

CONTENTS

1. VEHICLE EXTERIOR	4
2. VEHICLE STRUCTURE	6
2.1 WELDING.....	6
3. VEHICLE EXTERIOR MAINTENANCE	6
4. CORROSION PREVENTION	6
5. PREVENTIVE MAINTENANCE SCHEDULE	8
6. RUST INHIBITOR APPLICATION	8
7. COMMON FIBERGLASS REPAIR PROCEDURE	14
8. REPAIR USING FIBERGLASS CLOTH	14
9. REPAIR USING FIBERGLASS PASTE	14
10. TYPICAL FIBERGLASS HOLE REPAIR PROCEDURE	15
11. COMMON PAINTING PROCEDURE	16
12. NEW PAINT CARE	16
13. PAINT TOUCHUP	16
14. PAINTING	17
14.1 SAFETY.....	17
14.2 SURFACE PREPARATION AND PAINT APPLICATION RECOMMENDATION	18
15. X3-45 COACHES EXTERIOR FINISHING AND BODY REPAIR	19
15.1 ZONE 1	19
15.1.1 <i>Front Bumper</i>	20
15.1.2 <i>Headlights</i>	21
15.1.3 <i>Rear View Mirrors (Rosco)</i>	21
15.1.4 <i>Windshield Wipers</i>	22
15.1.5 <i>Windshield</i>	22
15.1.6 <i>Bi-Fold Entrance Door</i>	24
15.1.7 <i>Front Electrical & Service Compartment Door</i>	28
15.1.8 <i>Front Cap</i>	31
15.2 ZONE 2	32
15.2.1 <i>Lateral Fixed Window</i>	33
15.2.2 <i>Emergency Exit Windows</i>	34
15.2.3 <i>Roof Escape Hatch</i>	35
15.3 ZONE 3.....	37
15.3.1 <i>Rear Cap</i>	38
15.3.2 <i>Engine Compartment Door</i>	38
15.3.3 <i>Rear Bumper</i>	38
15.3.4 <i>Exhaust Aftertreatment System Access Door</i>	38
15.4 ZONE 4.....	39
15.4.1 <i>Rear Fender</i>	40
15.4.2 <i>Engine Compartment R. H. Side Door</i>	40
15.4.3 <i>Engine Radiator Door</i>	40
15.5 ZONE 5.....	42
15.5.1 <i>Baggage Compartment Doors (Aluminum)</i>	43
15.5.2 <i>Wheelchair Lift Cassette Compartment Door</i>	45
15.5.3 <i>Evaporator Compartment Door</i>	47

15.5.4	Condenser Compartment Door	49
15.5.5	Fuel Filler Door	49
15.5.6	Baggage Compartment Floor	49
15.5.7	Fuel Filler Door	53
15.6	ZONE 6	54
15.6.1	Front Fender	54
15.7	ZONE 7	54
15.7.1	X3 Smooth Side Panel Replacement Procedure	55
15.7.2	Side Crest	61
16.	BODY PANEL AND WINDOW SPACING	62
17.	PASSENGER SEATS	63
17.1	REMOVING FIXED SEATS	63
17.2	UPHOLSTERY MAINTENANCE	63
18.	TARABUS FLOOR COVERING REPAIR OR REPLACEMENT	65
18.1	FRONT STEPS REPLACEMENT PROCEDURE	67
18.1.1	Welding Of Joint Between White Safety Strip And "Tarabus" Floor Covering	69
18.2	REPAIR OF A WELDED JOINT	71
19.	SECTION CHANGE LOG	72

ILLUSTRATIONS

FIGURE 1:	X3-45 COMMUTER EXTERIOR VIEW	4
FIGURE 2:	FIBERGLASS HOLE REPAIR	15
FIGURE 3:	FIBERGLASS HOLE REPAIR	15
FIGURE 4:	FIBERGLASS HOLE REPAIR	15
FIGURE 5:	FIBERGLASS HOLE REPAIR	16
FIGURE 6:	FIBERGLASS HOLE REPAIR	16
FIGURE 7:	X3 SERIES COACH ZONES	19
FIGURE 8:	ZONE 1	19
FIGURE 9:	BUMPER TOP RETAINING BOLTS	20
FIGURE 10:	FRONT BUMPER AIR LINES	20
FIGURE 11:	FRONT BUMPER SPRING	20
FIGURE 12:	BUMPER SUPPORT ARM	20
FIGURE 13:	BUMPER HINGE BOLTS	21
FIGURE 14:	L/H REAR VIEW MIRROR (ROSCO)	21
FIGURE 15:	R/H OUTSIDE REAR-VIEW MIRROR	22
FIGURE 16:	REAR VIEW MIRROR GLASS REMOVAL	22
FIGURE 17:	WINDSHIELD INSTALLATION USING ROPE	23
FIGURE 18:	APPLICATION OF SIKA 221 BLACK	24
FIGURE 19:	ENTRANCE DOOR & WIPER CONTROL PANEL	24
FIGURE 20:	ENTRANCE DOOR - VIEW FROM INSIDE	24
FIGURE 21:	ENTRANCE DOOR OPERATING BUTTONS	25
FIGURE 22:	ENTRANCE DOOR CONTROL SWITCH	25
FIGURE 23:	ENTRANCE DOOR - VIEW FROM OUTSIDE	26
FIGURE 24:	EXTERIOR UNLATCH AIR VALVE	26
FIGURE 25:	INTERIOR UNLATCH AIR VALVE	26
FIGURE 26:	DAMPER	27
FIGURE 27:	DOOR PANEL ADJUSTMENTS	28
FIGURE 28:	ZONE 2	32
FIGURE 29:	X3-45 COMMUTER	34
FIGURE 30:	EMERGENCY EXIT WINDOW	34
FIGURE 31:	ESCAPE HATCH	36

FIGURE 32: ESCAPE HATCH 36

FIGURE 33: ZONE 3..... 37

FIGURE 34: ENGINE COMPARTMENT DOOR..... 38

FIGURE 35: REAR BUMPER 38

FIGURE 36: ZONE 4..... 39

FIGURE 37: LEFT REAR FENDER..... 40

FIGURE 38: ENGINE COMPARTMENT R.H. SIDE DOOR..... 40

FIGURE 39: RADIATOR DOOR 41

FIGURE 40: RADIATOR DOOR DETAILS 41

FIGURE 41: STRIKER PIN ENGAGEMENT 41

FIGURE 42: HINGE DETAIL..... 42

FIGURE 43: ZONE 5..... 42

FIGURE 44: EVAPORATOR DOOR (ALUMINUM)..... 47

FIGURE 45: CONDENSER DOOR..... 49

FIGURE 46: FUEL FILLER DOOR 49

FIGURE 47: FUEL FILLER DOOR 53

FIGURE 48: ZONE 6..... 54

FIGURE 49: ZONE 7..... 55

FIGURE 50: SIDE CREST POSITIONING 61

FIGURE 51: BODY PANEL AND WINDOW SPACING (TYPICAL) 63

FIGURE 52: CUSHION REMOVAL 63

FIGURE 53: WALL BRACKET 63

FIGURE 54: SEAT PEDESTAL ASSEMBLY..... 63

FIGURE 55: TARABUS FLOOR COVERING ADHESIVE APPLICATION 66

FIGURE 56: APPLICATION OF SIKA 221 GRAY 66

1. VEHICLE EXTERIOR

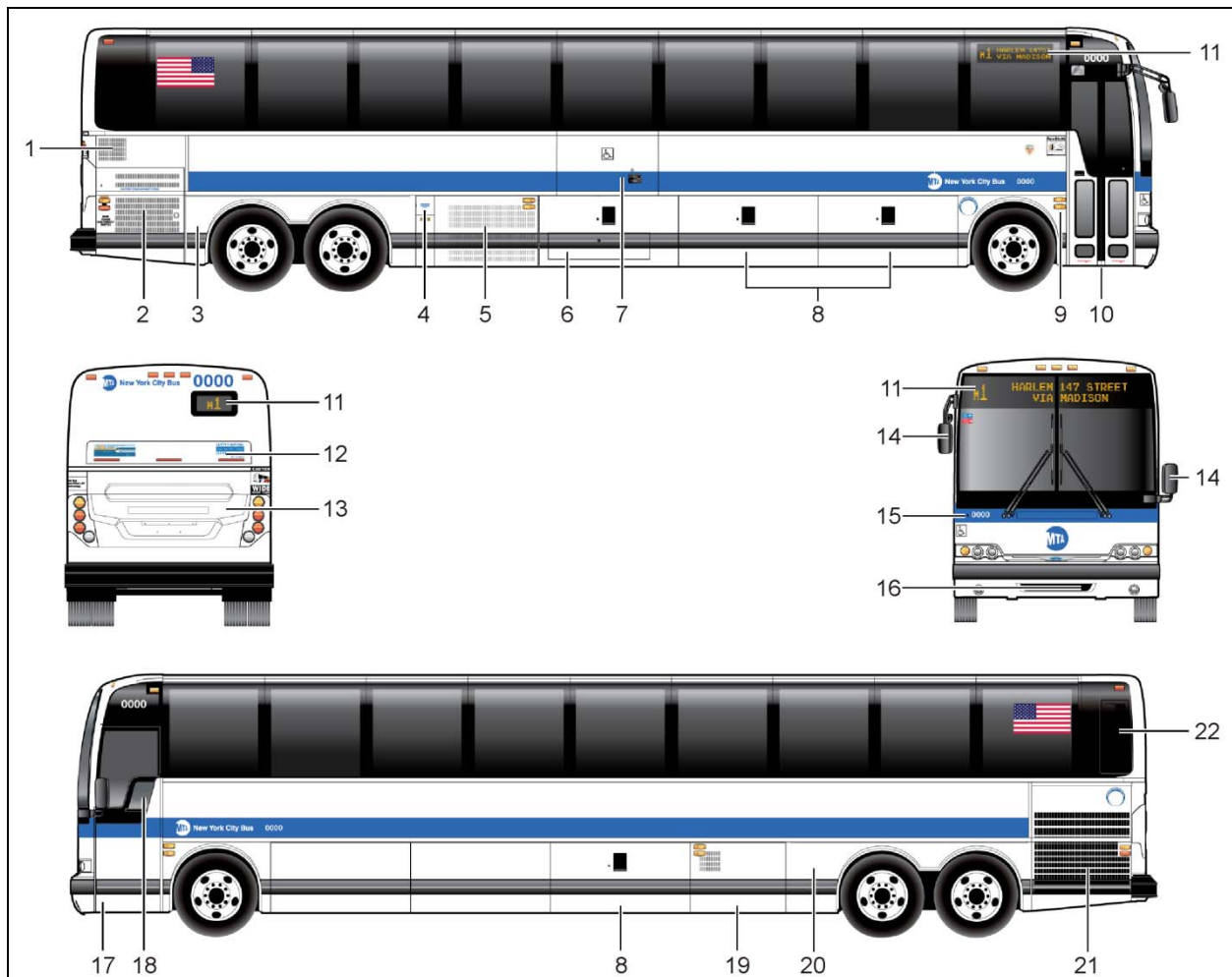


FIGURE 1: X3-45 COMMUTER EXTERIOR VIEW

18606

- | | |
|---|--|
| 1. Engine air intake | 12. Exhaust aftertreatment system access door |
| 2. Engine compartment curb-side door | 13. Engine compartment rear door |
| 3. Hinged rear fender | 14. Rear-view mirrors |
| 4. Fuel filler neck & DEF filler neck door | 15. Transmission retarder off indicator light |
| 5. Condenser compartment | 16. Front towing air supply connectors access door |
| 6. Lift mechanism access door | 17. Front electrical and service compartment |
| 7. Wheelchair access door | 18. Driver's power window |
| 8. Baggage compartment | 19. Evaporator compartment |
| 9. Entrance door control switch | 20. Coolant heater & air dryer compartment |
| 10. Bi-fold entrance door | 21. Radiator door |
| 11. Electronic destination sign or route number | |

22. SCR converter access door

2. VEHICLE STRUCTURE

The body of the X3-45 coaches is an integral structure made of 14, 16 and 18 gauge welded and braced high tensile steel and stainless steel members. All stainless exterior panels are glued to anti-corrosion coated members. The complete structure is protected against corrosion prior to assembly. The front and rear caps are made of molded fiberglass. The main roof is made of high tensile aluminum panels riveted to the roof structure. The floor is made of 2 layers of ½" (13 mm) thick plywood separated by a 1/8" (3 mm) insulation to reduce power train and road noises.

2.1 Welding

Since welding is a procedure that may be carried out either as specific instructions from Prevost or by an independent decision of the owner, the following information pertaining to welding should be read before beginning any welding procedure. The prohibitions and requirements outlined below must be followed during welding procedure:

1. Welding must be done only by a qualified and experienced person.
2. Adequate ground contacts and shields must be positioned as required to protect components from damage due to heat, contact by weld splatter, arcing, or other potentially damaging events associated with welding.
3. The following precautions are to be taken to protect the electronic control components. Refer to section 00, paragraph 3: "PRECAUTIONS TO BE OBSERVED BEFORE WELDING" in this manual.
4. Always wear the appropriate safety equipment.
5. Weld in clean and well ventilated area, and always have an appropriate fire extinguisher within your reach.

3. VEHICLE EXTERIOR MAINTENANCE

Regular washing to remove dust and dirt is recommended. See *"Operator's Manual"* for more details on washing and cleaning your vehicle.

4. CORROSION PREVENTION

Preventive maintenance is a key factor in avoiding corrosion and must be considered as part of the regular service intervals. The entire underside of the vehicle is sprayed with a heavy application of asphalt base undercoating.

The operating environment the vehicle is subjected to will largely influence the amount of dirt and corrosion that will accumulate over a given period. Corrosion is one of the most costly factors of part failure and shortened part life. It is, however, an item that can be controlled when it is conscientiously looked after and the proper steps are taken in a timely manner.

Certain areas of the coach are more vulnerable to corrosion than others, and it is these areas that should be addressed. For example, the rear baggage compartment bulkhead in the rear wheelhousing area contains many key components and should be examined regularly for corrosion. Other areas include the front wheelhousing area and the engine compartment.

Road splash will affect undercarriage, condenser coil and engine compartment. These areas must be thoroughly cleaned to remove dirt accumulations from flanges, channels and ledges. These places accumulate dirt and salt and hold it in direct contact with steel and aluminum surfaces. Use an understructure high pressure spray as part of a regular wash. Damaged undercoating or paint should be promptly repaired before corrosion can start.

Frequency of wash periods depends on operating conditions. During periods of exposure to salt, daily washing as described above is recommended. If underbody parts show evidence of rust or corrosion, treat as follows:

1. Remove dirt, grease and oil by solvent washing.
2. Remove corrosion as well as all loose coating by cleaning with a wire brush or sandblasting.



CAUTION

Sandblasting can be used for cleaning bulkheads, brackets and other structural members. It should not be used for exterior side paneling. Extreme care should be taken not to sandblast excessively.

3. Apply correct primer, paint and undercoating after removing all corrosion to prevent further damage.

5. PREVENTIVE MAINTENANCE SCHEDULE

NOTE

TECTYL 185 GW rust inhibitor has been applied on your vehicle underbody, follow this procedure thoroughly. For future application of product, refer to paragraph 3.3 in this section.

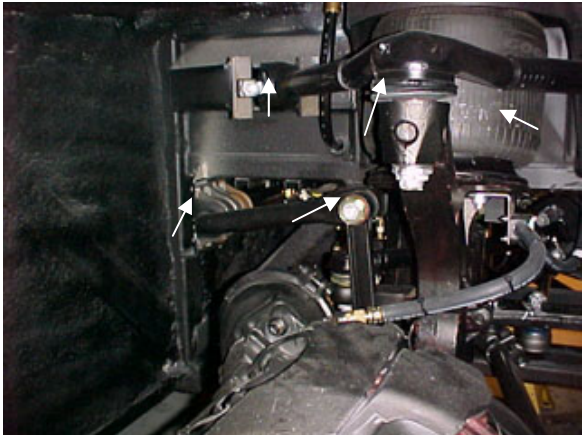

DESCRIPTION	INTERVALS		MAINTENANCE	CORRECTIVE ACTION	REFERENCE
	MONTHS	KM MILES			
BODY, EXTERNAL WINDOW FRAME	6	40 000 25 000	VISUALLY INSPECT SEALING BEADS CONDITION	REPAIR OR REPLACE SEALING BEADS IF NECESSARY	
VEHICLE UNDERBODY	12	100 000 60 000	USE A LOW PRESSURE SPRAY TO CLEAN UNDERSTRUCTURE AND VISUALLY INSPECT FOR CALCIUM DEPOSIT, CORROSION OR ANY DIRT ACCUMULATED ONTO EXPOSED SURFACES. VISUALLY INSPECT SEALING BEADS CONDITION. VISUALLY INSPECT IF UNDERFLOOR IS PEELING. VISUALLY INSPECT WHEELHOUSING COATING. MAKE SURE DISCHARGE TUBES ARE FREE FROM OBSTRUCTIONS	APPLY UNDERCOATING LOCALLY AS NECESSARY. APPLY UNDERCOATING LOCALLY AS NECESSARY REMOVE ANY OBSTRUCTION OR REPLACE DEFECTIVE TUBE	
SUSPENSION AND UNDERSTRUCTURE	12	100 000 60 000	VERIFY THE CONDITION OF ALL SUSPENSION AND UNDERSTRUCTURE FASTENERS AND CLAMPS	TIGHTEN OR REPLACE DEFECTIVE OR MISSING FASTENERS	
FLOOR COVERING	3	20 000 12 500	VISUALLY INSPECT IF FLOOR COVERING IS SHOWING SIGNS OF DETERIORATION SUCH AS CUTS, BURNS, ETC. ALSO, VISUALLY INSPECT SEALANT ALONGSIDE TRACKS. INSPECT WALL PANELS FROM BOTTOM TO WINDOWS	REPAIR OR REPLACE DEFECTIVE COVERING. MAKE SURE PROPER SEALANT IS USED.	
FLOOR CLEANING			CLEAN FLOOR COVERING AS NECESSARY		

**WARNING**

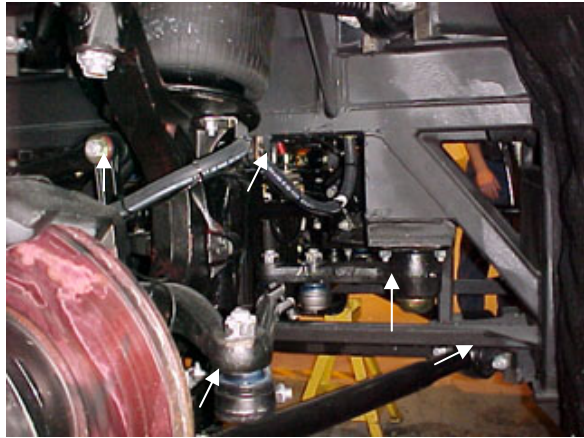
Failure to follow this preventive maintenance schedule will result in warranty void.

6. RUST INHIBITOR APPLICATION

Material: Tectyl 185 GW R1KG21
 Safety Rules: Use safety glasses
 Supplied air hood
 Solvent-resistant rubber gloves

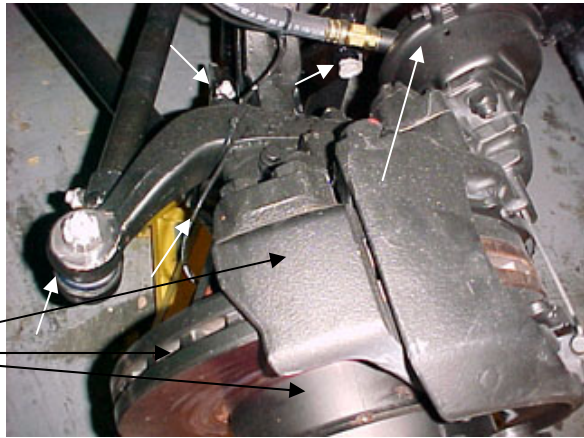
<p>1.0 Wash both wheelhousing mechanical parts before masking.</p>	<p>A water-hose nozzle is recommended. Water may be hot to reduce washing time especially during winter. If parts are soiled with oil, clean using R1KG21. Avoid rubber parts.</p>
<p>2.0 Dry all water sprayed parts. Surface temperature and dew point must be respected before applying rust inhibitor.</p>	<p>Air pressure system may be used, refer to annex 1 for surface temperature and dew point.</p>
<p>3.0 Front wheelhousing a) Mask all rubber joints. Braking system must also be protected (refer to arrows). Commercial aluminum foil may be used for masking.</p>	
<p>3.1 Front wheelhousing Front view</p>	

3.2 Front wheelhousing



3.3 Front wheelhousing

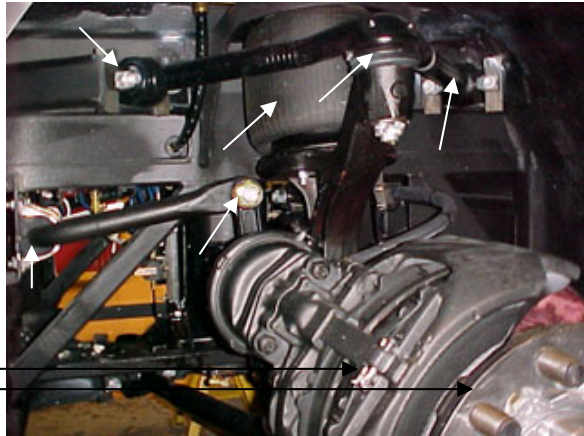
(Entire braking system)

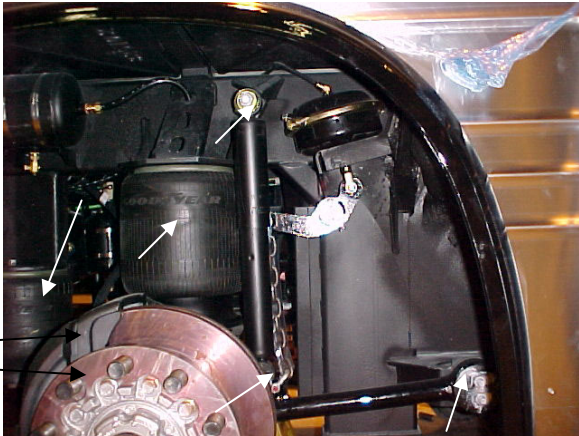
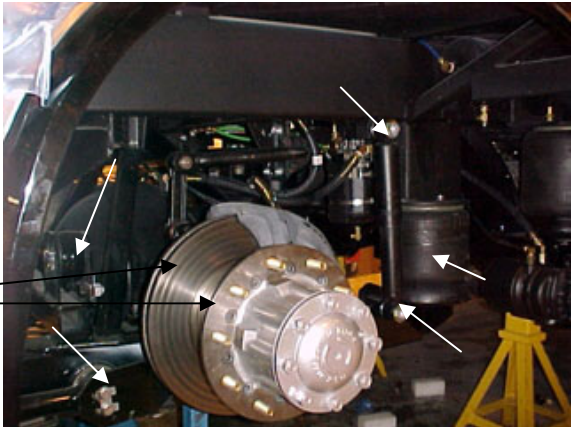
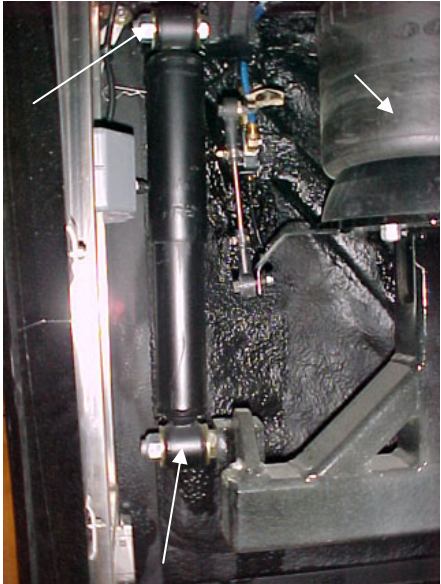


4.0 Rear wheelhousing

a) Mask all rubber joints. Braking system must also be protected (refer to arrows). Commercial aluminum foil may be used for masking

(Entire braking system)



<p>4.1 Rear wheelhousing</p> <p>(Entire braking system)</p>	
<p>4.2 Rear wheelhousing</p> <p>(Entire braking system)</p>	
<p>4.3 Rear wheelhousing</p>	
<p>5.0 Close off wheelhousing using masking paper.</p>	<p>Prevent rust inhibitor from coming in contact with paint. To close off wheelhousing, a polythene sheet may be used.</p>
<p>6.0 Apply TECTYL 185 GW black rust inhibitor onto wheelhousing mechanical parts.</p>	<p>A spray gun and pumping system are required to apply the rust inhibitor. If the application is done inside a paint room, select high speed ventilation. Minimum required</p>

SECTION 18: BODY

	thickness is 10 mils wet or 5 mils dry.
7.0 Remove all masking material 30 minutes after application.	

ANNEX 1

1. Check and confirm that dew point and surface temperature are in accordance with to the following criteria:
 Surface temperature > 10°C
 Surface temperature > or = to dew point + 3°C

NOTE
<i>Use the following table to determine dew point.</i>

2. Check and confirm that TECTYL temperature is between 10°C and 35°C.

DEW POINT

	Relative Humidity (%)									
	10	20	30	40	50	60	70	80	90	100
Temp (c)										
0	---	-16	-11	-8	-5	-3	-1	0	1	3
1	---	-15	-10	-7	-5	-3	-1	1	2	4
2	---	-14	-10	-6	-4	-1	0	2	3	5
3	---	-13	-9	-5	-3	-1	1	2	4	6
4	---	-13	-8	-5	-2	0	2	4	5	7
5	---	-11	-7	-4	-1	1	3	5	6	8
6	---	-11	-8	-3	0	2	4	6	7	9
7	-18	-10	-6	-2	0	2	5	6	8	10
8	-17	-9	-5	-1	1	4	6	7	9	11
9	-16	-9	-4	-1	2	4	6	9	10	12
10	-16	-8	-3	0	3	5	7	10	11	13
11	-15	-7	-3	1	4	6	9	10	12	14
12	-14	-6	-1	2	5	7	10	11	13	15
13	-14	-6	-1	2	6	8	10	12	14	16
14	-13	-5	0	4	6	9	11	14	15	17
15	-12	-4	1	4	7	10	12	14	16	18
16	-11	-4	1	5	9	11	13	15	17	19
17	-10	-3	2	6	9	12	14	16	18	20
18	-10	-2	3	7	10	13	15	17	19	21
19	-9	-1	4	8	11	14	16	18	20	22
20	-9	0	5	9	12	15	17	19	21	23
21	-8	0	5	10	13	16	18	20	22	24
22	-7	1	6	11	14	16	19	21	23	25
23	-6	2	7	11	15	17	20	22	24	26
24	-6	2	8	12	16	19	21	23	25	27
25	-5	3	9	13	16	20	22	24	26	28
26	-4	4	10	14	17	20	23	25	27	29
27	-4	5	11	15	19	21	24	26	28	30

28	-3	6	11	16	19	22	25	27	29	31
29	-2	6	12	17	20	23	26	28	30	32
30	-1	7	13	17	21	24	27	29	31	33
31	-1	8	14	19	22	25	27	30	32	34
32	0	9	15	20	23	26	29	31	33	35

7. COMMON FIBERGLASS REPAIR PROCEDURE

All repairs to fiberglass parts consist of filling the damaged area with fiberglass cloth and resin or strand fiberglass and resin. The repair is allowed to harden, and then finishing operations may be performed. Use of the various materials is determined by the type of repair to be made. Large holes, torn sections and separate joints require the adhesive qualities of the resin and the reinforcing qualities of the fiberglass. Small dents, scratches or pits can be repaired using resin and strand fiberglass and filler mixed into paste. Instructions for either mix are explained under their respective headings in this section. For best results when making repairs, temperature should be between 70 and 75 °F (21-24 °C). Some people experience a skin reaction to resins. In such cases, wipe resin off with denatured alcohol or a good thinner. Use of protective hand cream is recommended.



