

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-1. GENERAL

Repair parts are listed and illustrated in Chapter 5 of this manual.

3-2. INTRODUCTION, INSPECTION, AND SERVICE

a. Systematic, periodic, Preventive Maintenance Checks and Services (PMCS) are essential to ensure that the container is ready for operation at all times. The purpose of a preventive maintenance program is to discover and correct defects and deficiencies before they can cause serious damage or complete failure of the equipment. Any effective preventive maintenance program must begin with the indoctrination of operators/users to report all unusual conditions noted during daily checks or actual use to the appropriate maintenance personnel.

b. A system should be established to record all problems, defects, and deficiencies noted by operators/users and discovered during maintenance inspections together with the corrective actions taken.

3-3. LUBRICATION

The only mechanical items which may require lubrication are the hinges and the locks on the container doors. These points should be checked and lubricated as necessary. A few drops of light oil should be applied to pivot points, and linkages to prevent or eliminate stiffness or binding. Be sure to wipe off all excess oil with a cloth or paper towel. Graphite may be used as an alternate lubricant during extreme cold weather operation.

3-4. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Table 3-1 lists the preventive maintenance checks and services that should be performed at quarterly (or otherwise established) intervals. The PMCS items in the table have been arranged and numbered in a logical sequence.

Table 3-1. GENERAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

B-Before D-During A-After W-Weekly M-Monthly

Item No.	B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE	Equipment is Not Ready/Available If:
1						<p><u>Doors and Panels.</u></p> <ul style="list-style-type: none"> • Check that doors and panels are in place. Check doors and panels for cracks, dents, and missing hardware. • Lubricate door hinges as required. 	Doors and/or panels missing or damage that would cause hazard.
2						<p><u>Container Connectors.</u></p> <ul style="list-style-type: none"> • Check for obstructions, damage, proper adjustment, loose, or missing hardware. • Check for freedom of operation. • Lubricate as required. 	Connectors that do not operate freely.
3						<p><u>Container Racks.</u></p> <ul style="list-style-type: none"> • Check for obstructions, damage, proper adjustment, loose, or missing hardware. 	
4						<p><u>Information Plates.</u></p> <ul style="list-style-type: none"> • Check for legibility and loose or missing hardware. <p style="text-align: center;">NOTE</p> <p>Use a clean, dry cloth (or one slightly moistened with water) for all wiping operations. NEVER use an oily or greasy cloth. Any oily residue left on any surface will attract and accumulate much more dust and dirt than dry surfaces.</p>	
5						<p><u>Container Interior.</u></p> <ul style="list-style-type: none"> • Use a soft brush, damp cloth, or vacuum sweeper (if available) as appropriate to clean dirt from container interior. 	
6						<p><u>Exterior.</u></p> <ul style="list-style-type: none"> • Check outside surfaces for accumulations of dust, dirt, or salt (if applicable). Clean as required. 	

SECTION II MAINTENANCE PROCEDURES QUADCON CONTAINER

3-5. GENERAL

Minor dents and marks on shipping and storage containers are to be expected.

Repairs are necessary only when one of the following conditions exist:

- a. Container dented, pierced or punctured allowing contents to be exposed to the elements.
- b. Any damage that prevents doors from sealing properly.
- c. Welds cracked or fasteners loose or missing that would affect the structural integrity of the container.
- d. Dents or other damage that prevents installation of racks.
- e. Upper surfaces of floor torn or damaged.

3-6. SPECIAL TOOLS

a. (33287) T40 Torx Driver. Available as part of socket wrench attachment set NSN 5120-01-178-6342. (Used for door and panel removal and installation).

b. (39428) 5969A12 Fiberglass handled 2 lb. dead blow hammer (or equal). Recommended for installation of "press-in T nuts". Note that a regular hammer may be substituted for this item so long as reasonable care is used.

3-7. MINOR DENTS AND PUNCTURES

Minor dents and punctures that allow contents to be exposed to the elements may in some cases be repaired using commercially available auto body repair kits.

WARNING

Many of the products in auto body repair kits contain toxic chemicals. Read all labels and instructions before opening containers. Take care that they are properly stored. Use them only as instructions direct. Dispose of unused material in accordance with local laws and regulations.

