

## SECTION 18: BODY

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### 1. VEHICLE EXTERIOR

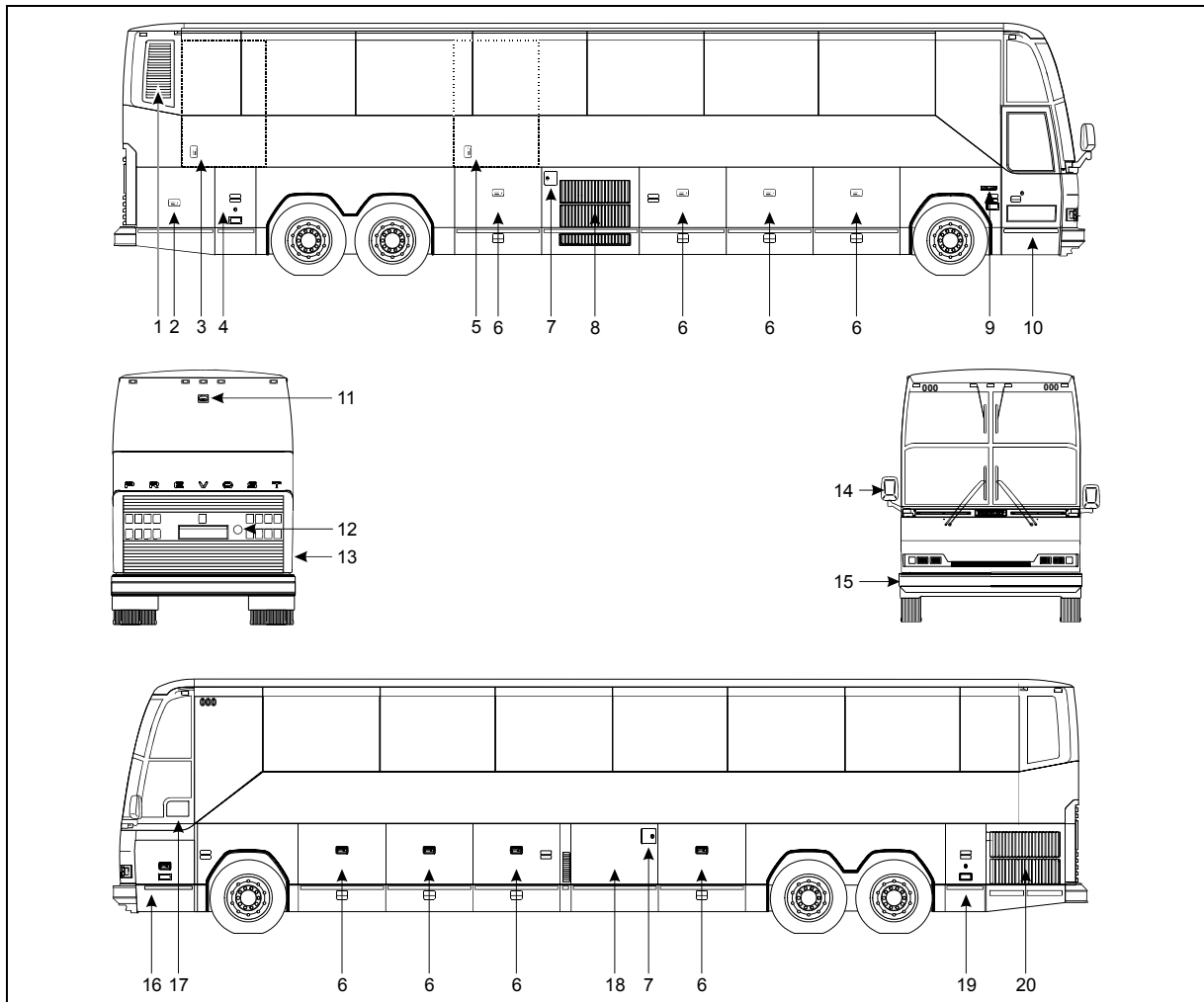


FIGURE 1: H3-45 EXTERIOR VIEW

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- |  |  |
|--|--|
| 1. Engine air intake                                 | 11. Back-up camera (option)                                      |
| 2. Engine compartment R.H. side door                 | 12. 110 - 120 volt connector                                     |
| 3. Wheelchair lift door (option Stewart & Stevenson) | 13. Engine compartment rear door                                 |
| 4. Main power compartment                            | 14. Rear-view mirrors  |
| 5. Wheelchair lift door (option Ricon)               | 15. Reclining bumper compartment                                 |
| 6. Baggage compartment                               | 16. Front electrical & service compartment                       |
| 7. Fuel filler door                                  | 17. Driver's power window  |
| 8. A/C condenser door                                | 18. Heating, ventilating and air conditioning compartment (HVAC) |
| 9. Entrance door operating switch                    | 19. Rear electrical compartment                                  |
| 10. Entrance door                                    | 20. Engine radiator door   |

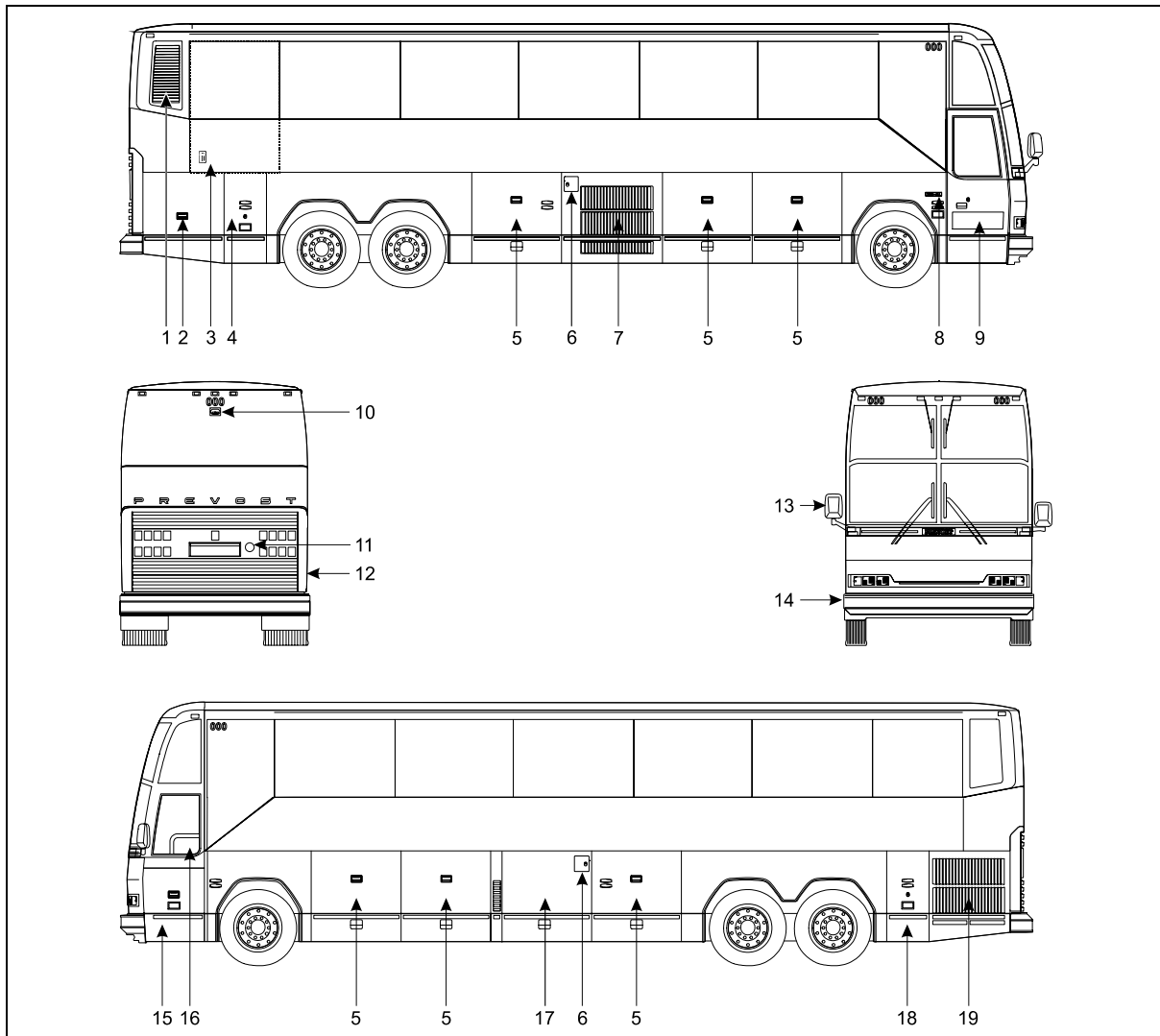
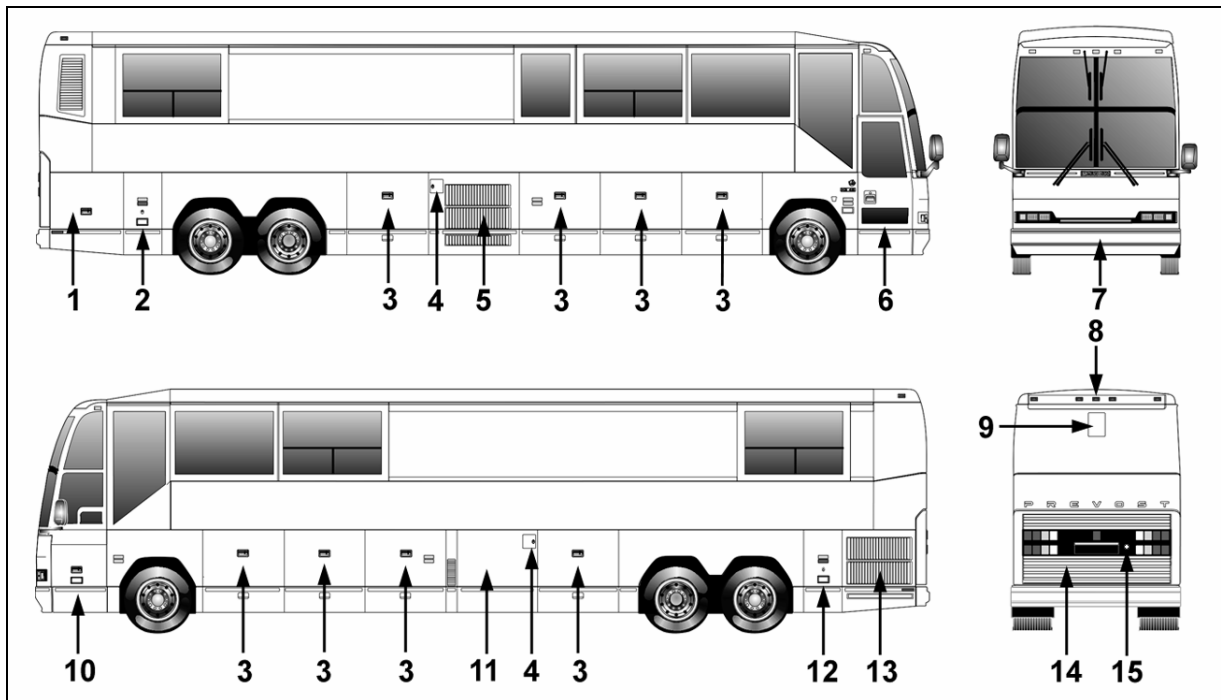


FIGURE 2: H3-41 EXTERIOR VIEW

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- |  |  |
|--|--|
| 1. Engine air intake                                 | 10. Back-up camera (option)                                      |
| 2. Engine compartment R.H. side door                 | 11. 110 - 120 volt connector                                     |
| 3. Wheelchair lift door (option Stewart & Stevenson) | 12. Engine compartment rear door                                 |
| 4. Main power compartment                            | 13. Rear-view mirrors  |
| 5. Baggage compartment                               | 14. Reclining bumper compartment                                 |
| 6. Fuel filler door                                  | 15. Front electrical & service compartment                       |
| 7. A/C condenser door                                | 16. Driver's power window  |
| 8. Entrance door operating switch                    | 17. Heating, ventilating and air conditioning compartment (HVAC) |
| 9. Entrance door                                     | 18. Rear electrical compartment                                  |
|  | 19. Engine radiator door   |

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**FIGURE 3: VIP CONVERTED VEHICLE EXTERIOR (TYPICAL)**

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- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Engine compartment R.H. side door</li> <li>2. Main power compartment</li> <li>3. Baggage compartment</li> <li>4. Fuel filler door</li> <li>5. A/C condenser compartment or baggage compartment</li> <li>6. Entrance door</li> <li>7. Reclining bumper compartment</li> </ol> | <ol style="list-style-type: none"> <li>8. Rear spoiler</li> <li>9. Retractable back up camera (optional)</li> <li>10. Front electrical and service compartment</li> <li>11. HVAC compartment or baggage compartment</li> <li>12. Rear electrical compartment</li> <li>13. Engine radiator door</li> <li>14. Engine rear door</li> <li>15. 110 – 120 volt connector</li> </ol> |
|--|---|



**2. STRUCTURE**

The body of the H3-41, H3-45 and VIP vehicles is an integral structure made of 14, 16 and 18 gauge welded and braced high tensile steel and stainless steel members. The roof arches are made with cold rolled, electrically welded (CREW) steel tubes, 1 ½" x 2" x 14 gauge. The inside is filled with urethane foam and the exterior is primed. The front subframe is made of open sections of high-strength steel alloy. These open sections permit a better application of primer and undercoating, and does not trap moisture. The rear subframe is made of closed sections of high tensile steel sealed at both ends.

**2.1 WELDING**

The following welding rods should be used when making welding repairs to the structure:

<b>Application</b>	<b>Diameter</b>	<b>A.W.S.</b>
Stainless steel to stainless steel or high strength steel alloy, light gauge	3/32" (2,4 mm)	No 308
Stainless steel to stainless steel or high strength alloy, heavy gauge	1/8-5/32" (3,2-4 mm)	No 308
High strength steel alloy to high strength steel alloy, light gauge	3/32-1/8" (2,4-3,2 mm)	No 6011
High strength steel alloy to high strength steel alloy, heavy gauge	3/32-5/32" (2,4-4 mm)	No 7018

Since welding is a procedure that may be carried out either as specific instructions from Prévost 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 1, paragraph 9, "WELDING PRECAUTIONS" 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. EXTERIOR MAINTENANCE**

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

**3.1 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.

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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.

### 4. FIBERGLASS REPAIR

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, 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.

#### 4.1 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 with Fiberglass Paste" in this section.

#### 4.2 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 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.

#### 4.3 TYPICAL FIBERGLASS REPAIR PROCEDURE

Remove all loose particles or damaged material using a power sander or rasp. Clean area, overlapping hole approximately 1" to 1-½" (25-40 mm) all around. Remove all dirt, grease and paint from area to ensure good bonding surface. Feather the cleaned area all around (Fig. 4).

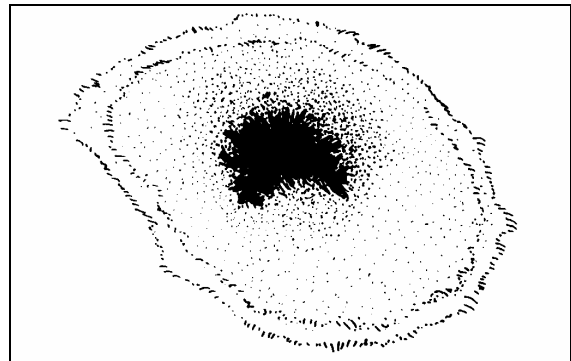


FIGURE 4: FIBERGLASS REPAIR

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 (Fig. 5).

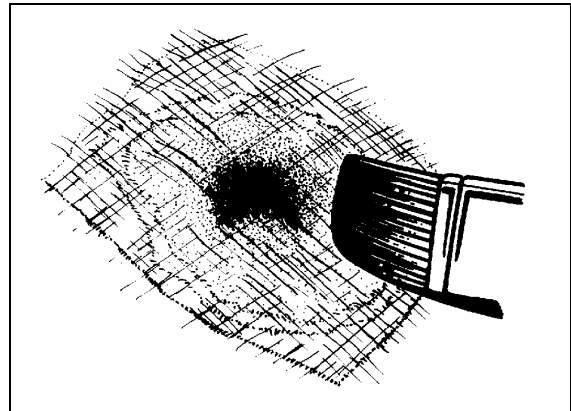


FIGURE 5: FIBERGLASS REPAIR

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 1-½ oz (43 g) mats and one 9 oz (255 g) cloth (Fig. 6).

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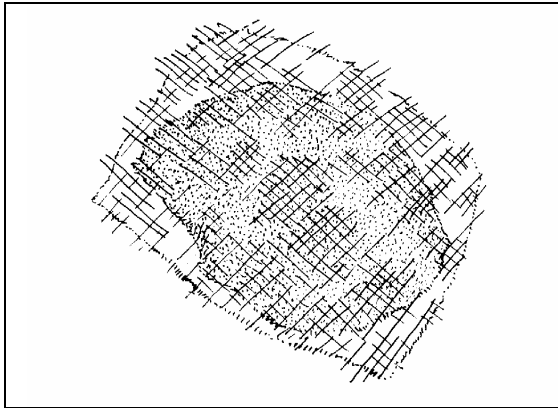


FIGURE 6: FIBERGLASS REPAIR

18091

Allow area to harden and contour the area with coarse sandpaper #100 (Fig. 7).

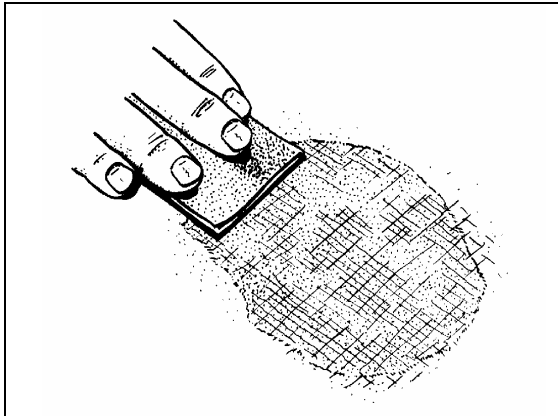


FIGURE 7: FIBERGLASS REPAIR

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Cover the area with a layer of resin putty and allow to dry for approximately 15 to 20 minutes (Fig. 8).

