

R44-series Five-Point Harness Installation Kit Instructions

KI-155-1 converts existing standard harness & buckle installation to five-point harness installation. KI-155-2 converts existing four-point harness installation to five-point harness installation.

NOTE

Visit www.robinsonheli.com to verify kit instructions are current revision. Review instructions before installation; contact RHC Technical Support with questions. Verify kit contents match list; contact RHC Customer Service if parts are missing or damaged.

ITEM	PART NUMBER	KIT CONTENTS	QTY PER KI-155-1	QTY PER KI-155-2
1	KI-155Instr.	Kit Instructions	1	1
2	A130-28	Spacer	4	4
3	A141-17	Washer	8	8
4	A738-28	Gang Channel	2	0
5	B340-8	Nut	12	8
6	B340-10	Nut	5	3
7	C420-1XXX	Cover (select p/n below to match interior)	2	0
	C420-1GRL	Cover – Gray Leather	0	0
	C420-1TNL	Cover – Tan Leather	0	0
	C420-1GRV	Cover – Gray Vinyl	0	0
	C420-1TNV	Cover – Tan Vinyl	0	0
8	C421-2	Tube	1	0
9	C421-5	Fitting	2	0
10	C423-4	Tube Assembly – Upper	1	0
11	C424-1	Padding	2	0
12	C627-6	Harness Assembly – Five-Point	2	2
13	C680-4	Cover	1	0
14	D210-3	Nut	8	4
15	D210-4	Nut	1	1
16	F426-2	Anchor	2	2
17	2663+	Hole Plug – DP-625 (Note: “+” in part number indicates 5-qty pack)	1	1
18	AN525-10R7	Screw	4	0
19	MS20002-4+	Washer (Note: “+” in part number indicates 10-qty pack)	1	1
20	MS20470AD3-3.5+	Rivet (Note: “+” in part number indicates 50-qty pack)	1	0
21	MS21042L08	Nut	4	4
22	MS27039C0806	Screw	4	4
23	MS27039C0807	Screw	5	1
24	MS27039C0808	Screw	1	1

ITEM	PART NUMBER	KIT CONTENTS (continued)	QTY PER KI-155-1	QTY PER KI-155-2
25	MS27039C0821	Screw (For Tooling)	1	0
26	MS27039C1-06	Screw	4	0
27	MS27039C1-07	Screw	8	8
28	NAS1149FN816P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	1
29	NAS1149FN832P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	1
30	NAS1149F0332P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	0
31	NAS1149F0432P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	1
32	NAS6604-5	Bolt	4	4
33	NAS6604-17	Bolt	2	0
34	NAS9301B-5-06	Rivet	3	0
35	NAS9302B-4-03	Rivet	5	0

Consumables

Refer to R44 Maintenance Manual (MM) § 1.400 for approved materials list.

- B270-8 Adhesive (alternately, 3M Scotch-Grip p/n 847)
- Primer paint

Kit Instructions

1. Remove forward seat harnesses per MM § 15.110, or four-point harnesses per MM § 15.120.
2. a. **Standard to five-point harness:**
 - i. Refer to Figure 1A. Install (4) AN525-10R7 screws, (4) NAS1149F0332P washers, and (4) B340-8 nuts in former harness inertia reel mounting holes as shown. Standard torque fasteners per MM § 23-32 and torque stripe per MM Figure 2-1.
 - ii. Refer to Figure 1. Temporarily install existing screws in C680-4 cover’s forward holes and secure to C373-3 cover. Using C680-4 cover aft holes as pilot holes, drill (2) 0.098-inch diameter holes thru C373-3 cover as shown. Deburr holes & clean up debris. Install (2) MS20470AD3-3.5S rivets in C680-4 cover aft holes and C373-3 cover’s drilled holes. Remove forward screws and verify cover security.
 - iii. Install NAS6604-17 bolt (bolt head outboard) and B340-10 nut in each C403 door post where shoulder strap guides were installed. Standard torque fasteners per MM § 23-32 and touch-up bolt heads using approved primer paint.
- b. **Four-point to five-point harness:** Proceed to step 6.

Kit Instructions (continued)

3. **Standard to five-point harness:** Perform the following steps on LH and RH sides of helicopter:

NOTE

If three MS27039C0807 screws are installed on inboard side of door post (where C423-4 tube assembly is to be installed), remove screws and proceed to step 4.

