

R22-series Accessory Support Installation Kit Instructions

Helicopter must be configured with (B490) 23-hole circuit breaker panel having an unused circuit breaker hole AND a lower console face assembly that meets the dimension shown in Figure 5 (see page 10 of 10). Use KI-254-1 for helicopters with lower console face assembly outside specified dimension. Use KI-254-2A for RH accessory support and KI-254-2B for LH accessory support installation. KI-254-2C is required to be installed concurrently on helicopters without wire (-2626) stowed in circuit breaker compartment for airframe harness wiring upgrade.

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-254 -2A	QTY PER KI-254 -2B	QTY PER KI-254 -2C
1	KI-254-2Instr.	Kit Instructions	1	1	1
2	A448-1	Bus Bar (6-Breakers)	1	1	0
3	A912-7	Pocket Assembly	1	1	0
4	A913-1	Strip	1	1	0
5	A913-6	Strip	2	2	0
6	B204-2	Rivet	7	7	0
7	B263-34	Housing – 3-Pin	1	1	0
8	B297-7	Circuit Breaker (7½-amp)	1	1	0
9	B630-1	Clamp Assembly (includes [1] B631-1 clamp assembly)	1	1	0
10	B631-1	Clamp Assembly	1	1	0
11	B703-13	Shim	3	3	0
12	B703-14	Support Assembly - RH	1	0	0
13	B703-15	Support Assembly - LH	0	1	0
14	B844-1	Harness Assembly – Accessory Power Plug	0	0	1
15	B844-3	Harness Assembly – USB Power Plug	1	1	0
16	B844-5	Fuse Assembly (supplied with D275-205 fuse)	0	0	1
17	D275-205	Fuse (AGC-5-R)	1	1	0
18	F654-49	Decal – “AUX PWR 5V”	2	2	0
19	G682-14	Decal – “MAXIMUM LOAD 10 LB (4.5 KG)”	1	1	0
20	G682-15	Decal – “CAUTION...”	1	1	0
21	MS35206-226+	Screw (Note: “+” in contents part number indicates 10-qty pack)	1	1	0
22	RAM-238U	Mount (1.5 inch diameter ball, RAM size “C”)	1	1	0
23	6430202-2	TA202 USB Port	1	1	0
24	MS21042L08	Nut	4	4	0
25	MS27039C0806	Screw	4	4	0
26	MS3367-4-9+	Ty-Rap (Note: “+” in contents part number indicates 20-qty pack)	1	1	0
27	MS3367-5-9+	Ty-Rap (Note: “+” in contents part number indicates 20-qty pack)	0	0	1

ITEM	PART NUMBER	KIT CONTENTS (continued)	QTY PER KI-254 -2A	QTY PER KI-254 -2B	QTY PER KI-254 -2C
28	MS35206-213	Screw	2	2	0
29	NAS1149FN632P+	Washer (Note: "+" in part number indicates 20-qty pack) ..	1	1	0
30	NAS1149FN816P+	Washer (Note: "+" in part number indicates 20-qty pack) ..	1	1	0
31	NAS1351-3-24	Screw	2	2	0
32	NAS1352-08-8	Screw	1	1	0

Special Tools:

- Drilling and deburring tools
- Clecos (sheet metal fasteners)

Kit Instructions

1. Ensure ignition switch is OFF; remove key. Disconnect battery per R22 Maintenance Manual (MM) § 33-10.
2. Remove ground handling wheels and ensure helicopter is laterally level per MM § 18-10.
3. Using masking tape (or similar product) temporarily mark location of avionics on A370 panel. Remove lower console anchor screws, avionics face, and avionics from lower console. Cover exposed avionics with clean shop towel or tape to catch drilling debris.
4. Refer to Figure 1. Open circuit breaker panel. Using masking tape (or similar product) temporarily mark location of wires as they are removed to ensure correct position of existing wires during removal and installation of A448 bus bar. Install A448-1 bus bar using supplied MS35206-226 screws and existing lockwasher as shown.
5. Select available location on B490 circuit breaker panel and remove 2633 hole plug covering unused hole. Install "AUX PWR" B297-7 (7½-amp) circuit breaker using supplied MS35206-226 screws and existing lockwasher as shown. (if not previously installed at factory).

NOTE

Parenthetic dash numbers, such as (-2886), indicate number marked on wiring insulation (if single conductor), or jacket (if multi-conductor and/or shielded).

6. For helicopters with stowed wire (-2626):
 - i. Connect wire (-2626) to newly installed B297-7 circuit breaker and A448-1 bus bar. Locate existing fuse holder along wire (-2626) and install D275-205 fuse (if not previously installed at factory). Close and secure circuit breaker panel.
7. For helicopters without stowed wire (-2626):
 - i. Route and install B844-1 harness assembly from center of console to newly installed B297-7 circuit breaker. Carefully remove ty-raps from airframe harness, then secure B844-1 harness assembly along airframe harness using appropriately-sized ty-raps. Cinch ty-rap until snug without over-tightening, and trim tip flush with head. Install B844-1 harness wire (-2627) to ground screw.
 - ii. Connect B260-2 terminal of B844-1 harness assembly to "AUX PWR" B297-7 circuit breaker. Verify security. Close and secure circuit breaker panel.

Kit Instructions (continued)

8. If required: Trim and install one F654-49 Decal as shown on B490 panel (ref B297-7 circuit breaker location).

NOTE

Installation instructions are given for RH accessory support; LH accessory support installation is similar.

