

# PREVOST

## Instruction Sheet

## IS-98122A

### REPLACEMENT OF ENTRANCE DOOR AIR CYLINDER

<b>REVISION A THIS INSTRUCTION SHEET SUPERSEDES PREVIOUS VERSION.</b>
Part 286599 replaced with 285929, part 780565 replaced with 780714, part 780595 replaced with 780813

#### 1<sup>3</sup>/<sub>4</sub> INCH AIR CYLINDER

#### MATERIAL

Kit #286450 includes the following parts:

Part No.	Description	Qty
285929	Air Cylinder Assembly	1
5001075	Screw, Cap	1
500445	Washer, Flat ZP	1
500482	Washer, Lock SP	1
502102	Cotter Pin	1
IS-98122	Instruction Sheet	1
FI-98122	Feuille d'instruction	1

#### PROCEDURE

**Warning:** Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

1. Open entrance door. Remove handrail attaching parts then handrail. Remove two trim panels and upper hinge rubber bellows (refer to figure 1).

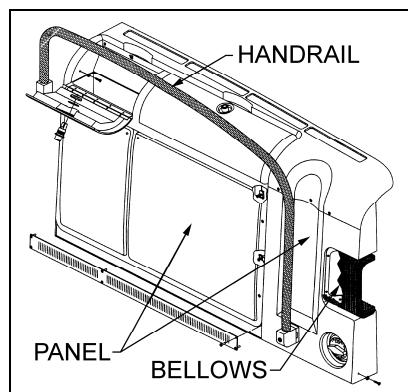


FIGURE 1: LOCATION OF PANELS

2. Unfasten screw securing air cylinder rod end to upper hinge. Disconnect flexible tubing from 90° elbow fittings. Remove cotter pin from support pin and cut tie-wraps. Disconnect air cylinder electrical connector and remove cylinder.
3. Cut rod end of new air cylinder assembly (Prevost #285929) to a length of 1 11/16 inches (43 mm) overall (refer to figure 2). Apply blue "Loctite" onto cylinder rod threaded part before fastening together.

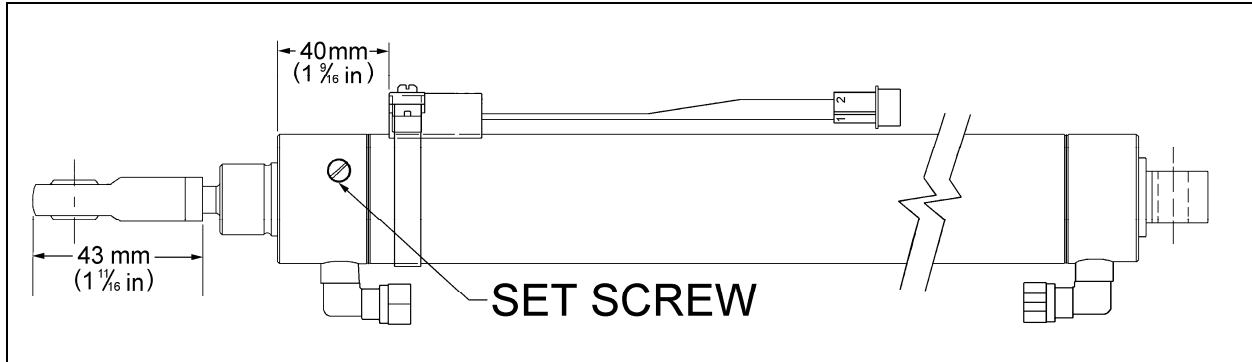


FIGURE 2: 2-INCH AIR CYLINDER ASSEMBLY

4. Ream and tap upper hinge hole so that a 1/2-13 UNC thread and 1 7/16 inch (37 mm) deep hole is obtained (refer to figure 3).

**Note :** You may wish to ream and tap upper hinge existing hole or order a new hinge (Prevost #285937) at your own expense.