- a. Refer to Figure 2. Drill (3) 0.170-inch diameter holes thru C403 door post as shown. Using #31 bit, drill out existing rivet, leaving 0.128-inch diameter hole thru post as shown. Deburr holes & clean up debris.
 - b. Peel back headliner at top of door post. Lower a 6-foot length of 0.020-inch diameter lockwire thru upper door post opening until lockwire emerges thru lower post opening inside forward seat compartment.
 - c. At lower door post opening, make a slender, unhookable hook in lockwire and insert hook in top hole of A738-28 gang channel. Make a slender, unhookable hook in another 4-foot length of 0.020-inch diameter lockwire, and insert hook in bottom hole of gang channel. Raise gang channel up thru door post and align channel with drilled holes. Install MS27039C0821 screw thru post and channel center hole, finger tight. Remove lockwire.
 - d. Install (2) MS27039C0807 screws in top and bottom post and channel holes. Remove center screw and tighten top and bottom screws. Drill 0.128-inch diameter holes thru channel as shown. Countersink 0.128-inch diameter holes 100° X 0.225-inch diameter hole thru channel as shown and install (2) NAS9302B-4-03 rivets. Remove screws and clean up debris.
4. **Standard to five-point harness:**
- a. Refer to Figure 3. Locate existing hole on the bottom in the center of C423-4 tube. Attach (upper) C421-5 fitting to tube using NAS9301B-5-06 rivet.
 - b. Temporarily assemble (lower) C421-5 fitting in C421-2 tube, and install C421-2 tube on C423-4 tube's fitting. Position assembly in helicopter. Align C423-4 tube and door post mounting holes. Verify C421-2 tube is parallel with posts, and that lower fitting is centered on, and conforms to the contour of, C423-1 tube. Mark location of lower fitting on C423-1 tube. Remove assembly.
 - c. Drill 0.159-inch diameter hole in C423-1 tube in center of marked fitting location. Deburr hole & clean up debris. Attach lower fitting to tube using NAS9301B-5-06 rivet and install C421-2 tube on fitting. Position C423-4 tube's fitting on C421-2 tube and install screws securing C423-4 tube to door posts. Verify security.
 - d. Center (2) C424-1 paddings above seat backs on C423-4 tube, and mark locations. Remove paddings. Apply B270-8 adhesive to padding and tube mating surfaces. Wait for adhesive to become tacky (at least 2 minutes), then press paddings to tube. Wait 10 minutes for adhesive to dry, then verify padding security.

Kit Instructions (continued)

5. **Standard to five-point harness:** Perform the following steps on LH and RH sides of helicopter:
 - a. Refer to Figure 4. Remove C627-6 harness assembly inertia reel cover. Using reel’s mounting plate holes as pilot holes, drill (4) 0.191-inch diameter holes thru C370-1 (LH) and C369-3 (RH) panels as shown. Deburr holes & clean up debris.
 - b. If C925-1 seat backs are installed, drill (2) 0.641-inch diameter holes thru C925-1 seat back as shown. Deburr holes & clean up debris.
6. **Four-point to five-point harness:** Refer to Figure 3. Detach hook & loop tape securing C420-1 covers around paddings. Remove covers.
7. Refer to Figures 3 & 4. Perform the following on LH and RH sides of helicopter: Remove C627-6 harness assembly inertia reel cover (if not previously accomplished) and slide reel thru strap in C420-1 cover. Install hardware securing reel to C370-1 or C369-3 panel and verify reel security. Standard torque fasteners per MM § 23-32 and torque stripe per MM Figure 2-1. Install (2) DP-625 (or 2663) hole plugs in C925-1 seat back, if applicable. Install reel cover.
8. Drape harnesses over C423-4 tube. Install C420-1 covers around paddings and secure hook & loop tape.
9. Refer to Figure 1. Install hardware securing harness lap belts to inboard and outboard anchors as shown. Standard torque fasteners per MM § 23-32 and torque stripe per MM Figure 2-1. Install C680-1 (removable collective) cover assembly.
10. Refer to Figure 5. Perform the following on LH and RH sides of helicopter: Using fifth-point F426-2 anchor mounting holes as pilot holes, center anchor under seat hinge as shown and drill (2) 0.170-inch diameter holes thru C290-4 or C297-5 seat support. Install hardware securing fifth-point to seat support and verify security.
11. Each harness: Buckle all points and verify webbing is untwisted. Pull shoulder harness with a sudden quickness to verify proper function of inertia reel locking mechanism.
12. a. **Standard to five-point harness:** Revise helicopter’s Weight and Balance Record in R44 / R44 II Pilot’s Operating Handbook (POH) Section 6 to reflect this installation by incorporating the following data. Lateral weight and balance change is negligible.