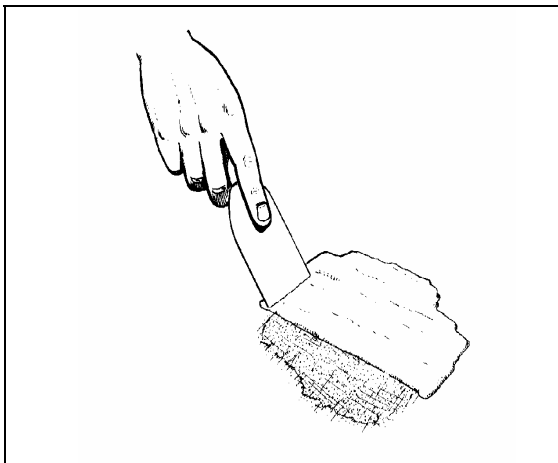


FIGURE 8: FIBERGLASS REPAIR

18093

Smooth off surface with coarse sandpaper #100 to desired shape. Further smooth surface with

fine sandpaper #120 until repaired surface matches surrounding area paneling. Prime and paint the area to match surrounding paintwork.

### 5. PAINTING

#### 5.1 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.

### 5.2 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 Standox "Non Stop Fill Primer (ST-11000)".

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

**Caution:** Be sure to heed all paint manufacturer's recommendations, especially concerning paint dilution and application.

### 5.3 PAINTING

The standard paint used on the exterior of the vehicle is Standox 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.

#### 5.3.1 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 packagings, 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.

#### 5.3.2 Surface Preparation and Paint Application

	Aluminum and / or Stainless Steel	Fiberglass	Comments
<b>Surface Preparation</b>	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.
<b>Cleaning</b>	STANDOX silicone remover ST-11654 (68-2989)		
<b>Priming</b>	STANDOX Reactive Etch Primer ST-13908 * Wait 30 minutes then apply STANDOX Non-Stop Füllprimer ST-11000 (68-2973)	STANDOX Non-Stop Füllprimer ST-11000 (68-2973)	Refer to product Technical Data sheet for proper mixing
<b>Basecoat</b>	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
<b>Clearcoat</b>	STANDOX 2K MS Rapid Clear ST-11760 (68-2979) Allow 16 hours for drying		Refer to product Technical Data sheet for proper mixing

If assistance or technical information on STANDOX products is needed, please dial: 1 (800) 551-9296

## Section 18: BODY

### 6. FRONT AND REAR BUMPERS

#### Repair of Superficial Damage

This procedure defines a method of repairing bumper surface damages such as superficial scratches or scuffing which are unacceptable in appearance only. For substantial bumper damages such as cracks, tears or holes, refer to "Repair of Substantial Damages" in this section.

1. Inspect the damaged area:
  - If a round edge of paint is apparent immediately surrounding the scratch or scrape, lightly wipe the local area with a tack cloth or very fine steel wool, "000" minimum. This should remove residual flakes or paint build-up.
  - If grease and/or oil contaminants are apparent close to the damaged areas, wipe the surface with any commercially available grease remover.

**Caution:** Do not use silicone-based materials to remove contaminants.

2. Locally wipe the damaged area with mineral spirits or the equivalent, ensuring that any grease remover from step 1(b) is covered. Allow sufficient time for all solvents to vaporize prior to painting (5 to 10 minutes).
3. Apply the recommended repair paint, either aerosol or air spray gun, to the damaged area. The can or spray gun should be kept at a distance of 6" to 10" (150 to 250 mm) from the surface to be covered, with continuous side-to-side motion, sweeping across the damaged area. To assure a good blend with existing paint, the sweeping motion should begin and end to the side of the area to be covered. Larger areas to be covered will require the back-and-forth sweeping motion to be gradually moved up or/and down, as shown in figure 9.

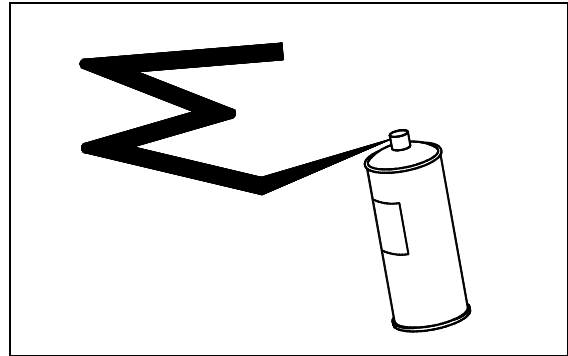


FIGURE 9: AEROSOL PAINT

18094

**Note:** Except for H3-45 VIP body-colored bumpers, the recommended repair paint is Tempo Color Spray #411 (black).

Allow a minimum of 10 to 15 minutes for the paint to dry, 5 minutes for parts which are heated at the time of painting.

#### Repair of Substantial Damage

**Note:** The following material can be purchased locally:

- Three kits of 3M #8101 structural adhesive, components A and B.
  - Applicators.
  - 3M auto body repair tape (Prévost #06935).
  - Grinder or sanding block with #36 disc or coarse sandpaper.
  - 220, 320 and 400 grit sandpaper.
  - Any generally acceptable oil or grease remover.
1. Wipe the damaged area with solvent to ensure a clean surface.
  2. Remove enough surface material using a grinder or rough sanding block to ensure maximum adhesion of repair material.
  3. Bevel the front edges of the crack or hole.
  4. Featheredge the paint around the abraded area.
  5. Clean up the repair area with a soft, dry cloth or air gun.
  6. Wipe the back side of the repair area with solvent for maximum strength and apply auto body repair tape. Make sure that the edges of the damaged area meet evenly.

- Mix A and B components of the 3M structural adhesive #8101 according to directions.

**Note:** To prevent air bubbles during mixing, the components should be scraped together with downward pressure and spread thinly on the mixing board. Adhesive should be used within 2 minutes. Observe safety precautions.

- Apply a thin layer of adhesive to the damaged area with an applicator. Allow it to stiffen (approximately 15 minutes). Mix additional adhesive and apply to restore the contour.

**Note:** In restoring the contour, spread the edges toward the center, filling all low areas. If voids, bubbles, or low area occur, mix more adhesive and apply.

- Allow a 24 hour room temperature cure for optimal results before sanding. If a faster cure is necessary, application of heat by heat lamp or hot air gun may be utilized.

**Note:** If heat is applied, maintain the temperature between 150 and 200°F (65-90 °C) for 20 to 30 minutes.

- Grind or block-sand the repair area to the correct contour. Grind with a #220 disc, followed by #320 sandpaper, followed by #400 wet-or-dry.
- Redo contour on any low spots with additional adhesive.
- Clean off the repaired area and refinish the part according to the instructions under "Refinishing Procedure" in this section.

## 6.1 REFINISHING PROCEDURE

Bumpers that are factory painted have a flexible, very tough, abrasion and weather resistant, elastomeric and enamel coating that has been baked on at approximately 250°F (120°C). There may be collisions and accidents in which the paint is marred to such an extent that refinishing is desirable. When paint baking facilities are not available, air-dry repair systems, such as those used in soft fascia passenger car body repair, are suggested.

Excellent results from the standpoint of flexibility, adhesion to surface material, and gloss may be obtained with two-component urethane

enamels. These systems consist of a reactive enamel and an activator.

**Note:** If needed, a reducer may be added. DuPont's Imron is widely used.

Two-component systems generally do not have as high a degree of flexibility as the one-component urethane enamels, but are designed for applications where high temperature baking is not feasible.

Less desirable, but often providing an excellent finish, are the flexibilized acrylic lacquers. These lacquer systems are composed of a based lacquer, a solvent, and an elastomeric adhesive. PPG's Ditzler is widely used, as well as systems from DuPont and Sherwin Williams. These are readily available at body repair shops and automotive parts dealer.

### 6.1.1 Surface Preparation

Surface preparation is the most important step in repainting. Water soluble dirt should be removed first, followed by a thorough cleaning with a wax and grease removing solvent. Bumpers that have been punctured, cut, or gouged should be repaired according to instructions for the 3M adhesive under "Repair of Substantial Damage" in this section. The patch should be sanded to the level of the surrounding bumper surface.

Painted surfaces, as well as exposed surfaces, should be sanded with a fine grit (#400) sandpaper until the enamel finish is dulled. The entire face should be sanded since it is difficult to match colors in spot refinishing. Sanded surfaces should again be cleaned with a good wax and grease removing solvent to ensure good wetting of the surface and to prevent "fish eyes" formation.

### 6.1.2 Prime Coat

Most lacquer manufacturers recommend a separate primer coat before applying the color coat to produce maximum adhesion. Check specific directions on the manufacturer's label.

### 6.1.3 Color Coat

In applying final coatings, several wet coats should be sprayed with flash time between coats depending on hiding power and color match. Application information, as well as air-dry time,

## Section 18: BODY

should be specified on the product container. Repairs should be allowed to dry overnight before putting bumper in service.

**Warning:** Proper precautions must be taken when applying air-dry elastomeric paints. Refer to manufacturer's warnings for details.

### 6.2 FRONT BUMPER REMOVAL AND INSTALLATION (COACH)

The front bumper is hinged to give access to the spare wheel and tire compartment. Bumper must first be tilted down before its removal. Two people are required to remove and install the front bumper.

**Warning:** Front bumper weighs approximately 220 lbs. (100 kg). Use proper lifting equipment to support the bumper during the removal and installation operations to avoid personal injury.

Loosen 2 nuts on binding rods from under the bumper while holding the bumper closed (Fig. 10).

1. Hold bumper and push binding rods up to remove the 2 binding rod hooks from their respective attaching points.

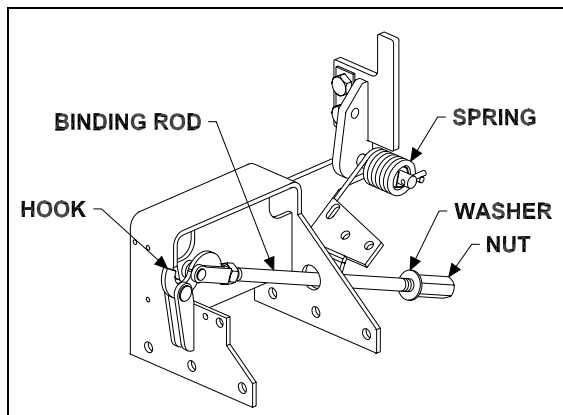


FIGURE 10: BUMPER FASTENING MECHANISM 18320

2. Partly recline the bumper, remove both chain end snap hooks from their attaching points, and let the bumper rest face down on the lifting equipment platform.
3. Ask assistant to relieve spring tension with assistant proper tool, and relieve spring tension on one locking pin and remove it. Slowly release spring tension and remove the second locking pin. The spring is free. Repeat procedure for the other spring.

**Note:** A special tool kit is available from Prévost Car Inc: Kit # 41,0671.

4. Remove 4 cap screws holding bumper to vehicle and remove bumper.
5. To install bumper, reverse the removal procedure.

**Caution:** Check that binding rod hooks are properly anchored when bumper is tilted up before tightening binding rod nuts. Tighten binding rod nuts firmly.

### 6.3 FRONT BUMPER REMOVAL (VIP)

Only the central part of the front bumper on the VIP model reclines. To take down the reclining part of the bumper:

1. Open the reclining portion of the bumper.
2. Carefully remove spring tension at the hinges.
3. Support the bumper and remove the holding straps.
4. Unbolt the hinge assembly from the structure of the vehicle.
5. Remove the front portion of the bumper.

To remove the LH and RH (fixed) parts of the bumper:

6. Drill rivets around the bumper.
7. Remove the cap screws.
8. Remove the bumper cover.
9. Remove screws and holding brackets.
10. Installation is reverse of removal.

### 6.4 REAR BUMPER REMOVAL

VIP and coach model rear bumpers are different from one another, but their removal and installation are very similar.

1. Remove cap screws holding bumper to vehicle and remove bumper.
2. Remove cap screws and washers holding bumper frame to engine frame.
3. To install bumper, reverse the procedure.



## 7. COACH ENTRANCE DOOR

An air operated "sedan type" entrance door, with an air door cylinder and damper assembly are installed under the right hand dash. The opening and closing door speed cycle is adjustable by a damper mounted in parallel with the door cylinder on the door hinge (Fig. 13). Door activation is controlled by a relay panel, located near the defroster and wiper motors. The accessory air reservoir supplies air to this system.

The door is held in the closed position during coach operation by two air cylinder locking mechanisms (Fig. 14). Air cylinders with return spring in the cylinder body are used. Air cylinders are controlled by an electrically operated solenoid valve energized by a rocker switch located under the right hand dashboard.

To open the door, initial movement of the rocker switch de-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 cylinder, "the air cylinder close solenoid valve" exhausts air from the rod side of the cylinder.

To close the door, initial movement of the switch energizes the "air cylinder close solenoid valve" and air flows to the cylinder by its rod side port. The "air cylinder open solenoid valve" exhausts air from cylinder. When entrance door latch is grounded with the door frame, 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 valves, 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 annexed at the end of section 12, "Brakes" and page 22 of the wiring diagram.

### 7.1 OPERATION

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

Opening and closing of the door from outside the coach is accomplished by a momentary toggle switch located behind the coach model nameplate (Fig. 11).

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.

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. The door can be stopped in any position by releasing the switch. The door is not locked in position when not fully opened or closed.

If the door has been locked with the key, a lever on the door can be moved to unlock.

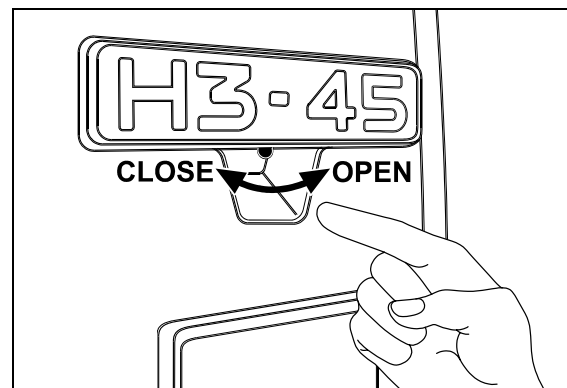


FIGURE 11: DOOR OPERATING SWITCH

18316

### 7.2 EMERGENCY EXIT VALVES

From inside the vehicle, an emergency exit valve located near the door on the dash panel, 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.

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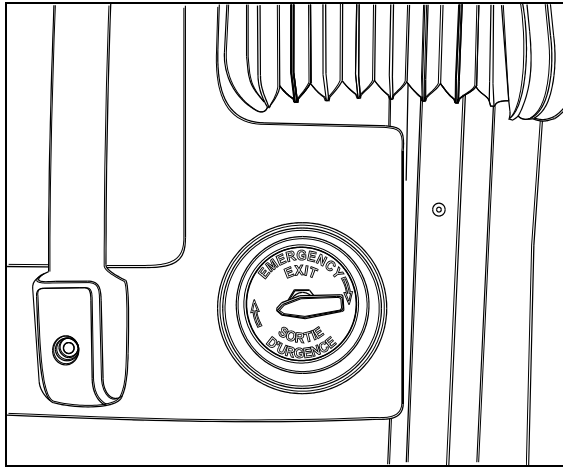


FIGURE 12: EMERGENCY EXIT VALVE 18321

### 7.2.1 Without Air and/or Without Electricity

If the air pressure drops while 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.

### 7.2.2 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.

## 7.3 DOOR CYCLE SPEED ADJUSTMENT

To do any adjustment, remove the two panels located next to the door hinge, as well as the door's upper hinge control.

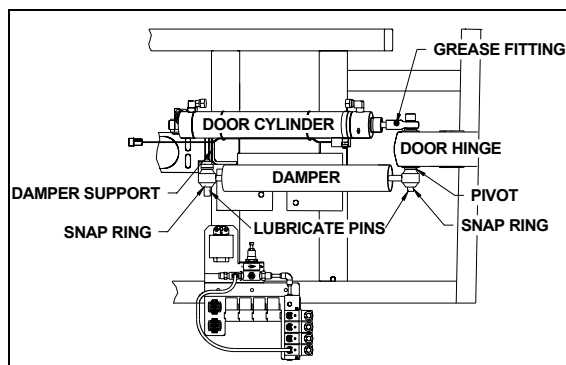


FIGURE 13: DOOR CYLINDER AND DAMPER 18161

**Caution:** It is important to make sure that damper does not reach end of stroke when door is completely closed or opened. The door cylinder must stop the door on opening. Screw or unscrew rod end to adjust if necessary.

To adjust opening and closing cycle speed on damper (Fig. 13):

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 (Fig. 15).

**Note:** In figure 15, 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.

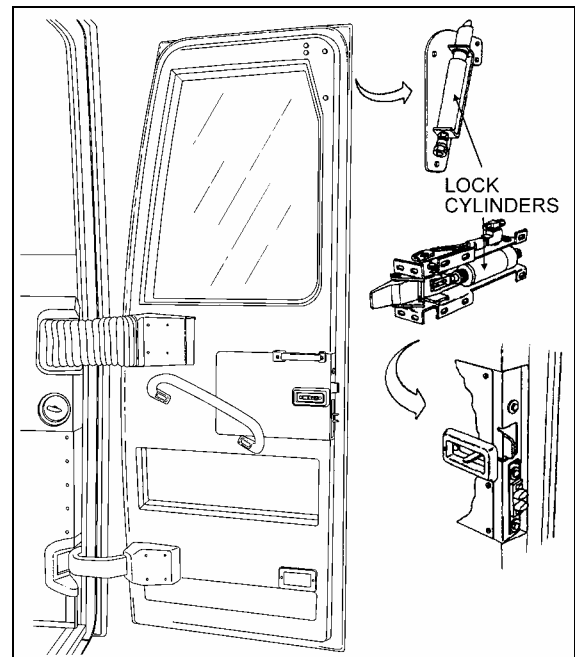


FIGURE 14: COACH ENTRANCE DOOR 18439

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.
5. 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.