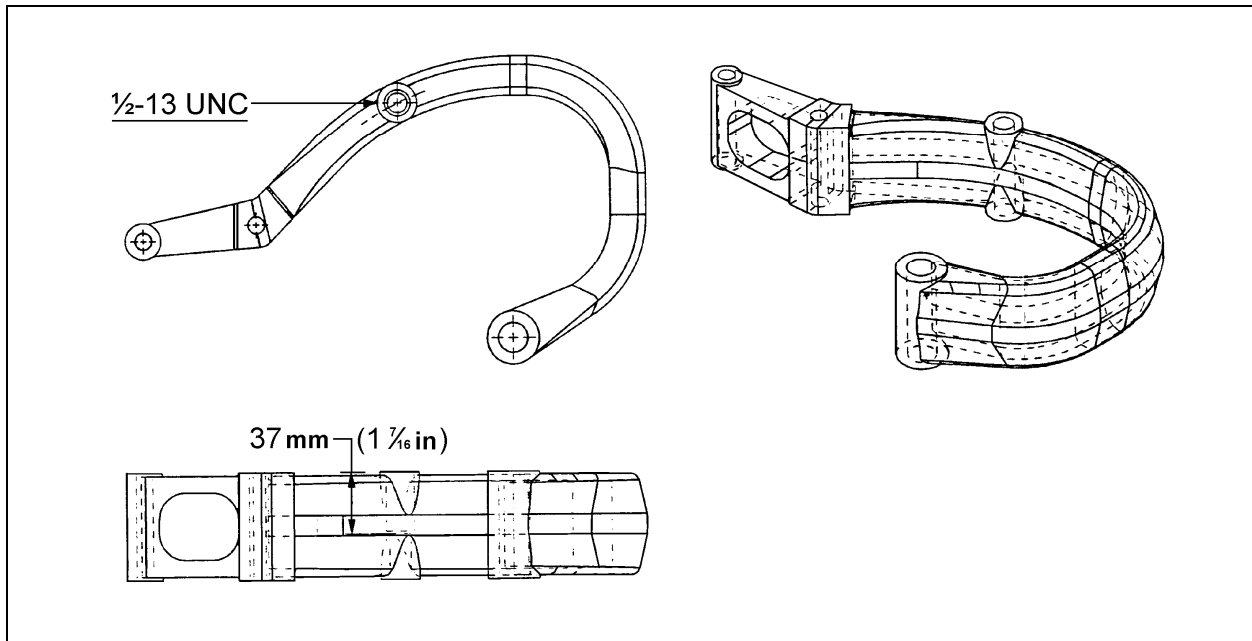


FIGURE 3: UPPER HINGE

5. Install rod end together with cylinder assembly onto the upper hinge, insert lock-washer (Prevost #500482) between rod end and hinge before securing assembly using cap screw (Prevost #5001075) (refer to figure 4).
6. Install air cylinder's opposite end onto the support pin, slide flat washer (Prevost #500445) over pin then secure using cotter pin (Prevost #502102).

