

CHAPTER 3

AIRCRAFT CONFIGURATION

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CHAPTER 3

AIRCRAFT CONFIGURATION

3.1 GENERAL

This chapter contains instructions for operating equipment and preparing the aircraft for loading/offloading operations. It also describes the storage, installation, and proper operation of all auxiliary equipment required for cargo handling.

To prepare the aircraft, loadmasters should be familiar with the location, installation, operation, and use of the different aircraft components and mechanisms associated with cargo loading and offloading operations. Loadmasters must know how to operate the doors, how to install the auxiliary loading ramps, the fuselage support legs and how to prepare and operate the ramp system. They must also be familiar with the lighting control panels in the cargo cabin, the proper operation of the winch, etc., and know how to operate all the aircraft loading aids, either with power supplied by the aircraft or via an external power source.

CAUTION: ONLY QUALIFIED PERSONNEL ARE AUTHORIZED TO OPERATE AIRCRAFT EQUIPMENT.

3.2 CREW DOOR OPERATION

The crew door can be opened, closed and locked both from inside or outside the aircraft (see Figure 3-1).

3.2.1 Interior operation

- A. To close the door, lift it to the closed position by pulling the elastic strap from inside the cargo cabin.
- B. To lock the door, move the interior handle until it is tightly held in its housing.

WARNING: CHECK THE DOOR IS CORRECTLY LOCKED THROUGH THE INSPECTION WINDOWS. IF THE DOOR IS NOT CORRECTLY LOCKED, IT CAN OPEN VIOLENTLY IN FLIGHT DUE TO PRESSURIZATION.

- C. To open the door, pull the handle until it is out of its housing; hold the strap and lower the door smoothly.

3.2.2 Exterior operation

- A. To close the door, lift it to the closed position by pushing by hand.
- B. Pull the handle until it is out of its housing.
- C. Move the exterior handle until the door is firmly held in its housing.
- D. To open the door from outside the aircraft, pull the handle until it is out of its housing, and lower the door by holding it with your hands.

WARNING: DO NOT OPEN THE DOOR FROM OUTSIDE THE AIRCRAFT WHEN THE CREW IS ON BOARD. THE AIRCRAFT CAN BE PRESSURIZED AND THE DOOR CAN OPEN VIOLENTLY.

3.3 PARATROOP DOOR OPERATION

The upper door section is closed and locked by means of the inner upper handle. The lower door section is closed and locked by means of an internal lower handle, which can only be operated when the upper section is open (see Figure 3-2).

3.3.1 Opening

CAUTION: THE OPENING OF THE LEFT PARATROOP DOOR CAN CAUSE DAMAGE OR INTERFERENCE WITH EQUIPMENTS CONNECTED IN THE SOCKETS NEXT TO ATTENDANT CONTROL PANEL.

Opening sequence starts with the upper section, then the lower section:

NOTE: If the anchor cables are installed in the lateral configuration, stow them on the overhead brackets aft of the paratroop doors (FR32) before starting opening (see Figure 2-44).

- A. Pull the internal upper handle to retract the lateral latch pins.
- B. Holding the upper grip-handle, pull the upper door section inboard into the cargo cabin.
- C. Move the upper door section all the way aft to the end of the rails, until it is locked.
- D. Pull the internal lower handle to release the lower section.
- E. Holding the lower grip-handle, lift the lower door section through the vertical guide-rails and rotate it aft round the hinge, until it is locked by the locking assembly fixed to the upper door section.
- F. Check both sections are tightly locked in the open position.

3.3.2 Closure

Closure sequence starts with the lower section, then the upper section:

- A. With your foot, press the lower section release mechanism, located at the aft lower corner of the upper section.
- B. Holding the lower grip-handle, rotate the lower door section forward round the hinge, and lower it to the locked position by moving the control handle.
- C. Pull the upper control handle to release the upper section from its locking mechanism.
- D. Pulling on the upper grip-handle, move the upper section forward along its rails to the closed position.
- E. Operate the upper control handle to lock the upper section.
- F. Check both sections are locked tight in the closed position.

3.3.3 In-flight opening and closure

WARNING: PRIOR TO OPENING THE PARATROOP DOORS IN FLIGHT, THE AIRCRAFT MUST BE COMPLETELY DEPRESSURIZED.

Procedures for opening and closing the paratroop doors in flight are the same as those for operation on the ground.

WARNING: BEFORE OPENING THE PARATROOP DOORS IN FLIGHT THE LOADMASTER/CREW MEMBER PERFORMING THE OPERATION SHALL USE A RESTRAINT HARNESS. THE HARNESS SAFETY LINE SHALL BE ATTACHED TO A FLOOR TIEDOWN RING AND LENGTH SHALL BE PROPERLY ADJUSTED TO PREVENT THE PERSON FROM FALLING OUT OF THE AIRCRAFT.

CAUTION: IF CLOSING THE PARATROOP AFTER A PERSONNEL AIRDROP, ENSURE THE JUMP PLATFORM IS FULLY FOLDED PRIOR TO STARTING CLOSURE.

3.4 OPERATION OF THE SIDE EMERGENCY ESCAPE HATCH

The control handle unlocks the hatch, which then can be removed. When the hatch is closed and the latches are locked, a metallic safety clip keeps the control handle attached to the hatch (see Figure 3-3).

3.5 RAMP AND CARGO DOOR OPERATION

(See Figure 3-4)

The ramp and cargo door are electrically operated from the HYDR UTILITY PANEL, located on the flight deck, or from the ATTENDANT CONTROL unit on the aft control panel, located aft of the left paratroop door. The system operating the ramp and cargo door receives the required hydraulic power from the aircraft hydraulic system (HYDR PRESS button on the HYDR UTILITY unit). The cargo door and ramp can also be operated from outside the aircraft by connecting the winch control pendant to an exterior socket, located aft of the lower rear edge of the right paratroop door (forward socket). The procedure to be followed is identical to the open procedure from ATTENDANT CONTROL unit on the aft control panel, but it is required to set AUTO/MAN selector in AUTO. Therefore, the operation sequence with winch control pendant is always in automatic mode. To open, turn the control wheel of winch control pendant to OUT and, for closing, turn the control wheel of winch control pendant to IN.

CAUTION: IT IS NOT RECOMMENDED TO OPEN THE RAMP BELOW THE HORIZONTAL POSITION WITH THE AIR DEFLECTORS INSTALLED. IF IT IS REQUIRED TO FULLY OPEN THE RAMP, USE EXTREME CAUTION DURING CLOSURE TO PREVENT THE AIR DEFLECTORS FROM CATCHING THE FUSELAGE EDGES.

CAUTION: IF RAMP IS OPENED BEYOND HORIZONTAL POSITION, BEFORE CLOSE RAMP, THE DEFLECTOR GUIDES MAY BE APPROPRIATELY ADJUSTED TO PREVENT DAMAGE TO AIR DEFLECTORS.

NOTE: Before operating the ramp controls, check that the mechanical stops on the ramp hydraulic actuators are on the appropriate position (horizontal or fully open to ground level).

NOTE: Operation through the exterior socket prevents the ramp and cargo door from being operated from the ATTENDANT CONTROL unit.

When the ramp and cargo door are controlled from the flight deck, they are operated together following an automatic sequence. During opening, the cargo door rises, the ramp latches retract, and the ramp is lowered. During closure, the ramp rises, ramp latches lock, and the cargo door closes and locks. When they are controlled from the cargo cabin, the ramp and cargo door can be operated together following their automatic sequence, or separately when related controls are operated. An indicator light system, located on the control units, indicates the position of the ramp and cargo door at all times.

CAUTION: IF THE RAMP IS FULLY CLOSED AND OPERATED IN MANUAL MODE, SET THE CLOSE/OPEN SELECTOR TO CLOSE POSITION BEFORE YOU OPEN IT TO PREVENT DAMAGE TO THE HOOKS OF THE RAMP.

NOTE: When operating the ramp and cargo door separately, and especially on the ground, it is recommended to start by opening the cargo door first, and the ramp afterwards. When closing, close the ramp first, and then the cargo door. This will warn inadvertent personnel who may be under the ramp or cargo door that these are going to be opened or closed.

NOTE: The following procedure depicts opening and closure from the Aft Control Panel (ATTENDANT CONTROL unit).

3.5.1 Opening the cargo door and ramp

WARNING: PRIOR TO OPENING THE CARGO DOOR AND/OR RAMP IN FLIGHT OR DURING TAXI, MAKE SURE THE AIRCRAFT IS COMPLETELY DEPRESSURIZED.

WARNING: BEFORE OPENING THE RAMP AND/OR CARGO DOOR IN FLIGHT THE LOADMASTER/CREWMEMBER PERFORMING THE OPERATION SHALL USE A RESTRAINT HARNESS. THE HARNESS SAFETY LINE SHALL BE ATTACHED TO A FLOOR TIEDOWN RING AND LENGTH SHALL BE ADJUSTED TO PREVENT THE PERSON FROM REACHING AFT OF STA 18880 (FR35).

A. OPERATIONS IN THE FLIGHT DECK

1. Connect the hydraulic pumps by pressing the two PUMP presbuttons. Check that the pump lights illuminate and pressure reaches 3000 PSI.
2. Connect the PRESS pushbutton on the CARGO DOOR panel, located on the flight deck overhead, and check that the PRESS ON light illuminates.
3. On the flight deck overhead CARGO DOOR panel, move the OPR SEL switch to the CARGO position.

B. OPERATIONS IN THE CARGO CABIN

4. If the ramp is to be fully opened to the ground level, disconnect the telescopic bars from their ramp brackets by releasing their quick release pins. Retract and stow both bars (see paragraph 3.5.3).

NOTE: When the mechanical stops on the ramp hydraulic actuators are not positioned for horizontal position, it is possible that a whistling noise is heard during the first phase of opening. This does not mean a failure or incorrect operation of the system.

5. Check that the PRESS ON light on the Aft Control Panel is illuminated.

WARNING: WHENEVER OPENING THE RAMP IN FLIGHT, CHECK THAT THE "CYL" LIGHT IS ILLUMINATED, TO MAKE SURE THE MECHANICAL STOPS ON THE RAMP HYDRAULIC ACTUATORS ARE POSITIONED FOR RAMP IN THE HORIZONTAL.

WARNING: DURING OPERATION ON THE GROUND, MAKE SURE THAT THE EXTERIOR AREA AROUND THE RAMP IS CLEAR OF PERSONNEL AND/OR EQUIPMENT.

NOTE: If the ramp is to be fully opened to the ground level, the mechanical stops on the ramp hydraulic actuators must be turned for ramp fully open, and the CYL light must be off.

6. For sequential opening, select AUTO on the AUTO/MAN switch, move the OPEN/CLOSE switch to OPEN, and hold it in that position until the opening sequence is completed.

NOTE: This operation can be also controlled from the winch control pendant connected to the exterior socket.

7. For separate opening, select MAN on the AUTO/MAN switch, select CARGO DOOR or RAMP on the RAMP/CARGO DOOR switch, move the OPEN/CLOSE switch to OPEN and hold it in that position until the ramp or cargo door is open. Repeat the operation for the other door, as required.

NOTE: When controlled from the ATTENDANT CONTROL unit, the operation can be stopped moving the OPEN/CLOSE to the central position.

8. Check that the RAMP and/or CARGO DOOR OPEN are lit when opening is completed.

9. In the flight deck, move the OPR SEL switch to PLT. Disconnect the PRESS pushbutton and operate both PUMP pushbuttons to disconnect the hydraulic pumps. Check that related lights go off.

3.5.2 Closure of the ramp and cargo door

CAUTION: ILLUMINATION OF THE "SW" LIGHT WITH THE RAMP OPEN INDICATES A FAILURE IN ANY OF THE RAMP SYSTEM MICROSWITCHES. THE RAMP CAN BE NORMALLY OPERATED BUT AN ENTRY MUST BE MADE ON THE AIRCRAFT LOGBOOK.

1. In the flight deck, perform steps outlined in item A from preceding paragraph.

2. On the Aft Control Panel, check that the PRESS ON light is illuminated.

CAUTION: BEFORE STARTING CLOSURE, CHECK EDGES AROUND THE RAMP FOR HANGING OR HIDDEN OBJECTS THAT MAY INTERFERE WITH CLOSURE.

3. For sequential closure select AUTO on the AUTO/MAN switch. Move the OPEN/CLOSE switch to CLOSE and hold it in that position until the closure sequence is complete.

NOTE: This operation can be also controlled from the winch control pendant when it is connected to the exterior socket.

4. For separate closure, select MAN on the AUTO/MAN switch. Select CARGO DOOR or RAMP on the RAMP/CARGO DOOR switch and move the OPEN/CLOSE switch to CLOSE and hold it in that position until the ramp or cargo door is closed. Repeat the operation for the other door, as required.

NOTE: When controlled from the ATTENDANT CONTROL unit, the operation can be stopped by moving the OPEN/CLOSE to the central position.

5. Check that the RAMP and/or CARGO DOOR OPEN lights are off after closure is, and that UNLKD lights are off.
6. Position both mechanical stops on the ramp hydraulic actuators for ramp in the horizontal position.
7. Connect the telescopic bars on both sides (if required).
8. In the flight deck, move the OPR SEL switch to PLT, push the PRESS selector, and press the PUMP switches to disconnect the hydraulic pumps. Check that related lights go off.

3.5.3 Disconnection and connection of the telescopic bars

WARNING: PRIOR TO FLIGHT, MAKE SURE THAT THE TELESCOPIC BARS ON BOTH SIDES ARE CONNECTED.

- A. Remove the quick-release pin to disconnect the telescopic bar from the ramp fitting.
- B. Retract the bar upward until the lower end hole matches the stowage hole in the fuselage.
- C. Insert the quick-release pin across the bar and the stowage hole in the fuselage.
- D. Repeat the operation with the bar on the opposite side.
- E. To connect the bars, use the opposite procedure.

3.6 INSTALLATION AND REMOVAL OF PERSONNEL-CARRYING EQUIPMENT

NOTE: For more detailed procedures regarding installation and removal, refer to the Conversion Manual.

Install or remove the personnel-carrying equipment as described in the following paragraphs:

3.6.1 Installation of frame for center row seats

(See Figure 3-5)

- A. Attach the fittings (17) and (22) to the right inboard restraint track on the cargo floor.
- B. Remove the stanchions (24) from their stowage position on the cargo door.
- C. Attach the stanchions (24) to the fittings (1) and (22), located on the cargo floor and the ceiling, and insert the lock pins (2) and (21).
- D. Remove the seat support beam assemblies (11) and the rods (7) from their stowage position (see paragraph 3.6.4).
- E. Install the rod (7) and the beam assembly (11), and secure them with the lock pins (9) and (10).
- F. Install the support cables (5) and (14), and secure them with the lock pins (6), (8), (16) and (19); adjust tension.

- G. Install new safety locksprings (3) and (12). The locksprings can be inserted in the same hole on the turnbuckle (4) and (13), or in opposite holes.
- H. Before adjusting tension, both threaded ends will be screwed to the same distance inside the turnbuckle barrel, and adjusted so no more than three threads are exposed on either terminal.
- I. After the turnbuckle is adjusted to the closed position, with both the reference slot on the terminal and the reference slot on the turnbuckle barrel aligned, insert the lockspring end through both terminal and barrel, until the bowed, "U" shaped end on the lockspring is on top of the center hole on the barrel. Manually press the lockspring inside the hole till its maximum reach; the bowed end on the lockspring will extend and close inside the barrel slot.
- J. Check that the lockspring is properly seated by trying to remove the "U" shaped end from the barrel hole using your fingers only.

CAUTION: DO NOT USE ANY TOOL. THE LOCKSPRING CAN GET PERMANENTLY BENT.

3.6.2 Installation and removal of troop/paratroop seats

3.6.2.1 DOUBLE SEATS

(See Figure 3-6)

- A. Attach the seat support rod (2) to the support brackets (5) with the lock pins (6).
- B. Attach the seat (4) to the support brackets (8) with the lock pins (7).
- C. Attach the hooks (1) of the seat backrest (3) to the support rod (2).
- D. Install the seat belts (see Figure 3-9).

3.6.2.2 SINGLE SEATS

(See Figure 3-7)

NOTE: Single seats can be installed in any position, as required.

- A. Attach the seat support rod (2) with the lock pins (6) to the support brackets (5).
- B. Attach the seat (4) to the support brackets (8) with the lock pins (7).
- C. Attach the hooks (1) of the seat backrest (3) to the support rod (2).
- D. Install the seat belts (see Figure 3-9).

3.6.2.3 PARATROOP DOOR SEATS

(See Figure 3-8)

- A. Attach the seat (1) to the support brackets (2) with the lock pins (3).
- B. Install the seat belts (see Figure 3-9).

3.6.2.4 INSTALLATION/REMOVAL OF SEAT BELTS

(See Figure 3-9)

- A. Attach/release the hooks (4) to/from the rings (3).

3.6.2.5 REMOVAL OF SEATS (DOUBLE OR SINGLE)

(See Figure 3-6 and Figure 3-7)

- A. Release the seat backrest (3) hooks (1) from the support rod (2).
- B. Remove the lock pins (7), and move the seat supports (9).
- C. Remove the seat (4) from the work area.
- D. Remove the lock pins (6) from the support brackets (5), and remove the support rod (2).
- E. Remove the seat belt (see Figure 3-9).

3.6.3 Removal of frame for center row seats

(See Figure 3-5)

- A. Remove the locksprings (3) and dispose of them.
- B. Loosen the turnbuckles (4) to relieve tension on the support cable (5), remove the lock pins (6), and detach the support cables (5) from the rod (7).
- C. Remove the lock pins (8), and detach the support cables (5) from the stanchions (24).
- D. Remove the lock pins (9), and remove the rod (7).
- E. Remove the locksprings (12) and dispose of them. Loosen the turnbuckles (13) to relieve tension on the support cable (14), remove the lock pins (16), and detach the support cables (14) from the fittings (17).
- F. Remove the lock pins (19), and remove the support cables (14) from the stanchions (24).
- G. Remove the lock pins (10), and remove the seat support beam assembly (11).
- H. Place the seat support beams (11) and the rods (7) in their stowage position.
- I. Remove the lock pins (2) and (21). Remove the stanchion (24).
- J. Place the stanchions (24) in their corresponding stowage positions on the cargo door.
- K. Remove the fittings (17) and (22) from the cargo floor restraint track by loosening the screws (18) and (23).

3.6.4 Stowage of seat support beams

(See Figure 3-10)

Stowage provisions for the seat support beams consist of quick-release straps (1), equipped with supports that hold the center row beams in place, attaching them to the sidewall seat tracks.

3.6.4.1 STOWING THE SEAT SUPPORT BEAMS

- A. Remove the spacers (6) from their clamps (8).
- B. Place the rod (5) inside the beam assembly (4).
- C. Attach the rod (5) to the beam assembly (4). Install the beam lock pins (9) both through the existing holes on the beam (4) and the rod end (7). Install the spacers (6) as shown in the figure.
- D. Secure the seat support beam assembly (4) with three straps (1). Install the ring (3) on the sidewall track (2), and tighten the strap with a pulling loop.
- E. Depending on the general arrangement of the seats, position the strap rings so they do not interfere with the deployment for use of the sidewall seats, as required.

NOTE: To remove the seat support beam assemblies from their stowage position, reverse the above procedure.

3.6.5 Installation and removal of stretchers

NOTE: Installation procedures for all litter support equipment and stretchers are the same, so a description for installing a single component is given in each case.

Install or remove the litter support equipment and stretchers as depicted in the following paragraphs:

3.6.5.1 INSTALLATION OF SUPPORTS

(See Figure 3-11, sheet 1 of 2)

- A. Install the lateral support (5) in the fitting (4), by attaching it to the sidewall track with the locking lever (6).
- B. Place the floor support (7) on the floor restraint tracks (9), and move it to its correct position.
- C. Tighten the locking devices (8) to the floor restraint tracks (9).

NOTE: Supports installed on STA 5644 and STA 15804 have a safety stop to prevent stretchers from being released.

3.6.5.2 INSTALLATION OF HARNESES

(See Figure 3-11, sheet 2 of 2)

- A. Install the harness (1) on the overhead support bracket (4), and attach it to the floor restraint track (8) with the locking fitting (7).

3.6.5.3 INSTALLATION OF STRETCHERS

NOTE: Under most circumstances, it will be necessary to install stretchers with injured/sick personnel lying on them, so several persons will be required to safely take the stretcher to its airlift position, especially to the top tiers. In these instances, make sure that the person is properly restrained by means of straps provided on the stretcher, and use extreme caution during the operation.

NOTE: Depending on the circumstances and amount of stretchers to be airlifted, select the most suitable installation positions, taking into account that previously-installed stretchers can interfere with subsequent installation. For installation of complete vertical tiers or a full 24-stretcher load, it is recommended to complete tiers from top to bottom, and forward to aft.

- A. Install the stretcher (2) so the handles on each end rest on the supports (3) and the harness hooks (5).
- B. Tighten the harness (1) by means of the buckle (6).
- C. Secure the stretcher by closing the support locks around the four stretcher handles.

3.6.5.4 REMOVAL OF STRETCHERS AND SUPPORT EQUIPMENT

Remove the stretchers and all litter support equipment by reversing installation procedures.

3.6.6 Installation and removal of civil seats

(See Figure 3-12)

NOTE: The removal and installation procedures for the left and right seats are similar.

A. Job set-up:

1. Remove the rail covers from front and rear of the seat.
2. Put the seat in upright position.

B. Removal:

1. Loosen the wheels (7).
2. Loosen the bolts (2) and remove the anti-rattling (3).
3. Lift the pivots (4) and move the pivots (6).
4. Remove the seat (1) from the floor rail (5).