**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 (Fig. 15)

6. The damper can now be refitted in the vehicle.

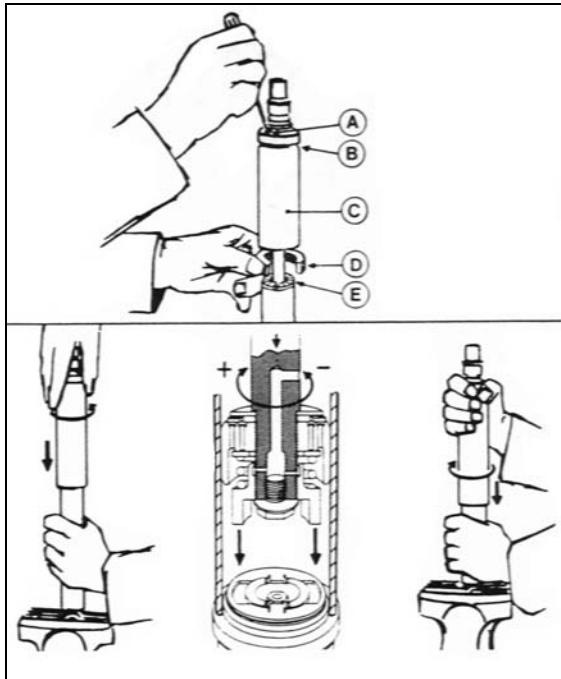


FIGURE 15: DAMPER

7. Reinstall panels and entrance door hinge cover.

#### 7.4 HORIZONTAL AND VERTICAL ADJUSTMENT

Before attempting to correct any 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:

1. Remove the screws and the plastic molding covering each of the hinges.

**Note:** Ask an assistant to help you to perform the following adjustments.

2. Remove the Allen button head screw and the washer retaining the rod end with bearing to the upper hinge. See figure 16.
3. Support the door with a wooden block and a hydraulic jack.
4. Loosen the horizontal bolts retaining the door to the hinges. Adjust the door horizontally and vertically with the jack. Tighten the bolts to 30-36 ft-lbf (40-50 N•m). Remove the jack and the wooden block.

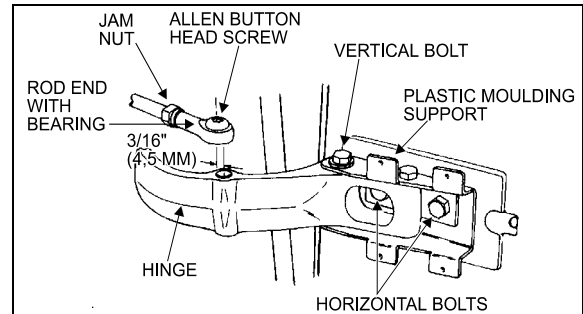


FIGURE 16: UPPER DOOR HINGE (COACH) 18058

**Caution:** Make sure the entrance door does not interfere with the exterior panel.

5. Pull and fasten the rod end to the hinge with the washer and the button screw.
6. Screw the plastic moldings covering the hinges.

#### 7.5 DEPTH ADJUSTMENT

1. Turn the emergency exit valve to the "UNLOCK" position.
2. Remove the screws and the plastic molding covering each of the hinges.

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**Note:** Ask an assistant to help you to perform the following adjustments.

3. Remove the Allen button head screw and the washer retaining the ball and socket rod to the upper hinge. See figure 16.
4. Loosen the vertical bolts on the hinges for the front section, and for the rear section, move the central door catch on the door frame.
5. To adjust the male dovetail on L.H. side of the door, remove the two screws and loosen the two bolts. Slide the male dovetail toward the interior and loosely tighten the two bolts. Close the door slowly but firmly, then slowly open it and tighten the two bolts. Attach dovetail to the door with screws. See figure 17.

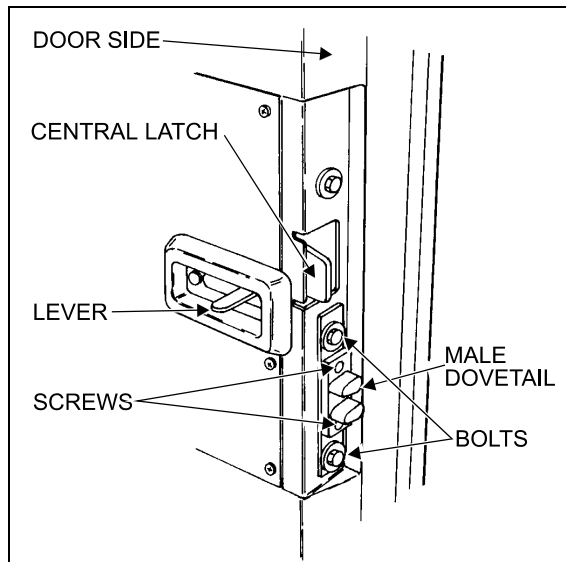


FIGURE 17: DOOR LATCH (COACH)

18059

**Note:** The frame dovetail is not adjustable.

6. Pull and fasten the rod end to the hinge with the washer and the button screw.
7. Using the screws, attach the plastic moldings covering the hinges.

8. Reset the emergency exit valve to the normal position.

### 7.6 ROD END ADJUSTMENT

1. Turn the emergency exit valve to the "UNLOCK" position.
2. Remove the screws and the plastic moldings covering the upper and lower hinges.
3. Remove the Allen button head screw and the washer retaining the rod end with bearing to upper hinge. See figure 16.
4. Loosen the jam nut locking the door cylinder rod end. Close the door firmly, adjust the rod end center hole in order to be 3/16" (4,5 mm) eccentric toward the left with the hinge hole center. Tighten the jam nut.
5. Pull and fasten the rod end to the hinge with the washer and the button screw.
6. Using the screws, attach the plastic moldings covering the hinges.
7. Reset the emergency exit valve to the normal position.

### 7.7 LUBRICATION

Part	Lubricant	Frequency
Latches		
Upper door catch	Low temperature grease	Every six months
Door cylinder rod end with bearing grease fitting (Fig. 13)		
Door locking mechanism	White grease	Every six months
Key hole	Low viscosity oil	Every six months
Damper pins (Fig. 13)		
Hinges		

## 7.8 TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
DOOR WILL NOT OPEN FROM EXTERIOR SWITCH.	Manual door locks engaged.	Release manual door locks.
	Upper and lower solenoid locks do not disengage.	Check voltage at solenoid locks when door is open. If the voltage is 24 volts then replace solenoid #641217. Else, check circuit power.
	Relay module do not receive current.	Reset breaker "ON" or check batteries power supply.
	Opening solenoid door does not receive current.	Check voltage at opening solenoid door. If the voltage is 24 volts then replace it. Else replace control relay.
	Switch malfunction.	Replace switch.
DOOR WILL NOT CLOSE FROM EXTERIOR SWITCH.	Switch malfunction.	Replace switch.
	Solenoid failure.	Check voltage at solenoid. If the voltage is 24 volts then replace solenoid. Else replace control relay.
DOOR WILL NOT OPEN FROM INTERIOR SWITCH.	Manual door locks engaged.	Release manual door locks (open position) from vehicle exterior.
	Upper and lower solenoid locks do not disengage.	Check voltage at solenoid locks when door is open. If the voltage is 24 volts then replace solenoid #641217. Else, check circuit power and replace control relay.
	Module relay does not receive electric current.	Reset breaker "ON" or check batteries power supply.
	Door opening solenoid does not receive current.	Check voltage at door opening solenoid. If the voltage is 24 volts then replace it. Else replace control relay.
	Switch malfunction.	Replace switch.
	Upper lock stays engaged.	Lubricate upper lock assembly. Check wear and replace parts if necessary.
DOOR WILL NOT CLOSE FROM INTERIOR SWITCH.	Switch malfunction.	Replace switch.
	Door closing solenoid does not receive electric current.	Check voltage at door closing solenoid. If the voltage is 24 volts then replace it. Else replace control relay.
DOOR WILL NOT OPEN AFTER DRAINING AIR FROM SYSTEM BY EMERGENCY VALVE(S).	Manual door locks engaged.	Release manual door locks (open position) from vehicle exterior.
	Damper cylinder blocks the door.	Adjust or replace damper cylinder.
	The upper lock blocks the door	Adjust lower lock. Lubricate upper latch bolt. Adjust upper latch height.
DOOR LOCKS STAY ENGAGED WHEN DOOR IS OPEN.	Power supply is cut at solenoid.	Place switch in open position.
	Solenoid lock does not disengage.	Check voltage at solenoid locks when door is OPEN. If the voltage is 24 volts then replace solenoid #641217. Else, check circuit power and replace control relay.
DOOR DO NOT LOCK WHEN DOOR IS CLOSED.	Emergency valve is open.	Close emergency valve.
	Lock solenoid stays electrified.	Check latch bolt ground on door frame. If needed clean locks for better contact. Check ground circuit.
	Lock solenoid works in reverse.	Reverse air hoses at solenoid locks.
	Relay does not function.	Replace relay.

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### 8. ENTRANCE DOOR (V.I.P)

There are three ways of unlocking the entrance door from the inside of vehicle. The two first consist in actuating the rocker switch on the dashboard, but this last operation will also unlock the baggage compartments. Finally, you can unlock the door by sliding its lock lever to the left. If the orange tab on the door lock lever is visible, the door is unlocked.

You may lock/unlock the entrance door from the outside with the lock key provided with the vehicle. Turn key CCW to lock and CW to unlock the entrance door.

#### 8.1 KEYLESS ENTRY SYSTEM

With this system, you can lock or unlock the entrance door as well as the baggage and service compartment doors. The keyboard is located below the entrance door handle. The module is pre-programmed by the manufacturer and this code can not be deleted. Moreover, you can program your own entry code. Refer to the "VIP Owner's Manual" for instructions on how to program your own entry code.

When you use the keyless entry system, the keyboard and stepwell lights illuminate. Do not push the buttons with a key, pencil or any other hard object as it could damage the buttons.

Although each button is provided with two digits separated by a vertical line, there is only one contact per button. Always press the center of the button (between the two digits, on the vertical line).

If you let more than five seconds pass between each button press, the system shuts down, and you have to enter your code again. If the keyless entry system does not work properly, use the key to lock or unlock entrance or compartment doors. To know more about the keyless system, refer to the "VIP Owner's Manual".

**Note:** You must unlock the entrance door before you unlock with the appropriate key any baggage or service compartment doors.

#### 8.2 DOOR ADJUSTMENT

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

##### 8.2.1 Horizontal and Vertical Adjustments

1. Remove the screws and the plastic molding covering each of the hinges.

**Note:** Ask an assistant to help you to perform the following adjustments.

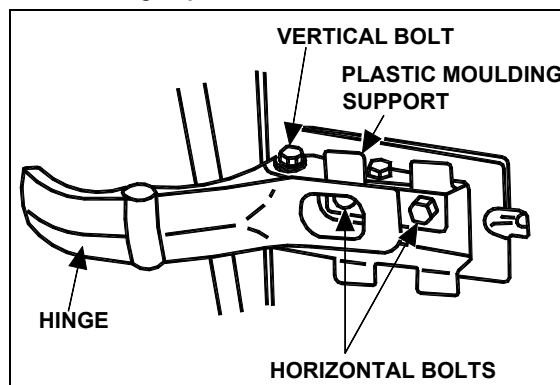


FIGURE 18: ENTRANCE DOOR (VIP)

18058VIP

2. Support the door with a wooden block and a hydraulic jack.
3. Loosen the horizontal bolts retaining the door to the hinges. Adjust the door horizontally and vertically with the jack. Tighten the bolts to 30-36 ft-lbf (40-50 N•m). Remove the jack and the wooden block.
4. Check door fit.
5. Using the screws, fasten the plastic trim to cover the hinges.

#### 8.3 DEPTH ADJUSTMENT

**To adjust door depth on the hinged side:**

1. Remove the screws and the trim covering each of the hinges.

**Note:** Ask an assistant to help you to perform the following adjustments.

2. Slightly loosen, but not completely the vertical bolts on both door hinges.
3. Ask your assistant to press the door from the exterior, until it will adjust with the vehicle structure. Then, tighten the vertical bolts.
4. Repeat step 3 until depth is corrected to satisfaction.
5. Using the screws, install the trim hiding the hinges.

**To adjust door depth on lock side:**

Depth adjustment is done by moving the two door strikers.

1. Slightly loosen the door strikers.
2. Ask your assistant to press the door from the exterior, until it will adjust with the vehicle structure. Then tighten the striker pin.
3. Repeat until the door depth is corrected to satisfaction.

**8.4 DOOR LOWER SECTION**

When a plastic door lower section replacement is needed, proceed the following way:

1. Remove the reflective stripe at the top edge of the door's lower section. Unscrew the retaining screws located under the reflective stripe.
2. Remove the lower section.
3. With a sharp edge knife, scrape as much tape as possible and compound left on the fiberglass door surface. Note where adhesive tape and sealing compound was applied.
4. Sand the surface of the door where new adhesive tape will be applied with 240 grit sandpaper.

**Note:** *Tape adheres best to smooth surfaces such as glass or gelcoat finishes. Be careful surface is as smooth as possible before applying tape.*

5. Clean contact surfaces with alcohol.
6. Clean the fiberglass door and the new plastic lower section with a "tack cloth". Make only one pass on the surface and never come back on a previously cleaned surface.

**Caution:** *Wear rubber gloves and do not smoke when cleaning.*

7. Prepare the door lower section with Sika #205 and a clean rag. Make only one pass on the surface and never come back on a previously cleaned surface.

**Note:** *Never use Sika #205 directly from the container to avoid contamination of the product.*

8. Wait at least 5 minutes before proceeding the next step to allow complete evaporation of the product.

9. Put new adhesive tape where it was previously applied. Pass a 1" (25mm) roller on it to get a good adhesion on the fiberglass.

10. Apply Sika #252 (Prévost #682462) compound where it was previously applied.

11. Remove protective paper from the adhesive tape and install the door lower section. Apply pressure with a roller where the lower door section touches the fiberglass door.

12. Replace the retaining screws.

**8.5 REFLECTOR STRIPE INSTALLATION**

1. Clean contact surfaces with alcohol.
2. Prepare surface of reflector stripe and door lower section with Sika #205.

3. Put two rows of adhesive tape on the lower door section.

4. Apply Sika #252 (Prévost #682462) compound between parallel tape stripes.

5. Remove protective paper from the adhesive tape and press the reflective stripe in place.

**8.6 DOOR SEAL REPLACEMENT**

1. Inspect the seal; if cracked or torn, it must be replaced:

2. Remove the old seal and with a sharp edge knife, scrape tape left on the fiberglass door surface.

3. Sand the surface of the door where a new seal will be applied with 240 grit sandpaper.

4. Clean the surface with alcohol.

**Caution:** *Wear rubber gloves and do not smoke when cleaning.*

5. Peel of protective paper from the seal. Position the seal in order to leave ¼" (6 mm) from the upper molded edge of the door and 3/16" (4,5 mm) from the sides and lower molded edges of the door.

6. Progress slowly all around the door.

7. Cut the seal and glue both ends with LOCTITE 414 glue.

## Section 18: BODY

- To assure bonding, press a small roller on top of the new seal.

### 8.7 DOOR LUBRICATION

Part	Lubricant	Frequency
Latches Upper door catch	Low temperature grease	Every six months
Door locking mechanism	White grease	Every six months
Key hole Hinges	Low viscosity oil	Every six months

### 8.8 DOOR LATCH MECHANISM

Generally, when the latch mechanism malfunctions, a number of causes may be responsible for this situation. No single procedure will correct this situation. It is best to remove the protective cover and to look for binding, used or bent parts. Operate the latch mechanism and try to find where any binding occurs. Replacing a part or slightly bending a rod should be enough. Remember, having a global understanding of the mechanical activity will generally lead you to the cause of the problem, and ultimately to an easy repair.

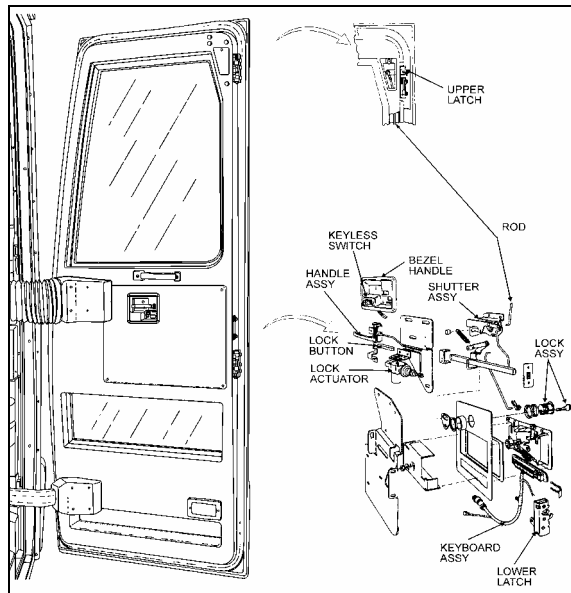


FIGURE 19: ENTRANCE DOOR (VIP, TYPICAL)

18440

## 9. DRIVER'S POWER WINDOW

To replace window or motor, the whole assembly must be removed. The following instructions refer to figure 20:

### 9.1 WINDOW OR REGULATOR REMOVAL

- Remove the L.H. console and instrument support plate behind it.
- Remove the screws holding the window to the lifting mechanism. Remove the holding plate.
- Lower the window support assembly while holding the window in the closed position to detach the regulator assembly from the window.
- Remove the four bolts holding the motor and regulator assembly in place.
- Detach the plastic water protection shield (30).
- Remove the assembly by slipping it under the vehicle structural members.
- Lower the window completely to detach from the opening.

