UTILIMASTER
A SPARTAN MOTORS COMPANY

Service Guide

Truck Body Wall Panels

DuraPlate

Introduction

Procedures for repairing DuraPlate body panels depend on the severity and size of damage.

Small dents and scratches in the panel can be covered up by cosmetic repairs by using Options A or B.

If the galvanized steel panel is punctured or badly dented, the steel skins in the damaged section may become delaminated from the plastic core. Over time the delamination may spread, weakening the integrity of the panel. Such a delaminated area should be cut out and replaced, using Option C. All damage should be tested for delamination. See the Testing for Delamination section.

Severe damage may require that the entire panel or sidewall be replaced, using Option D.

Testing for Delamination

If a DuraPlate panel is punctured or severely dented, one or more of the steel skins and the plastic core may start to separate. To prevent this delamination from spreading and weakening the DuraPlate panel, the delaminated area should be cut out and replaced. All damaged areas should be tested for delamination.

With a quarter, begin tapping on the damaged area and continue tapping while moving outward until you are well away from the damaged area. If there is a noticeable difference in the sound while tapping over the damaged area compared to the undamaged area, delamination has probably occurred in that area. The damaged section should be cut out and replaced (Option C), or the panel should be replaced (Option D).

Tap across damaged area to test for delamination

Procedure Options Summary

This section summarizes the various repair options. They are listed in order of severity of damage repaired and/or difficulty of the process.

⚠ CAUTION

Always wear proper protective equipment whenever appropriate for the process. Safety and application instructions provided with adhesives should always supersede information provided by Utilimaster.

NOTICE

Do not attempt to hammer out a dent in the DuraPlate panel. This can result in delamination of a steel skin to the core. Over time delamination can spread and weaken the strength of the panel.

All damaged areas in DuraPlate should be tested for delamination of the steel skins to the plastic core. If detected, delaminated areas should be cut out and replaced or panel replaced.

When welding or cutting next to a DuraPlate panel, be very careful to not overheat the DuraPlate panel (and melting the plastic core).

Option A (Minor Damage)

Covering surface dents and scratches with a cosmetic self-adhesive patch.

Option B (Minor Damage)

Filling in a dent with automotive body filler and painting over the filler to match the panel.

Option C (Moderate Damage)

Cutting out a section of damaged panel and securing a replacement panel section with self-adhesive patches on both sides. (This is not considered a structural repair but would prevent further damage caused by delamination.) The largest hole that can be covered in a single application is 8” x 20”.

Option D (Severe Damage)

For severe damage over a large area, replace the affected panels or sidewall.

Utilimaster recommends this procedure be done only at a professional body shop or at Utilimaster’s Customer Service Department.

Self-adhesive Patch (Option A)

Parts and Supplies

- Isopropyl alcohol
- Sealant (contact Utilimaster Customer Service)
- Self-adhesive patch panels (contact Utilimaster Customer Service)

NOTICE

The largest currently available size of the self-adhesive patch panels is 12” x 24”.

Tools Required

- Safety glasses and gloves
- Metal file or deburring tool
- Metal snips
- Rubber mallet
- Caulk gun

Procedure

1. File down burrs and protruding metal in the damaged area.
2. With isopropyl alcohol, thoroughly clean the area surrounding the damage. The area cleaned should be larger than the size of the patch panel.
3. Peel the paper off the patch panel and carefully center it over damaged area. Apply pressure for good contact.

NOTICE

Clipping off the corners of the patch panel at a 45-degree angle before applying may help prevent something catching the edge and peeling the panel back.

4. Carefully tap down the edges of the panel with a rubber mallet.
5. For additional protection, apply a thin bead of sealant around the perimeter of the panel.

Body Filler (Option B)

NOTICE

Do not attempt to hammer out a dent in the DuraPlate panel. This can result in delamination of a steel skin to the core. Over time delamination can spread and weaken the strength of the panel.

All damaged areas in DuraPlate should be tested for delamination of the steel skins to the plastic core. If detected, delaminated areas should be cut out and replaced (Option C), or panel replaced (Option D).

