

## Windshields and Bonded Glass

### Windshield/Quarter Window Tools and Materials



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

**WARNING:** To avoid injuring yourself or others, use extreme care when handling glass and the window-removal tool!



**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. The following information can be shared with auto glass shops.

*NOTE: The windshield and quarter window sections apply only to Aeromaster walk-in vans. Please read entire procedure before working on the vehicle.*

If you do the job yourself, you will need:

- Replacement glass
- Rubber trim molding
- Glass replacement tools
- Isopropyl alcohol
- Glass bonding replacement kit

#### Kits and Replacement Glass (P/N 23005014SK)

The Utilimaster bonded window replacement tool kit consists of:

- Windshield support block (#1) P/N F542319
- Quarter-window spacer block (#2) P/N F542382
- Poly-stick (#3) P/N 04201398
- Utility knife (#4) STA 10-049
- Pneumatic window removal tool



Tool kit

*Not included: masking tape, caulking gun, Medium Red Scotch Brite™ (to roughen surfaces), clean cotton rag or lint-free paper towel, wooden block (approximately 2" x 4" x 6" to square glass surface flush with the molding), and squeegee or roller (for bonding the trim).*

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

The Utilimaster bonded window replacement material kit consists of:

- Dow Beta Tech Plus Black 10.3 oz P/N 12606193
- Dow Window Primer 16100A P/N 12606161
- SikaTack® Ultrafast Urethane Adhesive Sealant P/N 12605916

*Not included in kit: Isopropyl alcohol, and Kent® Liquid Rubber 10240 (used to fill in any gaps in the trim seam).*

In addition to tools, adhesives, and sealants, you will need to order replacement glass and perimeter trim molding from Utilimaster.

The windshield glass is 1/4"-thick laminated safety glass. The quarter-window glass and the glass in sliding doors are tempered safety glass that cannot be cut after tempering.

For replacing the entire windshield, up to 21 feet (depending on the size of the vehicle) of perimeter trim molding (P/N 05705894) and 3 feet of flat center trim for two-piece windshields (P/N 05705895) are needed. If care is taken in removing the glass, only the replaced half of the windshield needs to have new molding applied. Each quarter-window glass replacement requires about 9 feet of perimeter trim molding (P/N 05705894).

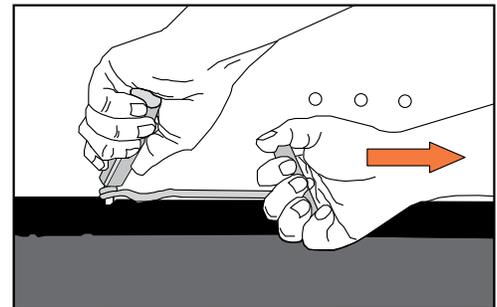
## Bonded Glass Replacement

### Bonded Glass Removal



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

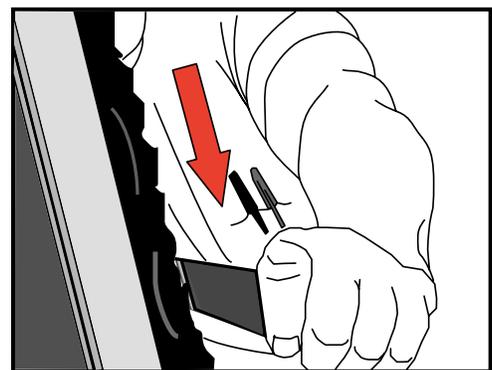
1. From the outside of the vehicle, insert the blade of the window-removal tool through the urethane sealant and work your way around the window, cutting the sealant. After pushing the blade into the sealant, use the other hand to pull the tool toward you. **To avoid injuring yourself or others, be very careful while using the tool!** Try to leave at least a 1/8"-thick section of sealant on the window frame.
2. Carefully remove the damaged glass.



*Cut old sealant*

### Prepare the Mounting Surface

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 the old adhesive is loose, remove all adhesive down to the metal surface.
2. Use Medium Red Scotch Brite to roughen the surface of any bare metal area of the mounting flange.

