

SECTION 18: BODY

CONTENTS

1. COMPARTMENT DOORS.....	18-6
1.1 H3-41	18-6
1.2 H3-45	18-7
2. STRUCTURE.....	18-7
2.1 Description.....	18-7
2.2 Welding.....	18-7
3. EXTERIOR MAINTENANCE	18-8
3.1 Corrosion Prevention	18-8
4. FIBERGLASS REPAIR	18-8
4.1 Repair with Fiberglass Cloth	18-9
4.2 Repair with Fiberglass Paste	18-9
4.3 Typical Fiberglass Repair Procedure.....	18-10
5. PAINTING.....	18-11
5.1 Safety.....	18-11
5.2 Surface Preparation.....	18-11
5.2.1 Aluminum Surface.....	18-11
5.2.2 Fiberglass Surface.....	18-11
5.2.3 Washing.....	18-11
5.3 Primer Application.....	18-11
5.3.1 Aluminum Surface.....	18-11
5.3.2 Fiberglass Surface.....	18-11
5.4 Painting.....	18-11
5.4.1 PPG Paint Application.....	18-11
5.4.2 PPG Clear Application	18-12
6. COACH FRONT AND REAR BUMPERS.....	18-12
6.1 Repair of Superficial Damage	18-12
6.2 Repair of Substantial Damage	18-13
6.3 Refinishing procedure.....	18-13
6.3.1 Surface Preparation	18-14
6.3.2 Prime Coat.....	18-14
6.3.3 Color Coat.....	18-14
6.4 Front Bumper Removal and Installation.....	18-14
6.5 Rear Bumper Removal and Installation	18-15
7. COACH ENTRANCE DOOR	18-15
7.1 Description.....	18-15
7.1.1 Operation	18-16
7.1.2 Emergency Exit Valves	18-16
7.1.3 Without air and With or Without Electricity.....	18-16
7.1.4 With Air and Without Electricity.....	18-16
7.2 Adjustment and Maintenance	18-17

Section 18: BODY

7.2.1	Door Speeds Cycles Adjustments	18-17
7.2.2	Horizontal and Vertical Adjustments	18-19
7.2.3	Depth Adjustment	18-19
7.2.4	Rod End With Bearing Adjustment.....	18-20
7.3	Lubrication	18-20
7.4	Specifications	18-20
8.	ENTRANCE DOOR (V.I.P.).....	18-23
8.1	Description.....	18-23
8.1.1	Inside Operation	18-23
8.1.2	Outside Operation.....	18-23
8.1.3	Keyless Entry System	18-23
8.2	Door Adjustments	18-23
8.3	Lubrication	18-23
9.	ACCESS DOORS	18-25
9.1	Maintenance and Adjustment	18-25
10.	BAGGAGE COMPARTMENT DOORS	18-26
10.1	Adjustment.....	18-27
11.	ENGINE COMPARTMENT DOOR.....	18-29
12.	RADIATOR DOOR	18-30
12.1	Door / Hinge.....	18-30
12.2	Latch Mechanism.....	18-30
13.	CONDENSER DOOR.....	18-31
13.1	Door / Hinge.....	18-31
13.2	Latch Mechanism.....	18-31
14.	FUEL FILLER DOOR	18-32
14.1	Door / Hinge.....	18-32
14.2	Latch Mechanism.....	18-32
15.	FRONT SERVICE COMPARTMENT.....	18-33
15.1	Door / Hinge.....	18-33
15.2	Latch Mechanism.....	18-34
16.	ENGINE COMPARTMENT REAR R.H. SIDE DOOR.....	18-35
16.1	Door / Hinge.....	18-35
16.2	Latch Mechanism.....	18-36
17.	EVAPORATOR DOOR.....	18-37
17.1	Door / Hinge.....	18-37
17.2	Latch Mechanism.....	18-37
18.	MAIN POWER COMPARTMENT AND REAR ELECTRICAL COMPARTMENT.....	18-38
18.1	Door / Hinge.....	18-38
18.2	Latch Mechanism.....	18-38
19.	FRONT ELECTRICAL COMPARTMENT.....	18-39
19.1	Door / Hinge.....	18-39
19.2	Latch Mechanism.....	18-39
20.	EXTERNAL REAR VIEW MIRRORS (RAMCO).....	18-40
20.1	Adjustment.....	18-40
20.2	Disassembly	18-40
20.3	Assembly	18-40
20.4	Replacement of Mirror Glass	18-40

20.5	Heated / Remote Controlled External Rear View Mirrors.....	18-40
20.5.1	L.H. & R.H. Outside Mirror Control mirrors.....	18-41
20.5.2	Disassembly	18-41
20.5.3	Assembly	18-41
20.5.4	Flat Glass.....	18-41
20.5.5	Convex & Flat Mirror Replacement	18-41
21.	EXTERNAL REAR VIEW MIRRORS (SPARTAN)	18-41
21.1	Adjustment.....	18-42
21.2	Manually Adjusted Mirror	18-42
21.3	Electrically Adjusted Mirror	18-42
21.4	Replacement of Mirror Glass	18-42
22.	COACH SIDE WINDOWS.....	18-42
22.1	Removal and Installation	18-43
22.2	Emergency Exit Window Adjustment	18-44
23.	ADHESIVE MOUNTED WINDOWS.....	18-44
23.1	Replacement.....	18-44
24.	WINDSHIELD	18-46
24.1	Removal.....	18-46
24.2	Installation	18-46
24.3	Rubber Extrusion and Windshield Installation	18-47
25.	ROOF ESCAPE HATCH	18-49
25.1	Maintenance	18-49
25.2	Repair	18-49
25.3	Sealing.....	18-50
25.4	Removal and Installation	18-50
26.	PASSENGER SEATS	18-50
26.1	Rotating Seat	18-50
26.2	Removing Fixed Seats.....	18-50
27.	UPHOLSTERY MAINTENANCE	18-51
27.1	Routine Cleaning	18-51
27.2	Dry Cleaning	18-51
27.3	Cleaning With Covers in Place	18-51
28.	VEHICLE JACKING POINTS	18-52
28.1	Body Jacking Points	18-52
28.2	Axle Jacking Points	18-52
28.3	Jacking the Tag Axle	18-52
29.	TOWING THE VEHICLE	18-53
29.1	Lifting and Towing.....	18-53
29.2	Towing Without Lifting	18-53

LIST OF ILLUSTRATIONS

FIG. 1: EXTERIOR COMPARTMENT DOORS (H3-41)	18-6
FIG. 2: EXTERIOR COMPARTMENT DOORS (H3-45)	18-7
FIG. 3: FIBERGLASS REPAIR.....	18-10
FIG. 4: FIBERGLASS REPAIR.....	18-10
FIG. 5: FIBERGLASS REPAIR.....	18-10
FIG. 6: FIBERGLASS REPAIR.....	18-10
FIG. 7: FIBERGLASS REPAIR.....	18-10
FIG. 8: REPAIR PAINT.....	18-12
FIG. 9: FRONT BUMPER	18-14
FIG. 10: FRONT BUMPER	18-14
FIG. 11: TOOL	18-15
FIG. 12: DOOR CYLINDER AND DAMPER.....	18-17
FIG. 13: COACH ENTRANCE DOOR.....	18-18
FIG. 14: DAMPER.....	18-19
FIG. 15: UPPER DOOR HINGE.....	18-19
FIG. 16: LATCH	18-19
FIG. 17: ENTRANCE DOOR (V.I.P.)	18-24
FIG. 18: REQUIRED DISTANCE BETWEEN EXTERIOR FINISHING PARTS	18-25
FIG. 19: BAGGAGE COMPARTMENT DOOR.....	18-26
FIG. 20: BAGGAGE COMPARTMENT DOOR.....	18-27
FIG. 21 BAGGAGE COMPARTMENT DOOR.....	18-27
FIG. 22: BAGGAGE COMPARTMENT DOOR.....	18-27
FIG. 23: BAGGAGE COMPARTMENT DOOR.....	18-28
FIG. 24: BAGGAGE COMPARTMENT DOOR.....	18-28
FIG. 25: BAGGAGE COMPARTMENT DOOR.....	18-28
FIG. 26: BAGGAGE COMPARTMENT DOOR.....	18-28
FIG. 27: BAGGAGE COMPARTMENT DOOR.....	18-29
FIG. 28: BAGGAGE COMPARTMENT DOOR.....	18-29
FIG. 29: BAGGAGE COMPARTMENT DOOR.....	18-29
FIG. 30: ENGINE COMPARTMENT DOOR.....	18-29
FIG. 31: RADIATOR DOOR.....	18-30
FIG. 32: A/C CONDENSER COMPARTMENT.....	18-31
FIG. 33: FULL FILLER DOOR.....	18-32
FIG. 34: FRONT SERVICE COMPARTMENT	18-33
FIG. 35: FRONT SERVICE COMPARTMENT	18-34
FIG. 36: ENGINE COMPARTMENT REAR R.H. SIDE DOOR	18-35
FIG. 37: ENGINE COMPARTMENT REAR R.H. SIDE DOOR	18-36
FIG. 38: EVAPORATOR DOOR	18-37
FIG. 39: MAIN POWER COMPARTMENT.....	18-38
FIG. 40: FRONT ELECTRICAL COMPARTMENT	18-39
FIG. 41: RAMCO MIRROR.....	18-40
FIG. 42: SPARTAN MIRROR	18-41

FIG. 43: MIRRORS ADJUSTMENT SCREWS.....	18-42
FIG. 44: SPARTAN MIRROR	18-42
FIG. 45: COACH SIDE WINDOWS (H3-41).....	18-43
FIG. 46: COACH SIDE WINDOWS (H3-45).....	18-43
FIG. 47: EMERGENCY EXIT WINDOW	18-43
FIG. 48: EMERGENCY EXIT WINDOW	18-43
FIG. 49: EMERGENCY EXIT WINDOW	18-43
FIG. 50: ADHESIVE MOUNTED WINDOWS	18-44
FIG. 51: ADHESIVE MOUNTED WINDOWS	18-45
FIG. 52: ADHESIVE MOUNTED WINDOWS	18-45
FIG. 53: ADHESIVE MOUNTED WINDOWS	18-45
FIG. 54: WINDSHIELD.....	18-46
FIG. 55: WINDSHIELD	18-46
FIG. 56: WINDSHIELD	18-47
FIG. 57: WINDSHIELD.....	18-47
FIG. 58: WINDSHIELD	18-48
FIG. 59: WINDSHIELD	18-48
FIG. 60: WINDSHIELD.....	18-48
FIG. 61: ROOF ESCAPE HATCH.....	18-49
FIG. 62: ROOF ESCAPE HATCH.....	18-49
FIG. 63: PASSENGER SEAT FRAME HOLDING	18-51
FIG. 64: PASSENGER SEAT FRAME	18-51
FIG. 65: BODY JACKING POINTS	18-52
FIG. 66: FRONT AXLE	18-52
FIG. 67: DRIVE AXLE	18-52
FIG. 68: TAG AXLE.....	18-52

1. COMPARTMENT DOORS

1. Engine air intake duct
2. Engine compartment R.H. side door
3. Main power compartment
4. Baggage compartment
5. Fuel filler door
6. A/C condenser
7. Entrance door operating switch
8. Entrance door
9. Reclining bumper compartment
10. Front service compartment
11. Front electric compartment
12. Fresh air inlet duct
13. HVAC compartment
14. Fuel filler door
15. Rear electric compartment
16. Radiator
17. Engine compartment rear door
18. Retractable back-up camera (optional)

1.1 H3-41

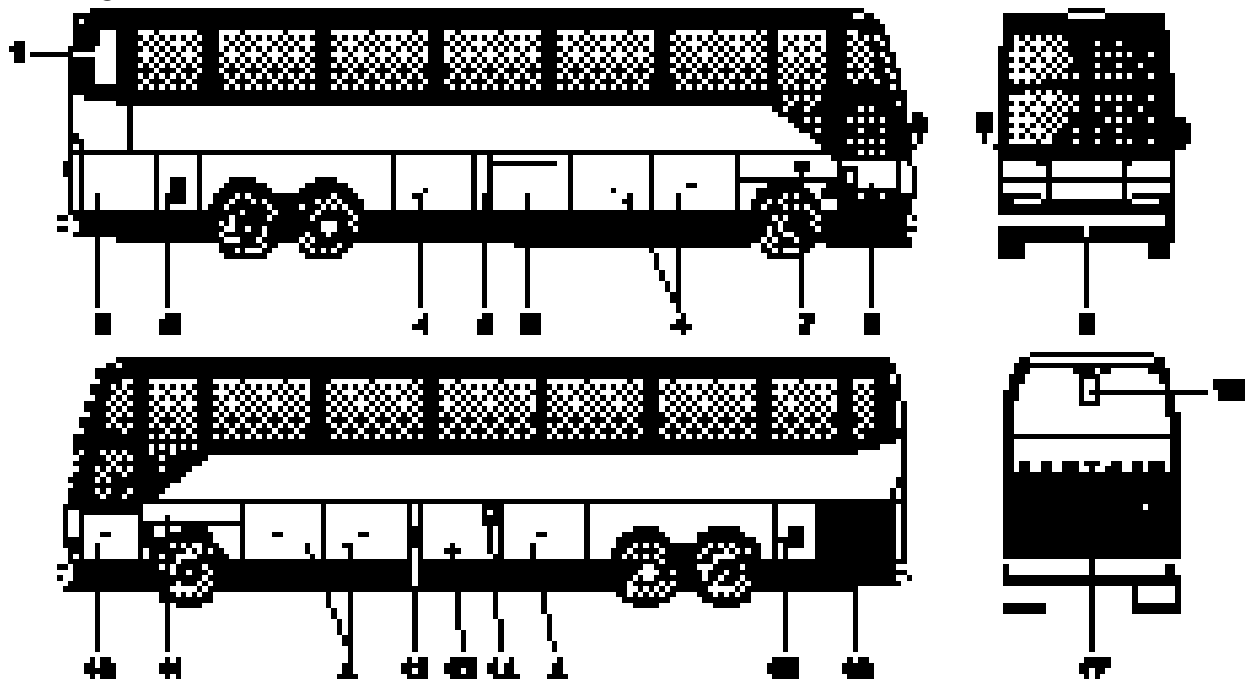


FIGURE 1: EXTERIOR COMPARTMENT DOORS (H3-41)

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1.2 H3-45

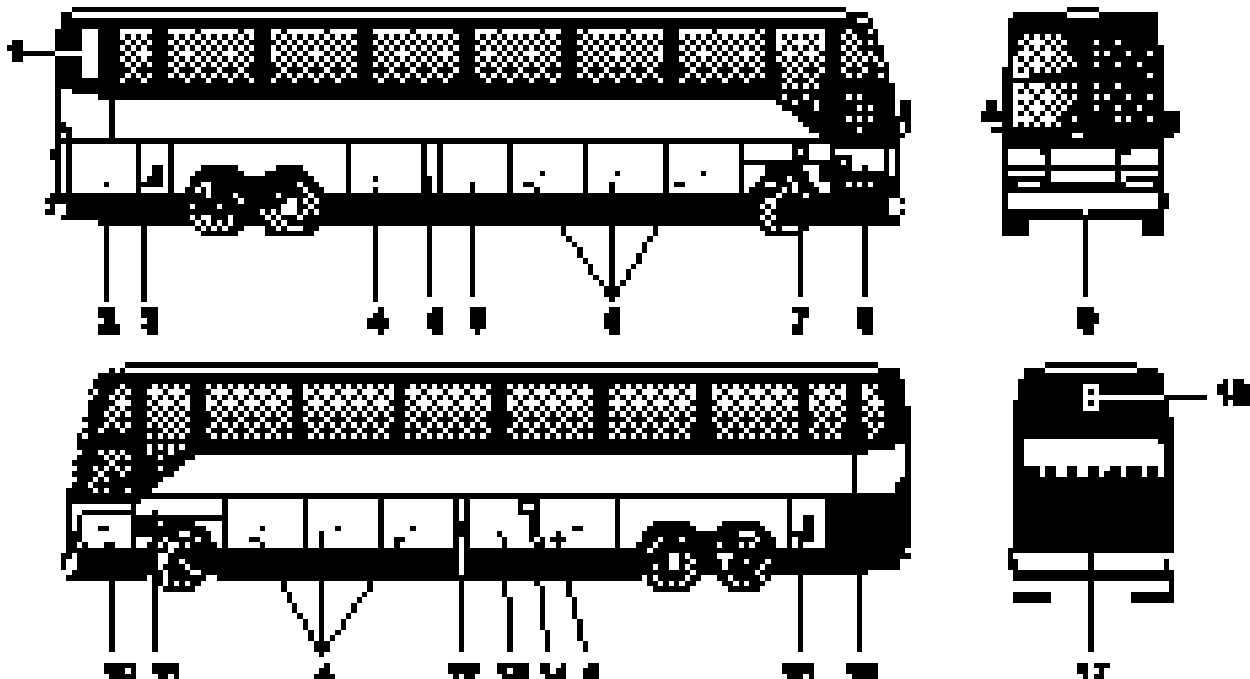


FIGURE 2: EXTERIOR COMPARTMENT DOORS (H3-45)

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2. STRUCTURE

2.1 Description

The body of the H3-41 and H3-45 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 1/2" x 2" x 14 gauge. The inside is filled with urethane foam and the exterior is primed. The roof is a one-piece aluminum sheet, stretched and riveted all around. The front and rear caps are made of fiber-composite material. The front cap has a carbon-reinforced molded windshield cross-member. 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 carbon steel sealed at both ends. The floor is made of 2 layers of 1/2" (13 mm) thick plywood separated by a 1/8" (3 mm) insulation to reduce power train and road noises.