Parts and Supplies

- Isopropyl alcohol
- Sandpaper
- Body filler

Tools Required

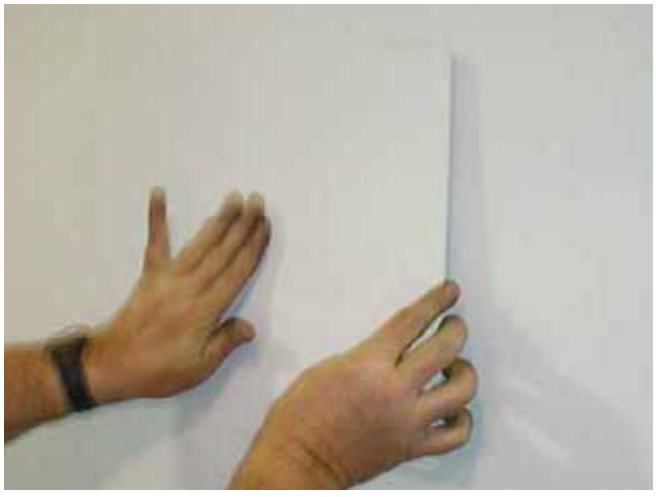
- Safety glasses and gloves
- Metal file or deburring tool
- Sander

Procedure

1. File down burrs and protruding metal in the damaged area and then sand the area smooth.
2. With isopropyl alcohol, thoroughly clean the damaged area.
3. Follow the body filler manufacturer's instructions for preparation and application.
4. After the body filler is completely cured, sanded smooth, and cleaned (according to the manufacturer's instructions), paint the damaged area. See the Paint section.

NOTICE

The *standard white* paint code for DuraPlate panels is PPG 3HW76160 (but codes may vary).



Apply self-adhesive patch panel

Body filler applied before final sanding and painting

Self-adhesive Panel (Option C)

NOTICE

The largest available size of the self-adhesive patch panels is 12” x 24”. Allowing for a minimum 2” overhang, the largest hole that can be covered in a single application is 8” x 20”.

Parts and Supplies

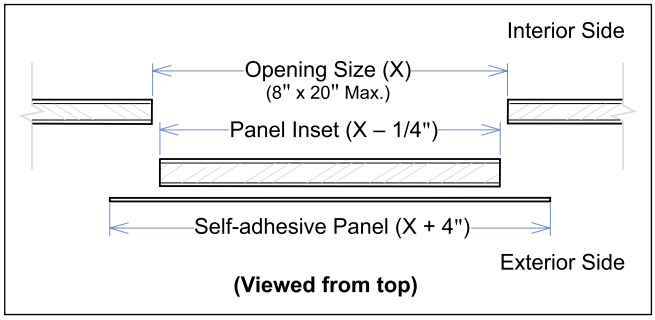
- DuraPlate repair panel (contact Utilimaster Customer Service)
- Self-adhesive patch panels (contact Utilimaster Customer Service)
- Isopropyl alcohol
- Masking tape

Tools Required

- Safety glasses
- Drill with drill bit set
- Metal snips
- Metal file or deburring tool
- Tape measure
- Rubber mallet
- Reciprocating saw

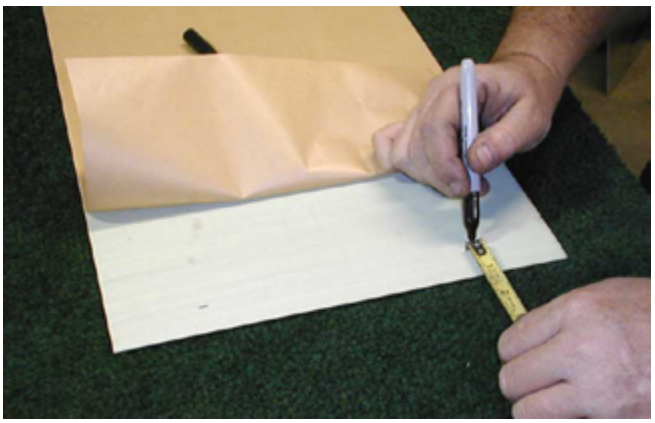
Damaged Area Removal

1. Measure and mark off the area of the damaged panel to be replaced. Apply tape around the area to prevent scratching the wall.
2. Drill relief holes along the edges and cut out the area with a reciprocating saw.
3. Deburr the edges on the inside and outside of the opening.