Remove:

Item	Weight	Long. Arm	Long. Moment
Standard Harness Installation	Weigh all equipment removed and subtract item	+55.2 in.	0 in-lb

Add:

Item	Weight	Long. Arm	Long. Moment
Five-point Harness Installation	+4.30 lb	+58.0 in.	+249.4 in-lb

- b. **Four-point to five-point harness:** Weight and balance change is negligible.
13. Make appropriate maintenance record entries.

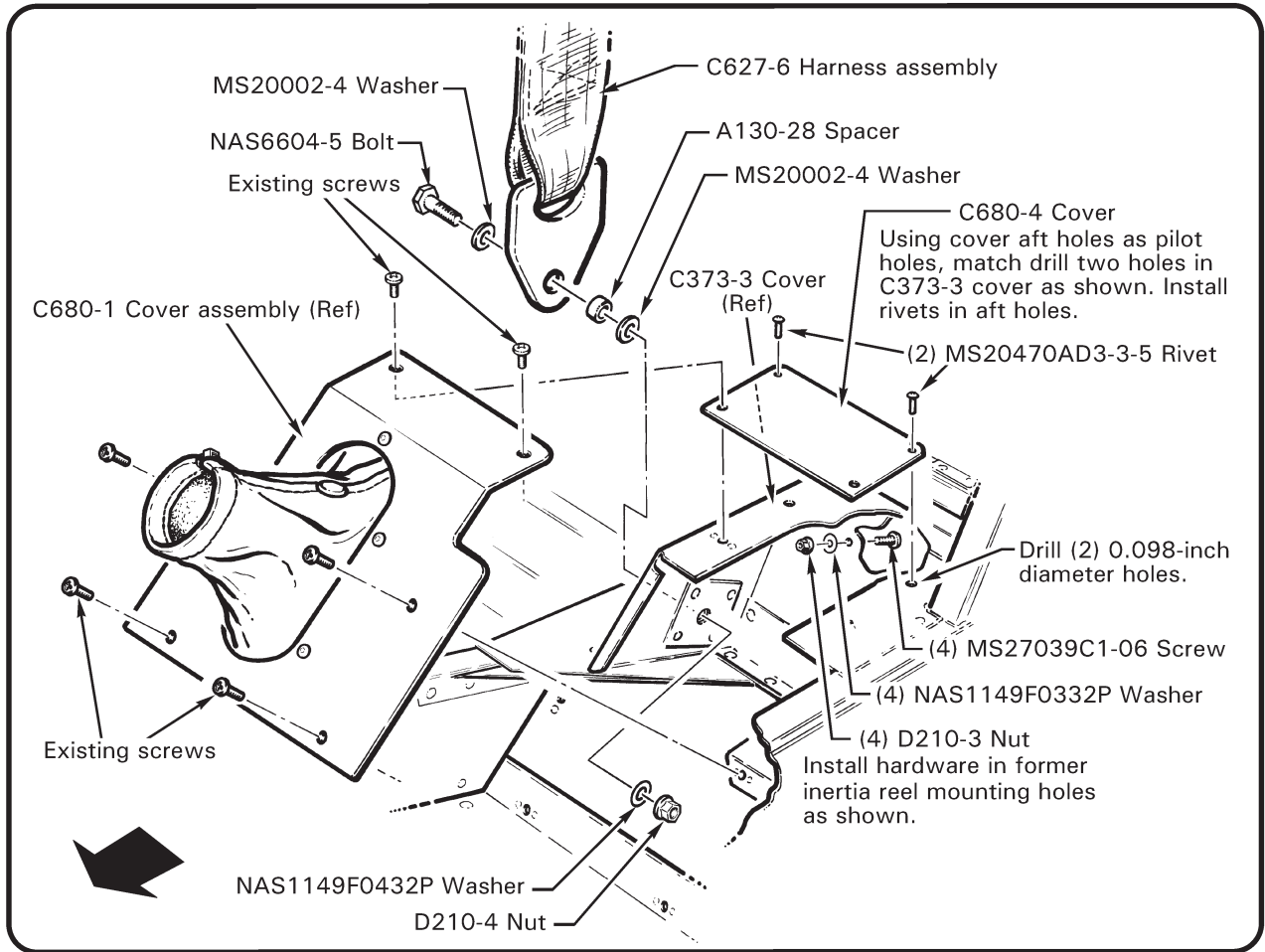


FIGURE 1
(harness installation, outboard LH side)