WARNING

Always wear a respirator and goggles when grinding or sanding.

Extreme care must be taken if the sander is electrically operated, as dust from some resins is combustible when subjected to sparks or open flames. The proper tool for sanding resin is a low speed, air driven disc sander with a water attachment or a dry sander having a vacuum bag. Either will eliminate flying glass and resin dust.

The following additional tools and materials will assist in making repairs: hacksaw blade, assorted files, emery paper or cloth (150 or finer), scissors or tin snips, wax paper or cellophane sheets, a 3" (75 mm) paint roller, paint brush, putty knife, acetone and one or more heat lamps.

8. REPAIR USING FIBERGLASS CLOTH

Where necessary, sand paint away around damaged area and scrape away undercoating, if any, and wipe clean with solvent. Grind or file the damaged area to form a "V" at the broken or cracked portion. Sides of "V" should have a shallow pitch for maximum bonding area.

NOTE

Roughening the surface improves adhesion of resin.

If part is warped from original shape, use clamping equipment to straighten the surface. Preheat area to be repaired with one or two heat lamps placed 18 to 24 inches (450-610 mm) from repair.



CAUTION

Temperature should not exceed 140 °F (60 °C) during 30 minutes in order to avoid distortion.

Cut fiberglass cloth with scissors or tin snips, 1 to 3 inches (25-75 mm) larger than area to be repaired. Build area to desired height.

Mix resin and hardener following instructions on their containers. Saturate layers of fiberglass with mixture and place laminates over damaged area. Smooth out wrinkles and make sure general contour of area is maintained. Bubbles and wrinkles can be eliminated with a roller.



CAUTION

The pot life of the mix is approximately 15 minutes. Any accidental contamination to the skin, clothing, tools, etc. must be removed within this period. Use acetone to remove uncured resin.

Heat resin material again by placing heat lamps 18 to 24 inches (450-610 mm) from repaired area. Allow 12 to 15 minutes for repair to cure. After repair is cured, grind, file or sand to contour. Files other than body files may be more suitable. Featheredge and finish sanding.

If small pits or irregularities appear after making repair, correct by using a liberal amount of chopped strand or filler mixed with resin to form a paste. Refer to heading "Repair using Fiberglass Paste" in this section.

9. REPAIR USING FIBERGLASS PASTE

Fiberglass paste is used for repairing small dents, scratches, and pits. Paste is made by

mixing resin, hardener and fiberglass strand or filler to the consistency of putty. Where it may be necessary, sand paint away around damaged area. On underside of coach, scrape away undercoating from damaged area, and wipe clean with solvent.

Preheat the area to be repaired using heat lamps. Mix desired quantities of resin and hardener according to manufacturer's instructions. Add powdered fiberglass strand into mixture to thicken it into a putty state.

NOTE
If repair is made on a vertical surface, adding powdered filler material to mixture will reduce tendency of hot resin to flow or run.

Apply the material with a putty knife or similar object, building material up to the desired contour. For deep filling and on vertical surfaces, several layers of material may be used.

A hacksaw blade, held flat to adjacent contour and then moved in a sawing action across the repair when the resin is in a gel state, will remove excess resin from repair. Finish repair with the same procedure as when using fiberglass cloth.

10. TYPICAL FIBERGLASS HOLE REPAIR PROCEDURE

Remove all loose particles or damaged material using a power sander or rasp. Clean area, overlapping hole approximately 1" to 1-1/2" (25-40 mm) all around. Remove all dirt, grease and paint from area to ensure good bonding surface. Feather the cleaned area all around (Figure 2).

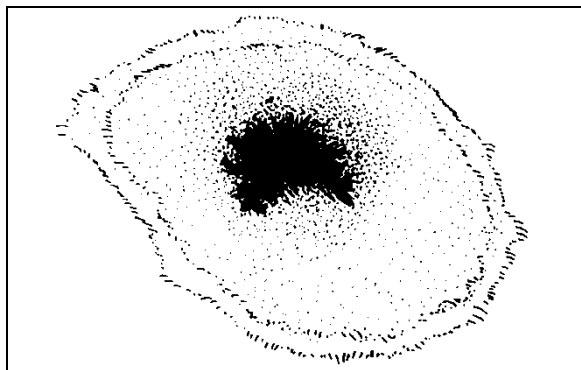


FIGURE 2: FIBERGLASS HOLE REPAIR 18089

Cut a piece of fiberglass mat slightly larger than area being repaired. Impregnate mat with general purpose polyester resin catalyzed normally. Use a clean paint brush to apply the polyester resin. Apply impregnated mat over hole and press onto surface with brush to obtain good adherence. Another coat of general purpose polyester resin can be applied at this time (Figure 4).

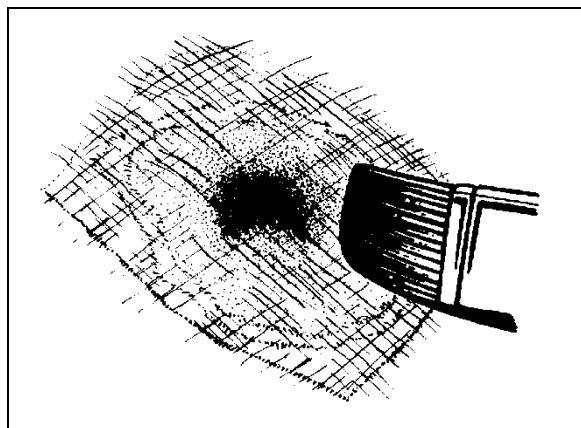


FIGURE 3: FIBERGLASS HOLE REPAIR 18090

NOTE
Remove all air between surfaces being joined. Allow area to harden and sand surface to remove any wax.

Apply another mat, followed by a cloth patch, and another mat. All layers must be thoroughly impregnated with polyester resin, brushed well and free of air. Apply more layers of mat and cloth as required until the desired strength and thickness is obtained, minimum two 1-1/2 oz (43 g) mats and one 9 oz (255 g) cloth (Figure 3).

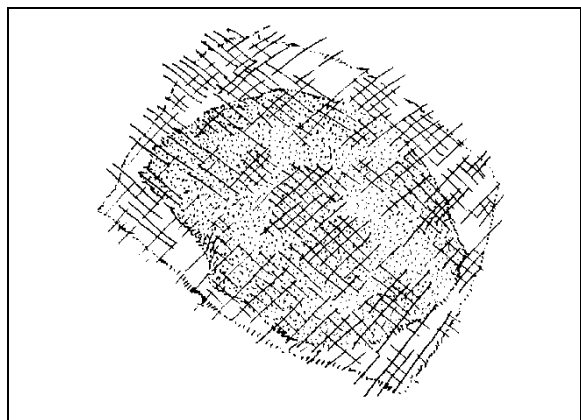


FIGURE 4: FIBERGLASS HOLE REPAIR 18091

Allow area to harden and contour the area with coarse sandpaper #100 (Figure 5).

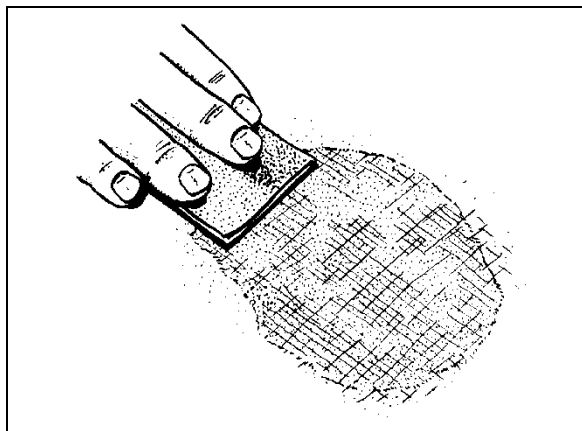


FIGURE 5: FIBERGLASS HOLE REPAIR 18092

Cover the area with a layer of resin putty and allow drying for approximately 15 to 20 minutes (Figure 6).

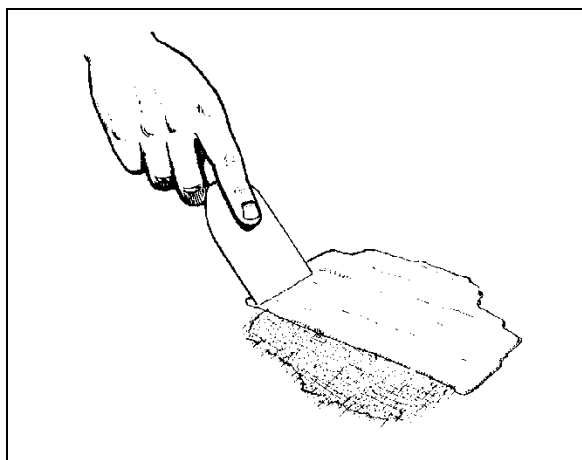


FIGURE 6: FIBERGLASS HOLE REPAIR 18093

Smooth off surface with coarse sandpaper #100 to desired shape. Further smooth surface with fine sandpaper #120 up to #600 until repaired surface matches surrounding area paneling. Prime and paint the area to match surrounding paintwork.

11. COMMON PAINTING PROCEDURE

12. NEW PAINT CARE

Our paint supplier recommends that you follow these simple precautions the first months of your new vehicle's life.



CAUTION

Apply these recommendations after repainting vehicle.

During the first 30 days:

- Do not use a commercial bus wash. Stiff brushes or sponges could mar the finish and damage the surface. Wash the vehicle by hand only and with cool water and a very mild bus wash solution. Be careful to use only a soft cloth or sponge;
- Wash vehicle in the shade, never in direct sunlight;
- Do not "dry wipe" vehicle –always use clean water. Dry wiping could scratch the finish;
- Avoid extreme heat and cold. Park vehicle in the shade whenever possible;
- Do not park under trees which drop sap or near factories with heavy smoke fallout. Tree sap and industrial fallout may mar or spot a freshly painted surface;
- Trees are also likely to attract birds. Bird droppings are highly acidic and will damage a freshly painted surface. Bird droppings, tree sap and industrial fallout should be washed off as soon as possible;
- Do not spill oil, gasoline, antifreeze, transmission fluid or windshield solvent on new finish. IMMEDIATELY rinse off any such spill with clean water, DO NOT WIPE;
- Do not drive on gravel roads. Paint finish easily chips during the first 30 days;
- Do not scrape ice or snow from the surface. A snow scraper can act like a paint scraper if the finish is new. Brush off loose material with a soft snow brush.

During the first 90 days:

- Do not wax or polish the vehicle. This will allow the finish to dry and harden completely.


13. PAINT TOUCHUP

When paint touchup or partial repainting is necessary, refer to the vehicle's paint scheme for color codes and paint brand.

Prévost recommends using the original paint brand to ease color matching.

In the event you sand through to the gelcoat surface you should prime the area with Stadox “Non Stop Fill Primer (ST-11000)”.

If you sand through to metal surface, first prime with Stadox “Etch Primer (ST-11858)” then with Stadox “Non Stop Fill Primer (ST-11000)”.

 CAUTION
Be sure to heed all paint manufacturer’s recommendations, especially concerning paint dilution and application.

14. PAINTING

The standard paint used on the exterior of the vehicle is Stadox Basislack. It is a high gloss polyurethane enamel finish designed for exposure to extreme conditions. Other types of paint may be called for as options by owner but are not dealt with in this section.

14.1 SAFETY

Care should be exercised in storing, handling, mixing, and applying paint and chemicals listed in this manual. The topcoat, primer, solvent, catalysts, accelerators, and cleaners are highly volatile and/or toxic if not properly used. Observe all safety instructions marked on the different packaging, as well as the following:

1. Do not smoke in the paint room or in adjacent area exposed to residue fumes.
2. Wear respirators approved by the governing safety and health regulations.
3. Maintain adequate ventilation at all times.
4. Dispose of any leftover paint mix properly.
5. Wear rubber gloves, rubber apron, and face shield during all phases of paint and chemical handling

14.2 SURFACE PREPARATION AND PAINT APPLICATION RECOMMENDATION

	Aluminum and / or Stainless Steel	Fiberglass	Comments
Surface Preparation	Sand using P-150 grit sandpaper. It is recommended to sandblast rivets and panel edges with OLIMAG 35-70 blast media.	Sand using P-180 or P-240 sandpaper.	Do not use paint remover over aluminum or fiberglass.
Cleaning	STANDOX silicone remover ST-16203		
Priming	STANDOX Reactive Etch Primer ST-13908 * Wait 30 minutes then apply STANDOX HS primer ST-15161	STANDOX Non-Stop Füllprimer ST-11000 (68-2973)	Refer to product Technical Data sheet for proper mixing
Basecoat	Refer to paint scheme or coach record for proper color code and paint brand. We recommend using the same paint brand to ease color matching.		Refer to product Technical Data sheet for proper mixing
Clearcoat	Axalta Imron Clear 8430 S Allow 16 hours for drying		Refer to product Technical Data sheet for proper mixing

NOTE

Product listing above is based on factory applied products. Local VOC (Volatile Organic Compound) regulations may vary, consult your paint supplier and use a VOC compliant product that matches the factory recommendations if required to do so.

15. X3-45 COACHES EXTERIOR FINISHING AND BODY REPAIR

The following procedures explain the steps to be followed for proper repair, installation and replacement for various doors, panels and windows. The paragraph divides the vehicle into zones to facilitate the search; each zone is then sub-divided into components.

Refer to the appropriate zone then component for complete procedure.

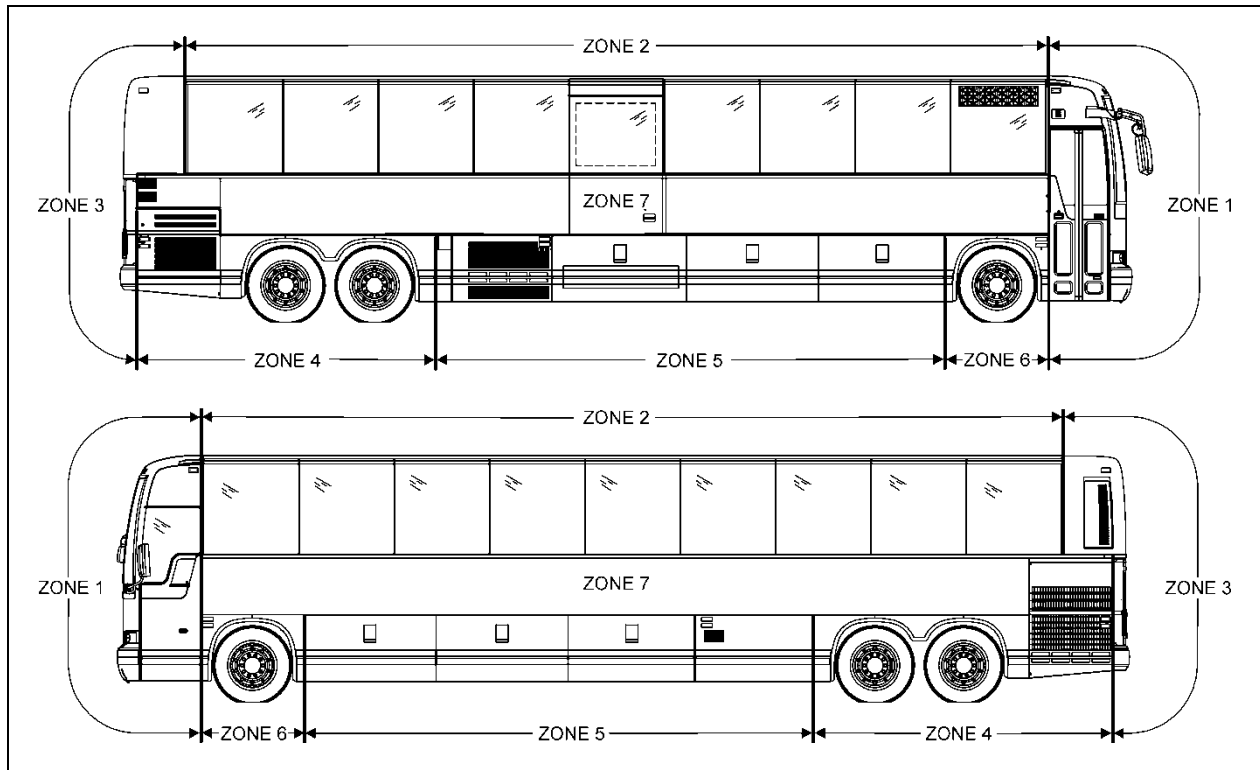


FIGURE 7: X3 SERIES COACH ZONES

18623

15.1 ZONE 1

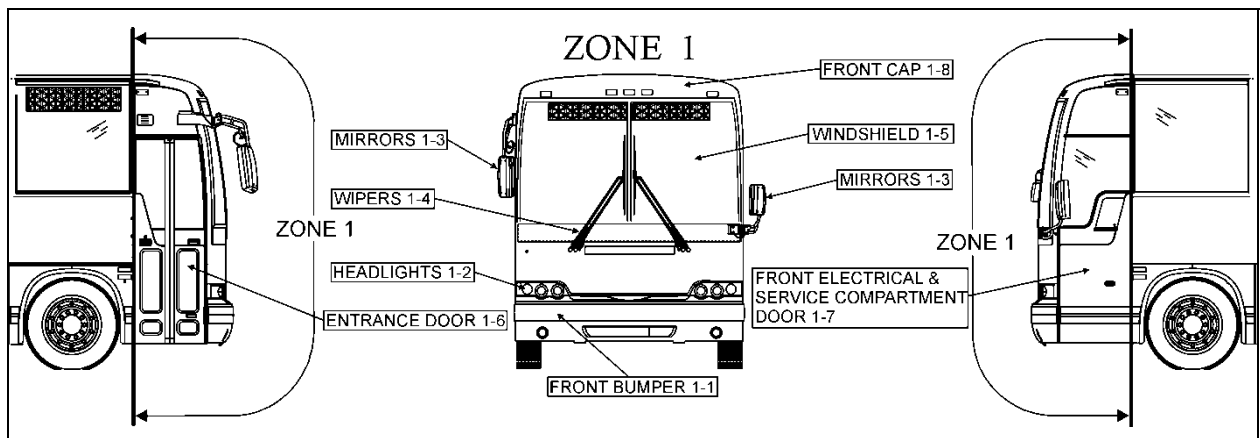


FIGURE 8: ZONE 1

18624

15.1.1 FRONT BUMPER

The front bumper is hinged to give access to the steering gear and to facilitate removal and installation. To remove the bumper, unscrew the top retaining bolts (2) and tilt down the bumper.



WARNING

Front bumper is heavy. Use proper lifting equipment to support the bumper during the removal and installation operations to avoid personal injury.

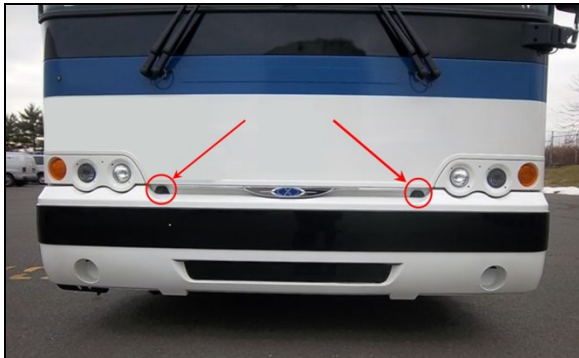


FIGURE 9: BUMPER TOP RETAINING BOLTS 18700

Disconnect both emergency air supply lines from the bumper (hoses are not pressurized).



FIGURE 10: FRONT BUMPER AIR LINES 18701

Using the spring adjustment hex nut, remove bumper spring tension until the end hook can be disconnected from the bumper bracket.

NOTE

To facilitate spring tension adjustment during re-installation, take note of the spring hook length (taken from the

adjustment nut face to the bumper bracket hole) before removal.



WARNING

Bumper spring is under heavy tension; do not pry out the spring hook without completely removing the spring tension.

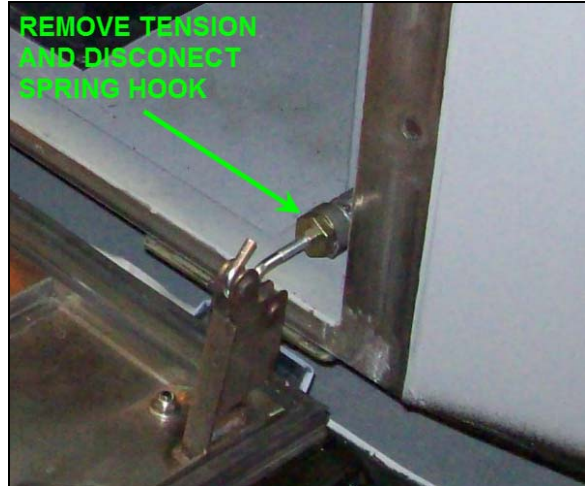


FIGURE 11: FRONT BUMPER SPRING 18702

Disconnect the bumper supporting arm.

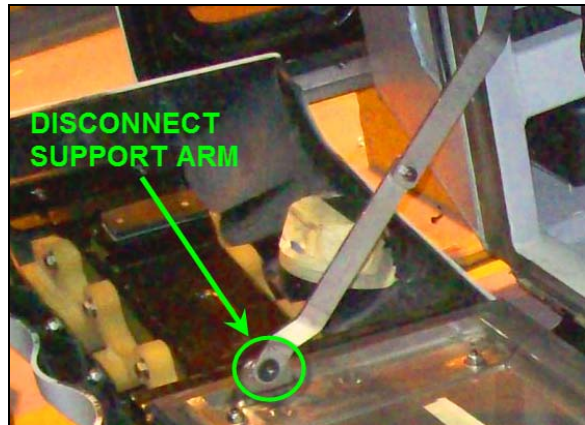


FIGURE 12: BUMPER SUPPORT ARM 18703

Unscrew the four (4) hinge bolts that secure the bumper hinges to the vehicle and remove the bumper.

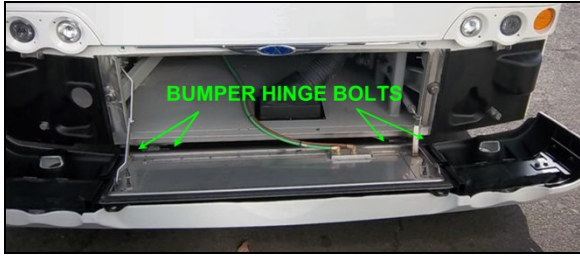


FIGURE 13: BUMPER HINGE BOLTS 18704

15.1.2 HEADLIGHTS

Refer to Paragraph Headlights, included in Section 06: Electrical of the Maintenance Manual for complete information on headlights.

15.1.3 REAR VIEW MIRRORS (ROSCO)

Your vehicle is equipped with two Rosco exterior mirrors.

The mirrors can easily be adjusted by using the remote controls located on the L.H. side control panel. The mirrors have easy to replace glass in case of breakage. Remote control motors can also be replaced.

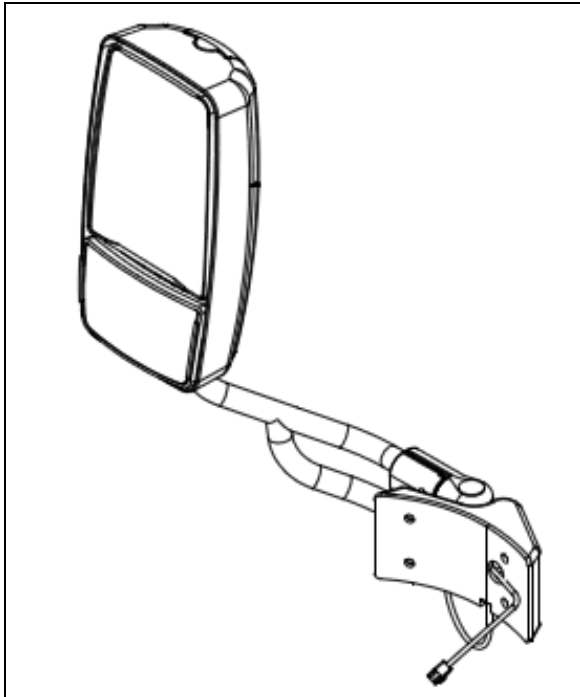


FIGURE 14: L/H REAR VIEW MIRROR (ROSCO) 18398B

- **Adjustment**

At the base of the mirror arm, loosen the mounting bolt to swing arm in or out.

To pivot the mirror head, loosen the setscrews on each side of the ball stub at the base of the mirror head to facilitate the adjustment.

- **Disassembly**

At end of mirror arm, loosen the setscrews to relieve tension on the ball stem. Remove the ball stem from the arm.

Remove the four screws fastening the mirror arm base to the coach.

- **Assembly**

Mount the mirror arm base to the coach. Insert the ball stem into the mirror arm and tighten the socket setscrews.

NOTE
Position the ball cup halves so the joint between them lies on the centerline of the arm. Ensure that the setscrews are not on the joint between the cup halves.

- **Remote Controlled Rear View Mirrors**

The remote controlled external rear view mirrors attach to support arms using a pivot collar secured by setscrews. Loosening the setscrews allows the whole head assembly to turn on the support arm for initial adjustment. A mounting bolt and washer hold the arm support to the mounting bracket. The arm support can be moved to position the mirror head into or away from the coach body.

- **Mirror Control**

The remote control pointer knob(s) for the mirrors is (are) mounted on the L.H. side control panel. The harness to the mirror head runs through the arm support. The remote motor is mounted to the mirror head behind the mirror glass.

Choose the side to be adjusted by pressing the “L” (left) or “R” (right) button on the control pad. The flat mirror is then adjusted by pressing the “upper” button and the convex mirror by pressing the “lower” button. The selected mirror can now be adjusted left to right or up and down by using the arrow keys on the control pad. The R/H side round mirror is non-adjustable.

NOTE

The mirrors heater function (HTR button and LED indicator) is optional and not connected on this vehicle.

- **Disassembly**

At end of mirror arm, loosen the setscrews to relieve tension on the ball stud. Remove the ball stud. Remove the ball stud from the arm and gently pull the harness out until the connector is exposed.

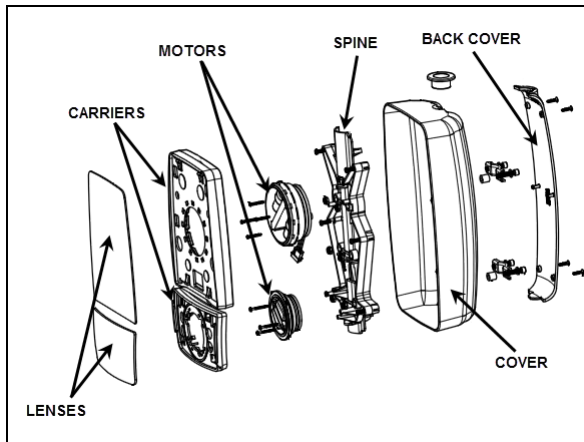


FIGURE 15: R/H OUTSIDE REAR-VIEW MIRROR 18694

Remove the four screws fastening the mirror arm base to the coach. Slide the harness free of the mirror arm base.