Self-adhesive panel and cut-out

Mark off damaged area and cut out



Mark 2” inset on adhesive side of panel

Patch Panel Preparation

NOTICE

This procedure describes applying the self-adhesive panel to the inset panel first and then adhering it to the sidewall. Alternately, you can apply the self-adhesive panel to the sidewall first and then place the inset panel into the hole in the sidewall and against the self-adhesive panel.

The *flange* of the self-adhesive patch panel should overhang the opening by 2" on all sides. The *inset* of the panel should be NO LESS than 1/8" smaller (on each of the four sides) than the opening.

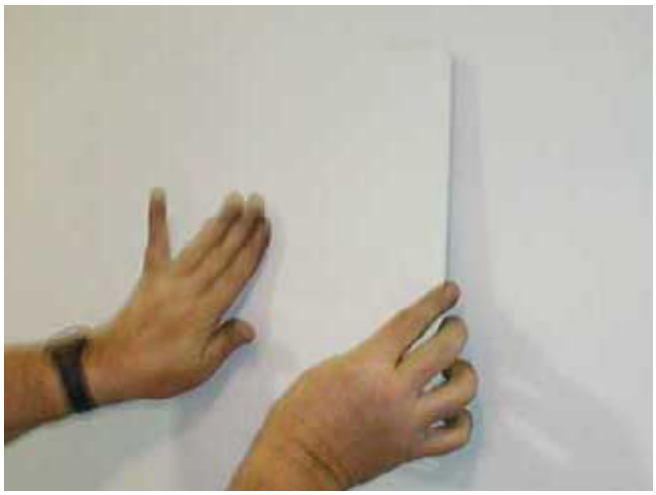
1. Using a low-RPM circular saw or die grinder, cut a piece of DuraPlate that is 1/8" smaller (on each of the four sides) than the hole opening and deburr the edges.
2. Use the patch panel as a template to mark around the opening from the inside. Measure the opening and the marks on the panel. Verify that the dimensions of the marked panel are 1/4" less than the overall height and width of the opening.
3. Thoroughly clean the **outside** perimeter of the cutout and the inset panel with isopropyl alcohol.

NOTICE

Clipping off the corners of the patch panel at a 45-degree angle before applying may help prevent catching the edge and peeling the panel back.

4. Peel the paper back from the patch panel just far enough to mark 2" back from the edges.
5. Peel the paper off the patch panel and carefully set the inset panel in place. Apply pressure for good contact.

Inset panel set on self-adhesive patch panel



Apply self-adhesive patch panel

Patch Panel Installation

1. Carefully set the panel assembly in the opening from the outside. Apply pressure around the 2" perimeter.
2. Thoroughly clean the inset panel and surrounding 2" perimeter on the **inside** of the vehicle with isopropyl alcohol.
3. Peel the paper off a second patch panel and carefully center it over the **interior** side of the inset panel. Apply pressure for good contact.
4. Carefully tap down the edges of the panels with a rubber mallet. Do **NOT** compress the panels inside the 2" perimeter.
5. For additional protection, apply a thin bead of sealant around the perimeter of the panels.

Entire Panel Replacement (Option D)

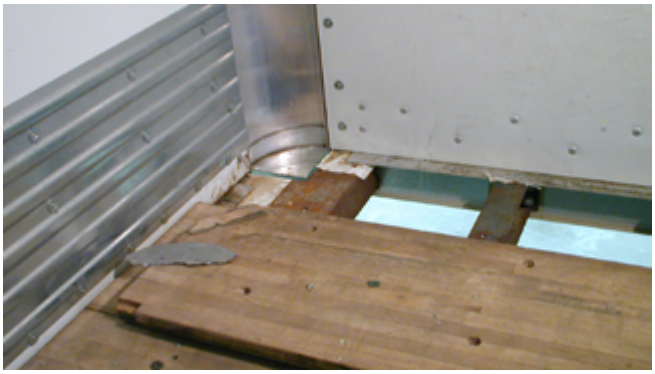
For severe damage over a large area, replace the affected panels.