### 9.2 WINDOW OR REGULATOR INSTALLATION

- Detach the notched strip from the regulator's sprockets with a screwdriver and reinsert it two notches back so the sliding window support will go further down the post than normal.
- Power the regulator so the support goes down to its lowest position.
- Cut the excess notched strip.
- Remove the screws holding the plate (3). Remove the plastic water protection shield (30).
- Using alcohol, a sharp knife or 240 grit sandpaper, clean off the butyl tape from the shield and frame. Install new tape on shield.
- Insert the shield over the new mechanism.
- Screw the plate loosely (3) in place. Use three washers on each bolt to ease final adjustments.
- Install new window in opening



9. Install the regulator assembly and fasten loosely using the bolts recovered from disassembly. Do not install third (right most) bolt (15) yet.
10. Expose the other sticky side of the butyl tape and stick shield in place.
11. Connect the regulator motor.
12. Raise the window support to so it mates with the slightly lowered window.
13. Fasten window to regulator assembly loosely using the anchor plate and recovered bolts.
14. Raise window to closed position and tighten anchor plate bolts.
15. Lower window completely, then raise it to mid-open position. Tighten plate (3) bolts (9).
16. Raise window to nearly closed position and check if it is level with the top of the window opening.
17. If the window is level, tighten the two left bolts (15) and screw in the third right bolt (15).
18. If window glass is not straight, tilt up or down regulator assembly before tightening bolts.

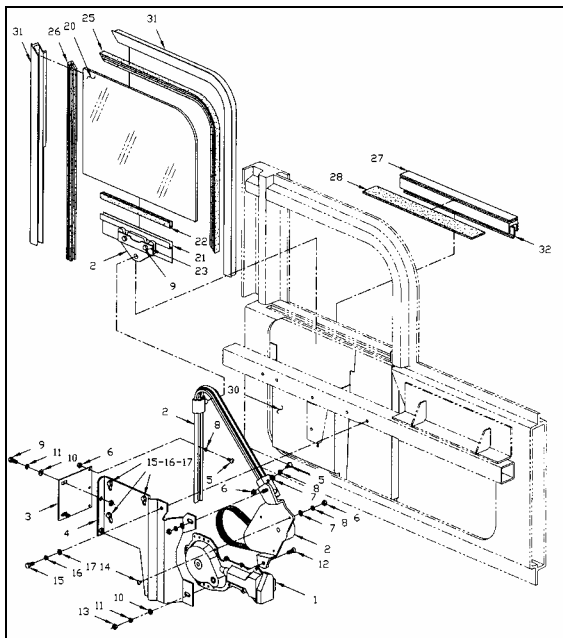


FIGURE 20: DRIVER'S WINDOW

18322

## 10. ROOF ESCAPE HATCH

The vehicle can be equipped with one or two escape hatches. The escape hatch is 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 section for procedures on how to seal this area.

**Caution:** Use of lubricants, paints, or other coatings such as graffiti deterring sprays are 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.

### 10.1 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 figures 21 and 22.

## Section 18: BODY

**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.

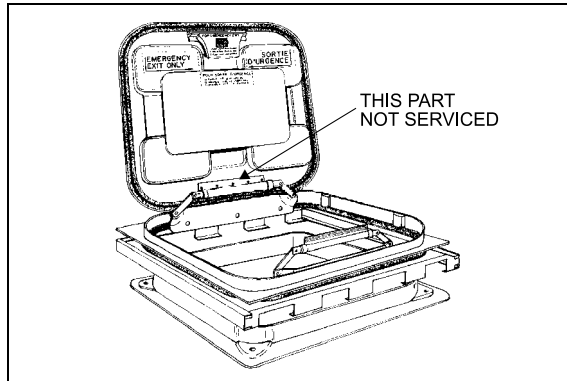


FIGURE 21: ESCAPE HATCH

18104

### 10.2 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 (Prévoist # 681285) in the gap between the seal ends.
4. Apply Sikaflex 221 sealant (Prévoist # 680532) along the outline of the escape hatch on the roof of vehicle.

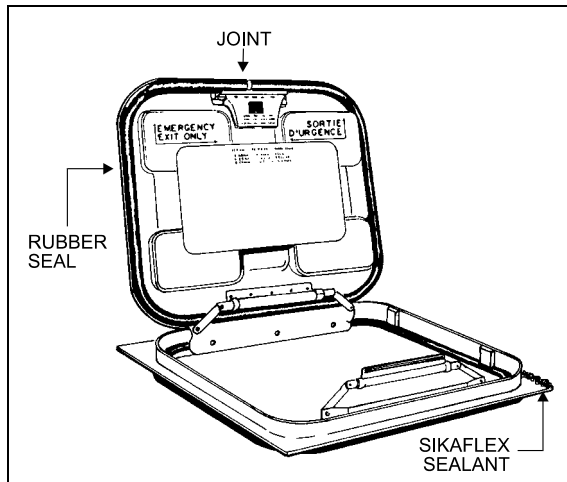


FIGURE 22: ESCAPE HATCH

18105

### 10.3 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.

**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.

### 10.4 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 SIKKA 205.
7. Apply rubber adhesive SIKKA 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.

### 11. PASSENGER SEATS

H3-41 and H3-45 coaches can be equipped with any of 2 basic seat models and installed in a variety of seating arrangements:

1. The "Tourismo 2" seat is the base model and is available in heights of 40" (102 cm) and 42" (107 cm). Seating arrangement includes 2 card tables which can be folded and removed, and pivoting seats ahead of each card table. Each pair of seats is built on a welded steel frame fastened to the side wall and on a track-mounted pedestal. Standard seating capacity is 48 in H3-41 and 56 in H3-45.

- The "V.I.P." seat model is an optional seat. "V.I.P." seats are mounted on one row of paired seats built on a common frame on one side of the vehicle, and a row of single seats on the other side of the vehicle with an off-center aisle. Each "V.I.P." seat has its own set of armrests.

Each seat has a easily removable bottom cushion. Upholstery is clipped on the cushion frame for cleaning or replacement. To remove the fabric, simply unclip from the frame. The "Tourismo 2" seats have 3 armrests. The aisle and center armrests can be folded up and down manually, while the window armrest is fixed.

### 11.1 ROTATING SEATS

- Remove 1 wing nut holding each seat bottom cushion from under the seat frame.
- Lift front part of cushions and remove cushions.
- Remove 4 wing screws fastening seat assembly to seat frame.
- Pull seat toward aisle and rotate.
- Align mounting holes and reinstall 4 wing screws.
- Reinstall seat bottom cushions with wing nuts.

### 11.2 REMOVING FIXED SEATS

**Note:** Seats on one row are not interchangeable with seats of the other row.

To remove fixed seats, proceed as follows:

- Remove 1 nut holding each seat bottom cushion from under the front part of the seat frame.
- Lift front part of cushions and remove cushions.
- Remove 4 finishing screws holding plastic cover between side wall and seat frame.
- Remove 2 cap screws, nuts, and washers holding seat frame to side wall and retain the 2 holding brackets. See figures 23 and 24.

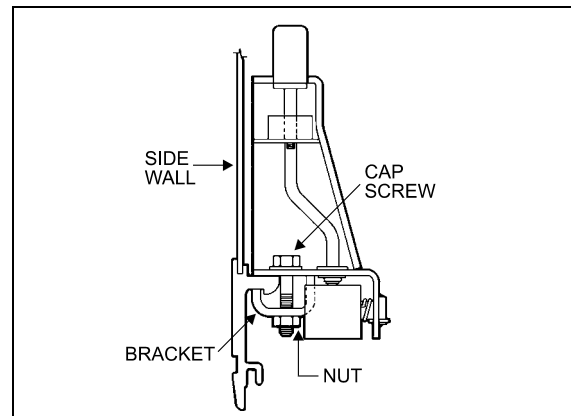


FIGURE 23: ARMREST

18106

- Remove 2 nuts and washers holding seat frame to pedestal rods.

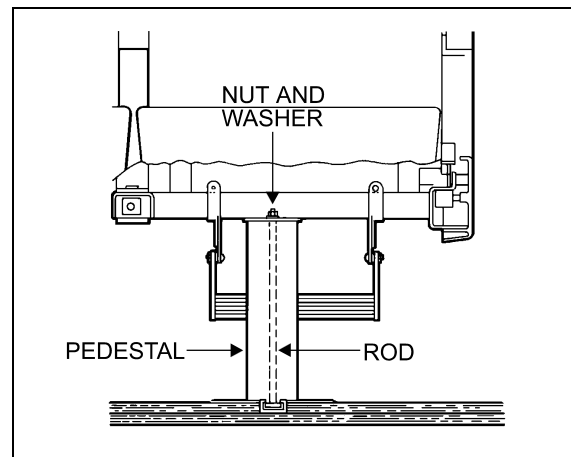


FIGURE 24: SEAT PEDESTAL ASSEMBLY

18107

**Note:** Bottom end of rod is coated with Loctite and threaded in a steel block which slides in the floor track. Removal of rod is possible if loosened from block. Otherwise, slide rod and block assembly to the front end of track after removing all seats located in front.

- Remove seat assembly.
- Reverse the above procedure to install seat assembly.

**Note:** On newer vehicles, the rod consists of a carriage bolt inserted in a square plate sliding in the floor track. Removal is possible only by the front or rear end of track.

## Section 18: BODY

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### 11.3 UPHOLSTERY MAINTENANCE

Coach seats are lightweight, with foam-padded backs and cushions. For both appearance and wearability, best results are obtained if upholstery is cleaned at regular intervals before dirt, dust and grit have been ground into the fabric. Seat fabric is made of 50% wool, 33% cotton, 9% nylon, and 8% acrylic.

#### 11.3.1 Routine Cleaning

All that is required to remove the dirt is a gentle beating with the hand or the back of a brush. This will bring the dirt to the surface where it is easily removed with a vacuum or brush in the direction of the pile which can easily be recognized by running a hand lightly over the pile. If the fabric become excessively dirty, particles of grit will cause gradual wear, reducing the life span of the fabric.

#### 11.3.2 Dry Cleaning

If covers are to be removed for cleaning, dry cleaning is recommended since washing might cause some shrinkage, preventing the covers from being reapplied to the seats without damage. Other than spot cleaning the covers while they are in place, dry cleaning is not recommended, since the resulting fumes could be hazardous in the confines of the coach and the solvent could be detrimental to the foam padding of the seats.

#### 11.3.3 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 soil 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.

## 12. COACH SIDE WINDOWS

Seven passenger side windows are provided on each side on H3-41, while the H3-45 have eight. 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.

The two trapezoidal windows are also mounted on an aluminum extrusion (except for H3-45 VIP, where they're mounted with adhesives. Refer to "Adhesive Mounted Windows" in this section, for more information on this type of installation). The trapezoidal windows are made of fixed, double glazed, heat absorbing AS-3 tempered safety glass inside and tempered glass outside.

### 12.1 EMERGENCY EXIT WINDOWS

Three of the windows on each side serve as emergency exits on the H3-41, while there are three of them on curb side of the H3-45, and four on driver's side. See figures 25 and 26.

Except for the top window side, the three other glass sides are unprotected, which causes the

workers to be exceptionally careful when manipulating or installing such windows.

In addition, 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, even better, a padded surface.

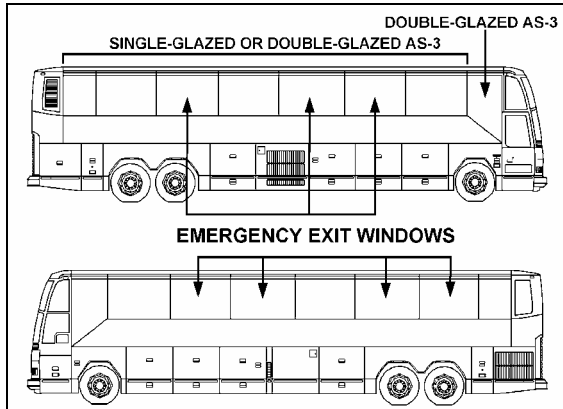


FIGURE 25: H3-45 COACH

18432

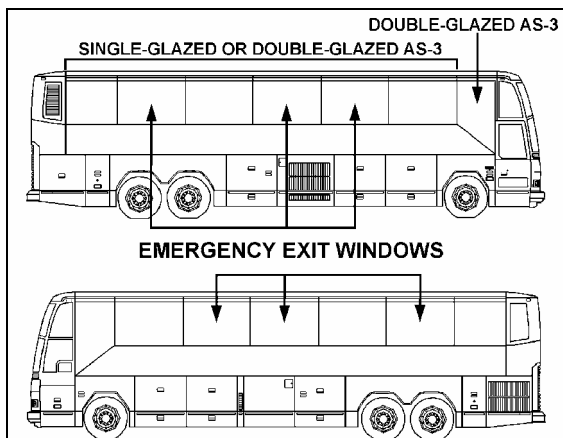


FIGURE 26: H3-41 COACH

18431

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 (Fig. 27).

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

## 12.2 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. To install a new release bar, reverse the procedure.

**Note:** Check the legal twenty pound maximum resistance to be sure to comply to regulations.

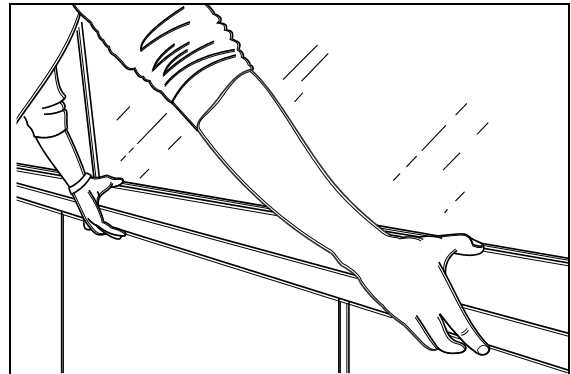


FIGURE 27: EMERGENCY EXIT WINDOW

23148

### 12.2.1 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 the microswitch, rubber seal, wires, etc. Correct situation immediately.

**Note:** Tangs on the lock must be in a horizontal position.

## Section 18: BODY

### 12.3 FIXED WINDOW REPLACEMENT

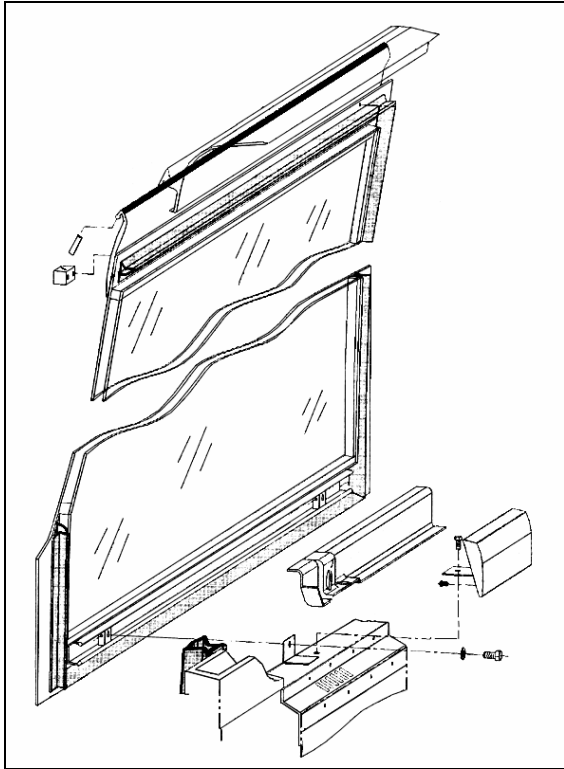


FIGURE 28: FIXED WINDOW

18434

When it becomes necessary to replace the glass of a fixed-type window, follow this procedure:

1. Unscrew the decorative plate and the bottom window bar in order to get access to the window retaining devices.
2. Remove the window bottom retaining bolts.
3. Push the glass window out ninety degrees (90°).

**Warning:** *The window may fall out.*

4. The window is free and can be unhooked.
5. Reverse procedure to install a new one.

**Note:** *For all window replacement, it is extremely important to center the top side between the window dividing posts with great precision in order to be able to attach the bottom of window and the structural posts.*

### 12.4 EMERGENCY EXIT WINDOW REPLACEMENT

1. Lift the bar release system and follow the same procedure mentioned above for fixed windows;
2. Remove the stop blocks from the top exterior of the window.
3. Reverse the procedure to install a new emergency exit window.

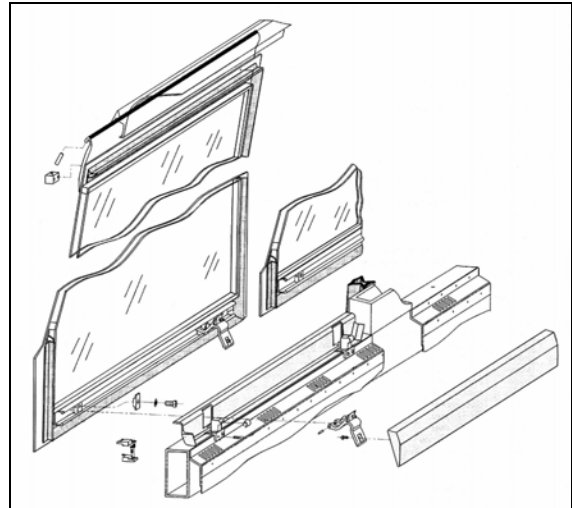


FIGURE 29: EMERGENCY WINDOW

18435

### 12.5 TRAPEZOIDAL WINDOW REPLACEMENT

Apply procedure for fixed window replacement described in this section but with these variations:

- The angle at which the window will detach is considerably smaller (about 45°);
- These windows are also glued to the structure at certain areas on their perimeter. Note where adhesives are used and apply gluing techniques at these areas to complete replacement of these windows.

### 12.6 SMALL REAR WINDOWS REPLACEMENT

These small windows are located at the vehicle's rear end, just forward of the lavatory.

Apply procedure for fixed window replacement described in this section but with these variations:

- The angle at which the window will detach is considerably smaller (about 45°);
- These windows are also glued to the structure at certain areas on their perimeter. Note where adhesives are used and apply gluing techniques at these areas to complete replacement of these windows.

