



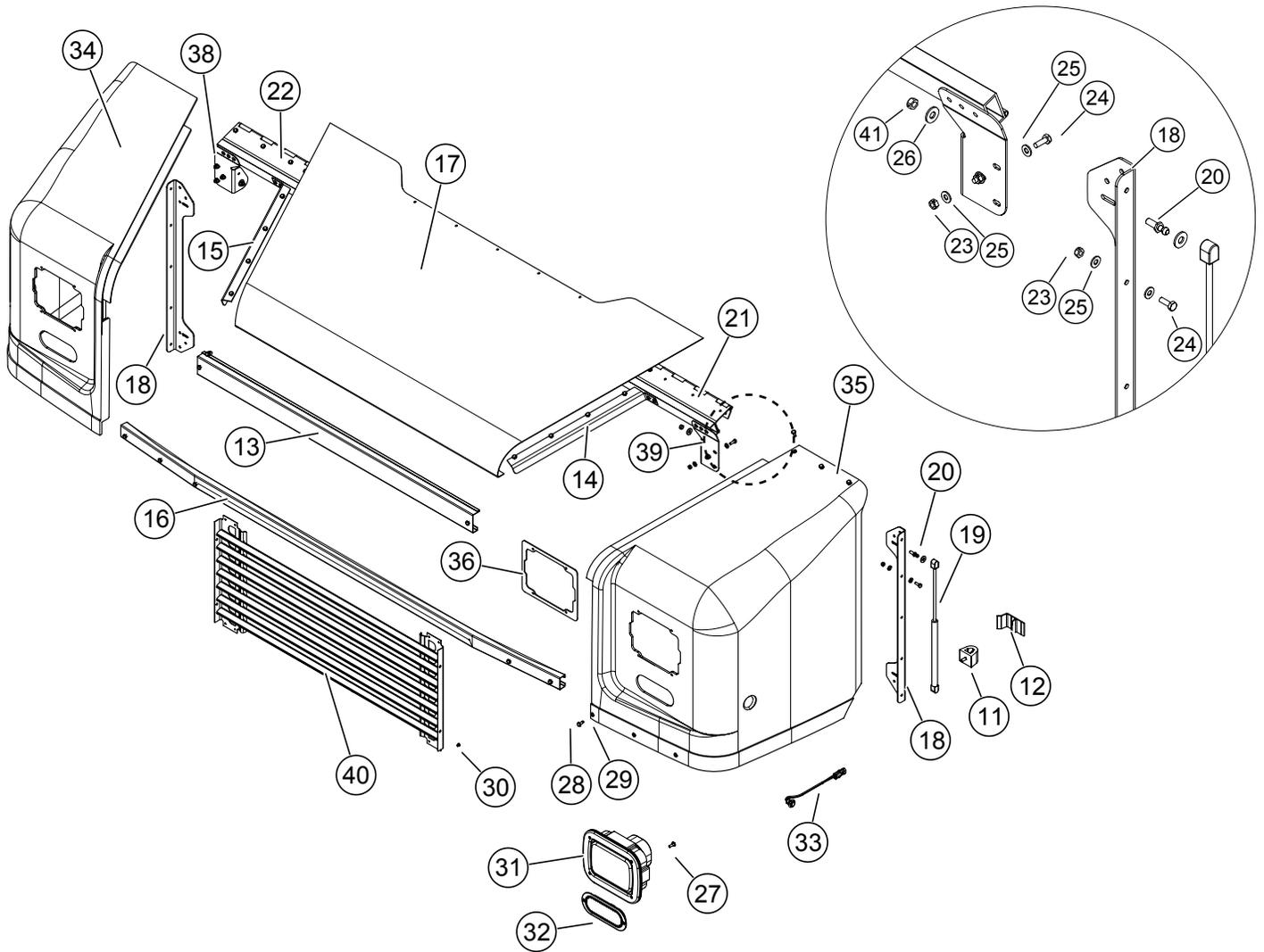
# Service Guide

## Hood

### RIM Fenders for Aeromaster

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ID	Description	ID	Description
0	54233519d RIM HOOD ASSY	25	1/4 WASHER
11	BUMPER-LIFT UP NOSE	26	5/16 WASHER
12	HOOD GUIDE	27	SCREW 1/4-20 X .75
13	UPPER GRILLE SUPPORT	28	1/4" HUCK PIN
14	LH HOOD SUPPORT	29	1/4 HUCK COLLAR
15	RH CENTER HOOD SUPPORT	30	3/16" RIVET
16	LOWER GRILLE SUPPORT	31	HEADLIGHT
17	CENTER HOOD PANEL	32	LIGHT LED TURN 6" OVL FLG BLK
18	FENDER BRACE	33	SIDE MARKER LIGHT
19	GAS STRUT	34	RH RIM FENDER
20	BALL STUD 10 mm X 5/16	35	LH RIM FENDER
21	LH HOOD HINGE	36	HEADLAMP BRACKET
22	RH HOOD HINGE	38	RH UPPER STRUT SUPPORT
23	NUT 1/4-20	39	LH UPPER STRUT SUPPORT
24	BOLT 1/4-20 X 0.75	40	HOOD GRILLE ASSY
		41	NUT 5/16-18