C. Preparation for installation:

1. Inspect floor rails for signs of damage.

D. Installation:

1. Put the pivots (4 and 6) into the floor rail (5).
2. Adjust the seat (1) into position and tighten the wheels (7).
3. Tighten the bolts (2) with the anti-rattling (3).

E. Job close-up:

1. Install the rail covers to the floor rail in front and rear of the seat.
2. If applicable, do the operations necessary to put the aircraft in the configuration before the start of the maintenance tasks.
3. Make certain that the work area is clean and clear of tools and miscellaneous equipment.

3.6.7 Installation and removal of VIP seats

(See Figure 3-13)

NOTE: The removal and installation procedure of the opposite VIP seats is the same as shown below.

A. Job set-up:

1. Remove the rail covers from front and rear of the seat.
2. Put the seat in upright position.

B. Removal:

1. Loosen the wheels (7).
2. Loosen the bolts (2) and remove the anti-rattling (3).
3. Move the pivots (4 and 6) to disengage the seat (1) from the floor rail (5).
4. Remove the seat (1) from the floor rail (5).

C. Preparation for installation:

1. Inspect the floor rails for signs of damage.

D. Installation:

1. Put the pivots (4 and 6) into the floor rail (5).
2. Adjust the seat (1) into position and tighten the wheels (7).
3. Tighten the bolts (2) with the anti-rattling (3).

E. Job close-up:

1. Install the rail covers to the floor rail in front and rear of the seat.
2. Make sure that the work area is clean and clear of tools and miscellaneous equipment.

3.6.8 Installation and removal of VIP tables

(See Figure 3-14)

A. Job set-up:

1. Remove the rail covers from front and rear of the table.

B. Removal:

1. Loosen the nuts (2) and the wheels (5).
2. Move and lift the pivots (3).
3. Remove the table (1) from the floor rail (4).

C. Preparation for installation:

1. Examine the floor rails for signs of damage.

D. Installation:

1. Put the table (1) in position on the floor rails (4).
2. Tighten the wheels (5).
3. Tighten the nuts (2).

E. Job close-up:

1. Install the rail covers on the front and rear of the table.
2. If applicable, do the operations necessary to put the aircraft in the configuration before the start of the maintenance tasks.
3. Remove all tools and equipment from the work area. Make sure that the work area is clean.

3.7 OPERATION OF THE INTERPHONE AND PUBLIC ADDRESS SYSTEMS

NOTE: Refer to the Operations Manual for a detailed description of operation of these systems.

3.8 WINCH OPERATION AND INSPECTION

(See Figure 3-15)

WARNING: THE OPERATOR MUST WEAR GLOVES AND EYE PROTECTION WHENEVER HANDLING THE WINCH CABLE TO PREVENT INJURY FROM BROKEN CABLE STRANDS AND WIRES.

CAUTION: DO NOT ALLOW THE CABLE TO DRAG ON THE CARGO RAMP, THE GROUND, OR ANY OTHER SURFACE THAT CAN CONTAMINATE OR DAMAGE THE CABLE.

NOTE: Refer to paragraph 4.22 for full loading procedures using the winch system.

3.8.1 Winch operating procedures

WARNING: DO NOT IMPOSE A LOAD HIGHER THAN 1000 KG (2200 LB) ON THE WINCH IN STRAIGHT PULL. REFER TO PARAGRAPH 4.22.6 AND TABLE 4-4 TO DETERMINE IF A CARGO ITEM IS WITHIN WINCH CAPABILITIES.

- A. Open the cover of the winch compartment on the cargo floor (STA 5644), and deploy the pulley assembly to its operation position.

- B. Remove the hook and the cable from their stowage position and route the cable through the pulley. Close the cover.

NOTE: It is necessary to retract the pins of the keeper to position the cable through the pulley.

- C. Connect the control pendant to the appropriate connecting position, and energize the winch system by pressing the WINCH pushbutton on the ATTENDANT CONTROL unit at FR10 (refer to paragraph 2.19.5.4 and Figure 2-39).
- D. Deflect the thumbwheel down toward the OUT position on the pendant to allow the winch to reel out the cable. Greater deflection of the thumbwheel will increase the speed at which the cable is reeled out. Release the thumbwheel to allow it to return to center in the OFF position, when the desired cable length has been reeled out. Full-out limit switches will actuate when the cable is extended, approximately 26 m (85 ft), and the light REEL OUT on the pendant will come on.

NOTE: While reeling out the cable, one person should maintain slight tension on the cable.

- E. Adjust the position of the winch cable stop, as required.
- F. Attach the hook to the cargo (see Figure 4-39), or to the static line retrieving spool for personnel airdrop missions.
- G. Deflect the thumbwheel up toward the IN direction on the pendant, to allow the winch to reel in the cable, thereby pulling the cargo/static lines and parachute D-bags into the aircraft. Greater deflection of the thumbwheel will increase the speed at which the cable is reeled in. Release the thumbwheel to allow it to return to center in the OFF position, when the desired cable length has been reeled in. Full-in limit switches will actuate when the winch cable stop compresses the spring bumper, and the light REEL IN on the pendant will come on.
- H. If it is required to stop the winching operation while any portion of the load is still on the sloped ramp, release the thumbwheel to allow it to return to the OFF position. The mechanical brake will then operate, and the load will stop and remain in the same position until the thumbwheel is moved again. Turn the thumbwheel in the desired direction to resume winching.

WARNING: IF AN IMMEDIATE STOP IS REQUIRED AND THE WINCH DOES NOT STOP WHEN THE THUMBWHEEL IS RELEASED, PRESS THE EMERGENCY STOP PUSHBUTTON ON THE PENDANT.

NOTE: If the overtemperature warning light comes on during winching, finish the operation in course and let the winch cool down for a few minutes.

3.8.2 Winch preloading inspection

NOTE: This procedure will be easier if two persons perform this inspection.

NOTE: If any discrepancies are found, stop inspection and notify Maintenance.

When the use of the winch is anticipated for loading or airdrop missions using static lines, inspect the system before departure from homebase, as follows:

- A. Open the cover of the winch compartment on the cargo floor (STA 5644), and deploy the pulley assembly to its operation position.

B. Remove the pins of the pulley assembly keeper and make sure they are in good condition.

CAUTION: IF MORE THAN A WEAR OF 1 MM (0.039 IN.) IS OBSERVED IN THE KEEPER PINS THE WINCH MUST NOT BE USED.

C. Install the pins in the pulley assembly keeper.

D. Remove the hook and the cable from their stowage position.

E. Inspect the hook for cracks and chipping.

F. Visually inspect all components of the winch assembly for secure mounting.

G. Visually check the oil level at sight plug.

H. Check all visible wiring and electrical leads for secure electrical connections.

I. Connect the control pendant to the winch socket at FR10 (see Figure 2-39).

J. Supply electrical power to the aircraft.

K. Energize the winch system by pressing the WINCH pushbutton on the ATTENDANT CONTROL unit at FR10.

NOTE: Make sure the CARGO WINCH circuit breaker, located on the L MISCELLANEOUS circuit breaker panel in the flight deck, is closed.

L. Using the pendant, reel out approximately 6 m (20 ft) of cable.

M. Check the condition and position of the winch cable stop.

N. Check the full-in limit switch by reeling in the cable until the winch stops. Check the related indicator light illuminates on pendant.

NOTE: While reeling in the cable, one person should maintain slight tension on the cable until the cable stop is near the buffer spring.

O. Using the pendant, check operation of the full-out limit switch by reeling out cable to full length until winch stops, and check the related indicator light illuminates on pendant.

NOTE: While reeling out the cable, one person should maintain slight tension to fully elongate the cable while the other operates the pendant.

P. Visually check the cable on the drum. Approximately 3 ½ to 4 ½ inactive wraps of cable must remain on the drum when the winch stops at full out.

Q. Proceeding forward to aft, check the condition of the cable for evidence of wear, abrasion, broken wires and kinks.

WARNING: NO BROKEN WIRES OR KINKS ARE ALLOWED FOR THE WINCH CABLE. IF BROKEN WIRES ARE DETECTED, THE WINCH MUST NOT BE USED.

CAUTION: KINKS ARE SHARP, PERMANENT BENDS ON THE CABLE. KINKS ON THE CABLE MAY BE CAUGHT IN THE CABLE GUIDE AND CAUSE CABLE FOULING. CABLES WITH KINKS MAY HAVE INTERNAL BROKEN WIRES THAT CANNOT BE VISUALLY DETECTED.

NOTE: Since it may be difficult to visually detect broken wires, this can be done by wrapping a clean, heavy, lint-free cloth around the cable. Hold the cloth firmly around the cable and move it aft along the full length of the cable. By using this technique, broken wires will catch the cloth.

- Q. Inspect the load attaching hook for cracks or deformation. Check the area of the hook ball end attachment. Open the hook keeper, and make sure that it snaps to the closed position when it is released.
- R. Check operation of the winch system from the other two sockets (aft of the left paratroop door, and/or aft cargo cabin overhead), as required.
- S. If loading is not going to be accomplished immediately after inspection, reel in the cable completely and de-energize the winch.
- T. Stow the hook in the winch compartment and close the cover.

3.9 INSTALLATION OF THE AUXILIARY LOADING RAMPS

(See Figure 3-16)

Install the auxiliary loading ramps, for the ramp open to ground level or the horizontal position, as follows:

NOTE: The auxiliary loading ramps must be installed symmetrically with respect to the ramp centerline.

3.9.1 Installation for the ramp open to ground level (sloped ramp)

- A. Open the ramp to ground level.
- B. With the flat side of the auxiliary loading ramp facing up (1), place it in front of the attaching fittings at the aft end of the ramp (4), at a distance from the ramp centerline half the axle width of the vehicle to be loaded.
- C. Open the hooks (3) of the fittings (2) located at the edge of the auxiliary loading ramp (1), and keep them open until the hooks (2) are firmly attached to the aircraft ramp fittings (4).
- D. Repeat the operation with the opposite auxiliary loading ramp (1), adjusting its position to the axle width of the vehicle to be loaded.

3.9.2 Installation for the ramp in the horizontal position

- A. Open the ramp and position it slightly above the horizontal.
- B. With the curved side of the auxiliary loading ramp facing up (1), and the hooks on its edge facing aft, place the auxiliary loading ramp on the aircraft ramp floor, so the edge of the auxiliary loading ramp not having hooks is forward, and resting on the aircraft ramp.
- C. At a distance from the ramp centerline half the width of the cargo item to be loaded, position the center hooks (3) of the auxiliary loading ramp over the fittings at the aft end of the aircraft ramp (4).
- D. Attach the hooks (3) of the auxiliary loading ramp (1) to the fittings at the aft end of the aircraft ramp (4).

- E. Repeat the operation with the opposite auxiliary loading ramp (1), according to the lateral distance between the resting supports of the cargo item to be loaded.
- F. Direct the driver to approach the loading vehicle slowly to the aircraft, and lower the aircraft ramp until the auxiliary loading ramps rest firmly over the vehicle bed.

CAUTION: THE AUXILIARY LOADING RAMPS MUST OVERLAP THE LOADING VEHICLE BED BY A MINIMUM OF 10 CM (4 IN.).

3.9.3 Removal of the auxiliary loading ramps

- A. If the auxiliary loading ramps are installed with the aircraft ramp in the horizontal position, raise slightly the aircraft ramp, and direct the driver to move away the loading vehicle.
- B. Open the appropriate hooks and remove the auxiliary loading ramp from the attaching fittings at the aft end of the aircraft ramp.

3.10 INSTALLATION OF THE FUSELAGE SUPPORT LEGS

(See Figure 3-17)

The fuselage support legs are used to prevent the nose wheels from rising during loading or offloading operations. Install the fuselage supports as follows:

1. Ensure that the type of support ground is adequate to install both support legs.
2. Fit the clevis at the top of the support into the fitting located on the bottom of the fuselage at the ramp hinge line, and insert the pin.
3. Adjust the height of the fuselage support leg by operating the jackscrew, until its basis gets near the ground or touches it slightly. The support leg must remain perpendicular to the support zone, with a maximum deviation of 7°.
4. Following the same procedure, install the opposite support leg.

CAUTION: DO NOT EXERT EXCESSIVE PRESSURE AGAINST THE GROUND FOR EASE OF REMOVING THE FUSELAGE SUPPORT LEGS AFTER LOADING IS COMPLETE.

CAUTION: DO NOT ALLOW ANY VERTICAL GAP BETWEEN THE FUSELAGE SUPPORT LEGS AND THE GROUND, ESPECIALLY IF LARGE CARGO ITEMS ARE TO BE LOADED. ROCKING OF THE FUSELAGE UNDER STRONG WIND CONDITIONS, OR DUE TO WEIGHT IMPOSED ON THE RAMP, MAY CAUSE THE LOAD TO STRIKE THE AIRCRAFT.

3.11 INSTALLATION OF THE RAMP AIR DEFLECTORS

(See Figure 3-18)

Install and remove the ramp air deflectors as follows:

3.11.1 Installation

- A. Open the ramp to the horizontal position.
- B. Position the deflector on the ramp support fittings, with the guides facing outboard. Secure with screws and washers.
- C. Starting at the top, insert the guide of the air deflector into the fuselage catch, and secure with the quick-release pin.
- D. Install the opposite air deflector by following the steps above.

3.11.2 Removal

- A. Open the ramp to the horizontal position.
- B. Remove the quick-release pin at the top of the air deflector. Turn the catch until the deflector guide is released.
- C. Remove the screws and washers that attach the air deflector to the ramp support fittings.
- D. Remove the opposite air deflector by following the steps above.

3.12 INSTALLATION AND OPERATIONAL CHECKOUT OF THE AM109 CHADS

AM109 cargo cabin and ramp siderail assemblies are fastened to the cargo floor mounting holes by means of splice fittings, screws, washers, and nuts. Each siderail section includes detent locks and splice fittings, except sections on both sides at the paratroops doors, which are fastened by means of quick-release pins. Detent lock mechanisms are joined together and to the related control handle by means of connecting rods.

WARNING: ONE OR MORE FLOOR FASTENING BOLTS MISSING SHALL REQUIRE AN ENTRY IN THE AIRCRAFT LOGBOOK. BOLTS NOT SEATED AGAINST WASHERS SHALL BE CONSIDERED MISSING BOLTS. AN INSPECTION MUST BE DONE BY QUALIFIED MAINTENANCE PERSONNEL TO DETERMINE IF PALLETIZED CARGO WEIGHT RESTRICTIONS ARE TO BE IMPOSED ON THE SYSTEM.

CAUTION: THE SYSTEM MUST BE INSTALLED AND ADJUSTED BY QUALIFIED MAINTENANCE PERSONNEL. REFER TO MAINTENANCE MANUAL FOR COMPLETE INSTALLATION DETAILS.

CAUTION: THE SPACING BETWEEN THE AIRDROP AND LOGISTICS SIDERAIRS MUST BE 2.238 M (88 1/8 IN.) TO 2.242 M (88 1/4 IN.) FOR PROPER OPERATION OF THE SYSTEM. SPACING OUTSIDE OF THIS RANGE MAY CAUSE DAMAGE TO THE SYSTEM, CARGO PALLETS, OR BOTH.

NOTE: If flight is performed with AM109 CHADS siderails removed, replace siderails with the cover assemblies of the lateral socles to cover the zone that remains disclosed.

NOTE: Prior to conducting personnel airdrop using the paratroop doors, siderail sections installed beside the paratroop doors must be removed as outlined in this chapter.

NOTE: Roller-tray assemblies may be removed as required to allow clear floor handling capability and ease of personnel movement.

3.12.1 Roller-tray assembly installation

There are 28 standard roller tray assemblies and four offset roller tray assemblies installed on the cargo cabin floor, and eight offset roller trays installed on the cargo ramp. All roller trays must be positioned as shown in Figure 3-19. Installation for each roller tray is identical, the only difference is their location on the cargo floor. The standard roller tray assemblies are installed in seven rows of four, and the offset roller tray assemblies are installed in one row of four at the aft end of the cargo cabin. The ramp roller trays are installed in two rows of four. Installation marks stenciled on the cargo cabin and ramp restraint tracks ensure proper spacing between consecutive roller trays.

CAUTION: APPROPRIATE LONGITUDINAL SPACING BETWEEN TWO CONSECUTIVE ROLLER-TRAY ASSEMBLIES TO OBSERVE SAFE FLOOR LOADING LIMITS IS GUARANTEED WHEN ALL ROLLER TRAYS ARE INSTALLED ON REFERENCE MARKS STENCILED ON RESTRAINT TRACKS.

3.12.1.1 CARGO CABIN ROLLER-TRAY INSTALLATION

Install roller trays on the cargo cabin as follows:

- A. Position one of the forward-most row of standard roller tray assemblies centered over the right hand outboard restraint track, so the floor locks are slightly forward or aft of the most forward installation marks, or front end of preplanned position for pallets.
- B. Rotate the floor locks at either end of the assembly until the alignment tabs are in the 3 and 9 o'clock position.
- C. Move the assembly slightly forward or aft until the shear restraint drops into the installation mark hole. The assembly should no longer move laterally or longitudinally.
- D. Rotate the floor locks 90 degrees to the 12 o'clock position, until they snap into their up position, and are prevented from further rotation.
- E. Check the roller assembly is flat against the cargo floor. Check shear and tension studs are in place by attempting to move the assembly longitudinally, laterally and upwards.
- F. Follow steps A through E for installing the remaining three forward standard roller tray assemblies on the right hand inboard, left hand inboard and left hand outboard restraint tracks.
- G. Install the remaining rows as outlined in steps A to F.
- H. With the double-roller end facing aft, install the last row of rollers (offset assemblies) in the cargo cabin on the aft-most installation marks. Attach assemblies to each restraint track as outlined in steps B through G.
- I. Visually check that the roller trays are longitudinally aligned in a straight line and that the roller trays are aligned laterally.
- J. In the event of a complete installation, check that the rear end of the aft roller tray assemblies are at FR30 (STA 17190), and the front end of the forward roller tray assemblies are at FR12 (STA 5136).

3.12.1.2 CARGO CABIN ROLLER-TRAY REMOVAL

Remove roller-tray assemblies on the cargo cabin as follows:

- A. Push down on the floor lock, and rotate until the alignment tabs are in the 3 and 9 o'clock position.
- B. Slide the roller tray forward (or aft), until the tray can be removed from the restraint track.
- C. Remove the roller-tray assembly from the aircraft, or stow and secure as appropriate.
- D. Repeat steps A through C for the remaining roller-tray assemblies.

3.12.1.3 RAMP ROLLER-TRAY INSTALLATION

Install roller trays on the cargo ramp as follows:

- A. With the double-roller end facing forward, position one of the forward offset roller-tray assemblies centered over the right-hand outboard ramp restraint track, so the floor locks are slightly forward or aft of the forward-most installation marks.
- B. Attach assembly to the restraint track as depicted in steps B through E of paragraph 3.12.1.1.
- C. Follow the same procedure to install the remaining three forward offset roller tray assemblies on the right hand inboard, left hand inboard, and left hand outboard restraint tracks.
- D. Using appropriate installation marks, install the aft row of ramp offset roller trays in the same manner. The double-roller end of each tray must face aft.
- E. Visually check that the roller trays are longitudinally aligned in a straight line and that the roller trays are aligned laterally.

3.12.1.4 RAMP ROLLER-TRAY REMOVAL

Remove roller-tray assemblies on the ramp as depicted in paragraph 3.12.1.2.

3.12.2 Operational checkout of the AM109 CHADS

A complete preflight inspection of the CHADS must be accomplished prior to departure from homebase. Failure to perform a complete operational checkout prior to using the system could result in damage to the cargo, aircraft, and injury or death to personnel. Perform the AM109 CHADS Preflight Checklist included in the Amplified Loading/Offloading Checklist in chapter 4.

3.12.3 Removal of siderail assembly for personnel airdrop

(See Figure 3-19)

Before performing personnel airdrop using the paratroop doors, remove siderail assemblies at the paratroop doors as follows:

- A. Move appropriate control handle to the FULL RELEASE (left side), or REL (right side) position.
- B. Remove the siderail assembly cover.

C. To remove the two quick-release connecting rod assemblies proceed as follows:

1. Grip each end of the connecting rod and simultaneously press and hold-in both quick-release levers (or thumb locks) built-in to the lock tubes at each end of the connecting rod.
2. While maintaining thumb pressure on both levers, lift out the connecting rod and remove it from the rail assembly.

NOTE: Both quick-release connecting rods (on Logistic and Airdrop sides) are removed in the same manner.

D. Remove quick-release pins at paratroop door siderail assembly and move the siderail inboard.

NOTE: If the outboard roller tray adjacent to paratroop door siderail assembly is installed, remove it before moving the siderail inboard.

E. Stow and secure each siderail assembly in its storage position forward of each paratroop door, between STA 13264 and STA 14778 (see Figure 3-19).

F. Install the siderail cover and stow the quick-release pins in their holes.

3.12.4 Installation of paratroop door siderail assembly after personnel airdrop

NOTE: Both paratroop door siderail assemblies (on both Logistic and Airdrop sides) are installed in the same manner.

If mission requirements dictate, reinstall paratroop door siderail assembly as follows:

- A. Move appropriate control handle to the FULL RELEASE (left side), or REL (right side) position.
- B. Remove the siderail assembly cover.
- C. Insert the assembly between siderail positions 7 and 9.

NOTE: If the outboard roller tray adjacent to paratroop door siderail assembly is installed, remove it before inserting the siderail assembly.