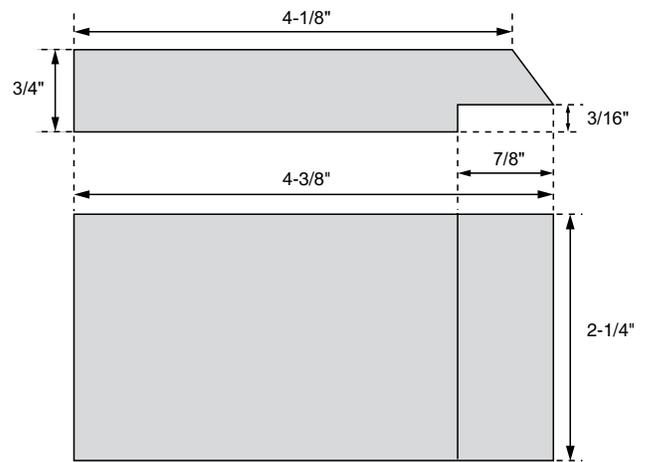


*Trim sealant bead*

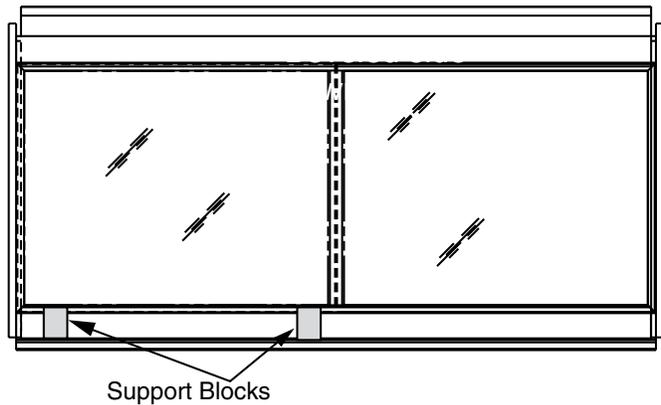
- Clean the entire aluminum bond area with isopropyl alcohol. Allow 2 minutes drying time. (Do NOT use lacquer thinners or mineral spirits.)
- Brush a light coat of Dow Windshield Primer on the exposed metal of the mounting frame. Drying time is 10 minutes.

### Glass Preparation

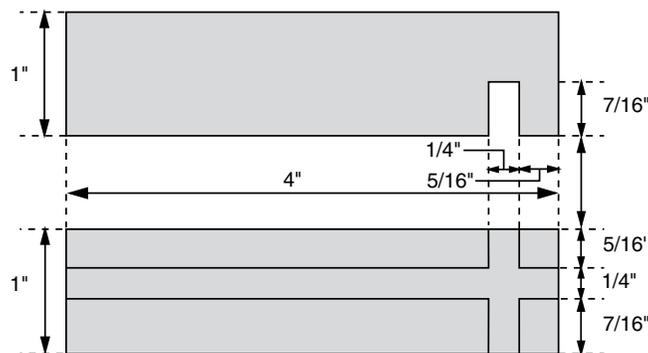
- For **windshield replacement**, cut a minimum of two wood windshield support blocks to be used as glass supports when installing the new windshield glass. (Or use the nylon blocks available from Utilimaster.)
- Set the support blocks (beveled edge down) into the trough at the bottom of the windshield, spacing them along the bottom of the opening.
- For **quarter-window replacement**, cut one wood quarter-window spacer block to be used to establish proper  $5/16"$  gap between the glass and the frame when installing the new quarter glass. (Or use the nylon blocks available from Utilimaster.)



*Dimensions of windshield glass support block*



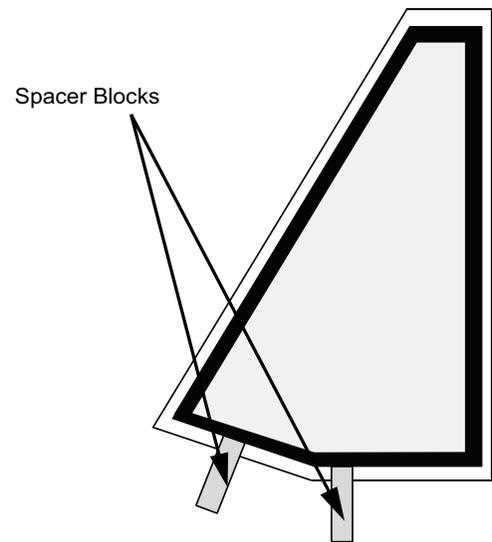
*Placement of windshield glass support blocks*



*Dimensions of quarter-window spacer block*

4. For the quarter glass, set the spacer block onto the flange around the window mount and tape to secure.
5. Check replacement window for fit.
6. Clean the glass with a 2-to-1 mixture of isopropyl alcohol and water. Allow to dry for 2 minutes. Avoid heavy soaps or ammonia. Auto glass replacement dealers also have recommended cleaners.
7. Wipe the bonding (frit band) area of cleaned glass with Dow Window Primer, using a brush or lint-free paper towel and wiping in one direction. Turn the rag several times to avoid transferring dirt and oil. Drying time is 10 minutes. Finish installation process within 2 hours.