Both the trapezoidal windows and the small rear window are fixed in place with adhesives. They are not serviceable, in the event that they may need replacement.

## 12.7 ADHESIVE-MOUNTED WINDOWS

These windows are located in the vehicle's front and rear caps (Fig. 30).

The adhesive-mounted windows are fixed, single or double-glazed, heat absorbing AS-2 or AS-3 glass mounted in their opening with polyurethane windshield adhesive. The single-glazed windows are tempered safety glass, same as the double-glazed windows which are tempered safety glass outside and inside.

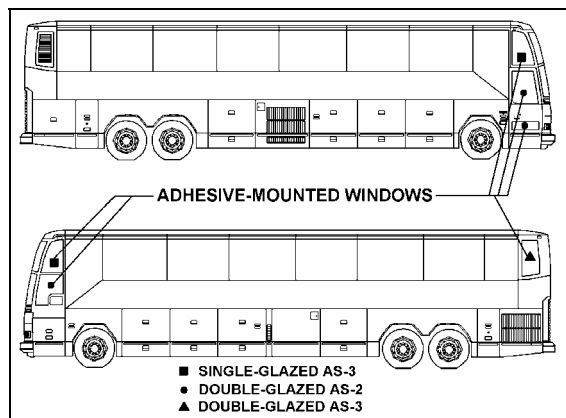


FIGURE 30: ADHESIVE-MOUNTED WINDOWS

18433

### 12.7.1 Glass Window Replacement

#### Items Needed:

- Scraper with new blade;
- Masking tape;
- Tremshield tape (Prévost #681089);
- Chix cloths (Prévost #682384);
- Isopropyl alcohol or enamel reducer or NAPA 6383 surface cleaner;
- Sika 205 cleaner;

- Sika 255 F.C. adhesive;
- Disposable vinyl gloves;

**Warning:** Wear disposable vinyl gloves during this procedure. Do not smoke. Dispose of unused toxic material properly. Heed all warnings on product containers.

1. Remove old window glass and scrape off remaining material up to 1/16" to 1/8" (2 to 3 mm) thick.

**Note:** Hardened adhesive will not remove easily. A new blade works best to remove all adhesive residue using care not to damage the fiber structure.

2. Place the new window glass in the opening and center it to leave an even gap top and bottom, and from side to side.

**Note:** Use small shims to raise the glass in proper position. Shims can be cut from the tremshield tape (Fig. 31).

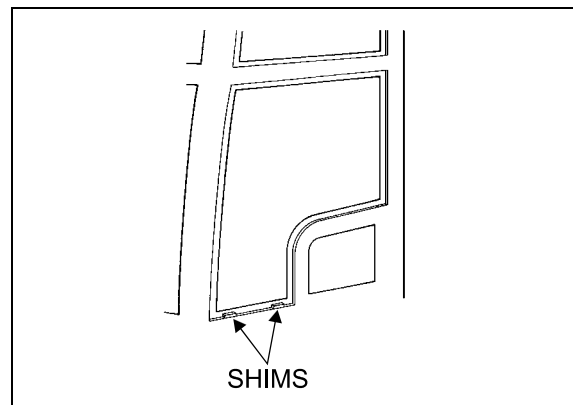


FIGURE 31: ADHESIVE-MOUNTED WINDOW

18079

3. Hold the window glass centered and have an assistant mark the inside contour of the opening on the glass with a china pencil. Remove glass and place it on a table with the pencil mark facing up.
4. Place masking tape on the inside surface of the glass to just cover the china pencil mark, leaving the outer surface exposed for the adhesive. This will make cleanup much easier. For ease of removal, do not overlap the tape at corners.

## Section 18: BODY

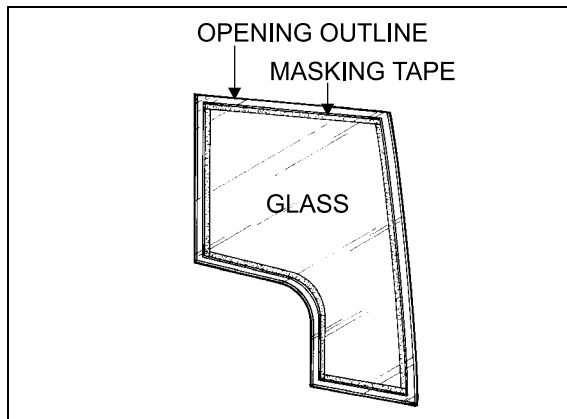


FIGURE 32: ADHESIVE-MOUNTED WINDOW 18080

5. Clean all around the window opening and the window glass edge with Sikaflex 205 (shake well before applying). Let dry 5-6 minutes minimum but no more than 8 hours.

**Caution:** There must be absolutely no silicone on glass or channel or Sikaflex 255 FC will not stick.

6. Put masking tape on the inner and outer contour of the window opening on the structure, approximately 1/16" (1,5 mm) from the edges of the contour.
7. Install Tremshield tape around the sealing surface of the window opening.



FIGURE 33: ADHESIVE-MOUNTED WINDOW 18081

8. Apply a generous bead of Sikaflex-255 FC polyurethane adhesive on the sealing surface around the window opening from outside the vehicle.

**Note:** To ease applying of Sikaflex 255 FC, it may be heated to 86° F (30°C).

**Note:** Bead should touch the side surface of the window opening.

9. Place shims correctly, and position window glass in the opening. Press firmly and evenly. Excess adhesive should flow out from behind glass.

**Note:** Add adhesive in areas where overflow is minimal or if air bubbles are present.

10. Smooth the adhesive joint using your finger (wear vinyl gloves). Remove excess material around both sides of the window as soon as possible before adhesive dries.

**Note:** Remove most of the adhesive from the scraper or trowel with a rag, and then dip tool in heavy hydrotreated naphta (vanishing oil) after each use for cleaning.

**Caution:** Never use solvents to clean excess adhesive.

11. Remove masking tape at once, clamp window glass suitably and let dry overnight or at least 8 hours.
12. Spraying pure water on the joint will accelerate the drying process.

### 13. WINDSHIELD

The lower windshield is single-glazed, AS-1 laminated safety glass, while the upper windshield is single-glazed, AS-3 laminated safety glass. The upper windshield can be quipped, as optional equipment, with heating elements. Each windshield is laced to a flange around an opening in the front structure by means of a one-piece black rubber extrusion and sealed with Sikaflex-255 FC polyurethane adhesive (Prévost # 681092). Proper installation of the windshield is necessary to ensure watertightness. Since glass varies in fit depending on the supplier, we recommend installing a replacement windshield obtained from Prévost Parts to ensure proper fit. Windshields obtained from other sources should be checked for proper size and curvature.



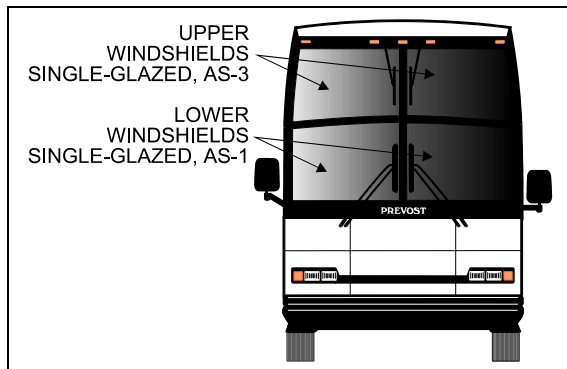


FIGURE 34: WINDSHIELD

18082

## 13.1 REMOVAL

**Warning:** Windshield removal and installation must be performed by more than one person. To avoid personal injury, wear protective gloves when handling the windshield glass.

1. Remove the wiper arms of the affected windshield.

**Note:** Remove the destination sign when replacing the upper R. H. side windshield.

2. Remove the rubber filler strip from the rubber extrusion around the windshield.
3. Run a blunt wood or plastic instrument inside channel of the rubber extrusion where the windshield is inserted, to loosen the windshield from the extrusion, from inside and outside the vehicle all around the windshield.
4. Pry out the windshield starting at a corner and pushing the windshield up and out of the opening.
5. Clean the rubber extrusion channel with isopropyl alcohol. Refer to heading "Windshield Installation Only" in this section for instructions on how to reinstall windshield.

**Note:** If the rubber extrusion is damaged, remove and discard it, then clean the windshield opening with isopropyl alcohol. Refer to heading "Installation of Rubber Extrusion and Windshield" in this section for complete instructions.

## 13.2 WINDSHIELD INSTALLATION ONLY

**Warning:** Wear disposable vinyl gloves during the procedure. Do not smoke. Dispose of unused toxic material properly. Heed all warnings on containers of the different products used in this procedure.

1. Clean the rubber extrusion channel (Fig. 35) with wiping towels soaked with isopropyl alcohol.

**Note:** Force the soaked towels in the channels for good cleaning in these critical areas.

2. Wipe with dry wiping towels and let dry 1-2 minutes.
3. Prepare the surface with SIKA 205.
4. Wipe with dry wiping towels and let dry for 2 minutes minimum, 8 hours maximum.

**Caution:** If more than 8 hours elapse before proceeding with the installation, return to step 3.

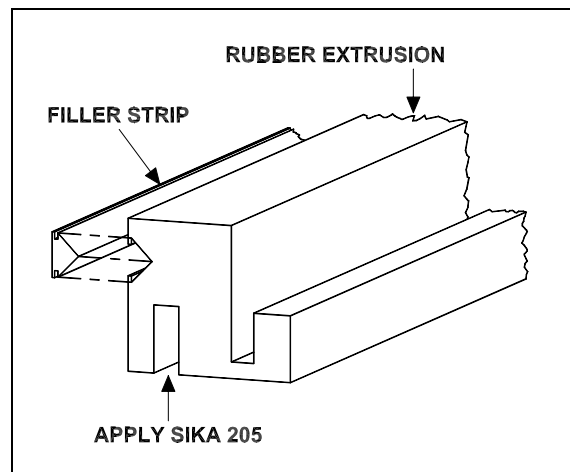


FIGURE 35: WINDSHIELD INSTALLATION

18098

5. Spray the windshield channel of the rubber extrusion with a liquid soap and water solution.
6. Prepare the windshield perimeter with Sika 205 and let dry.
7. Install the windshield in the rubber extrusion, bottom first, and working up the sides to the top using a thin and rounded wooden or plastic piece to force the windshield in its channel. End the installation at one of the upper corners.

## Section 18: BODY

**Note:** Two people should be working on both faces of the windshield simultaneously.

8. Mask the windshield following the contour of the rubber extrusion.

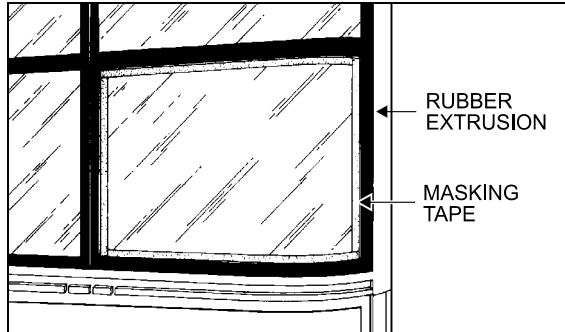


FIGURE 36: WINDSHIELD INSTALLATION 18099

9. Apply Sikaflex-255 FC polyurethane adhesive (Prévost # 681092) generously between windshield and the rubber extrusion, while inserting the tip of the adhesive tube deep in the channel. Push the tip forward (don't pull the tube through the channel, air might get trapped). Scrape excess adhesive from windshield and clean with Klene-Sol or equivalent solvent.

**Caution:** Do not use alcohol or silicone based products close to fresh adhesive.

10. Spray V-channel in the rubber extrusion with a liquid soap and water solution, and install filler strips in the rubber extrusion, cutting each end at a 45° angle.

**Note:** Filler strips retract with time. Install ends of filler strips as tight as possible in the V-channel.

11. Remove all masking tape and clean all areas properly. Reinstall windshield wiper and destination sign if applicable.
12. Let dry overnight, or at least 8 hours, before putting vehicle back into service.

### 13.3 INSTALLATION OF RUBBER EXTRUSION AND WINDSHIELD

**Warning:** Wear disposable vinyl gloves during the procedure. Do not smoke. Dispose of unused toxic material properly. Heed all warnings on containers of the different products used in this procedure.

**Caution:** The black rubber extrusion securing the windshield in the opening fits correctly in only one position. Find the correct position of the rubber extrusion now, and make reference marks with a china marker to avoid searching for the correct position later in the procedure.

1. Clean the windshield opening sealing surfaces with isopropyl alcohol and let dry 1 to 2 minutes.

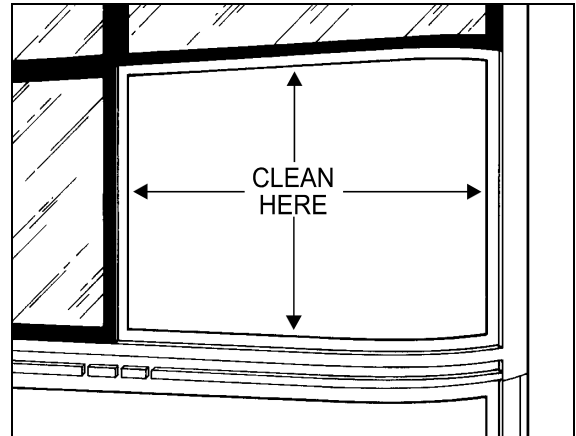


FIGURE 37: WINDSHIELD INSTALLATION 18100

2. Clean the rubber extrusion with wiping towels soaked with Sika 205. Wipe with dry wiping towels and let dry for 5-6 minutes minimum.

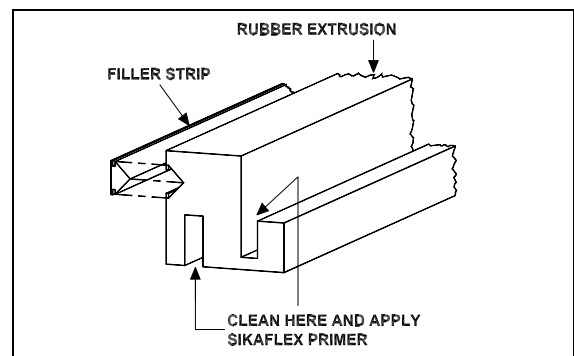


FIGURE 38: WINDSHIELD INSTALLATION 18101

**Note:** Force the soaked towels in the channels for good cleaning in these critical areas.

3. Mask the interior side of the windshield opening or apply a coat of petroleum jelly such as Vaseline to aid in removal of adhesive overflow after the installation.
4. Mask the exterior side of the windshield opening on the 2 sides not adjacent to the other windshield.

- Apply 2 beads, parallel but not touching, of Sikaflex-255 FC polyurethane adhesive (Prévost # 681092) on the sealing surface of the windshield opening.

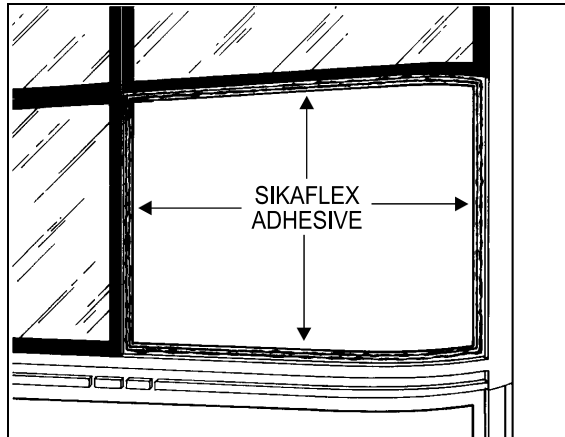


FIGURE 39: WINDSHIELD INSTALLATION 18102

- Apply Sikaflex-255 FC adhesive all around the rubber extrusion in the channel for the windshield opening flange.

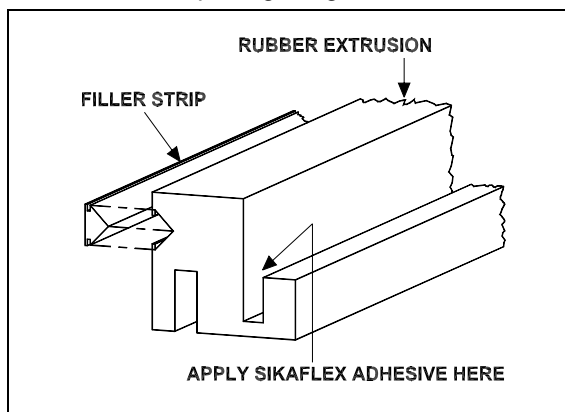


FIGURE 40: WINDSHIELD INSTALLATION 18103

**Caution:** Sikaflex adhesive hardens quickly. Continue installation immediately after application of adhesive is completed.

- Find the reference marks made earlier and install the rubber extrusion in the windshield opening.
- Spray the windshield channel of the rubber extrusion with a liquid soap and water solution.
- Install the windshield in the rubber extrusion, bottom first and working up the sides to the

top, using a thin and rounded wooden or plastic piece to force the windshield in its channel. End the installation at one of the upper corners.

**Note:** Two people should work on both sides of the windshield simultaneously.

- Mask the outside of the windshield following the contour of the rubber extrusion.
- Apply Sikaflex-255 FC adhesive generously between windshield and rubber extrusion, while inserting the tip of the adhesive tube deep in the channel. Scrape off excess adhesive from windshield and clean with Klene-Sol or equivalent solvent.
- Spray V-channel in the rubber extrusion with a liquid soap and water solution, and install filler strips in the rubber extrusion, cutting each end at a 45° angle.

**Note:** Filler strips retract with time. Install ends of filler strips as tight as possible in the V-channel.

- Add Sikaflex-255 FC adhesive where the rubber extrusion meets the front structure on the 2 sides not adjacent to the other windshields. Scrape off excess adhesive and clean with Klene-Sol or equivalent solvent.
- Remove all masking tape and clean all areas properly. Reinstall windshield wiper and destination sign if applicable.
- Let dry overnight or at least 8 hours before putting vehicle back into service.