# RIM Hood Adjustment

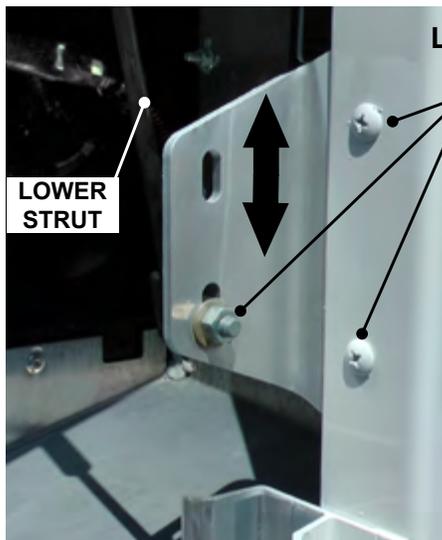
## Fender to Quarter Panel

### **! CAUTION**

If equipped with a prop rod, be sure prop rod is properly engaged before working on the vehicle. Some trucks have an automatic locking gas strut.

Do NOT close the hood without first depressing the orange button on the passenger side gas strut to disengage the safety locking mechanism. Failure to do so could result in damage to the hood.

1. Loosen the nuts attaching the hood brace and quarter panel.
2. Loosen the (3) nuts attaching the hood support strut to the upper strut support.

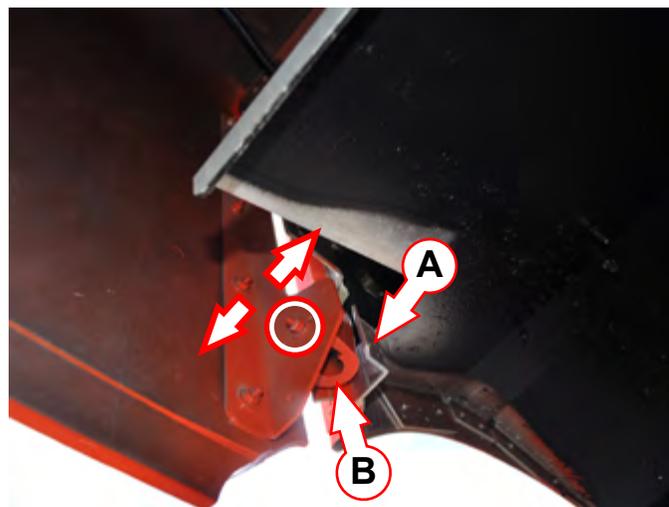


*Adjustment nut on hood brace*



*Horizontal adjustment on strut support*

3. Loosen the nut attaching the rubber bumper to hood brace and align with hood guide.

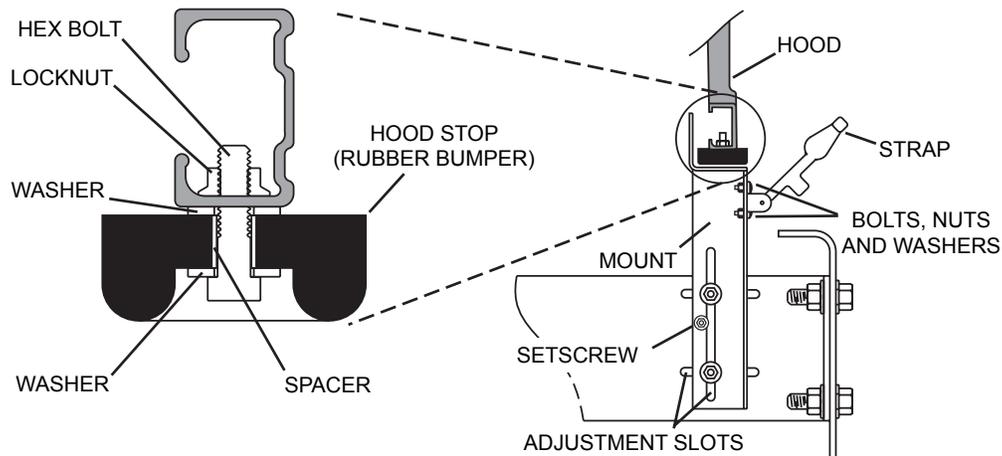


*Hood guide (A) and bumper (B) adjustment  
(viewed from under fender)*

4. Adjust the fender to fit quarter panel and torque all nuts to 5 ft•lb.

## Front Hood Stops

*NOTE: The front hood stops set the gap between the quarter panel and fender.*

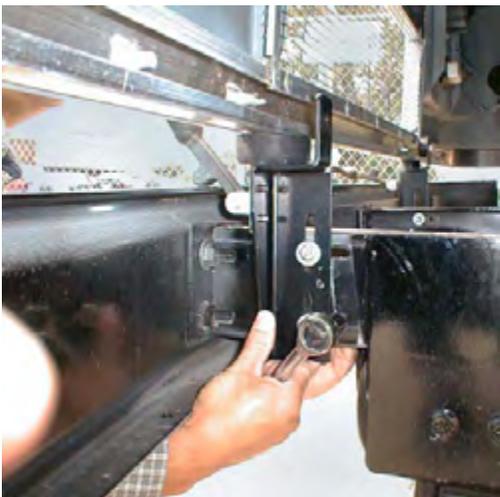


*Hood stop in place*

1. Loosen the (4) nuts to the bumper mounts (two each side).

*NOTE: The hood stops may be set in place with a setscrew. Remove the setscrew before continuing.*