2.2 Welding

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

Application	Diameter	A.W.S.
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 steel-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

Section 18: BODY

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 "8. 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 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 for 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 engine compartment.

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

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

1. Remove dirt, grease and oil by solvent washing.
2. Remove corrosion as well as all loose coating by sanding 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 panelling. 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 and then the finishing operations are 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 skin off

with denaturated 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 With 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 12 to 15 inches (305-380 mm) from repair.

Caution: Temperature should not exceed 200 °F (93 °C) 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 12 to 15 inches (305-380 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 "4.2 REPAIR WITH FIBERGLASS PASTE" in this section.

4.2 Repair With 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 1-1/2" (25-40 mm) all around. Remove all dirt, grease and paint from area to ensure good bonding surface. Feather the cleaned area all around. See figure 3.

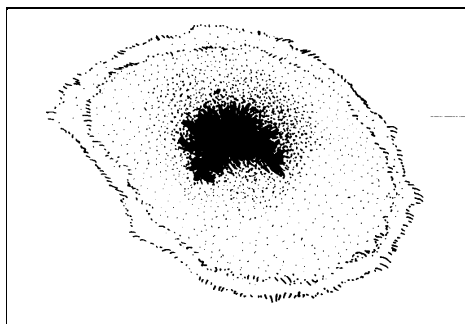


FIGURE 3: FIBERGLASS REPAIR 18089

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. See figure 4.

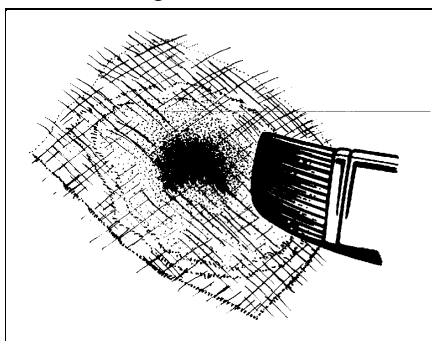


FIGURE 4: FIBERGLASS REPAIR 18090

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 1-1/2 oz (43 g) mats and one 9 oz (255 g) cloth. See figure 5.

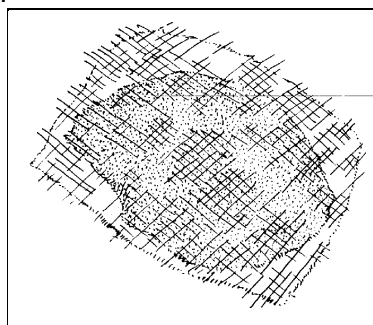


FIGURE 5: FIBERGLASS REPAIR18091

Allow area to harden and contour the area with coarse sandpaper #100. See figure 6.

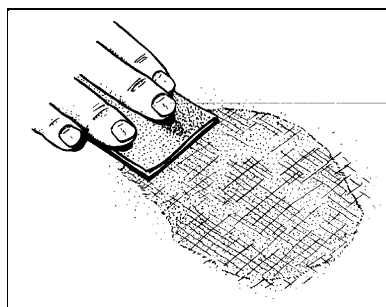


FIGURE 6: FIBERGLASS REPAIR18092

Cover the area with a layer of resin putty and allow to dry for approximately 15 to 20 minutes. See figure 7.

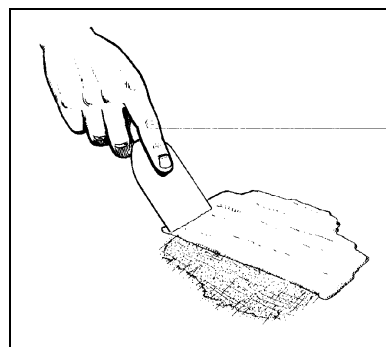


FIGURE 7: FIBERGLASS REPAIR18093

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

5. PAINTING

The standard paint used on the exterior of the vehicle is Deltron PPG. It is a high gloss polyurethane enamel finish designed for exposure to extreme conditions.

5.1 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.

5.2 Surface Preparation

5.2.1 Aluminum Surface

Sand large surfaces with P150 grit sandpaper and other surfaces with "Scotch-Brite" or similar abrasive pad.

5.2.2 Fiberglass Surface

Sand large surfaces with P180 grit sandpaper and other surfaces with "Scotch-Brite" or similar abrasive pad.

5.2.3 Washing

1. With an air pressure jet, clean the surface from top to bottom and from front to back.
2. Clean the entire surface with a tag rag.
3. Wash the entire surface with a mix of thinner (2 parts) and isopropyl alcohol (1 part). Wash small zones and wipe before the surface dries by itself.

5.3 Primer Application

Warning: Always prepare primer in well ventilated area.

5.3.1 Aluminum Surface

1. Stir primer for two minutes.
2. Mix: 1 part PPG epoxy primer DP-40 (Prévost # 681078).
1 part PPG epoxy activator DP-401 (Prévost # 681079).
3. Wait 30 minutes before application.
4. Adjust gun pressure to 45 psi (310 kPa).
5. Spray a wet coat uniformly while holding gun at 8" (20 cm) and perpendicular to the surface.
6. Allow 1 hour to dry, and not more than a week before painting.

5.3.2 Fiberglass Surface

1. Stir primer during 2 minutes.
2. Mix: 5 parts PPG high solid primer K-36 (Prévost # 681927).
1 part PPG activator K-201 (681928).
1 part PPG thinner DT-895 (Prévost # 681926).
3. Adjust gun pressure to 45 psi (310 kPa).
4. Spray a wet coat uniformly while holding gun at 8" (20 cm) and perpendicular to the surface.
5. Allow 1 to 2 hour to dry.

5.4 Painting

Sand the entire surface with P320 grit sandpaper. Wash the surface in accordance with the washing procedure described in the surface preparation section.

5.4.1 PPG Paint Application

1. Clean the entire surface with a tag rag.
2. Using a paint gun, apply PPG anti-static DX-103 (Prévost # 682003) while holding the gun at 12" to 15" (30 to 38 cm) from the surface.

Section 18: BODY

- Mix: 1 part PPG base color DBU.
1 3/4 parts PPG reactive thinner DRR-1185 (681931).
- Adjust gun pressure to 45 psi (310 kPa) for solid color or to 55 psi (380 kPa) for metallic color.
- Spray color uniformly while holding gun 8" to 12" (20 to 30 cm) and perpendicular to the surface. Repeat until you have a good color coverage (3 to 5 coats). Wait 5 to 10 minutes between each coat.
- Allow 1 hour to dry.

5.4.2 PPG Clear Application

- Wash the surface with rags and a solution of water (3 parts) and isopropyl alcohol (2 parts).
- Apply PPG anti-static DX-103 (Prévost # 682003) while holding the gun at 12" to 15" (30 to 38 cm) from the surface.
- Clean entire surface with a tag rag.
- Mix: 2 parts PPG clear DCU-2001 (Prévost # 681929).
1 part PPG thinner DT-885 (Prévost # 681925).
1 part PPG activator DU-6 (Prévost # 681930).
- Adjust gun pressure to 55 psi (380 kPa).
- Spray a coat uniformly while holding the gun at 8" (20 cm) and perpendicular to the surface. Wait 5 to 10 minutes and spray a second clear coat.
- Allow 16 hours to dry.

6. COACH FRONT AND REAR BUMPERS

6.1 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 heading "6.2 REPAIR OF SUBSTANTIAL DAMAGES" in this section.

- Inspect the damaged area as follows:

- If a rough 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" maximum. 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.

- 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).
- 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 ensure 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 and/or down, as shown in figure 8.

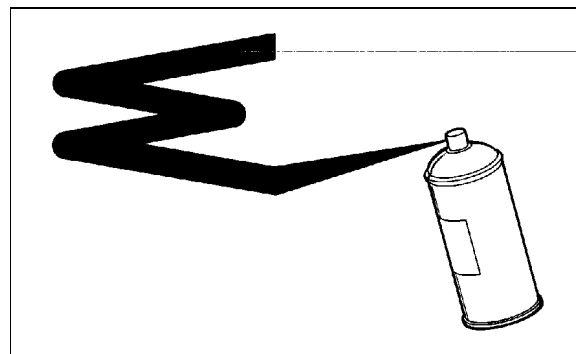


FIGURE 8: REPAIR PAINT

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.

6.2 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 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.
 7. 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.*

8. 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 areas occur, mix more adhesive and apply.*

9. 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.*

10. 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.
11. Redo contour on any low spots with additional adhesive.
12. Clean off the repaired area and refinish the part according to the instructions under the heading "6.3 REFINISHING PROCEDURE" in this section.

6.3 Refinishing Procedure

Bumpers that are factory painted have a flexible, very tough, abrasion and weather resistant, elastomeric enamel coating that has been baked on at approximately 250 °F (120 °C). There may be collisions or 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 base lacquer, a solvent, and an elastomeric additive. PPG's Ditzler is widely used, as well as systems from DuPont and Sherwin Williams. These are readily available

Section 18: BODY

at body repair shops and automotive parts dealers.

6.3.1 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 the heading "6.2 REPAIR OF SUBSTANTIAL DAMAGES" 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.

6.3.2 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.

6.3.3 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, 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.

6.4 Front Bumper Removal and Installation

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 persons 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.

1. Loosen 2 nuts on binding rods from under the bumper while holding the bumper closed. See figure 9.



FIGURE 9: FRONT BUMPER

18057

2. Hold bumper and push binding rods up to remove the 2 binding rod hooks from their respective attaching points. See figure 10.

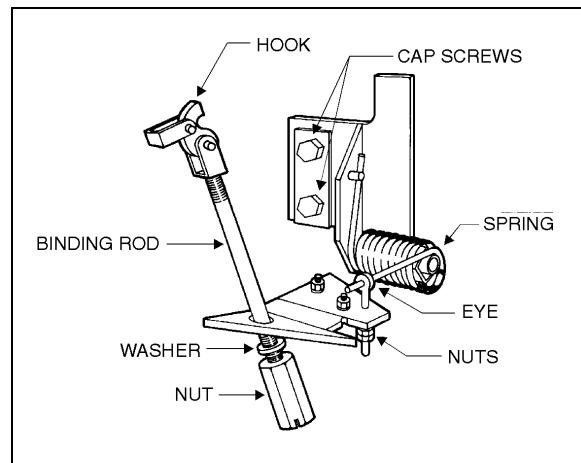


FIGURE 10: FRONT BUMPER

18095

3. 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.

4. Ask assistant to relieve spring tension on one eye bolt with proper tool. Remove 2 nuts and eye bolt holding spring and slowly release spring. Repeat procedure for the other eye bolt.

Note: A convenient tool to relieve spring tension can be fabricated with 2 lengths of square tubing approximately 30" (75 cm) long, welded together, and fitted at one end with a cut-out adapter to hold the spring. See figure 11.

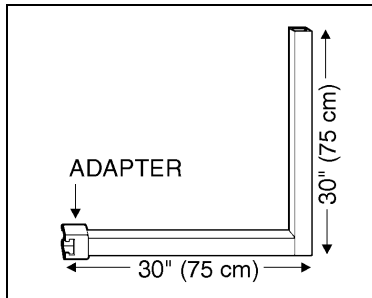


FIGURE 11: TOOL 18096

5. Remove 4 cap screws holding bumper to vehicle and remove bumper.
6. 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.

6.5 Rear Bumper Removal and Installation

1. Remove 4 cap screws and washers retaining the rear bumper top panel and remove panel.
2. Remove 6 cap screws and washers holding bumper to engine frame, 3 at each end, under the bumper.
3. Remove 6 cap screws and washers holding bumper to engine frame, 3 at each end, above the bumper and remove bumper.
4. To install bumper, reverse the removal procedure.

7. COACH ENTRANCE DOOR

7.1 Description

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 speeds cycles is adjustable by a damper mounted in parallel with the door cylinder on the door hinge (Fig. 12). Door activation is controlled by a relay panel, located near defroster-wiper motor. 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. Air cylinders with return spring in the cylinder body are used (Fig. 13). 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-energize the air lock solenoid valve and venting the door locking cylinder. The locking return spring pulls the door lock away from the latch, unlocking the door. The air cylinder door movement start only when pressure in the central air lock door is below 10 psi. The "air cylinder open solenoid valve" opens and allows air to flow to the air cylinder, the "air cylinder close solenoid valve" exhaust air from cylinder rod side .

To close the door, initial movement of the switch energize the "air cylinder close solenoid valve" and air flow to the cylinder by its rod side extremity. The "air cylinder open solenoid valve" exhaust air from cylinder. When entrance door latch is grounded with the door frame the air lock solenoid valve is de-energized and load 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 is for 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, "Brake" and to the page 22 of the wiring diagram.

7.1.1 Operation

The air-operated door is controlled from inside the coach by a rocker switch 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 front door switch access panel.

To close the door, the switch must be held in the desired position until the door has completed its movement.

To open the door, the switch must be flipped one time in the desired position. The door will fully open automatically and the system will keep pressure in the open cylinder locking the door in the open position after the door has been opened. The door can be stopped in any position by engaging the close side of the switch momentarily. If door is stopped during its opening movement then the system will not keep pressure in the open cylinder and will not lock the door in the open position after the door has been opened.

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

door. Close it, lock with the key and reset the outside emergency exit valve to the "NORMAL" position.

7.1.2 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 in the front service compartment, also releases the air from the lock cylinders.

7.1.3 Without Air and With or Without Electricity

If the air pressure drops while with or without 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.

7.1.4 With Air and 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

7.2 Adjustment and Maintenance

7.2.1 Door Speeds Cycles Adjustment

1. Remove the two panels located right from the stepwell, as well as the door's upper hinge cover.

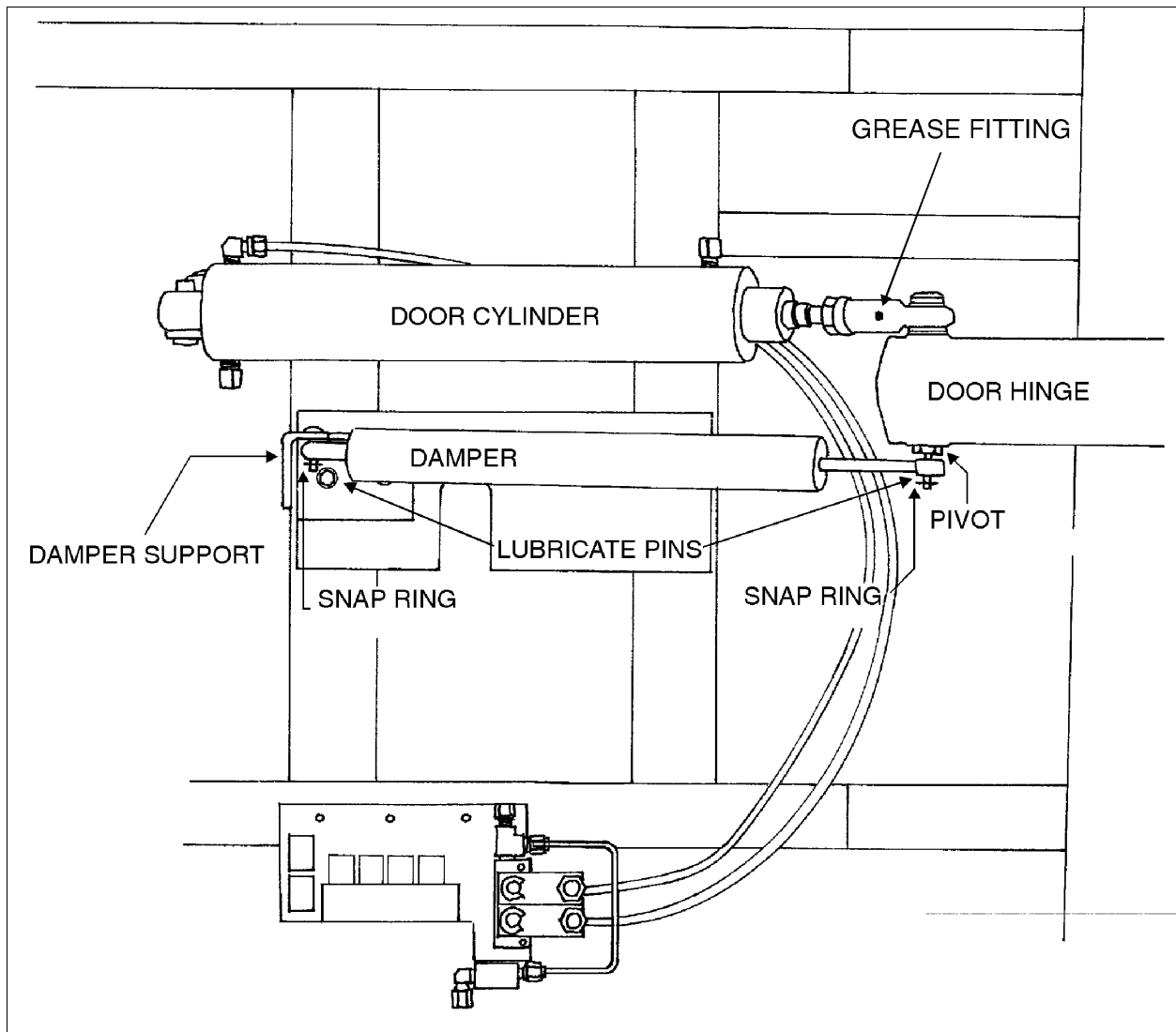


FIGURE 12: DOOR CYLINDER AND DAMPER

18160

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.