•Wear eye protection (full face shield or goggles) when using power tools or any operation that involves removal of any type of material.

•Wear lung protection (disposable mask or respirator) when grinding, sanding or painting.

a. Generally, the area to be repaired must be clean and free of paint and other material that would interfere with the bonding of the repair material.

b. Carefully follow the instructions supplied with the repair kit that is being used.

3-7. MINOR DENTS AND PUNCTURES - continued

- c. If damage is excessive, total door or panel replacement is recommended.

NOTE

Replacement doors and panels will be supplied undrilled (without mounting holes). Retain old part for location of holes in replacement part.

3-8. DOOR REPLACEMENT

- a. Use a T40 torx driver to remove sixteen screws (1) from the four door hinges (2) in each door.
- b. Use a T40 torx drive to remove screws (3) and (4) from the lock mechanism (5) and the door stop (6) from the doors.
- c. Using a hammer and center punch, tap T-nuts (7) out of all hinges (2) lock mechanisms (5) and door stops (6).

NOTE

Replacement doors (8) and (9) are provided pre-drilled for lock mechanisms and door stops.

- d. Before installing hardware on doors (8) and (9) check that the doubler (metal strip behind hinge area) is to the inner side of the door and that the two holes for the door stop (6) are located on the door on the right (9).
- e. Position lock mechanisms (5) and door stop (6) on the door.
- f. Insert press-in T-nuts into lock mechanisms (5) and door stop holes. Use a hammer to tap the T-nuts (7) into place. A 2 lb. dead blow hammer is recommended, but a regular hammer may be used if used carefully.

NOTE

The upper screw (4) in each side door hasp is slightly longer (1.060 in.) than the lower screw (0.875 in.).

- g. Using a T40 torx driver, install lock mechanisms (5) and door stop (6) to door halves with torx washer head screws (3) and (4). The longer screws (4) are used in the upper hasp holes.
- h. Position doors (8) and (9) on container and lock into place using door lock mechanism. Be sure doors are square in opening (even on all sides).
- i. Flip hinges (2) into place and mark hinge holes on door halves.
- j. Remove doors (8) and (9) from container.

NOTE

Location and squareness of these holes is critical for proper door alignment. Use of a drill press is recommended.

- k. Center punch hole locations and drill hinge holes to 0.425 (1.079 cm).
- l. Using a straight shank counterbore and a drill stop, drill the hinge holes out to 0.5625 (1.4288 cm) through the door only. The door thickness is 0.80 (2.03 cm). Do not drill the larger diameter through the 14 gage steel doubler plate on back side of door.