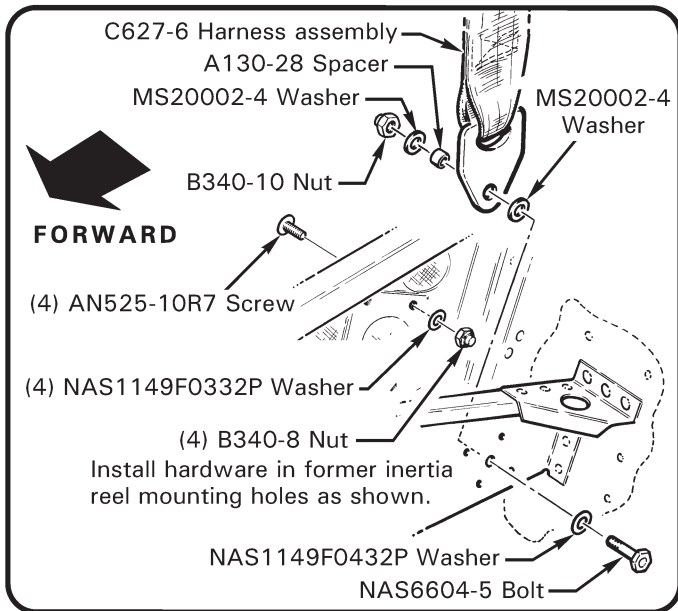


FIGURE 1A
(harness installation, outboard RH side)

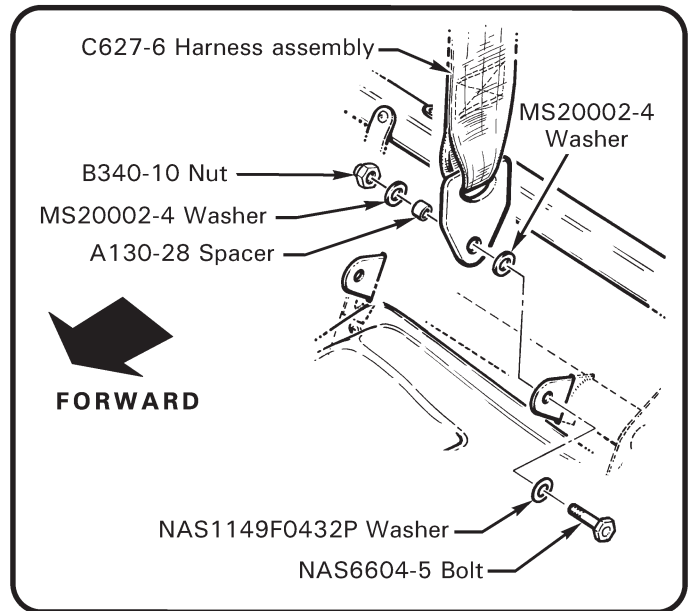


FIGURE 1B
(harness installation, inboard; typical RH and LH sides)