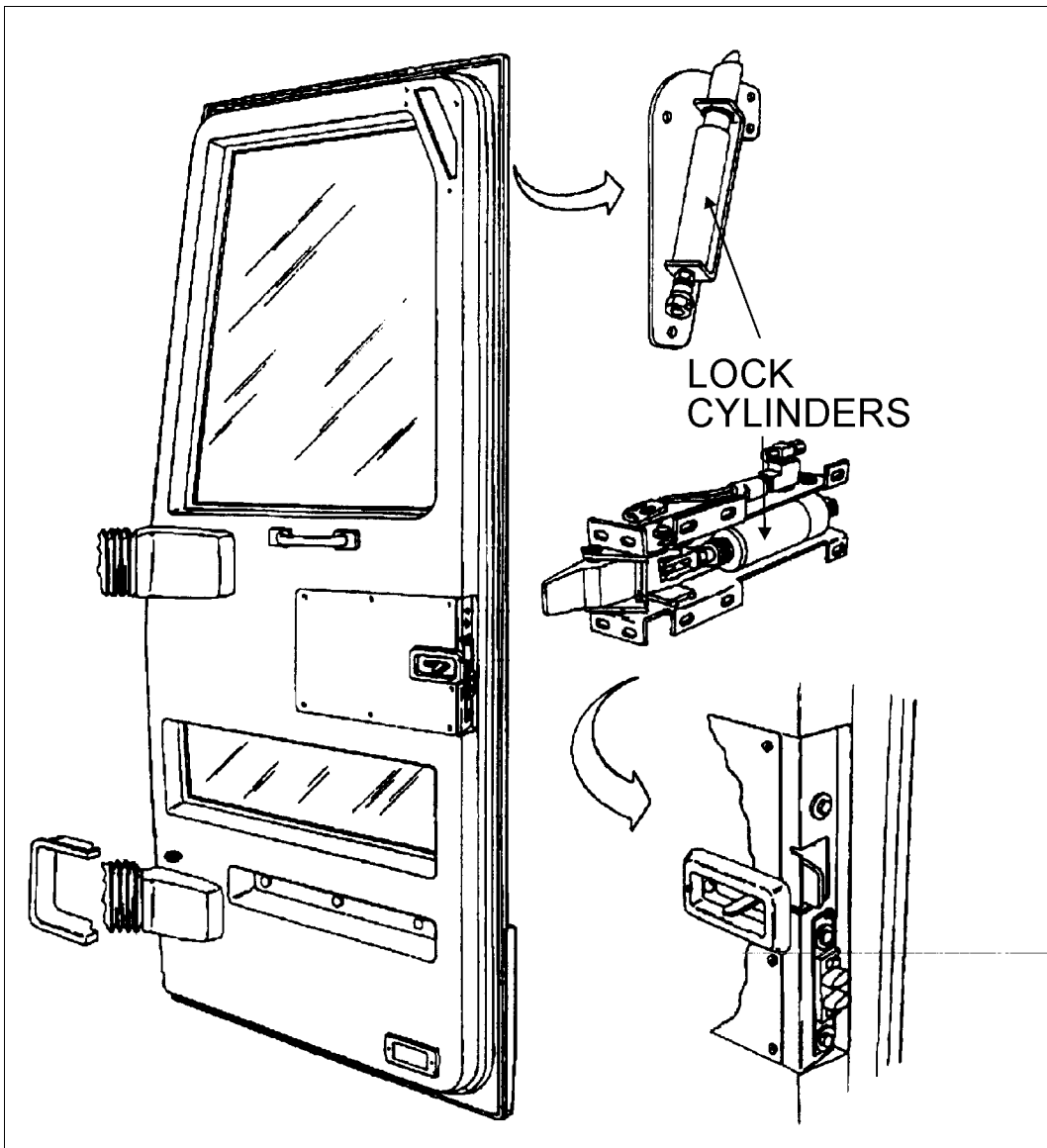


FIGURE 13: COACH ENTRANCE DOOR

18168

- To adjust opening and closing cycles speeds on damper (Fig. 12): turn the dials one position, open and close the door, and repeat since desired opening and closing speeds of the door are obtained (best position are between 3 and 5 on the dials). Use the hexagonal key provided to lock the dials (Fig. 14).



FIGURE 14: DAMPER

18161

- Reinstall panels and door hinge cover.

7.2.2 Horizontal and Vertical Adjustments

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 that the door is not binding of front or rear posts, at top, or at bottom. If any of these conditions exist, adjust as follows:
- Remove the screws and the plastic moulding covering each of the hinges.

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

- Remove the Allen button head screw and the washer retaining the rod end with bearing to the upper hinge. See figure 15.

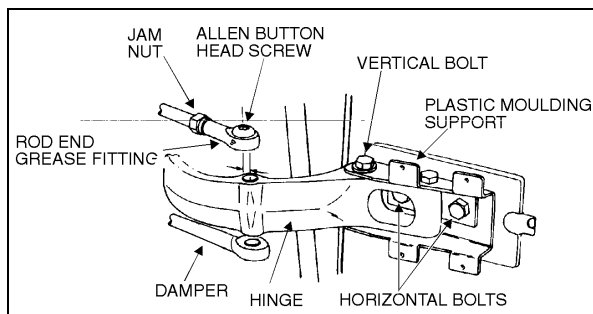


FIGURE 15: UPPER DOOR HINGE

18058

- Support the door with a wooden block and a hydraulic jack.
- 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 lbf•ft (40-50 N•m). Remove the jack and the wooden bloc.

Caution: Make sure the front side door does not interfere with the exterior panel.

- Pull and fix the rod end to the hinge with the washer and the button screw.
- Using the screws, fix the plastic mouldings covering the hinges.

7.2.3 Depth Adjustment

- Turn the emergency exit valve to the "UNLOCK" position.
- Remove the screws and the plastic moulding covering each of the hinges.

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

- Remove the Allen button head screw and the washer retaining the rod end with bearing to the upper hinge. See figure 15.
- 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.
- 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 lightly tighten the two bolts. Close the door slowly but firmly, then slowly open it, and tighten the two bolts. Fix dovetail to the door with the screws. See figure 16.

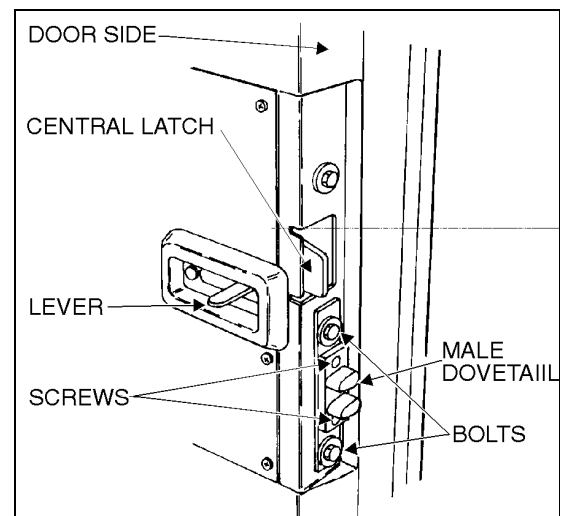


FIGURE 16: LATCH

18059

Note: The frame dovetail is not adjustable.

6. Pull and fix the rod end to the hinge with the washer and the button screw.
7. Using the screws, fix the plastic mouldings covering the hinges.
8. Reset the emergency exit valve to the normal position.

7.2.4 Rod End With Bearing Adjustment

1. Turn the emergency exit valve to the "UNLOCK" position.
2. Remove the screws and the plastic mouldings 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 15.
4. Loosen the jam nut locking the door cylinder rod end with bearing. Close the door firmly, adjust the rod end with bearing 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 fix the rod end to the hinge with the washer and the button screw.
6. Using the screws, fix the plastic mouldings covering the hinges.
7. Reset the emergency exit valve to the normal position.

7.3 Lubrication

	Lubricant	Frequency
<ul style="list-style-type: none"> • Latches • Upper door catch • Door cylinder rod end with bearing grease fitting (Fig. 12) 	Low temperature grease	Every six months
<ul style="list-style-type: none"> • Door locking mechanism 	White grease	Every six months
<ul style="list-style-type: none"> • Key hole • Damper pins (Fig. 12) • Hinges 	Low viscosity oil	Every six months

7.4 Specifications

Door cylinder

ManufacturerBimba
 TypePneumatic
 I.D.....1 1/2" (mm)
 Stroke8" (mm)
 Prévost number780560

Damper

ManufacturerEnidyne
 Supplier number FP49572103
 Prévost number780559

Lock cylinder (upper)

ManufacturerBimba
 Type Air, single action, 1/8 NPT, hexagonal rod
 I.D.....7/8" (22 mm)
 Stroke1" (25 mm)
 Supplier numberD-51127-A
 Prévost number641259

Lock cylinder (central)

ManufacturerBimba
 Type Air, single action, 1/4 NPT
 I.D.....1 3/4" (45 mm)
 Stroke1" (25 mm)
 Supplier number 241-P
 Prévost number641209

Manifold solenoid

ManufacturerNorgren
 Type4 ports, 1/8 NPT
 Voltage 24 VDC
 Power consumption 6 watts
 Maximum pressure150 psi (1 035 kPa)
 Prévost number641130

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 in³/min @ 100 psi (4 cc/ min @ 690 kPa)
 Type of operation Direct solenoid
 Lubrication.....Not required (factory pre-lubed)
 Filtration..... 40 micron recommended
 Prévost number641217

Pressure switch assy

Prévost number452831

7.5 Troubleshooting

SYMPTOM	PROBABLE CAUSE	REMEDY
DOOR WILL NOT OPEN FROM EXTERIOR SWITCH.	Manual door locks engaged.	Release manual door locks (open position).
	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 do 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 do not receive current.	Reset breaker "ON" or check batteries power supply.
	Opening solenoid door do 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.
	Upper lock stay engage.	Lubricate upper lock assembly. Check wear and replace parts if necessary.
DOOR WILL NOT CLOSE FROM INTERIOR SWITCH	Switch malfunction.	Replace switch.
	Closing solenoid door do not receive current.	Check voltage at closing solenoid door. If the voltage is 24 volts then replace it. Else replace control relay.

Section 18: BODY

SYMPTOM	PROBABLE CAUSE	REMEDY
DOOR WILL NOT OPEN AFTER DRAINING AIR FROM SYSTEM AT EXTERIOR OR INTERIOR EMERGENCY VALVE.	Manual door locks engaged.	Release manual door locks (open position) from vehicle exterior.
	Damper cylinder block the door opening.	Adjust or replace damper cylinder.
	The door stay stuck by upper lock.	Adjust lower lock. Lubricate upper latch bolt. Adjust upper latch height
DOOR LOCK STAY ENGAGED WHEN DOOR IS OPEN	Power supply is cut at solenoid.	Place switch in OPEN position.
	Solenoid lock 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.
DOOR DO NOT LOCK WHEN DOOR IS CLOSED	Emergency valve is open.	Close emergency valve.
	Lock solenoid stay under voltage because a lack of ground.	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 do not function.	Replace relay.

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

8.1 Description

8.1.1 Inside Operation

There are three ways of unlocking the entrance door from the inside. The two first consist in actuating the rocker switch on the lower R.H. side control panel or on L.H. side control panel, but this last operation will also unlock the baggage compartment. Finally, you can unlock door by sliding its lock lever to the left. If the orange tab on the door lock lever is visible, the door is unlocked.

8.1.2 Outside Operation

The first way of locking/unlocking the entrance door from the outside is the front entrance door lock key provided with the vehicle. Turn key to the left to lock or to the right to unlock the entrance door (Fig. 17).

8.1.3 Keyless Entry System

By this system, you can lock or unlock the entrance door and the baggage and service compartment doors. The keyboard is located below the outside entrance door handle. The microprocessor/relay module is pre-programmed by the manufacturer and this code can not be deleted. Moreover, you can program your own entry code (e.g. a birthday or part of a social security number).

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 buttons. Although each button is provided with two digits separated by a vertical line, there is only one contact per button. Press in center of button, i.e. between the two digits where there is the vertical line.

You must unlock the entrance door before you unlock any other baggage or service compartment doors. If you let more than five seconds pass between the numbers you 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.

8.2 Door Adjustments

For entrance door adjustment, refer to paragraph "7.2 Adjustment and Maintenance".

8.3 Lubrication

	Lubricant	Frequency
<ul style="list-style-type: none"> Latches Upper door catch 	Low temperature grease	Every six months
<ul style="list-style-type: none"> Door locking mechanism 	White grease	Every six months
<ul style="list-style-type: none"> Key hole Hinges 	Low viscosity oil	Every six months

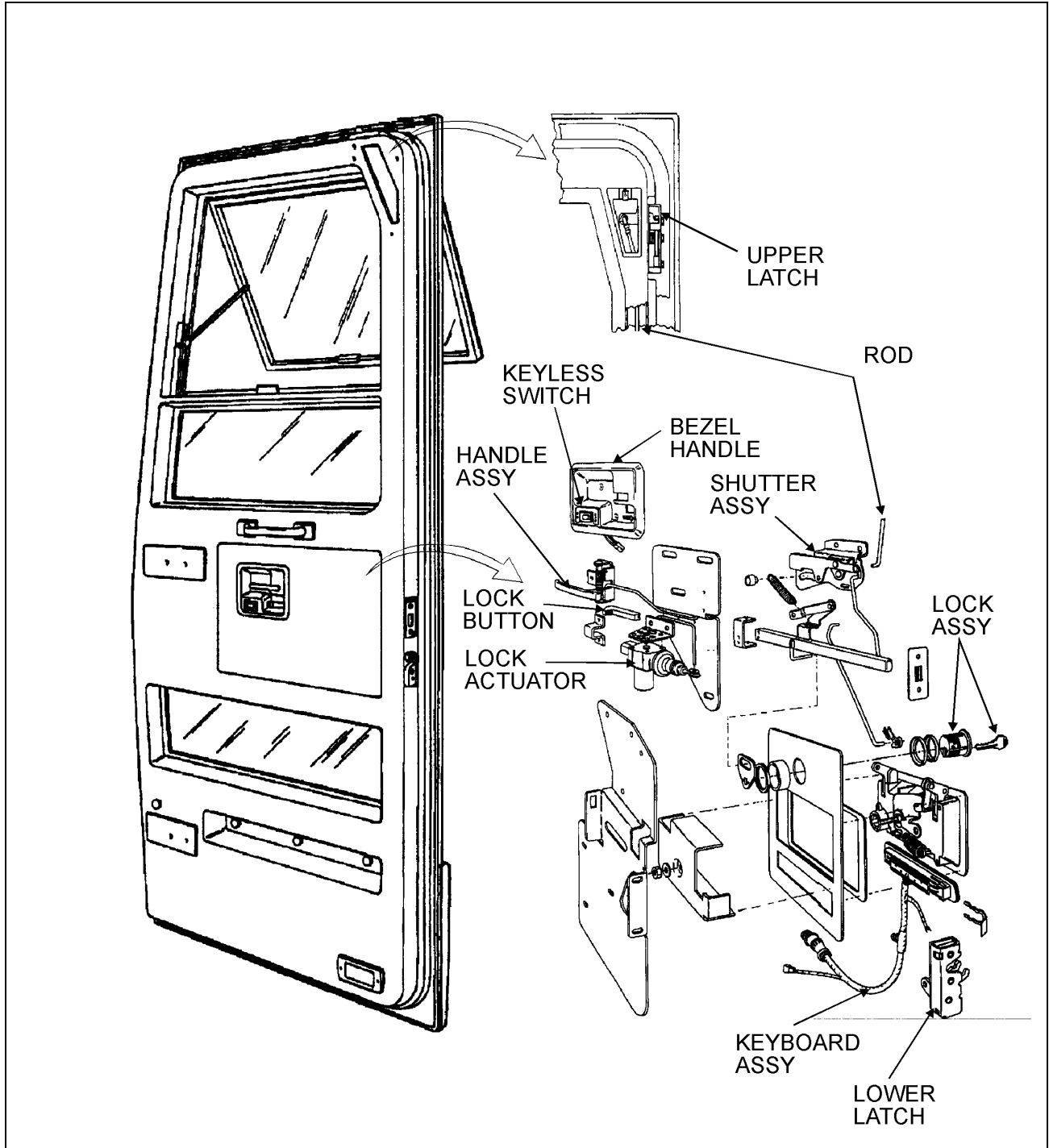


FIGURE 17: ENTRANCE DOOR (V.I.P.)