3-8. DOOR REPLACEMENT - continued

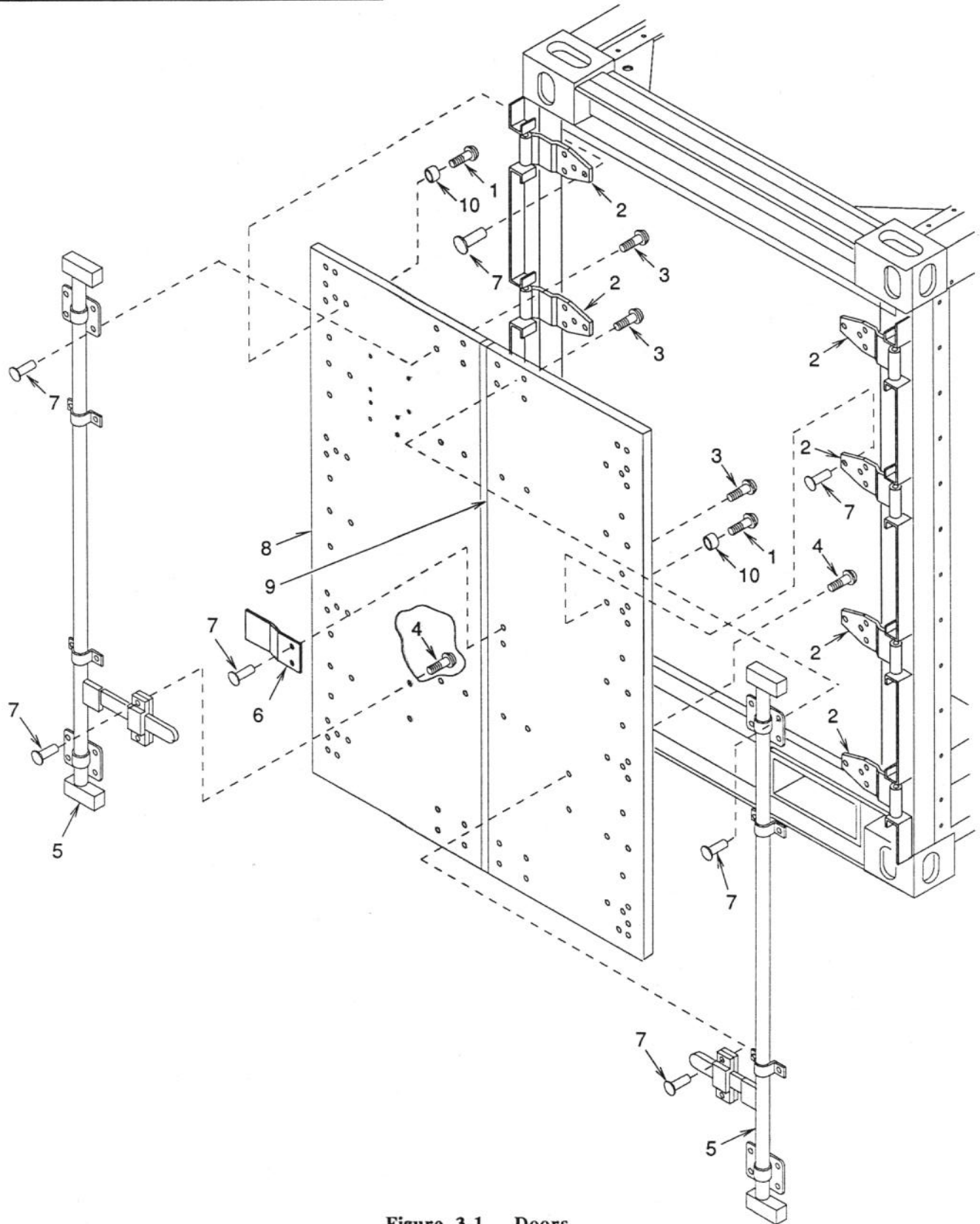


Figure 3-1. Doors

3-8. DOOR REPLACEMENT - continued

- m. Clean hinge holes of all dust and loose material.
- n. Coat internal hinge hole surfaces with structural epoxy (04963) DP-100 FR EPOXY OFF-WHITE.
- o. Install bushings (10) (with smaller diameter end facing inner door surface) in hinge holes. Allow epoxy to harden.

NOTE

Be sure that epoxy has completely hardened.

- p. Re-position door halves on container and lock into place using door lock mechanism.
- q. Be sure doors are square in opening (even on all sides).
- r. Flip hinges into place and install press-in T-nuts (7) into hinge holes using a hammer to tap the nuts into place. A 2 lb. dead blow hammer is recommended, but a regular hammer may be used if used carefully.
- s. Secure hinges to door halves with torx washer head screws (1).
- t. Check that doors work and seal properly. Adjust if necessary.

3-9. PANEL REPLACEMENT

- a. Use a T40 torx driver to remove the screws from the panel to be replaced.