D. Line up the holes of the male and female fittings, then insert the quick-release pins.

WARNING: ENSURE THAT THE ACTUATOR ROD IS NOT BENT OR DAMAGED.

E. Connect the lock assemblies of position 7 siderail assembly and position 8 siderail assembly together, by installing the removable control rod assembly as follows:

1. While holding the assembly in one hand, depress the lever at the forward clevis end of the assembly.
2. Center the clevis end over the aft rod bearing of the number 8 lock assembly and release.
3. Ensure the actuator assembly is tightly connected to the lock assembly.

F. Install the siderail cover and insert the storage pins in their holes.

3.12.5 Pallet/Platform buffer stops installation

(See Figure 3-19)

Install the pallet buffer stops immediately forward of the forward-most pallet/platform, or immediately forward of the front edge of the forward-most roller-tray row, if less than a full load of pallets is on board. These assemblies can be adjusted \pm one-half inch in the longitudinal direction. Install the pallet buffer stops as follows:

- A. With the "U" shape facing aft, position the pallet stop assemblies centered over the restraint tracks, at the appropriate location forward of the first pallet/airdrop platform.
- B. Pull up on the spring-loaded rings, while sliding the pallet stop assembly into position.
- C. When the pallet stop assembly is in the desired location, release the spring-loaded rings.
- D. Ensure that the shear plugs of the pallet stop assembly are both in one of the circular openings of the restraint track. The pallet buffer stop must be flat against the aircraft cargo floor.

WARNING: WHEN INSTALLING THE PALLET BUFFER STOPS, ENSURE THE RETAINING RING ON THE SHEAR PLUGS IS FIRMLY SEATED (FLAT) AGAINST THE SHEAR RESTRAINT ASSEMBLY.

3.13 CONFIGURATION AND INSTALLATION OF THE ANCHOR CABLES

(See Figure 3-20)

WARNING: ANCHOR CABLE CONFIGURATION SHALL NOT BE CHANGED OR ALTERED UNLESS SPECIFICALLY AUTHORIZED BY THE APPLICABLE COMMAND OR AIRWORTHINES AUTHORITY.

NOTE: Recommended range value for static lines in use is 4.75 m to 5.30 m.

The anchor cables can be installed on the central or lateral configuration, depending on the type of airdrop to perform.

3.13.1 Central configuration

The central configuration is used for the airdrop of personnel through one or both paratroop doors. One or both cables can be used, depending on the total number of paratroopers and/or the number of them to exit through each paratroop door (see Figure 2-44). The anchor cables are attached to the inboard fittings, located on STA 5644 (forward) and STA 19894 (aft). The anchor cables are routed through the center anchor cable supports, located at FR29.

WARNING: DO NOT DROP PERSONNEL THROUGH BOTH PARATROOP DOORS AT THE SAME TIME.

WARNING: DO NOT TAILGATE PARATROOPERS WITH THE ANCHOR CABLE INSTALLED IN THE CENTRAL CONFIGURATION.

The anchor cable stops are not required in this configuration when maneuverable parachutes as MC1-1B, TP1-1D or equivalent are used. Also are not required when non-maneuverable parachutes as TP2-B, T-10 or equivalent parachutes are used.

Depending on the length of the static lines in use or if different personnel parachutes are to be used, the installation of the anchor cable stops could be convenient. Refer to each command approved manuals for detailed information about anchor cable configuration for other parachutes.

CAUTION: ONLY QUALIFIED PERSONNEL SHALL BE AUTHORIZED TO EVALUATE THE CONVENIENCE OF THE USE OF THE STATIC CABLE STOPS. APPROPRIATE TESTS SHALL BE PERFORMED IN ORDER TO DETERMINE APPROPRIATE CONFIGURATION FOR ANCHOR CABLES.

3.13.2 Lateral configuration

The lateral configuration is used for tailgating paratroopers, as well as container airdrop (CDS), heavy equipment airdrop (HE) using the SL/CS extraction system, gravity ejected platforms (GEP), and combination airdrop (cargo aerial delivery followed by tailgating paratroopers). The anchor cables are attached to the outboard fittings (see Figure 2-44), located on STA 5644 (forward) and STA 19894 (aft). The anchor cable stops are not required in this configuration, so they are removed or positioned at the forward end of the cables. The static lines catch at the end of the cable, thus causing the personnel or cargo recovery parachute to deploy (CDS, GEP, mixed), or transfer of the extraction parachute pull (HE using the SL/CS system).

3.13.3 Anchor cable installation

NOTE: Anchor cable manual installation is feasible, but to ease the installation process, a lever-tool may be used. The lever-tool assembly is a handle provided with one hand-grip and one attaching fitting on opposite ends. It is also provided with a short lever attached to the handle. The short lever can rotate freely around the attaching point to the handle and is also fitted with two quick release pins, one for the attaching fitting of the lever and another for the attaching fitting of the short lever (see Figure 3-22).

The procedure for installing the anchor cables in the central or lateral configuration is identical. Anchor cables will be attached to appropriate fittings (inboard or outboard). Install the anchor cables as follows:

- A. Check the forward and aft fittings for safety of attachment to the overhead.
- B. Fasten the aft end of the anchor cable to the aft attachment fitting (inboard or outboard), and insert the quick-release pin.
- C. Elongate the cable along the cargo floor and check for general condition of the cable, attaching ends, cable stop, and static line retrieving spool.

WARNING: THE ANCHOR CABLES ARE SUBJECT TO DAMAGE LIMITATIONS DEPICTED IN FIGURE 3-21.

NOTE: It is recommended to carefully check the snap hooks of the static lines to make sure that they do not have any sharp edges or deficiencies that could damage the anchor cables.

NOTE: The snap hooks to be used for the engagement of the static lines shall be MSN 5340-00-491-1065 model or similar.

- D. On the forward end of the cable, loosen the turnbuckle to the maximum, attach the forward end of the anchor cable to the appropriate fitting (inboard or outboard), and insert the quick-release pin.

NOTE: If anchor cable lever-tool is used, after loosening the turnbuckle to the maximum, insert the handle quick-release pin of the lever-tool through the turnbuckle and attach it to the handle lever, leaving free the forward end of the cable. Attach the short lever fitting to the forward anchor cable attaching point (STA 5644) and insert the short lever quick release pin. Use the hand-grip of the handle to approach the forward end of the anchor cable to the appropriate fitting (inboard or outboard) and insert the quick-release pin. Remove the handle quick release pin and the short lever quick release pin and remove the lever-tool.

- E. Turn the turnbuckle adjusting mechanism until the reference marks are within the range shown on the turnbuckle body.

NOTE: Appropriate tension on the anchor cables will make it easier to retrieve static lines or a towed paratrooper on board.

- F. If the anchor cables are installed in the central configuration, open the clip that holds the center anchor cable support to the overhead at the paratroop door area (FR29), and place it in the vertical position. Then open the support keeper and insert the cable. Close the support keeper.

WARNING: DO NOT DROP PERSONNEL OR CARGO THROUGH THE RAMP WITH THE ANCHOR CABLES ROUTED THROUGH THE CENTER ANCHOR CABLE SUPPORTS.

- G. If required, install the opposite cable by following the same procedure.

3.13.4 Anchor cable removal

NOTE: Anchor cable manual removal is feasible, but to ease the installation process, a lever-tool may be used (see Figure 3-22).

Remove the anchor cables as follows:

- A. If the anchor cables are installed in the central configuration, open the keeper of the center anchor cable support, and remove the cable. Fold up the support and lock it with the overhead clip.
- B. On the forward attaching fitting, loosen the turnbuckle to the maximum, remove the quick-release pin and release the anchor cable.

NOTE: If anchor cable lever-tool is used, after loosening the turnbuckle to the maximum, insert the handle quick-release pin of the lever-tool through the turnbuckle and attach it to the handle lever. Attach the short lever fitting to the forward anchor cable attaching point (STA 5644) and insert the short lever quick release pin. Remove the quick-release pin and use the hand-grip of the handle to remove the forward end of the anchor cable from the fitting (inboard or outboard). Remove the short lever quick release pin and the handle quick release pin to release the lever-tool.

- C. On the aft attaching fitting, remove the quick-release pin and release the cable.
- D. If required, remove the opposite cable by following the same procedure.

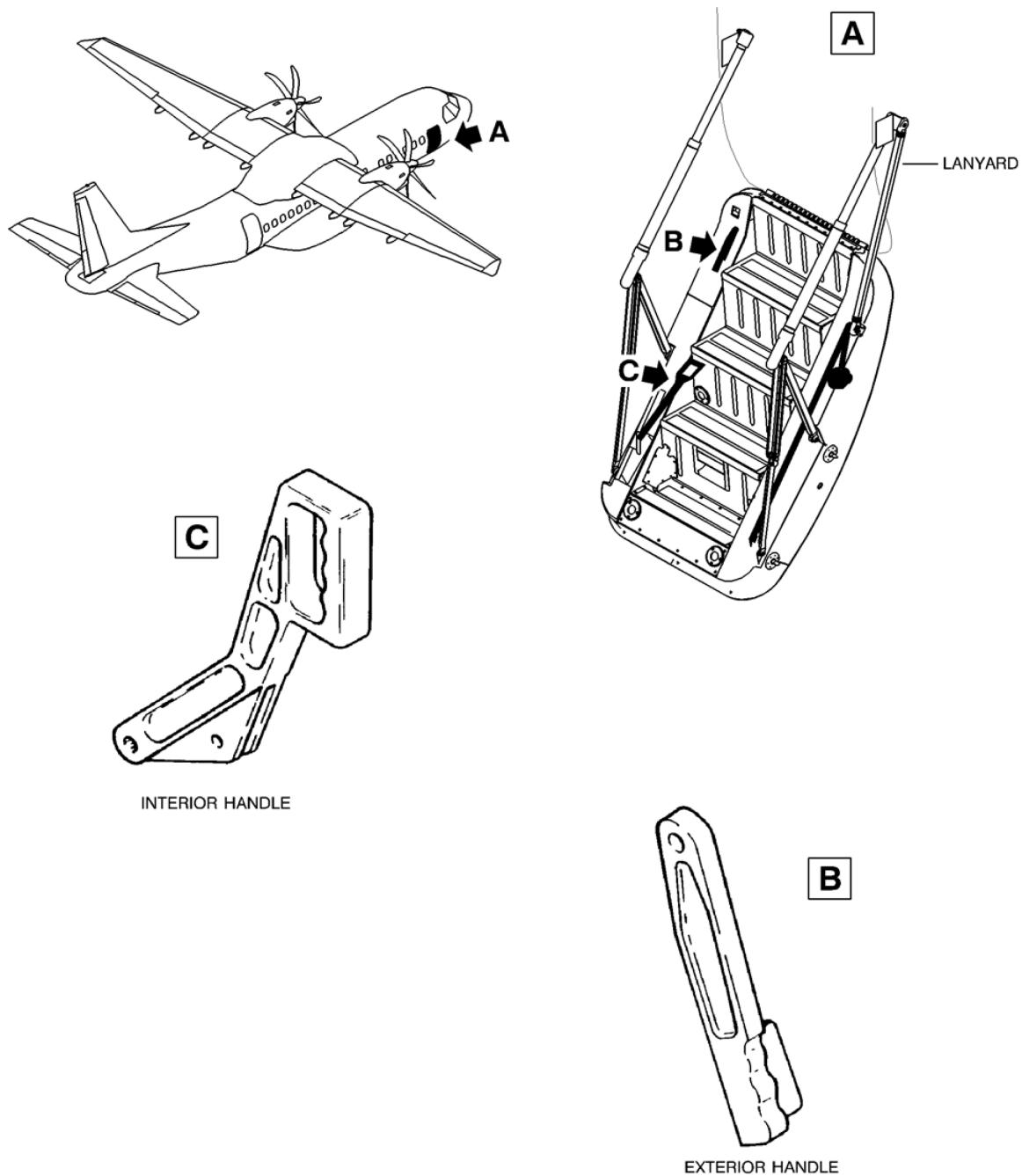


Figure 3-1 Crew door operation

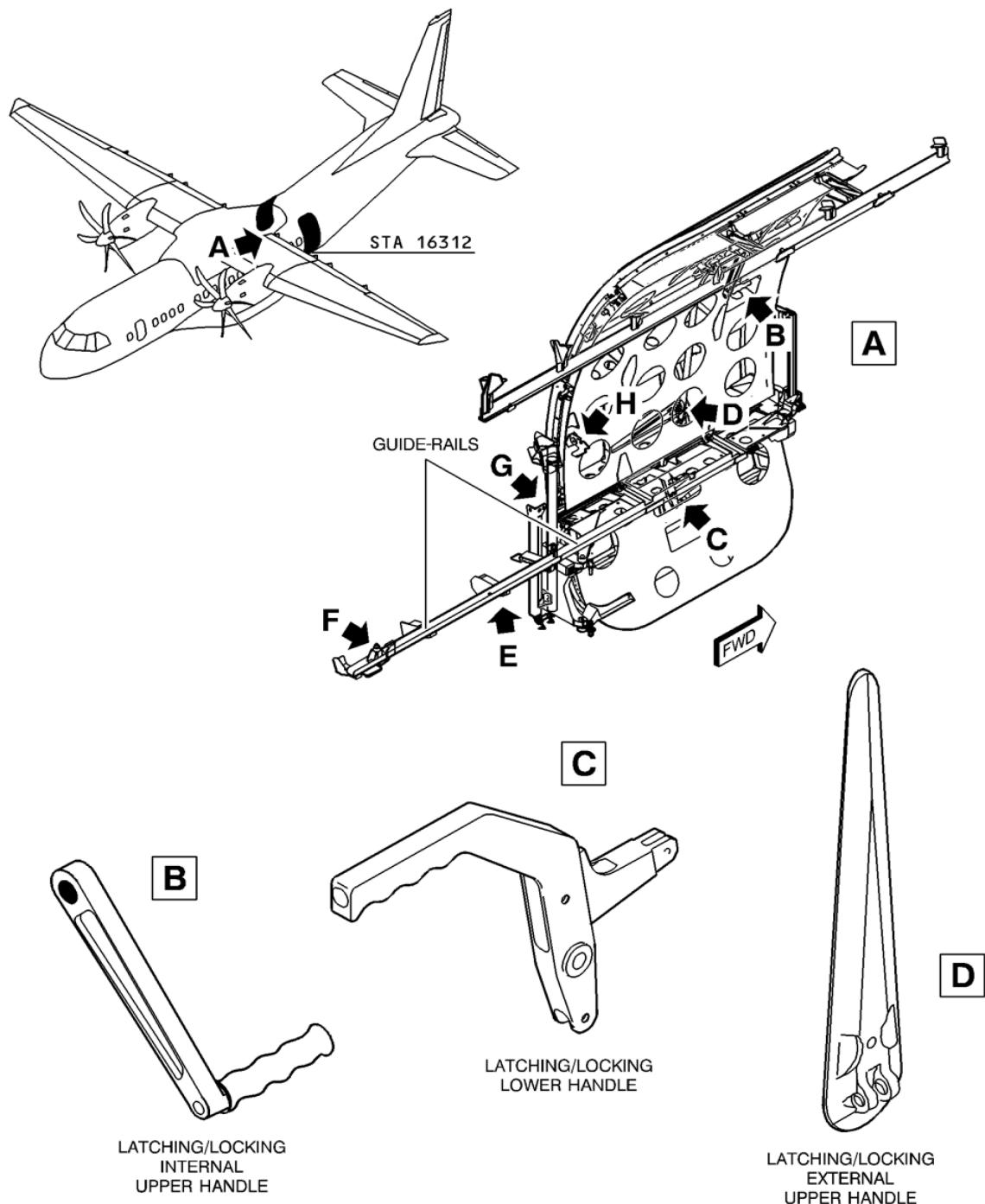


Figure 3-2 Paratroop door operation (Sheet 1 of 3)

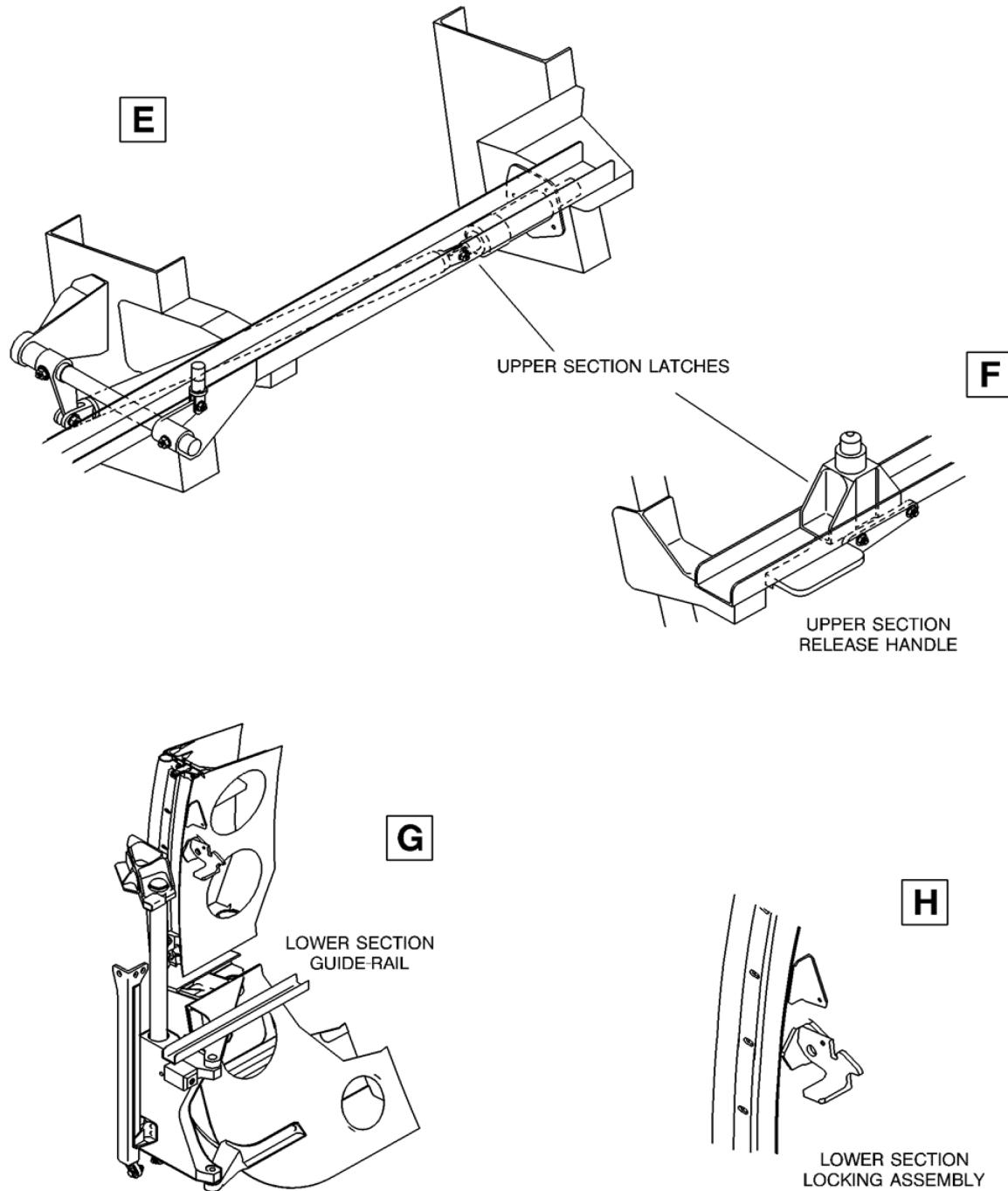
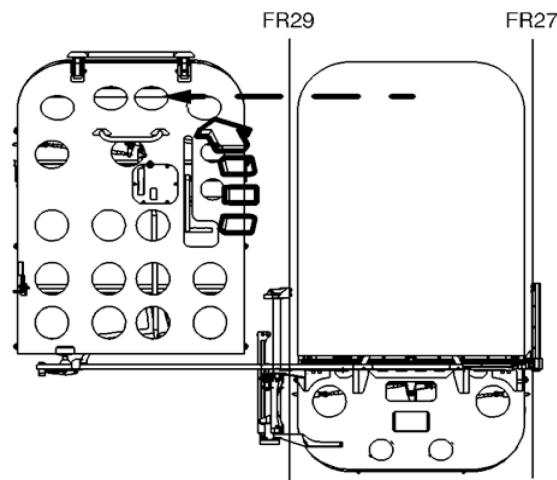
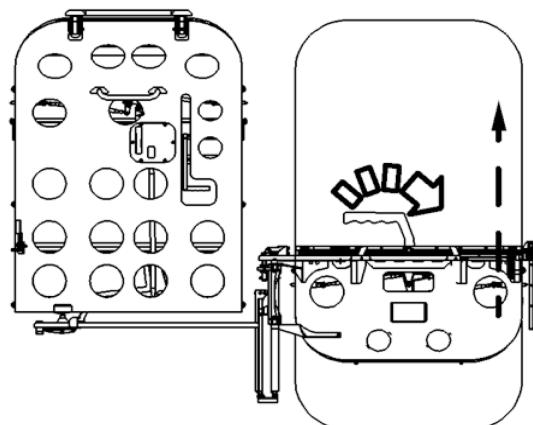


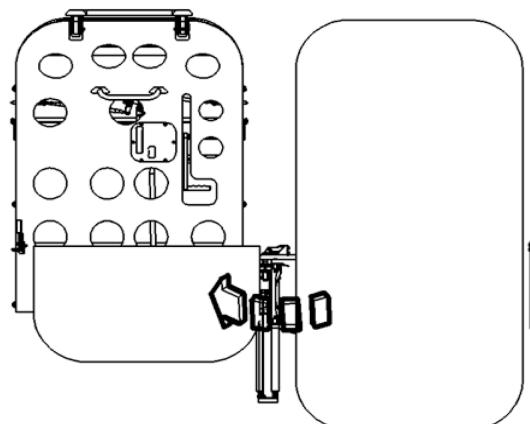
Figure 3-2 Paratroop door operation (Sheet 2 of 3)



OPENING UPPER SECTION



LIFTING LOWER SECTION



ROTATING LOWER SECTION

NOTE: LEFT DOOR SHOWN, RIGHT DOOR IS SYMMETRICAL.