#### 14. BODY PANELS AND DOORS

Each of the doors should be checked for proper operation. This includes latching. Also, inspect each of the doors for damage, missing, or loose parts. Repair or replace those parts as needed.

Unless otherwise noted, body panels and doors should be aligned and centered with surrounding panels. In general, a gap of ¼ inch (6 mm) is desirable between panels. Refer to figure 41 for specified gaps.

## Section 18: BODY

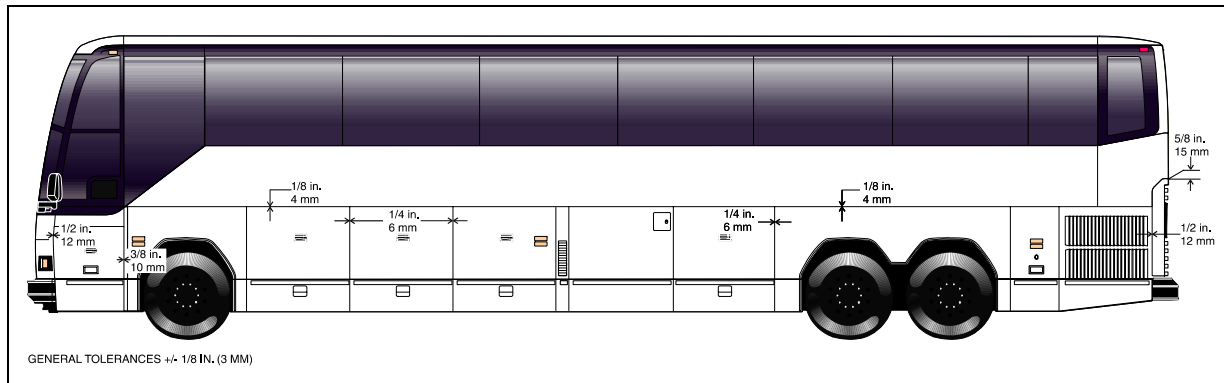


FIGURE 41: BODY PANEL SPACING

18317

### 15. PANTOGRAPH DOORS

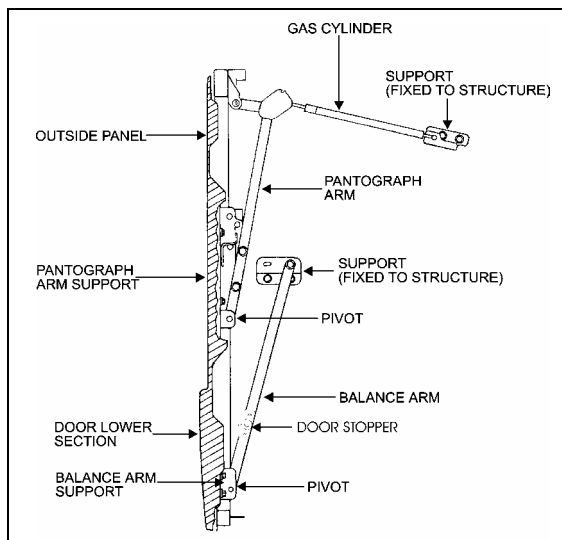


FIGURE 42: BAGGAGE COMPARTMENT DOOR

18061

There are 6 pantograph doors serving as baggage compartment doors on the H3-41, while there are 8 on the H3-45 and the V.I.P (depending on options, VIP model may have even more pantograph doors). Each of these doors is of identical design. A centrally mounted, key-lockable door handle unlatches the door which can then be pulled out and raised up in a path parallel to the side of the vehicle. The door is held in open position by two fully extended gas-charged cylinders, giving clear access to the opening of the baggage compartment.

From its fully open position, the door can be closed by pulling down on the door panel, and letting go when you sense the door will close on its own. The door will easily hinge its way back in the contour of the compartment opening and

will be held closed by two latches. Each door can be opened by lifting the centrally mounted handle to unlatch the door and lifting it all the way up. If the door does not remain in the fully open position, one or both cylinders on that door is (are) defective. To test the cylinders, first support the door in the fully open position with proper equipment. Disconnect the rod end of one cylinder and try to retract the rod. If strong resistance is felt, the cylinder is in good condition and can be reinstalled. If the rod retracts with little effort, the cylinder is defective and should be replaced at once (Prévost #980024). Test the other cylinder on that door the same way.

**Note:** In case of malfunctioning or in specific situations, use door stoppers to secure the door in the open position.

#### 15.1 PANTOGRAPH ADJUSTMENT

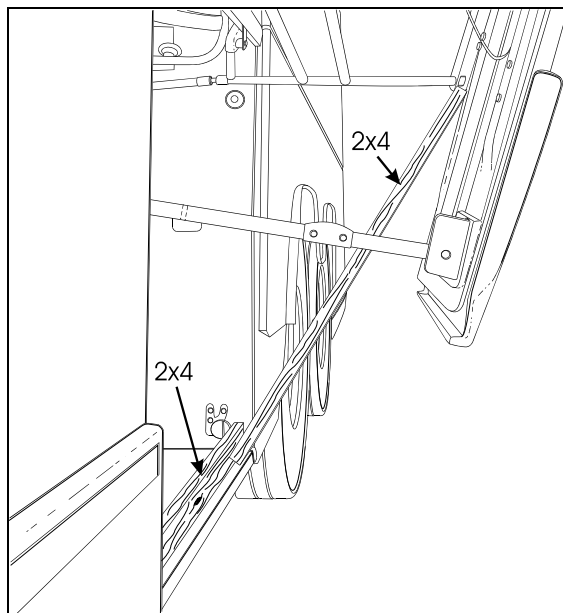
**Warning:** Park vehicle safely, apply parking brake, stop engine and set batteries master switches to the "OFF" position prior to working on the vehicle.

**Note:** Refer, if needed, to figure 42 for identification of door components.

If the door bends when opening or if pantograph does not function properly, it is probably because the pantograph arms are misadjusted.

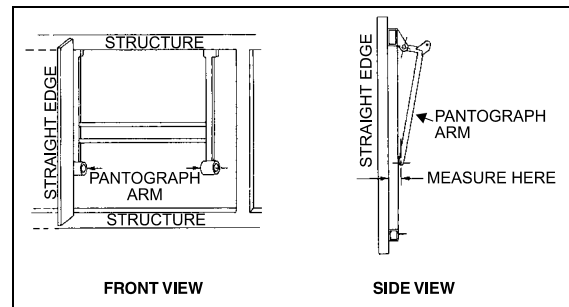
The pantograph arms should measure the same length. Measure distance between a pantograph arm end and a straight edge resting on structure. Repeat procedure for the other arm. The distance on each side should be equal. If not, bend appropriate arm until desired measure

is obtained. (Fig. 44 and 45). Doors can be adjusted by bending the arms as follows:

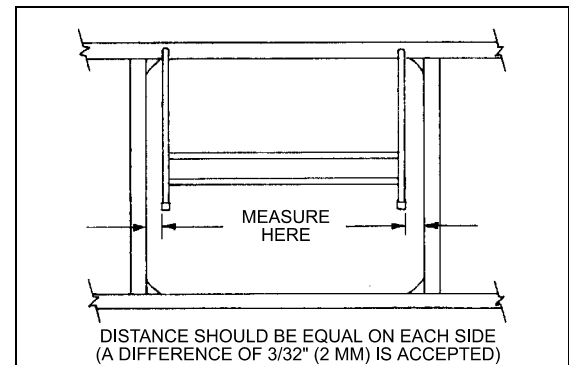


**FIGURE 43: PANTOGRAPH ADJUSTMENT** 18319

1. Open the door halfway up.
2. Install a piece of wood (a 2x4 will do) along the bottom of the baggage compartment. Arrange so it rests against the striker pins and is prevented from sliding further in the compartment.
3. Install another piece of 2x4 between the first piece and the bottom of the pivot of the lowest (or shortest) pantograph arm, (Fig. 43).
4. Pull down on the opposite side of the door to bend the door around the pantograph arm pivot (prevented from moving by the 2x4).
5. When the door is straight, remove the 2x4's and check door operation and fit. A difference of  $3/32$ " (2mm) between both sides is accepted (Fig. 45).
6. Repeat as necessary.



**FIGURE 44: PANTOGRAPH DOOR ADJUSTMENT** 18062



**FIGURE 45: PANTOGRAPH DOOR ADJUSTMENT** 18063

When the pantograph is correctly adjusted, the distance between the vertical steel member and the lateral edge of the door should be  $1\text{-}3/8$ " (35mm).

## 15.2 DOOR ADJUSTMENT

If the door is misaligned at front or rear posts, at top, or at bottom adjust as follows:

1. Unscrew and remove both striker pins. Loosen bolts retaining door to pantograph and balance arm supports. With door closed, adjust height so the top of the door fits flush with the adjacent doors. Then, complete tightening the four bolts retaining door to each pantograph arm support. A gap of  $1/8$ " (3mm) between the top of the door and the stainless steel support is given as a guide (Fig. 46).

## Section 18: BODY

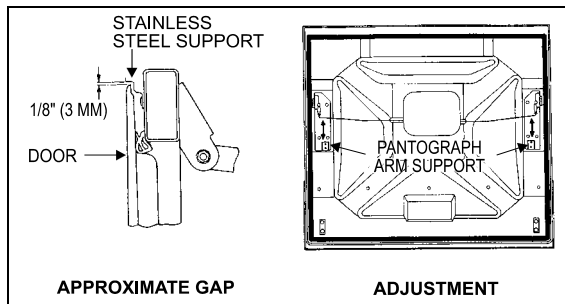


FIGURE 46: BAGGAGE COMPARTMENT DOOR 18064

2. Slightly open the door, position it to obtain a gap of 4" (100mm) between structure and door panel upper lip, maintain door in this position while an assistant completes tightening the two bolts retaining door to each balance arm support (Fig. 47).

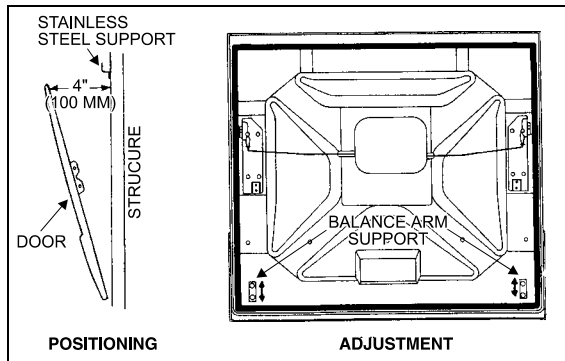


FIGURE 47: BAGGAGE COMPARTMENT DOOR 18065

3. Fully open the door, loosen the two bolts retaining each gas cylinder support to structure, position door parallel with adjacent doors and complete tightening bolts. A measure of 6"  $\pm$  1/4" (150mm  $\pm$  7mm) between door panel lip (at level of upper edge of lower section) and the lateral panel is given as a guide.

**Caution:** For converted vehicles provided with "Awning" windows, fully open window then adjust door opening angle so the door does not interfere with window.

4. With door slightly open, pull door handle while an assistant checks that both latches release simultaneously. If not, with latch engaged, gently bend the appropriate latch control rod until proper timing is achieved (Fig. 48).

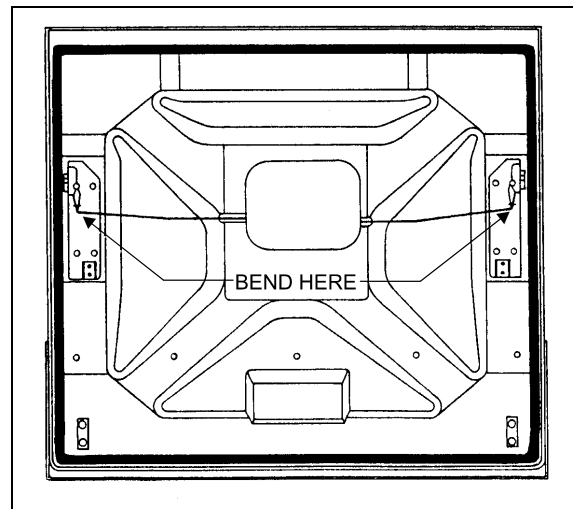


FIGURE 48: BAGGAGE COMPARTMENT DOOR 18067

5. Install both striker pins, bring the door close to them, and adjust the height of pins so they are well centered with latches (Fig. 49).

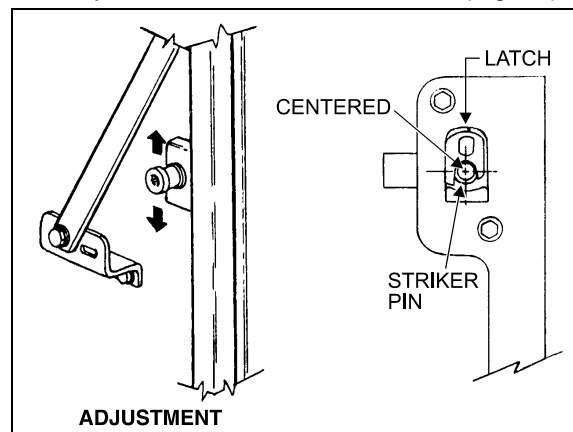


FIGURE 49: BAGGAGE COMPARTMENT DOOR 18068

**Note:** Before proceeding with the following step, mark the position of striker pins on structure to avoid upsetting the vertical adjustment of the pin.

6. Loosen the striker pins just enough to allow them to be moved with a hammer. Working from inside compartment and with the door closed (lower catches engaged), hit the pin washers to horizontally move the pins and consequently the door, while an outside assistant checks the fit. A gap of 1/16" +3/64", -1/64" (1,5mm +1mm, -0,5mm) between the stainless steel support for the lateral panel and the door panel lip is recommended (Fig. 50)

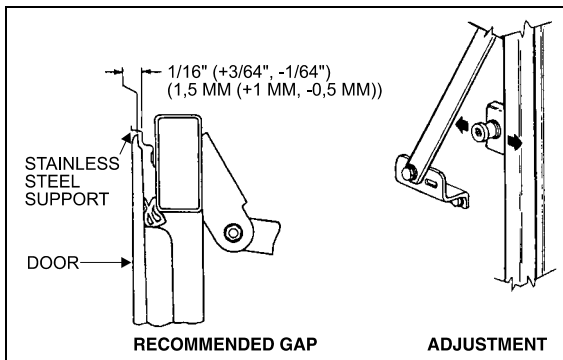


FIGURE 50: BAGGAGE COMPARTMENT DOOR 18069

- With door shut, it should have a gap of  $3/8'' \pm 5/64''$  (10mm  $\pm$  2mm) between door panel lip (at level of upper edge of lower section) and structural post. If not, move pins horizontally until correct gap is obtained. Fully tighten the pins after adjustment is achieved (Fig. 51).

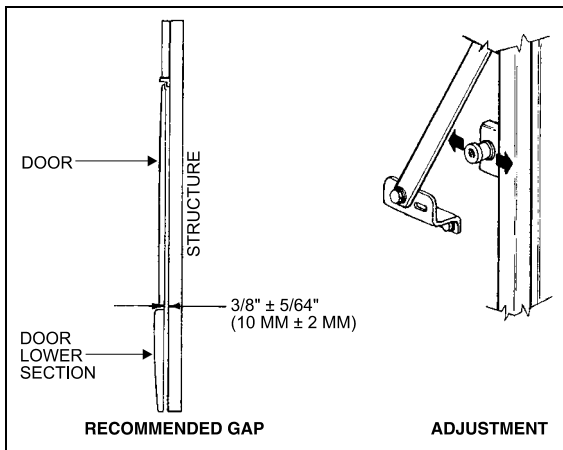


FIGURE 51: BAGGAGE COMPARTMENT DOOR 18070

- Recheck gap mentioned in step 6. If gap has changed, correct by adjusting arm support fixed to structure. Loosen the bolt supporting the balance arm on door lower section and close the door, gap adjustment will automatically result. Tighten the bolt from inside the compartment (Fig. 52).

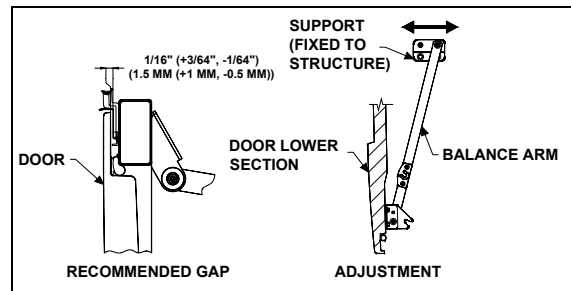


FIGURE 52: BAGGAGE COMPARTMENT DOOR 18071

Once the adjustment procedure is achieved, ensure that all bolts are securely tightened.

### 16. DOOR HANDLES

Compartment door handles are non serviceable. When a door handle has to be removed, proceed as follows:

- Unscrew the four (4) retaining screws;
- Remove the two (2) wires connecting the handle to the door latch locking mechanisms.
- To install a new handle, reverse the procedure.

### 17. ENGINE COMPARTMENT DOOR

The engine compartment rear door (Fig. 53) rises in the same way as the baggage compartment doors and is held open by three gas-charged cylinders (Prevost # 980024). The engine compartment opens by lifting a handle accessed from the R.H. side of the engine compartment.

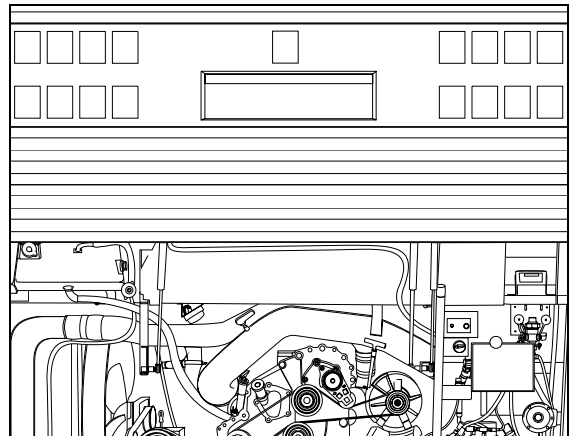


FIGURE 53: ENGINE COMPARTMENT DOOR 18323

When pushed up, the handle pulls on two steel wires, each steel wire connected to its

## Section 18: BODY

respective door latch locking the rear door. Both steel wires are looped at the release handle and can be adjusted to proper length to ensure positive release of both catches when the handle is raised.