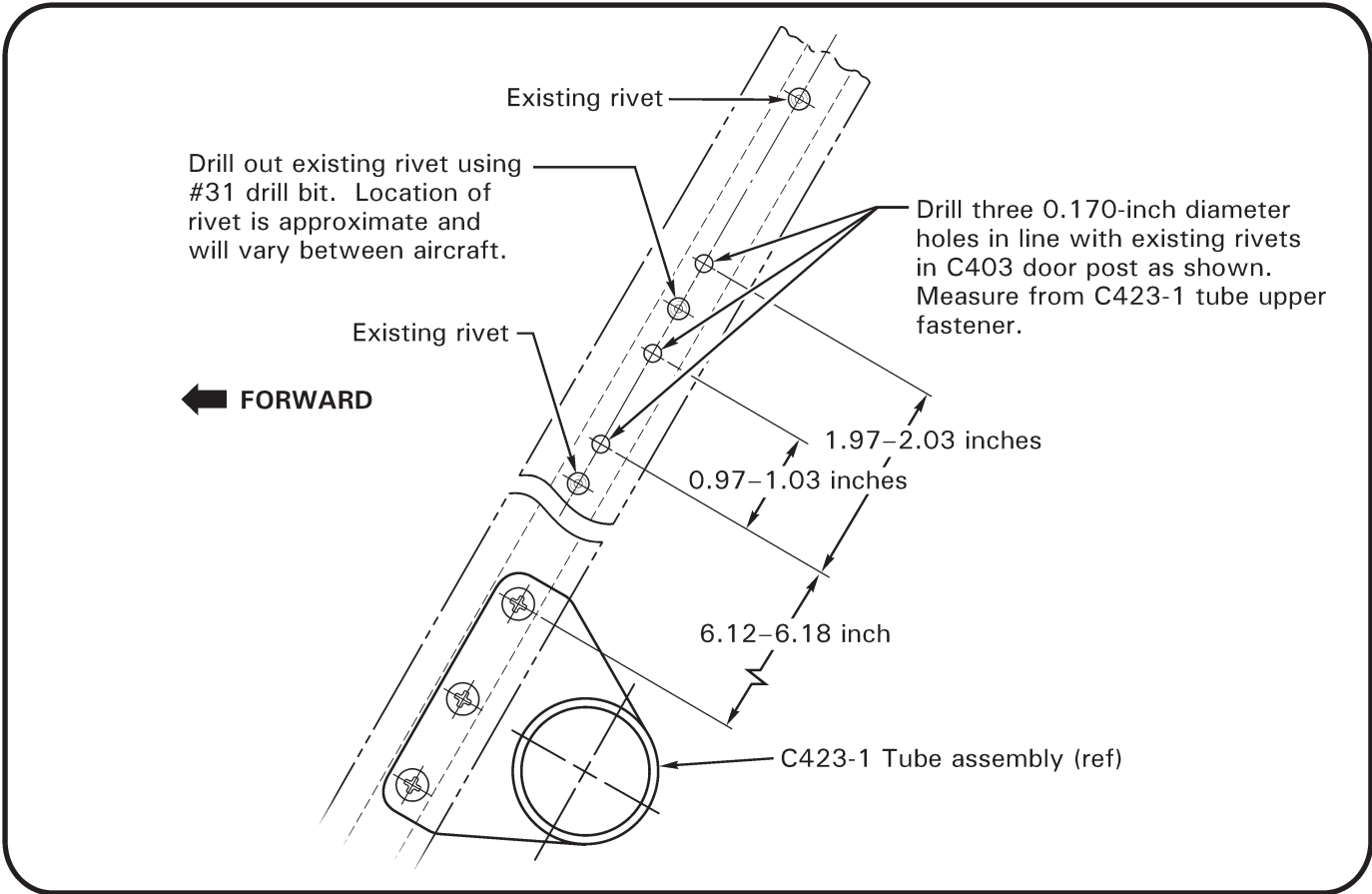


FIGURE 2
(view looking outboard; typical RH and LH sides)

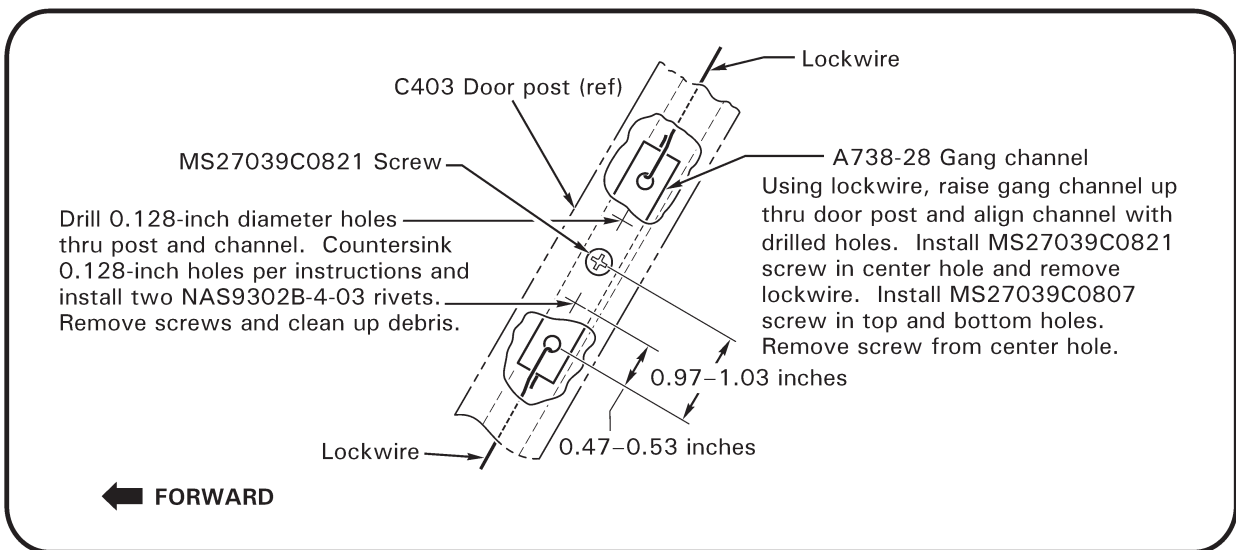


FIGURE 2A
(typical RH and LH sides)