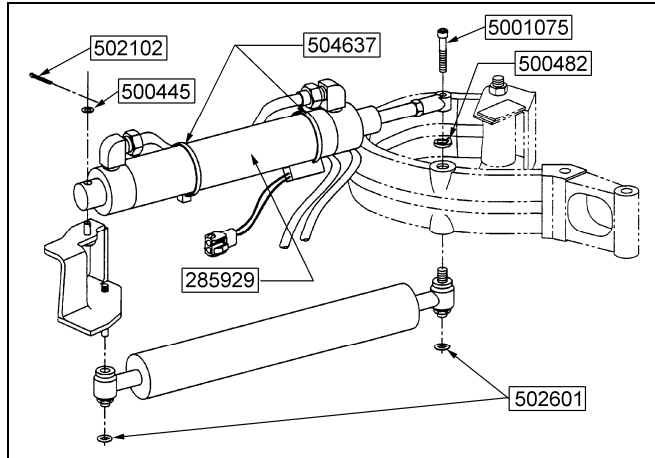


FIGURE 4: 2-INCH AIR CYLINDER ASSEMBLY INSTALLATION

7. Fasten flexible tubing to elbow fittings. Connect new cylinder electrical connector with power cable connector then secure using tie-wraps. Ensure that position sensor is located 1 9/16 inch (40 mm) from cylinder end and adjust set screw by firmly tightening and then stepping back ¼ of a turn (refer to figure 2).
8. Reinstall trim panels, rubber bellows and handrail.

## 1½ INCH AIR CYLINDER

### MATERIAL

Kit #286449 includes the following parts:

Part No.	Description	Qty
214129	Support	1
285433	Pin	1
5001075	Screw, Cap	1
500445	Washer, Flat ZP	1
500482	Washer, Lock SP	1
502102	Cotter Pin	1
502196	Rod End	1
502601	Nut, Spring	2
504637	Tie-Wrap	2
641371	FP 90° #4	2
780714	Damper	1
780813	Air Cylinder	1
IS-98122	Instruction Sheet	1
FI-98122	Feuille d'instruction	1

---

## PROCEDURE

**Warning :** Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

1. Open entrance door. Remove handrail attaching parts then handrail. Remove two trim panels and upper hinge rubber bellows (refer to figure 1).
2. Unfasten screw securing air cylinder rod end to upper hinge. Disconnect flexible tubing from 90° elbow fittings. Remove cotter pin from support pin and cut tie-wraps. Disconnect air cylinder electrical connector and remove cylinder.
3. Remove spring nuts fixing damper rod ends with upper hinge and with support, remove damper. Unscrew damper pin from upper hinge. Fasten new pin (Prevost #285433) into the hinge.
4. Ream and tap upper hinge hole so that a ½-13 UNC thread and 1 7/16 inch (37 mm) deep hole is obtained (refer to figure 3).

**Note :** You may wish to ream and tap upper hinge existing hole or order a new hinge (Prevost #285937) at your own expenses.

5. Remove welding bead from damper and air cylinder former support. Grind surfaces from parts requiring welding.

**Warning:** Welding must be done only by a qualified and experienced person.

*Protective shields must be placed in order to protect components against heat, welding flash, welding arc and other elements associated with welding.*

*Always wear the appropriate safety equipment.*

*Weld in clean and well-ventilated area, and always have an appropriate fire extinguisher within your reach.*

*The following precautions are to be taken to protect the electronic control components :*

- *Cut off battery power (battery master switch) from battery compartment.*
- *Disconnect wiring harness connectors from ECM (Electronic Control Module). The ECM is mounted on the starter side of the engine.*
- *For vehicles equipped with an automatic transmission, disconnect wiring harness connectors from ECU (Electronic Control Unit). The ECU is located in rear electrical compartment.*
- *For vehicles equipped with ABS (Antilock-Brake System), disconnect wiring harness connectors from ABS Electronic Control Unit. The ABS Electronic Control Unit is located in the front service compartment.*
- *Do not connect welding cables to electronic control components.*

6. Because of material thickness, it is recommended to use a semi-automatic electric arc welding in accordance with the following specifications to weld support (Prevost #214129) (refer to figure 5):

### STEEL - STEEL WELDING

**Note:** Welding must be done only by a qualified and experienced person.

- SMAW (Shield Metal-Arc Welding) process;
- welding rod conforms to CSA W48.3 - 93 specifications;
- E7018 type welding rod with 1/8" diameter (3,2 mm) or E48018;

- current: flat - 90 amperes to 160 amperes  
up - 90 amperes to 135 amperes  
overhead - 90 amperes to 160 amperes.
- FCAW (Flux cored-Arc Welding) process;
- welding rod conforms to CSA W48.5 - M1990 specifications;
- E4801 - T9CH type welding rod with 0.045" diameter (1,2 mm)
- voltage: 27 volts;
- current: 260 amperes;
- wire feed rate: 450 ipm;
- shielding gas: 75% argon and 25% CO<sup>2</sup> or 100% CO<sup>2</sup>

Allow welding to cool, then remove slag.