Figure 3-2 Paratroop door operation (Sheet 3 of 3)

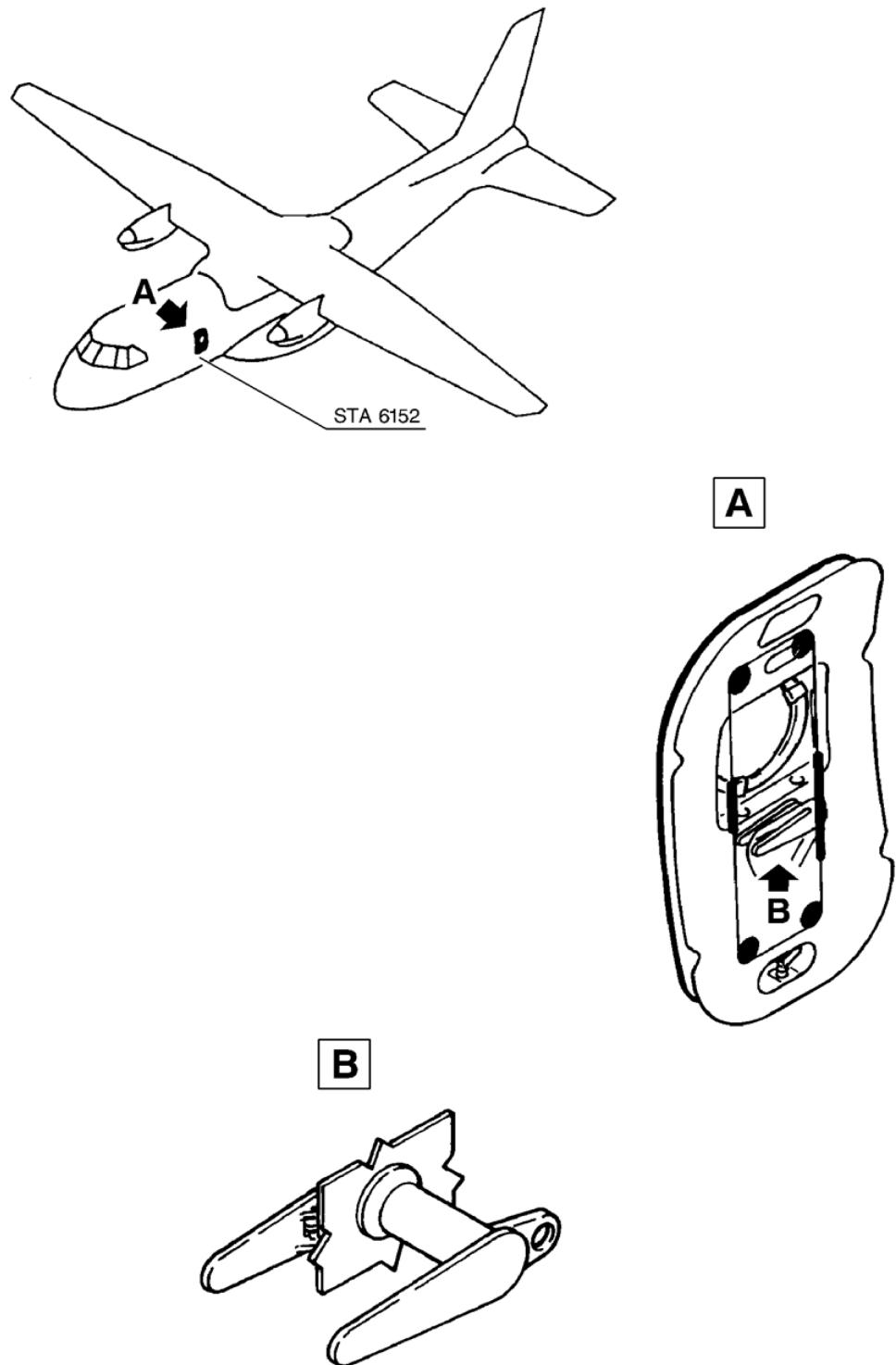


Figure 3-3 Side hatch operation

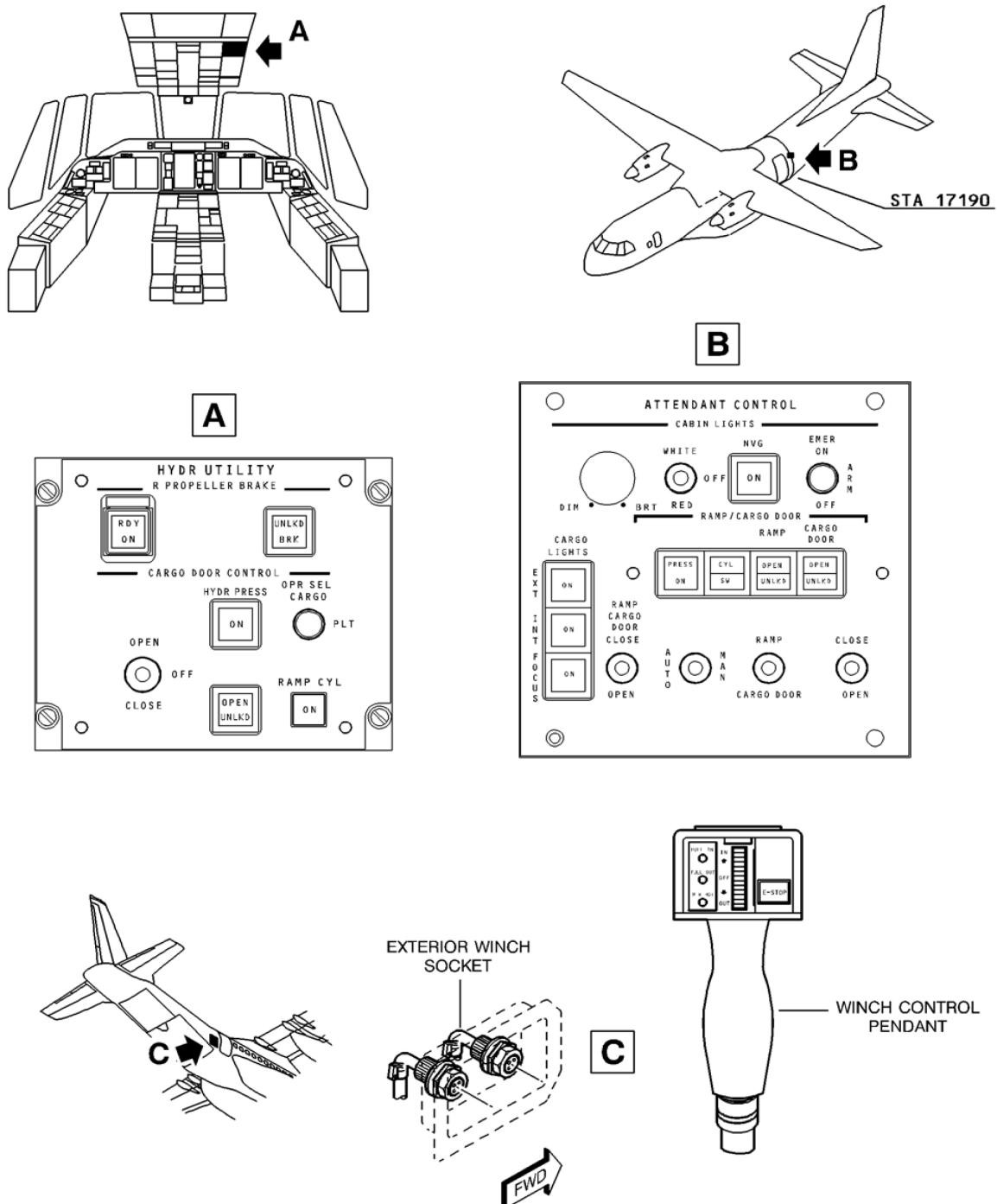


Figure 3-4 Ramp and cargo door operation (Sheet 1 of 2)

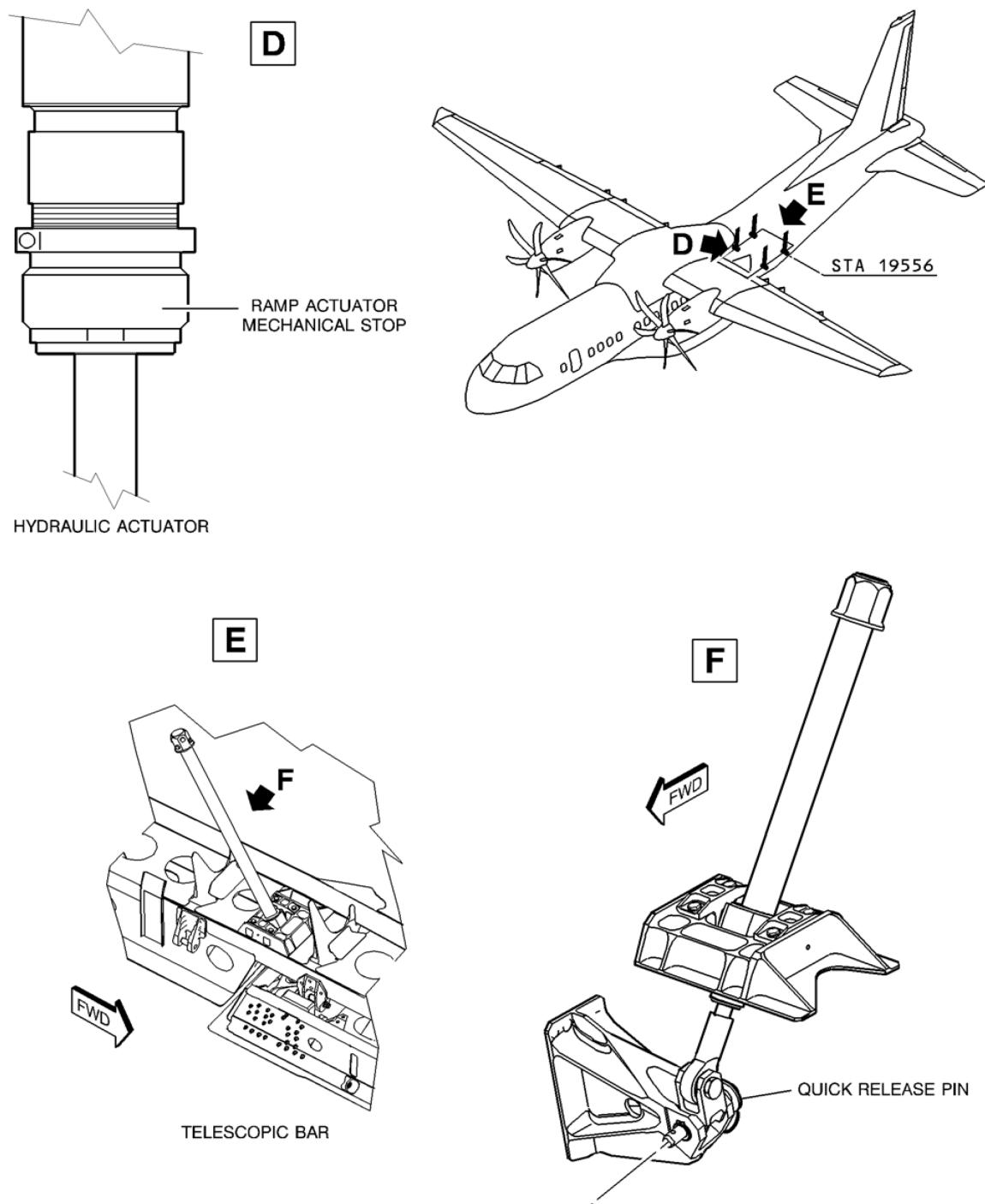


Figure 3-4 Ramp and cargo door operation (Sheet 2 of 2)