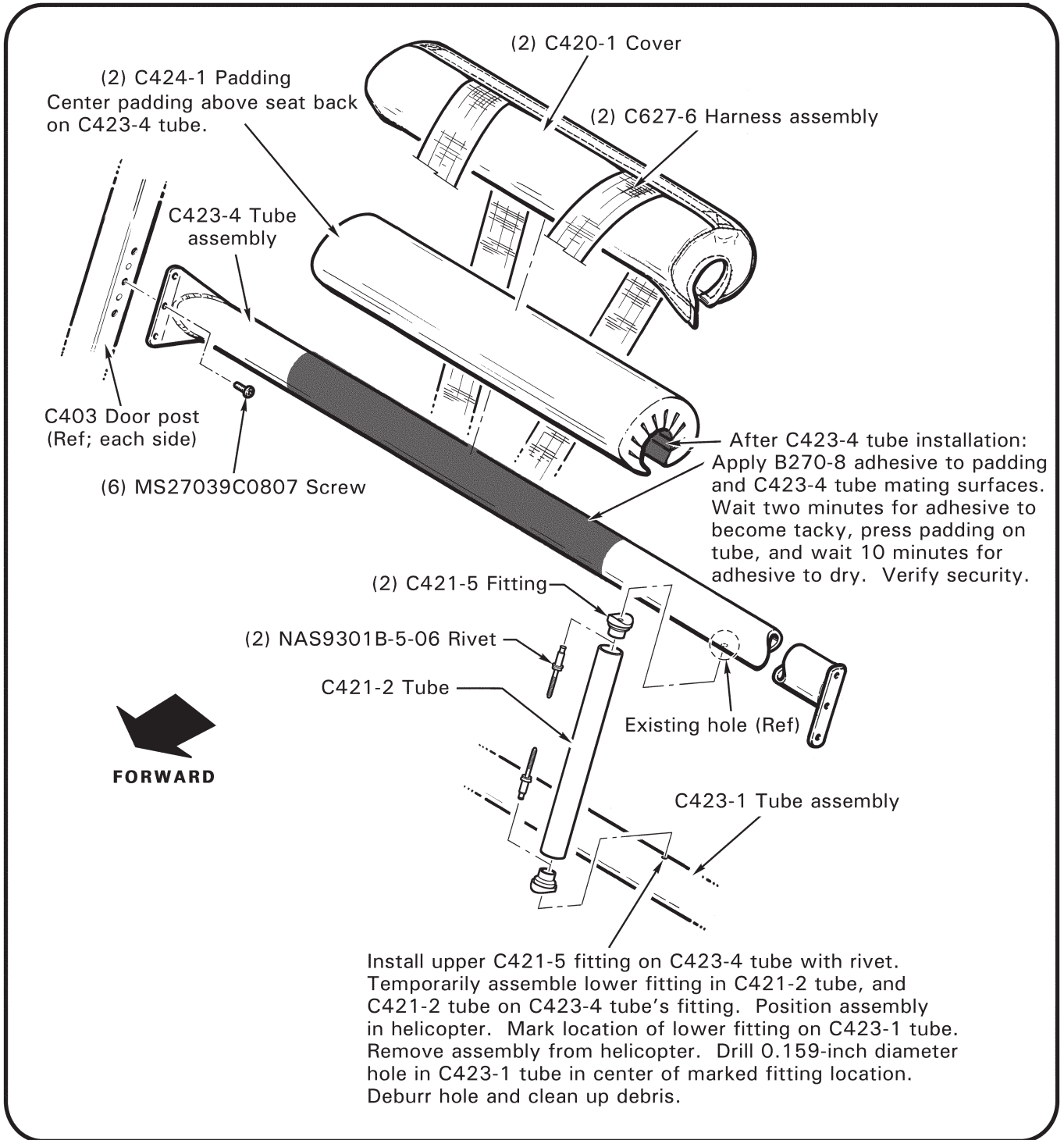


FIGURE 3