*NOTE: Glass purchased from Utilimaster should have a black ceramic frit band around the perimeter of the mounting side of the glass. If you sourced the glass locally, and there is no frit band, mask off a 1"-wide area around the perimeter of the mounting side of the glass. Apply Dow Window Primer to glass perimeter as a block of ultraviolet rays. Drying time is approximately 5 minutes.*



*Location of quarter-window spacer blocks*



*Secure Quarter-Window Glass Spacer Block*

## Bonded Glass Installation



**CAUTION:** Glass must be installed within 10 minutes of applying the adhesive to ensure a good bond.

*NOTE:* For the best urethane application results, use a DeWALT DC545 adhesive gun or equivalent.

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

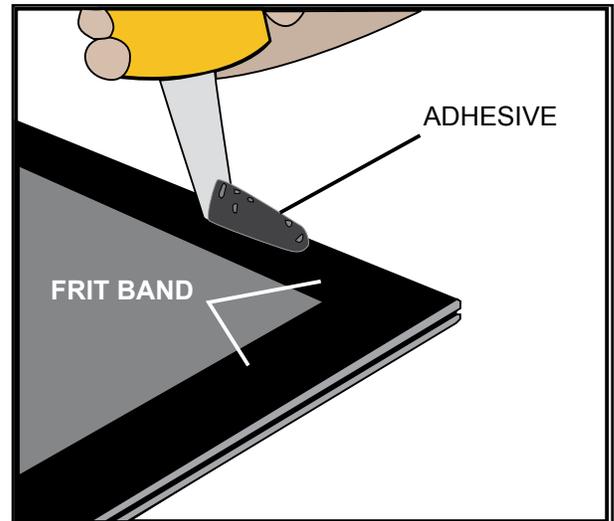
*NOTE:* To ease installation, use (2) Wood's Power Grip suction cups to lift and place the glass.

3. Install the glass onto the frame and align to the correct position using the support blocks.
4. Press gently around the entire perimeter of the glass to make good adhesive contact. Use the Poly-stick to clean up any excess adhesive.

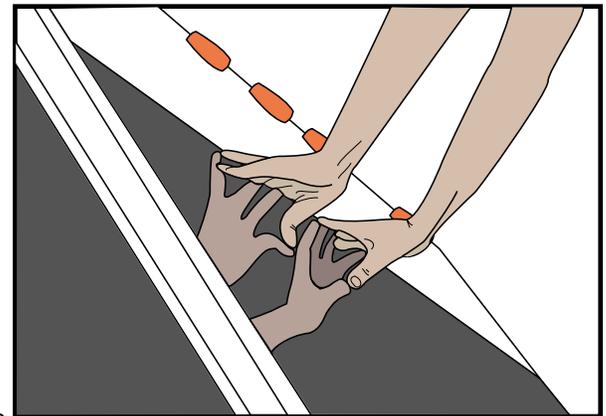
*NOTE:* Windshield installations must have a full bead of adhesive in the center section between the two glass panels.

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

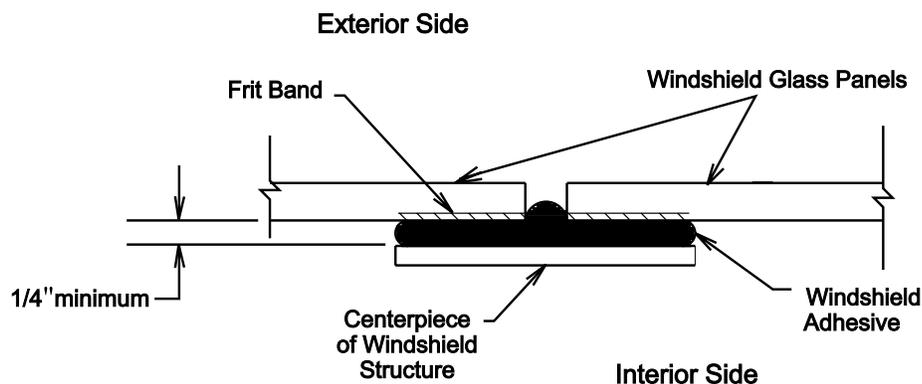
5. The quarter window can be held in place with masking tape until the adhesive sets up.
6. Allow at least eight hours for the adhesive to cure when installing a windshield or a quarter window.
7. Clean up with a mild soap solution (used sparingly). Do NOT use mineral spirits or alcohol.
8. Replace window trim.