2. Adjust the mounts until the surfaces in the gap between the quarter panel and fender are parallel when the hood is closed. Use the vertical slots to widen the gap by raising the mounts or narrow the gap by lowering the mounts.
3. Make the rubber bumpers snug against the lower hood support. They should be flush and perpendicular to the extrusion at all points of contact.
4. Tighten all nuts.
5. To secure the location after adjustment, drill a new 7/32" hole behind the adjustment slot and secure with a 1/4-20 self-tapping Torx® screw or use a new 1/4-20 x 3/4 bolt and locknut as a setscrew instead of the Torx screw.

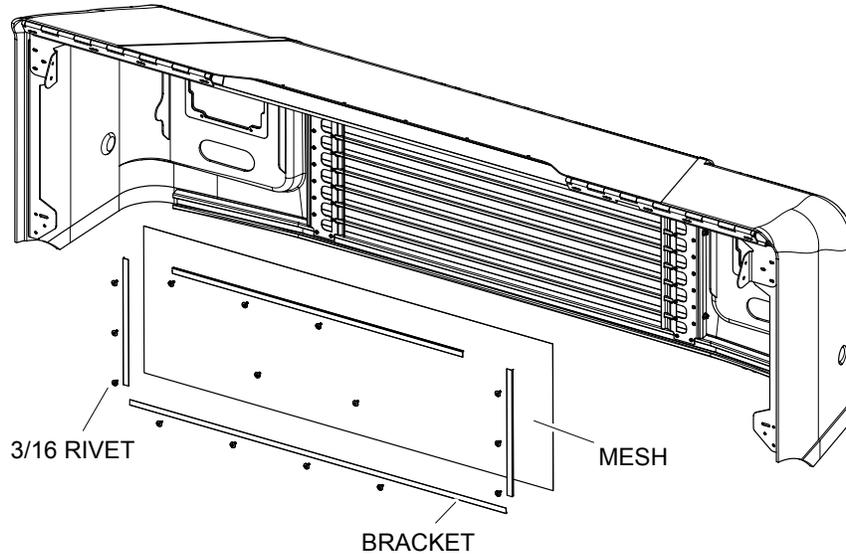


*Good alignment*



*Proper hood and quarter panel gap*

# Grille Replacement



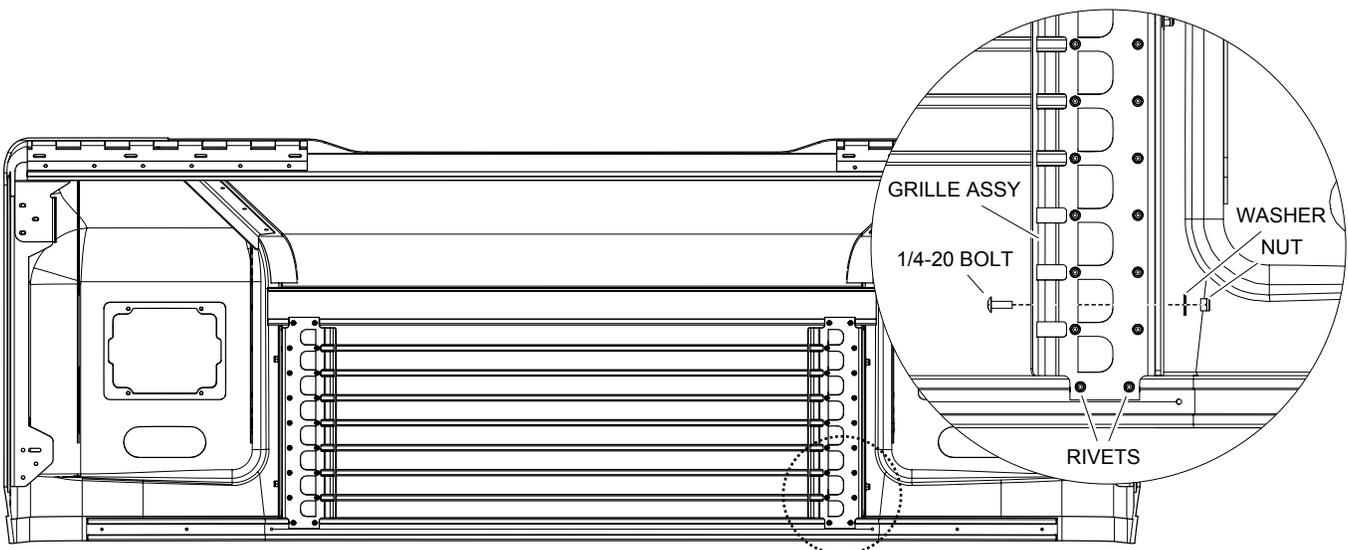
## Removal

1. Use a #11 or (3/16") drill bit to remove the rivets from brackets on mesh screen.
2. Use a #11 or (3/16") drill bit to remove the rivets from grille
3. Remove (4) 1/4-20 fasteners and the grille.