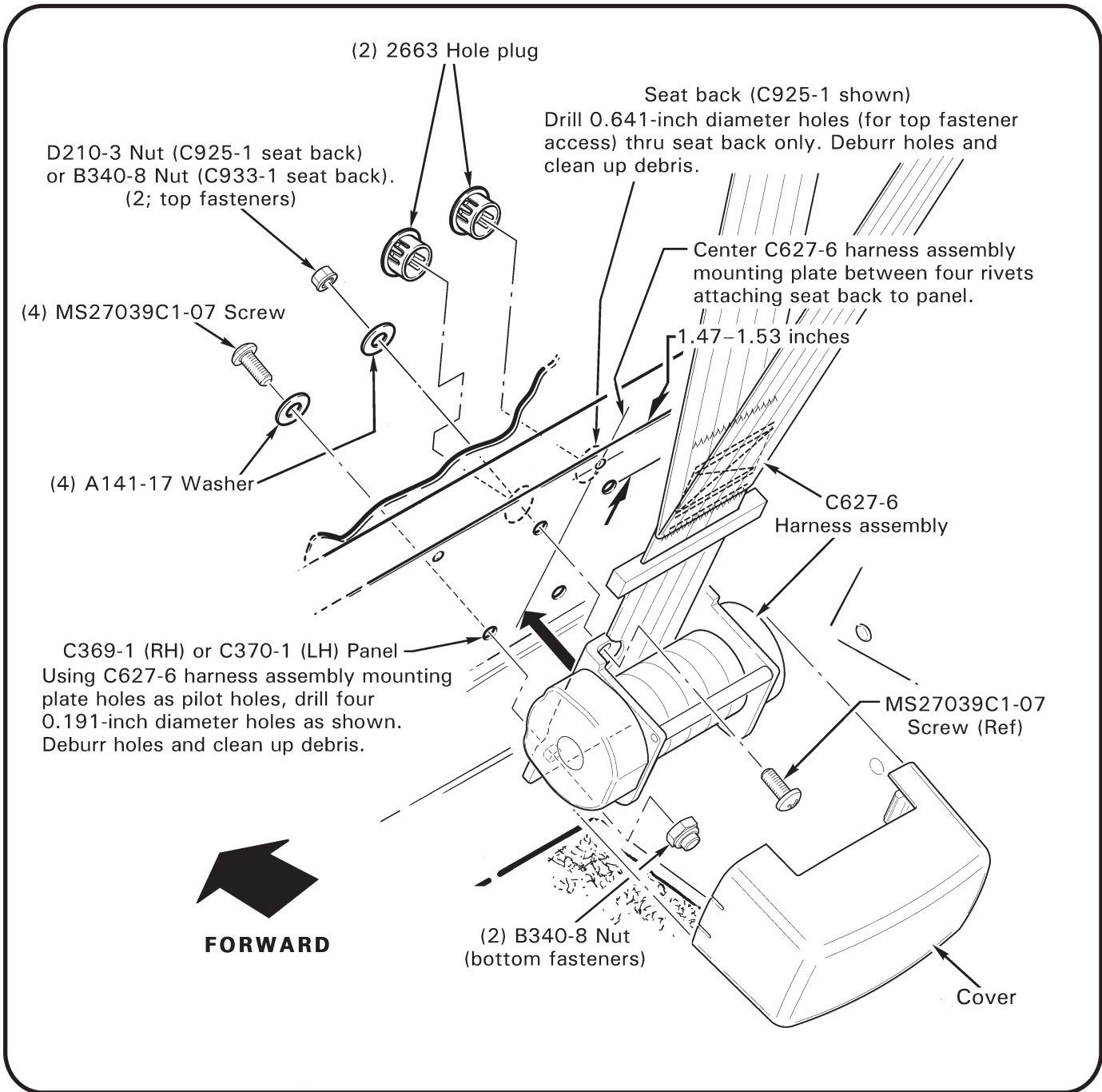


FIGURE 4
(typical RH and LH sides)