- **Assembly**

Attach a stiff wire (snake) to the end of the harness and insert the wire through the mirror arm base and arm, gently pull the harness through the arm and disconnect the "snake".

Connect the mirror head harness. Insert the harness connector back into the mirror arm. Insert the ball stud into the mirror arm and tighten the socket setscrews.

NOTE

Position the ball cup halves so the joint between them lies on the centerline of the arm. Ensure that the setscrews are not on the joint between the cup halves.

- **Glass removal and installation**

Using a non-metallic flat wedge, insert the edge under the over-hang tab covering the mirror glass.

Raise the wedge to spread the over-hang tab. By continuing to raise the wedge, the glass will begin to pop out.

Do not force the glass further than half an inch outward. A secondary adhesive holds the glass. This adhesive is used to cushion the glass and dampen vibration. It is soft and can be cut fairly easily.

Slide a straight edge, such as a ruler, behind the glass and make a slicing motion back and forth. The mirror glass will come free.

Remove the glass after the adhesive has been cut. Some adhesive will remain on the mirror carrier. These adhesive spots are soft and pressure sensitive. They will adhere again when the glass is reinserted.

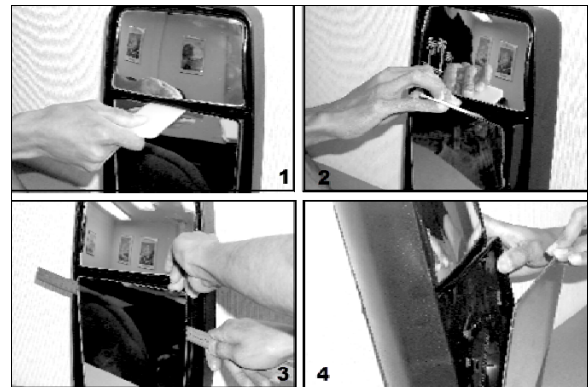


FIGURE 16: REAR VIEW MIRROR GLASS REMOVAL

To re-insert the glass, slide one side under the over-hang tab and spread the opposite over-hang tab with the wedge until the mirror glass is permitted to snap or drop in place.

15.1.4 WINDSHIELD WIPERS

Refer to Paragraph 3 WINDSHIELD WIPERS AND WASHERS, included in Section 23: Accessories of the Maintenance Manual for complete information on windshield wipers.

15.1.5 WINDSHIELD

For the removal or installation of windshield, you will need:

- A rope,
- A plastic spatula to lift the rubber seal lip,
- A metal rod or screwdriver to clean the seal groove,
- A filler insertion tool,
- Goggles and protective gloves.

- From inside of vehicle, remove center post and interior finishing panels surrounding the windshield. In this case, we are replacing the R.H. side windshield.
- From outside of vehicle, remove filler located inside rubber seal to ease damaged windshield removal.
- From inside of vehicle, push against the top L.H. side corner of windshield for the removal of a R.H. side windshield. If the L.H. side windshield had to be removed, you would have to push against the top R. H. side corner.

NOTE
We are referring to the L.H and R.H. side as viewed from the inside of the vehicle.

- At the same time, another person gradually lifts the rubber lip from the vehicle exterior using a plastic spatula from top to bottom.
- Remove the entire damaged windshield and broken glass if applicable.
- If applicable, using a screwdriver or metal rod, remove black butyl sealant residue from rubber seal then clean with Sika 205.

Windshield Installation

NOTE
Rubber seal may have to be replaced if it was used on several windshield replacements.

- Spray rubber seal with soapy water to ease windshield insertion.
- Insert rope into rubber extrusion leaving enough length at each corner to make a loop. Spray soapy water onto rope and rubber extrusion (Figure 17).
- Slide windshield into rubber seal groove starting with the bottom curved side edge. Using a plastic spatula, move the rubber seal lip aside to gradually insert the windshield into the groove.
- Spray soapy water on a regular basis to ease this operation.
- Using the same type of plastic spatula, repeat the same operation from inside of vehicle, gradually inserting the windshield into the groove.

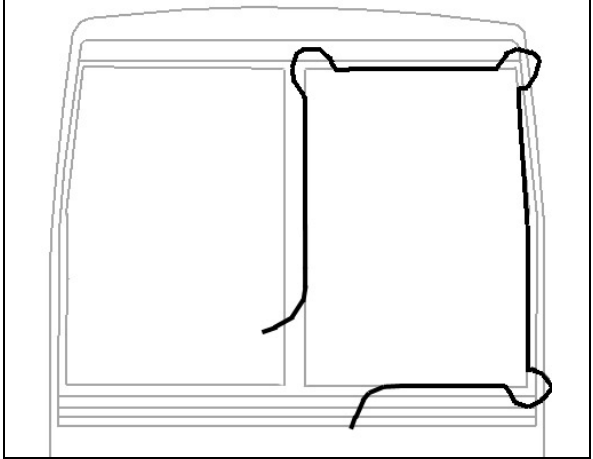


FIGURE 17: WINDSHIELD INSTALLATION USING ROPE

NOTE
Make sure windshield bottom edge is well inserted into the rubber seal groove before proceeding with the sides.

- Then, working from both sides of windshield bottom to top, gradually move the rubber seal lip aside to insert the windshield into the groove. Use also soapy water on the inside of vehicle to insert the windshield into the rubber seal groove.
- Insert the top curved corner then finish with the top of windshield.
- At the top of windshield, clean surface between fiberglass and rubber extrusion using Sika 205.
- Apply Sika 221 black between fiberglass and rubber extrusion (Figure 18).
- Spray filler and rubber seal groove generously with soapy water.
- Using the special filler insertion tool, insert the filler into the rubber seal groove.
- Gradually insert filler into the rubber seal groove ensuring to leave a 2 inch excess length at the filler extremity.
- Every 6 inches or so, it is important to compress the filler due to its tendency to contract during drying process.
- When filler insertion is almost complete, cut filler leaving ¼” of excess length to thwart filler contraction over time then insert filler into groove.

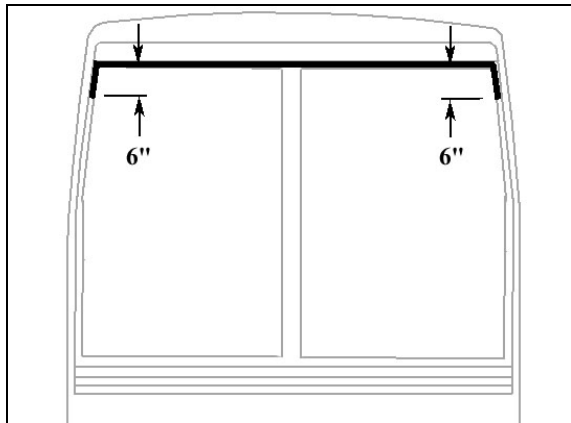


FIGURE 18: APPLICATION OF SIKA 221 BLACK

- Reinstall center post and interior finishing panels.
- Clean windshield surface of butyl residue.

15.1.6 BI-FOLD ENTRANCE DOOR

An air operated “bi-fold type” entrance door, with an air door cylinder and damper assembly installed under the right hand dash for the R.H. door panel opening. Another air door cylinder is installed behind the wall to the right of the first curb-side passengers’ seat for the L.H. door panel opening. The opening and closing door speed cycle is adjustable by a damper mounted in parallel with the R.H. door panel cylinder on the door hinge. Door activation is controlled by a panel (Figure 19), located near the defroster and wiper motors. The accessory air reservoir supplies air to this system.

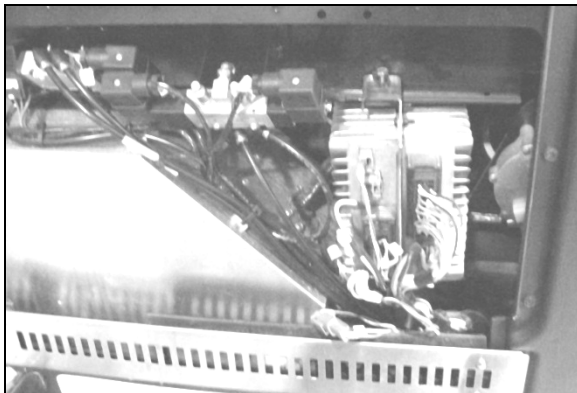


FIGURE 19: ENTRANCE DOOR & WIPER CONTROL PANEL 06619

The door is held in the closed position during coach operation by a two air cylinder locking mechanisms (Figure 20).

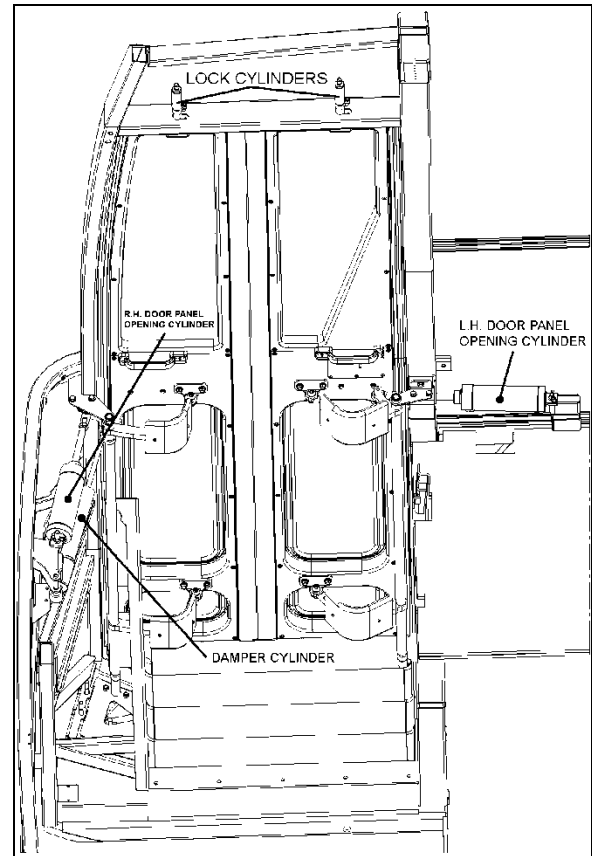


FIGURE 20: ENTRANCE DOOR - VIEW FROM INSIDE

Air cylinders with return spring in the cylinder body are used. Air cylinders are controlled by an electrically operated solenoid valve energized by a multiplex module located under the right hand dashboard.

To open the door, initial action from multiplex module output energizes the air lock solenoid valve, venting the door locking cylinders. The return locking spring pulls the door lock away from the latch, unlocking the door. Door movement starts only when pressure in the central air door lock is below 10 psi. The “air cylinder open solenoid valve” opens and allows air to flow to the door cylinders, “the air cylinder close solenoid valve” exhausts air from the rod side of the cylinders.

To close the door, initial movement of the switch energizes the “air cylinder close solenoid valve” and air flows to the cylinders by their rod side ports. The “air cylinder open solenoid valve” exhausts air from cylinders. When the sensor signals the door as closed, the air lock solenoid valve is de-energized and loads the door lock cylinders. The cylinder moves the door lock in a

position which engages a latch on the entrance door, holding the door positively closed.

Emergency exit valve, which opens the air valve circuit should be used only in emergencies, or when the door control system does not function properly.

Refer to the air system schematic diagram and to page 29.1 of the wiring diagram.

• **Operation**

Lock or unlock the bi-fold entrance door from outside the vehicle by turning the key in the door lock (counterclockwise to lock, clockwise to unlock). The entrance door can be unlocked from the inside using the small lever located on the door.

The air-operated door is controlled from inside the coach by two push-button switches located on the R.H. dashboard.

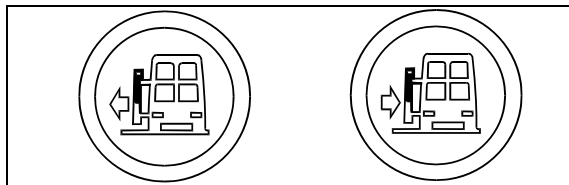


FIGURE 21: ENTRANCE DOOR OPERATING BUTTONS
06464

From the inside, open the door by pressing the door opening switch (L.H. button) on the R.H. dashboard panel. The door will open to full open position within 5 seconds.

Close by pressing and holding the door closing switch (R.H. button) on the dashboard. If the closing switch is released before the door is fully closed, the door will stop in that position.

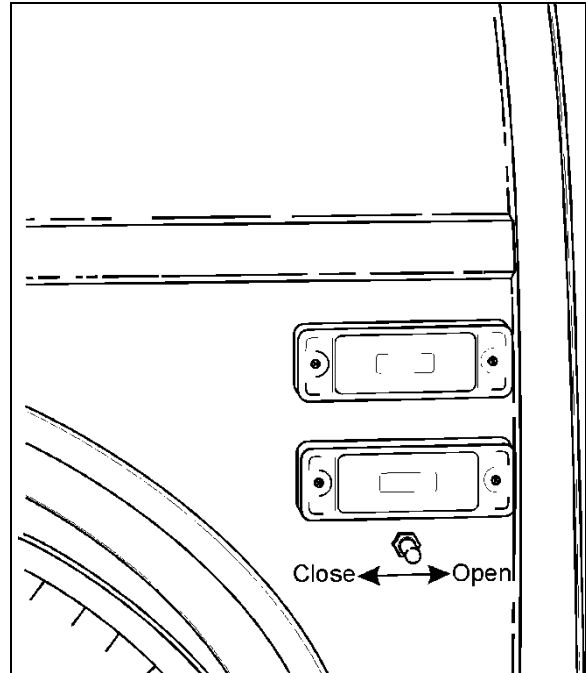


FIGURE 22: ENTRANCE DOOR CONTROL SWITCH 18599

Opening and closing of the door from outside the coach is accomplished by a momentary toggle switch located under the front R.H. side marker light (Figure 22).

To close the door, the switch must be pushed towards the rear of the coach and held in position until the door has completed its movement. The door can be closed to any position by releasing the switch (or button, if inside) when the desired position is attained. However, the door is not locked in any position other than fully closed. The door can then be closed further by pushing or pulling on the door.

To open the door, the switch must be pushed towards the front of the coach and held in position. When the door reaches the fully opened position, the system will keep pressure in the cylinder locking the door in that position.

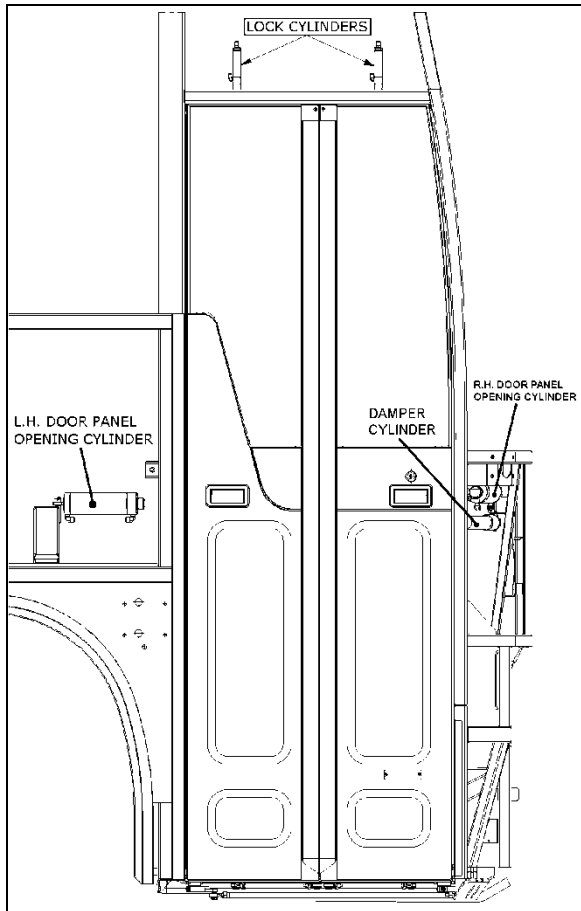


FIGURE 23: ENTRANCE DOOR - VIEW FROM OUTSIDE

- **Emergency Exit Valves**

From inside the vehicle, an emergency exit valve located on the dashboard R.H. side near the entrance door, releases the pressure from the lock cylinders. From the exterior, an emergency exit valve located in the front service compartment, also releases the air from the lock cylinders.

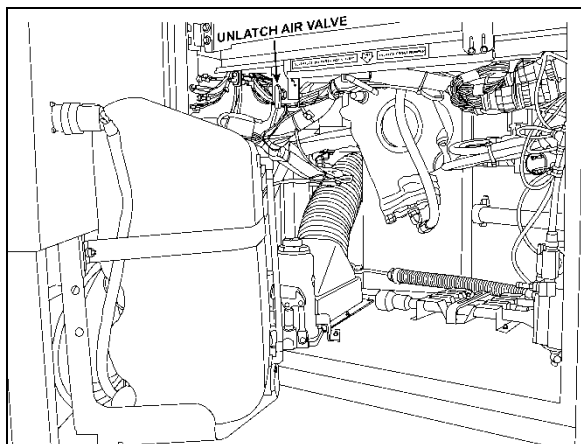


FIGURE 24: EXTERIOR UNLATCH AIR VALVE 12209

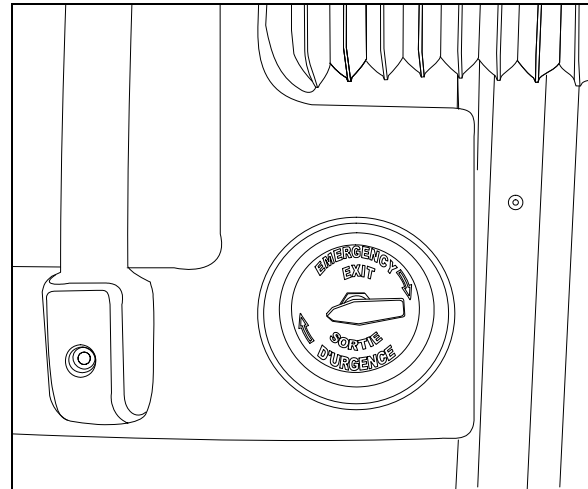


FIGURE 25: INTERIOR UNLATCH AIR VALVE 18330

Without Air and/or Without Electricity

If the air pressure drops while the coach has or hasn't any electricity, the spring loaded cylinders will unlatch the door. In such a case, unlock the door by moving the lever on the door or by using the key, then open the door manually.

With Air but Without Electricity

From inside the vehicle, turn the emergency exit valve to the "UNLOCK" position. Move the lever. From the exterior, turn the emergency exit valve to the "UNLOCK" position. Open the door. Close it, lock with the key and reset the outside emergency exit valve to the "NORMAL" position.

- **Door Cycle Speed Adjustment**

To do any adjustment, remove the panels located next to the R.H door panel hinges.



CAUTION

It is important to make sure that damper does not reach end of stroke when bi-fold entrance door is completely closed or opened. The door cylinders must stop the door on opening. Screw or unscrew rod end to adjust if necessary.

To adjust opening and closing cycle speed on damper (Figure 26):

1. Remove the damper from the vehicle and hold it vertically with the lower eye or pin attachment in a vice. Use clamp plates to prevent damage.

2. Fully close the damper while turning the dust cap or piston rod slowly CCW until it is felt that the cams of the adjusting nut engage in the recesses of the foot valve assembly (Figure 26).

NOTE
 In figure 23, if there is an indentation (B) in the dust cap (C) and the cover shows two holes (A), the damper is fitted with a bump rubber (D). If so, fully extend the damper and insert a round bar or screwdriver through the holes. Push the bump rubber down and remove. Remove the split plastic collar (E) (if fitted) from the piston rod.

3. The damper may have already been adjusted. Therefore check whether the damper is adjusted or not by keeping it closed and gently turning further CCW, counting at the same time the half-turns until a stop is felt. Stop turning and do not force.
4. While keeping the damper closed, make two CW half-turns. In case of prior adjustment, add the number of half-turns previously counted. The total range is about five half-turns. Pull the damper out vertically without turning for at least 3/8" (1cm) to disengage the adjusting mechanism. The dust cap or piston rod may now be turned freely.
5. The damper can now be refitted in the vehicle.

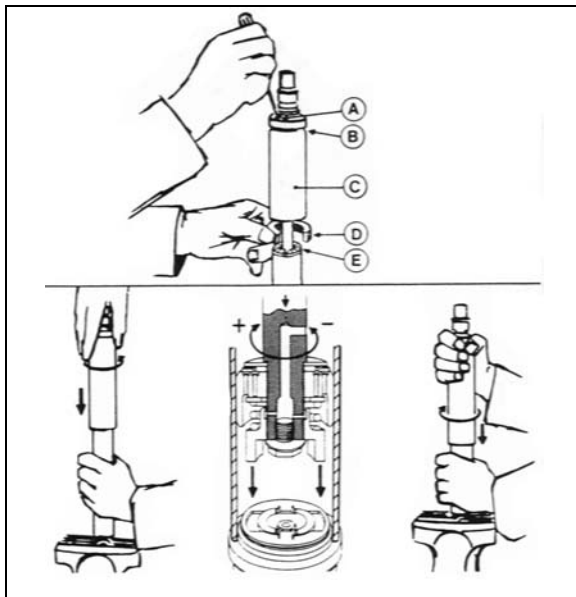


FIGURE 26: DAMPER 18643

NOTE
 Where a bump rubber was installed, refit same inside the dust cap and by fully closing the damper, the rubber will seat again at top of the dust cap. Refit the split plastic collar E (Figure 26).

6. Reinstall panels and R.H. entrance door panel hinge cover.

• **Entrance Door Panel Adjustments**

Before attempting to correct any bi-fold entrance door operating problem by adjusting any part of the air cylinder assembly, first perform the following mechanical checks and procedure.

Check around the perimeter of the door for binding. If any binding is found, adjust as follows:

- o Horizontal and vertical adjustment
1. Support the door panel with a wooden block and a hydraulic jack.
 2. Unfasten the bolts fixing the door panel plates. See figure 24

NOTE
 Ask an assistant to help you to perform the following adjustments.

3. Adjust the door horizontally and vertically with the jack. Tighten the bolts. Remove the jack and the wooden block.

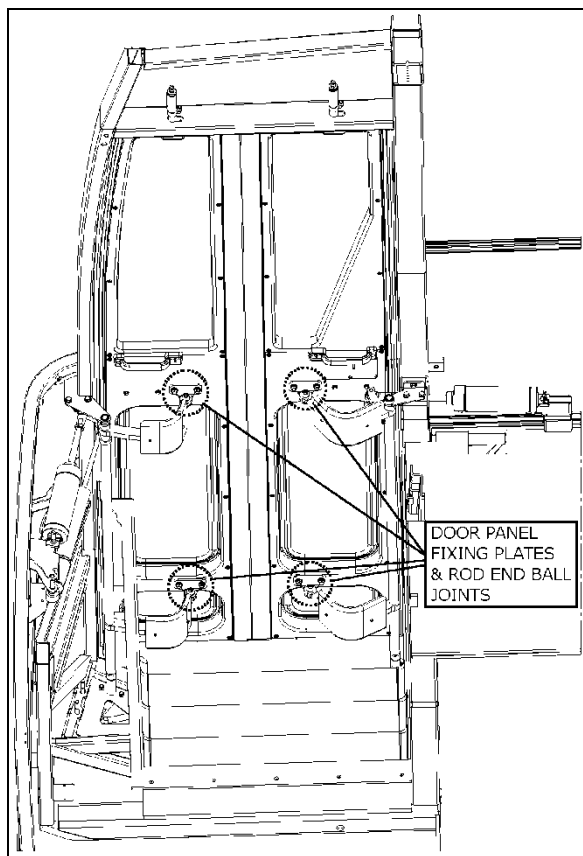


FIGURE 27: DOOR PANEL ADJUSTMENTS

- o Depth adjustment
1. Support the door panel with a wooden block and a hydraulic jack.
 2. Unfasten and then disconnect rod ends from door panel fixing plates. Screw or unscrew rod end in order to adjust door panel depth.
 3. Tighten the bolts. Remove the jack and the wooden block

15.1.7 FRONT ELECTRICAL & SERVICE COMPARTMENT DOOR

• Body Panel and Window

For the removal of front electrical & service compartment door body panel, you will need:

Pneumatic “Zip gun” type tool;

Razor sharp window scraper;

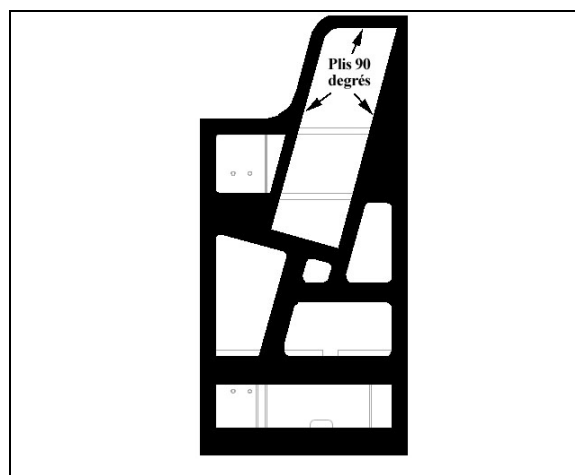
- Open service door.
- Remove interior finishing panels to access rub rail fixing bolts, then remove rub rail.
- Remove windshield washer reservoir, door lock and power window connector.

- Using the “Zip Gun”, cut Sika bead located ¼ inch (7-8 mm) from each body panel edge.

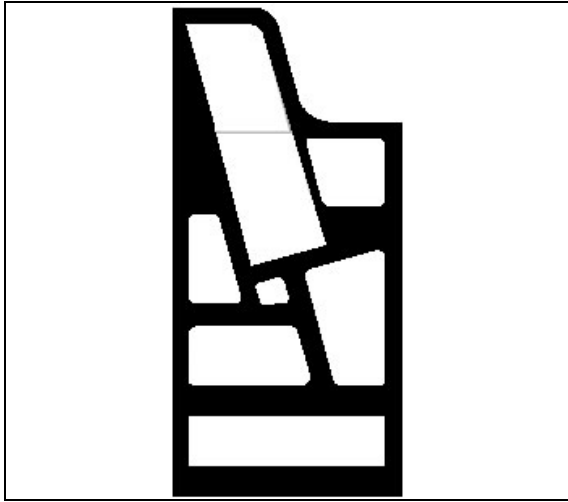
NOTE

Wear ear plugs during this operation.

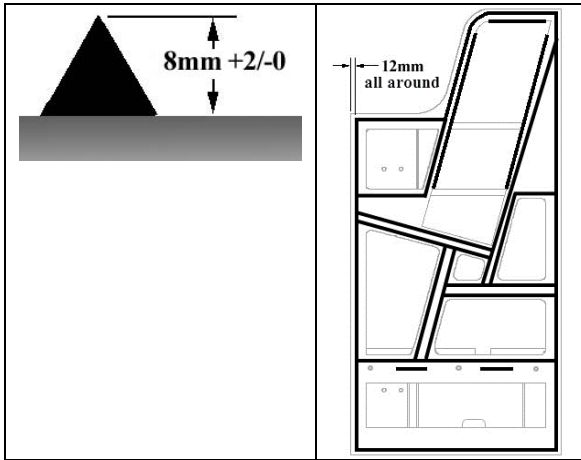
- Separate body panel from door.
- Using a razor sharp window scraper, remove from door frame Sika bead and double-face self adhesive tape residue.
- Clean door frame using anti-silicone.
- Using a scratch pad “Scotch Brite”, scratch the perimeter of the door frame where the adhesive will be applied.
- Clean door frame again using anti-silicone.
- Apply some Sika 206 G+P onto door frame.