## Installation

1. Install grill from under the hood and secure 1/4-20 fasteners.
2. Attach the new grille with 3/16" rivets.
3. Attach mesh screen and brackets with 3/16" rivets.

*NOTE: If rivets with oversize heads (P/N 11401215) are not available, use standard rivets with flat washers.*



*Grille fastener (view from inside hood)*

# Strut Replacement

## Removal

### **⚠ CAUTION**

Lifting the hood too high can damage the wiper arms or even break the windshield. Use extreme caution in this process.

If equipped with a prop rod, be sure prop rod is properly engaged before working on the vehicle.

1. Lift the hood and secure it so stays open when the gas struts are removed.
2. Carefully insert a small flat-blade screwdriver under the clip at the bottom of the gas strut.
3. Lift up slightly on the clip. The strut will slide off the ball stud.

*NOTE: Do NOT remove the clip from the strut because it is difficult to reattach.*

4. Repeat the same steps for the top of the spring.

## Installation

1. Snap the top of strut onto the ball stud.
2. Repeat for the bottom of the gas spring.

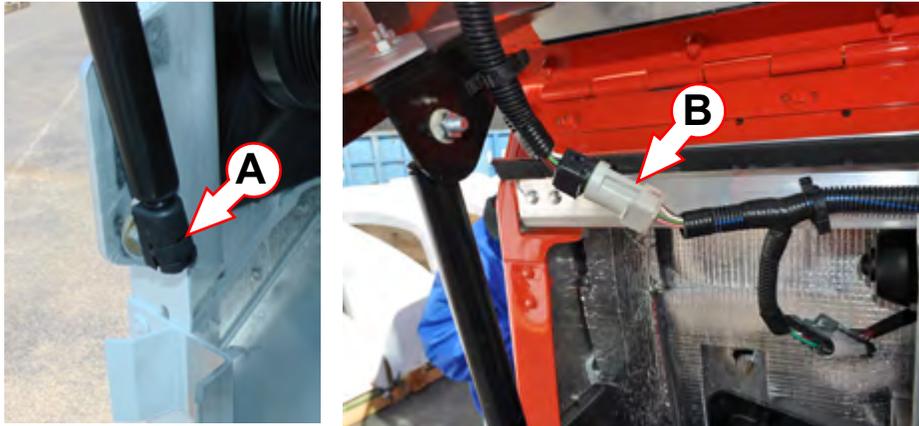


*Gas strut release*

# Hood Replacement

## Removal

1. Lift the hood and secure so that it will stay open when the gas struts are removed.
2. Disconnect the hood struts.
3. Disconnect the hood wiring (two places) from the cowl harness.



*LH hood gas struts release (A) and wiring harness (B)*

4. Remove the bolts on the hood hinge, working from the center out. Discard all fasteners. Remove sound deadener if necessary to reach the bolts.
5. While supporting the hood from both sides, carefully remove the (2) outside 1/4–20 Torx® screws and move the hood away from the vehicle.



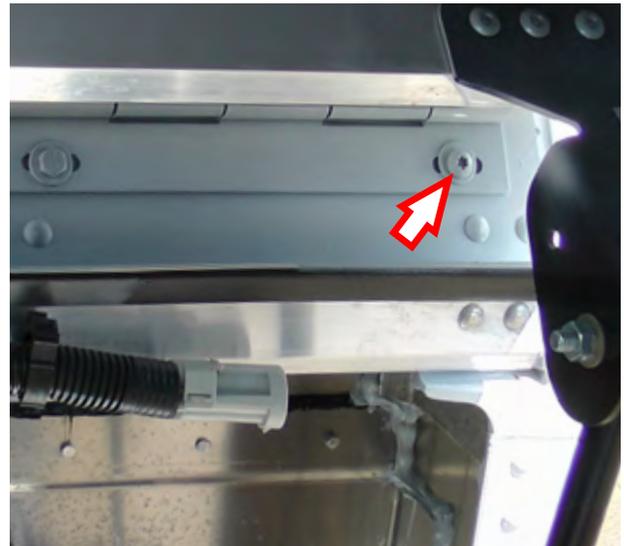
*Hinge fasteners and Torx screw*

## Hood Installation

### **NOTICE**

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

1. Position the hood on the front of the vehicle.
2. Align the hinge holes with the holes on the cowl. Insert replacement Torx screws with washers in each outside hinge hole. Do NOT tighten completely.



*Use Torx screws at the outboard hinge holes to center hood on body*

3. Fasten replacement bolts and two-way locknuts and washers on the cowl side of each of bolt.
4. Snug the bolts but do not tighten completely at this time.
5. Lower the hood gently and check the alignment with the fender guides.