18169

9. ACCESS DOORS

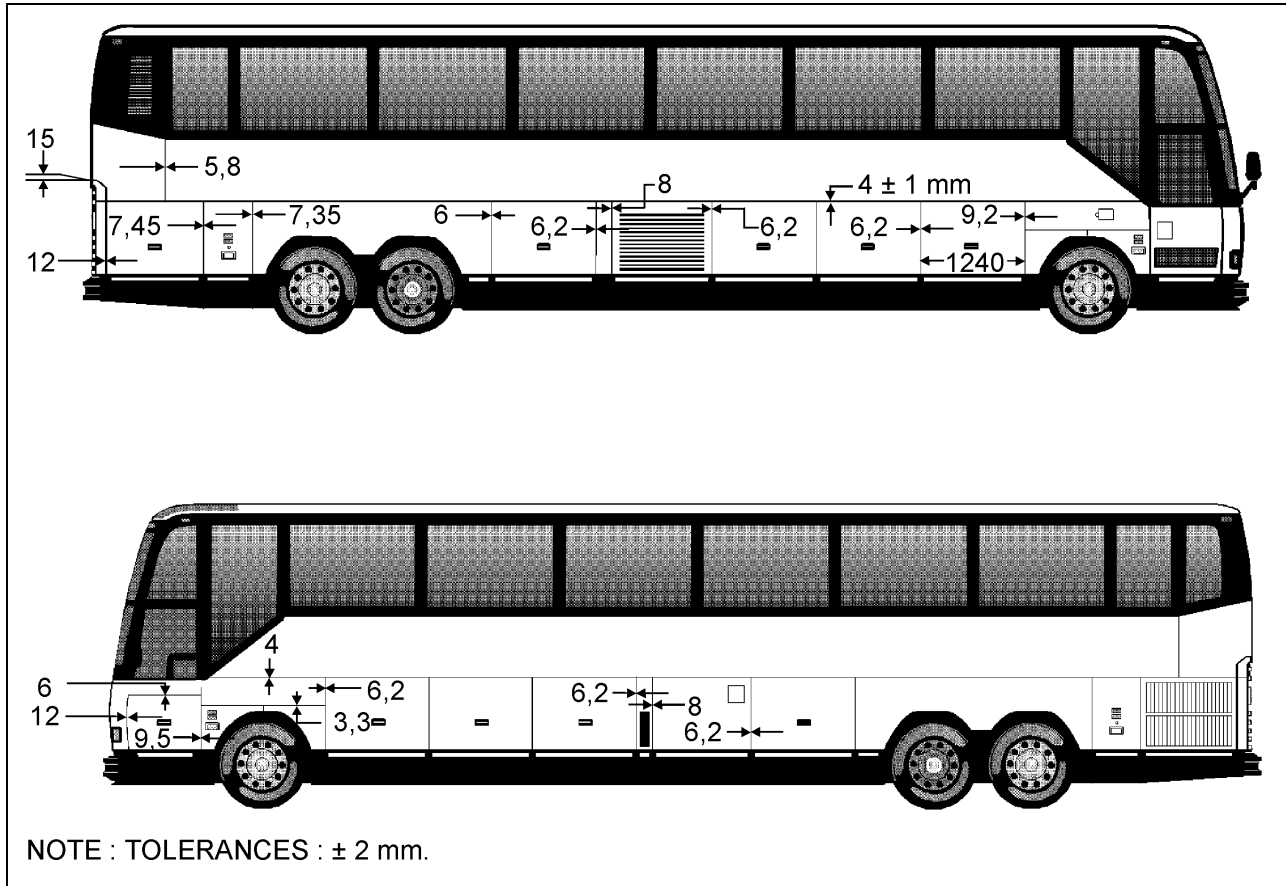


FIGURE 18: REQUIRED DISTANCE BETWEEN EXTERIOR FINISHING PARTS

18190

9.1 Maintenance And Adjustment

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.

10. BAGGAGE COMPARTMENT DOORS

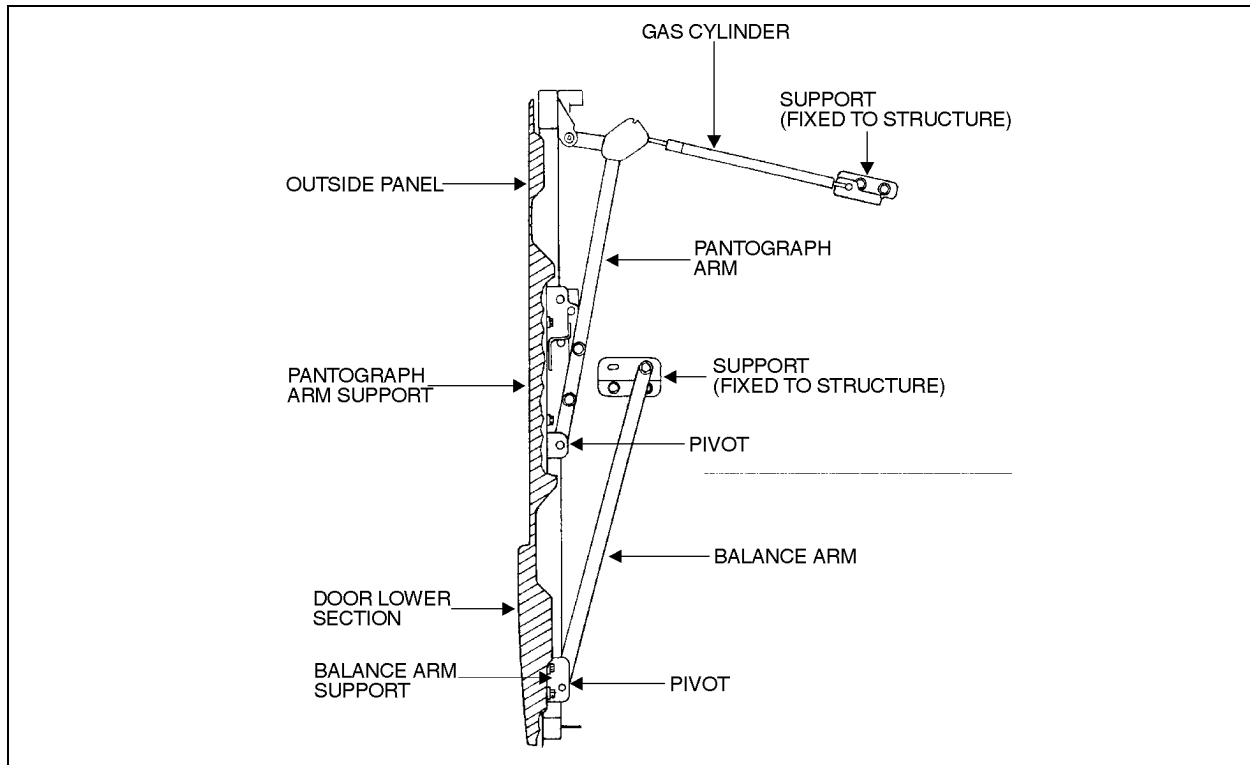


FIGURE 19: BAGGAGE COMPARTMENT DOOR

18061

There are 6 baggage compartment doors on the H3-41, while there are 8 on the H3-45 and the VIP H3-45 bus shell. 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 fully 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, which 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 # 980014). Test the other cylinder on that door the same way.

10.1 Adjustment

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

Note: Refer, if needed, to figure 18 for identification of door components.

1. With the help of an assistant who will support the door weight, remove bolts retaining door to pantograph and balance arm pivots, then remove door.
2. Measure distance between a pantograph arm end and a straight edge rested on structure. Repeat procedure for the other arm. The distance on each side should be equal. If not, bend arm end until desired measure is obtained. Refer to figure 20.

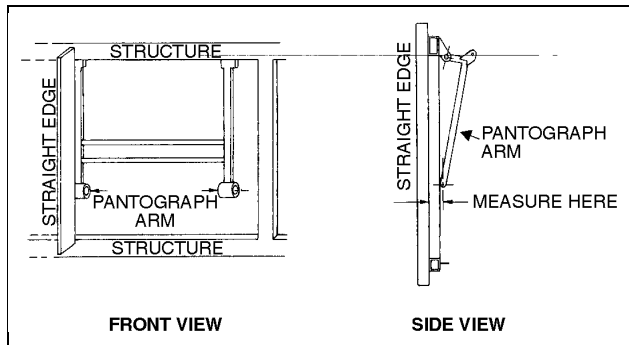


FIGURE 20: BAGGAGE COMPARTMENT DOOR 18062

3. Measure distance between a pantograph arm end and the structure. Repeat procedure for the other arm. The distance on each side should be equal as the pantograph arm assembly must be centered in baggage compartment opening. If not, bend the appropriate pantograph arm end until desired measure is obtained. A difference of $3/32$ " (2 mm) between both sides is accepted. Refer to figure 21.

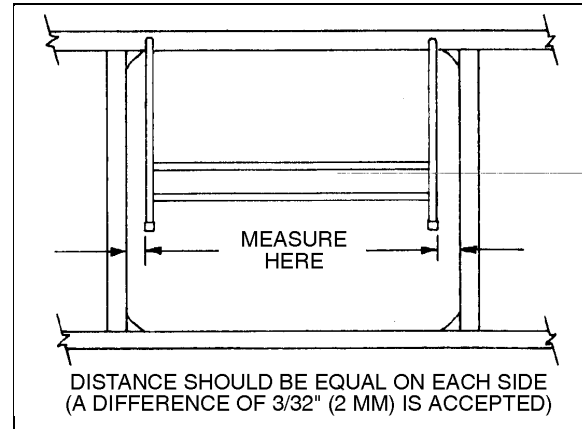


FIGURE 21: BAGGAGE COMPARTMENT DOOR 18063

4. Install the baggage compartment door. 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 $1/8$ " (3 mm) between the top of the door and the stainless steel support is given as a guide. Refer to figure 22.

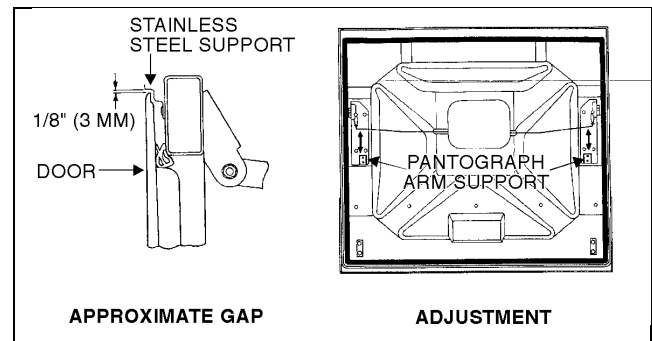


FIGURE 22: BAGGAGE COMPARTMENT DOOR 18064

5. Slightly open the door, position it to obtain a gap of 4" (100 mm) 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. Refer to figure 23.

Section 18: BODY

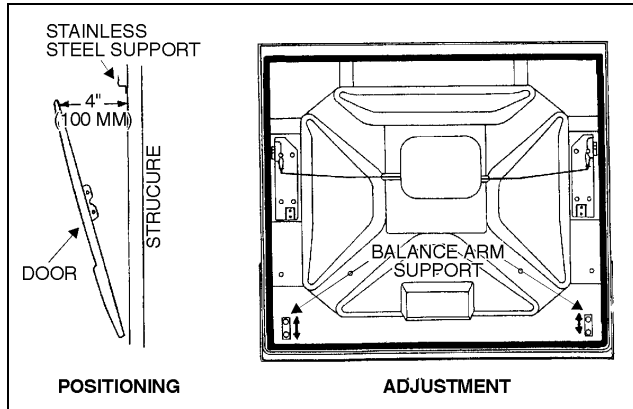


FIGURE 23: BAGGAGE COMPARTMENT DOOR 18065

6. 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 $6'' \pm 1/4''$, ($150 \text{ mm} \pm 7 \text{ mm}$) between door panel lip (at level of upper edge of lower section) and the lateral panel is given as a guide. Refer to figure 24.

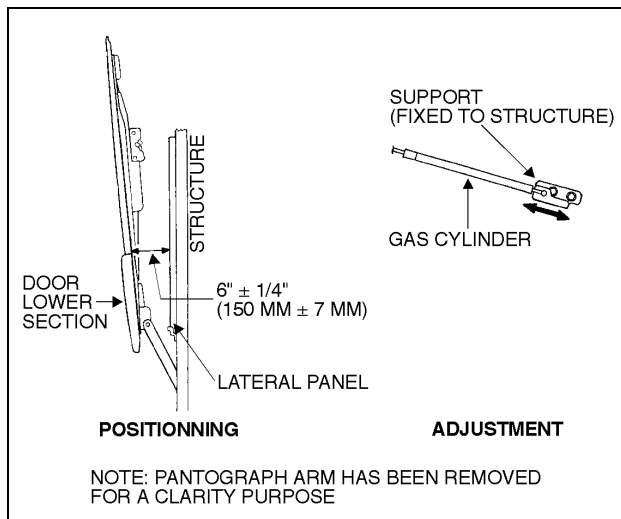


FIGURE 24: BAGGAGE COMPARTMENT DOOR 18066

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

7. 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. Refer to figure 25.

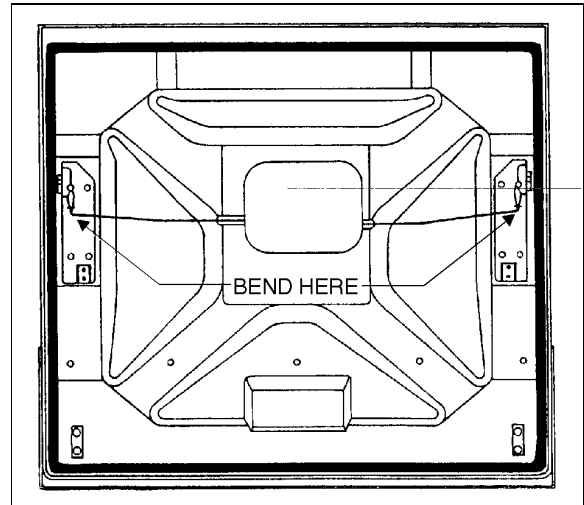


FIGURE 25: BAGGAGE COMPARTMENT DOOR 18067

8. Install both striker pins, bring the door close to them, and adjust the height of pins so they are well centered with latches. Refer to figure 26.

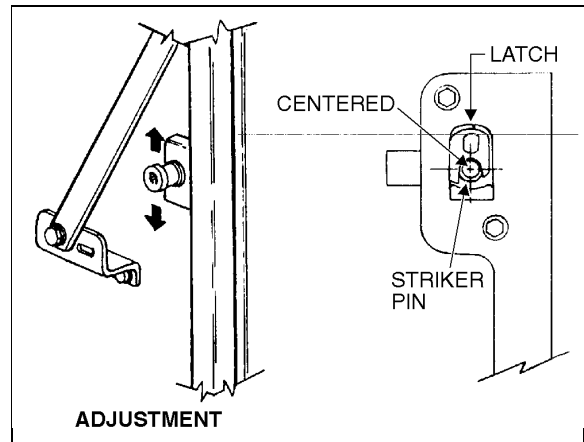


FIGURE 26: BAGGAGE COMPARTMENT DOOR 18068

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

9. Loosen the striker pins just enough to allow them to be moved with a hammer. Working from inside compartment and with the door well-closed (second 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 $1/16"$ ($+3/64"$, $1/64"$) ($1,5\text{ mm}$ ($+1\text{ mm}$, $-0,5\text{ mm}$)) between the stainless steel support for the lateral panel and the door panel lip is recommended. Refer to figure 27.

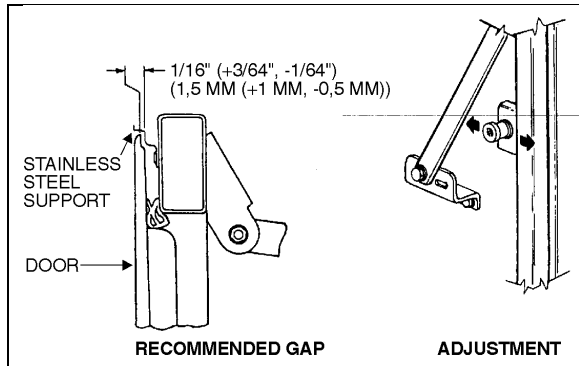


FIGURE 27: BAGGAGE COMPARTMENT DOOR 18069

10. With door well-closed, it should have a gap of $3/8" \pm 5/64"$, ($10\text{ mm} \pm 2\text{ mm}$) between door panel lip (at level of upper edge of lower section) and structural post. If not, horizontally move pins again until correct gap is obtained. Fully tighten the pins after adjustment is achieved. Refer to figure 28.