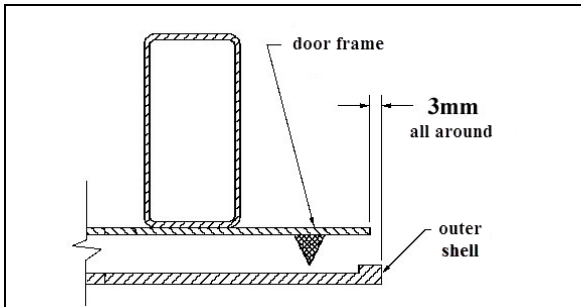
- Prepare new body panel using a scratch pad “Scotch Brite”.
- Use a tack cloth to remove any dust or residue from the body panel surface.
- Clean body panel using anti-silicone.
- Apply some Sika 206 G+P onto body panel.



- Apply an even coat of Sika 255 onto the door frame.



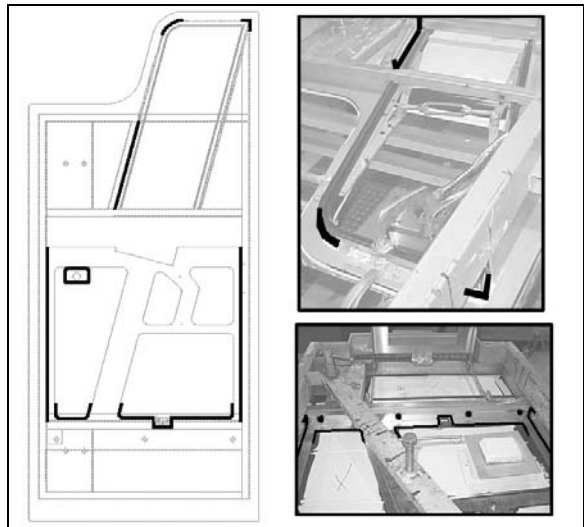
- Position body panel onto door frame and compress with your hands. Use a ruler.



- Check body panel flatness using a 2-foot ruler (must be within 2mm).

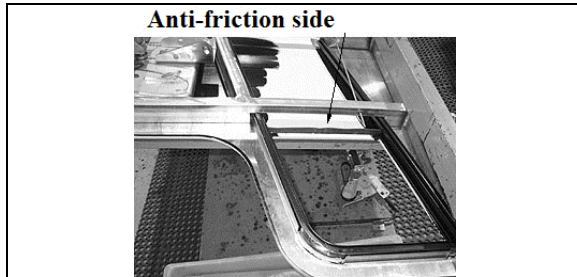


- Check proper power window sliding inside window frame.
- If applicable, remove excess of Sika adhesive all around door frame using Sika 208.
- From the inside of the door, apply some Sika 221 between door body panel and frame and on welding spots as per figure.

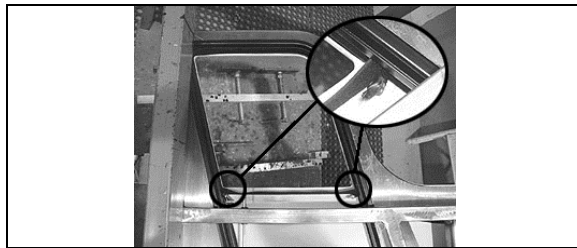


- Apply some #680066 glue inside fiber glass groove and fix power window wiper.

NOTE
Anti-friction side must be on glass side.



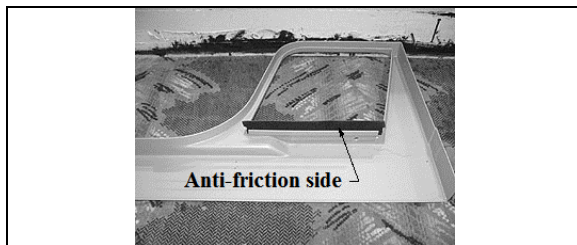
- From inside the door, apply some Sika 252 at the corners of window wiper.



- Apply some #680066 glue inside finishing panel groove and fix power window wiper.

NOTE

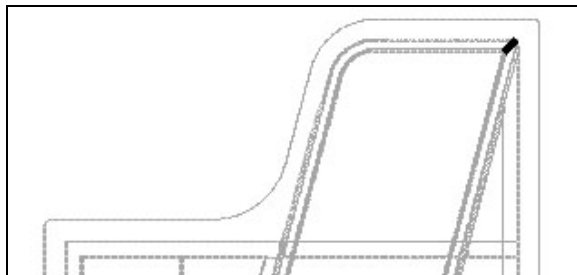
Anti-friction side must be on glass side.



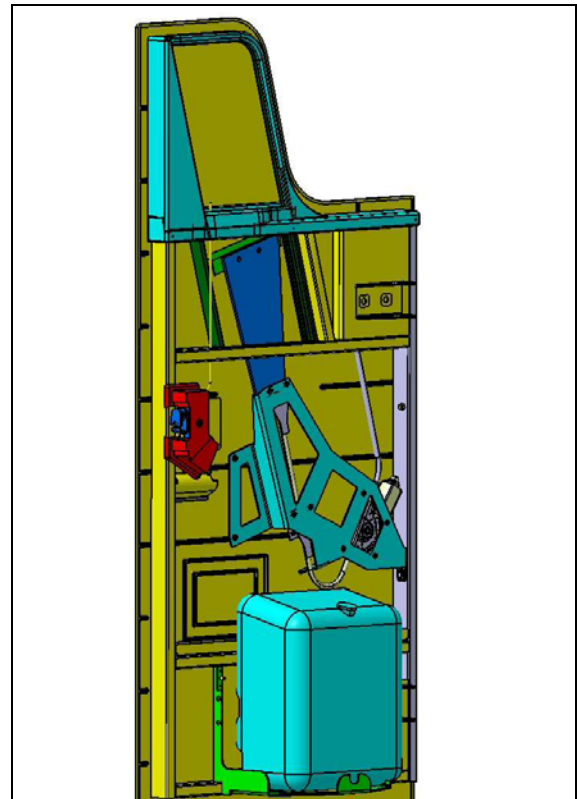
- Discard waste according to applicable environmental regulations, use dangerous waste containers.

Electrical Power Window

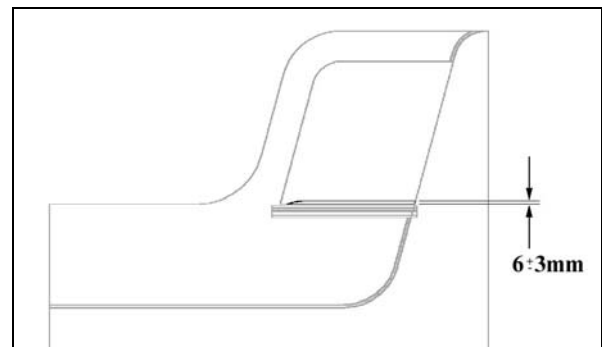
- Insert 2 seals in the window frame.
- Apply some #680066 glue at the intersection of the 2 seals and also sparingly in order to fix the seal to the window frame.



- Clean window using window cleaner.

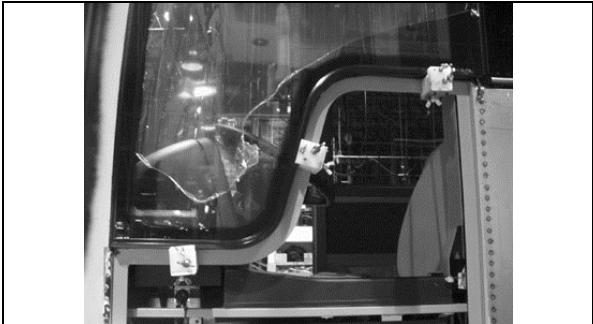
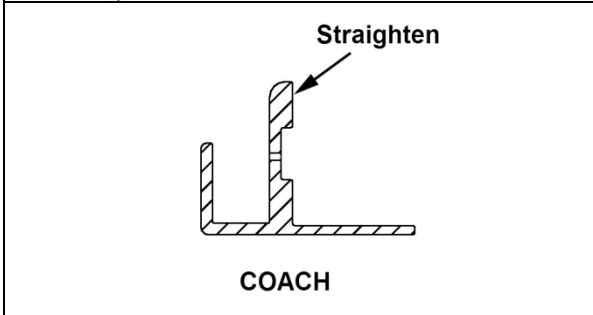


- Insert window into frame.
- Secure window pane to raising mechanism.
- Adjust window travel ($6\pm 3\text{mm}$ above window wiper).



Driver's Window Gutter

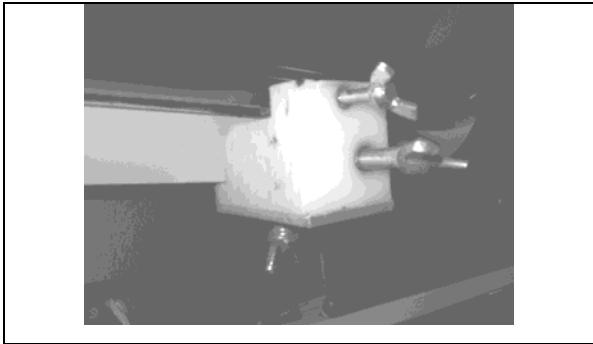
- Dry fit the gutter on the vehicle. If required, straighten up gutter using a hammer and a wooden block.



15.1.8 FRONT CAP

The fiberglass front cap does not need any maintenance except painting as needed. It is held in place with adhesive. If ever it has to be replaced, make an appointment at a Prévost service center near you. For minor damages, refer to section 4 "Fiberglass Repair" and section 5 "Painting".

- If applicable, remove plastic film at the bottom of driver's window.
- Remove excess of Sika underneath driver's window.
- Clean bottom of driver's window using window cleaner.
- Apply Sika Aktivator at the bottom of driver's window.
- Install gutter under driver's window then compress in order to fix double face self-adhesive tape.
- Install 3 clamps and allow curing for 4 hours.



15.2 ZONE 2

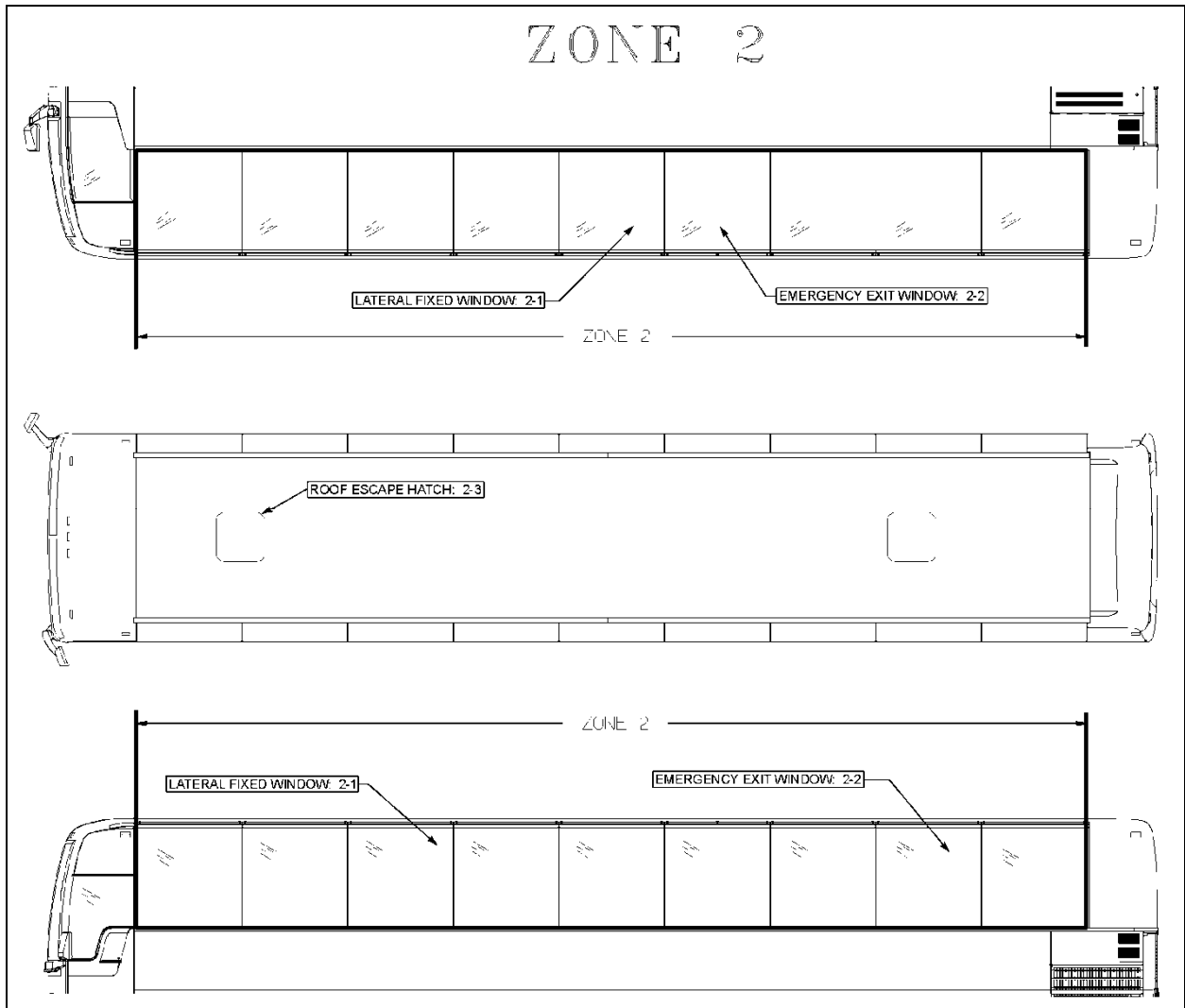


FIGURE 28: ZONE 2

18625

15.2.1 LATERAL FIXED WINDOW

Nine passenger side windows are provided on each side on X3-45. They are made of fixed, single or double-glazed, heat absorbing AS-3 glass. Windows are mounted in painted aluminum extrusions, which hold the glass in place from the top rail of the coach. The extrusion also serves as a hinge to allow the window to swing open when needed. The single-glazed windows are made of tinted tempered safety glass, while the double-glazed windows are made of tinted tempered safety glass outside and clear tempered glass inside.

For fixed side window removal or installation, you will need:

Hammer or;

Drill equipped with a sharp pointed rod into which a small hole was drilled;

Braided windshield wire and a pair of handles;

Gloves, goggles or face shield.

• Fixed Window Removal

Method A

- Apply a sticky plastic film onto window outside surface (thermos) and break window. For single pane, apply a sticky plastic film on both sides of window.

Method B

- Using a drill equipped with the special sharp pointed rod, drill through the window seal into one of the bottom corners, from a 30° angle with reference to the vehicle.
- This procedure requires accuracy and it is possible not to succeed on the first attempt. From the inside of vehicle, a second person ensures the rod passes through.
- Remove the rod, thread the wire into the small hole. Reinsert the rod and the wire into the hole far enough so that the person inside the vehicle can pull the rod using a pair of pliers.
- Attach the wire ends to the specially designed handles.
- Pull in turn from the inside and the outside of vehicle to gradually cut the Sika bead on the window perimeter.

- When you reach top corner, detach wire from the outside handle, secure it to a fish wire or rod and thread it underneath the aluminum molding behind the rivets.
- Detach wire from fish wire and continue cutting using the handle.
- Cut Sika bead until you come back to starting point, then you can remove the window by carefully pushing it out from the inside of vehicle.

• Preparation of Structure and Installation of Window

Preparation of Structure


- Remove old Sika adhesive.
- If primer was removed at the same time than Sika, perform the following steps:
 - * Clean using anti-silicone.
 - * Remove from structure old primer using a sander (120-150 grit).
 - * Clean again using anti-silicone.
 - * Apply 206 G+P primer.
- Reactivate 206 G+P primer.

Installation of Window

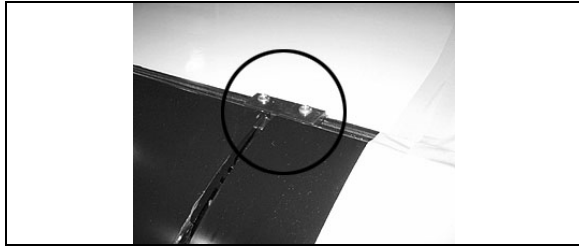
- Use window cleaner around window interior perimeter and edges to remove any oily film while inspecting for damages.
- Apply Sika Aktivator.
- Using a triangular nozzle (20mm X 10mm), apply Sika Ultrafast II onto structure.

NOTE
You only have 8 minutes to install window once the SIKA ULTRAFAST II product is applied.

- Install window.

 **CAUTION**
 To prevent damaging the Sika joint, do not raise the window once it as touched the bead.

- Before compressing window against Sika joint, install two stops into the aluminum extrusion one inch from each window edge.



- Verify window alignment with reference to adjacent surfaces.
- Vehicle must remain stationary for 30 minutes at more than 23°C.

15.2.2 EMERGENCY EXIT WINDOWS

Three of the windows on curb side of the X3-45 serve as emergency exits, while there are four on driver's side. See figure 28. With the exception of the top window edge, the glass edges are unprotected. Be exceptionally careful when manipulating or installing such windows.

When it becomes necessary to lay down the unprotected edges of the glass window, never use a steel or concrete floor support. It is recommended to use a wooden support or a padded surface.

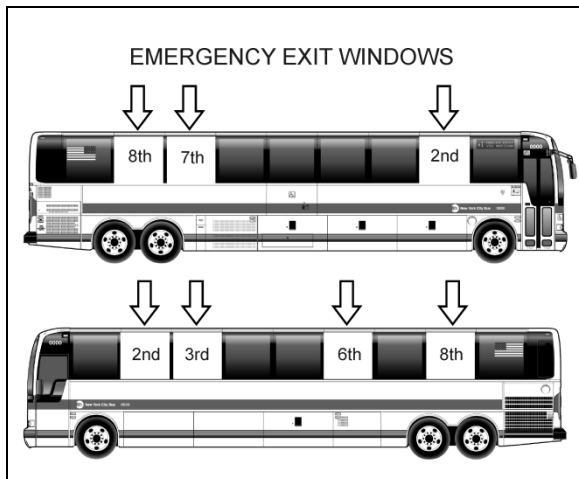


FIGURE 29: X3-45 COMMUTER 18617

An emergency exit window can be opened by pulling the lower part of the release bar to disengage the safety latches, and then by pushing out the window frame (Figure 30).

Emergency operating instructions are affixed under each emergency exit window. To close the window, pull back the window and push down the release bar.

- **Emergency Exit Release Bar**

The emergency exit release bar system is generally maintenance free. It has been designed to answer the twenty pound resistance criteria for opening the emergency window. If this handle should be replaced:

1. Remove the screws and bolts securing it to the emergency exit window;
2. Install a new release bar, reverse the procedure.

NOTE

Check the legal twenty pound maximum resistance to be sure to comply with regulations.

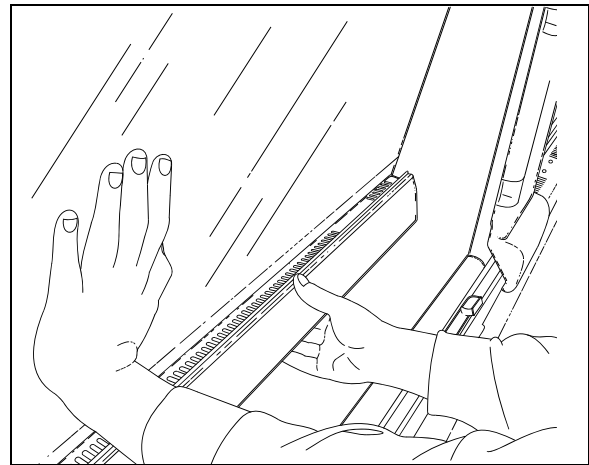


FIGURE 30: EMERGENCY EXIT WINDOW 18008

- **Emergency Exit Window Adjustment**

Emergency exit windows should be checked periodically for easy opening and closing. Pulling the lower part of the release bar with both hands placed near the safety latches should disengage both locks on the window simultaneously. The tension required to release the window should not exceed twenty pounds (9 kg) of force.

The release bar mechanism itself has been designed such as no adjustments are necessary.

If too much effort is required to disengage the locks when pulling the release bar or if the window doesn't close tightly or rattles, check for interference by foreign objects or nearby parts into mechanism, such as rubber seal, wires, etc. Correct situation immediately.


NOTE

Tangs on the lock must be in a horizontal

position.

• **Emergency Exit Window Replacement**


1. Lift the bar release system;
2. Remove the stop blocks from the top exterior of the window.
3. Push the glass window out ninety degrees (90°).

 WARNING
The window may fall out.

4. The window is free and can be unhooked.
- Reverse the procedure to install a new emergency exit window.


15.2.3 ROOF ESCAPE HATCH

The vehicle is equipped with two escape hatches. The escape hatches are designed to provide years of reliable service with a minimum of maintenance. All components are rust proof, and moving parts are Teflon coated to eliminate need for lubrication. Should water infiltrate the vehicle from the escape hatch, refer to the heading "Sealing" in this paragraph for procedures on how to seal this area.

 CAUTION
Use of lubricants, paints, or other coatings such as graffiti deterring sprays is not recommended.


Suggested maintenance includes periodic inspection of fasteners for evidence of loosening due to tampering, and regular cleaning with mild soap and water.

Although there are other cleaning solutions available, some contain solvents and other chemicals that can attack the high strength materials used in the production of the escape hatch.

 CAUTION
Ensure that cleaning solutions are compatible with the materials used on the escape hatch.


Graffiti removing cleaners often contain acetone, ether, lacquer thinner or other solvents known to

destroy the high strength properties of many plastics. Use of these cleaners must be avoided. Graffiti-resisting coatings often leave a sticky residue that interferes with smooth up/down movement of the hatch mechanism. Some of these coatings also contain solvents that will reduce the strength of certain components.

 CAUTION
Use of these coatings is at considerable risk and should be avoided.


• **Repair**

All components used in the production of the escape hatch are available as service parts, except for one hinge that represents a possible hazard when improperly reattached to a hidden tapping plate, itself often damaged whenever the hinge is damaged. The tapping plate is permanently laminated between the inner and outer cover assemblies, and it cannot be inspected or replaced. It is therefore necessary to replace the entire assembly following damage to the hinge. See figure 30.

 CAUTION
Hinge assembly is critical and hinge should never be removed from cover assembly. Fasteners used in this assembly are special and have critical torque requirements and tamper-resistant heads to discourage tampering.

• **Sealing**

1. Open and tilt up the escape hatch cover.
2. Join the 2 ends of the rubber seal.

 CAUTION
Seal joint should be toward rear of vehicle.

3. Apply rubber adhesive CA-40 (Prévost # 681285) in the gap between the seal ends.
4. Apply Sikaflex 221 sealant (Prévost # 680532) along the outline of the escape hatch on the roof of vehicle.

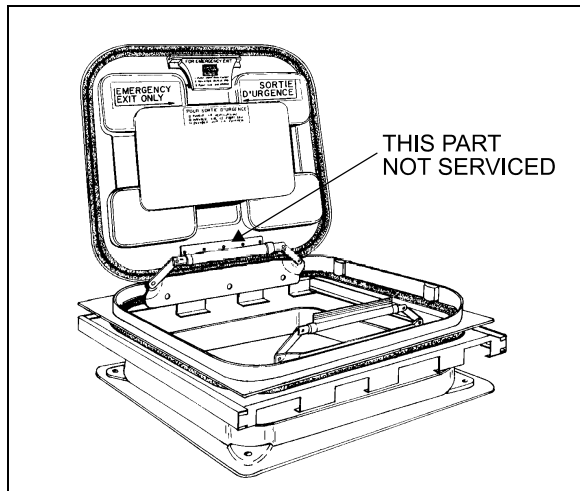


FIGURE 31: ESCAPE HATCH

18104

• Escape Hatch Panel Assembly

The frame of the escape hatch is riveted to the roof of the vehicle. The escape hatch panel assembly can be replaced as a unit and a new panel assembly installed in the existing frame. To remove the panel assembly, remove the 4 bolts fastening the 2 hinges to the escape hatch frame and retain the 4 flat washers. Reinstall the panel assembly by fastening the 2 hinges with the 4 bolts and flat washers removed earlier.

• Escape Hatch Frame

When necessary, the escape hatch frame can be removed and replaced in the following way:

1. Support the frame from inside the vehicle.
2. Remove rivets.
3. Cut the rubber seal with a sharp edge knife and remove the hatch frame.
4. On vehicle top, using the knife, remove as much as possible the remaining rubber seal.
5. Drill holes (if needed) in the new metal frame.
6. Clean both vehicle top and new hatch frame with SIKA 205.
7. Apply rubber adhesive SIKA 221 under the hatch frame surface.
8. Install the frame in place and fix it with rivets.
9. Remove excess adhesive and clean all around.



CAUTION

When installing, roof escape hatch's hinge must be toward the front of vehicle, to prevent the hatch from being ripped out if accidentally opened while vehicle is running.

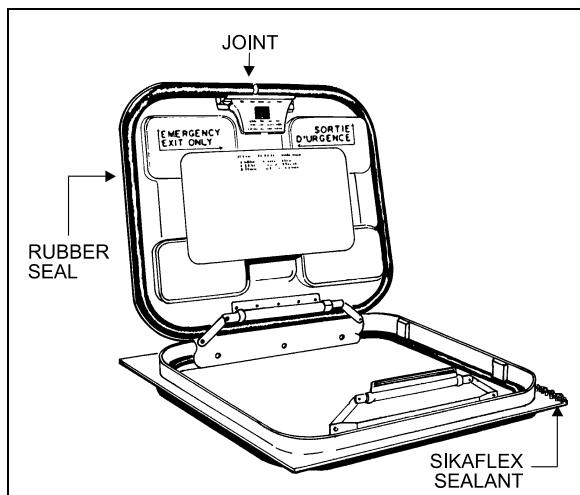


FIGURE 32: ESCAPE HATCH

18105

15.3 ZONE 3

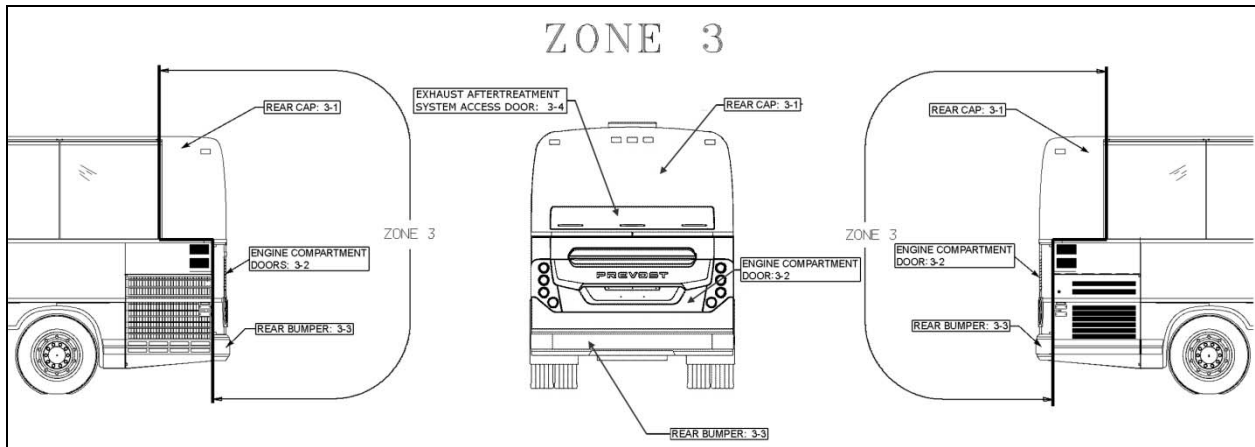


FIGURE 33: ZONE 3

18626

15.3.1 REAR CAP

The fiberglass rear cap does not need any maintenance except painting as needed. If ever it has to be replaced, make an appointment at a Prévost service center near you. For minor damages, refer to Paragraph 4 "Common Fiberglass Repair Procedure" and Paragraph 5 "Common Painting Procedure".