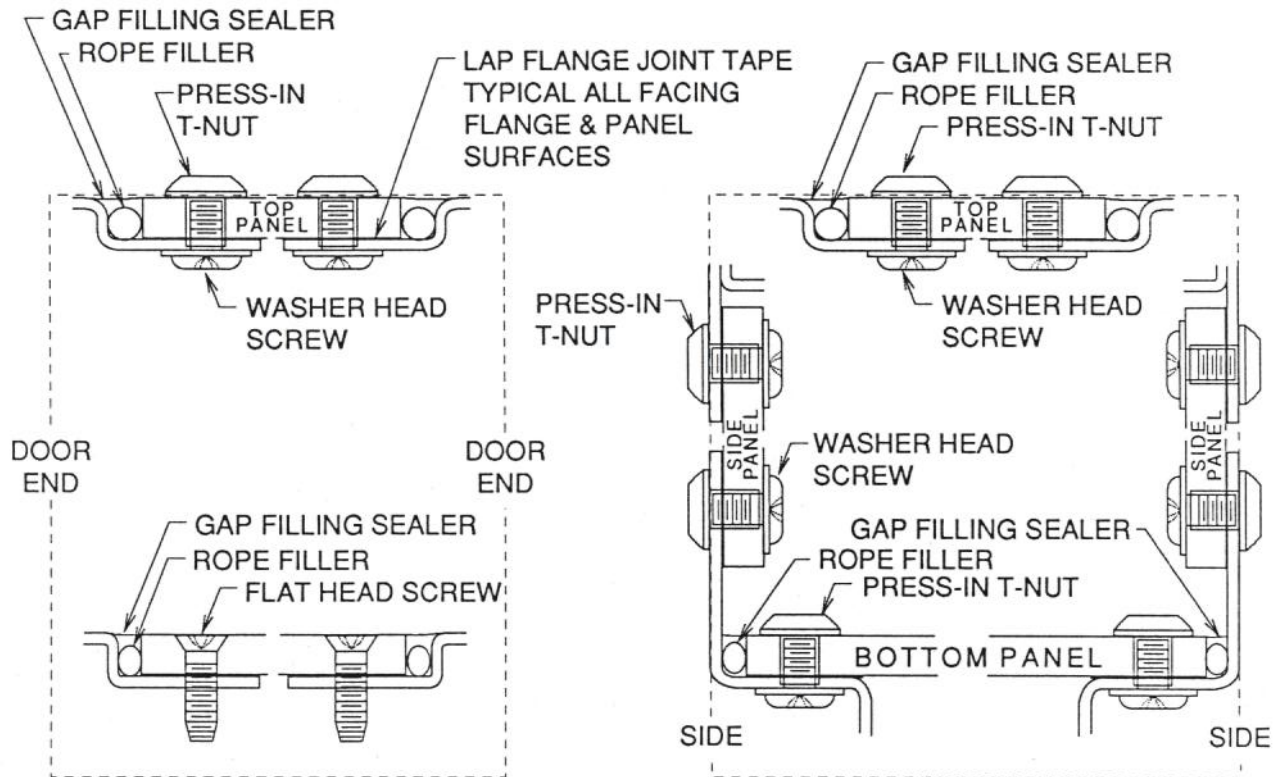


Figure 3-2. Panel Installation

3-9. PANEL REPLACEMENT - continued

- b. Use a heavy mallet to loosen the panel from the container frame.
- c. Remove the panel.
- d. Carefully clean the container frame flange surface.

NOTE

The frame flange surface must be free of all old tape and sealing material prior to installation of new panel.

- e. Place new panel in position on container frame and clamp in place. Check for squareness and adjust as necessary.
- f. Mark hole locations on panel.
- g. Remove panel from container.
- h. Center punch hole locations and drill holes through to 0.425 (1.079 cm) diameter except for the fifty flathead screw holes in the floor panel. These holes are 0.218 (0.553 cm) diameter.
- i. Install press-in T-nuts as indicated in figure 3-2 for the panel being replaced. Use a hammer to tap the nuts into place. A 2 lb. dead blow hammer is recommended, but a regular hammer may be used if used carefully.
- j. Install lap/flange joint tape O'So Inc. part number. Q-207-10 (or equal) to all facing container flange and panel surfaces.
- k. Align holes in panel and container flanges and install torx washer head screws.
- l. Firmly press rope filler (available from Dow Chemical and Applied Extrusion Technology in 1/4 and 3/8 diameter) in seam around total outside edge of panel.
- m. Apply gap filling sealant (37867) Conso-Flex sealant (or equal) over seam and rope filler so that all edges of panel are covered and a smooth fillet is obtained.

3-10. FINISH PAINT

All new (unfinished) surfaces should be painted to match QUADCON container finish that is being repaired.