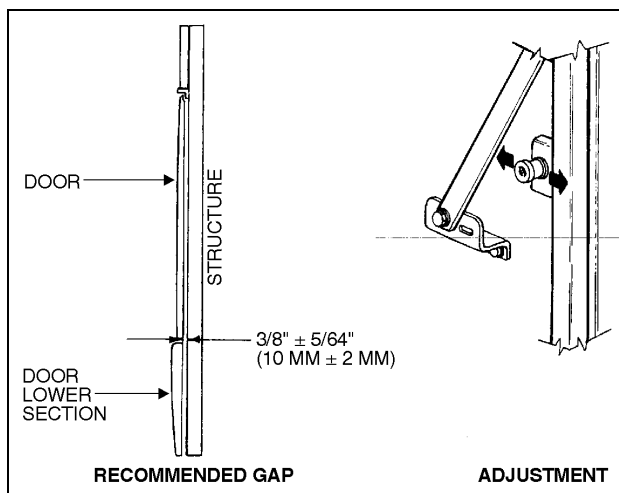


FIGURE 28: BAGGAGE COMPARTMENT DOOR 18070

11. Recheck gap mentioned in step 9. If gap has changed, correct half the change by adjusting arm support fixed to structure. Loosen the bolt

supporting balance arm on door lower section and close the door, gap adjustment will automatically result. Tighten the bolt from inside the compartment. Refer to figure 29.

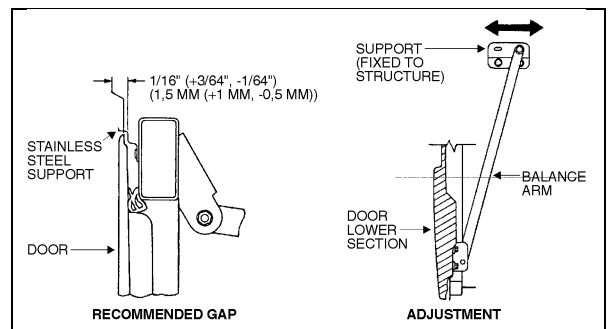


FIGURE 29: BAGGAGE COMPARTMENT DOOR 18071

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

11. ENGINE COMPARTMENT DOOR

The engine compartment rear door also rises in the same way as the baggage compartment doors and is held open by 3 gas-charged cylinders (Prévost # 980014). The engine compartment opens by lifting a handle accessed from the R.H. side of the engine compartment. When pushed up, the handle pulls on 2 steel wires, each steel wire connected to its 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. Refer to Fig. 30).



FIGURE 30: ENGINE COMPARTMENT DOOR 18072

12. RADIATOR DOOR

12.1 Door / Hinge

1. Open the door.
2. Loosen the nuts (1, Fig. 31) holding the hinge to the vehicle structure or the nuts (2, Fig. 31) holding the hinge to the door. Loosening nuts (1, Fig. 31) allows the door to be shifted "IN or OUT" and "UP or DOWN". Also, loosening nuts (2, Fig. 31) allows the door to be shifted "LEFT or RIGHT" and "UP or DOWN". Adjust the door position according to the distance needed between exterior finishing parts (Fig. 18). Tighten the nuts.
3. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

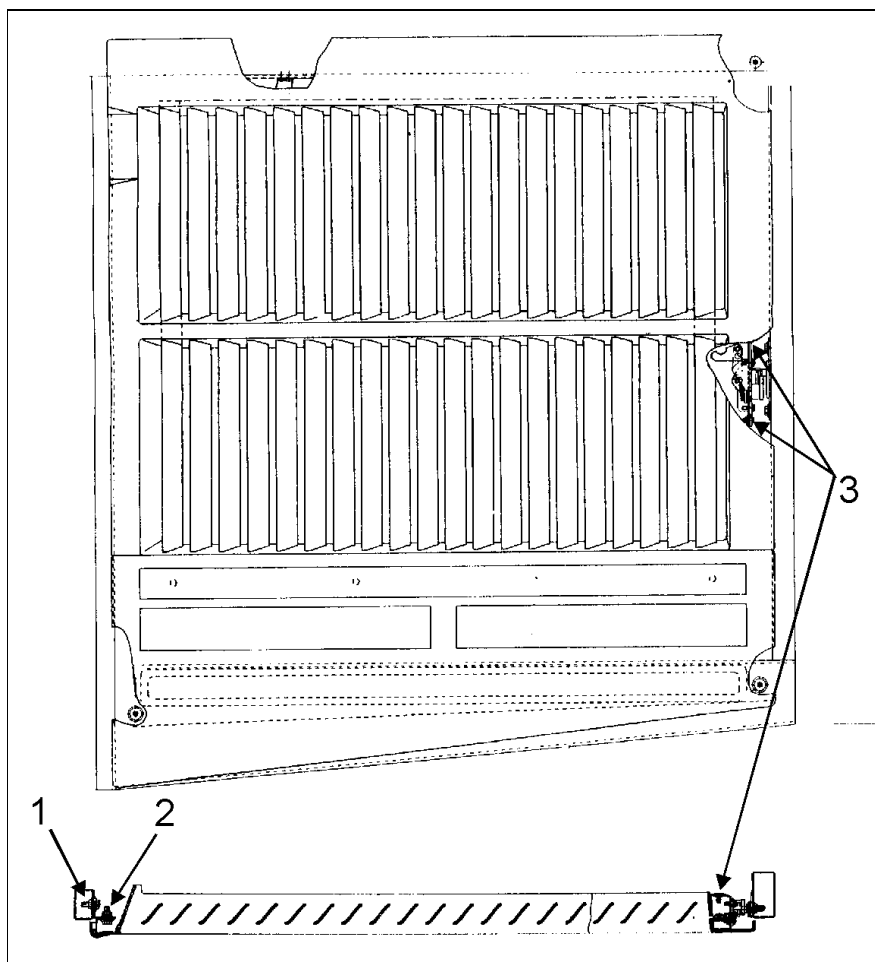


FIGURE 31: RADIATOR DOOR

18191

12.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (3, Fig. 31) and move the latch assembly as needed. Tighten the screws (3, Fig. 31). Check door fit and operation.

13. CONDENSER DOOR

13.1 Door / Hinge

1. Open the fuel filler door (9, Fig. 32) next to the condenser door.
2. Pull the unlocking rod (8, Fig. 32), located behind the R.H. side fuel filler door, to partly open the condenser door. Push down the release the latch release lever, accessible through the opening, to open the door.
3. Loosen the nuts (1, Fig. 32) holding the hinge (3, Fig. 32) to hinge attachment (4, Fig. 32). Loosening nuts (1, Fig. 32) allows the condenser assembly to be shifted "LEFT or RIGHT" and "UP or DOWN". Adjust condenser assembly position at the hinge. Tighten the nuts. Loosen bracket nuts holding the panel to condenser. Panel (6, Fig. 32) may be shifted "IN or OUT", "LEFT or RIGHT" and "UP or DOWN". Adjust condenser panel at brackets (2, Fig. 32) and (5, Fig. 32). Tighten the nuts. Respect the required distance between exterior finishing parts (Fig. 18).
4. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

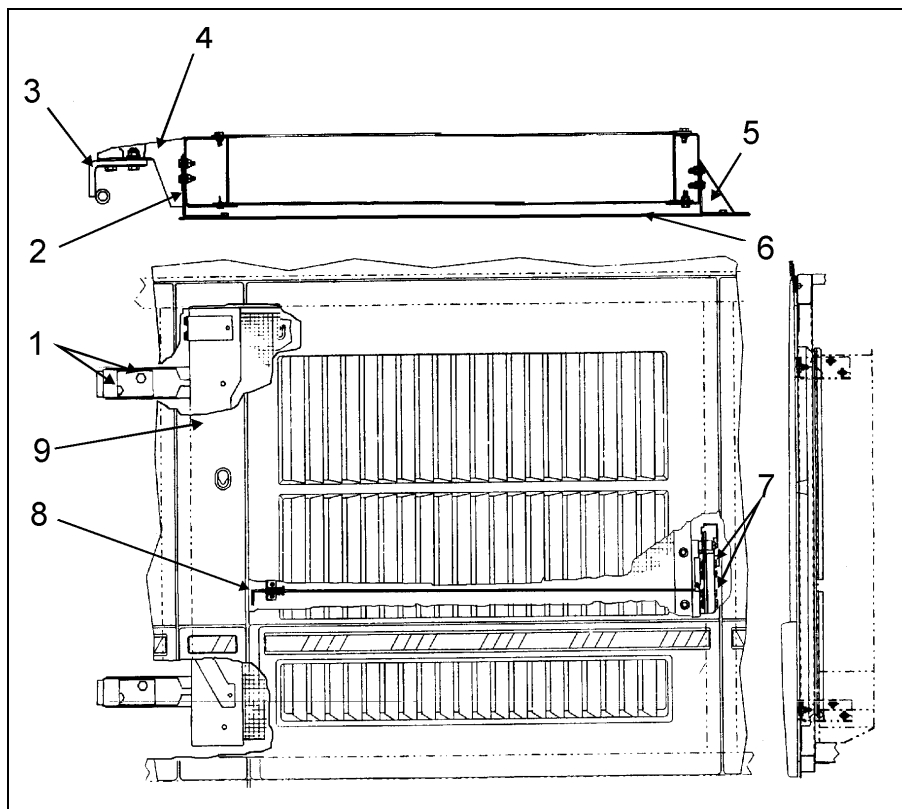


FIGURE 32: A/C CONDENSER COMPARTMENT

18192

13.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (7, Fig. 32) and move the latch assembly as needed. Tighten the screws (7, Fig. 32). Check door fit and operation.

14. FUEL FILLER DOOR

14.1 Door / Hinge

1. Open the fuel filler door (1, Fig. 33).
2. Loosen the screws (3, Fig. 33) holding the panel to hinge (2, Fig. 33) assembly. Adjust the fuel filler door position according to distance required between exterior finishing parts (Fig. 18), Tighten the nuts.
3. Check that the door swings freely and closes properly. It may be necessary to adjust the door latch to get proper fit and operation.

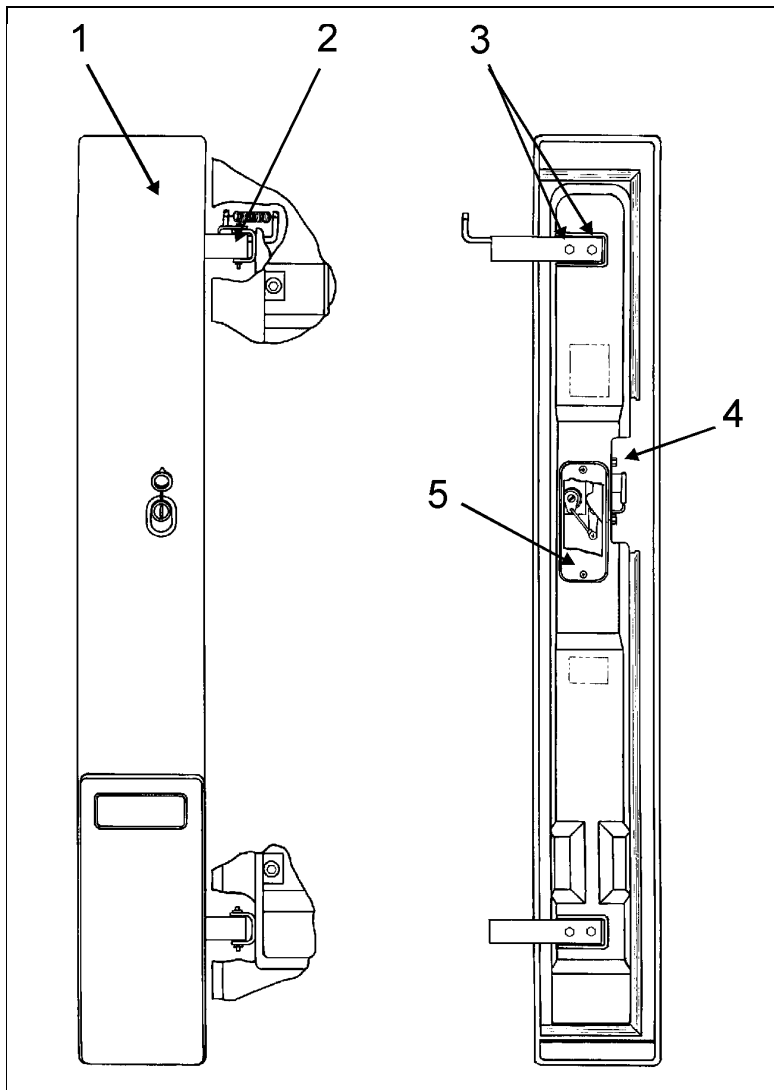


FIGURE 33: FULL FILLER DOOR

18193

14.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (4, Fig. 33) and move the latch assembly as needed. Tighten the screws. Check door fit and operation.

Access to latch mechanism may be obtained by removing the closing plate (5, Fig. 33).

15. FRONT SERVICE COMPARTMENT

15.1 Door / Hinge

1. Open the door.
2. Loosen nut (2, Fig. 34). Move part (1, Fig. 34) as shown in figure. Tighten nut (2, Fig. 34).
3. Loosen nut (3, Fig. 34). Hinge allows the door to be shifted "IN or OUT" and "LEFT or RIGHT". Adjust the door in accordance with the required distance between exterior finishing parts (Fig. 18). Only if necessary, use the adjustment allows by part (1, Fig. 34).
4. Loosen screws (5, Fig. 35). Screws (5, Fig. 35) allows the door to be shifted "UP or DOWN". Adjust the door position according to the distance required between exterior finishing parts (Fig. 18). Tighten the screws.
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.