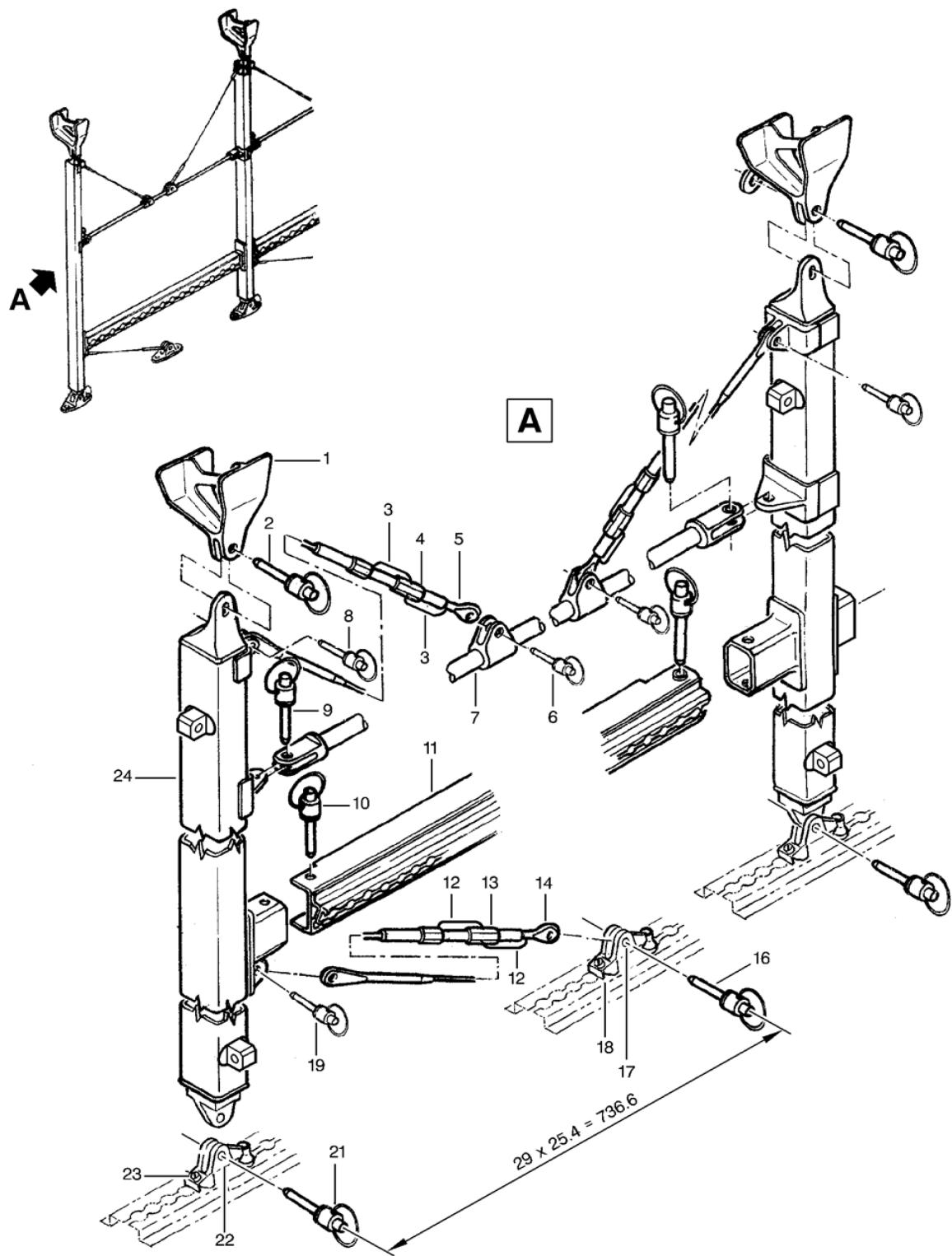


Figure 3-5 Installation/removal of center seat support frame

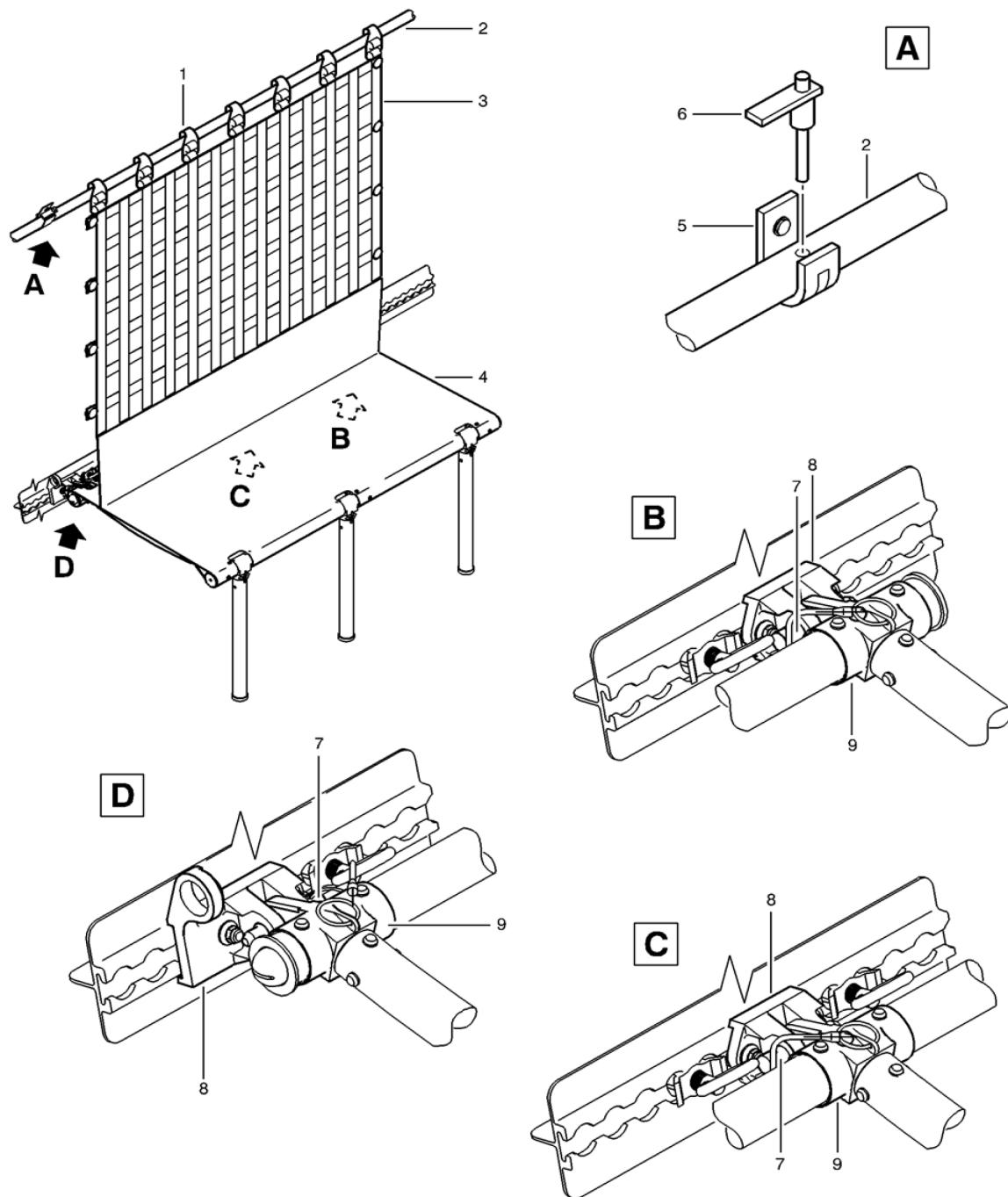


Figure 3-6 Installation/removal of double seats

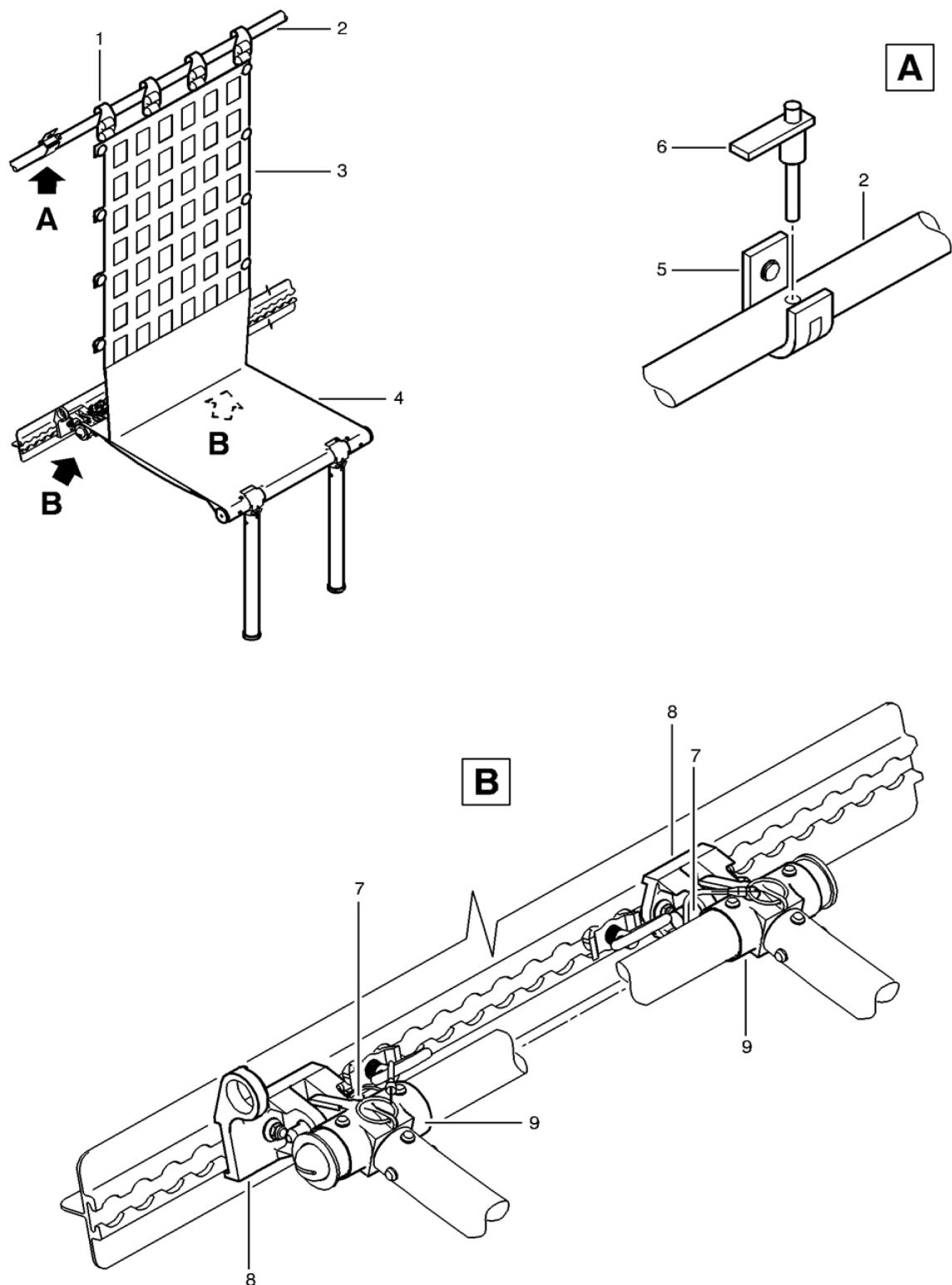


Figure 3-7 Installation/removal of single seats

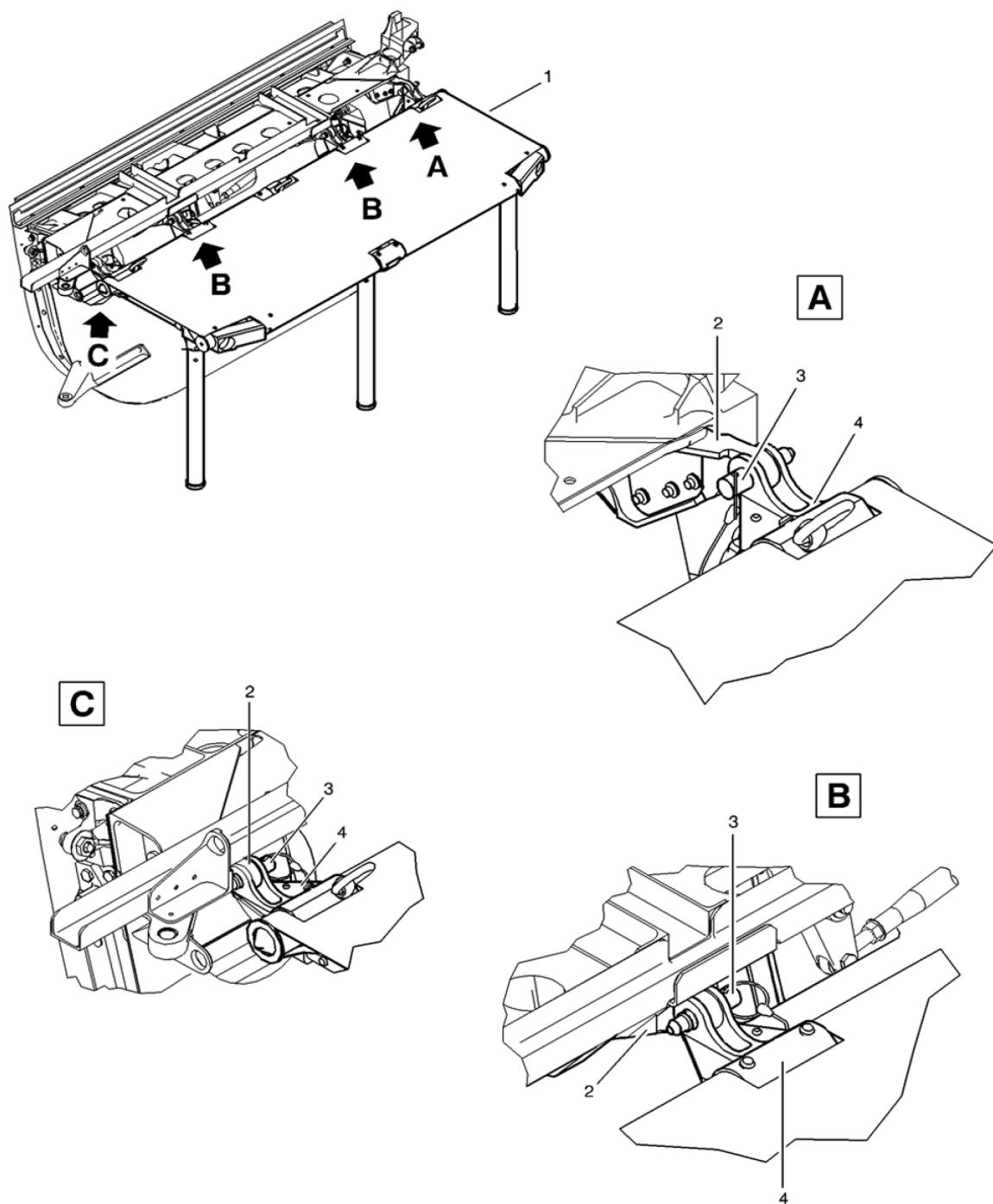


Figure 3-8 Installation/removal of paratroop door seats

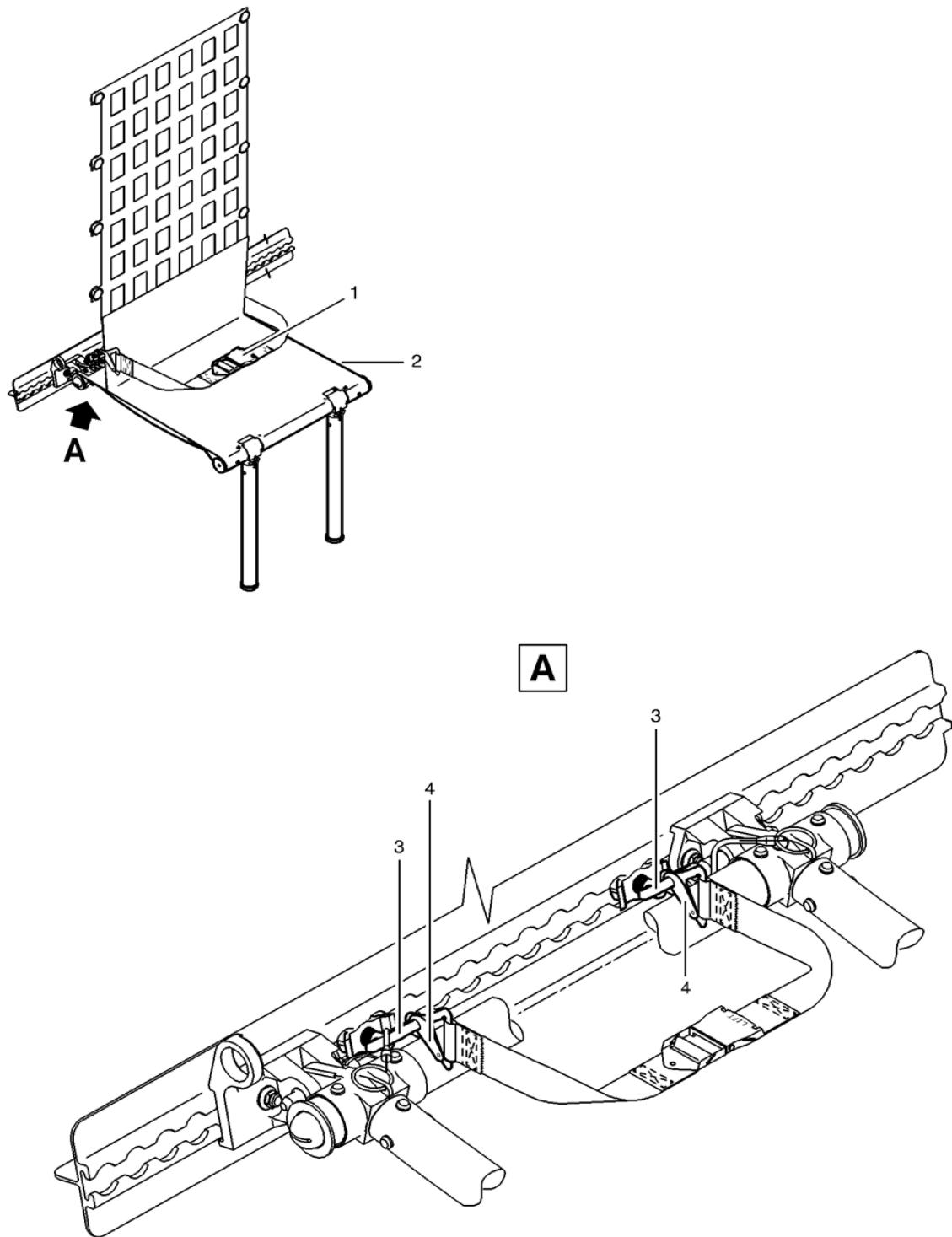


Figure 3-9 Installation/removal of safety belts

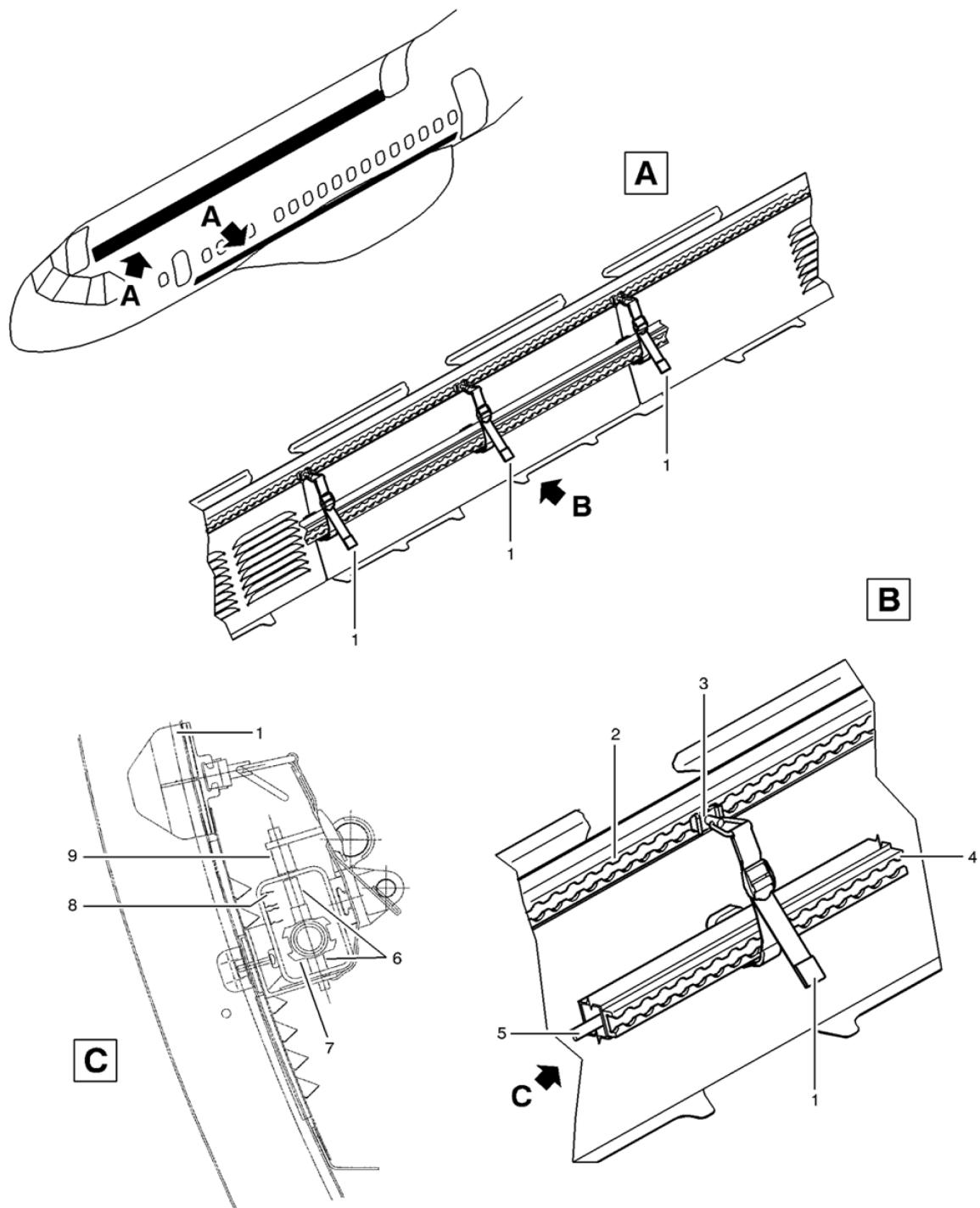


Figure 3-10 Stowage of center support beams

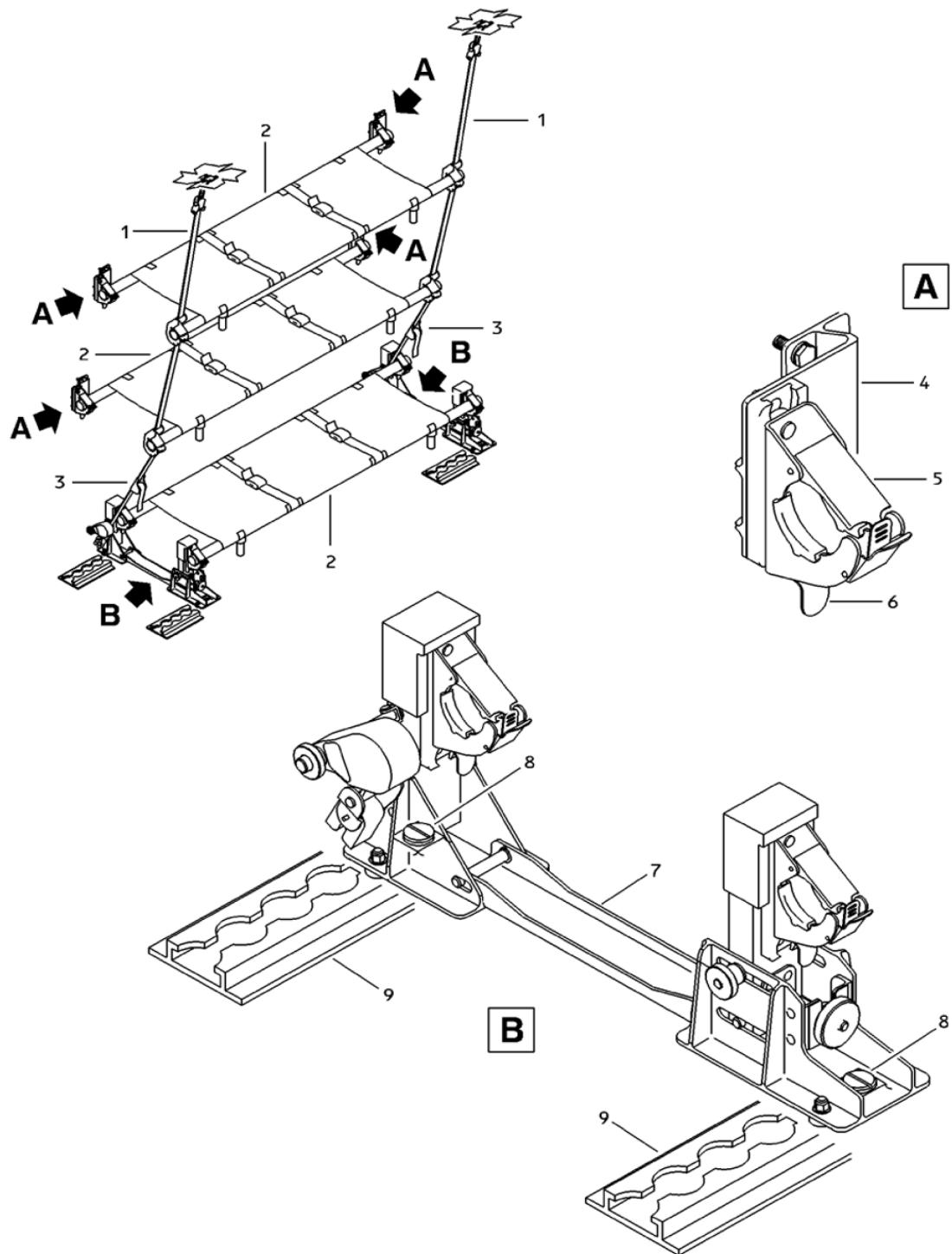


Figure 3-11 Installation/removal of stretchers (Sheet 1 of 2)

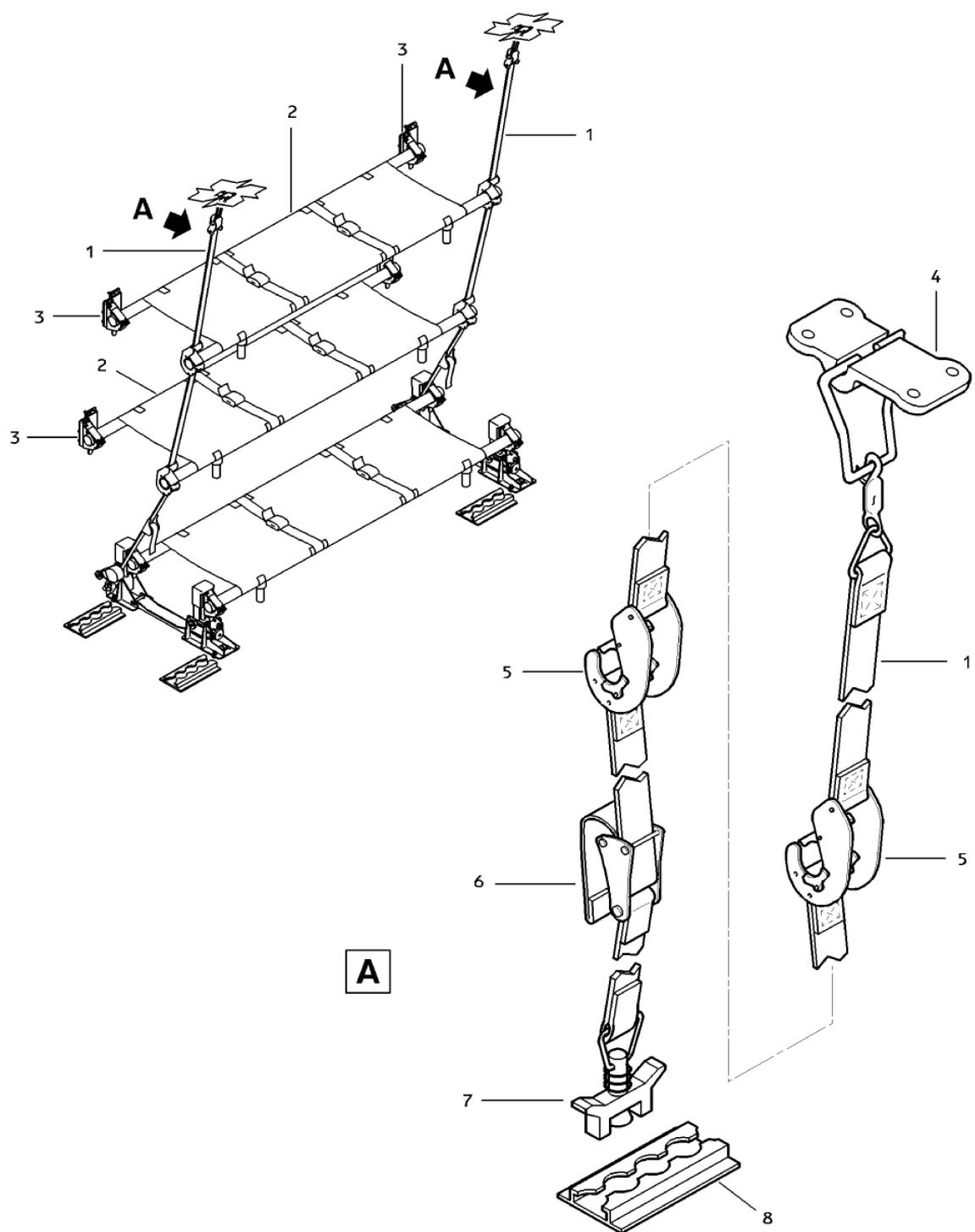


Figure 3-11 Installation/removal of stretchers (Sheet 2 of 2)