SECTION III MAINTENANCE PROCEDURES QUADCON RACK

3-11. RACK BEAM INSTALLATION

- a. Install four outer end beams (1 and 2) snug against corners with notched upper corners next to inside corner of container. Secure beams with clamping screws (3) and tighten jam nuts (4).
- b. Locate the two center beams (5) on the approximate center of each side of the container. The center of the shelter is 41.8 in. (106.2 cm) from the inside wall to the approximate center of the beam. Secure beams with clamping screws (3) and tighten jam nuts (4).

NOTE

Be sure beams fit tight against container walls.

3-11. RACK BEAM INSTALLATION - continued

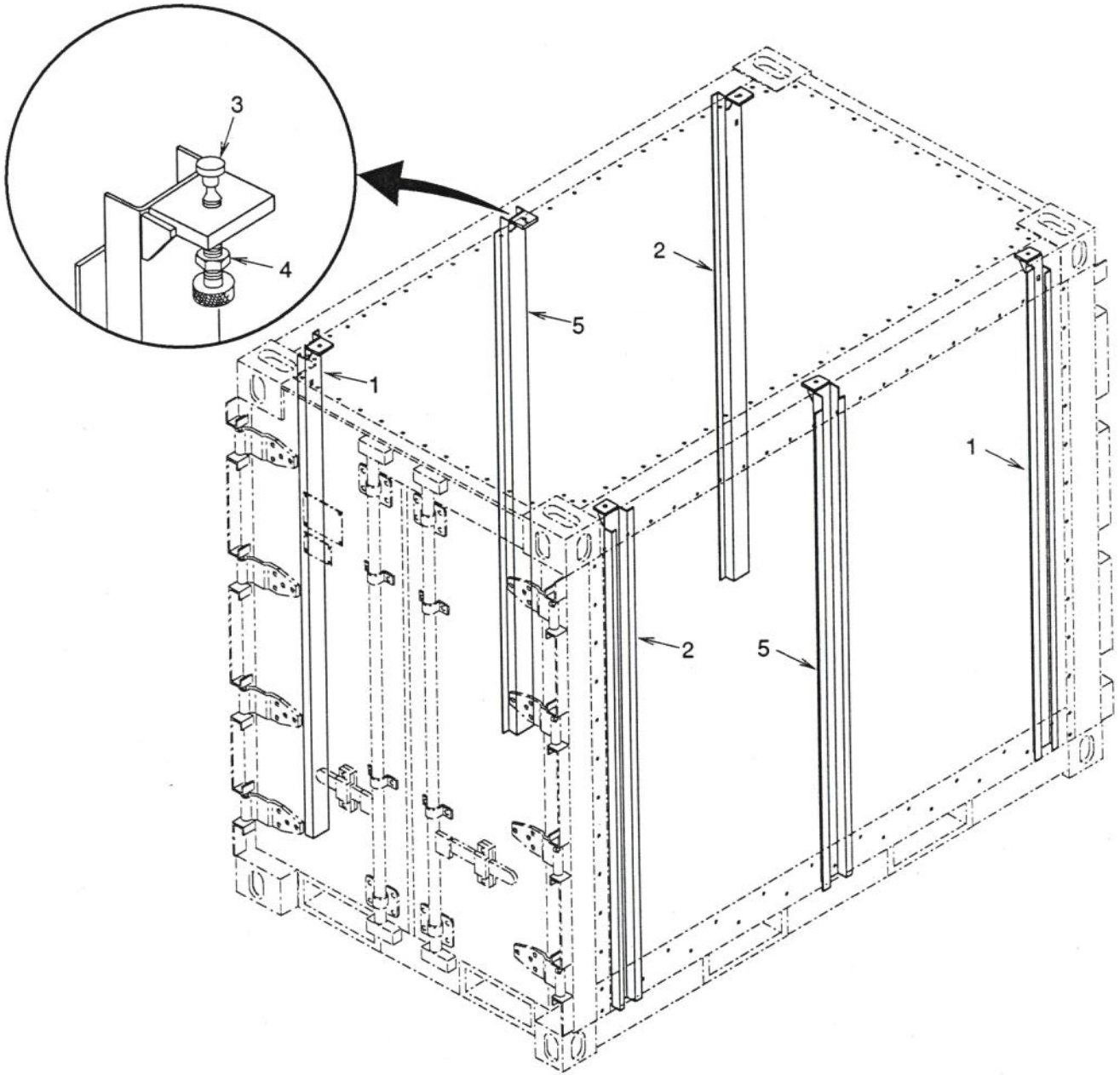


Figure 3-3. Rack Beams

3-12. RACK HALF ASSEMBLY

- a. The four side frames (1) are identical. Group them so that the notches all match and the slotted hole is at the top.
- b. Locate the three bottom shelf assemblies (2). The bottom shelf assemblies have an open angle on both ends. All other shelves have a square tube located on one end that interlocks with the side frames.