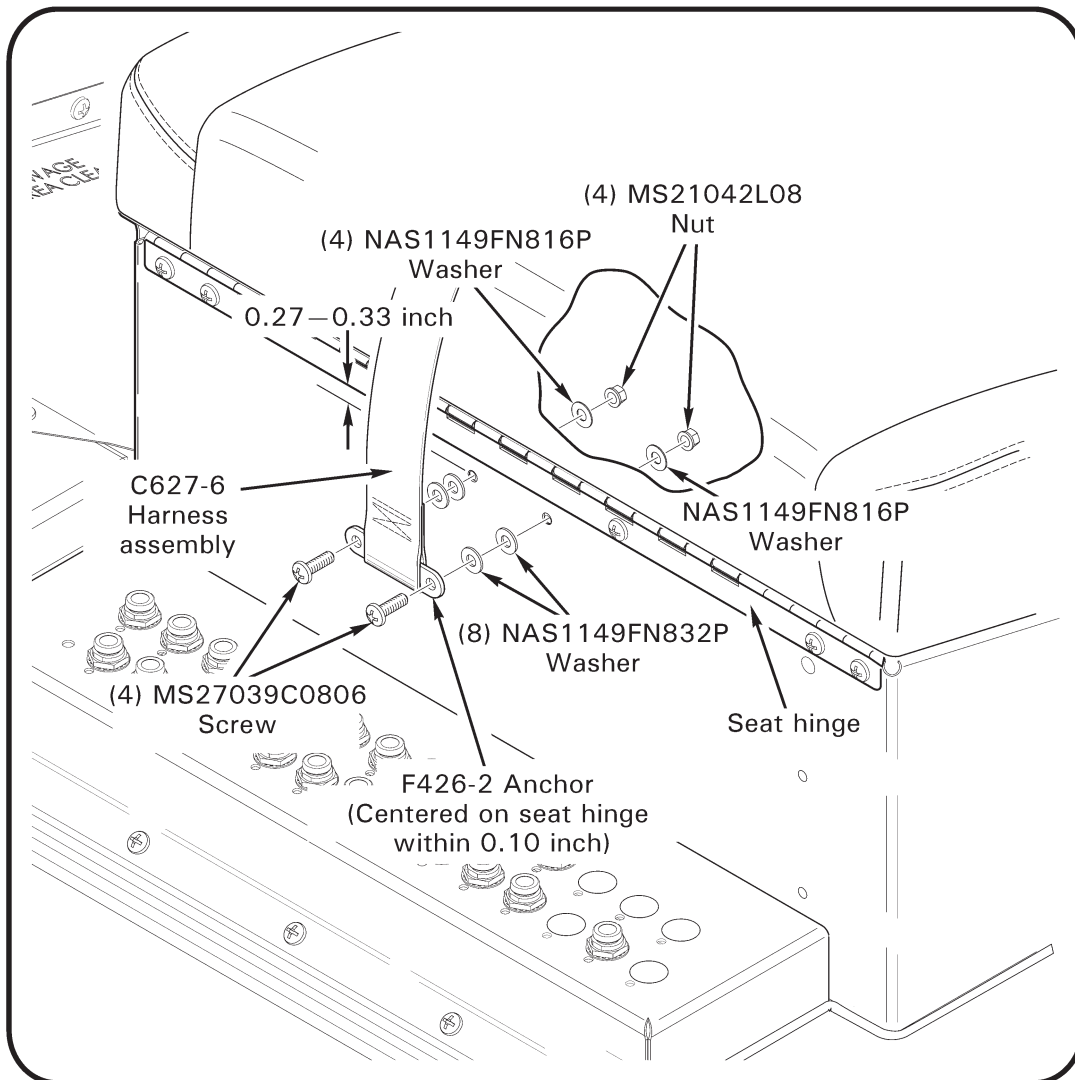


FIGURE 5

(view looking aft; typical LH and RH sides, LH side shown)

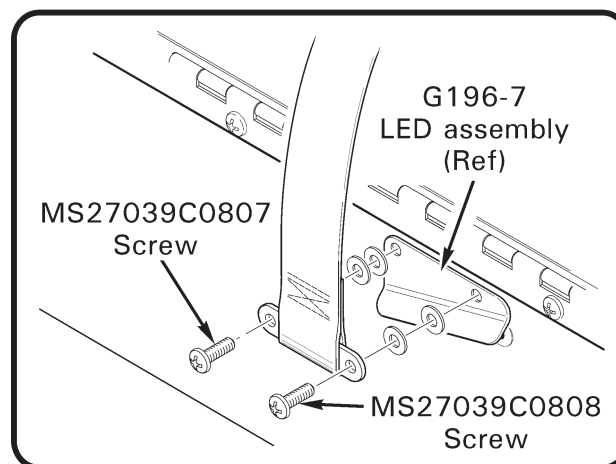


FIGURE 5A

(LH side with LED assembly; same as Figure 5 except as shown)