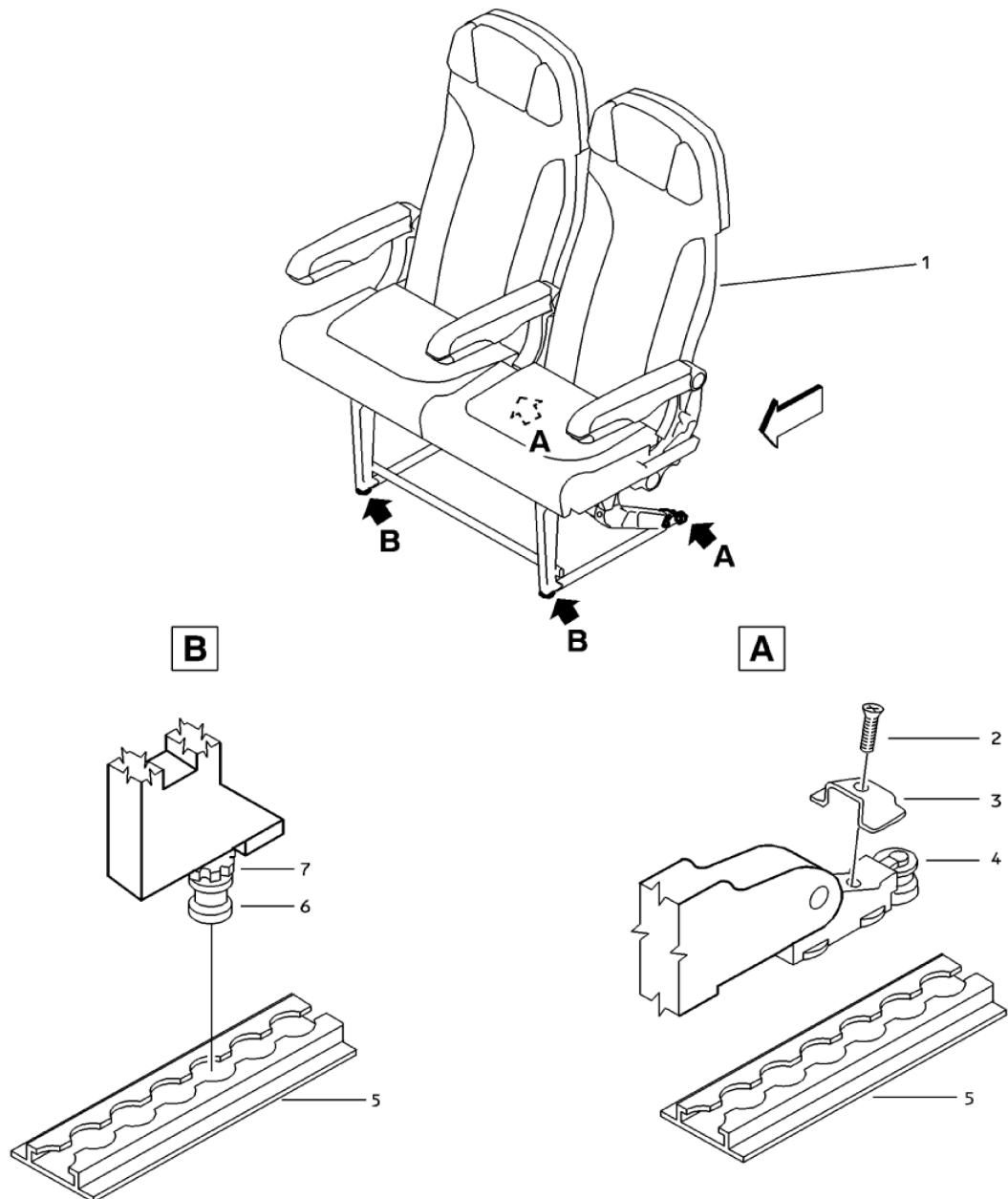


Figure 3-12 Installation/removal of civil seats

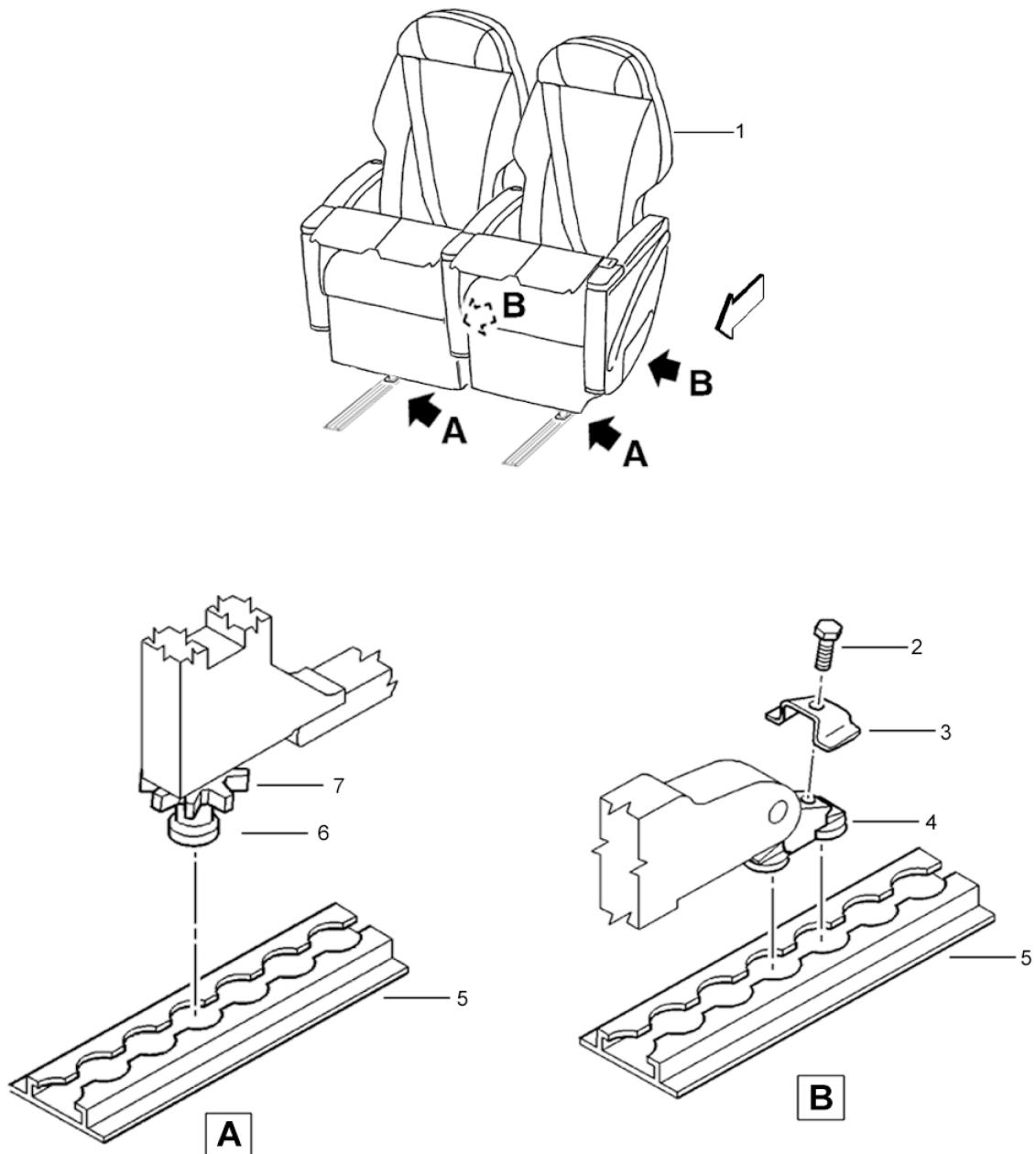


Figure 3-13 Installation/removal of VIP seats

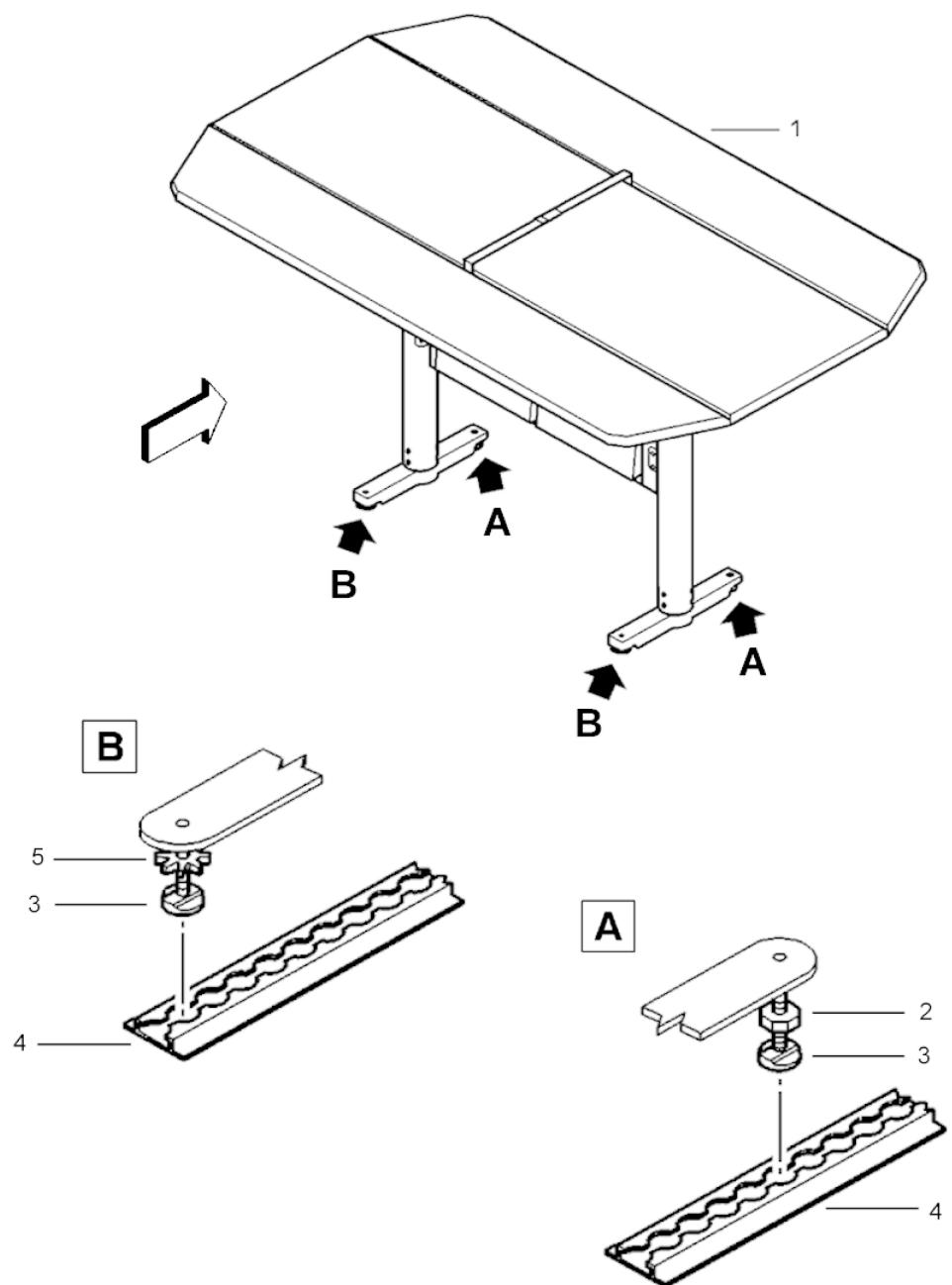
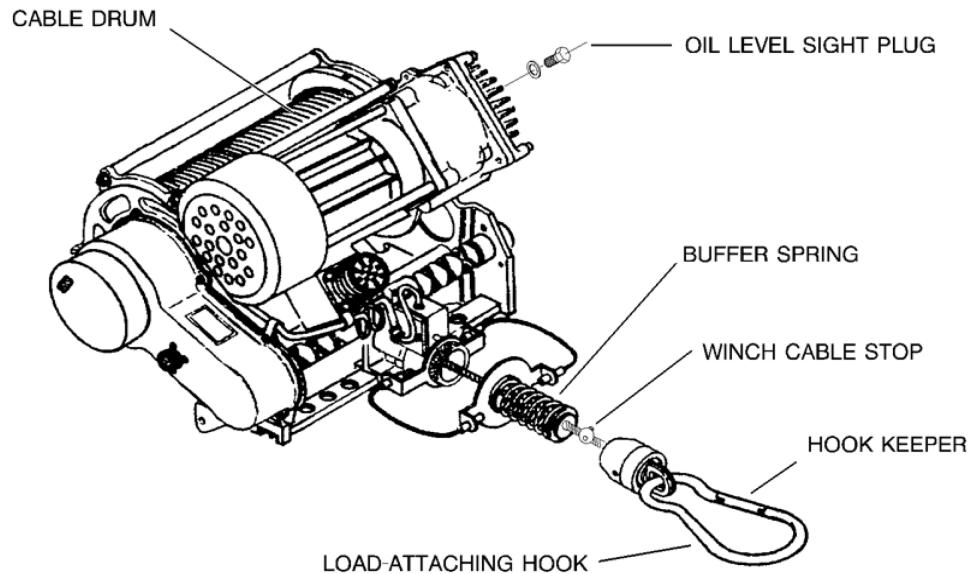
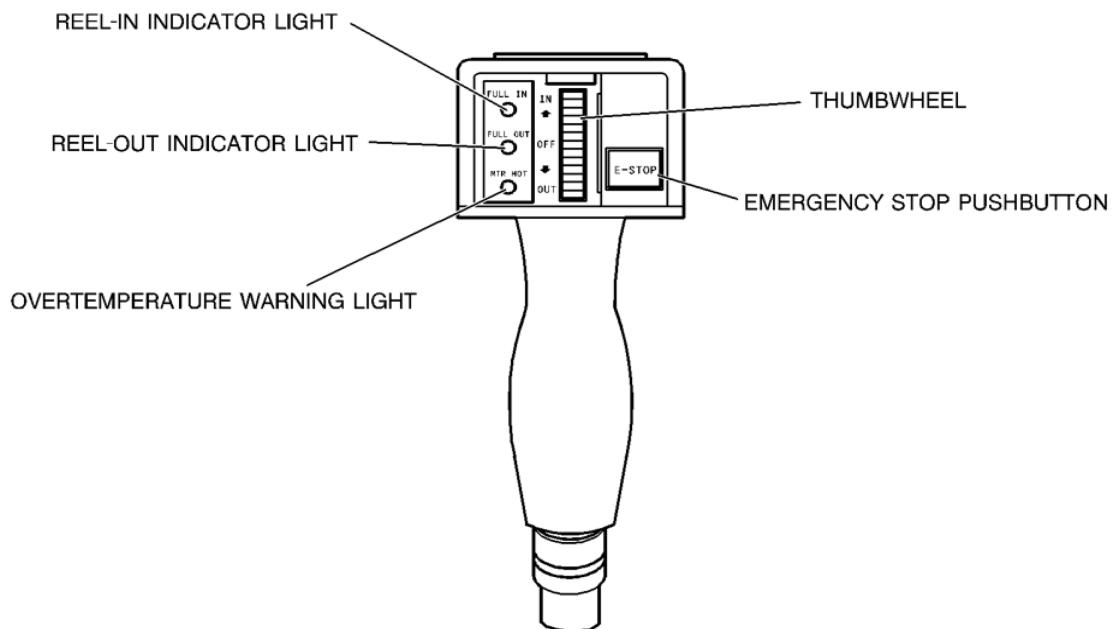


Figure 3-14 Installation/removal of VIP tables

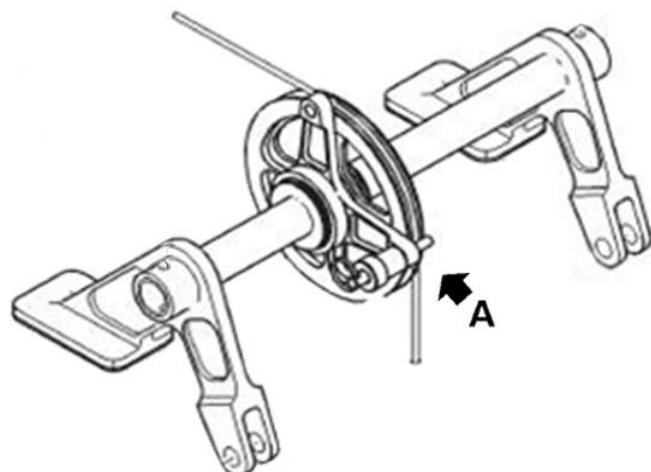


WINCH ASSEMBLY (UPSIDE-DOWN VIEW)



CONTROL PENDANT ASSEMBLY

Figure 3-15 Winch operation and inspection (Sheet 1 of 3)



PULLEY SUPPORT ASSEMBLY

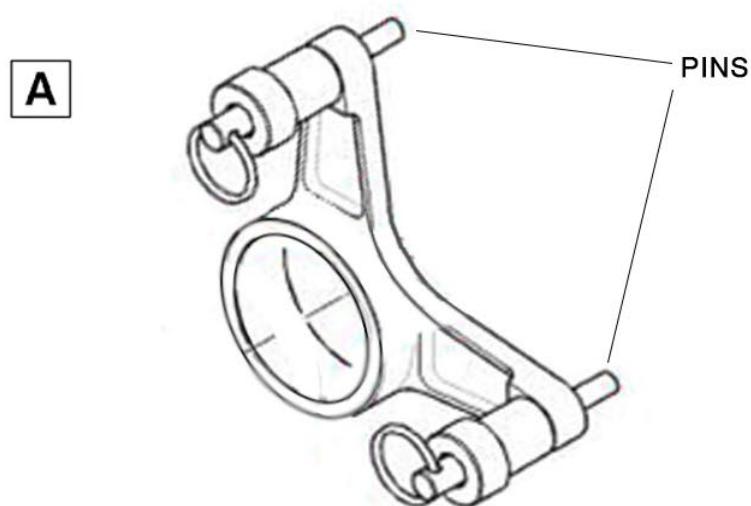
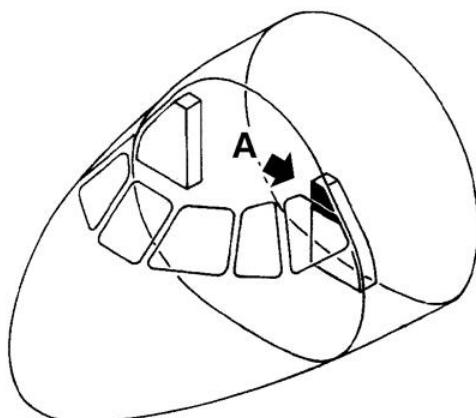
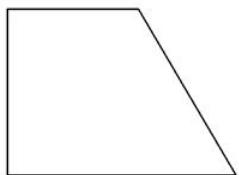


Figure 3-15 Winch operation and inspection (Sheet 2 of 3)