NOTE

Holes in center of end flange on all panels will be located on end away from the notched ends of the frames. The outer flange will turn down. The inner flange (with the hole) will be turned up.

- c. Attach outer side frame (1) to one of the bottom panels (2) with four short thread framing screws (3).
- d. Attach another bottom panel (2) to the opposite outer side frame (1) with four short thread forming screws (3).
- e. The center bottom panel (2) lays on top of the side bottom panels (2) and attaches to the two center side frames (2) with eight short thread forming screws (3).

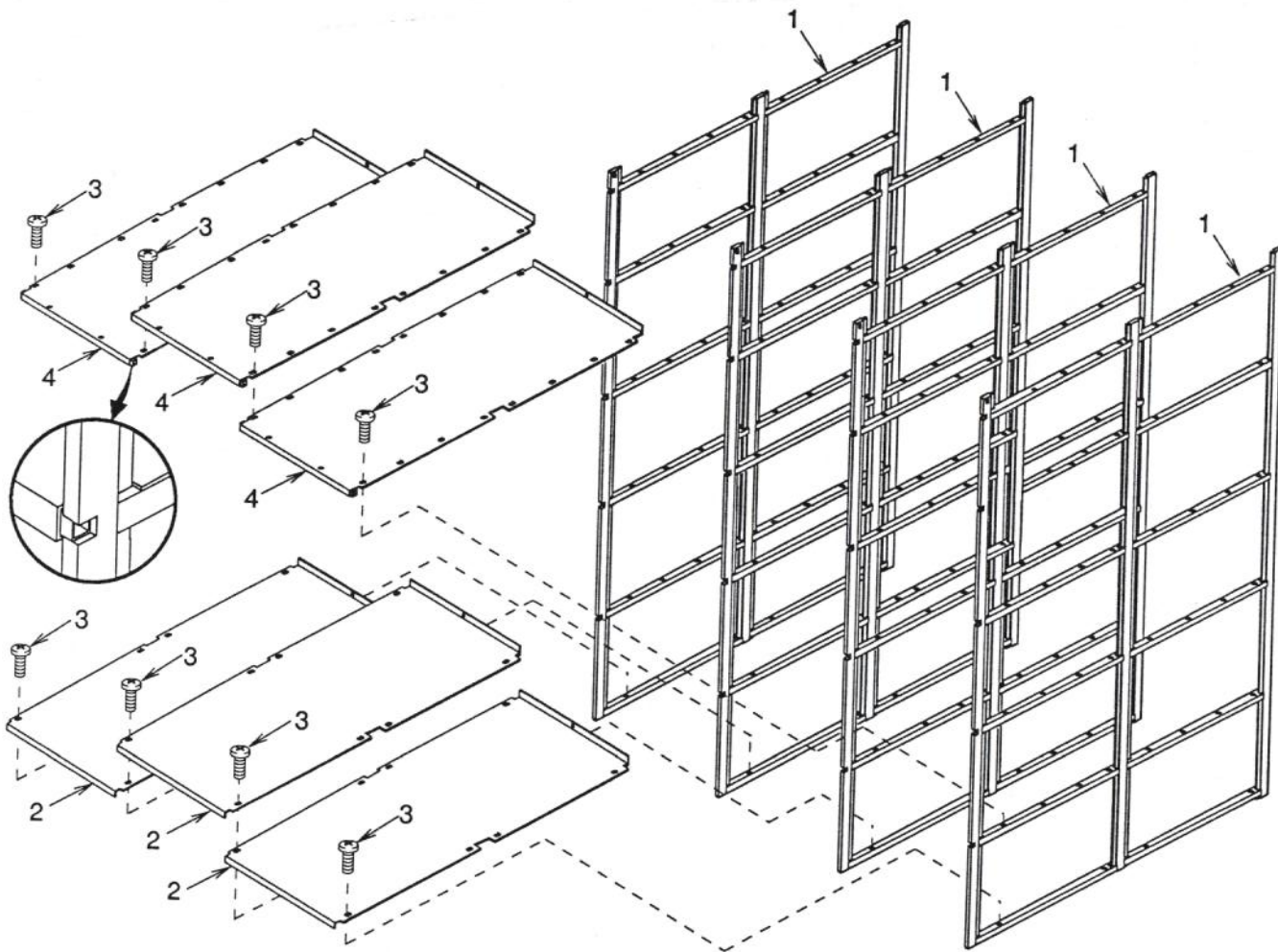


Figure 3-4. Rack Half

3-12. RACK HALF ASSEMBLY - continued

- f. Place two of the upper panels (4) on the outer section of the next higher shelf level and install outer sixteen long thread forming screws (3).
- g. The center panel (4) lays on top of the outer panels (4) and attaches with sixteen long thread forming screws (3).
- h. Repeat steps f. and g. for the remaining four levels of shelves.
- i. Repeat all steps and assemble second rack half.

3-13. RACK TO RACK ASSEMBLY

- a. Place the two rack half assemblies end to end so that holes in flanges align.
- b. Secure rack half assemblies together with eighteen bolts (1), thirty-six flat washers (2), and eighteen lock nuts (3).