*Frit band and adhesive*



*Install glass*



*Cross-section of windshield centerpiece.*

## Trim Molding Installation

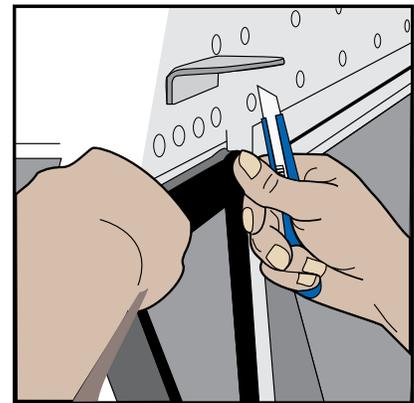
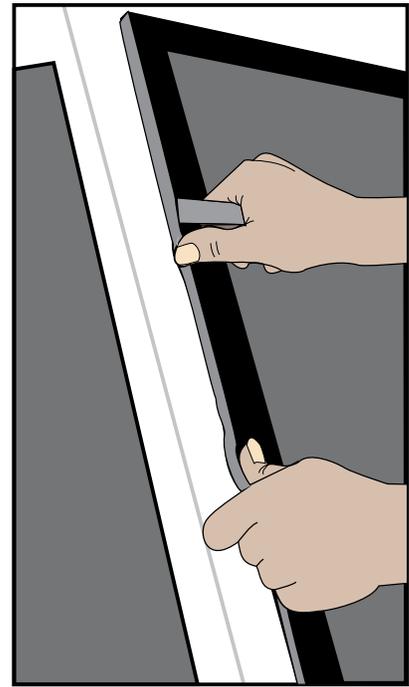


**CAUTION:** Be sure not to nick or cut the glass when installing the trim. This can lead to cracks developing over time.

1. After adhesive has dried, scrape any excess adhesive from glass edges and surface with a utility knife.
2. With a lint-free paper towel and isopropyl alcohol, clean the glass around the trim molding bonding surface and let dry for 2 minutes.

*NOTE:* The center of the windshield has a wide flat trim. If you are replacing the windshield, you will need to replace this as well.

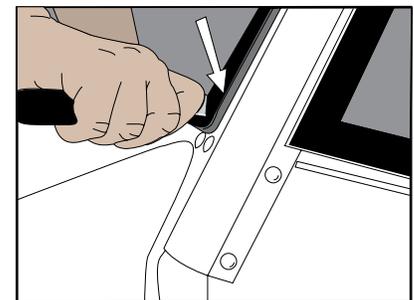
3. Measure and precut the trim pieces with shears.
4. Avoid touching the adhesive while removing the adhesive backing strip. Apply the self-adhesive trim. **Avoid stretching the trim.**
5. Use corner caps (P/N 05705812) at the 90° corners or miter-cut and overlap the trim. **Do NOT cut through the lip of the trim;** allow it to wrap around the edge of glass.
6. The wide flat trim for the center of the windshield should be placed flush against the top trim. Check how well the trim will fit before applying the trim to the glass.
7. Press down on the trim using a roller or squeegee to ensure a good bond. Repeat a second time. Cut the bottom end of the center trim flush with the bottom trim.
8. If there are any gaps in the mitered seams and joints, fill the seams and joints with liquid rubber.
9. If the quarter-window trim interferes with remounting the mirror bracket, cut just enough lip off the trim to allow the bracket to fit.