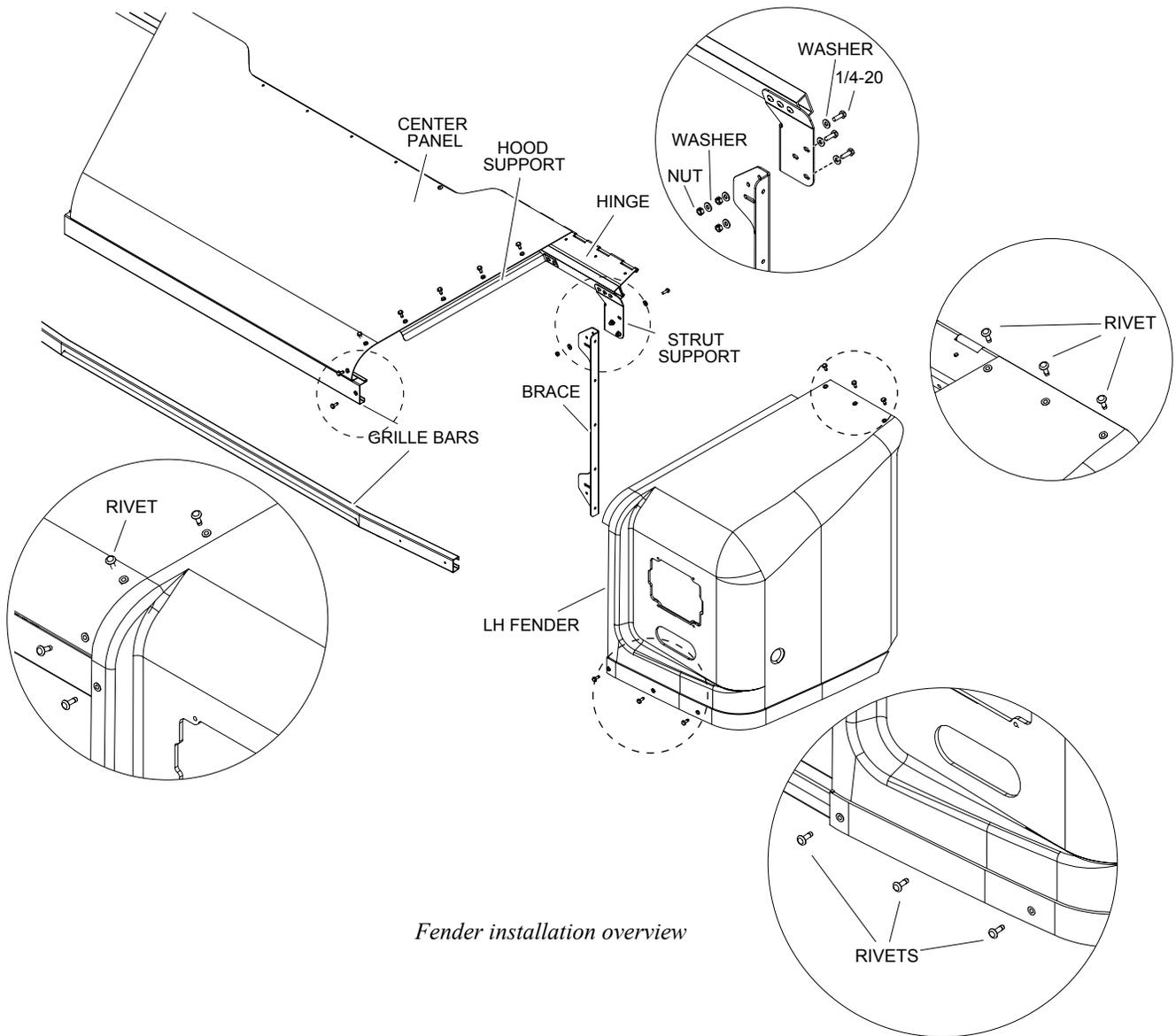


*Hood fender guides*

6. Check the hood to ensure that it is centered on the structure. If the hood is not centered on the body, loosen the hood hinge bolts and Torx screws, and reposition the hood.
7. Lift both sides of the hood straight up simultaneously.
8. Tighten the (2) outside Torx screws.
9. Tighten the remaining bolts across the hood hinges.
10. Connect the hood wire harnesses.
11. Attach the hood gas struts on both sides.
12. Lower the hood again to check for the alignment of the bumpers with the hood guide brackets.
13. Align fender as necessary.

# Fender Replacement

## Removal



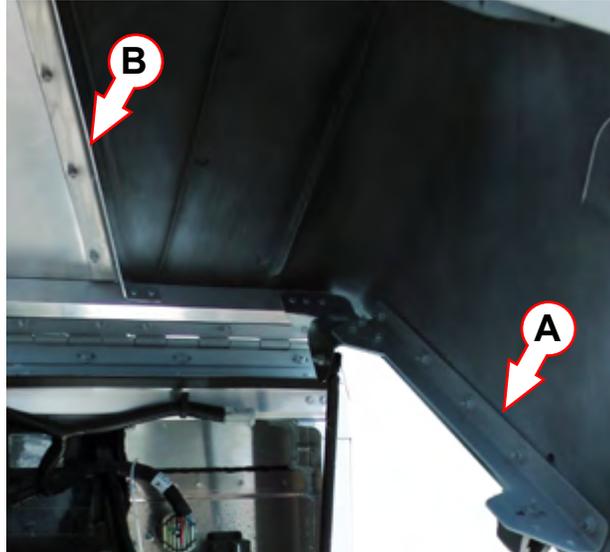
### **NOTICE**

Removing the hood first is not necessary but it may make it easier to replace.