“Bonded panels” means the individual DuraPlate panels are fastened to each other with adhesive and only have mechanical fasteners through the rails and posts. “Riveted panels” means the panels are fastened to each other with rivets instead of adhesive.

Removing floor plank fasteners

Parts and Supplies

- DuraPlate panel
- Isopropyl alcohol
- Appropriate fasteners for rails, castings, and posts as needed
- Sealant
- Foam Tape (P/N 12301025)
- Two-part methacrylate adhesive for bonded panel (contact Utilimaster Customer Service)
- Rivets for riveted panel



Removing floor plank and front floor cap

Tools Required

- Safety glasses, gloves, and ear protection
- Drill with drill bit set
- Step ladder
- Pry bar
- Scraper
- Caulk guns
- Air tools for removing and installing fasteners
- Bar clamps, load bars, spacer blocks, and other braces for bonded panel
- Windshield removal tool (CP-838 or equivalent)
- MONOBOLT rivet gun or air hammer with buck rivet attachment

Removing panel fasteners

Bonded Panel Removal

NOTICE

If removing multiple panels, the roof must be supported.

Steps 3 through 5 describe a vehicle with hardwood floor planks that run the length of the body. For a vehicle with a plywood floor instead of planks, you will need to remove the *plywood section(s)* next to the damaged panel instead of a floor plank.

1. Remove E-track, slats, scuff plates, vent, deflector plate, cable retainment track, roll-up door track, or any other item that will interfere with the panel removal.
2. On the damaged panel, cut any decals at the seam between the panels. Cut the sealant around the perimeter of the panel at the rail, post, and casting.
3. Remove the rear floor cap and fasteners and the cap.
4. Remove the fasteners in the outer floor plank (and front floor cap inside the front post) on the same side as the damaged panel.
5. Remove the floor plank. Depending on the orientation of the plank lap joint, you may need to loosen or remove the adjacent plank as well.)
6. On the exterior and interior, mark the location of the edges of the damaged panel on the other panels and/or post to align new panel during installation.
7. Remove all the fasteners holding the damaged DuraPlate panel to the applicable roof rail, base rail, front/rear post, and/or corner casting. Continue removing fasteners about three feet beyond the damaged panel at the base and roof rails (to allow the adjacent panel to flex).
8. Place a pry bar or other object between the panel and the base rail to provide a few inches of clearance.

Cutting adhesive in seam with windshield removal tool

Leveling old adhesive

9. Use a windshield removal tool to cut the adhesive bond on the interior and exterior sides of the DuraPlate seam.
10. Remove the damaged panel from inside the vehicle.
11. Carefully use the knife tool and/or scraper to remove the high spots of adhesive and tape from the seam of the adjacent panel. Be careful not to remove any paint from the DuraPlate. Also clean off old sealant from rails, posts, and castings. Wipe surfaces clean with isopropyl alcohol.

Bonded Panel Installation

NOTICE

The adhesive sets very quickly. Read and understand ALL adhesive application instructions and safety procedures. Effectiveness of the repair can be compromised by environmental conditions or inadequate application. If the procedure is not performed correctly, after the adhesive is fully cured, you will need to remove the panel and start over.

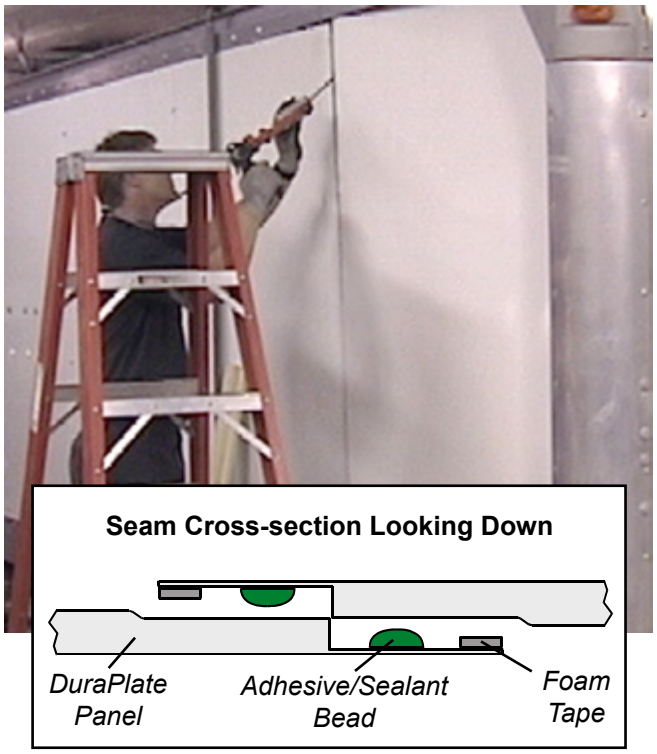
After removing the bonded panel, rivets may be used instead of adhesive to fasten the replacement panel.