A



B

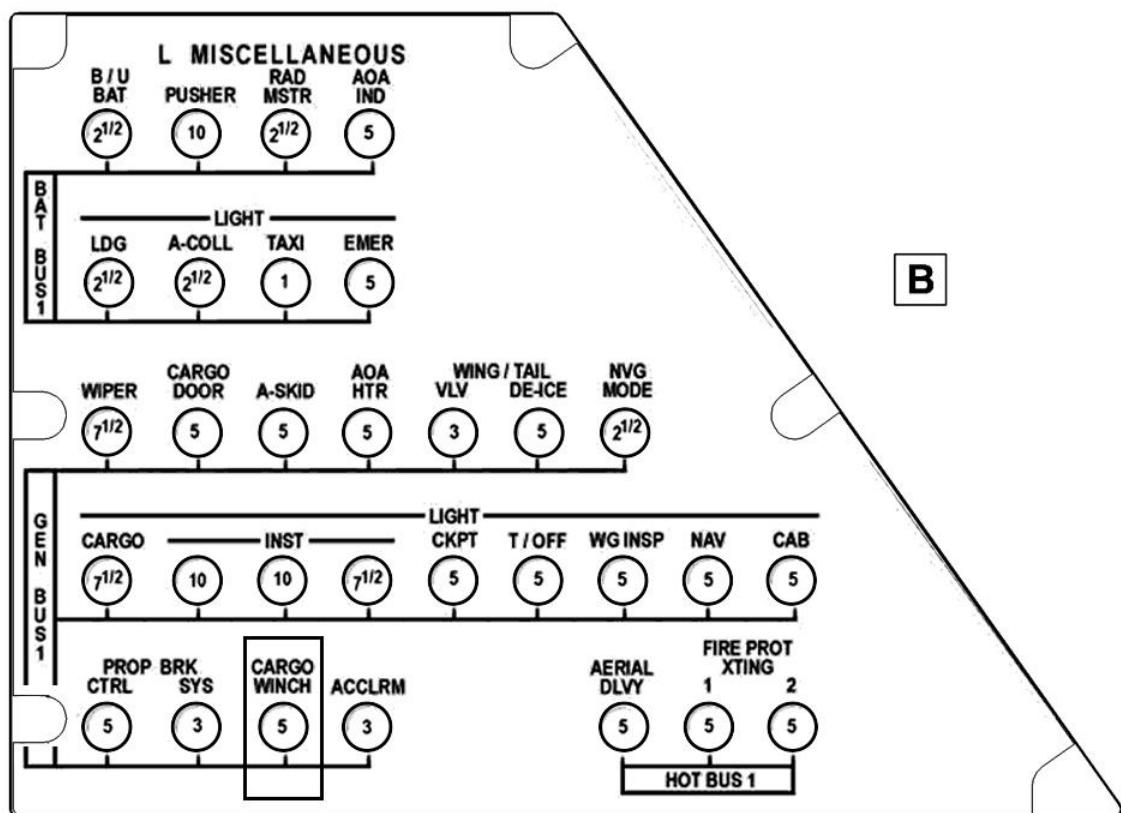
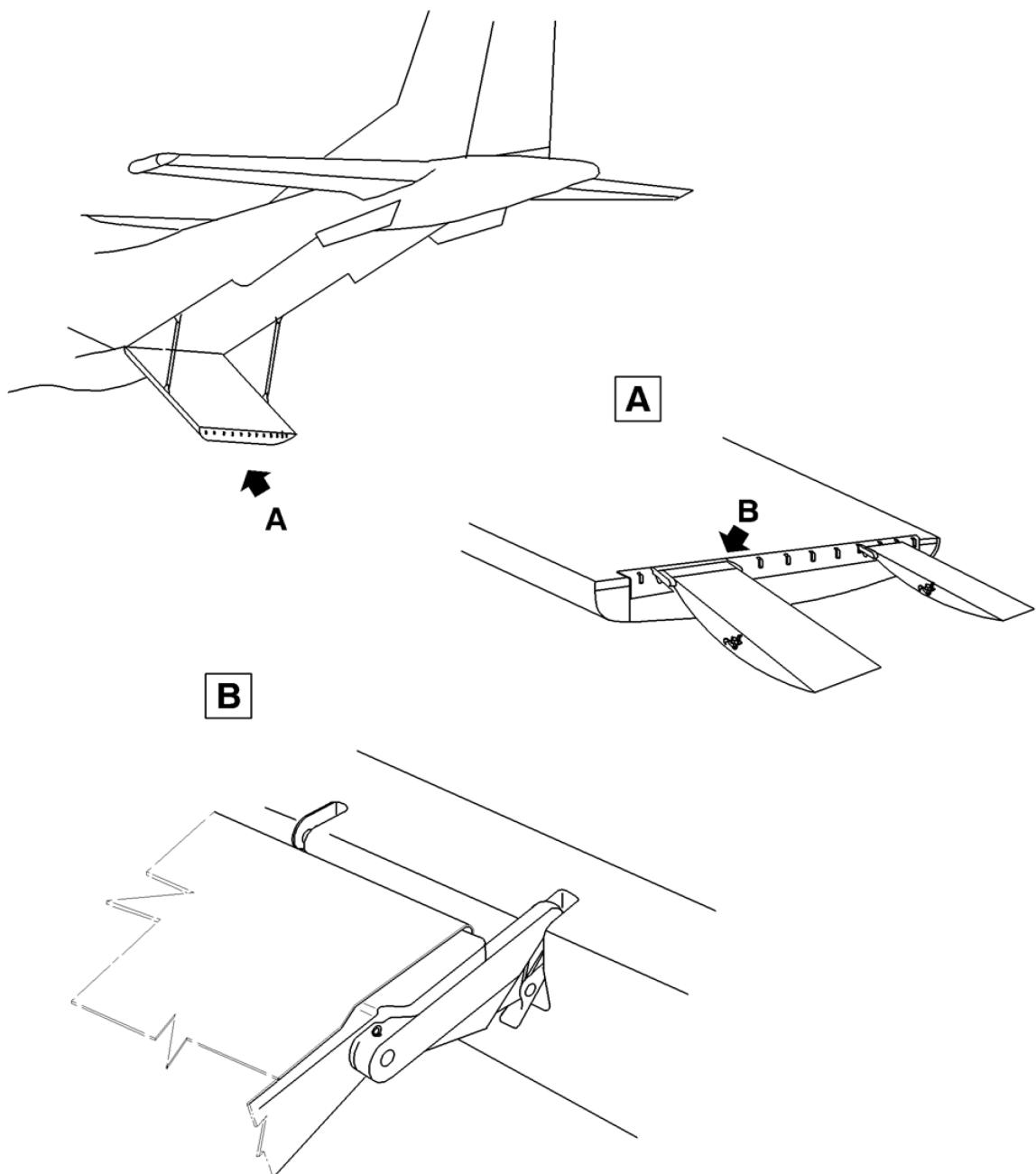
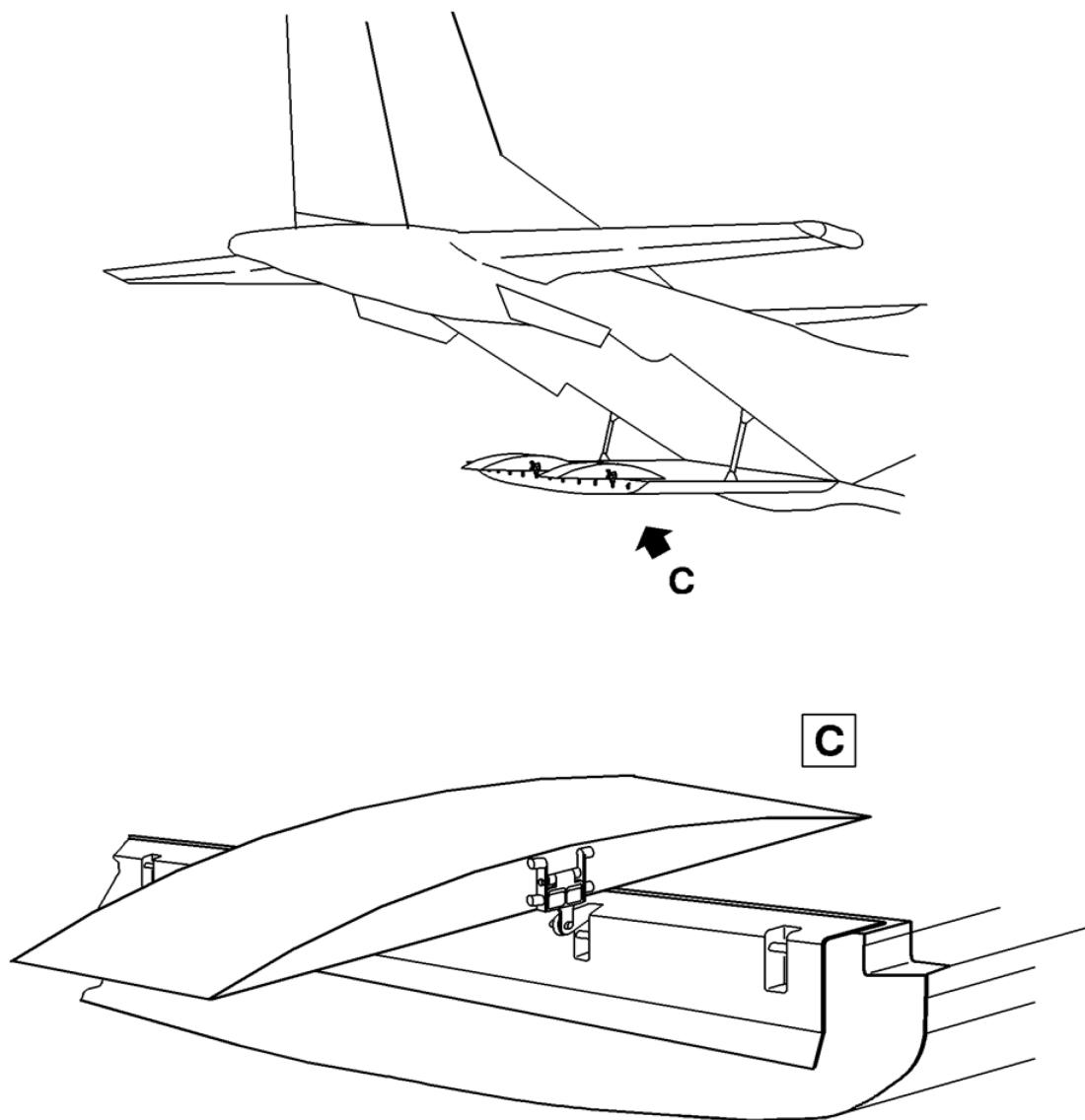


Figure 3-15 Winch operation and inspection (Sheet 3 of 3)



INSTALLATION FOR THE RAMP IN THE SLOPED POSITION

Figure 3-16 Installation of auxiliary loading ramps (Sheet 1 of 2)



INSTALLATION FOR THE RAMP IN THE HORIZONTAL POSITION

Figure 3-16 Installation of auxiliary loading ramps (Sheet 2 of 2)

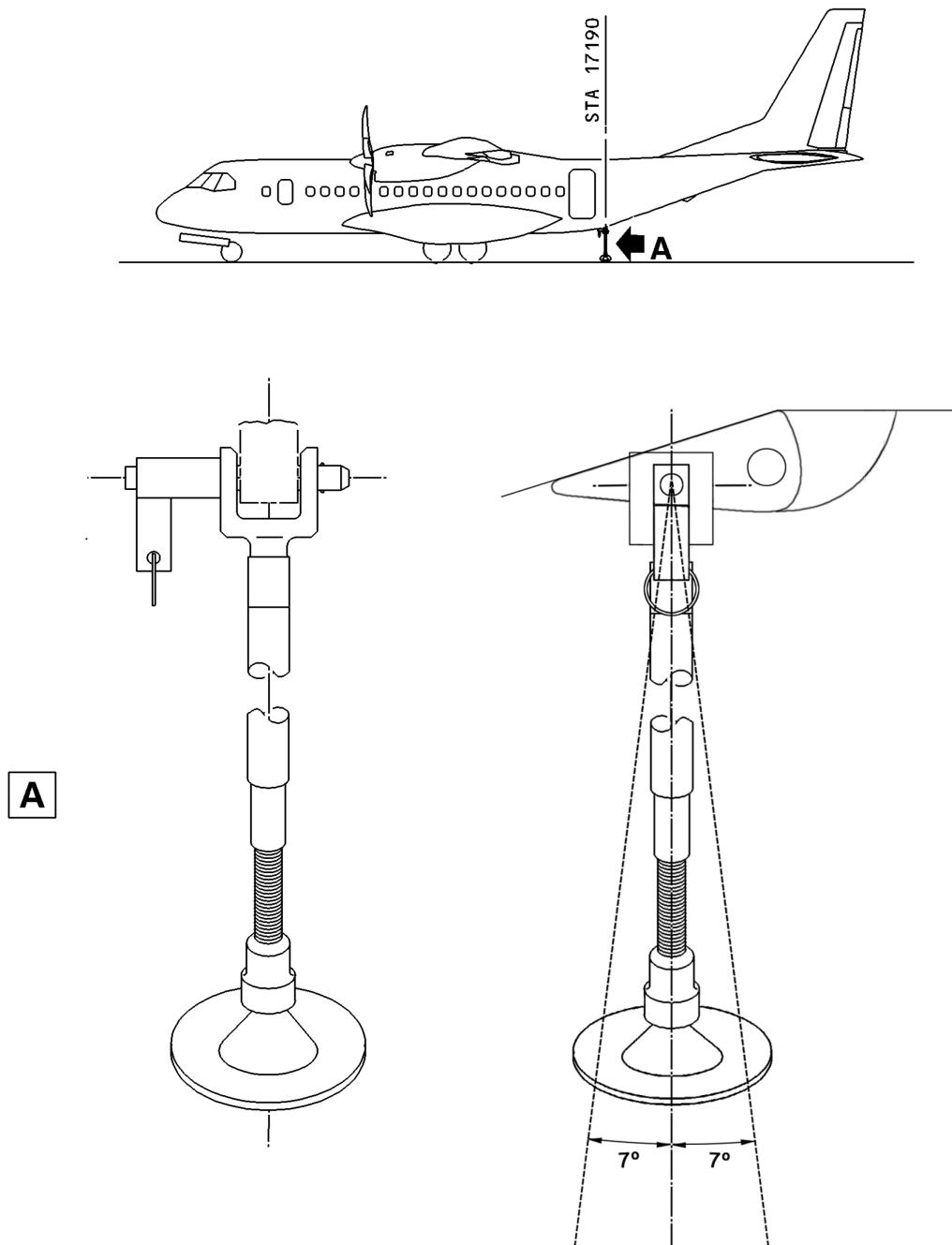


Figure 3-17 Installation of fuselage support legs

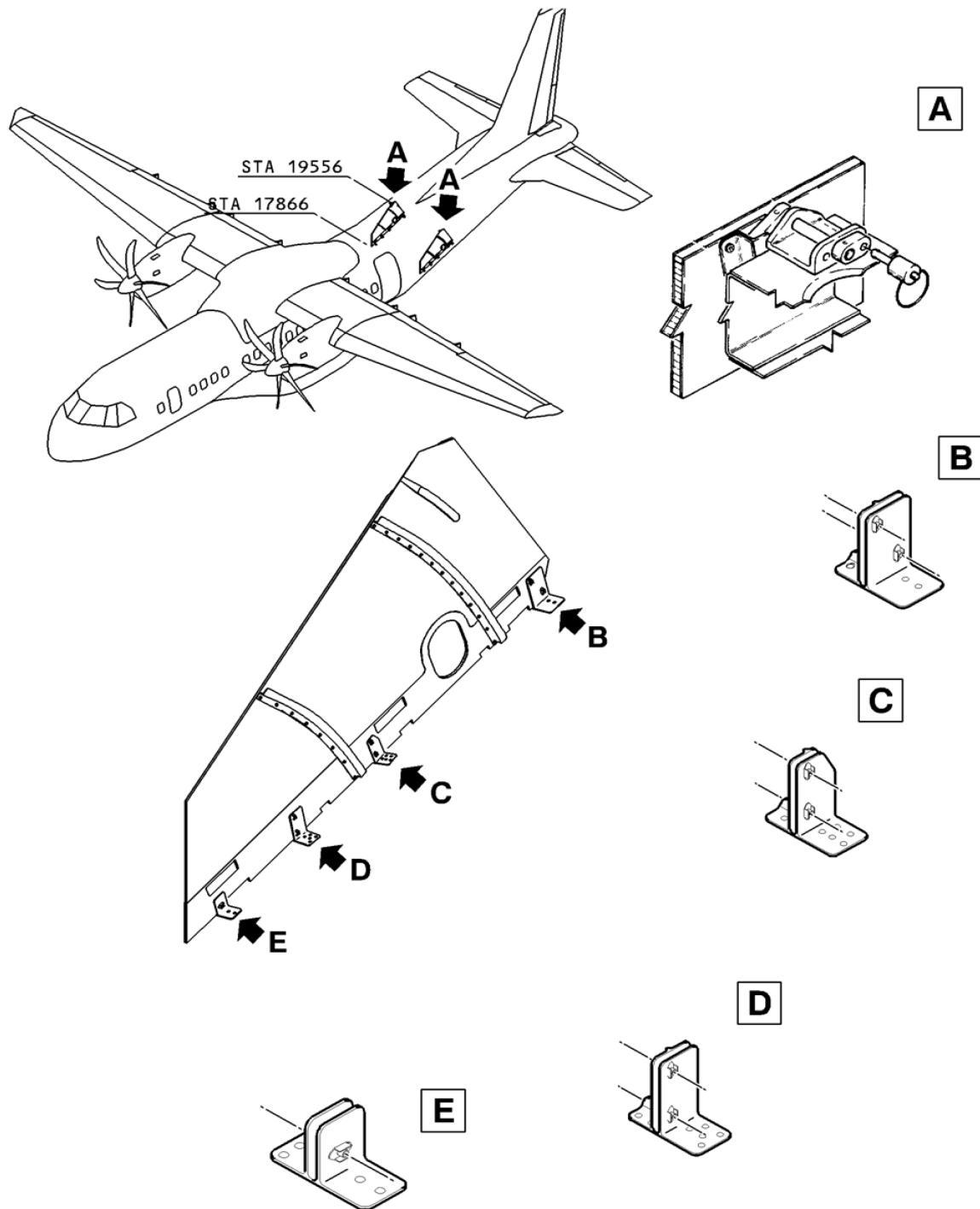


Figure 3-18 Installation of air deflectors

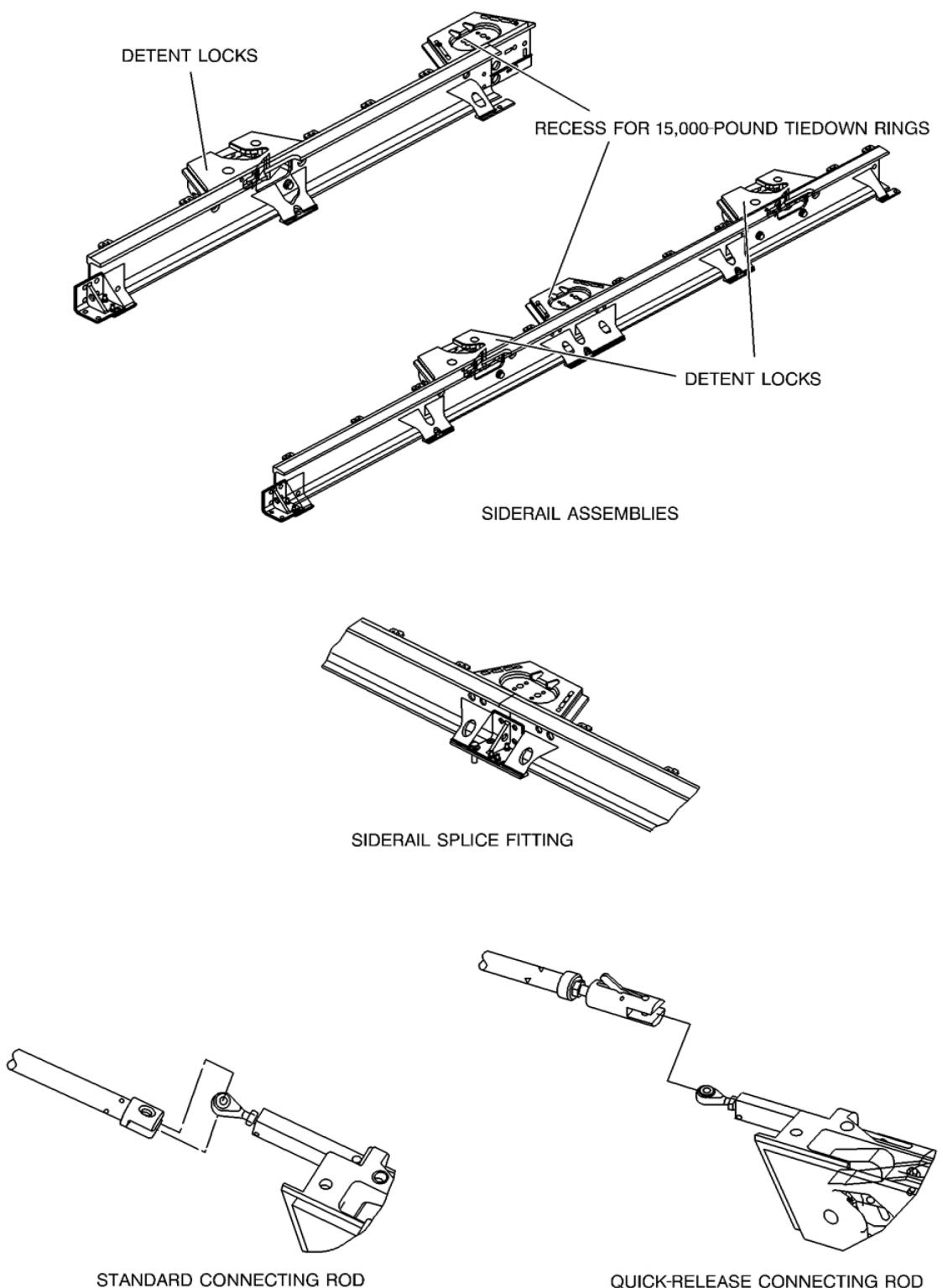


Figure 3-19 AM109 Cargo Handling and Aerial Delivery System installation
(CHADS) (Sheet 1 of 4)

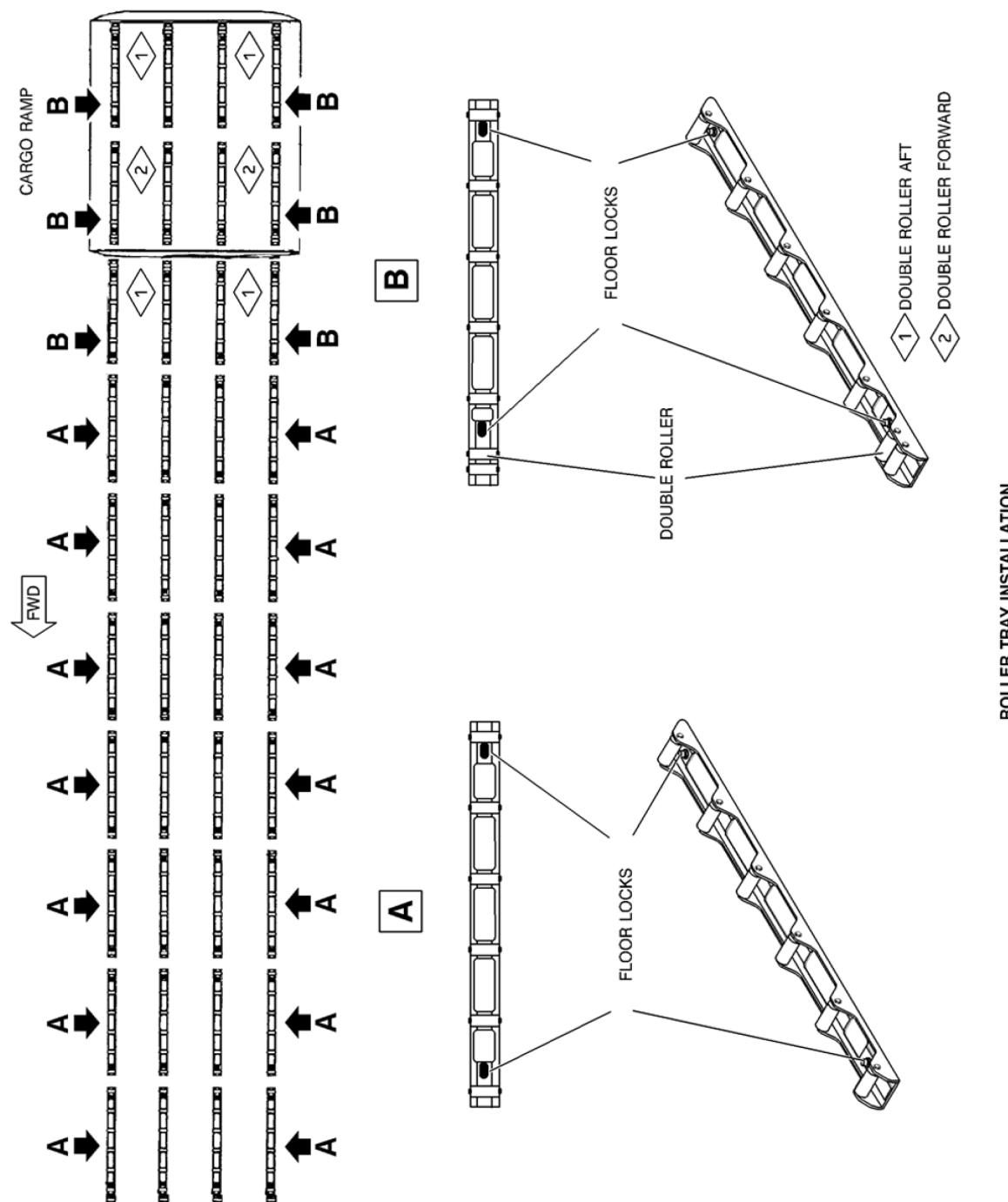


Figure 3-19 AM109 Cargo Handling and Aerial Delivery System installation
(CHADS) (Sheet 2 of 4)