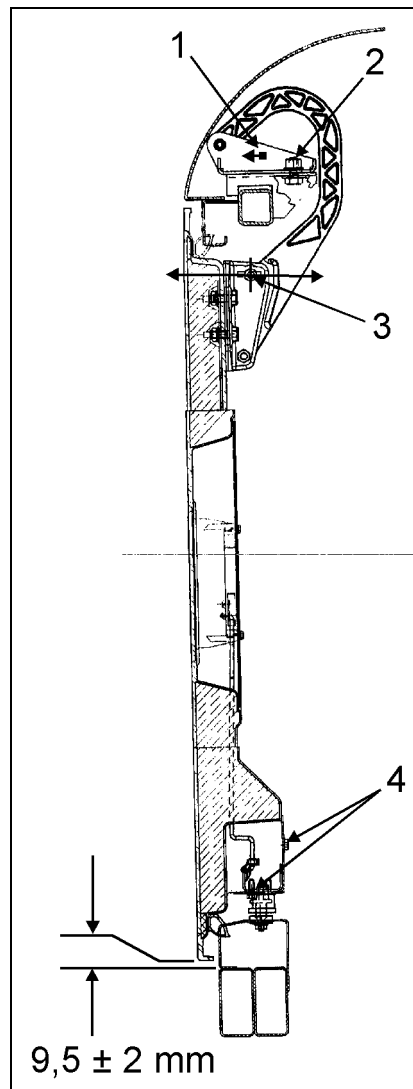


FIGURE 34: FRONT SERVICE COMPARTMENT 18194

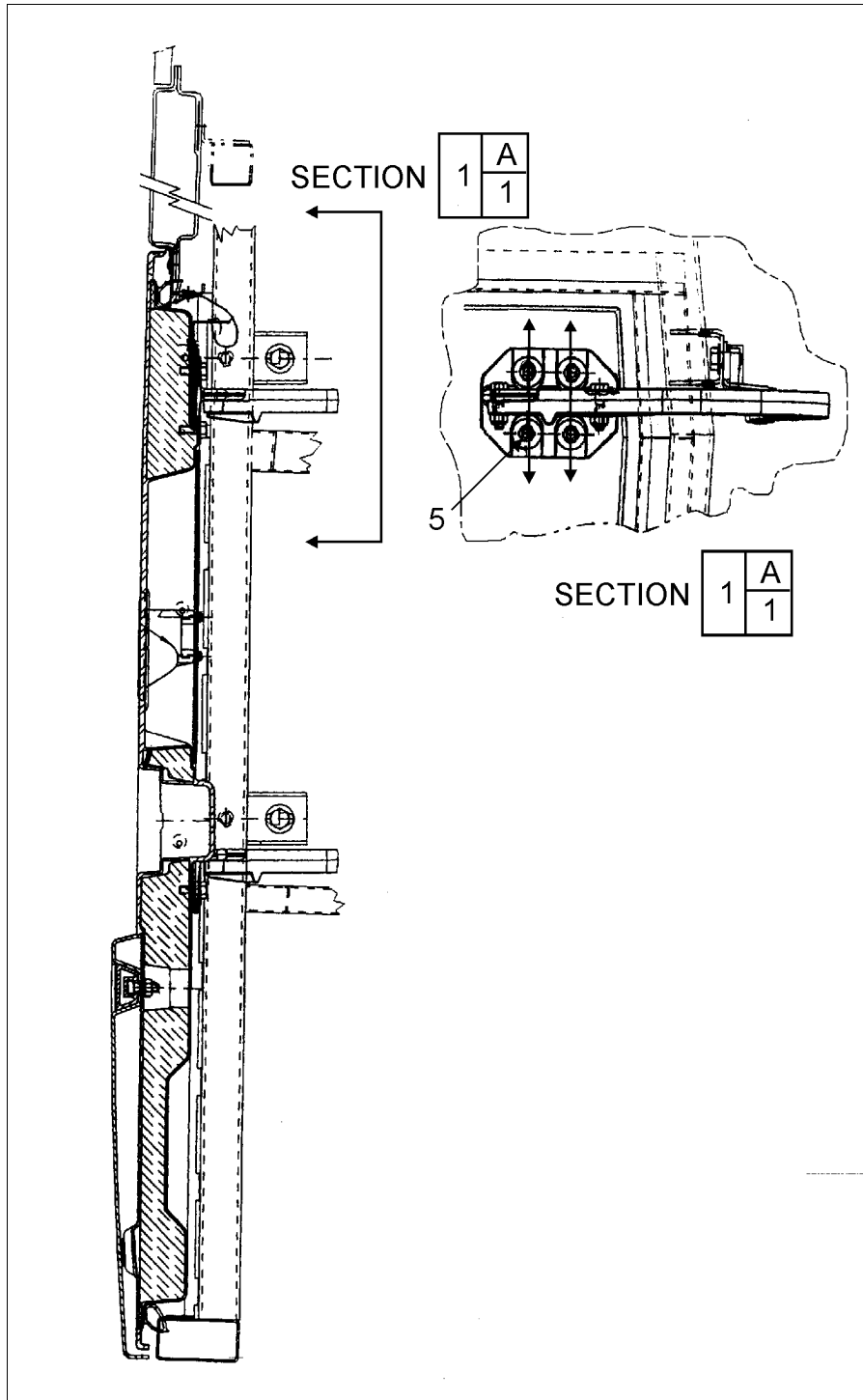


FIGURE 35: FRONT SERVICE COMPARTMENT

18195

15.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (4, Fig. 34) and move the latch assembly as needed. Tighten the screws. Check door fit and operation.

16. ENGINE COMPARTMENT REAR R.H. SIDE DOOR

16.1 Door / Hinge

1. Open the door.
2. Loosen nut (1, Fig. 36). Move part (3, Fig. 36) as shown in figure. Tighten nut (1, Fig. 36).
3. Loosen nut (2, Fig. 36). Hinge allows the door to be shifted "IN or OUT" and "LEFT or RIGHT". Adjust the door in accordance with the required distance between exterior finishing parts (Fig. 18).
4. Loosen the screws (4, Fig. 37). Screws allows the door to be shifted "UP or DOWN". Adjust the door position according to the distance required between exterior finishing parts (Fig. 18). Tighten the screws.
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.

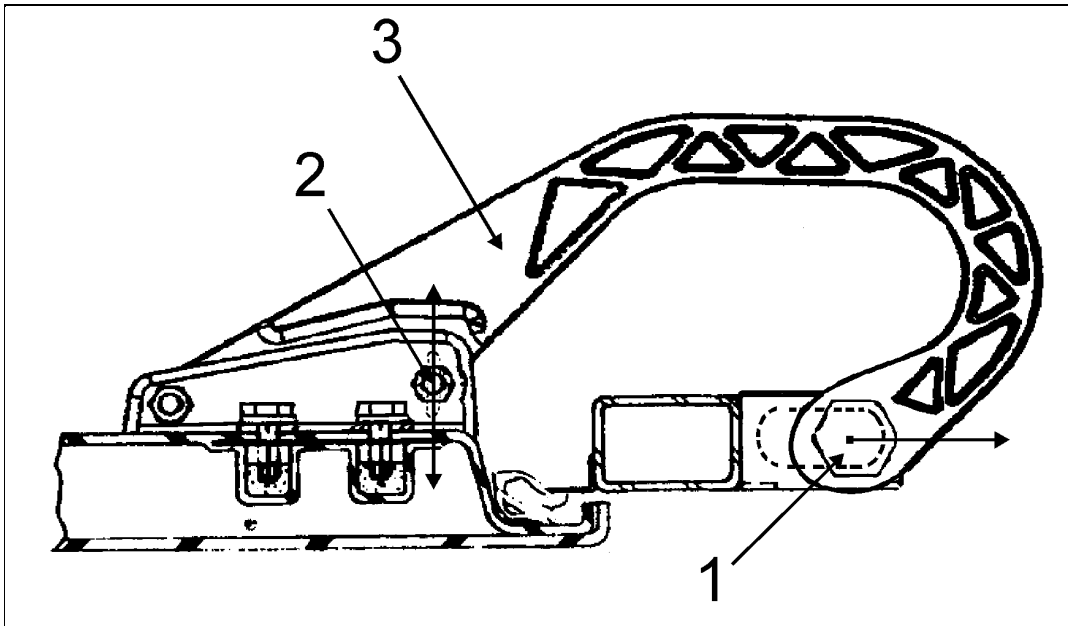


FIGURE 36: ENGINE COMPARTMENT REAR R.H. SIDE DOOR

18196

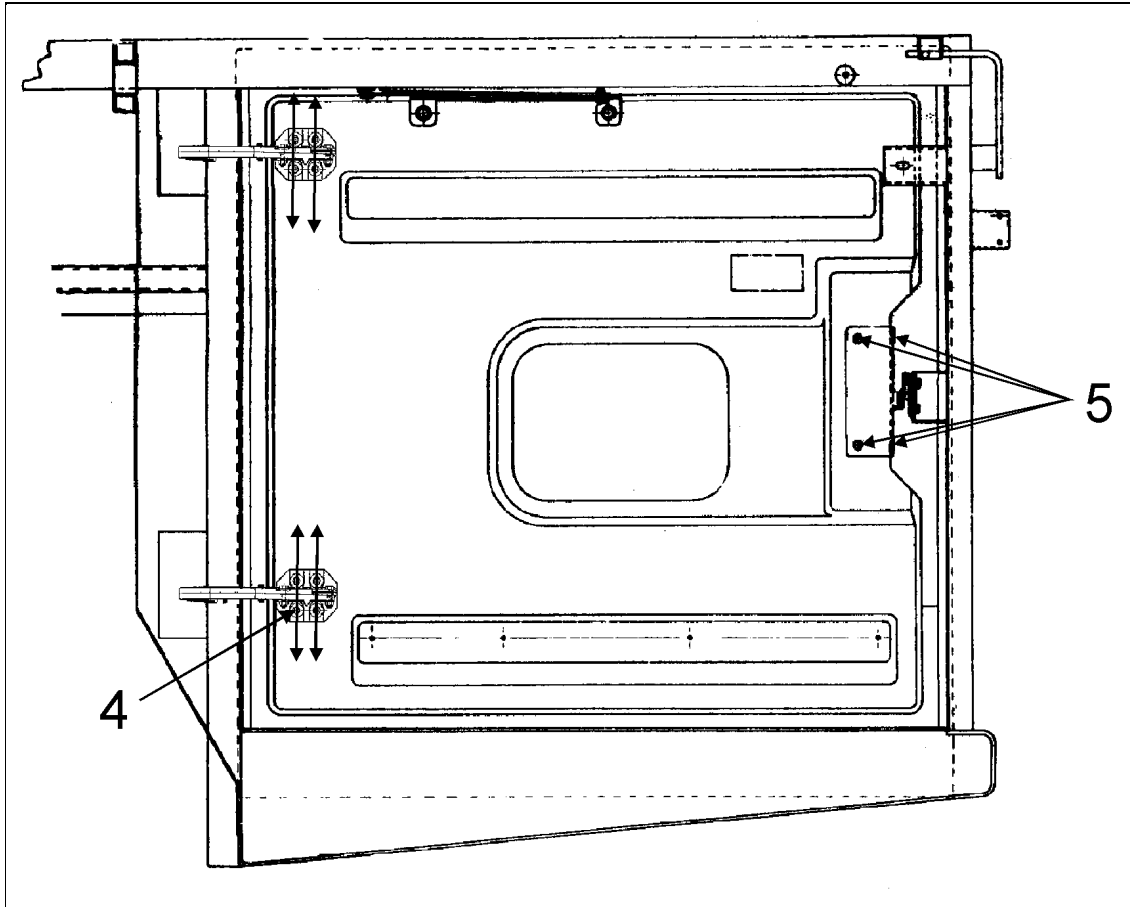


FIGURE 37: ENGINE COMPARTMENT REAR R.H. SIDE DOOR

18197

16.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (5, Fig. 37) and move the latch assembly as needed. Tighten the screws. Check door fit and operation.

17. EVAPORATOR DOOR

17.1 Door / Hinge

1. Open the door.
2. Loosen nut (1, Fig. 38). Move the hinge as shown in figure. Tighten nut (1, Fig. 38).
3. Loosen nut (2, Fig.38). Hinge allows the door to be shifted "IN or OUT" and "LEFT or RIGHT". Adjust the door in accordance with the required distance between exterior finition parts (Fig. 18).
4. Loosen the screws (3, Fig. 38). Screws allows the door to be shifted "UP or DOWN". Adjust the door position according to the distance needed between exterior finishing parts (Fig. 18). Tighten the screws.
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.

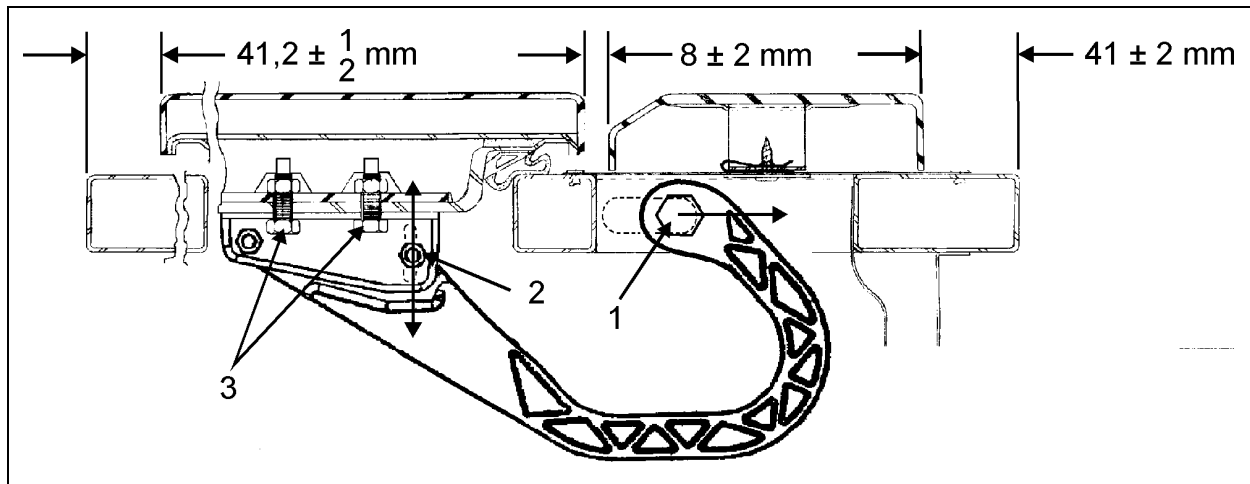


FIGURE 38 : EVAPORATOR DOOR

18198

17.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws and move the latch assembly as needed. Tighten the screws. Check door fit and operation.

18. MAIN POWER COMPARTMENT AND REAR ELECTRICAL COMPARTMENT

18.1 Door / Hinge

1. Open the door.
2. Loosen nut (1, Fig. 39). Move the hinge as shown in figure. Tighten nut (1, Fig. 39).
3. Loosen nut (4, Fig. 39). Hinge allows the door to be shifted "IN or OUT" and "LEFT or RIGHT". Adjust the door lin accordance with the required distance between exterior finition parts (Fig. 18).
4. Loosen the screws (2, Fig. 39). Screws allows the door to be shifted "UP or DOWN". Adjust the door position according to the distance needed between exterior finishing parts (Fig. 18). Tighten the screws.
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.

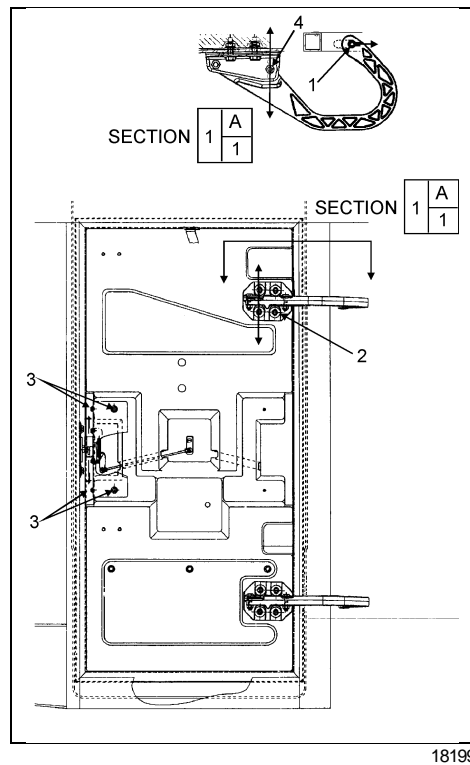


FIGURE 39: MAIN POWER COMPARTMENT AND REAR ELECTRIC COMPARTMENT

18.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (3, Fig. 39) and move the latch assembly as needed. Tighten the screws. Check door fit and operation.

19. FRONT ELECTRICAL COMPARTMENT

19.1 Door / Hinge

1. Open the door.
2. Loosen nut (1, Fig. 40). Pull on pressure cylinder (3, Fig. 40) and tighten the nut (1, Fig. 40).
3. Loosen nut (4, Fig. 40). Pull arm (5, Fig. 40) out of the vehicle and tighten the nut (4, Fig. 40).
4. Loosen nut (7, Fig. 40). Adjust arm (5, Fig. 40) in the slot. Position the door parallel to vehicle exterior side panel .
5. If necessary center the door panel with the four screws located behind panel.

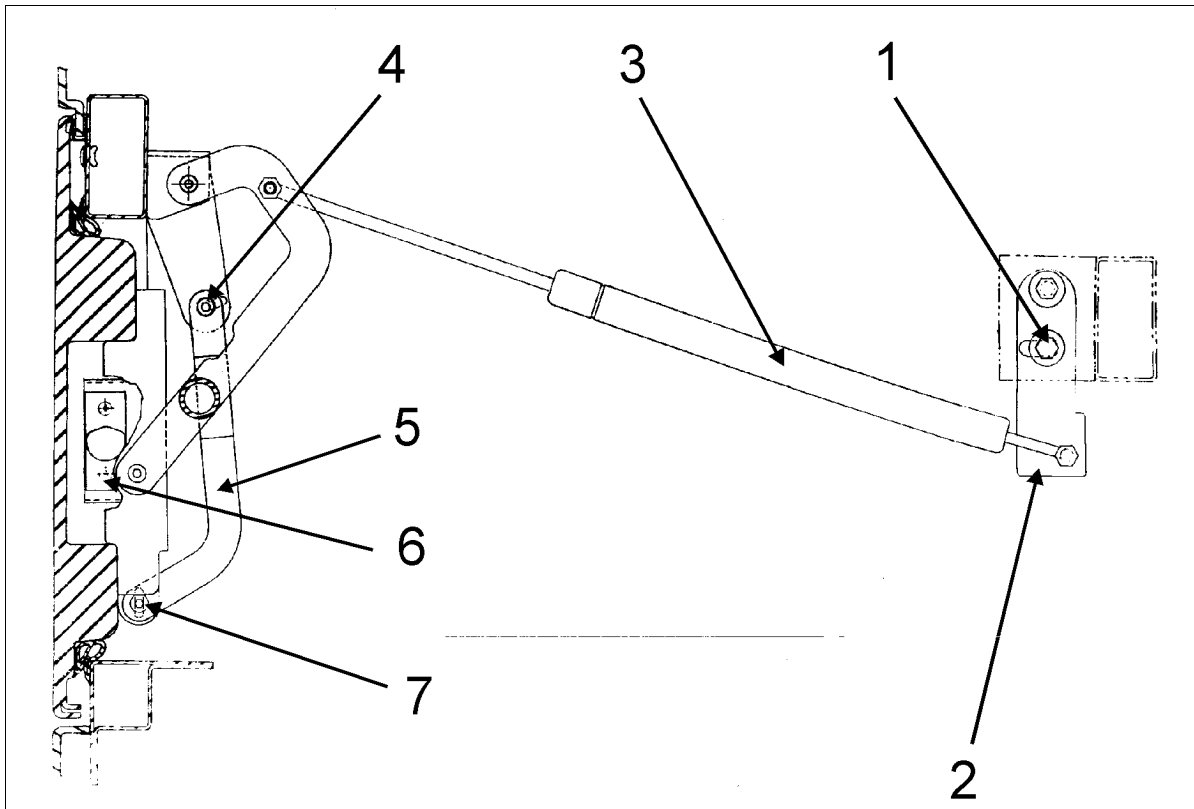


FIGURE 40: FRONT ELECTRICAL COMPARTMENT

18200

19.2 Latch Mechanism

To adjust the latch mechanism, open the door to access the screws holding the latch mechanism to the door panel. Loosen the screws (6, Fig. 40) and move the latch assembly as needed. If necessary remove the screws and add shims. Tighten the screws. Check door fit and operation.