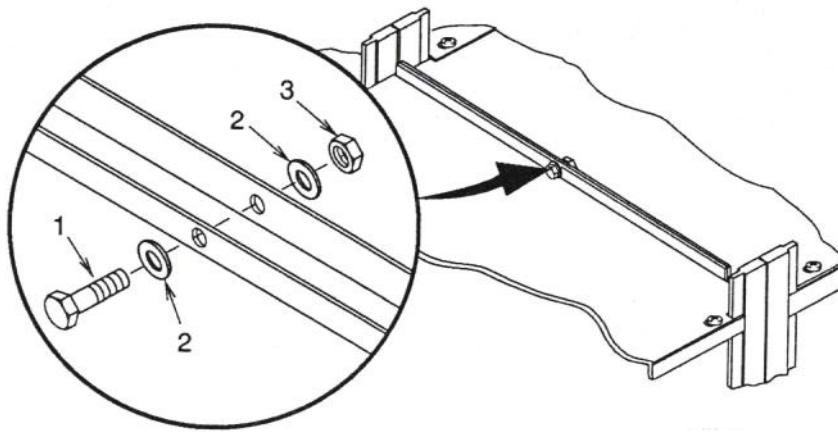


Figure 3-5. Rack Half to Rack Half Assembly

3-14. RACK INSTALLATION

- a. Carefully slide rack into container and align slotted holes in rack side frames with the four retained nuts (1) in vertical beams (2).
- b. Secure racks to container with four hex washer head bolts (3).

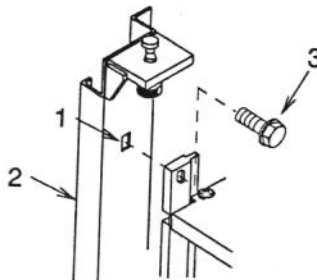


Figure 3-6. Rack Installation

3-15. RACK REMOVAL/DISASSEMBLY

NOTE

As parts and hardware items are removed, take care that they are not lost. They should be placed in appropriate containers and packaged for future use. For identification of parts and replacement of damaged or missing parts, see Chapter 5 Section II of this manual.

- a. Remove the four hex washer head bolts that attach the rack to the vertical beams.
- b. Slide the rack out of the container.
- c. Remove eighteen bolts and lock nuts and thirty-six flat washers. Pull rack half assemblies apart.
- d. Disassembly of the rack half assemblies is not critical. It is suggested that top panels be removed first.
- e. All parts should be inspected and accounted for as they are disassembled. Replace all missing or damaged parts prior to packaging.
- f. Package all rack parts appropriate for the type of storage intended.