1. Test fit the new DuraPlate panel. If necessary, cut to the correct length and width and cut the front top edge of the new panel to fit under the front roof casting. Be sure the panel lap is correctly oriented before cutting.
2. Using the applicable fastener holes in the roof rail, base rail, front/rear post, and/or corner casting as a template, drill holes through each of the four corners of the new panel. Use holes to correct panel position and insert the four anchor fasteners as quickly as possible in Steps 6 through 10.

Applying foam tape (interior seam side)

3. Test fit the panel, bar clamps, load bars, braces, and spacer blocks.
4. After the adhesive is applied, apply pressure along the entire length of the seam for at least 30 minutes or the time recommended by the adhesive manufacturer. Follow steps 6 and 7 to position them all again as quickly as possible in.
5. After pulling back the panel, apply double-sided tape (P/N 12301025) on the interior and exterior edge of the seam and remove the backer paper.

Removing tape backing (exterior seam side)

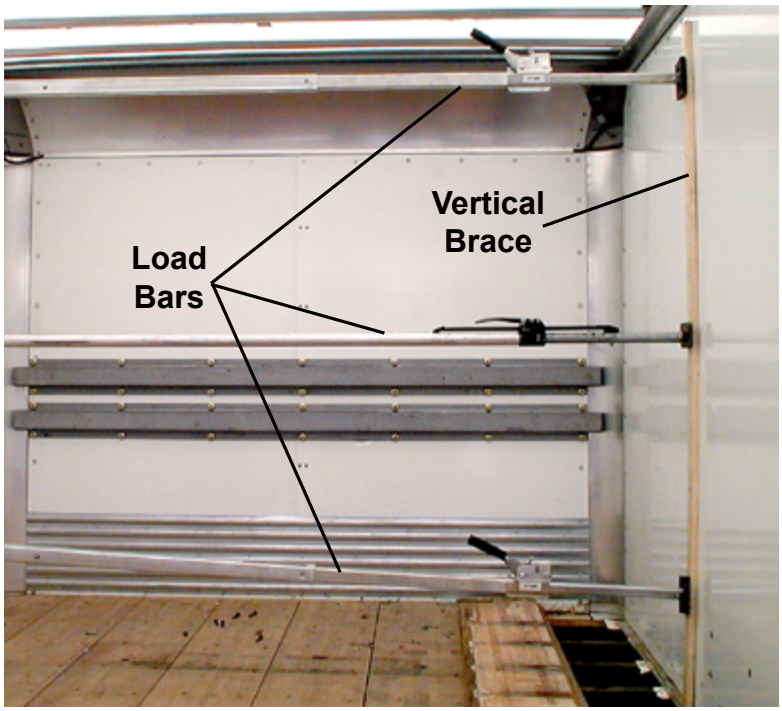


Applying tape and adhesive (bonded repair) or sealant (riveted repair)