1. Lift the hood and secure it so stays open when the gas struts are removed.
2. Disconnect the headlight, turn signal and clearance light harnesses.
3. Disconnect the gas strut from the upper support bracket.



*Upper strut support fasteners*



*Hood brace (A) and center support (B) fasteners*

4. Remove fasteners securing the brace and the upper strut support.
5. Remove the pin-and-collar fasteners attaching the fender to the center support bracket, grille bars and hinge. *See Tools and Fasteners Service Guide*
6. Remove the (5) bolts holding the brace to the fender.
7. Remove the headlight, front turn light and side marker light.

## Fender Installation

1. Mate the hood center section to the fender along the seam. Clamp in place.
2. Use the existing holes in the hinge, hood center section, and grille to transfer drill F-bit size holes into the replacement fender.



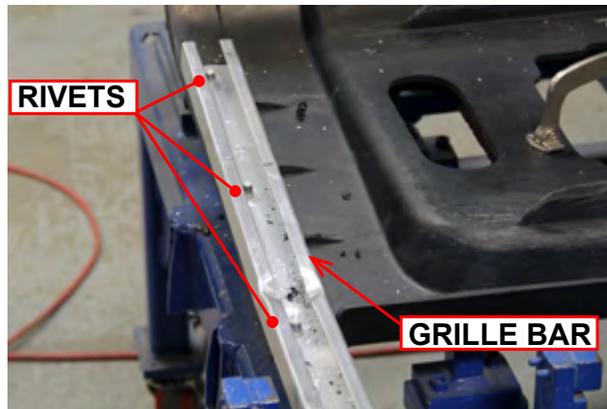
*Holes drilled in fender and fasteners installed*

3. Position the hood support brace using existing holes and secure with (5) 1/4-20 fasteners.

### **NOTICE**

**If a Huck fastening system is not available, use stainless-steel 1/4–20 x 3/4" Phillips-head truss bolts, aluminum flat washers, and locknuts to attach the fender.**

4. Secure the hood to the hinge with (3) 1/4" fasteners.
5. Secure to hood center panel with (7) 1/4" Fasteners.
6. Secure the grille bars and the fender with (4) 1/4" Fasteners.



*Grille bar fasteners*

7. Secure upper strut support to the hood brace using existing holes and attach with (3) bolts, washers and nuts.
8. Connect the hood strut.
9. Install the side marker light, front turn light, and headlight.
10. Adjust the headlight.

## RIM Fender Painting Procedure

### CAUTION

Always wear proper protective equipment when appropriate for the process.

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

Use the following painting preparation procedure before or after installation.

1. Use a pump sprayer to apply isopropyl alcohol over a 2-foot square area at a time.
2. Use a clean, dry cloth to wipe off isopropyl alcohol **before** it evaporates.

### NOTICE

If drying occurs, repeat application. If any residue is still present, **REWASH** using the same procedure.

3. Sand all areas to be primed and painted with 320 or 400 sandpaper using a dual action (DA) orbital sander or by hand.
4. Use a 3M Red Scotch-Brite Hand Pad 7447 (or equivalent) for hard-to-reach areas. Remove all gloss from the part during the sanding process.
5. Use compressed air to blow off dust from fender starting at the top of the part.
6. Repeat cleaning with pump sprayer and isopropyl alcohol.
7. Use a clean, dry cloth to wipe off isopropyl alcohol before it evaporates
8. Inspect fender for shiny areas and repeat process if necessary.

### NOTICE

Sanding to a dull finish is critical to paint adhesions. Failure to sand properly will result in adhesion loss.

Use masking tape and a paper that cannot be penetrated by paint.

Paint fender as soon as possible. A delay in painting allows the release agent on the fender to come to the surface.

9. Mask all fixtures (lights, grille, bumper, etc.) to protect from overspray.
10. Paint part using a touch-up gun containing Sherwin Williams Genesis M paint.
11. Air dry for 1 to 2 minutes. See the *Paint and Decals Service Article* for complete process.

## RIM Fender Repair

Use this process if the hood has a hole, gouge, or scratches.