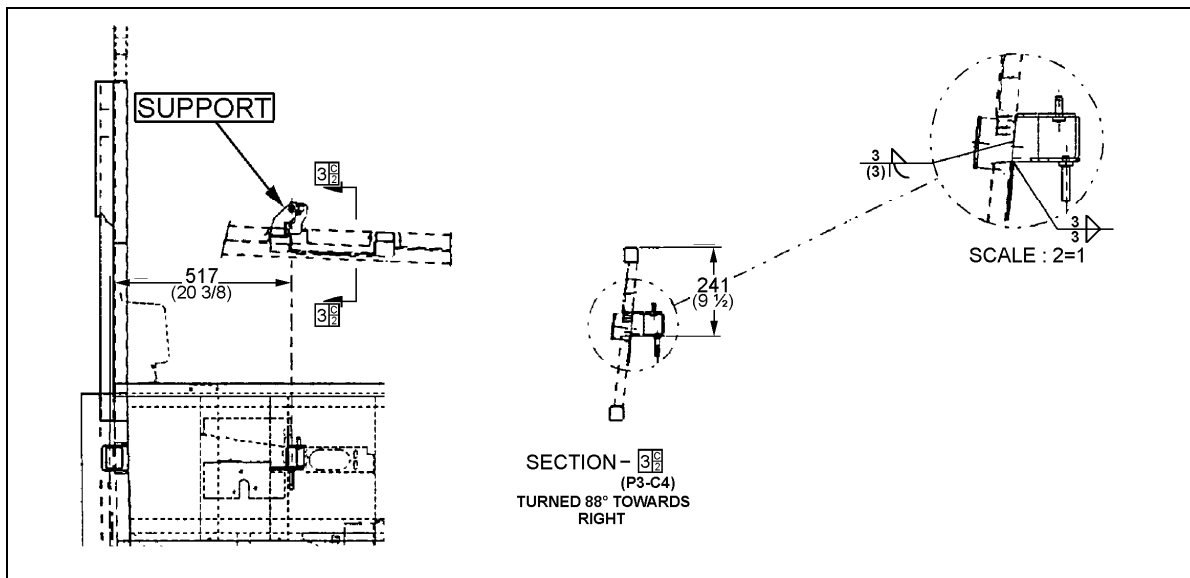


FIGURE 5: INSTALLATION OF SUPPORT ON VEHICLE'S FRAME

7. Apply blue "Loctite" onto cylinder rod threaded part before fastening rod end (Prevost #502196). Fasten 90° elbow fittings (Prevost #641371) to new air cylinder. Install rod end together with air cylinder (Prevost #780813) onto the upper hinge, insert lock-washer (Prevost #500482) between rod end and hinge before tightening cap screw (Prevost #5001075) in order to secure the assembly (refer to figure 4).
8. Install air cylinder opposite end onto the pin support, slide flat washer (Prevost #500445) over pin then secure using cotter pin (Prevost #502102).
9. Install new damper (Prevost #780714) rod end onto the hinge pin and secure using a spring nut (Prevost #502601). Install damper opposite end onto the support pin and secure using remaining spring nut (Prevost #502601).

**Note:** For proper installation, refer to damper indications.

10. Fasten flexible tubing to elbow fittings. Connect new cylinder electrical connector with power cable connector then secure using tie-wraps (Prevost #504637). Ensure that position sensor is located 1 9/16 inch (40 mm) from cylinder end and adjust set screw by firmly tightening and then stepping back ¼ of a turn (refer to figure 2).
11. Reinstall trim panels, rubber bellows and handrail.