15.3.2 ENGINE COMPARTMENT DOOR

The engine compartment door may be adjusted for proper fit by untightening support bolts:

NOTE

Consult the "BODY PANEL AND WINDOW SPACING DIAGRAM" for proper door gaps adjustment. (Figure 51 Page 61 of this section)

1. To adjust the door VERTICAL position, loosen the bolts (4 on each side) holding the door supporting arm and gas springs bracket to the vehicle structure (Figure 34).
2. To adjust the door LATERAL position, loosen the 3 bolts on the right side bracket holding two of the door supporting arm and gas springs bracket to the door (Figure 34).
3. Adjust the door FORE & AFT position by screwing/unscrewing the rubber door stops on each side of the door opening (Figure 34).
4. Check that the door swings freely and close properly. *It may be necessary to adjust the door latch to get proper fit and operation.*

To adjust the latch mechanism and the striker pin:

1. Open the door to access the striker pin.
2. Slightly loosen the striker pin.
3. Using a hammer, adjust the striker pin to center it in the door latch mechanism.
4. Tighten the striker pin.
5. Check door fit and operation.

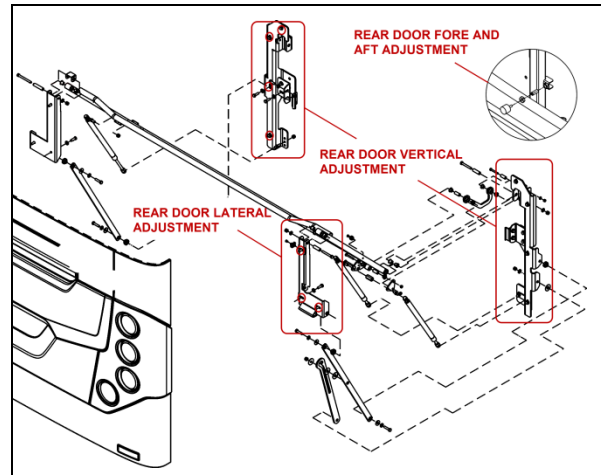


FIGURE 34: ENGINE COMPARTMENT DOOR 18633_1

15.3.3 REAR BUMPER

Remove three bolts on each side holding bumper to vehicle and remove bumper.

To install bumper, reverse the procedure.

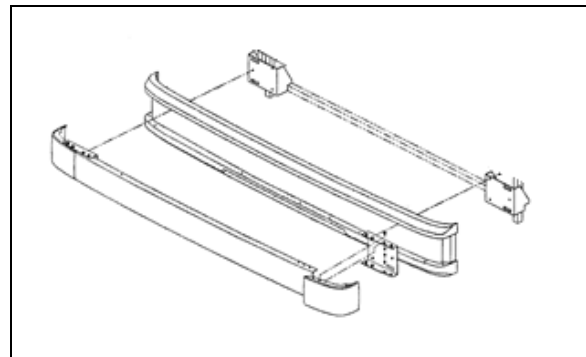


FIGURE 35: REAR BUMPER 18634

15.3.4 EXHAUST AFTERTREATMENT SYSTEM ACCESS DOOR

1. Open exhaust aftertreatment system access door.
2. Loosen the screws holding the panel to hinge assembly.
3. Adjust the door position according to distance required between exterior finishing parts.
4. Tighten the nuts.
5. Check that the door swings freely and closes properly.

15.4 ZONE 4

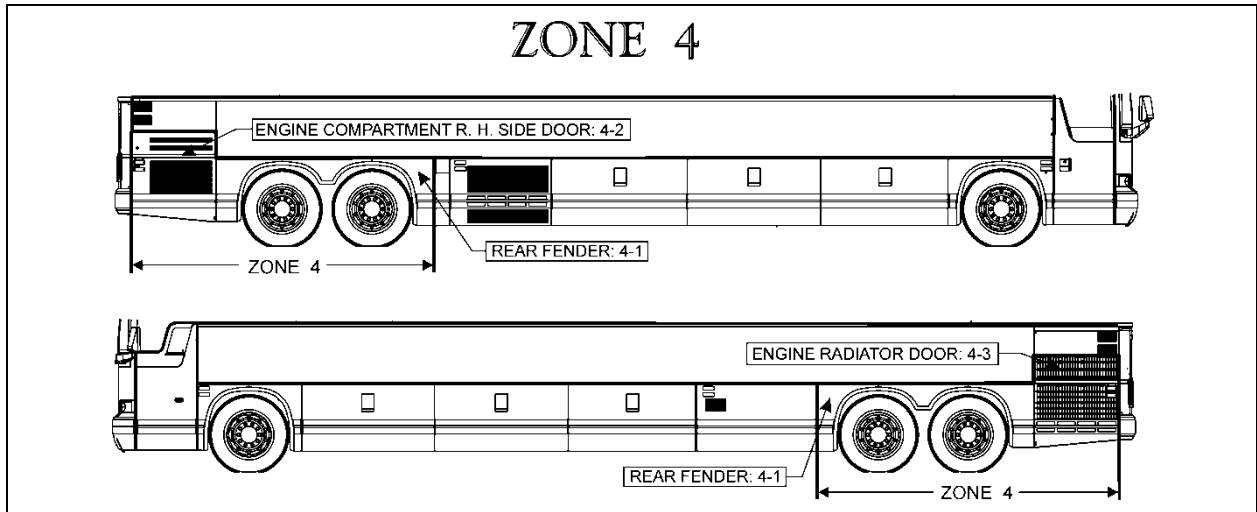


FIGURE 36: ZONE 4

18627

15.4.1 REAR FENDER

On the "X3" series vehicle, rear fenders are hinged for maintenance on brakes and suspension. Each rear fender panel has two mechanical spring loaded holding devices fixing it to the vehicle's structure. Push the spring type rod sideways to disengage the lock.

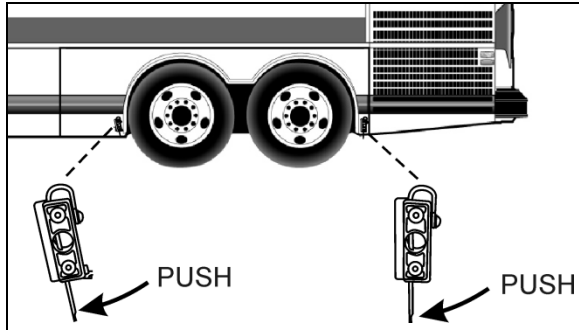


FIGURE 37: LEFT REAR FENDER

15.4.2 ENGINE COMPARTMENT R. H. SIDE DOOR

Engine compartment R. H. side door may be adjusted for proper fit by untightening hinge bolts:

1. Loosen the bolts, (1, Figure 38) holding the hinge to the vehicle structure to shift the door "LEFT or RIGHT".
2. Loosening the bolts (2, Figure 38) allows the door to be shifted "UP or DOWN".

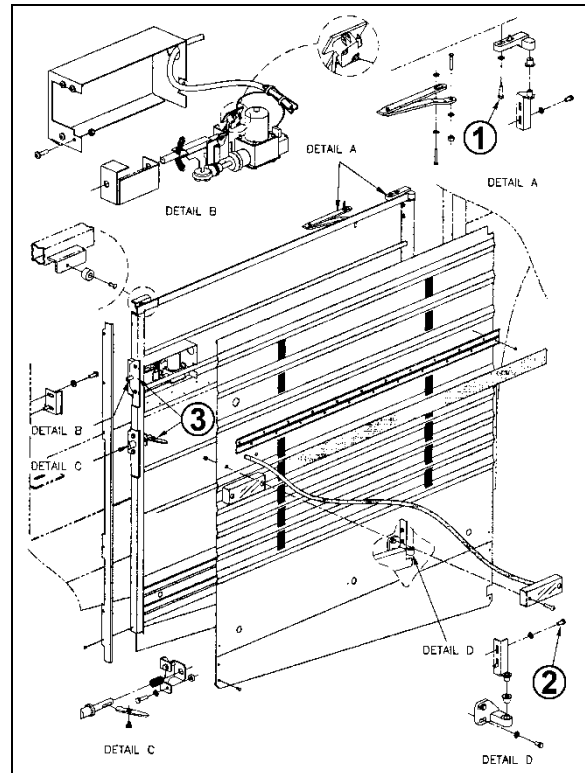


FIGURE 38: ENGINE COMPARTMENT R.H. SIDE DOOR

18635

3. Adjust the door position depending on the gap needed between exterior finishing panels (See 6.8, BODY PANEL AND WINDOW SPACING).
4. Tighten the bolts.
5. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

To adjust the latch mechanism (3, Figure 38) and the striker pin:

1. Open the door to access the striker pin latch.
2. Slightly loosen the latch on the vehicle.
3. Adjust the latch position to allow easy door closing.
4. Tighten the striker pin latch bolts.
5. Check door fit and operation.

15.4.3 ENGINE RADIATOR DOOR

Radiator door may be adjusted for proper fit by untightening hinge bolts:

1. Loosen the bolts, (1, Figure 40) holding the hinge to the vehicle structure to shift the door "LEFT or RIGHT".
2. Loosening the bolts (2, Figure 40) allows the door to be shifted "UP or DOWN".

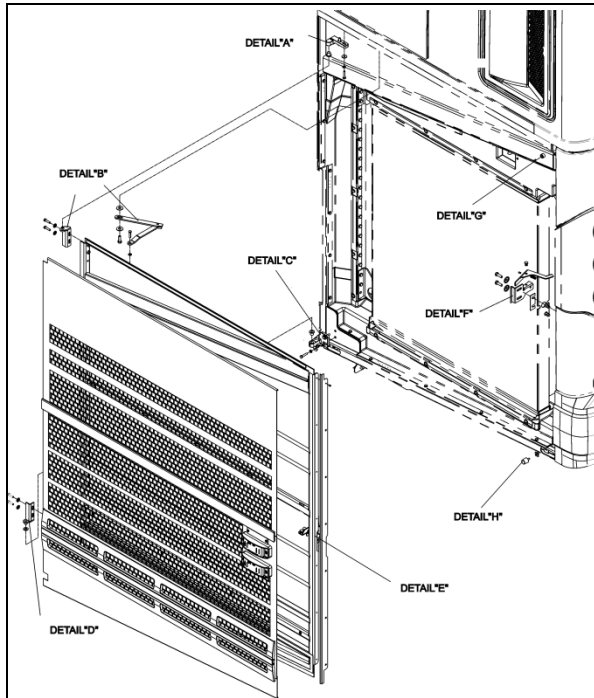


FIGURE 39: RADIATOR DOOR 18636_1

3. Adjust the door position depending on the gap needed between exterior finishing panels (See 6.8, BODY PANEL AND WINDOW SPACING).
4. Tighten the bolts.
5. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

To adjust the latch mechanism (3, Figure 40) and the striker pin:

6. Open the door to access the striker pin latch.
7. Slightly loosen the latch on the vehicle.
8. Adjust the latch position to allow easy door closing.
9. Tighten the striker pin latch bolts.
10. Check door fit and operation.

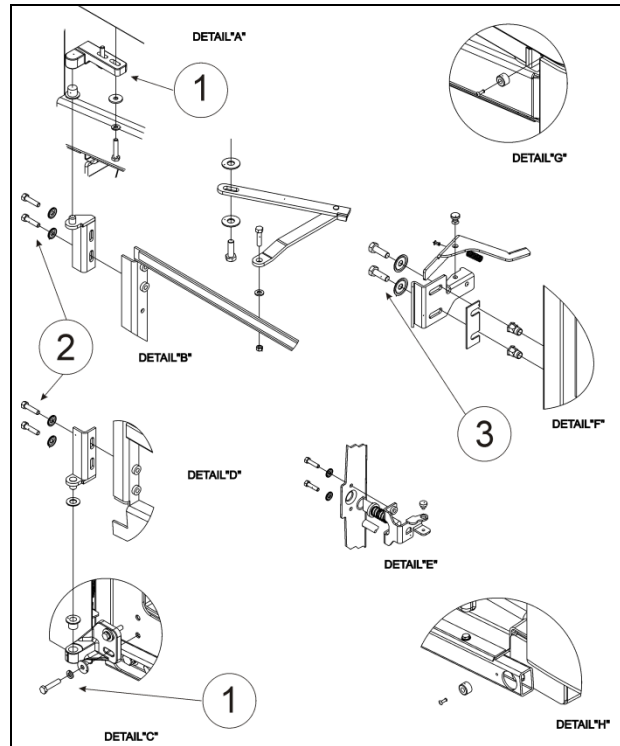


FIGURE 40: RADIATOR DOOR DETAILS 18636_2

NOTE

The striker pin must engage at least 13/32" (10mm). Add spacers between the latch and the vehicle body to adjust the engagement.

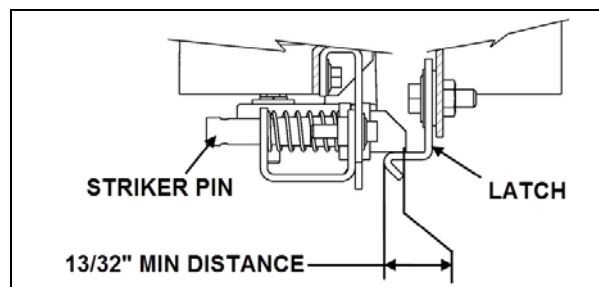


FIGURE 41: STRIKER PIN ENGAGEMENT 18695

NOTE

There should be no gap between the washer and the hinge upper and lower halves.

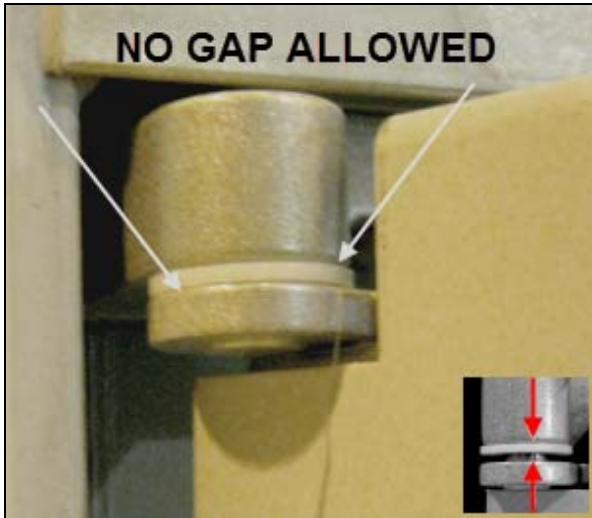


FIGURE 42: HINGE DETAIL

15.5 ZONE 5

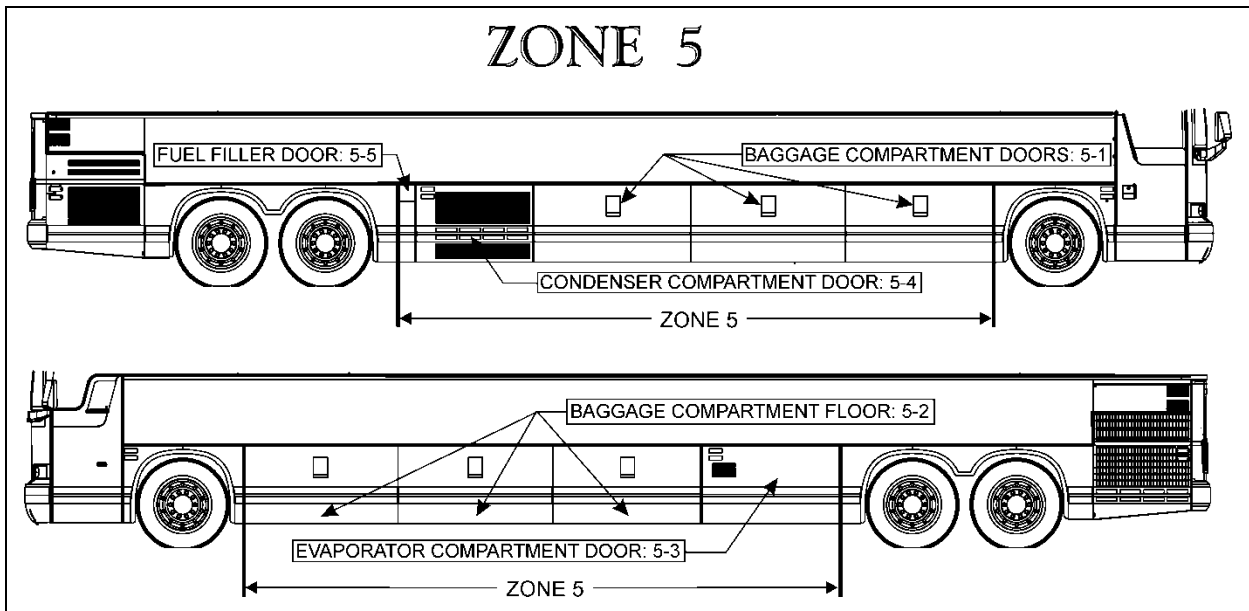
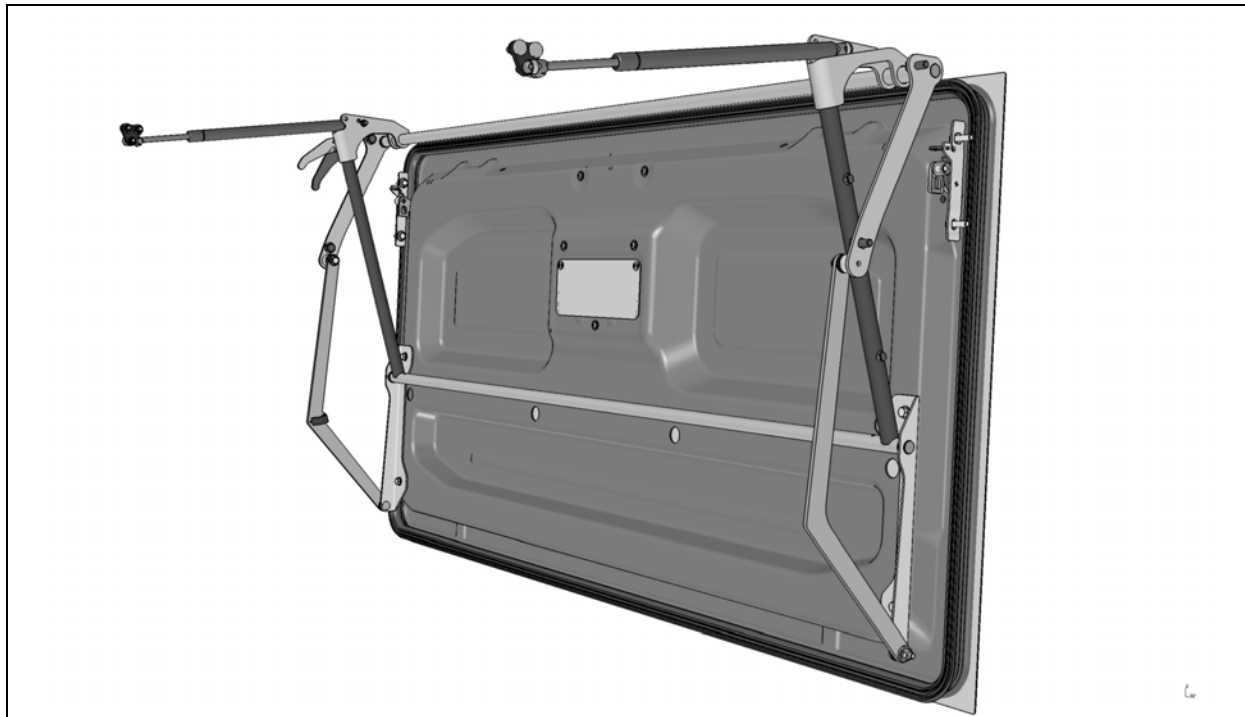


FIGURE 43: ZONE 5

18628

15.5.1 BAGGAGE COMPARTMENT DOORS (ALUMINUM)



For the removal and installation of a baggage compartment door body panel, you will need:

A drill with drill bits;

Pneumatic hammer tool (Zip Gun);

Razor sharp window scraper or putty knife;

- Open damaged compartment door and unfasten rub rail fixing bolts. Remove rub rail.
- Unfasten bolts and disconnect cable if necessary in order to remove door from vehicle.
- Preferably install the door onto a work surface where it can be solidly fixed.

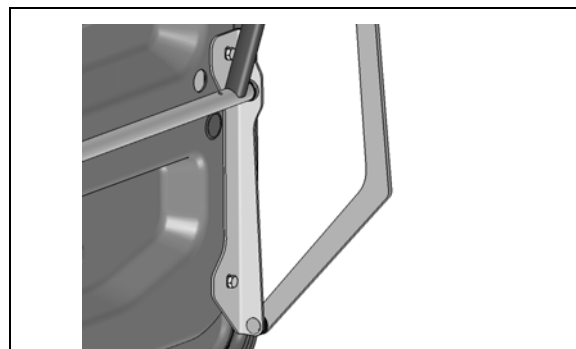
• **Door Panel replacement**

- Refer to SAV10054-67.

• **Baggage Compartment Door Adjustment**

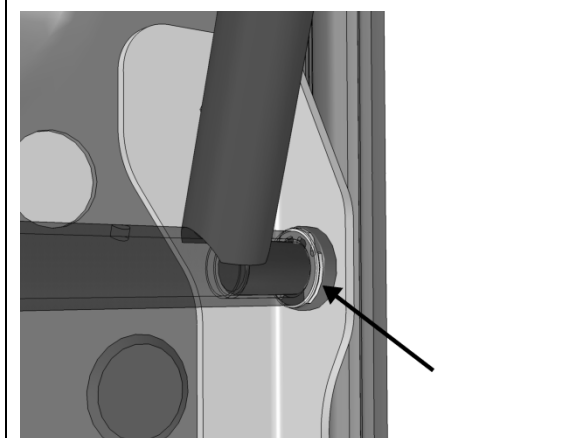
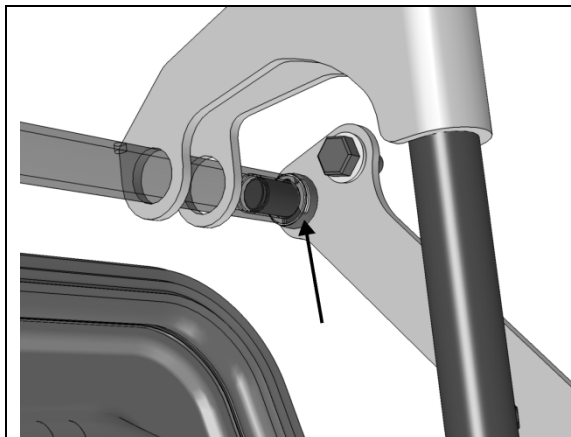
- Adjust door to get a 6mm gap at the top.
- All adjustments are to be made with door closed, unless specified.

NOTE
Vertical adjustment is achieved by moving the door along the mounting plate slots.



- Center door in the opening using the retaining rings.

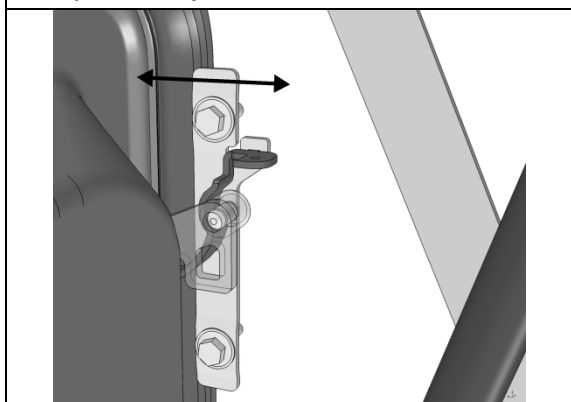
NOTE
Lateral adjustment is made by adding/removing retaining rings in these locations.



- Adjust door position and evenness with reference to adjacent panels and doors.

NOTE

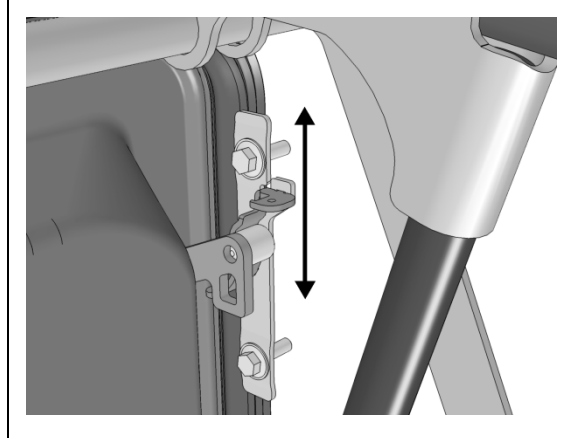
Adjustment is made by moving *IN* or *OUT* the lock plates. Adjust one corner at a time.



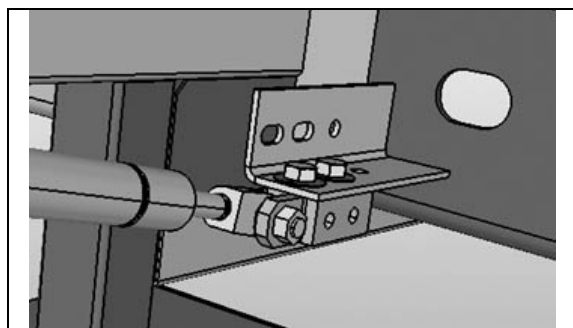
- Check handle adjustment. Handle must remain tight against its plastic housing.

NOTE

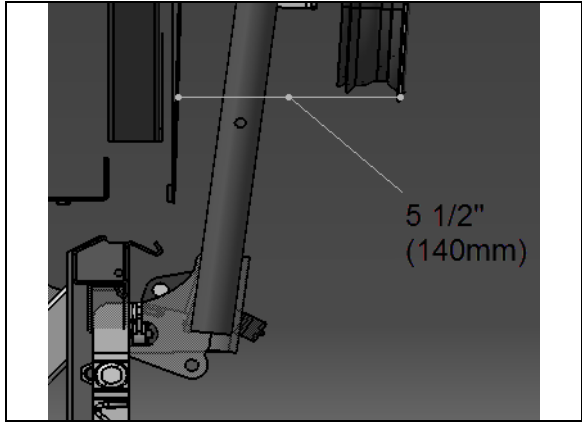
Adjustment is made by moving *UP* or *DOWN* the lock plates.



- Open baggage compartment door and adjust using the cylinder mounting block.

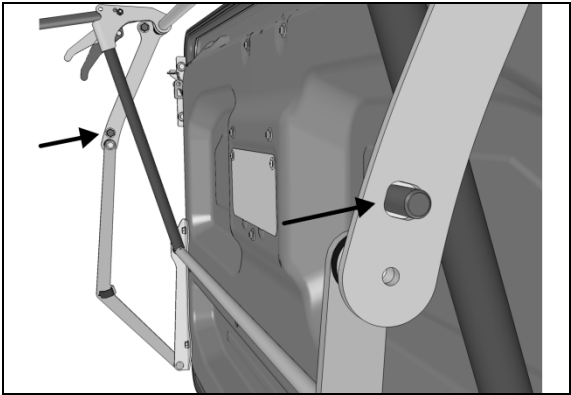


- Door should be adjusted in reference to neighboring doors.
- Target is to have 5 1/2" (140mm) from bus body panel to door panel and +/- 2mm vertically between doors.