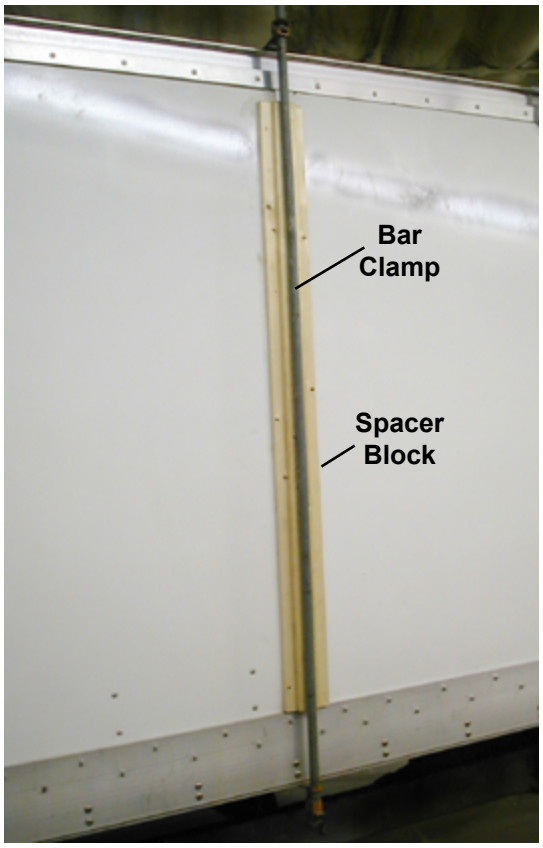
NOTICE

If a middle panel or multiple panels are replaced, repair one seam at a time and allow to cure *thoroughly* (wait at least double the normal cure time) before repairing the next seam.

6. Cut the two tube tips down to the point where the adhesive has mixed as it is being pushed out. The adhesive beads should be at least 1/4" wide as they are applied. Apply the adhesive on both sides of the seam and quickly move the panel into position. Remove the pry bar between the panel and the base rail.
7. In the four corner anchor holes, **immediately** insert and then secure new Utilimaster-approved fasteners that are equal to or superior to the original fasteners. Do not reuse old fasteners. Do not use POP rivets.
8. Place a bar clamp and spacer block on the exterior of the seam.
9. After the exterior side is clamped, place a vertical (wood or metal) brace and three load bars securely against the interior side of the seam. The vertical brace must be the full height of the panel and sturdy enough to evenly distribute the pressure against the full length of the bonded seam. The DuraPlate panel must be flat and not bowed.
10. Wipe up any adhesive that squeezes out with a clean disposable rag (**before** it cures).
11. After the panel is anchored in position at the four corners and braced, continue using the applicable fastener holes in the roof rail, base rail, front/rear post, and/or corner casting as a template, drill the remaining holes through the new panel.



Braced in Position with Load Bars (interior)



Clamped in position (exterior)

NOTICE

If installing a second panel, install *all four* anchor fasteners in the first panel (Step 7)—but then install only the first half of the fasteners nearest the seam just completed (Step 12). When the adhesive is fully cured (wait at least double the normal cure time), remove the two anchor fasteners at the seam that will join with the next panel.