### 17.1 ENGINE DOOR ADJUSTMENT

As indicated above, the engine door mechanism is similar to the baggage door mechanism using a pantograph and 3 gas cylinders to move the door up and down.

For a minor horizontal or vertical adjustment:

1. Open the door mid-height;
2. With the help of an assistant, pull down one side of door while holding up the other side to bend the pantograph arms in the desired position;
3. Close the door and check the top edge parallelism between the door and the vehicle end cap structure. The space may be somewhere between 10 and 15 mm;
4. Repeat until satisfied.

### 17.2 MINOR TOP EDGE DEPTH ADJUSTMENT

Two rubber spring loaded stops may be adjusted. They are located near the top edge on each side of the rear door.

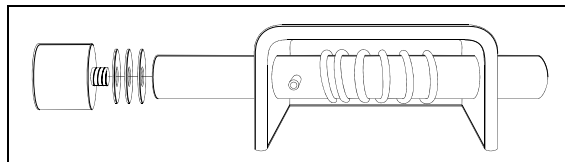


FIGURE 54: DOOR STOP

18324

To adjust:

1. Open door.
2. Unscrew rubber stop.
3. Add or remove washers as needed.
4. Firmly screw back rubber stop.

### 17.3 MINOR LOWER EDGE DEPTH ADJUSTMENT:

1. Open door.
2. Slightly loosen the striker pins on each side of door.

3. Using a hammer, strike striker pin gently in the desired direction (in or out).
4. Close the door slowly and check fit.
5. Repeat 3 and 4 to adjust the other striker pin.
6. When door depth is completed on the four corners, both vertical door sides should be parallel to the vehicle body structure.
7. Firmly tighten the striker pins (2) to lock them in position.

### 18. ENGINE AIR INTAKE GRILL

When needed, the engine air intake grill can be changed:

1. Cut the seal around the grill with a sharp edged knife.
2. Remove the grill from the vehicle.
3. On the vehicle grill opening, using the knife, remove as much adhesive as possible.
4. Sand the new grill backing edge to remove the glossy surface.
5. Clean with alcohol, wipe dry.
6. Apply SIKA 205 primer to the grill opening and the grill edges. Allow to dry at least 2 minutes for chemical evaporation.
7. Apply SIKA 255 FC adhesive on the grill edge.
8. Install the grill on the vehicle, adjust and fasten with masking tape. Allow 8 hours setting period.

### 19. RADIATOR DOOR ADJUSTMENT

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

1. Loosen the nuts (1, Fig. 55) holding the hinge to the vehicle structure to shift the door "IN or OUT" and "UP or DOWN".
2. Loosening nuts (2, Fig. 55) allows the door to be shifted "LEFT or RIGHT" and "UP or DOWN".
3. Adjust the door position depending on the gap needed between exterior finishing panels (Fig. 41).
4. Tighten the nuts.



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.

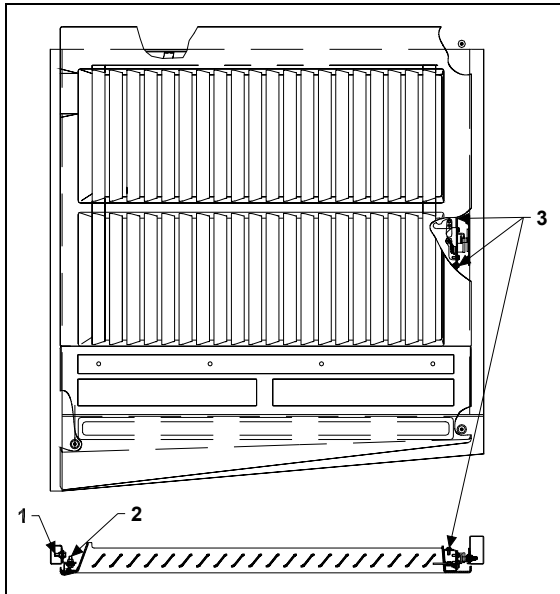


FIGURE 55: RADIATOR DOOR

18191

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.

## 20. CONDENSER DOOR ADJUSTMENT

1. Open the condenser door.
2. Loosen the nuts (1, Fig. 56) holding the hinge (3, Fig. 56) to hinge attachment (4, Fig. 56). Loosening nuts (1, Fig. 56) allows the condenser assembly to be shifted "LEFT or RIGHT" and "UP or DOWN".
3. Adjust condenser assembly position at the hinge.
4. Tighten the nuts.
5. Loosen bracket nuts holding the panel to condenser. Panel (6, Fig. 56) may be shifted "IN or OUT", "LEFT or RIGHT" and "UP or DOWN".
6. Adjust condenser panel at brackets (2, Fig. 56) and (5, Fig. 56).
7. Tighten the nuts.
8. Respect the required gap between exterior finishing panels (Fig. 41).
9. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

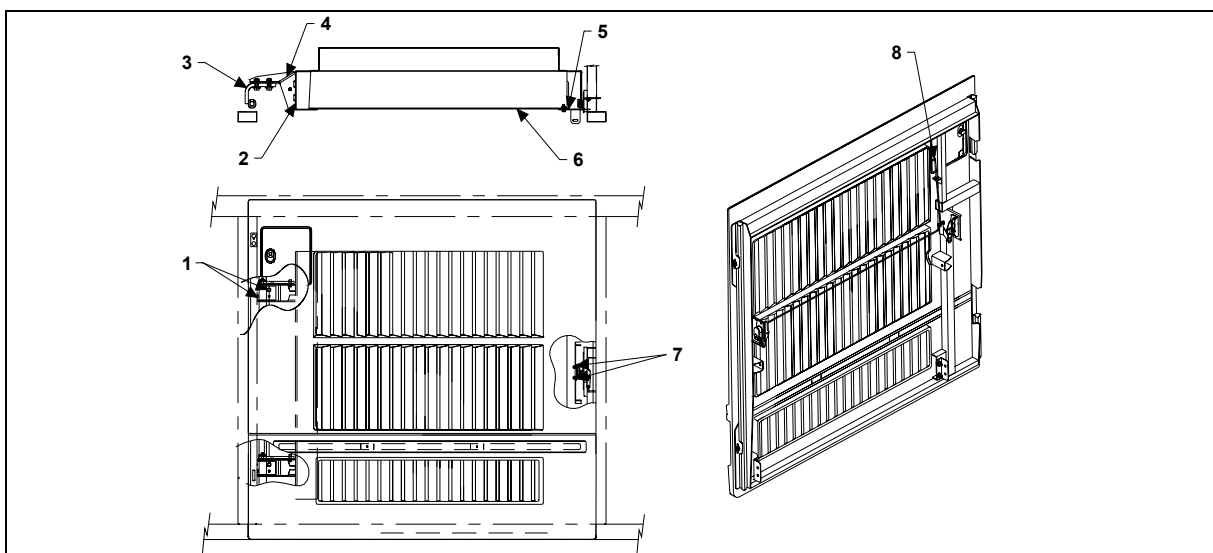


FIGURE 56: CONDENSER DOOR

D280201

**21. FUEL FILLER DOOR**

1. Open the fuel filler door (1, Fig. 57).
2. Loosen the screws (3, Fig. 57) holding the panel to hinge (2, Fig. 57) assembly.
3. Adjust the fuel filler door position according to distance required between exterior finishing parts (Fig. 41).
4. Tighten the nuts.
5. Check that the door swings freely and closes properly.

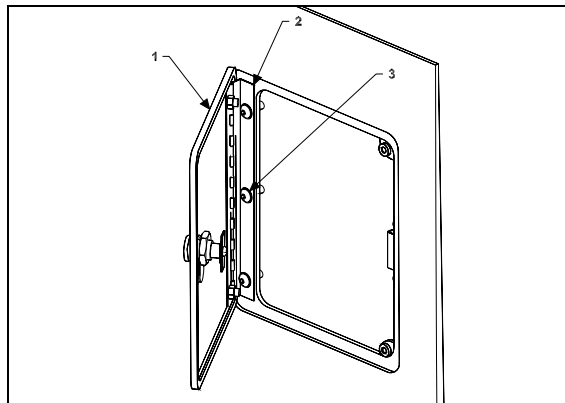


FIGURE 57: FUEL FILLER DOOR 1875003D

**22. FRONT SERVICE COMPARTMENT**

Adjustment of the front service compartment door can be done by following these steps:

1. Open the door.
2. Loosen nut (2, Fig. 58).
3. Move part (1, Fig. 58), as close as possible to exterior of coach, so as to have enough clearance for proper door opening.
4. Tighten nut (2, Fig. 58).
5. Loosen nut (3, Fig. 58). Hinge allows the door to be shifted "IN or OUT".

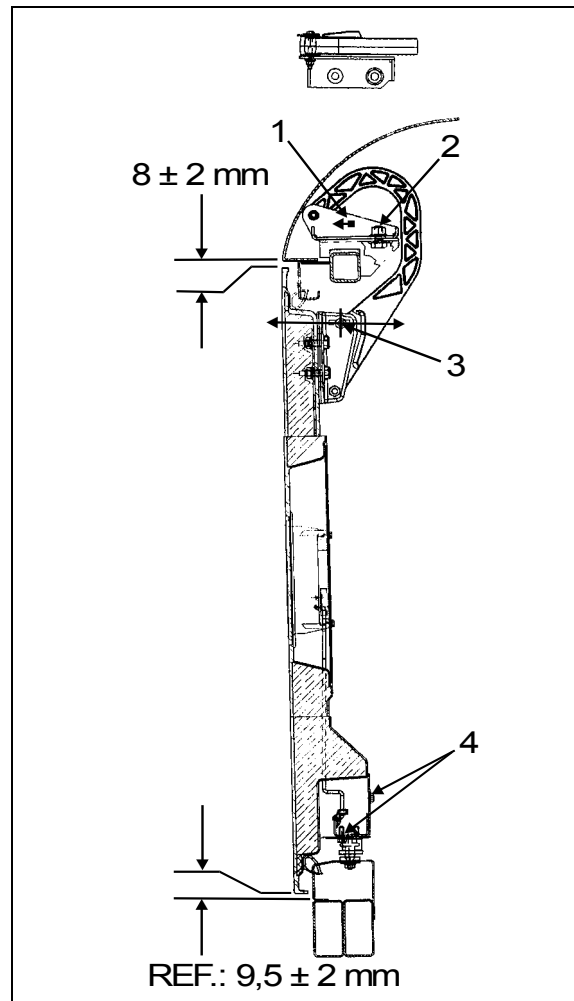


FIGURE 58: DOOR HINGE 18194

6. Adjust door panel to have the same gap space as neighboring panels or refer to figure 41 for specified gap space. Only if necessary, use the adjustment allowed by moving part 1, Fig. 58.
7. Loosen screws (5, Fig. 59) to allow the door to be shifted "UP or DOWN".
8. Adjust the door position.
9. Tighten the screws.
10. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

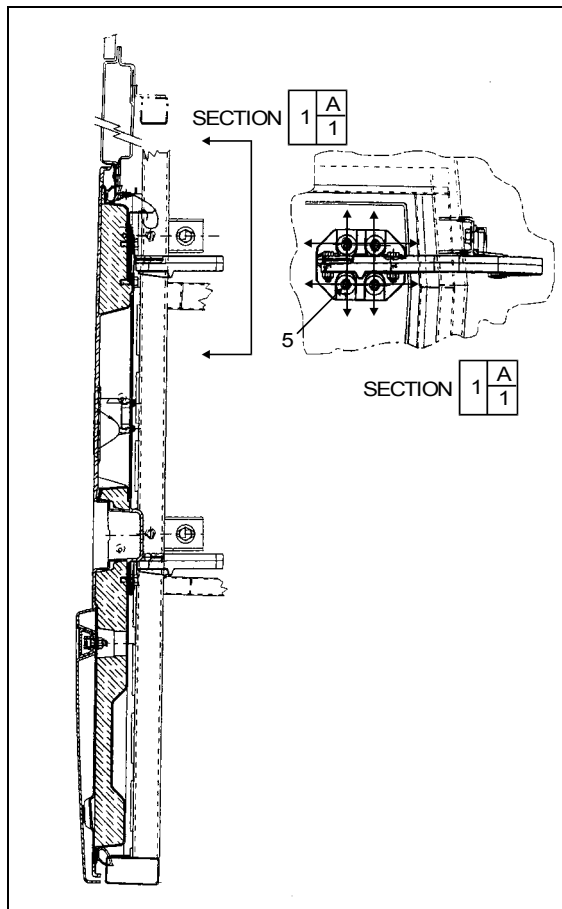


FIGURE 59: FRONT SERVICE DOOR

18195

### 22.1 LATCH MECHANISM ADJUSTMENT

To adjust the latch mechanism and the striker pin, open the door to access the striker pin. Slightly loosen the striker pin. Using a hammer, adjust the striker pin to center it in the door latch mechanism. Tighten the striker pin. Check door fit and operation.

### 23. ENGINE COMPARTMENT R.H. SIDE DOOR

The engine compartment R.H side door can be adjusted by following these steps:

1. Open the door.
2. Loosen nut (1, Fig. 60).
3. Move part (3, Fig. 60) as shown in figure for "LEFT or RIGHT" adjustment.
4. Tighten nut (1, Fig. 60).
5. Loosen nut (2, Fig. 60).

6. Hinge allows the door to be shifted "IN or OUT".
7. Adjust the door in accordance with the required distance between exterior finishing parts (Fig. 41).
8. Loosen screws (4, Fig. 61).
9. Screws allows the door to be shifted "UP or DOWN".
10. Adjust the door position according to the distance required between exterior finishing parts (Fig. 41).
11. Tighten the screws.

Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

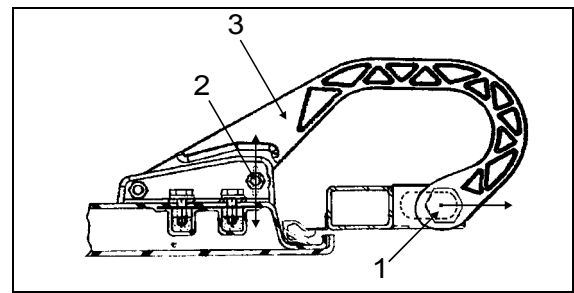


FIGURE 60: DOOR HINGE

18196

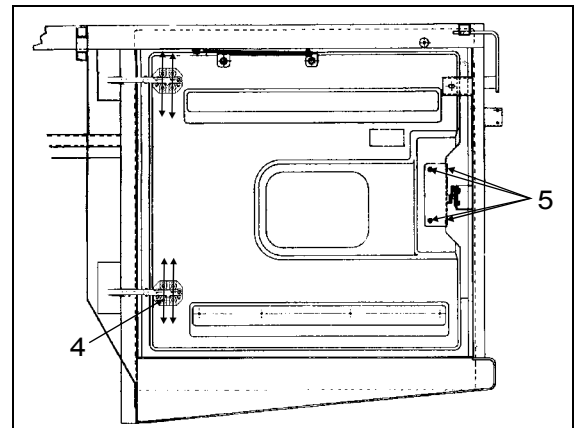


FIGURE 61: ENGINE COMPARTMENT R.H. DOOR

18197

### 23.1 LATCH MECHANISM ADJUSTMENT

To adjust the latch mechanism and the striker pin, open the door to access the striker pin. Slightly loosen the striker pin. Using a hammer, adjust the striker pin to center it in the door latch mechanism. Tighten the striker pin. Check door fit and operation.

## Section 18: BODY

### 24. EVAPORATOR DOOR ADJUSTMENT

1. Open the door.
2. Loosen nut (1, Fig. 62).
3. Move part as shown in figure for "LEFT or RIGHT" adjustment.
4. Tighten nut (1, Fig. 62).
5. Loosen nut (2, Fig. 62). Hinge allows the door to be shifted "IN or OUT".
6. Adjust the door in accordance with the required distance between exterior finishing parts (Fig. 41).
7. Loosen screws (3, Fig. 62). Screws allows the door to be shifted "UP or DOWN".
8. Adjust the door position according to the distance required between exterior finishing parts (Fig. 41).