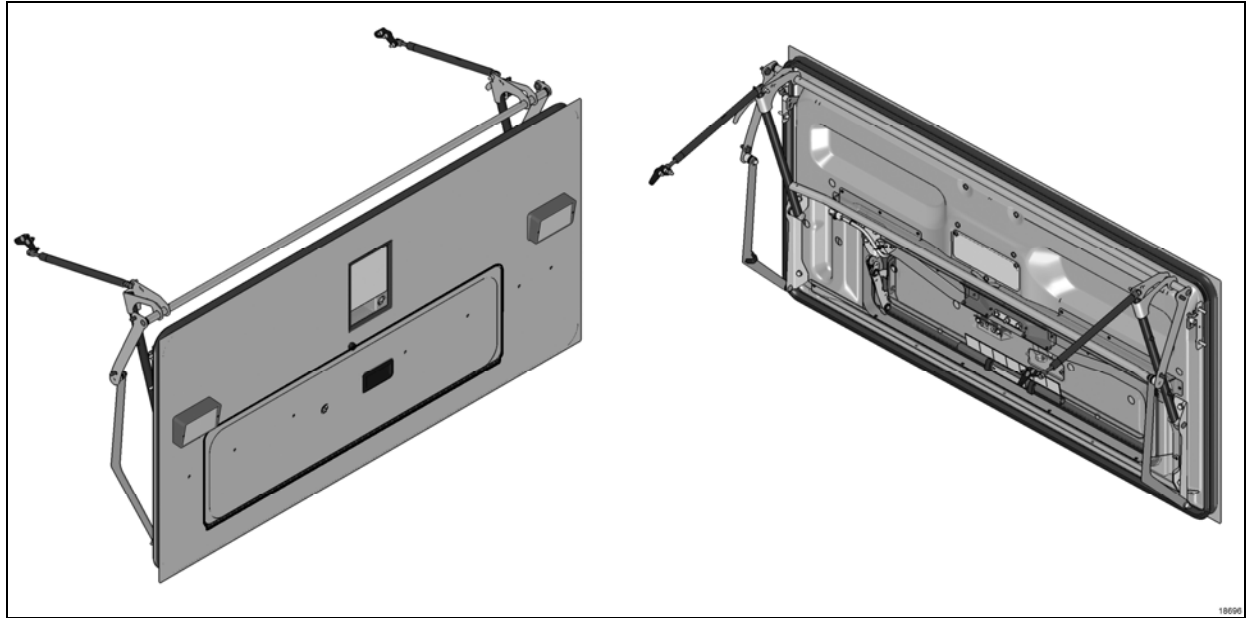


➤ Tighten cylinder block fixing screws.

➤ Door bottom edge compression can be adjusted by moving in or out the pantograph arms at this location.



15.5.2 WHEELCHAIR LIFT CASSETTE COMPARTMENT DOOR



For the removal and installation of a wheelchair lift (WCL) cassette compartment door body panel, you will need:

- A drill with drill bits;
- Pneumatic hammer tool (Zip Gun);
- Razor sharp window scraper or putty knife;

- Open damaged compartment door and unfasten rub rail fixing bolts. Remove rub rail.
- Unfasten bolts and disconnect cable if necessary in order to remove door from vehicle.

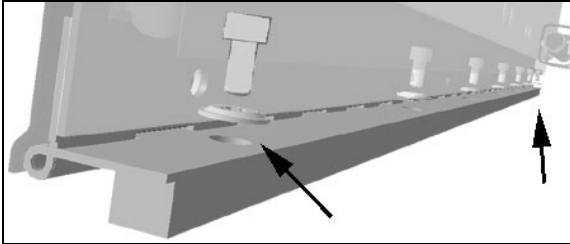
➤ Preferably install the door onto a work surface where it can be solidly fixed.

- **Door Panel replacement**
 - Refer to SAV10054-67.
- **Compartment Door Adjustment**
 - Refer to baggage compartment door procedure.
- **WCL Cassette Door Adjustment**

SECTION 18: BODY

The small door has a piano hinge on its lower edge.

1. Install only two of the mounting screws, at each end to adjust the door.



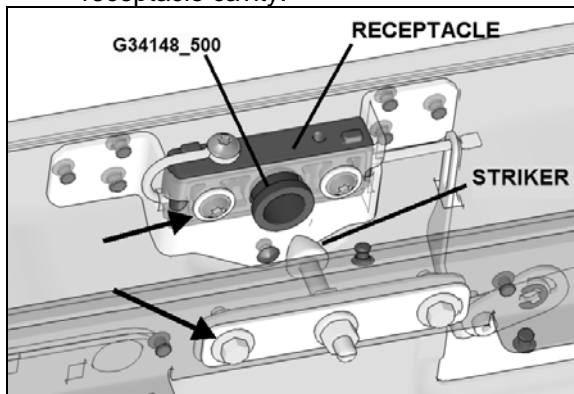
2. Close the door to center the latch mechanism.
3. Tighten screws
4. Check that the door swings freely and closes properly without interference or excessive force

2. Close door and adjust in opening. A 1mm maximum difference between left and right measured gap is accepted.
3. Door should close flush with the larger door panel. Maximum flatness deviation within 1mm.
4. Install the remaining screws and seal with liquid Teflon #680098.

• WCL Cassette Door latch adjustment

To allow adjustment of the latch mechanism, lightly tighten the retaining hardware on receptacle and striker support (arrows).

1. Place centering tool G34148_500 in the receptacle cavity.



15.5.3 EVAPORATOR COMPARTMENT DOOR

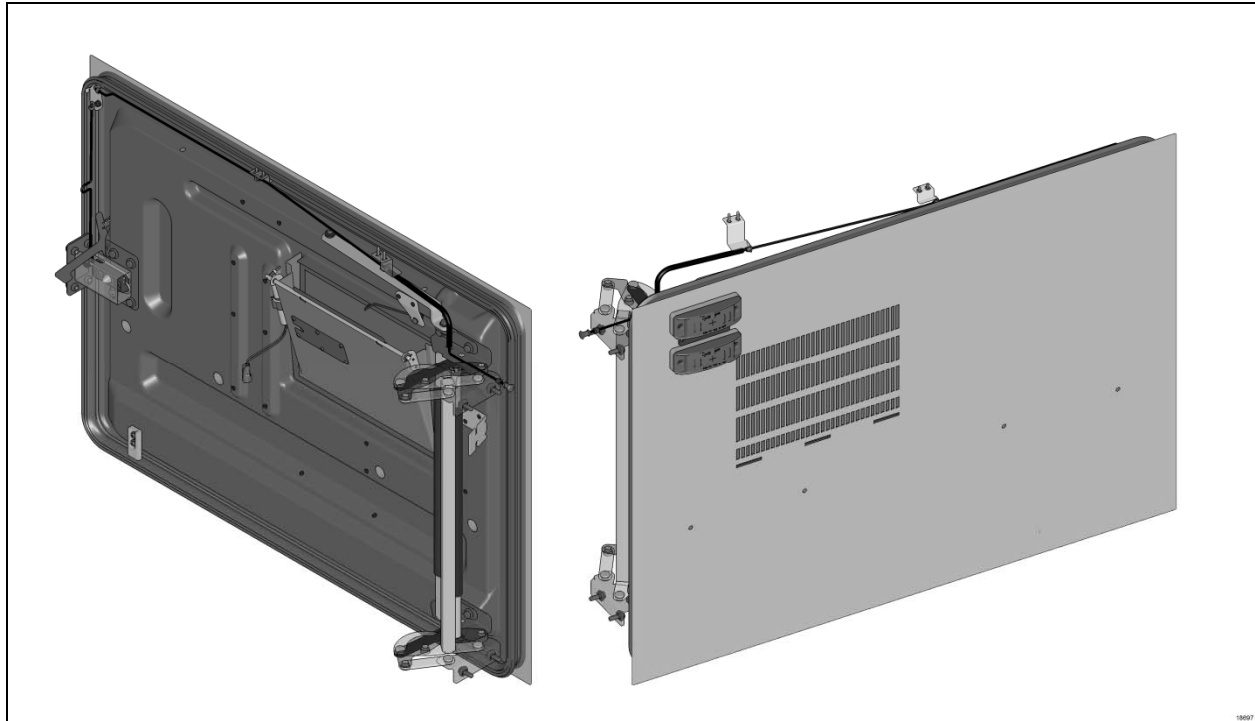
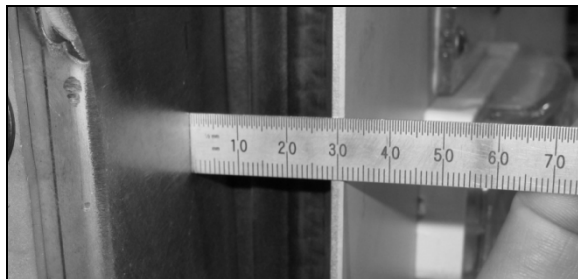


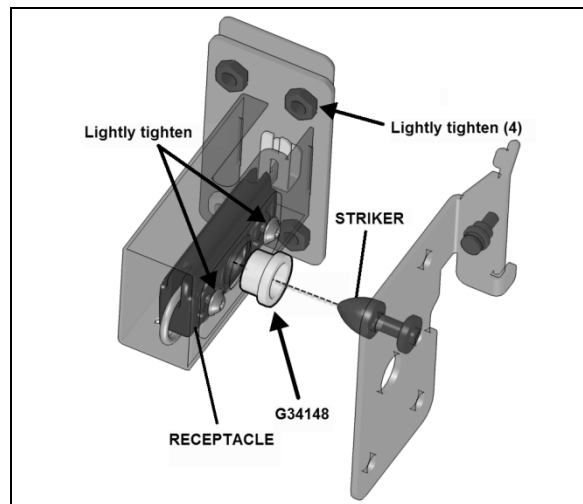
FIGURE 44: EVAPORATOR DOOR (ALUMINUM)

For the adjustment of an evaporator door, you will need:

- Centering tool G34148_500
- **Door adjustment**
 1. Open the evaporator door.
 2. Loosen the screws fixing the hinge to hinge attachment or hinge to door assembly. Loosening the screws allows the evaporator door assembly to be shifted "LEFT or RIGHT" and "UP or DOWN" or "IN and OUT".
 3. Adjust evaporator door assembly position at the hinge.
 4. Door exterior panel on hinge side should be positioned at 29mm +/- 2mm measured from bus frame out.



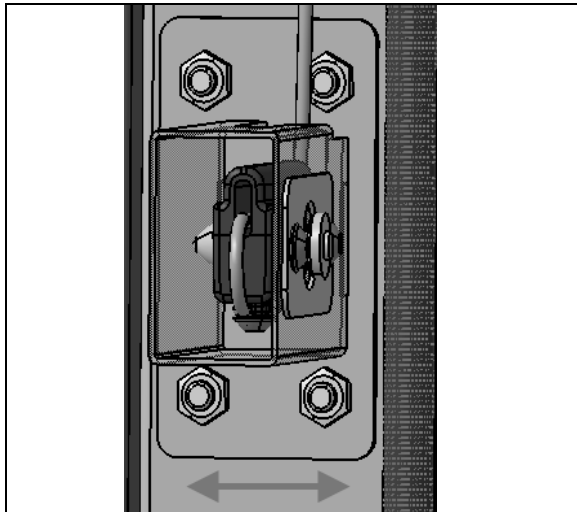
5. Respect the required gap between exterior finishing panels.
6. Tighten the hinge screws.
7. To allow adjustment of the latch mechanism, lightly tighten the retaining hardware on receptacle and receptacle support to frame.
8. Place centering tool G34148_500 in the receptacle cavity.



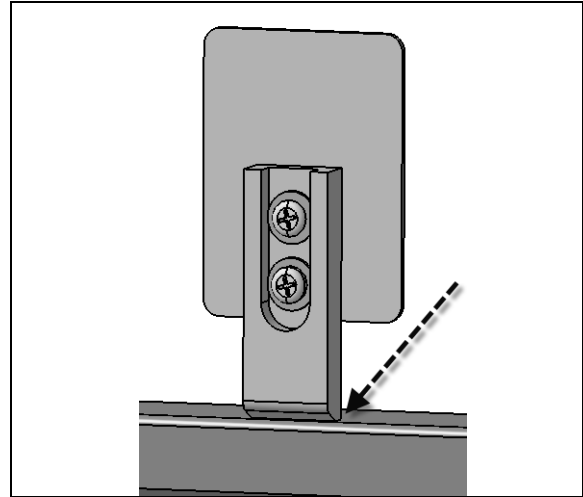
9. Close door to center the latch assembly.
10. Tighten the Receptacle screws only.

SECTION 18: BODY

- 11..Door exterior panel on latch side should be positioned at 8mm +1mm from frame. Make the adjustments by moving the receptacle support.



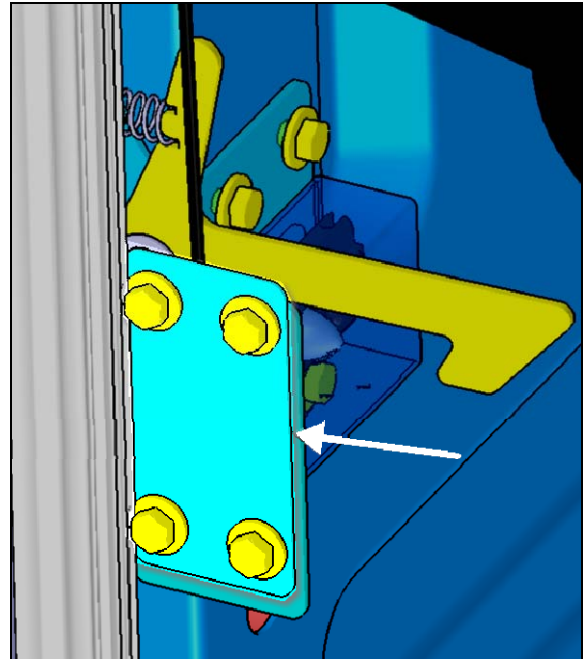
12. Make sure that backing plate is parallel to structure before tightening hardware
13. Make sure that skid bar only touches slightly bus structure at bottom. The door should not move up when closing.



14. Check that the door swings freely and closes properly.

- **Door release in the event of a latch failure.**

If the door release mechanism is damaged or ceases to function for any reason, the door can be released by removing these screws on the fore wall of the fender side, in the water circulation pump and heater compartment



15.5.4 CONDENSER COMPARTMENT DOOR

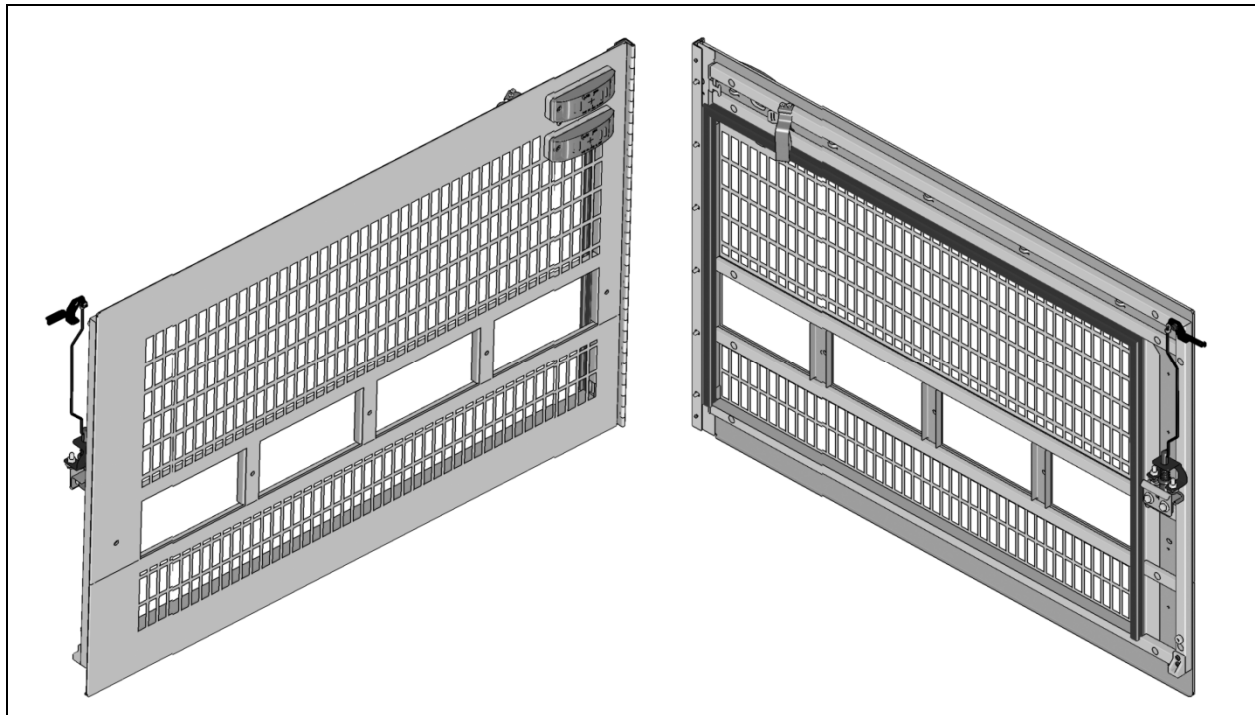


FIGURE 45: CONDENSER DOOR

1. Open the condenser door.
2. Loosen the screws fixing the hinge to hinge attachment or hinge to door assembly. Loosening the screws allows the condenser door assembly to be shifted "LEFT or RIGHT" and "UP or DOWN" or "IN and OUT".
3. Adjust condenser door assembly position at the hinge.
4. Respect the required gap between exterior finishing panels.
5. Tighten the screws.
6. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

4. Tighten the nuts.
5. Check that the door swings freely and closes properly.

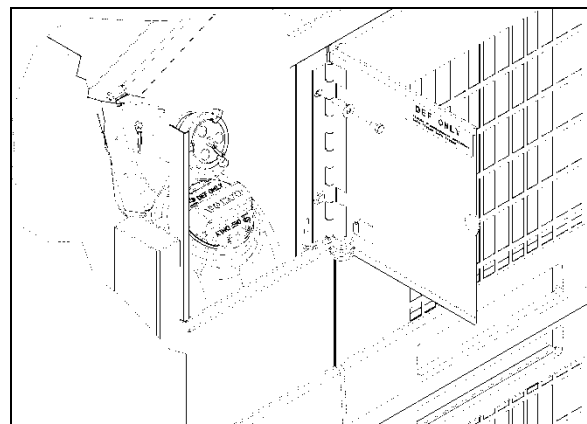


FIGURE 46: FUEL FILLER DOOR

03046

15.5.5 FUEL FILLER DOOR

1. Open the fuel filler door.
2. Loosen the screws holding the panel to hinge assembly.
3. Adjust the fuel filler door position according to distance required between exterior finishing panels.

15.5.6 BAGGAGE COMPARTMENT FLOOR

• **Repair of Mantex Urethane Covering**

Minor Repair

Use "Dupont IMRON" paint. Apply using a paint brush or roller depending on gravity.

SECTION 18: BODY

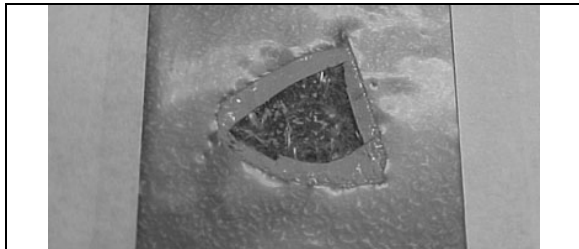
Paint Code: #J4099U

Major Repair (Hole)

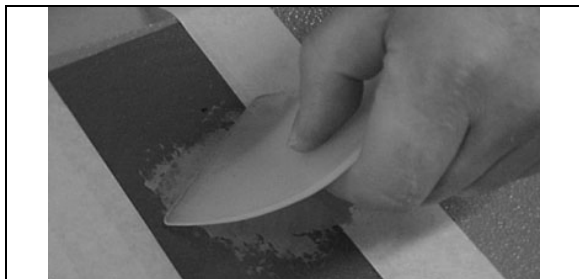
Chamfer the whole perimeter of the damaged area. If applicable, remove loose covering. Remove dust and particles.



Cover and protect damaged area surroundings.



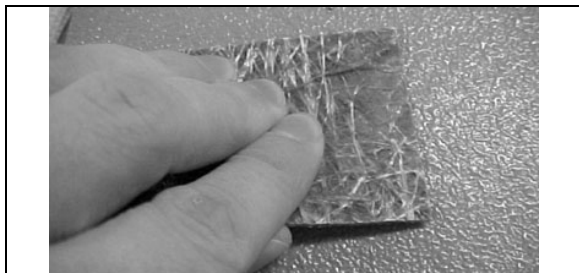
Using a plastic spatula, apply some Sika 221 grey onto the damaged area.



Remove masking tape and protection around damaged area.

Spray pure water onto Sika. Use a floor sample to create some texture onto the adhesive.

If possible spray some more water onto the adhesive to accelerate curing.

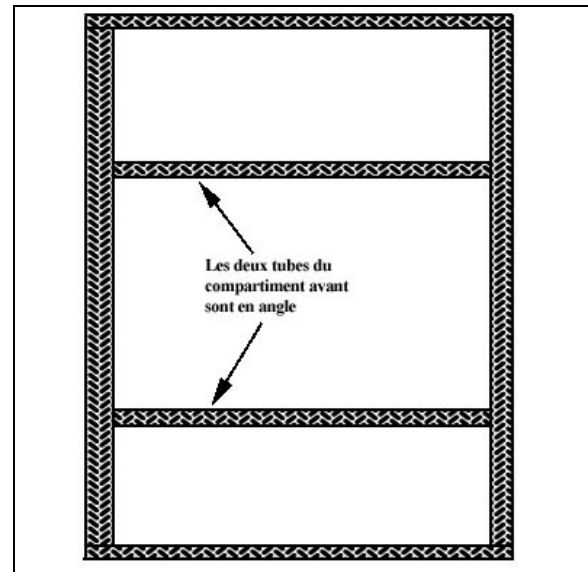


Allow drying for at least **2 hours** then repaint as per paragraph: Minor Repair.

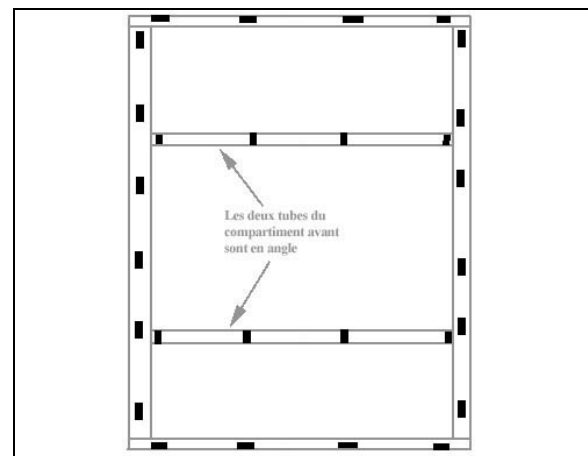
• Baggage Compartment Floor Installation

Preparation and Installation

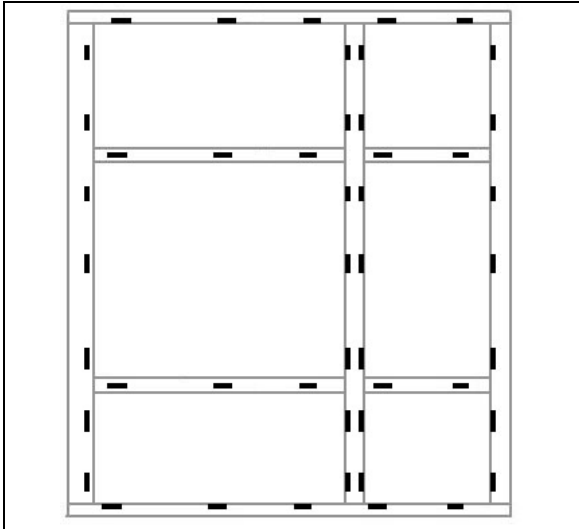
Clean baggage compartment support structure using anti-silicone.



Glue spacers (790392) about 16-inch apart.

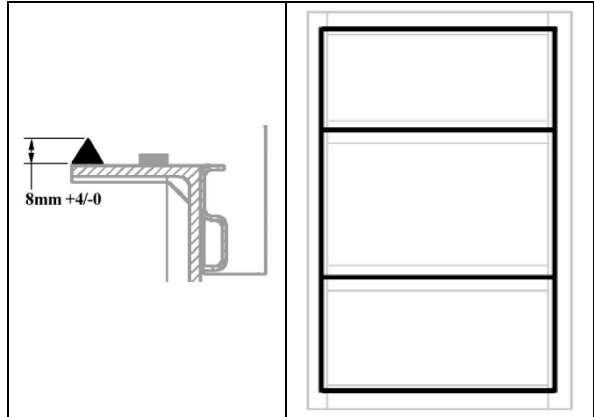


Rear baggage compartment without WCL.

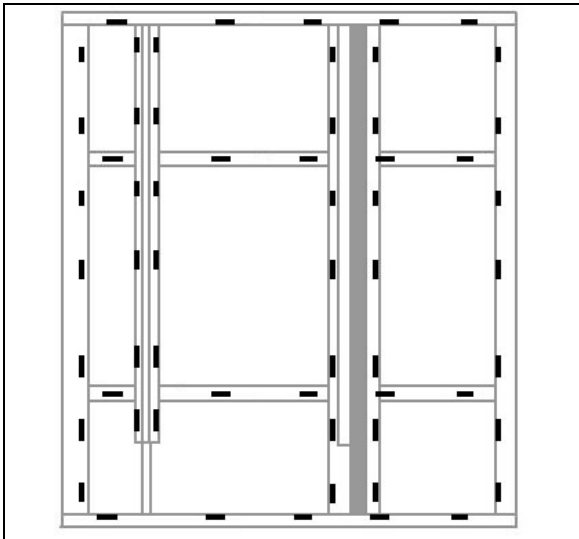


Rear baggage compartment equipped with WCL

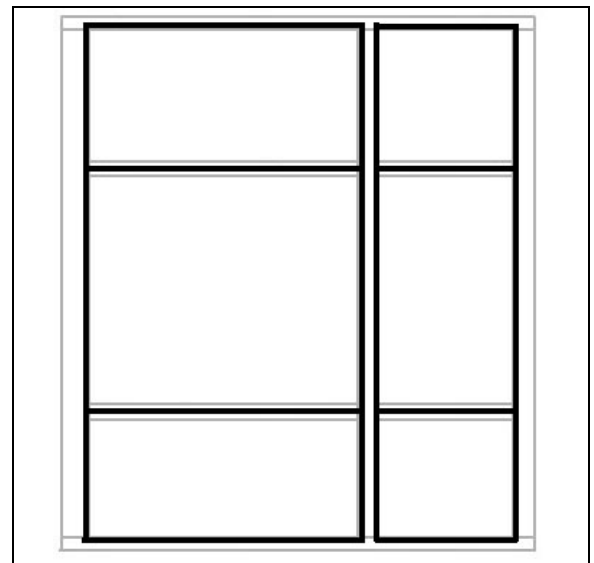
Using a triangular nozzle, apply "Simson" glue (685126) onto support structure.



