:CustSvc@Utilimaster.com).

## Customizable Parts Order Form

You can also download a customizable form template file from the Utilimaster web site <http://parts.utilimaster.com>. The template has a header that you can customize with your name and address. Then, to order parts, you only have to enter the specific information about the vehicle—saving time retyping the same address information repeatedly. After completing the form, it can be emailed as an attachment, mailed, or faxed.

## Returns

To return parts for credit, call the Customer Service Department for prior authorization. All returns must be shipped prepaid freight. A restocking fee will be charged for all returns. Special order parts are not returnable.

Service Center Name \_\_\_\_\_ Contact Person \_\_\_\_\_  
 Address \_\_\_\_\_ Email \_\_\_\_\_  
 City \_\_\_\_\_ Phone \_\_\_\_\_  
 State (Providence) \_\_\_\_\_ Fax \_\_\_\_\_  
 Zip (Postal) Code \_\_\_\_\_ Order For: Stock \_\_\_\_\_ Price Quote \_\_\_\_\_  
 Ship To (Same as Above): Yes \_\_\_\_\_ No \_\_\_\_\_ Warranty \_\_\_\_\_ Unit Down \_\_\_\_\_  
 Ship To (Different Than Above): Name \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_  
 State (Providence) \_\_\_\_\_ Zip (Postal) Code \_\_\_\_\_  
 Attention \_\_\_\_\_

**To Utilimaster Parts Department** **Date** \_\_\_\_\_  
 65528 State Road 19, P.O. Box 585  
 Wakarusa, IN 46573-0585, U.S.A. **Preferred Shipper** \_\_\_\_\_  
**Fax 574-862-7637** (Carrier and Service Priority)  
**Purchase Order #** \_\_\_\_\_ **Credit Card #** \_\_\_\_\_  
**Authorized Signature** \_\_\_\_\_ **Exp. Date:** \_\_\_\_\_

Vehicle Year		Utilimaster Body S/N or Chassis VIN		Vehicle Model
Order Item No	Quantity	Part Number	Part Description	Comments (Optional)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

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## Reporting Safety Defects

### United States Only

If you believe that your vehicle has a defect that could cause a crash, injury, or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Utilimaster.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and your dealer, or Utilimaster.

**To contact NHTSA, call the Auto Safety Hotline toll free at 1-888-327-4236 or write to:**

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Office of Defects Investigation  
NVS-216, 1200 New Jersey Avenue SE  
Washington, D.C. 20590

**or to file a complaint online:** <http://www-odi.nhtsa.dot.gov/ivoq/>

You can also obtain other information about motor vehicle safety from the hotline.

### Canada Only

If you believe that your Canadian-registered vehicle has a defect that could cause a crash, injury, or death, you should immediately inform Transport Canada in addition to notifying Utilimaster.

To contact Transport Canada, call **800-333-0510** (or **613-993-9851** in the Ottawa region) or write to:

Transport Canada  
Motor Vehicle Defect Investigation  
PO Box 8880  
Ottawa, Ontario K1G 3J2  
Canada

## More Information and Publications

### Web Site and Downloading Files

Many support documents, including those described here, are downloadable (as Adobe® Acrobat® PDF files) from our web site at [www.utilimaster.com](http://www.utilimaster.com). Click on the *Technical Manuals* button to access the download page. To view the files, you must have the Adobe Acrobat Reader version 4.0 or higher installed on your computer. Acrobat readers are available free for all leading computer operating systems on the Adobe web site ([www.adobe.com](http://www.adobe.com)).



### Service Manuals

Read about routine maintenance procedures, proper adjustment methods, vehicle repair, aftermarket upgrades, and much more in the Utilimaster service manuals.





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## Contacting Utilimaster

Browse our web site for more information about Utilimaster and its products, or contact Utilimaster Customer Service by using one of the following methods:

- Call 574-862-3362.
- Fax to 574-862-7637.
- Email to [reach@utilimaster.com](mailto:reach@utilimaster.com).
- Mail to the following address:

Utilimaster  
Attn: Customer Service Department  
65528 State Road 19  
P.O. Box 585  
Wakarusa, IN 46573-0585  
U.S.A.

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## Important Notices

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