9. Tighten the screws.

Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

#### 24.1 LATCH MECHANISM ADJUSTMENT

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

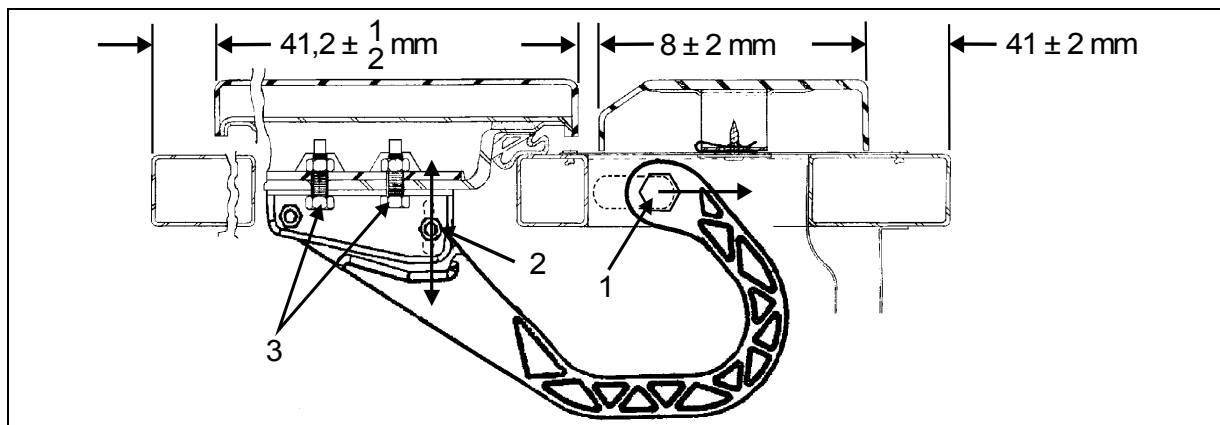


FIGURE 62: EVAPORATOR DOOR

18198

### 25. REAR ELECTRICAL COMPARTMENT

To adjust the rear electrical compartment door:

1. Loosen nut (1, Fig. 63).
2. Move part as shown in figure for "LEFT or RIGHT" adjustment.

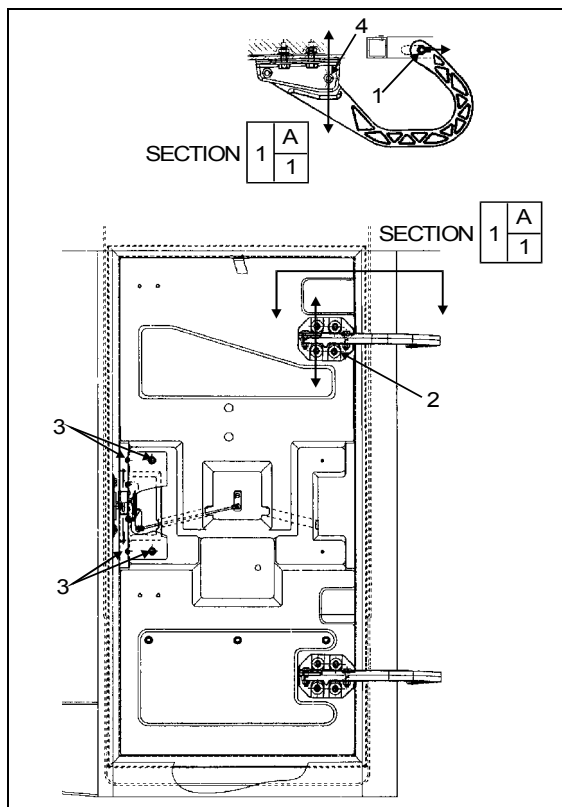


FIGURE 63: REAR ELECTRICAL COMP. DOOR 18199

3. Tighten nut (1, Fig. 63).
4. Loosen nut (4, Fig. 63).
5. Hinge allows the door to be shifted "IN or OUT".
6. Adjust door panel to have the same gap space as neighboring panels or refer to figure 41 for specified gap space
7. Loosen screws (2, Fig. 63). Screws allows the door to be shifted "UP or DOWN".
8. Adjust the door position.

Tighten the screws.

Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

#### 25.1 LATCH MECHANISM ADJUSTMENT

To adjust the latch mechanism and the striker pin:

1. Open the door to access the striker pin.
2. Loosen slightly the striker pin.

3. Using a hammer, adjust the striker pin to center it in the door latch mechanism.
4. Tighten the striker pin.

Check door fit and operation.

#### 26. MAIN POWER COMPARTMENT

Main power compartment door adjustment is similar to that of rear electrical compartment door. Refer to paragraph 25 for more details.

#### 27. FENDERS

On the "H" series vehicle, all fenders are easily removable for maintenance on brakes and suspension. Each rear fender has three mechanical spring-loaded holding devices fixing it to the vehicle's structure.

##### 27.1 REAR FENDER REMOVAL

1. Push the spring type rod sideways so that the lock disengages.
2. Support or have somebody hold the fender up.
3. As in 1, repeat to release both remaining holding devices.
4. Holding the fender firmly, pull it down until the top edge disengages from the holding plates.

To reinstall, reverse the procedure.

##### 27.2 FRONT FENDER REMOVAL

1. At the bottom of fender, remove the retaining screws on one side of the fender.
2. Support or have someone hold the fender up.
3. Remove the screw on the other side of the fender.
4. Pull the fender down until the top edge disengages from the holding plates.

To reinstall, reverse the procedure.

#### 28. REAR CAP

The fiberglass rear cap does not need any maintenance except painting as needed. For minor damages, refer to section 4 "Fiberglass

## Section 18: BODY

Repair" and section 5 "Painting". If the rear cap ever has to be replaced:

1. Remove all accessories.
2. Drill out the retaining pop rivets.
3. With a sharp edge blade, cut the seal joint and remove the rear cap.
4. With the sharp edge blade, remove as much of the remaining seal pieces as possible.
5. Sand with #120 or #150 sandpaper.
6. Wipe clean with alcohol
7. Prepare surface with SIKA #205 and let dry for a minimum of 2 minutes.
8. Install a new seal using LOCTITE 414 glue.
9. Install the rear cap and fasten with pop rivets.

**Caution:** Do not attempt this procedure unless you are qualified and equipped to handle this job.

### 29. FRONT CAP

The front cap windshield frame does not need any maintenance. It is held in place with bolts and nuts. If it ever it has to be replaced, make an appointment at a Prévost service center near you.

### 30. FRONT MOLDING

To complete the exterior front bottom, the following moldings are added:

A metal decorative frame is placed around the headlights. It is held in place with screws.

A horizontal linear molding is screwed in place in order to receive the vehicle's license plates.

The builder's name plate "Prévost" is pressed in place.

### 31. SIDE PANELS

The series "H3" model, from vehicle number W-2285, has a one piece fiberglass panel on each side. A visual check must be performed every six (6) months.

The verification is limited to a visual check around the perimeter of the side panel to see if there is any peeling off of the side panel.

In the affirmative stop driving the vehicle. Call Prévost Car Inc. immediately to take corrective action.

**Warning:** DO NOT attempt to repair yourself. NEVER use rivets or mechanical fasteners of any kind to attach panel.

### 32. REAR VIEW MIRRORS (RAMCO)

Your vehicle is equipped with two exterior mirrors.

The mirrors may be equipped with an optional electric heating system which serves to minimize ice and condensation on the mirror glass in extreme weather conditions. Integral thermostats are installed in both mirrors to avoid continuous heating. Use the appropriate switch on the dashboard to activate the defroster system on both mirrors simultaneously. 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.

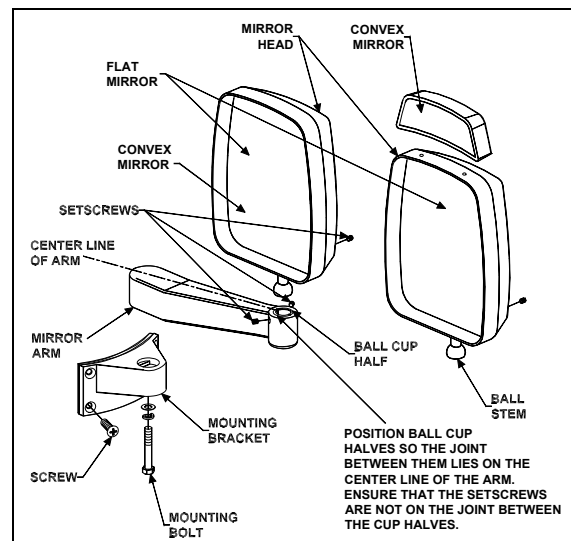


FIGURE 64: REAR-VIEW MIRROR (RAMCO)

18201

#### 32.1 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.

### 32.2 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.

### 32.3 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.*

### 32.4 REPLACEMENT OF MIRROR GLASS

Remove the broken glass.

Position new glass in mirror head and press to lock the Velcro in place.

### 32.5 HEATED / REMOTE CONTROLLED REAR VIEW MIRRORS

Heated/remote controlled external rear view mirrors may be provided to prevent the mirrors from frosting up in cold weather.

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.

The mirror heat switch is located to the left of the driver on the dashboard. This switch must be activated before the mirror heating element will energize. Once energized, the mirror heating element is kept at a sustained temperature (between 60-80°F) by a thermostat. Refer to wiring diagram annexed in the technical publication box.

**Caution:** *Do not attach stick-on type convex mirror accessories to the heated mirror glass. This could impede uniform heat distribution on the mirror surface which could break the mirror.*

#### 32.5.1 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.

Turn pointer knob to the left for mirror head adjustments and to the right for convex mirror adjustment, then push down on either of the button's (4) sides to adjust the selected mirror viewing angle.

#### 32.5.2 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.

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

#### 32.5.3 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.*

#### 32.5.4 Convex & Flat Mirror Removal

The mirror glass assembly is mounted to the control mechanism or to mirror base with Velcro strips. Remove the mirror glass by gently pulling the lens to release the Velcro. Disconnect the heater grid at the two connectors.

Connect the connectors of the new mirror's grid to the harness. Install the lens by positioning the lens in the mirror frame and pressing to lock the Velcro in place.

## Section 18: BODY

### 33. VEHICLE JACKING POINTS

The vehicle can be lifted by applying pressure under body jacking points or front and drive axle jacking points (Fig. 65, 66, 67, 68). When it is necessary to lift the vehicle, care should be taken to ensure that the pressure is applied only on the specified areas. Equipment for lifting the front of the vehicle must have a combined lifting capacity of at least 20,000 lb. (9 100 kg). Equipment for lifting the rear of the vehicle must have a combined lifting capacity of at least 40,000 lb. (18 200 kg).

**Warning:** DO NOT tow or jack vehicle with people on board.

**Warning:** When it is necessary to raise the vehicle, care should be taken to ensure that pressure is applied only at the points indicated in figures 65, 66, 67 and 68.

**Warning:** Extra lift capacity may be required if luggage or any other type of load (e.g. conversion equipment) are onboard the vehicle.

**Caution:** The suspension of the vehicle must be in the normal ride position before jacking. The "Level Low" system on a motorcoach must be in the "DRIVE" position prior to turning the ignition key "OFF".

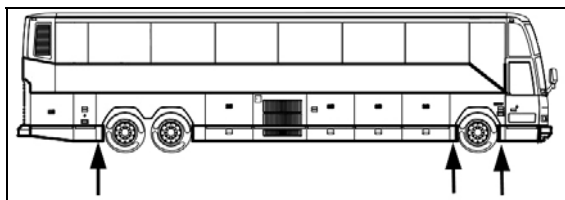


FIGURE 65: JACKING POINTS ON STRUCTURE 18427

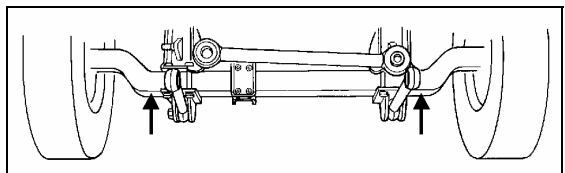


FIGURE 66: JACKING POINTS ON FRONT AXLE 18084

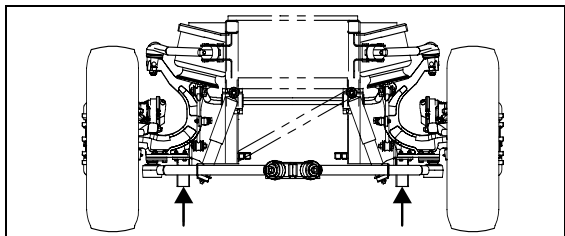


FIGURE 67: JACKING POINTS ON IND. SUSPENSION

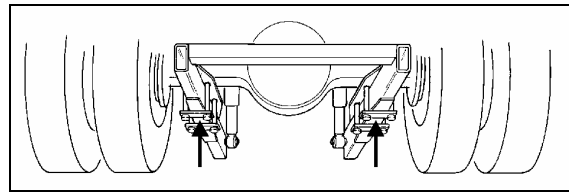


FIGURE 68: JACKING POINTS ON DRIVE AXLE 18085

**Caution:** Always unload or retract the tag axle before jacking the vehicle from the front and drive axle jacking points to prevent damage to suspension components.

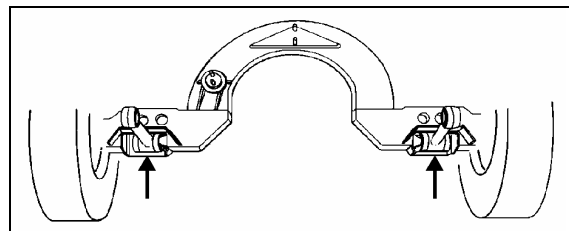


FIGURE 69: JACKING POINTS ON TAG AXLE 18086

**Caution:** The jacking points on the tag axle must be used for raising the tag axle only.

### 34. TOWING THE VEHICLE

The vehicle can be transported on a low bed semi-trailer of adequate gross axle weight capacity. When transporting a vehicle, apply parking brake and shut down the engine. Block all wheels and secure vehicle with tie-downs. Check that overall height will clear obstacles on the route to follow, and obtain required permits.

The vehicle can also be towed by lifting the front axle or by towing from the front with all wheels on the ground. These two methods are described below under their respective headings. Whatever the method used, the vehicle should be towed by truck operators authorized and experienced in towing highway coaches.

Observe normal precautions including, but not limited to, the ones listed below when towing the vehicle:

- Make sure the parking brake is released before towing.
- Do not allow passengers to ride onboard the towed vehicle.
- Tow the vehicle at a safe speed as dictated by road and weather conditions.



- Accelerate and decelerate slowly and cautiously.

### 34.1 LIFTING AND TOWING

The towed vehicle must be lifted from under the front axle only. The tow truck must be equipped with the proper lifting equipment to reach under the front axle since no other lifting points are recommended. Lifting and towing from any other point are unauthorized as it may cause serious damage to the structure. Do not unload or raise the tag axle when lifting and towing to prevent overloading the drive axle.

1. Remove both drive axle shafts to prevent damage to the transmission. Plug axle tube to prevent oil loss. Refer to Rockwell's "Maintenance manual no.5" annexed at the end of Section 11, Rear axle, in this manual for correct procedure.

**Caution:** *Transmission lubrication is inadequate when towing. With either automatic, semi-automatic or manual transmission, the drive axle shafts must be removed to avoid serious damage to the transmission.*

2. Operate the engine when towing to maintain brake system air pressure. If the engine cannot be operated, connect an external air pressure line from the tow truck to the emergency fill valve in the engine compartment. The emergency fill valve in the front service compartment does not supply air pressure to the brake system. The air pressure must be a minimum of 75 psi (520 kPa), and the line should be attached to the air line with a clip-on chuck.

**Caution:** *Do not tow the vehicle without external air pressure applied to the emergency fill valve if the engine does not operate. Without brake system air pressure, the brakes may apply automatically if system air drops below 40 psi (275 kPa). If failure prevents releasing the parking brakes with air pressure, disengage the parking brakes mechanically.*

3. Lift the vehicle from under the front axle, and adequately secure the underside to the tow vehicle lifting attachment with chains.

## 35. SPECIFICATIONS

4. Observe safety precautions when towing.

### 34.2 TOWING WITHOUT LIFTING

**Caution:** *When towing vehicle without lifting, use only a tow truck with a solid link tow bar and related equipment. All other means of towing are unauthorized. Tow only from the front of the vehicle.*

1. Remove both drive axle shafts to prevent damage to the transmission. Plug axle tube to prevent oil loss. Refer to Rockwell's "Maintenance manual no.5" annexed at the end of Section 11, Rear axle, in this manual for correct procedure.

**Caution:** *Transmission lubrication is inadequate when towing. With either automatic, semi-automatic or manual transmission, the drive axle shafts must be removed to avoid serious damage to the transmission.*

2. Operate the engine when towing to maintain brake system air pressure. If the engine cannot be operated, connect an external air pressure line from the tow truck to the emergency fill valve in the engine compartment. The emergency fill valve in the front service compartment does not supply air pressure to the brake system. The air pressure must be a minimum of 75 psi (520 kPa), and the line should be attached to the air line with a clip-on chuck.

**Caution:** *Do not tow the vehicle without external air pressure applied to the emergency fill valve if the engine does not operate. Without brake system air pressure, the brakes may apply automatically if system air drops below 40 psi (275 kPa). If failure prevents releasing the parking brakes with air pressure, disengage the parking brakes mechanically.*

3. Position the tow truck so that the tow bar contacts the front bumper of the vehicle.
4. Attach the tow truck chains only in the tow eyes of the vehicle under the bumper and take up all the slack.
5. Attach safety chains as applicable.
6. Observe safety precautions when towing.

## Section 18: BODY

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### Door cylinder

Manufacturer ..... Bimba  
Type ..... Pneumatic  
I.D. .... 1½" ( mm)  
Stroke..... 8" ( mm)  
Prévost number ..... 780595

### Damper

Manufacturer ..... Koni  
Prévost number ..... 780565

### Lock cylinder (upper)

Manufacturer ..... Bimba  
Type ..... Air, single action, 1/8 NPT, hexagonal rod  
I.D. .... 7/8" (22 mm)  
Stroke..... 1" (25 mm)  
Supplier number ..... D-51127-A  
Prévost number ..... 641392

### Lock cylinder (central)

Manufacturer ..... Bimba  
Type ..... Air, single action, ¼ NPT  
I.D. .... 1¾" (45 mm)  
Stroke..... 1" (25 mm)  
Supplier number ..... 241-P  
Prévost number ..... 641209

### Manifold solenoid

Manufacturer ..... Norgren  
Type ..... 4 ports, 1/8 NPT  
Voltage ..... 24 VDC  
Power consumption..... 6 watts  
Maximum pressure..... 150 psi (1035 kPa)  
Prévost number ..... 641448

### Solenoid valve (Latching valve)

Manufacturer ..... Humphrey  
Model ..... 310  
Operating range ..... 0 to 125 psi (0 to 860 kPa)  
Voltage ..... 24 VDC  
Voltage tolerance ..... +10%, -15% of rated voltage  
Power consumption..... 4 watts  
Leak rate (max allowed) ..... 0.245 in<sup>3</sup>/min @ 100 psi (4cc/min @ 690 kPa)  
Type of operation ..... Direct solenoid  
Lubrication..... Not required (factory pre-lubed)  
Filtration ..... 40 micron recommended  
Prévost number ..... 641412

### Pressure switch assembly

Prévost number ..... 452831