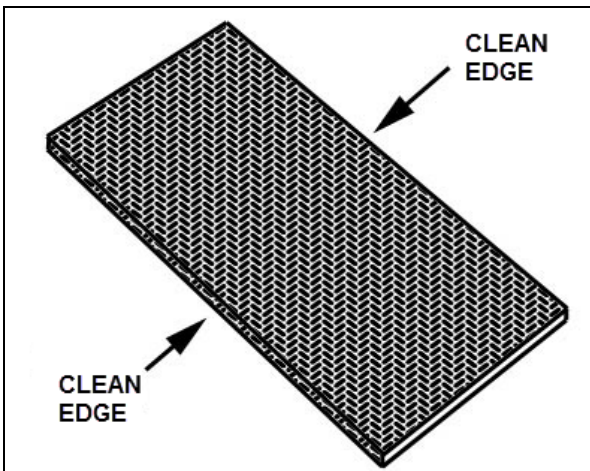
Rear baggage compartment without WCL.

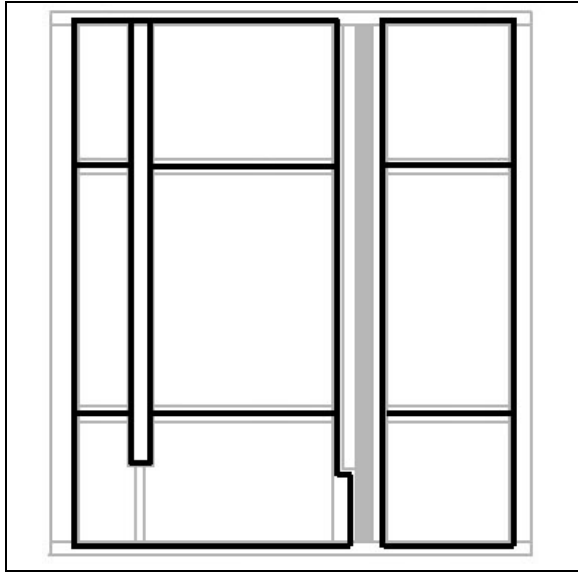


Prepare baggage compartment Mantex floor. Clean panel underside and edges.



Rear baggage compartment equipped with WCL



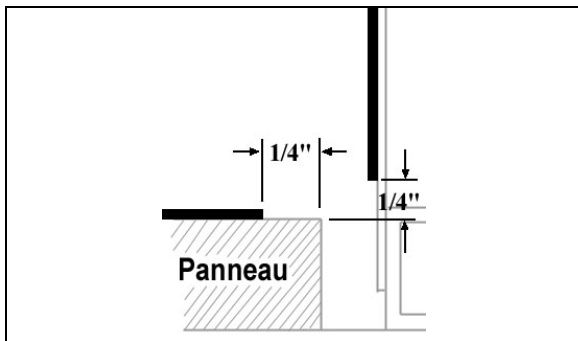


Carefully install panel onto support structure.

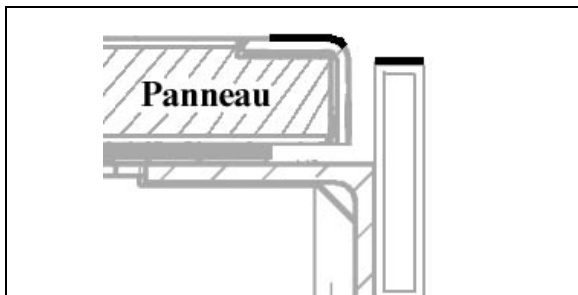
Evenly distribute and install conforming weights (6 to 8) (80 to 100 lbs **total**) onto panel for at least **4 hours**. Make sure panel does not move.

Finishing Joints

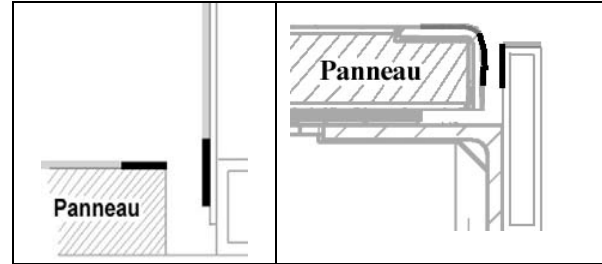
In the case of lateral finishing joint, apply some masking tape $\frac{1}{4}$ " from panel edge and $\frac{1}{4}$ " above panel.



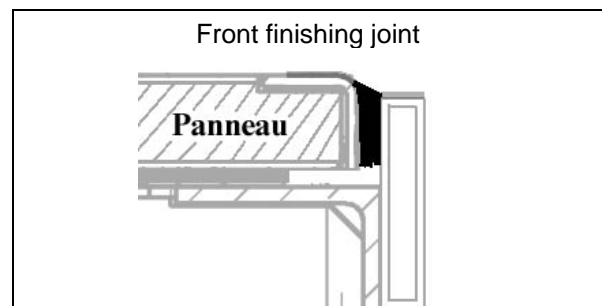
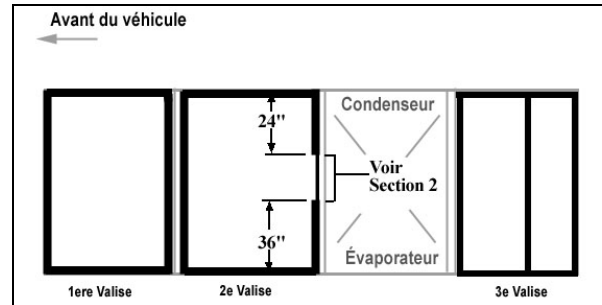
In the case of front finishing joint, apply some masking tape on each side of joint.



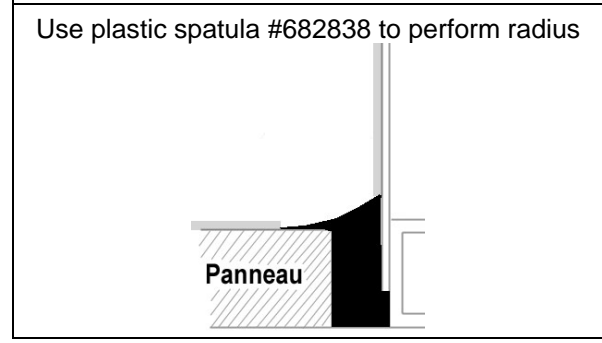
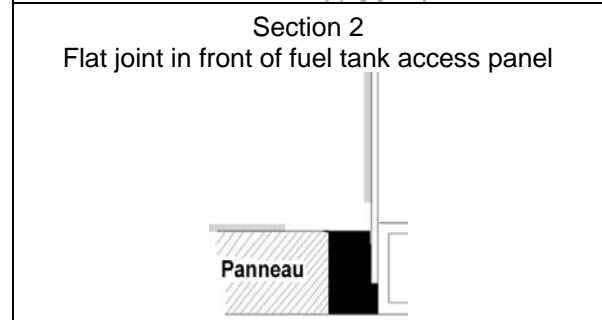
Clean with anti-silicone the area where the Simson glue will be applied.



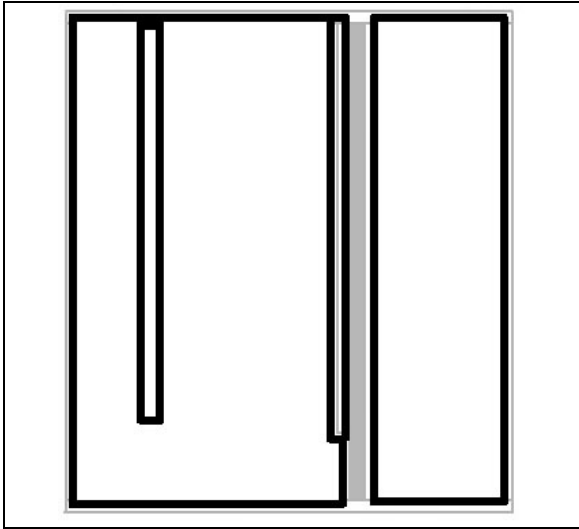
Apply some Simson glue to fill the gap.



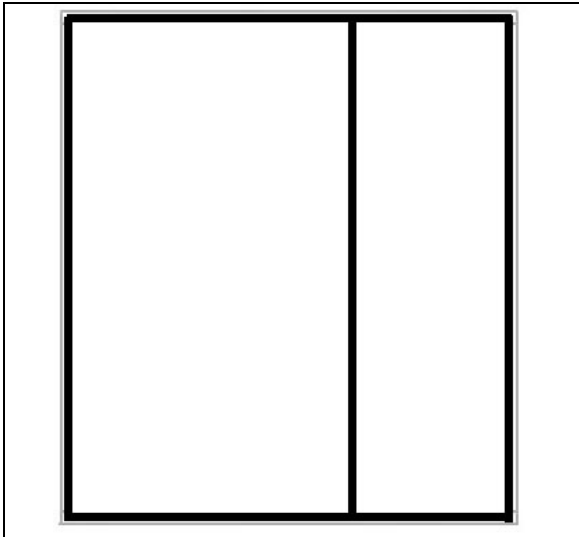
Front finishing joint



Rear baggage compartment equipped with WCL



Rear baggage compartment without WCL.



Remove masking tape.

Smooth down joints using soapy water.

15.5.7 FUEL FILLER DOOR

6. Open the fuel filler door.
7. Loosen the screws holding the panel to hinge assembly.
8. Adjust the fuel filler door position according to distance required between exterior finishing panels.
9. Tighten the nuts.
10. Check that the door swings freely and closes properly.

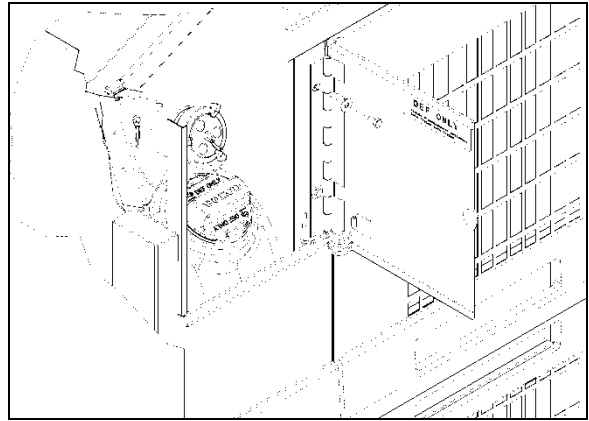


FIGURE 47: FUEL FILLER DOOR

03046

15.6 ZONE 6

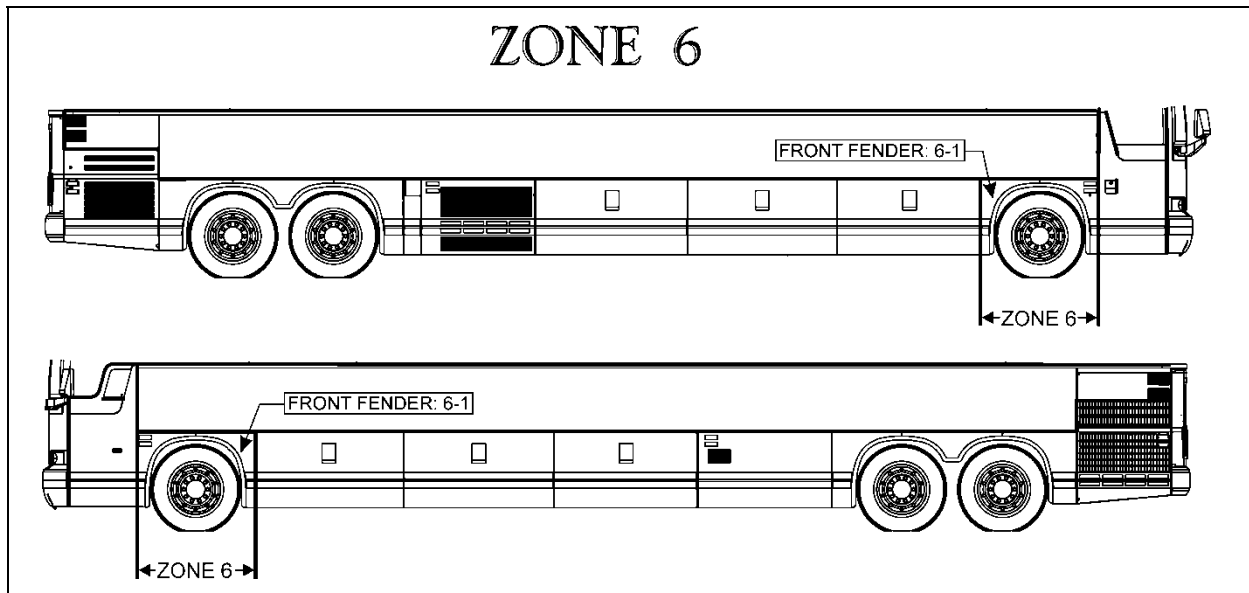


FIGURE 48: ZONE 6

18629

15.6.1 FRONT FENDER

Front fender may be removed using the following procedure:

Remove the nuts on the inside of the fender. Remove the fender from the vehicle. To reinstall, reverse the procedure.

15.7 ZONE 7

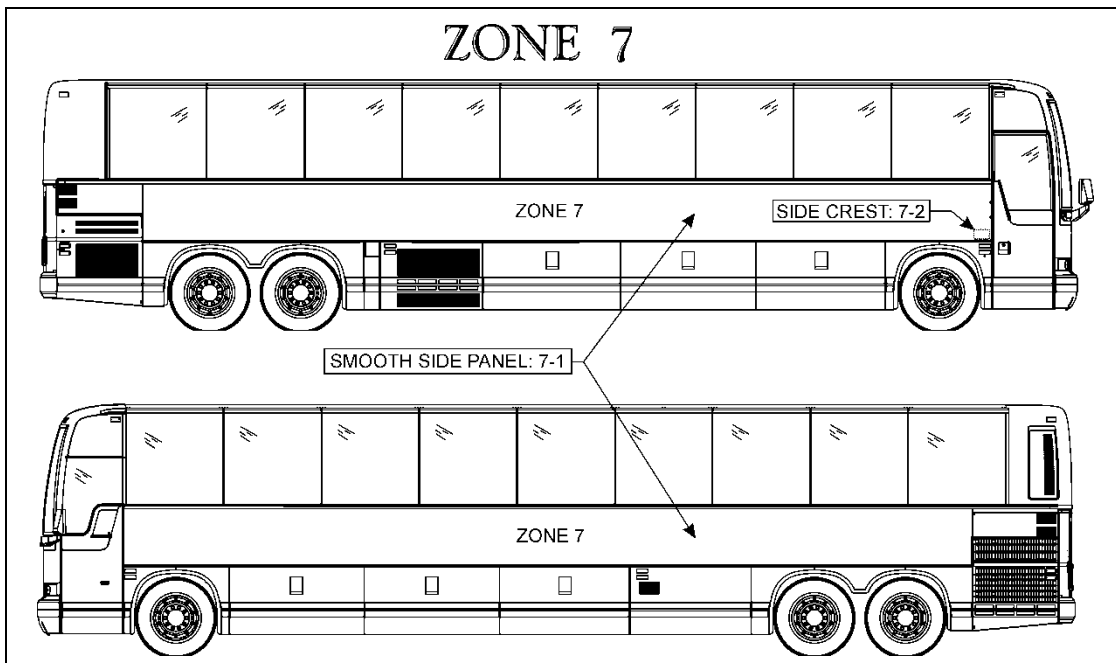


FIGURE 49: ZONE 7

18630

15.7.1 X3 SMOOTH SIDE PANEL REPLACEMENT PROCEDURE

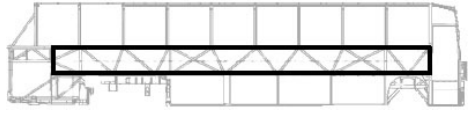

Material:

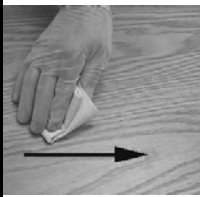
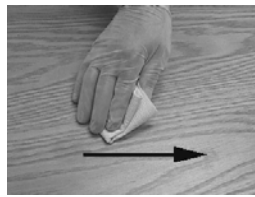
Anti-silicone (682989)	√	Scotchbrite gray (680226)	√	Sika 221 gray	√
CHIX cloth (682384)	√	Sika 205 1liter (683097)	√	Sika 252 black	√
Blue cloth (682383)	√				

Equipment:

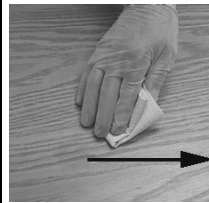
Glue gun	√	
Pencil	√	

SECTION 1 SMOOTH SIDE PANEL REMOVAL		
1.00	REMOVAL	
	A)	Remove finishing molding. Insert a screwdriver into snap-on finishing molding joint. Bend finishing molding enough to be able to fix a pair of locking pliers. Using the pair of locking pliers, pull the stainless steel molding and at the same time gradually cut Sika bead with a sharp knife.
	B)	Using a hammer and punch, drive out rivet shanks from top and bottom and from front and rear finishing molding supports. Use a #11 titanium drill bit to remove rivet heads.
	C)	Grind tig weld spots at each end of side panel.
	D)	Safely support or temporary fix side panel.
	E)	Insert a flat screwdriver between the side panel and the vehicle chassis, in the top left and right corners. Make sure to separate side panel from structure.
	F)	Use the c-clamp to separate the side panel from the back structural panel and at the same time gradually cut Sika bead with a sharp knife.
	G)	Remove as much glue as possible from the structure using a putty knife or pneumatic knife without damaging 206 G+P primer.
H)	Check panel horizontal supports for straightness using a straight edge. Take measurements with a ruler.	
		Be careful not to damage the adjacent surfaces.
		Warning: Panel weights over 200 pounds
		Be careful not to damage the adjacent surfaces.
		Ideally, the hoist or chain block must be fastened to the floor while pulling from a 45° angle so as not to damage the vehicle structure
		Never heat SikaFlex adhesive to remove.
		Tolerance : 1mm towards the outside and 1.5mm towards the inside.

SECTION 2 SURFACE PREPARATION			
2.00	VEHICLE SURFACE PREPARATION		
	A)	Clean using "anti-silicone" until all clothes come clean. See PR000001 section A.	
	B)	Use the belt sander (grit coarse) Use a new paper on each vehicle side.	
	C)	Clean using "anti-silicone" until all clothes come clean. See PR000001 section A.	
D)	Apply – Sika 205 See PR000001 section B.		
2.05	SIDE PANEL PREPARATION		
	A)	Clean using "anti-silicone" until all clothes come clean. See PR000001 section A.	
	B)	Use the belt sander (grit coarse) Use a new paper on each vehicle side panel.	
	C)	Clean using "anti-silicone" until all clothes come clean. See PR000001 section A.	
D)	Apply – Sika 205 See PR000001 section B.		

SAV00001 Section A Alcohol or Anti-silicone	
	1. Apply <div style="border: 1px dashed black; padding: 2px; display: inline-block;">CHIX cloth</div>
	2. Dry immediately <div style="border: 1px dashed blue; padding: 2px; display: inline-block;">Blue cloth</div>
3. Allow to dry	
Mandatory	Minimum time : Wait for product to evaporate After 2 hours: Start cleaning operation again
Before applying any other product	If surface seems dusty, greasy or with finger marks, start cleaning operation again.

Section B Sika 205



1. Apply

CHIX cloth

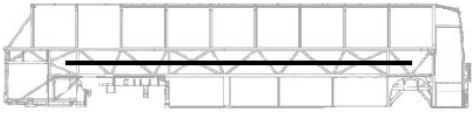
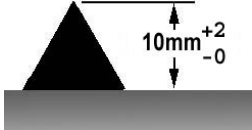
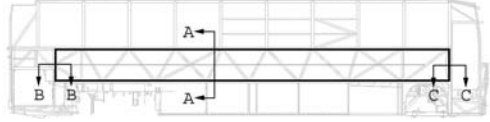


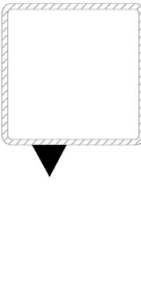


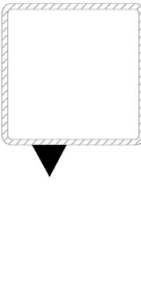


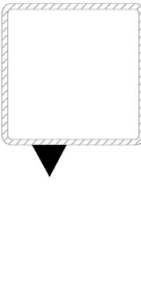
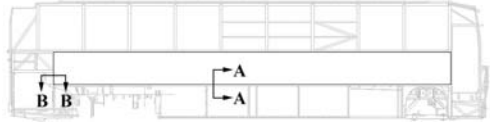
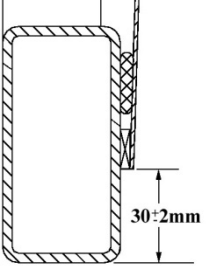
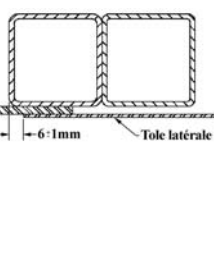
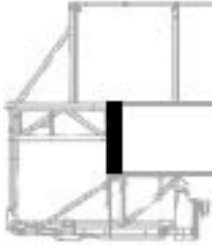
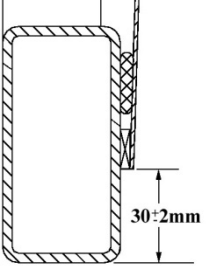
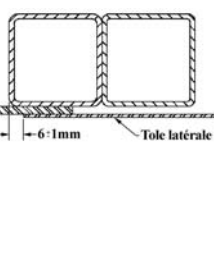
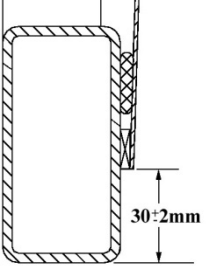
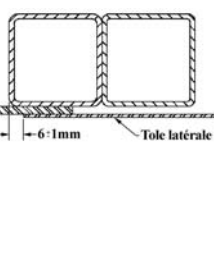
2. Allow drying




Mandatory	Minimum time	- For a smooth surface (aluminum, stainless, steel, fiber glass (gelcoat side), etc.):	2 minutes
		- Pour a porous surface (fiber glass (non gelcoat side), etc.)	10 minutes
After 2 hours : Reactivate surface with Sika 205			
Before applying any other product	If surface seems dusty, greasy or with finger marks, start operation again.		

SECTION 3 SIDE PANEL INSTALLATION

3.00	A)	Using a pencil, mark the double-face self adhesive tape position onto vehicle side.	
	B)	Apply 1/8 X 1/2" double-face tape as per marking.	
	C)	Compress tape	
	D)	Remove protective film from double-face self adhesive tape center section.	

SECTION 18: BODY


3.05	Install 1/8 X 1/2" foam tape onto middle reinforcement then compress.							
3.10	<p>Apply Sika 252</p>  <ul style="list-style-type: none"> - Onto vehicle surface - Cut nozzle as per template - Use the guide for the application <p>Bead must be continuous for the whole perimeter.</p>	 <table border="1" data-bbox="950 556 1437 898"> <thead> <tr> <th data-bbox="950 556 1107 598">Section A-A</th> <th data-bbox="1107 556 1281 598">Section B-B</th> <th data-bbox="1281 556 1437 598">Section C-C</th> </tr> </thead> <tbody> <tr> <td data-bbox="950 598 1107 898">  </td> <td data-bbox="1107 598 1281 898">  </td> <td data-bbox="1281 598 1437 898">  </td> </tr> </tbody> </table>	Section A-A	Section B-B	Section C-C			
Section A-A	Section B-B	Section C-C						
								
3.15	<p>A) Install side panel onto support jig.</p> <p>B) Position side panel in front of vehicle structure</p> <p>C) Perform final adjustment to make sure that side panel is true and square</p> <p>D) Sand rear of side panel 2" wide</p> <p>E) Perform tig spot welding (1" apart)</p>	 <table border="1" data-bbox="950 1066 1437 1411"> <thead> <tr> <th data-bbox="950 1066 1193 1108">Section A-A</th> <th data-bbox="1193 1066 1437 1108">Section B-B</th> </tr> </thead> <tbody> <tr> <td data-bbox="950 1108 1193 1411">  </td> <td data-bbox="1193 1108 1437 1411">  </td> </tr> </tbody> </table> <ul style="list-style-type: none"> - 30 mm. ± 2 with reference to bottom tubing - 6 mm ± 1 with reference to vertical tubing  <p>Quantity of "tig spot": 30 minimum.</p>	Section A-A	Section B-B				
Section A-A	Section B-B							
								

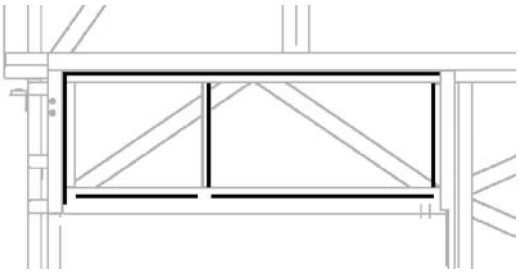

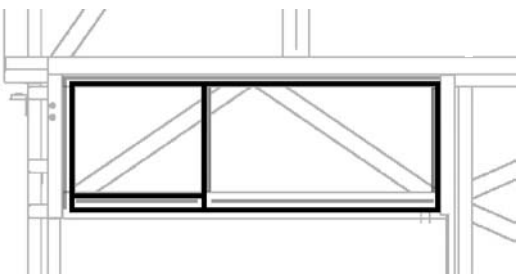
3.20	A)	Install pulling equipment at the other end of side panel	
	B)	Make a final adjustment in height	
	C)	Sand front of side panel 2" wide	
	D)	Pull side panel so that panel moves 1/8"	Make sure the equipment pulls along the whole width of side panel
	E)	Perform tig spot welding	Quantity of "tig spot": 30 minimum.
3.30	Remove pulling equipment		
3.40	A)	Remove protective film from double-face self-adhesive tape.	
	B)	Compress top and bottom section of side panel	
3.50	A)	Cut excess of side panel. Make sure that cut is parallel with tubing.	
	B)	Grind side panel end to line up with door tubing.	
3.60	To seal each panel end, apply masking tape on each side of side panel joint. Use a caulking nozzle and grey Sikaflex 221 adhesive to fill the cavity between the panel and vehicle structure. Clean using Sika 205. Allow 5 minutes minimum for drying.		