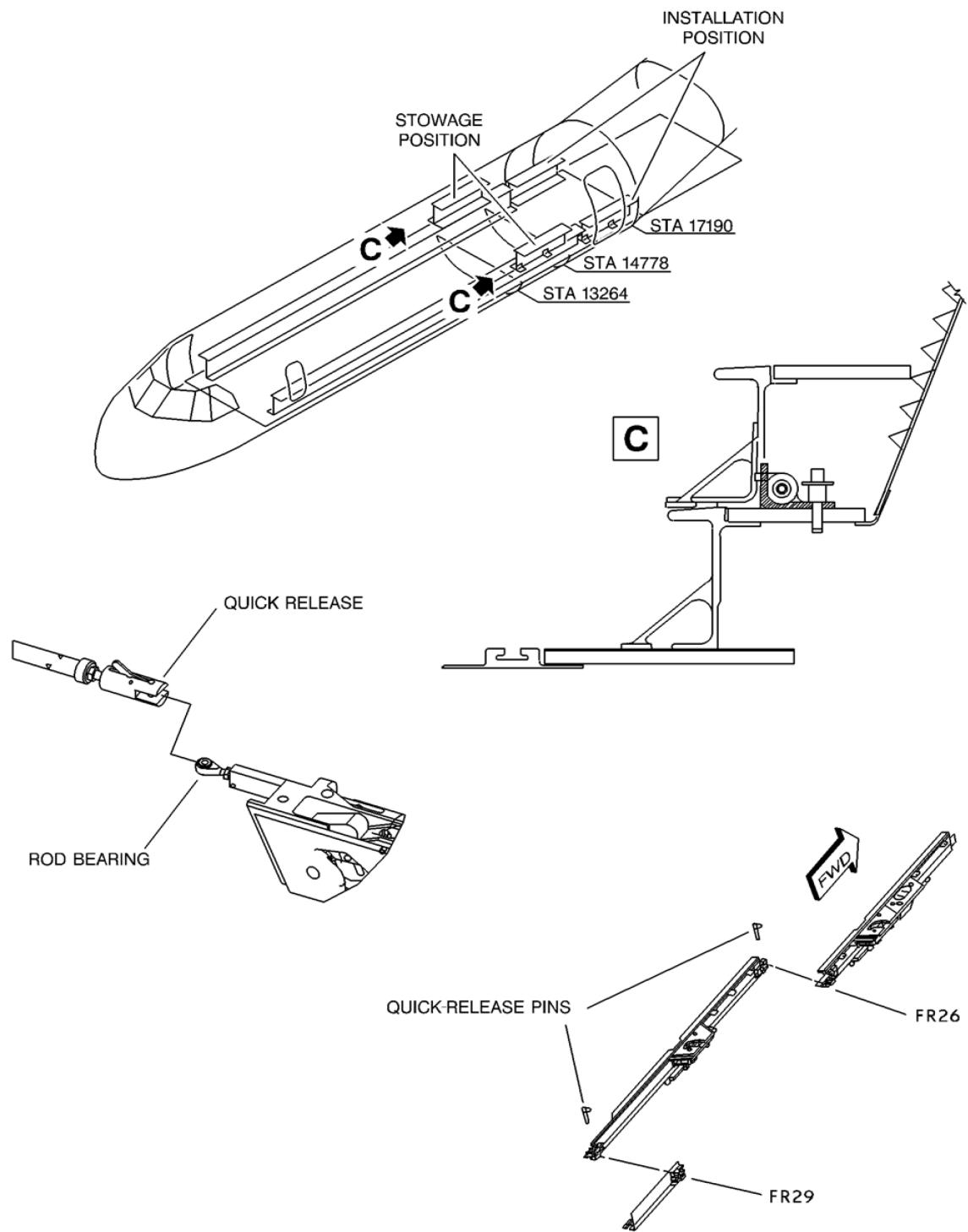


Figure 3-19 AM109 Cargo Handling and Aerial Delivery System installation
(CHADS) (Sheet 3 of 4)

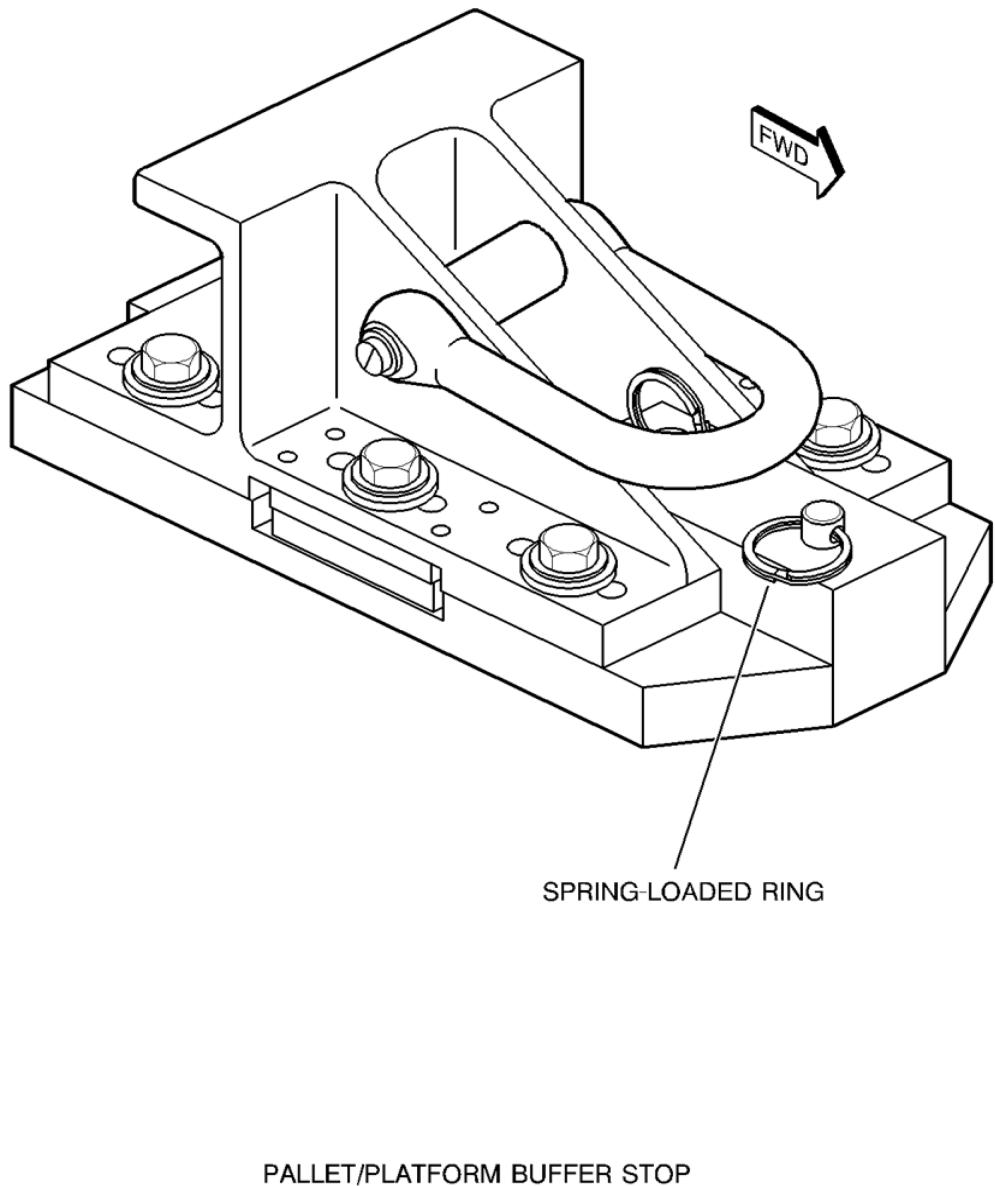


Figure 3-19 AM109 Cargo Handling and Aerial Delivery System installation
(CHADS) (Sheet 4 of 4)

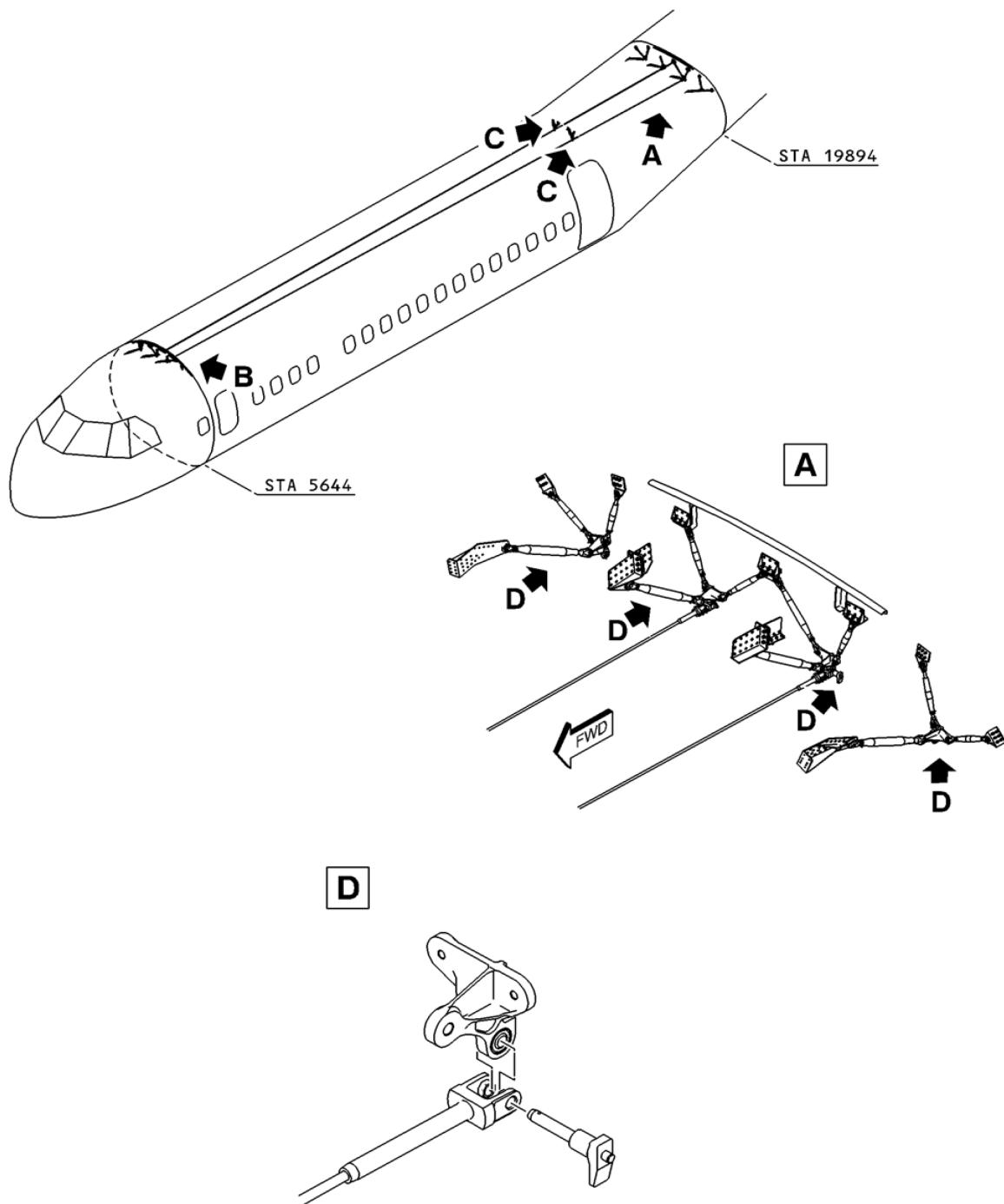


Figure 3-20 Installation of the static line anchor cables (Sheet 1 of 2)

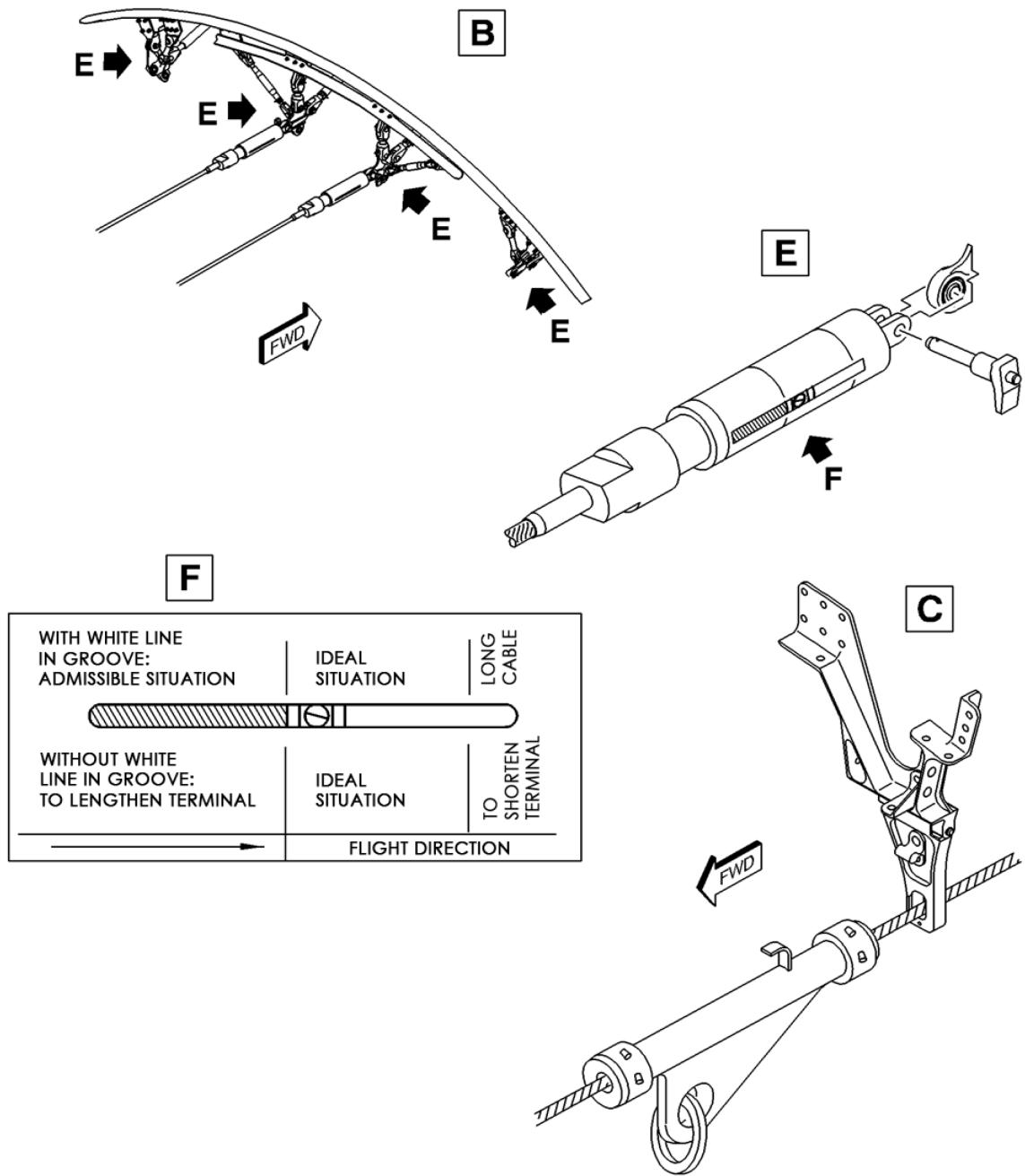
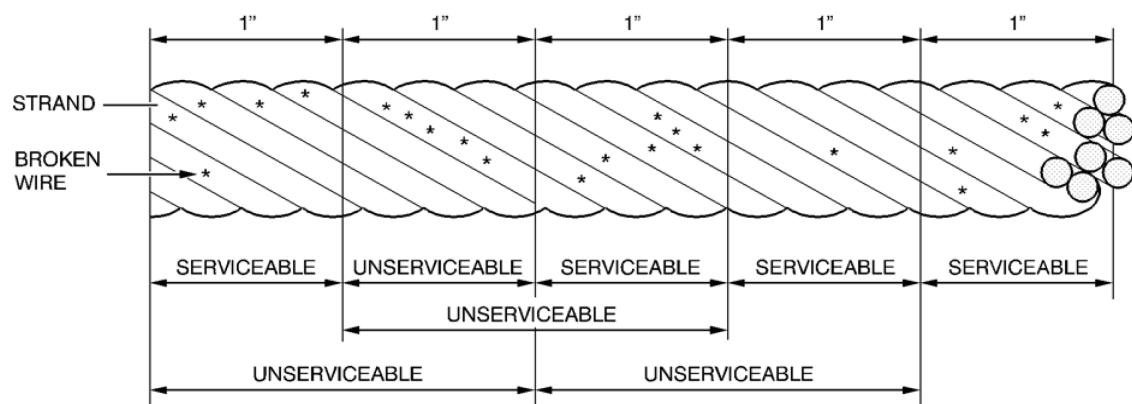


Figure 3-20 Installation of the static line anchor cables (Sheet 2 of 2)



AIRDROP ANCHOR CABLES MUST
NOT HAVE KINKS, NOR MORE THAN SIX
BROKEN WIRES PER INCH, NEVER IN TWO
CONSECUTIVE INCHES, NOR MORE THAN
THREE BROKEN WIRES IN THE SAME STRAND

Figure 3-21 Cable damage tolerance

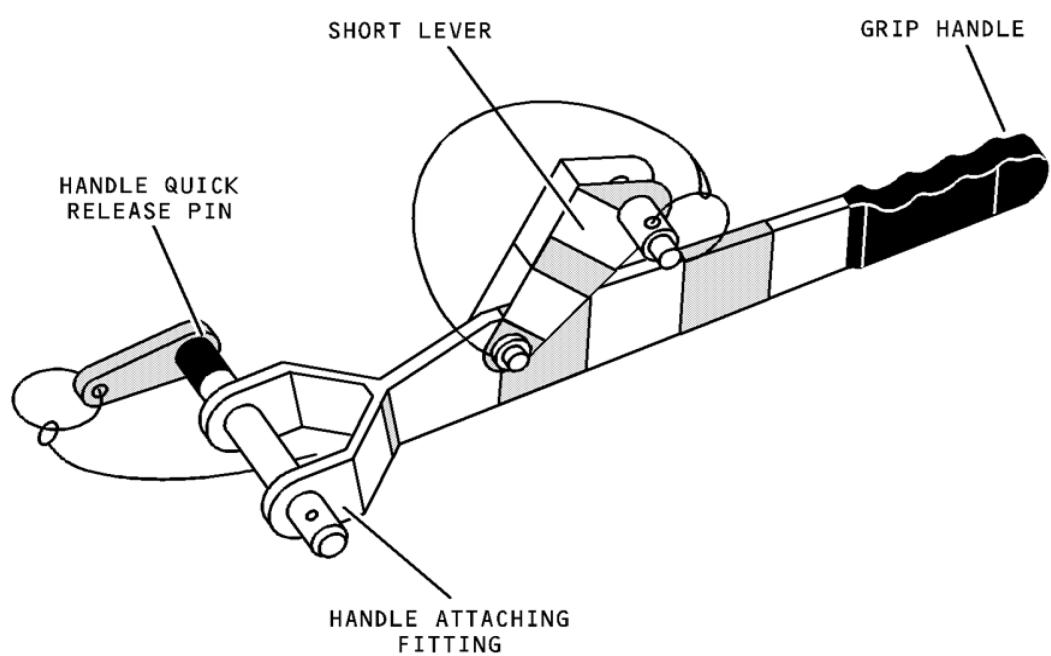


Figure 3-22 Anchor cable lever-tool assembly