*NOTE: Depending on the severity, a damaged hood may not be repairable.*

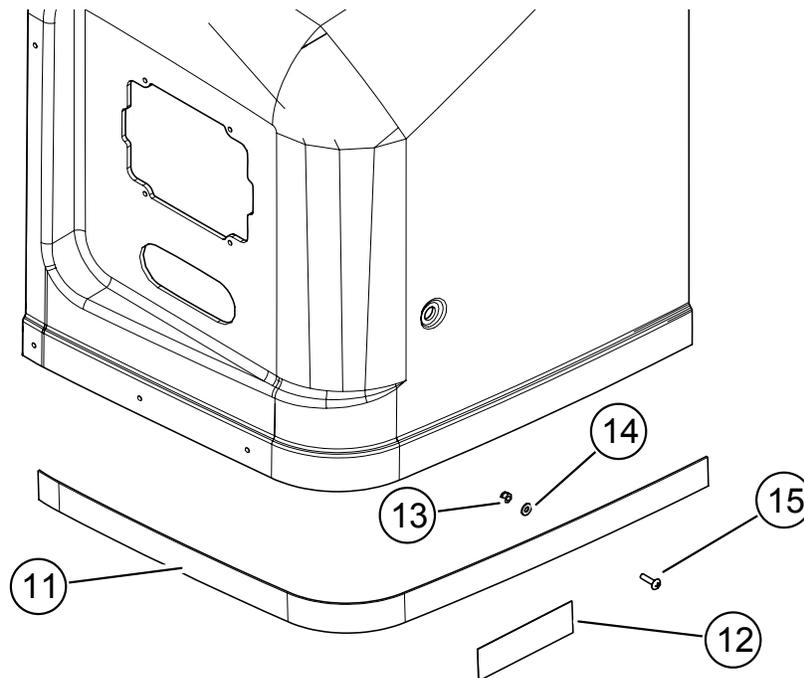
1. Purchase a **flexible** bumper/fender repair kit at an auto supply store.
2. Follow the kit's surface preparation instructions carefully.
3. See the *Paint and Decals Service Article* for touch-up.

## RIM Fender Reinforcement (Pre-2008 Models)

### **NOTICE**

In extreme environments or harsh driving conditions the RIM hoods on Aeromaster van bodies may develop cracks at either of the outside corners of the hood support (bar under the grille opening), starting at the very bottom of the hood and progressing upward.

If the crack is less than 2-1/2" long, adhere and fasten an aluminum reinforcement strap to the back side of the fender to prevent further cracking. If the crack is over 2-1/2" adhered the aluminum backer behind the crack above the strap. If the crack is over 4-1/2" long, the fender should be replaced.



ID	Part Number	Description	Qty
	REFERENCE	23002135SK KIT RIM HOOD REPAIR	
11	06924060	STRAP RIM FENDER SUPPORT	1
12	06924625	BACKER .040 x 2.00 x 6.00	1
13	11000039	NUT HX 1/4-20 CTLK GR5 ZN	5
14	11008141	WASHER FLAT 1/4 SAE ZN	5
15	11305103	SCREW TRH PHL 1/4-20 x 1.00 SS	5

### **Obtain Locally**

DUAL CARTRIDGE APPLICATOR

3M TWO PART ADHESIVE DP100 50 ML (P/N12606145) OR EQUIVALENT

ADHESIVE MIXER TUBE (P/N 12606016) or EQUIVALENT

## **⚠ CAUTION**

Adhesive supplied in the kit is flammable. Keep it away from heat, sparks, and open flames.

Avoid breathing adhesive vapor. Use with adequate ventilation or use proper respiratory equipment.

Adhesive is an irritant to eyes and skin. Use chemical-resistant gloves and wash hands thoroughly after use.

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

Always wear safety glasses while working on the vehicle.

Secure hold-open device (prop rod or locking strut) before working under the hood.

## **NOTICE**

Some steps are time-sensitive, so it is important to have all the tools and materials at hand before starting.

All work should be completed on one side before starting the process (additional kit required) on the other side.

1. Read all instructions before starting.
2. Release the hood's hold-down straps, open the hood, and secure the hold-open device.



*Crack length*

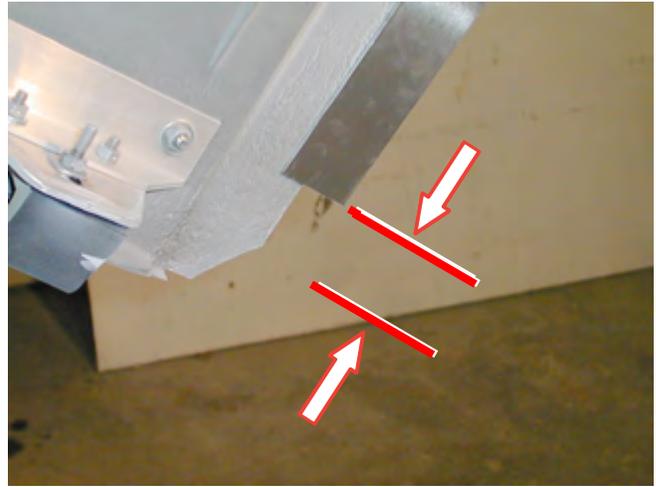
*NOTE: The hood will be opened and closed several times during this process. This will not be noted each time.*

3. Test the fit of the aluminum reinforcement by aligning one edge with the grille opening and closely following the fender profile (especially in the corner) to see how far the strap overhangs the back of the fender.