*Apply trim*

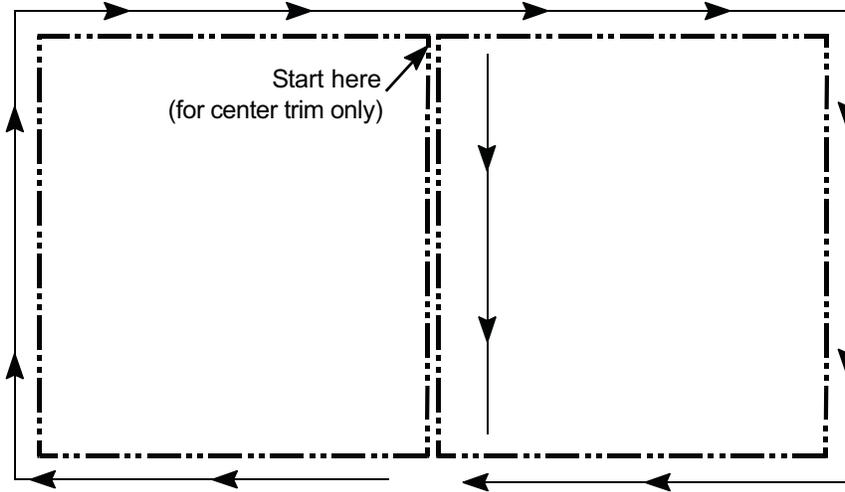


**CAUTION:** Do NOT wash the windows for at least 24 hours following installation or application of the window trim. Chemicals like those found in washer fluid can retard the adhesives.

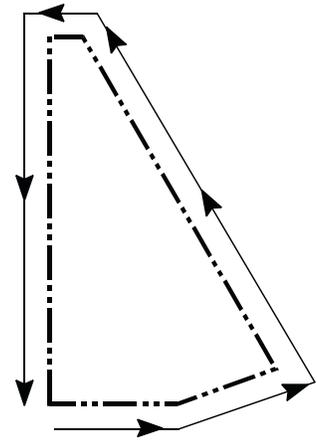


*Trim corners*

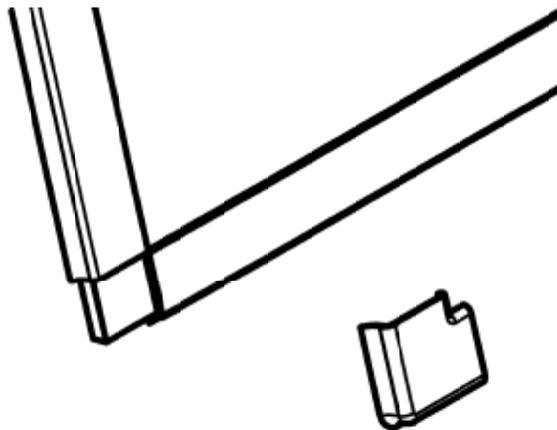
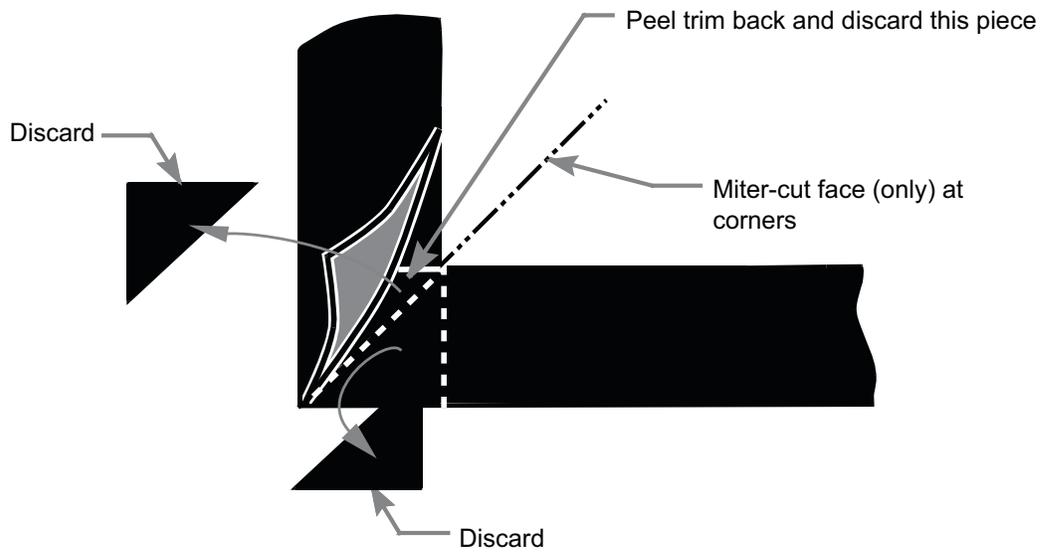
Application direction



Start here  
(for center trim only)



Start here



Trim cap

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**Windshields Bonded Aeromaster**

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