SECTION 18: BODY

	Wear surgical gloves and smooth down the joint with your finger.	
--	--	--

SECTION 4 ENGINE AIR INTAKE PANEL INSTALLATION

4.00	Make sure that sealing of structure has been performed properly	
4.05	Prepare vehicle surface as for side panel.	Refer to step # 2.00
4.10	Prepare air intake panel as for side panel	Refer to step # 2.05

4.15	Install foam tape 1/8" X 1/4" onto structure, as shown in picture	
4.20	Install foam tape 1/16" X 1/4" onto air intake panel pleat	
4.25	Apply a bead of 252 onto structure as per picture Important: Make sure bead is continuous Triangular bead: 10mm x 8mm	
4.30	Install panel onto structure	Use a jig to make sure that panel is lined up with engine door tubing.
4.40	Use a brush to compress Sika bead	

5.00 *	Finition Joint		
	A)	Install a protective tape onto the tubing above welding	
	B)	Apply Sika 205 Use a plastic spatula inside a Chix cloth to ensure that Sika 205 reaches as far as the corner. See PR000001 section B.	
	C)	Apply Sika 252 black at the junction of both tubing. Smooth down the joint	
	D)	Remove protective tape	

15.7.2 SIDE CREST

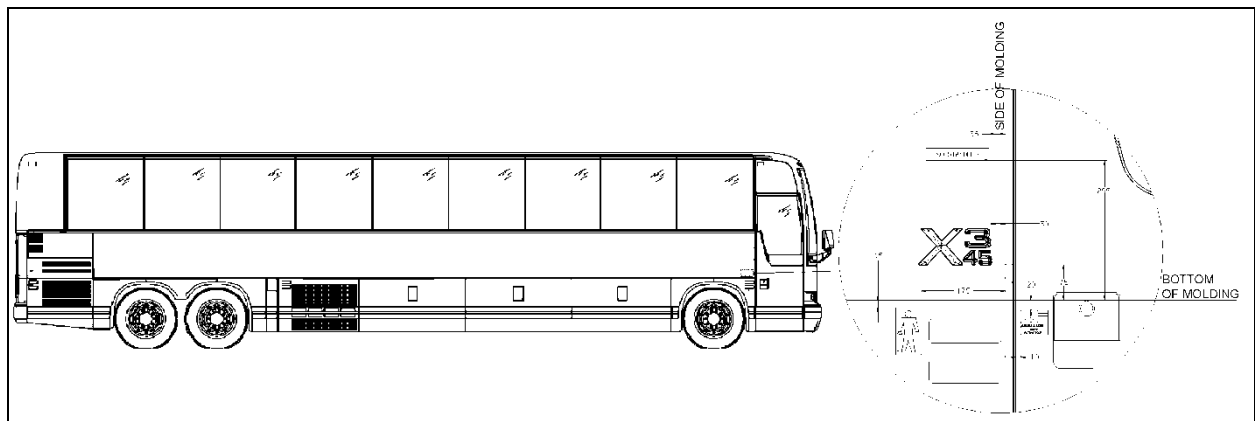


FIGURE 50: SIDE CREST POSITIONING

18639

- Clean vehicle surface using anti-silicone where the side crest and stickers will be applied.
- Using hands apply and compress side crest.
- Apply required stickers.

16. BODY PANEL AND WINDOW SPACING

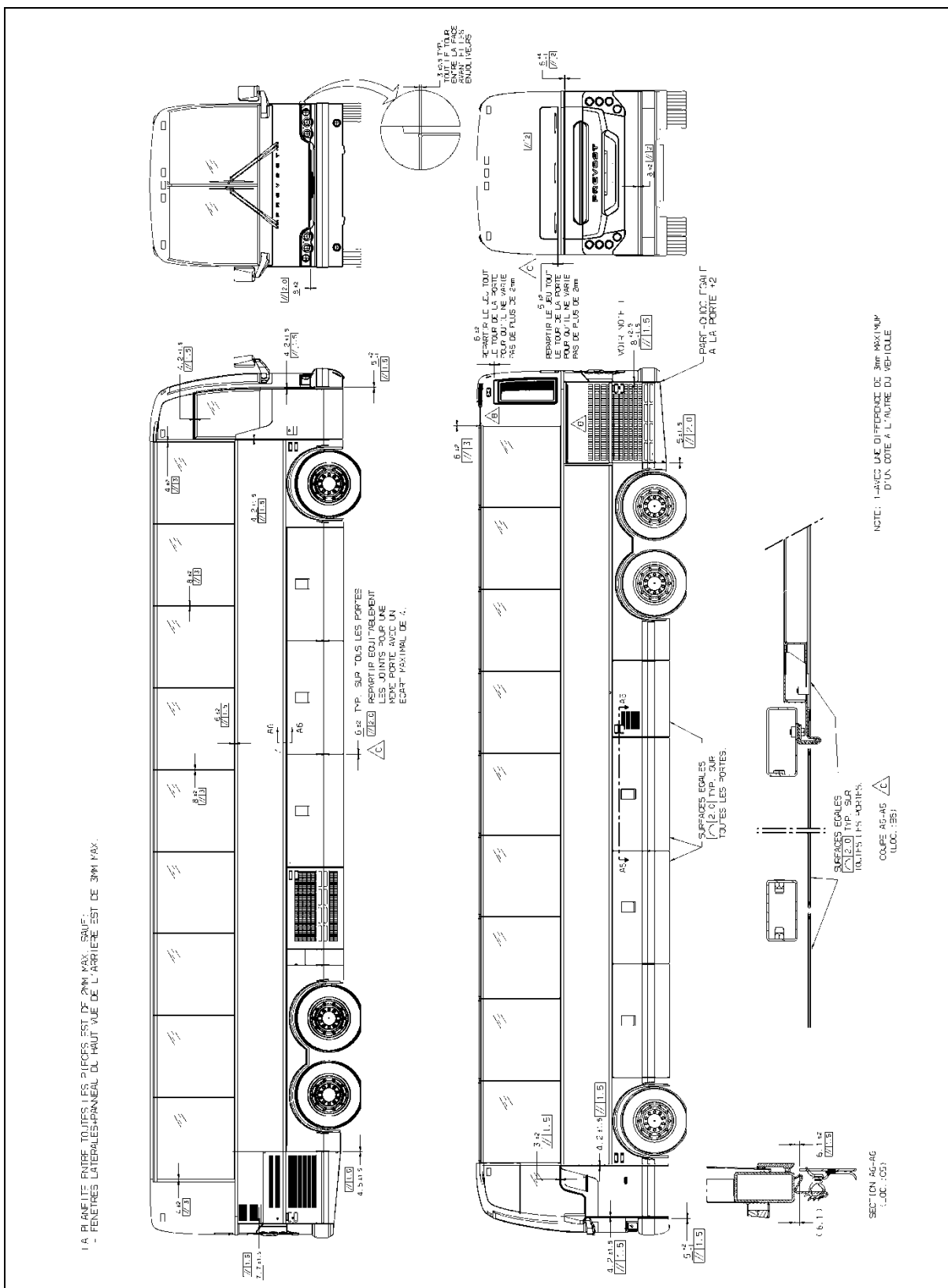


FIGURE 51: BODY PANEL AND WINDOW SPACING (TYPICAL)

17. PASSENGER SEATS

This vehicle is equipped with American Seating W2005 model seats:

Each pair of fixed seats is built on a welded steel frame fastened to the side wall and on a track-mounted pedestal.

W2005 model; seats have 2 armrests. The aisle armrests can be folded up and down manually, while the window armrest is fixed.

Sliding flip-up seats are installed in the mid-section of the bus to accommodate wheelchairs. These seats are track mounted.

17.1 Removing Fixed Seats

NOTE
Curb side and street side seats are not interchangeable.

To remove fixed seats, proceed as follows:

1. For ease of access, remove the nuts holding each seat cushion from under the front part of the seat frame.
2. Lift front part of cushions and remove.

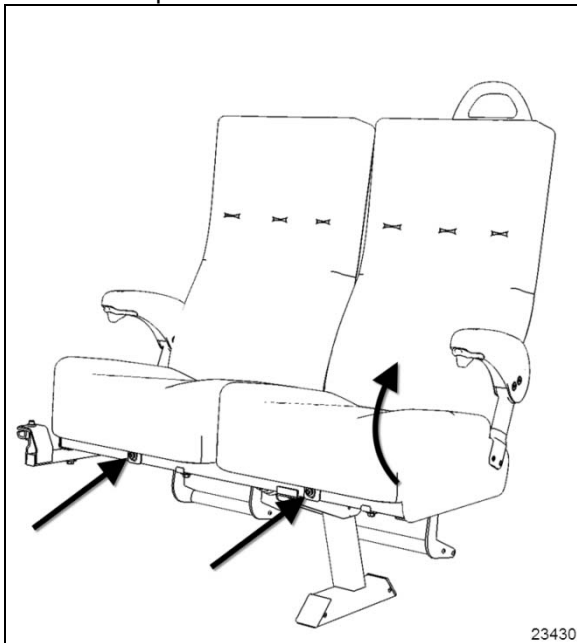


FIGURE 52: CUSHION REMOVAL

3. On wall side, remove the cap screws and washers holding seat frame to wall and keep the "J" clamp brackets.

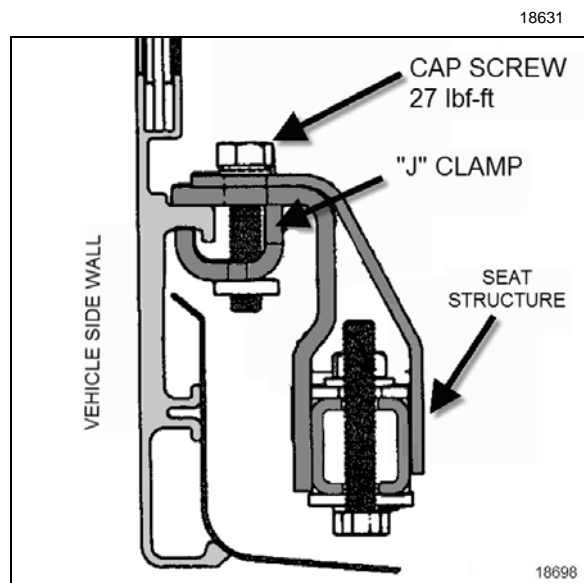


FIGURE 53: WALL BRACKET

4. Remove the T-pedestal caps. Remove the 2 nuts and washers holding seat to track.

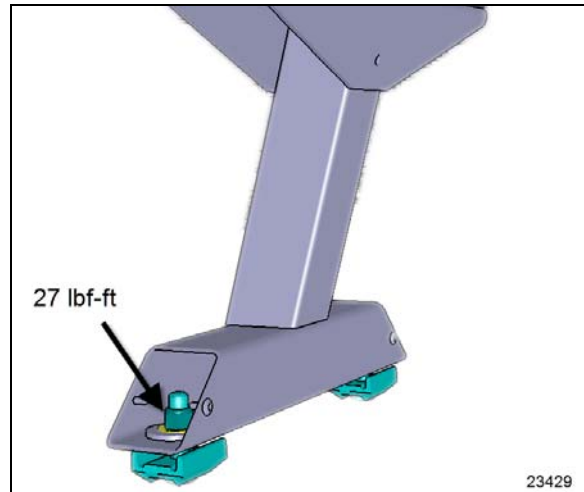


FIGURE 54: SEAT PEDESTAL ASSEMBLY

5. Remove seat assembly.
6. Follow procedure in reverse order to re-install seat.
7. Tighten rail and pedestal hardware to 27 lbf-ft (dry). Apply torque seal mark.

17.2 Upholstery Maintenance

Seat fabric for this vehicle is Holdsworth BVD011.

For both appearance and wear resistance, clean at regular intervals before dirt, dust and grit have been ground into the fabric.

Always begin with lukewarm water and a white cloth for most stain removal before applying any cleaning agent.

- **Cleaning With Covers in Place**

The most effective and economical method to clean the fabric seat covers is by washing with either an approved foam upholstery cleaner or with a mild household detergent.

Thoroughly vacuum the upholstery. Remove any spots or stains before the seats are washed to avoid a cleaning ring.

Dilute household detergent or liquid foam cleaner according to directions on the container. Pour a small quantity into a flat pan and work into a thick foam with a sponge or brush.

Apply only the foam to the fabric with a sponge or brush. Clean a small area of the fabric at a time with the foam. **DO NOT SOAK.** Rub vigorously. Sponge the suds from the fabric with a clean sponge or cloth moistened with water. Rinse the sponge or cloth often and change the water when it becomes dirty.

Allow the upholstery to dry completely before the coach goes back into service. To speed up drying, excess moisture can be blown off the fabric with compressed air.

**CAUTION**

Oil in the air line will spoil the fabric. Blow the line clear and test air discharge against a plain white piece of paper. It is also effective to press the edge of a flat hardwood stick down on the cushion and slowly draw it across the fabric.

Even very soiled areas can be returned to their original appearance by a thorough cleaning, but a regular schedule of cleaning that keeps the upholstery reasonably clean at all times will greatly enhance the life span of upholstery.

18. TARABUS FLOOR COVERING REPAIR OR REPLACEMENT

On X3-45 coaches equipped with “Gerflor” covering, it is possible to replace or repair this covering. The purpose of this paragraph is to explain the steps to be followed to ensure the best results and adherence.

MATERIAL

Part No	Description	Qty
680028	Adhesive, Tarabus Floor Covering (White)	A/R
684655	Adhesive, Contact (3M)	3.8L
684654	Adhesive, Contact (3M)	18.9L
680532	Sikaflex 221 Gray	A/R

NOTE
Material can be obtained through regular channels.


1. Remove number of passenger seats required to perform repair.
2. Cut and remove damaged section of floor covering.

NOTE
It would be preferable to cut under two rows of seats so that repair is not as noticeable.

3. Clean plywood using a scraper.

NOTE
Make sure that no staples are sticking out beyond surface. Adjacent plywood sheets must be leveled.

4. Fill up holes and imperfections using MAPI PRP 110 then sand.
5. Remove dirt and adhesive residue.

 **CAUTION**
 Do not leave floor covering folded down except temporarily during installation.

6. Apply floor covering adhesive (680028) onto plywood using a serrated spreader with 1/8-inch serration. If required, apply contact adhesive (3M) (684655 or 684654) onto aluminum molding and also onto section of floor covering, which will be in contact with molding (refer to figure 47).

NOTE
Allow adhesive to dry (3 to 5 minutes).

7. Compress floor covering using a roller so as to remove any trapped air bubble.
8. Apply Sikaflex 221 gray sealant (680532) alongside passenger seat fixing tracks (refer to figure 48).

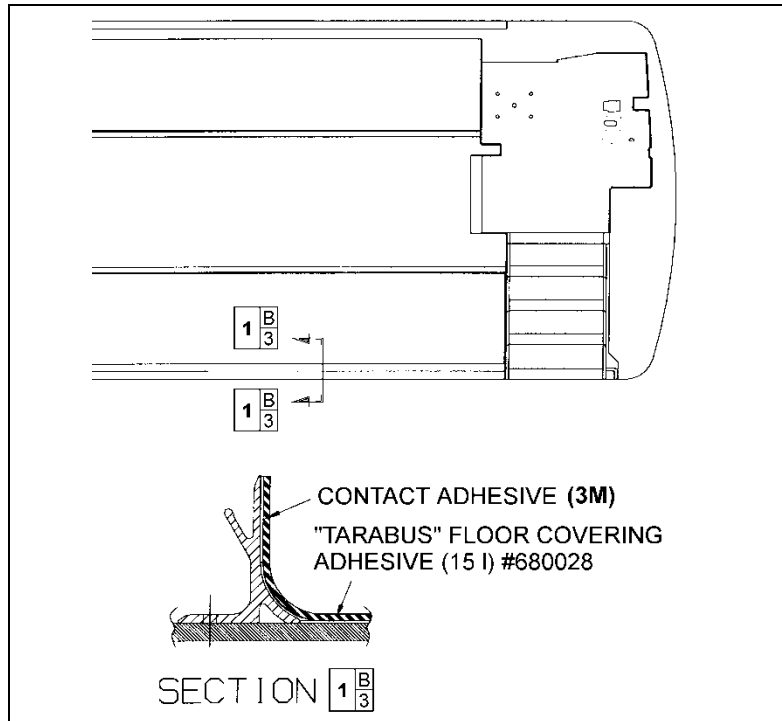


FIGURE 55: TARABUS FLOOR COVERING ADHESIVE APPLICATION 18640

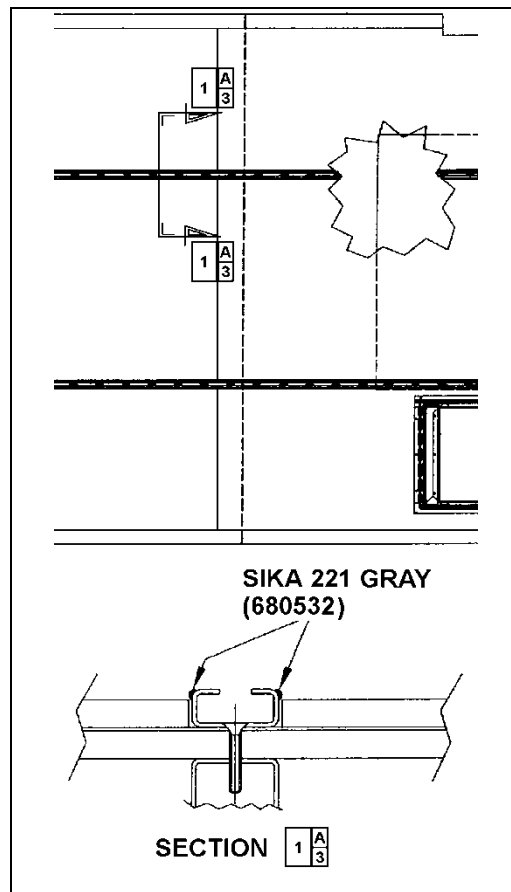


FIGURE 56: APPLICATION OF SIKA 221 GRAY 18641

18.1 Front Steps Replacement Procedure

MATERIAL

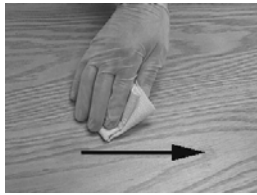
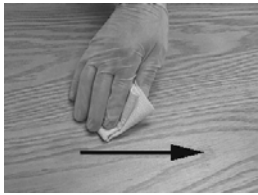
Part No	Description	Qty
682989	Anti-silicone	A/R
683097	Sika 205 (1 liter)	A/R
685101	Sika Remover 208	A/R
683916	Sika 215 (1 liter)	A/R

1. Cut and remove damaged step(s).
2. Remove dirt and adhesive residue.

NOTE
In wintertime, condensation and cold temperature may greatly influence bonding parameters. Working area must be at a temperature sufficient to prevent reaching condensation point. Mechanically preheat working area (heat lamp or heat gun) or wait until vehicle reaches room temperature.

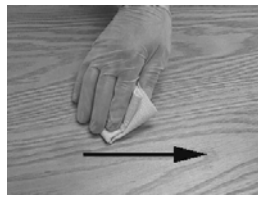
PREPARATION OF “TARABUS” FLOOR COVERING

1. Sand under step using “Scotchbrite”.
2. Clean using anti-silicone (refer to Section A).

Section A Alcohol or Anti-silicone	
	<p>1. Apply</p> <p>CHIX cloth</p>
	<p>2. Dry immediately</p> <p>Blue cloth</p>
3. Allow drying	
Mandatory	Minimum time : Wait for product to evaporate
	After 2 hours: Start cleaning operation again
Before applying any other product	If surface seems dusty, greasy or with finger marks, start cleaning operation again.

3. Apply Sika Primer 215 (refer to Section D).

Section D Sika Primer 215



1. Shake bottle to mix product
2. Apply a thin layer

CHIX cloth

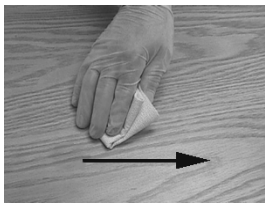
3. Allow drying

Mandatory	215	Minimum time : 20 minutes
		After 2 hours : Remove dust using damp cloth (pure water)
Before applying any other product		If surface seems dusty, dust using damp cloth.
		If surface seems greasy or with finger marks, reactivate with Aktivator.

PREPARATION OF FIBERGLASS

1. Clean using anti-silicone (refer to Section A).
2. Apply Sika 205 (refer to Section B).

Section B Sika 205



1. Apply

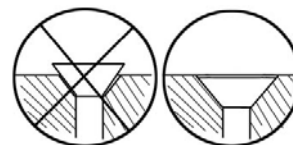
CHIX cloth

2. Allow drying

Mandatory	Minimum time	- For a smooth surface (aluminum, stainless, steel, fiberglass (gelcoat side), etc.): - For a porous surface (fiberglass (non gelcoat side), etc.)	2 minutes
			10 minutes
After 2 hours : Reactivate surface with Sika 205			
Before applying any other product		If surface seems dusty, greasy or with finger marks, start operation again.	

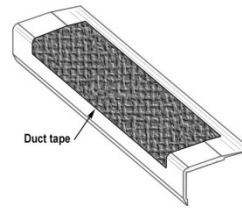
X3 VEHICLES FRONT STEPS GLUING

1. Use step nosing to measure and cut necessary length of white safety strip.
2. Use a screw to check depth of countersinking in step nosing. Screw top must not stick out beyond the aluminum surface. Countersink if needed.



3. Apply some Sika 252 onto the step; make sure to cover the whole surface of the step. Use a serrated spreader with 1/8-inch serration to spread Sika.
4. Apply a bead of Sika 221 onto the perimeter of the step.

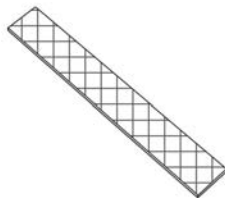
5. Install step and press with hands. If Sika overflows, clean with Sika 208. Repeat previous stages for each step if applicable.
6. Remove protective film from double-coated self adhesive tape located underneath step nosing, position step nosing then press. Drill and fix using screws.



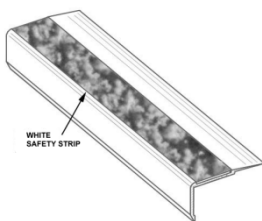
7. Clean top of step nosing using Sika 205 (refer to Section B).



8. Apply some Sika 221 onto white safety strip, spread with a spatula to cover the whole surface.



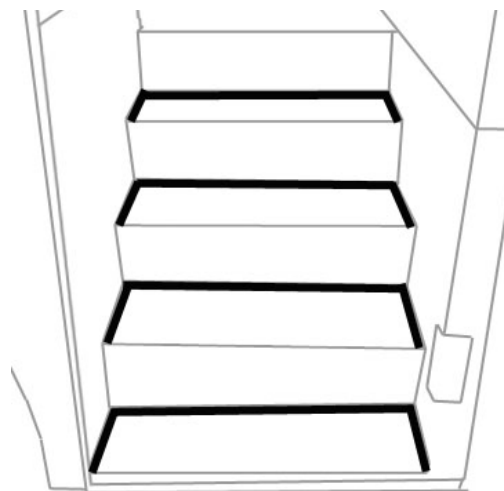
9. Position white safety strip then press using hands. If Sika overflows, clean with Sika 208.



10. Temporarily fix white safety strip with a piece of duct tape, leaving 1 to 2 inches free at each end.

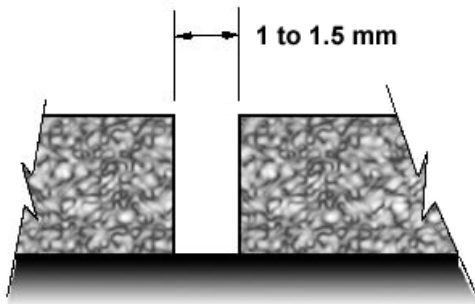
11. Apply some masking tape onto the step perimeter, clean using Sika 205 (refer to Section B) then apply a bead of Sika 252 black. Smooth out the joints then remove masking tape.

12. Install weights onto the steps. Minimum waiting time: 2 hours.



18.1.1 WELDING OF JOINT BETWEEN WHITE SAFETY STRIP AND “TARABUS” FLOOR COVERING

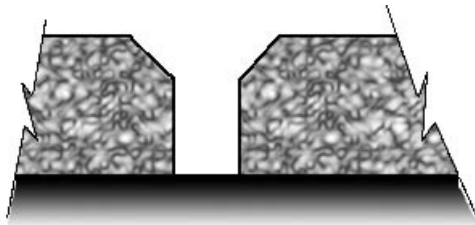
1. Pre-heat welding torch;
 - Set welding torch to position #4.5 (temperature of 500 °C),
 - Heating time: 5 minutes.
2. Before welding, visually ensure that a 1 to 1.5 mm gap exists between white safety strip and “Tarabus” floor covering. Use a knife if this is not the case.



NOTE

There should be no excess of adhesive on top of surfaces, clean if required using "All-Sol".

3. Chamfer the joint.



NOTE

The chamfer width must always be less than the filler bead diameter (between 2.5 and 3 mm).

4. Use chamfer knife. **Be careful not to overcut or to cut to the side to prevent damaging "Tarabus" covering.**



5. Add (about 6 inches) some length to the required length of filler bead to make the joint then cut.
6. Take position with welding torch. The proper position is with a slight slope to the rear.



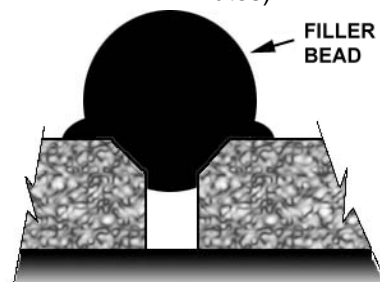
7. Once the welding torch is ready, insert the filler bead into the nozzle and immediately start welding. Move in a regular manner while pressing slightly with torch.



8. The heel of the fast nozzle must not lean against "Tarabus" covering (always parallel to the surface).

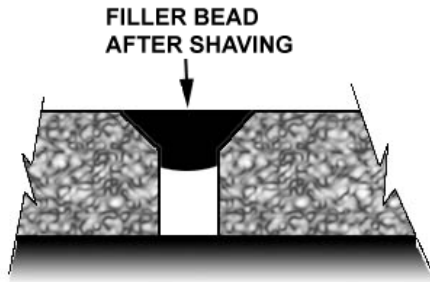


9. Allow cooling down of filler bead (about 5 minutes).



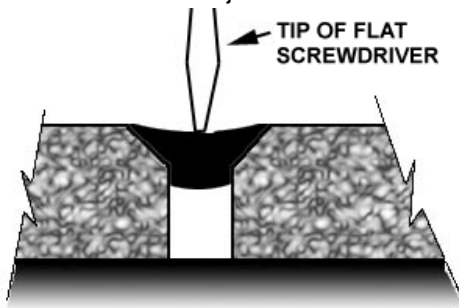
- Shave filler bead to make it level to the floor.
Use supplied knife designed for that purpose.

NOTE
To facilitate the cut, you can spray some soapy water onto the joint.

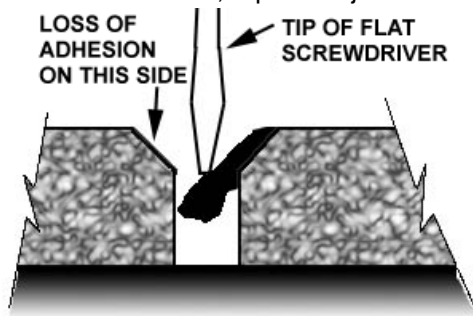


CAUTION
The procedure for turning the torch off must absolutely be followed. If this step is not taken, the element may burn.

- Set temperature potentiometer to "0" position. Fan will evacuate residual heat. Leave the torch in operation as it is for 3 minutes.
- Perform adhesion test using the tip of a flat screwdriver; apply a slight pressure on the joint.



- If welding was not performed properly, there will be a loss of adhesion on one side. If this is the case, repair the joint.



18.2 Repair Of A Welded Joint

NOTE
In wintertime, condensation and cold temperature may greatly influence bonding parameters. Working area must be at a temperature sufficient to prevent reaching condensation point. Mechanically preheat working area (heat lamp or heat gun) or wait until vehicle reaches room temperature.

- Using a knife, remove portion of joint to be repaired.

NOTE
Loss of adhesion may be local. If this is the case, repair may also be local.

- Chamfer the joint again as indicated in paragraph 6.10.2, Section: Welding Of Joint Between White Safety Strip And "Tarabus" Floor Covering.
- Re-weld the joint as indicated in paragraphs 6, 7 and 8. Use your thumb to hold the filler bead end.

WARNING
Nozzle is hot.



- Always add an extra inch of filler bead at the beginning and at the end of repair.
- Perform steps indicated in paragraphs 9, 10 and 11.
-

19. SECTION CHANGE LOG

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		