4. If the strap extends past the rear part of the fender, cut it off approximately 1" back from the rear of the fender.

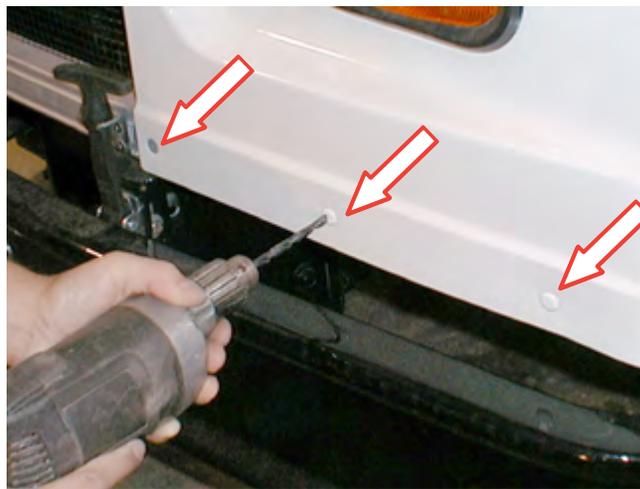


*Align with grille opening*



*Strap cut short of fender*

5. Using an F-bit, drill off the heads of the (3) pin-and-collar fasteners along the front.



*Remove fasteners*

6. Use isopropyl alcohol and a clean rag to wipe thoroughly the aluminum strap and RIM hood fender. (Although the hood grille support will not have adhesive applied to it and does not need to be thoroughly cleaned, remove all loose or caked-on dirt from it as well.)



*Clean RIM hood fender*



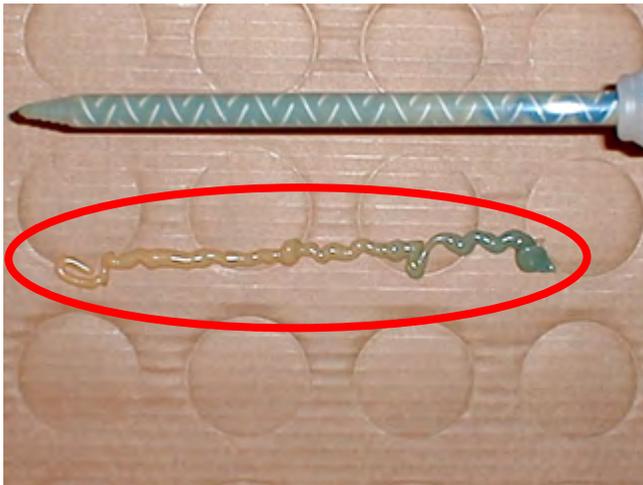
*Clean aluminum strap*

7. Insert the adhesive cartridge into dual cartridge applicator and attach mixer tip.

## **NOTICE**

**The adhesive will cure in approximately six minutes once it is exposed to air. Do NOT interrupt or delay the process once the adhesive application has begun.**

8. Dispense the adhesive on a scrap piece of cardboard until the mixture comes out green. (The bead will be approximately the length of the mixer tip, and this means the compound is adequately mixed.)
9. Apply adhesive down the full length of the aluminum strap. Carefully place the aluminum strap between the RIM hood fender and the lower grille support.



*Purge mixer tip*



*Apply adhesive*

## NOTICE

Too much clamp load will leave indentations in the RIM hood fender.

10. Clamp the corner bend of the strap in place, first using the lightest clamp load possible. Make sure the corner tightly follows the fender profile and clamp the strap in at least four places.



*Put strap in place*



*Clamp in place*

11. Wipe off any excess adhesive immediately.

## NOTICE

If the crack is between 2-1/2" and 4-1/2" long, dispense adhesive on a 2 x 3" aluminum backing plate, adhere the plate behind the crack above the strap, and clamp the plate in place until the adhesive is cured.

12. Using an F-bit, drill (3) holes through the strap, using the pin-and-collar fastener holes as a guide.
13. Using an F-bit, drill one hole through the strap along the side of the fender.

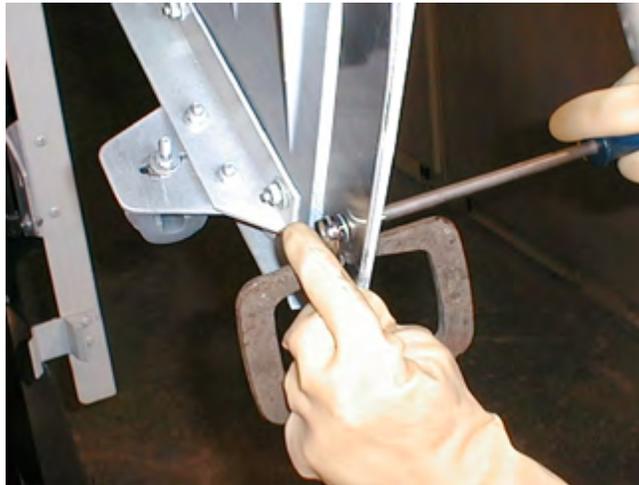


*Drill front holes*



*Drill side hole*

14. Install the (4) bolts and locknuts. The bolt on the side should have a washer under the locknut.
15. Torque the nuts to 65–85 in•lb.



*Attach fasteners*

16. Make sure the hood is closed and secured.

## **NOTICE**

Total cure takes approximately eight hours, but the truck can be put into use immediately after the fasteners are in place (if a backing plate is not used over a longer crack).

Disposing of leftover adhesive is environmentally safe if it is dispensed from the cartridge and allowed to fully cure.

If desired for cosmetic reasons, after the adhesive is cured, the outside of the crack can be routed into a V-shaped groove, and filled in with a *flexible* bumper/fender filler. After the filler is cured, it can be sanded smooth and painted to match the rest of the hood.

**Utilimaster Customer Service**

**574-848-2200**

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**RIM Hood, January 2018**

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