20. EXTERNAL REAR VIEW MIRRORS (RAMCO)

Your vehicle is equipped with two (2) exterior mirrors (Ramco or Spartan) that may be supplied with an optional electric heating system which serves to minimize ice and condensation in extreme weather conditions. Integral thermostats are installed in both mirrors to avoid continual heating. Use the appropriate switch on the L.H. side control panel to activate the defroster system on both mirrors simultaneously. The mirrors can easily be adjusted by using the remote controls located on L.H. side control panel. The mirrors have replaceable glass which can be replaced if broken. Remote motors can be replaced.

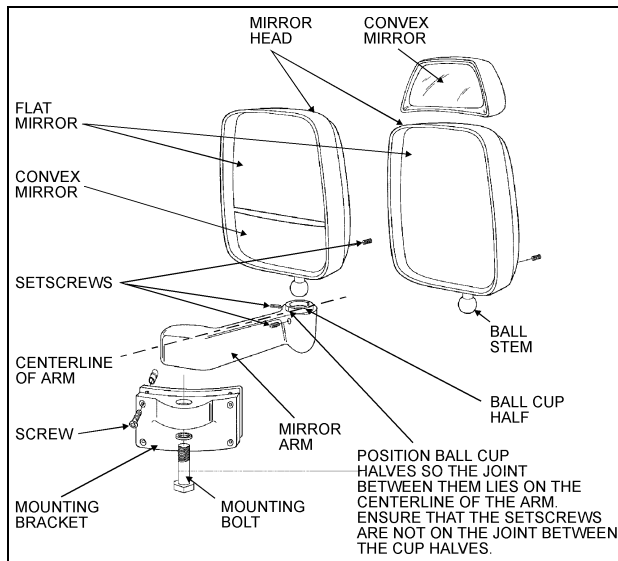


FIGURE 41: RAMCO MIRROR

18201

20.1 Adjustment

1. At the base of the mirror arm, loosen the mounting bolt to swing arm in or out.
2. 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.

20.2 Disassembly

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

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

20.3 Assembly

1. Mount the mirror arm base to the coach.
2. 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.

20.4 Replacement Of Mirror

Glass

1. Remove the broken glass.
2. Position new glass in mirror head and press to lock the Velcro in place.

20.5 Heated / Remote Controlled External 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 L.H. 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 by a thermostat. Refer to wiring diagram annexed in the technical publication box.

The remote control switch for the mirrors is 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.

20.5.1 L.H. & R.H. OUTSIDE MIRROR CONTROL

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.

20.5.2 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.

20.5.3 Assembly

1. 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".
2. Connect the mirror head harness. Insert the harness connector back into the mirror arm.
3. 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.

20.5.4 Flat Glass

The mirror heater grid mounts on the plate and the plate is glued to the back of the mirror glass. After the mirror heater switch is depressed, current flows to the heater grid to warm the plate and mirror glass. A thermostat keeps the mirror temperature between 60-80°F.

20.5.5 Convex & Flat Mirror Replacement

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.

20. EXTERNAL REAR VIEW MIRRORS (SPARTAN)

The coach is equipped with flat-type and convex-type rear view mirrors. Convex mirrors give a wide angle view. Objects viewed in convex-type rear view mirrors appear smaller and are actually closer than they appear.

To provide good visibility in cold weather, the mirrors are equipped with heating elements that are activated by a rocker switch located on the L.H. dashboard. Thermostats are used to prevent continuous operation of the heating elements.

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.

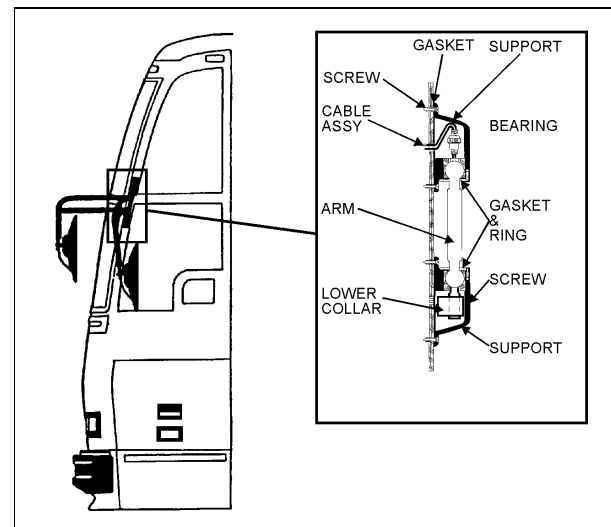


FIGURE 42: SPARTAN MIRROR

18202

21.1 Adjustment

Adjust the side view mirrors until the side of the coach is visible. Adjust the flat-type mirror until the highway is in full view.

21.2 Manually Adjusted Mirror

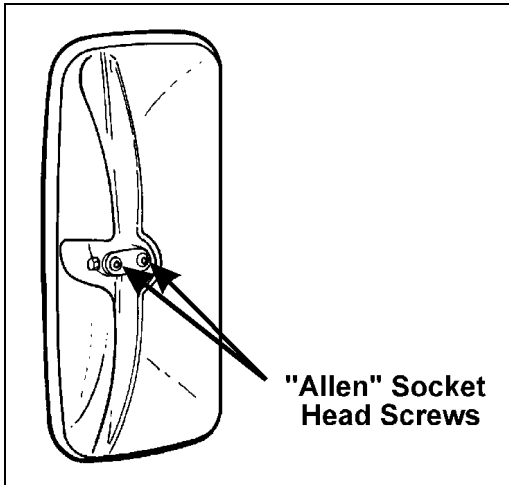


FIGURE 43: MIRRORS ADJUSTMENT SCREWS OEH3B120

HORIZONTAL BRACKET ASSY ADJUSTMENT:
Loosen the Allen screw at the bracket assy ball joint. Adjust the bracket assy to the desired angle, then tighten the screw (Fig. 42).

HORIZONTAL AND VERTICAL MIRROR ADJUSTMENT:
Loosen the two Allen screws at the rear of the mirror body. Adjust the mirror to the desired angle, then tighten the screws (Fig. 43).

Caution: Do not overtighten the screws. Tighten until snug.

21.3 Electrically Adjusted Mirror

Electrically adjusted mirrors are adjusted by the outside mirror control located on the L.H. side control panel. Select the mirror to be adjusted by turning the pointer knob to the left or right. Adjust the mirror to the desired position by moving the knob.

Manual adjustment is also possible. Grip the mirror body and adjust to the desired angle.

Note: To adjust mirror horizontally, loosen two Allen screws at the rear of the mirror body. Adjust the mirror to the desired angle, then tighten screws.

21.4 Replacement Of Mirror Glass

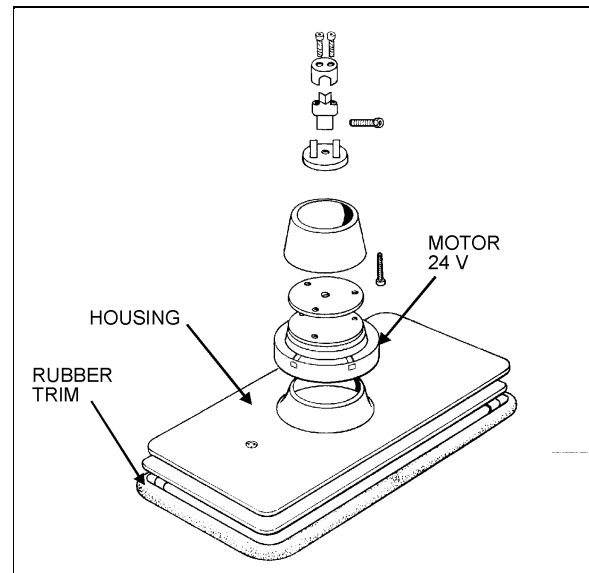


FIGURE 44: SPARTAN MIRROR 18203

1. Remove the rubber trim (Fig. 44).
2. Remove the broken glass.
3. Position new glass in mirror head and install the rubber trim.

22. COACH SIDE WINDOWS

Six passenger side windows are provided on each side of the coach on H3-41, while the H3-45 have seven on each side. They are made of fixed, single or double-glazed, heat absorbing AS-3 mounted in black painted extruded aluminum frames. The single-glazed windows are laminated safety glass, while the double-glazed windows are laminated safety glass outside and tempered glass inside. The two trapezoidal windows are also mounted on aluminum frames (except for H3-45 VIP, where they're mounted with adhesive, refer to heading "Adhesive mounted windows" later in this section, for more information on this type of mounting) and they are made of fixed, double glazed, heat absorbing AS-3 laminated safety glass inside and tempered glass outside. Three of the side windows on each side serve as emergency exits on the H3-41, while there are four of them on curb side of the H3-45, and three on driver's side. See figures 45 and 46.

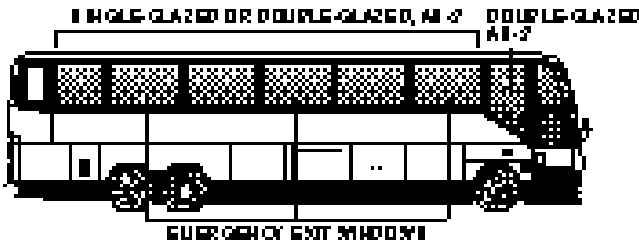


FIGURE 45: COACH SIDE WINDOWS (H3-41) 18073

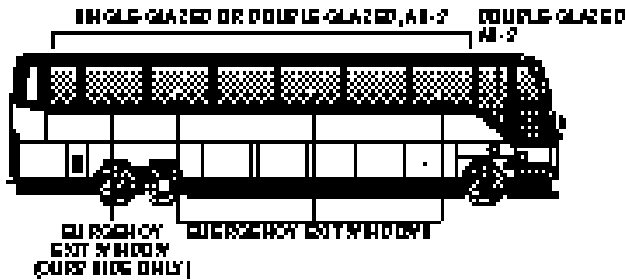


FIGURE 46: COACH SIDE WINDOWS (H3-45) 18074

An emergency exit window can be opened by pulling the lower part of the release bar, which disengages the 2 safety latches, and pushing out the window frame. See figure 47.

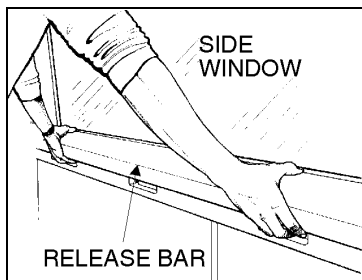


FIGURE 47: EMERGENCY EXIT WINDOW 18075

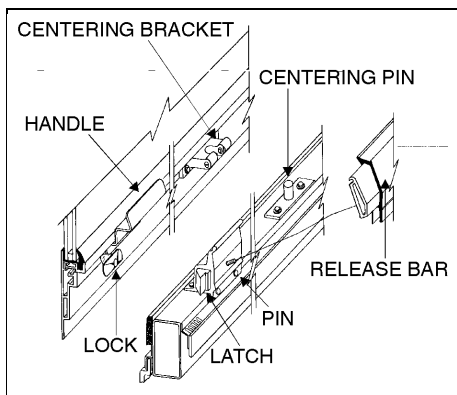


FIGURE 48: EMERGENCY EXIT WINDOW 18076

Emergency operating instruction decals are affixed under each emergency exit window. To close the window, pull the 2 handles on the window frame to securely engage the safety latches in their respective locks. See figure 48.

22.1 Removal and Installation

The emergency exit windows can be removed from the vehicle with the help of an assistant. See figure 49.

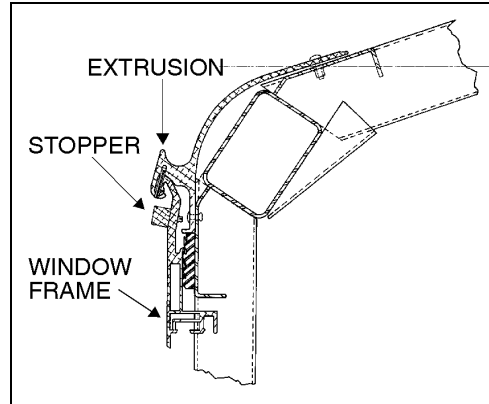


FIGURE 49: EMERGENCY EXIT WINDOW 18077

1. Remove the 2 stoppers from the window frame outside the vehicle.
2. Unlock the window latches and swing the window out far enough to disengage the frame extrusions.
3. Lower the window assembly from the opening.
4. Installation of the window is the reverse of removal procedure.

The fixed side windows can be removed in the same way, after first removing 4 cap screws holding the bottom of the window frame to the inside wall of the vehicle. This will permit the window to swing out as an emergency exit window.

Spring pins are inserted in the roof aluminum extrusion on both sides of each window to prevent fore and aft movement of the window when opened. The spring pins do not have to be removed when removing and installing a window.

22.2 Emergency Exit Window Adjustment

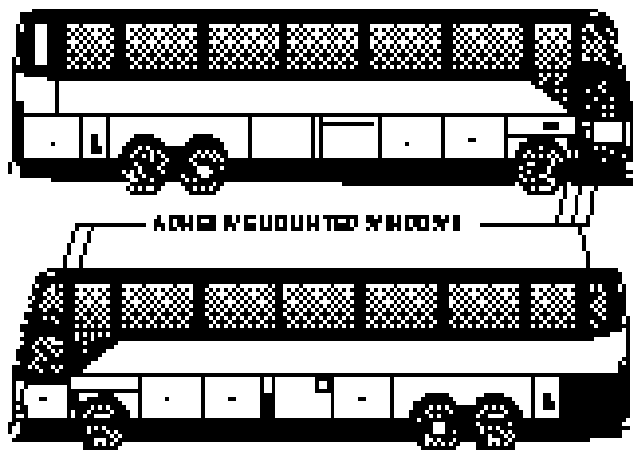
Emergency exit windows should be checked periodically for easy opening and closing. Pulling the lower part of the release bar with both hands placed near the safety latches should disengage both locks on the window simultaneously. The tension required to release the window should not exceed 20 pounds (9 kg) of force. If too much effort is required to disengage the locks or if only one lock disengages when pulling the release bar, adjustment of the window locking mechanism must be made. Similarly, the window should close tightly and should not shake.

The centering pin and the centering bracket should be correctly positioned before performing the window locking mechanism adjustment. The window is correctly positioned in the opening when the centering pin aligns with the slot in the centering bracket. The 2 locks threaded in the window frame can be adjusted in or out for proper engagement in the safelatches. If the locks do not engage in the latches or require too much effort, they are threaded in too far. If the window rattles when closed, the locks extend too far out. To adjust the locks, first loosen the lock nuts and rotate the locks in or out in half-turn increments. Tighten the lock nuts when proper adjustment is made.

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

23. ADHESIVE MOUNTED WINDOWS

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 laminated safety glass, while the double-glazed windows are laminated safety glass outside, and tempered glass inside. The upper driver's windows can optionally be AS-4 Plexiglas. See figure 50 for location and type of sealed windows. To replace a damaged or broken adhesive mounted window, refer to heading "Replacement", next in this section.



□ SINGLE GLAZED AS-2 OR PLEXIGLAS AS-4
 △ DOUBLE GLAZED AS-2
 ▲ DOUBLE GLAZED AS-3

FIGURE 50: ADHESIVE MOUNTED WINDOWS

18078

23.1 Replacement

Items Needed:

Scraper with new blade; Disposable vinyl gloves; Isopropyl alcohol or enamel reducer or NAPA 6383 surface cleaner; Masking tape; Clean rag; Heavy hydrotreated naphta (vanishing oil) (680102); Tremthane Primer (681091); Tremshield Tape (681089); Sikaflex 255FC (681092)

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.*

1. Remove previous window glass and scrape off all remaining material around the opening.

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 centre 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. See figure 51.*

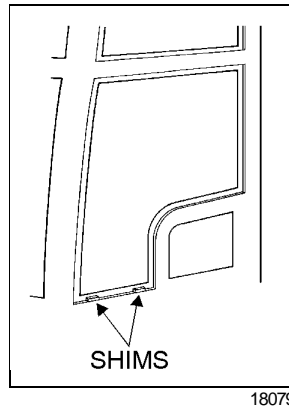


FIGURE 51: ADHESIVE MOUNTED WINDOWS

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. See figure 52.