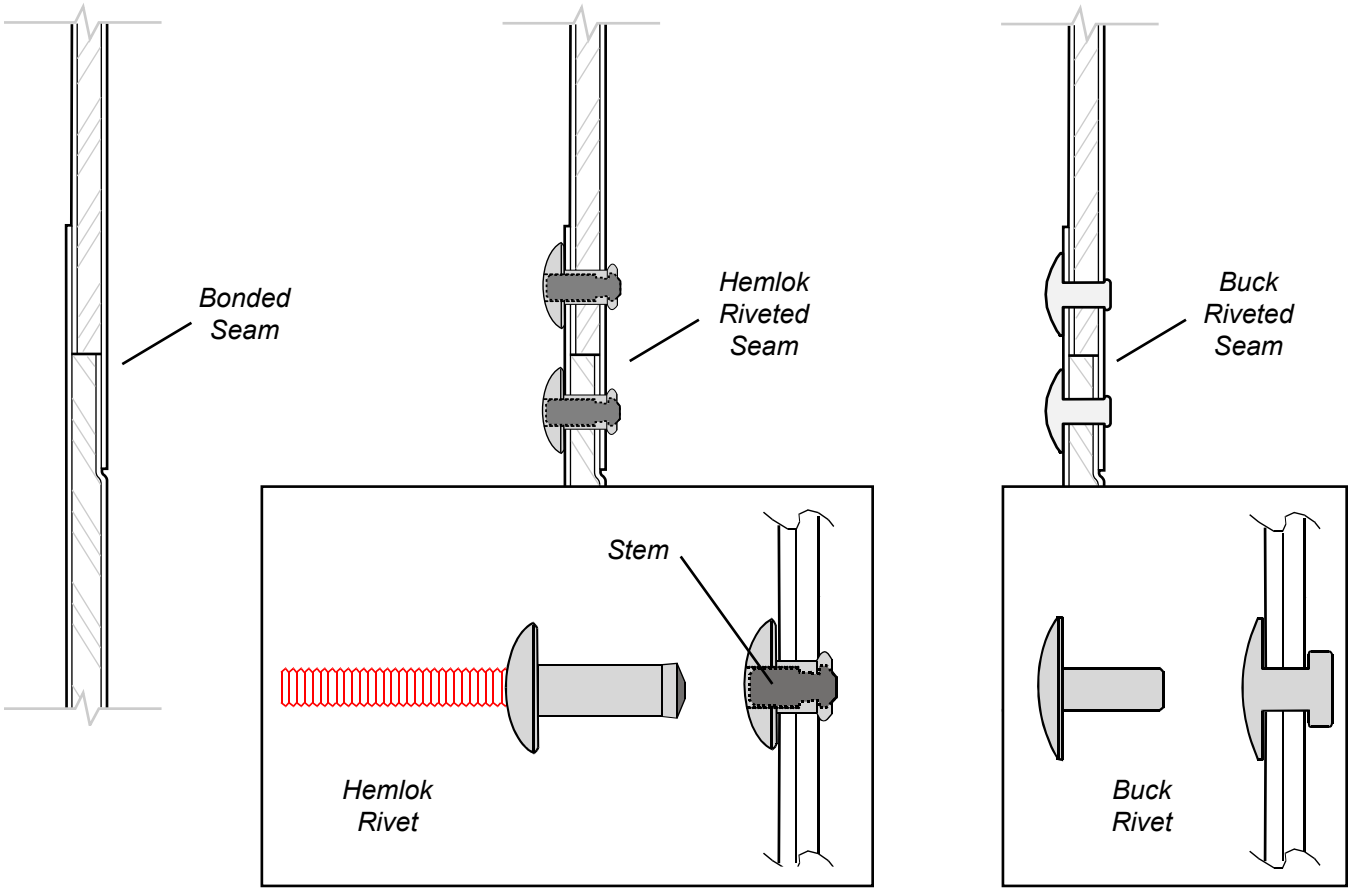
The exterior spacer block and interior vertical brace must align with but not cover the edge of the seam where excess adhesive may squeeze out (and bonding the wood to the panel).

12. Continue installing the new fasteners equal to or superior to the original fasteners. Do not reuse old fasteners. Do not use POP rivets.
13. Allow at least 30 minutes (or adhesive manufacturer's recommendation), before removing the braces.
14. Place the floor plank (or plywood section) in position and install the fasteners.
15. Place the front corner cover in position and install the fasteners.
16. Place the rear floor cap (if present) in position and install the fasteners.

NOTICE

When welding or cutting next to a DuraPlate panel, be very careful to not overheat the DuraPlate panel (and melting the plastic core).

17. Reinstall E-track, slats, vent, deflector plate, cable retainment track, roll-up door track, or other items removed at the beginning.
18. Apply sealant around the perimeter of the rails, posts, castings, and front corner cover.
19. Install new decals as needed.



Fastening/Bonding DuraPlate Seams (Cross-section Looking Down)

Riveted Panel Removal

NOTICE

Read all instructions and have all documents and materials needed before attempting this repair.

1. After unloading and parking the truck on a level surface, remove E-track, slats, scuff plates, vent, deflector plate, cable retainment track, roll-up door track, or any other item that will interfere with the panel removal.
2. On the damaged panel, cut any decals at the seam between panels. Also, cut the sealant around the perimeter of the panel at the rail, post, and casting.