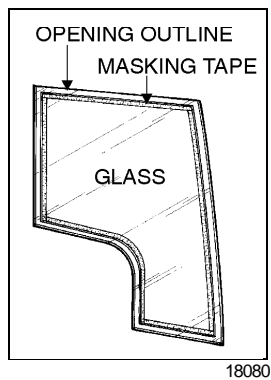


FIGURE 52: ADHESIVE MOUNTED WINDOWS

5. Clean all around the window opening and the window glass edge with isopropyl alcohol, enamel reducer or NAPA 6383 surface cleaner. Let dry 1 to 2 minutes.

Note: 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. Apply Tremthane primer (Prévost # 681091) all around the window opening and the window glass edge.
8. Install Tremshield tape (Prévost # 681089) around the sealing surface of the window opening. See figure 53.

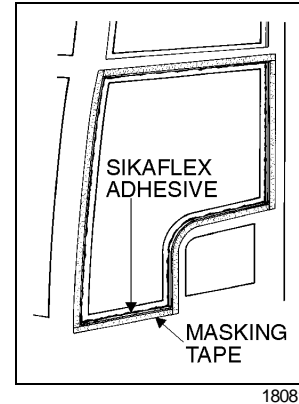


FIGURE 53: ADHESIVE MOUNTED WINDOWS

9. Apply a generous bead of Sikaflex-255 FC polyurethane adhesive (681092) 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 175 °F (80 °C).

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

10. 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.

11. Smooth the adhesive joint using the plastic glove on your finger. 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 naphtha (vanishing oil) after each use for cleaning.

Caution: Never use solvent to clean excess adhesive.

12. Remove masking tape at once, clamp window glass suitably and let dry overnight or at least 8 hours.

24. 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 equipped, 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 Car Inc. to ensure proper fit. Windshield obtained from another source should be checked for proper size and curvature.

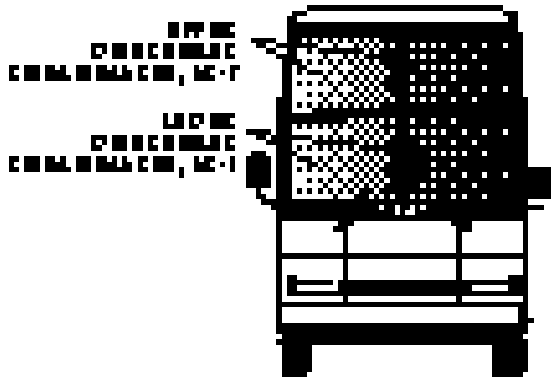


FIGURE 54: WINDSHIELD

18082

24.1 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 out. A person on the outside then lifts the windshield up and out of the opening.
5. Clean the rubber extrusion channel with isopropyl alcohol. Refer to heading "Installation" 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 "Rubber Extrusion and Windshield Installation" in this section for complete reinstallation instructions.

24.2 Installation

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 with wiping towels soaked with isopropyl alcohol. Wipe with dry wiping towels and let dry 1 to 2 minutes. See figure 55.

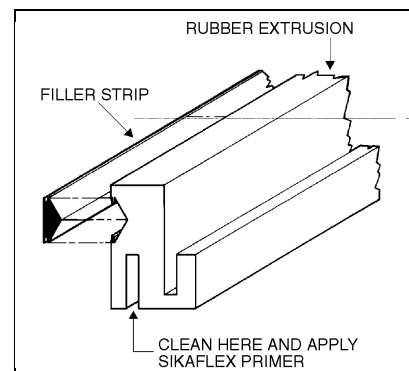


FIGURE 55: WINDSHIELD

18098

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

2. Apply Sikaflex primer 449/203 (Prévost # 681091) with a paint brush or applicator in the channels around the rubber extrusion, and let dry 20 to 25 minutes while proceeding with the next steps.

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

- 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 persons should be working on both faces of the windshield simultaneously.

- Mask the windshield following the contour of the rubber extrusion. See figure 56.

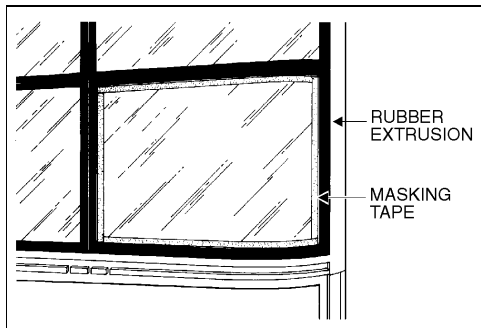


FIGURE 56: WINDSHIELD

18099

- 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. Scrape 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.

- 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.

24.3 Rubber Extrusion and Windshield Installation

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.

- Clean the windshield opening sealing surfaces with isopropyl alcohol and let dry 1 to 2 minutes. See figure 57.

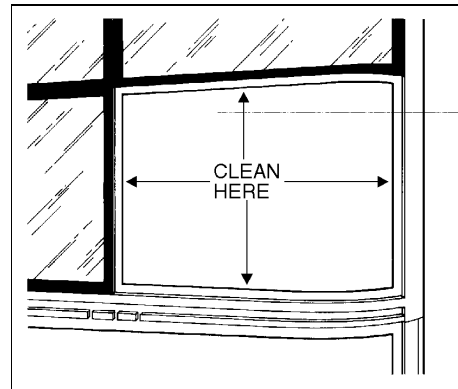


FIGURE 57: WINDSHIELD

18100

- Clean the rubber extrusion with wiping towels soaked with isopropyl alcohol. Wipe with dry wiping towels and let dry 1 to 2 minutes.

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

- Apply Sikaflex primer 449/203 (Prévost # 681091) with a paint brush or applicator in the channels around the rubber extrusion, and let dry 20 to 25 minutes while proceeding with the next steps. See figure 58.

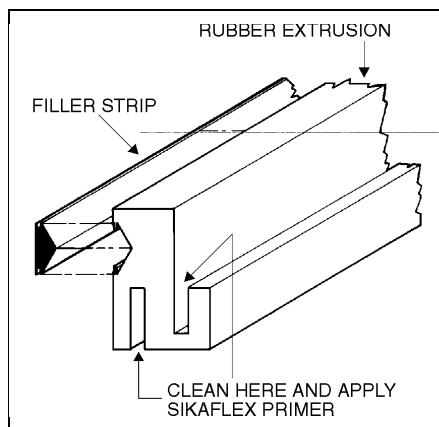


FIGURE 58: WINDSHIELD 18101

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

4. 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.
5. Mask the exterior side of the windshield opening on the 2 sides not adjacent to the other windshield.
6. Apply 2 beads, parallel but not touching, of Sikaflex-255 FC polyurethane adhesive (Prévost # 681092) on the sealing surface of the windshield opening. See figure 59.

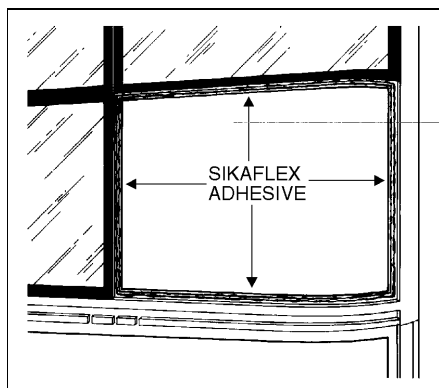


FIGURE 59: WINDSHIELD 18102

7. Apply Sikaflex-255 FC adhesive all around the rubber extrusion in the channel for the windshield opening flange. See figure 60.

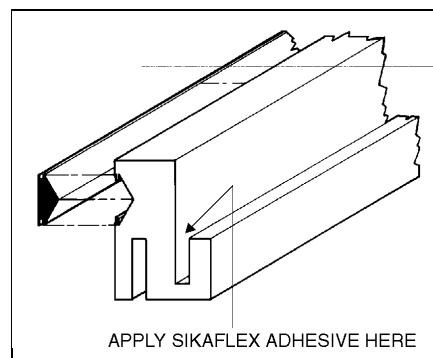


FIGURE 60: WINDSHIELD 18103

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

8. Find the reference marks made earlier and install the rubber extrusion in the windshield opening.
9. Spray the windshield channel of the rubber extrusion with a liquid soap and water solution.
10. 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 persons should be working on both faces of the windshield simultaneously.

11. Mask the outside of the windshield following the contour of the rubber extrusion.
12. Apply Sikaflex-255 FC adhesive generously between windshield and the 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.
13. 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.

14. Add Sikaflex-255 FC adhesive where the rubber extrusion meets the front structure fiber on the 2 sides not adjacent to the other windshield. Scrape off excess adhesive and clean with Klene-Sol or equivalent solvent.

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

25. ROOF ESCAPE HATCH

25.1 Maintenance

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 attaching 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.

25.2 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 that is often damaged whenever the hinge is damaged. The tapping plate is permanently laminated between the inner and outer cover assemblies, and it cannot be inspected or replaced. It is therefore necessary to replace the entire assembly following damage to the hinge. See figure 61.

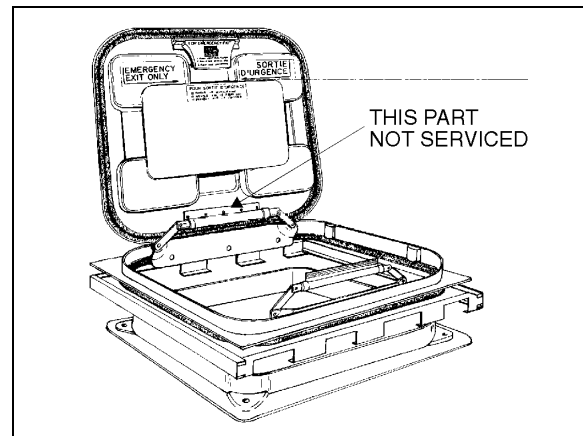


FIGURE 61: ROOF ESCAPE HATCH

18104

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.

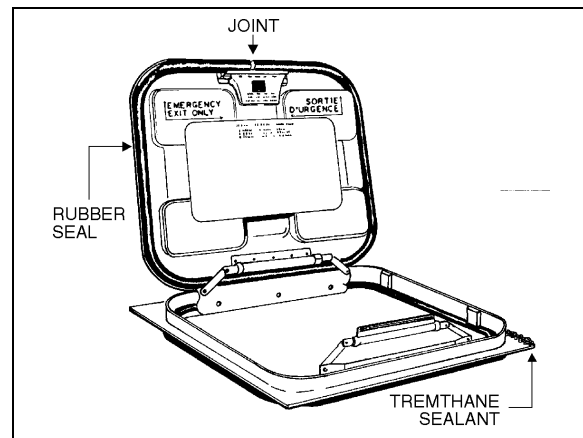


FIGURE 62: ROOF ESCAPE HATCH

18105

25.3 Sealing

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

Caution: Seal joint should be toward rear of vehicle.

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

25.4 Removal and Installation

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.

26. PASSENGER SEATS

The H3-41 and H3-45 coaches can be equipped with any of 3 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.
2. The "Silhouette" seat is an optional model with each pair also built on a welded steel frame and mounted the same way as the "Tourismo 2" seat. Standard seating arrangement with the "Silhouette" seat includes 2 card tables and 2

pivoting seats. Seating capacity is the same as with the "Tourismo 2" seat.

3. The "VIP" 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-centre aisle. Each "V.I.P." seat has its own set of armrests.

Each seat has a removable bottom cushion with snapped-on upholstery for cleaning or replacement. The "Tourismo 2" and "Silhouette" seats have 3 armrests. The aisle armrest is spring loaded to return to its down position when released. The center armrest can be folded up and down manually, while the window armrest is fixed.

26.1 Rotating Seats

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

26.2 Removing Fixed Seats

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

To remove fixed seats, proceed as follows:

1. Remove 1 elastic stop nut holding each seat bottom cushion from under the front part of the seat frame.
2. Lift front part of cushions and remove cushions.
3. Remove 4 finishing screws holding plastic cover between side wall and seat frame.
4. Remove 2 cap screws, nuts, and washers holding seat frame to side wall and retain the 2 holding brackets. See figure 63.

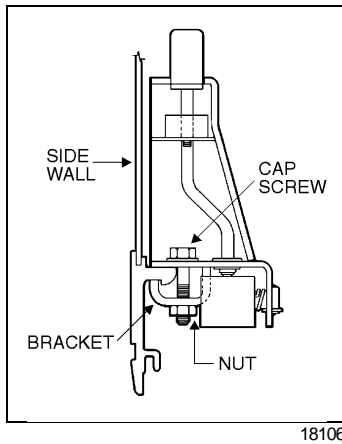


FIGURE 63: PASSENGER SEAT FRAME HOLDING

- Remove 2 nuts and washers holding seat frame to pedestal rods. See figure 64.

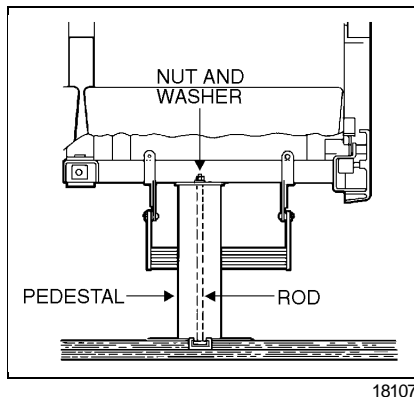


FIGURE 64: PASSENGER SEAT FRAME

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 other interfering seats.

- 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 end of track.

27. UPHOLSTERY MAINTENANCE

27.1 Routine Cleaning

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.

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.

27.2 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.

27.3 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.

Section 18: BODY

3. 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.
4. 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.
5. 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.

Note: 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 add months to the service life of coach upholstery.

28. VEHICLE JACKING POINTS

The vehicle can be jacked by applying pressure under body jacking points or front and drive axle jacking points. When it is necessary to raise the vehicle, care should be taken to ensure that pressure is applied only at the points indicated in figure 65, 66 and 67. Equipment for lifting the front of the vehicle must have a combined lifting capacity of 13,000 lbs (5 900 kg). Equipment for lifting the rear of the vehicle must have a combined lifting capacity of 25,000 lbs (11 400 kg).

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

28.1 Body Jacking Points

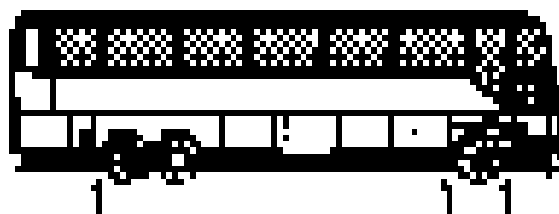


FIGURE 65: BODY JACKING POINTS

18083

Warning: 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".

28.2 Axle Jacking Points

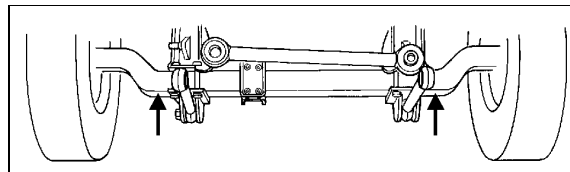


FIGURE 66: FRONT AXLE

18084

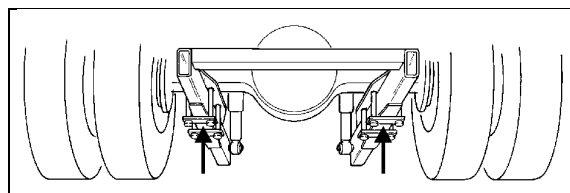


FIGURE 67: DRIVE AXLE

18085

Warning: 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.

28.3 Jacking the Tag Axle

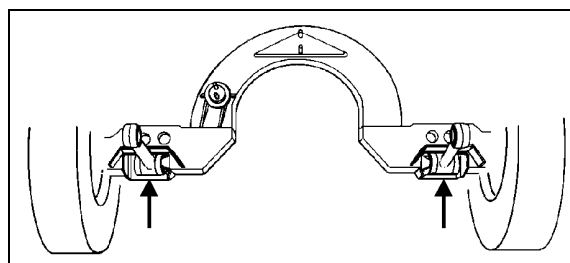


FIGURE 68: TAG AXLE

18086

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

29. 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 as required.

The vehicle can also be towed by lifting under the front axle or by towing from the front with all wheels on the ground. These 2 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 intercity coaches.

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

1. Make sure the parking brake is released before towing.
2. Do not allow passengers to ride inside the towed vehicle.
3. Tow the vehicle at a safe speed as dictated by road and weather conditions.
4. Accelerate and decelerate slowly with caution.

29.1 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" in Section 11 "Rear Axle" in this manual for correct procedure.

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

2. Operate the engine of the vehicle 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.
4. Observe safety precautions when towing.

29.2 Towing Without Lifting

Caution: *When towing without lifting vehicle, 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 Section 11, "Rear Axle" in this manual for correct procedure.

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

2. Operate the engine of the vehicle 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.

Section 18: BODY

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 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.