NOTICE

Steps 3 through 5 and the illustrations referenced in this section describe a vehicle with hardwood floor planks that run the length of the body. For a vehicle with a plywood floor instead of planks, you would need to remove the *plywood section(s)* next to the damaged panel instead of a floor plank. With riveted panels, you *might* not need to remove the floor plank or plywood section *if* you have sufficient clearance to remove the panel.

3. If a rear floor cap is present (it protects the floor planks at the rear door threshold), remove the fasteners and the cap.
4. Remove the fasteners in the outer floor plank (and front floor cap inside the front post) on the same side as the damaged panel.
5. Remove the floor plank. Depending on the orientation of the plank lap joint, you may need to loosen or remove the adjacent plank as well.
6. On the exterior and interior, mark the location of the edges of the damaged panel on the adjacent panels and/or post (to help with proper alignment of the new panel during installation).
7. Remove all the fasteners holding the damaged DuraPlate panel to the applicable roof rail, base rail, front/rear post, and/or corner casting.
8. Continue removing fasteners at least one foot beyond the damaged panel at the base and roof rails (to allow the adjacent panel to flex).
9. Remove rivets along the seam holding the damaged panel to the adjacent panel.
10. Place a pry bar or other object between the panel and the base rail to provide a few inches of clearance.
11. Use a windshield removal tool to cut the sealant and tape on the interior and exterior sides of the seam between the panels. Alternately, you can use a hammer and wedge.
12. Remove the damaged panel (from inside the vehicle).
13. Clean off old sealant and tape from the remaining adjacent panel as well as rails, posts, and castings. Wipe surfaces clean with isopropyl alcohol.

Riveted Panel Installation

1. Test fit the new DuraPlate panel. If necessary, cut to the correct length and width and cut the front top edge of the new panel to fit under the front roof casting. Be sure the panel lap is correctly oriented before cutting.
2. Using the applicable fastener holes in the roof rail, base rail, front/rear post, and/or corner casting as a template, drill holes through each of the four corners of the replacement panel. (These holes are for help locating the correct panel position and inserting the four anchor fasteners.)
3. After pulling back the panel, apply foam tape (P/N 12301025) on the interior and exterior edge of the seam (both sides) and remove the backer paper.
4. Apply beads of sealant along both sides of the seam. The beads should be at least 1/4" wide as they are applied.
5. Carefully place the panel in position (and remove the pry bar between the panel and the base rail). The seam must fit flush and tight together.

NOTICE

If the seam is not tight and flush, drill shavings may lodge in the sealant and obstruct the final fit of the seam.

Do not reuse old fasteners. Do not use POP rivets.

6. In the four corner anchor holes, install new Utilimaster-approved fasteners that are equal to or superior to the original fasteners.
7. Using the holes in the adjacent panel as a template, drill holes and fasten rivets in pairs at 12" intervals along the seam (to prevent puckering of the panel and drill shavings accumulating in the seam).
8. Continue drilling and riveting along the seam between the 12" intervals done in Step 7.
9. Wipe up any sealant that squeezes out with a clean disposable rag before it cures.
10. Using the fastener holes in the roof rail, base rail, front/rear post, and/or corner casting as a template, drill the remaining holes through the replacement panel.

NOTICE

If you will be installing a second panel, install *all four* anchor fasteners in the first panel (Step 6)—but then install only the first half of the fasteners nearest the seam just completed (Step 11). When ready to install the next panel, remove the two anchor fasteners at that seam.

11. Continue installing the new Utilimaster-approved fasteners that are equal to or superior to the original fasteners. Do not reuse old fasteners. Do not use POP rivets.
12. Place the floor plank (or plywood section) in position and install the fasteners.
13. Place the front corner cover in position and install the fasteners.
14. Place the rear floor cap (if present) in position and install the fasteners.
15. Reinstall E-track, slats, vent, deflector plate, cable retainment track, roll-up door track, or other items removed at the beginning.
16. Apply sealant around the perimeter of the rails, posts, castings, and front corner cover.

NOTICE

When welding or cutting next to a DuraPlate panel, be very careful to not overheat the DuraPlate panel (and melting the plastic core).

17. Install new decals as needed. See the Decals section.

Utilimaster Customer Service

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Truck Body Wall Panels - DuraPlate

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