9. Refer to Figure 2. Position inboard flange of B703 support assembly adjacent to existing rivet head as shown; temporarily secure support assembly. Horizontally level $\pm 1^\circ$ and perpendicular to A370 console-support panel in horizontal plane $\pm 1^\circ$. Verify potential match-drilled holes at support's inboard flange will not damage edge, or flange of any installed internal stiffener; adjust support location as required within stated limits. Check leveling and adequate clearance on reverse side prior to drilling. Subsequent holes are based on accurately locating support assembly installation holes. Using a drill stop, progressively match drill and install a cleco in (4) 0.169–0.175 inch diameter holes, two places per flange. Remove clecos and support assembly.
10. Lay out location for 0.5 inch diameter hole as shown in Figure 2. Verify adequate clearance on reverse side; using a drill stop, drill 0.5 inch diameter hole on panel.
11. Refer to Figure 3. Lay out upper-aft hole location for A912-7 pocket assembly, ensuring location will not interfere with right hand flange of avionics face. Then, using pocket and A913-1 & A913-6 strips as templates, lay out remaining (6) holes. As required, adjust hole locations within limits so edge or flange of any installed internal stiffener(s) will not be damaged during drilling. With strips as guides and using a drill stop, progressively match drill and install a cleco in (7) 0.128 inch diameter holes.
12. Remove clecos, pocket, and strips. Deburr drilled holes as required and clean up debris. At installer's discretion, alodine and/or prime/paint hole(s) edges as described in NOTE below.

NOTE

After trimming or filing aluminum, finish edges as follows: Deburr trimmed edges with 220-grit or finer wet-or-dry aluminum oxide abrasive paper. Solvent-clean deburred edge and apply Bonderite M-CR 1132, or Bonderite M-CR 1201 Aero in accordance with manufacturer's instructions. Apply epoxy primer to dry edge. Touch up with helicopter paint color, where applicable, is optional.

13. Refer to Figure 3. Install A912-7 pocket assy:
- With pocket hanging upside down & woven fabric facing outboard, attach pocket flap to A370-2 panel with A913-1 strip and (3) B204-2 rivets. Pocket may be pierced as required with awl.
 - Flip pocket up so woven fabric faces panel and temporarily secure in place with tape.
 - Fold pocket's aft, vertical edge inboard around one A913-6 strip and install (2) B204-2 rivets & (2) NAS1149FN632P washers (under both rivet heads) thru folded pocket & strip into panel.
 - Fold pocket's forward, vertical edge inboard around remaining A913-6 strip and install (2) B204-2 rivets & (2) NAS1149FN632P washers (under both rivet heads) thru folded pocket & strip, into panel.
 - Remove temporary tape.
 - Affix G682-15 "CAUTION..." decal on panel immediately above pocket as shown in Figure 3.

Kit Instructions (continued)

14. At avionics compartment, inside lower console along with airframe wire harness, locate either:
 - a. 3-socket B263-35 housing covered in black heat shrink containing wire (-2626). Remove black heat shrink. Install wire (-2578) pin of B844-3 harness assembly to open pin location 1 or 2 in B263-34 housing (provided in kit). Verify pin security. Connect newly installed B263-34 housing to existing B263-35 housing.
 - OR-
 - b. 3-socket B263-35 housing containing wire (-2626), connected to 3-pin B263-34 housing of B844-1 harness assembly. Disconnect housings. Connect wire (-2578) pin of B844-3 harness assembly to open pin location 1 or 2 in B263-34 housing. Verify pin security. Reconnect housings.
15. Refer to Figure 4, Detail A. Install TA202 USB port in provided location at inboard end of B703 support and secure with (2) MS35206-213 screws. Affix F654-49 "AUX PWR 5V" decal on flat surface of support above USB ports, and affix G682-14 "MAXIMUM LOAD: 10 LB (4.5 KG)" decal on tube immediately above USB ports.
16. Refer to Figure 4. Install B631-1 clamp assy, push button pointing up, on inboard end of B703 support and secure at rivet nut (see Figure 2) using a NAS1352-08-8 screw.
17. Install B703 support assembly in helicopter with (4) MS27039C0806 screws, (4) NAS1149FN816P washers, (4) MS21042L08 nuts finger tight. Tighten both outboard screws. As required to fill gap, install maximum (3) B703-13 shims between support assembly and A370 panel, using longer screws as necessary. Tighten both inboard screws.
18. Thru 0.5 inch diameter hole, attach B844-3 harness assembly to USB port. Attach ring terminal on wire (-2579) to a ground stud.
19. With console closed, verify clearance between console lower edge and A703 support; If required, relieve console lower edge per Figure 2; maintain maximum 0.85 inch radius for the relief as shown.
20. Clean up debris around avionics trays. Remove shop towel or tape. Install avionics and face on lower console. Install lower console anchor screws and secure console in closed position.
21. Refer to Figure 4. Assemble RAM238U ball & (attached) B630-1 clamp assembly on B703 support with push button on forward side and pointing up. Position clamp & ball as desired and torque (2) NAS1351-3-24 screws to 40 in-lb.
22. Access battery, connect battery per MM § 37-10.
23. Function check all avionics that were removed and installed.
24. Function check newly installed power connectors.

Kit Instructions (continued)

25. Revise helicopter's Weight & Balance Record in R44 Pilot's Operating Handbook (POH) Section 6 to reflect this installation by incorporating the following data:

Add:

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
RH Accessory Support Installation (without Power Plug installation)	+0.86 lb	51.42 in.	44.12 in-lb	+9.69 in.	+8.31 in-lb

AND/OR**Add:**

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
LH Accessory Support Installation (without Power Plug installation)	+0.86 lb	51.42 in.	44.12 in-lb	-9.69 in.	-8.31 in-lb

26. Make appropriate maintenance record entries.

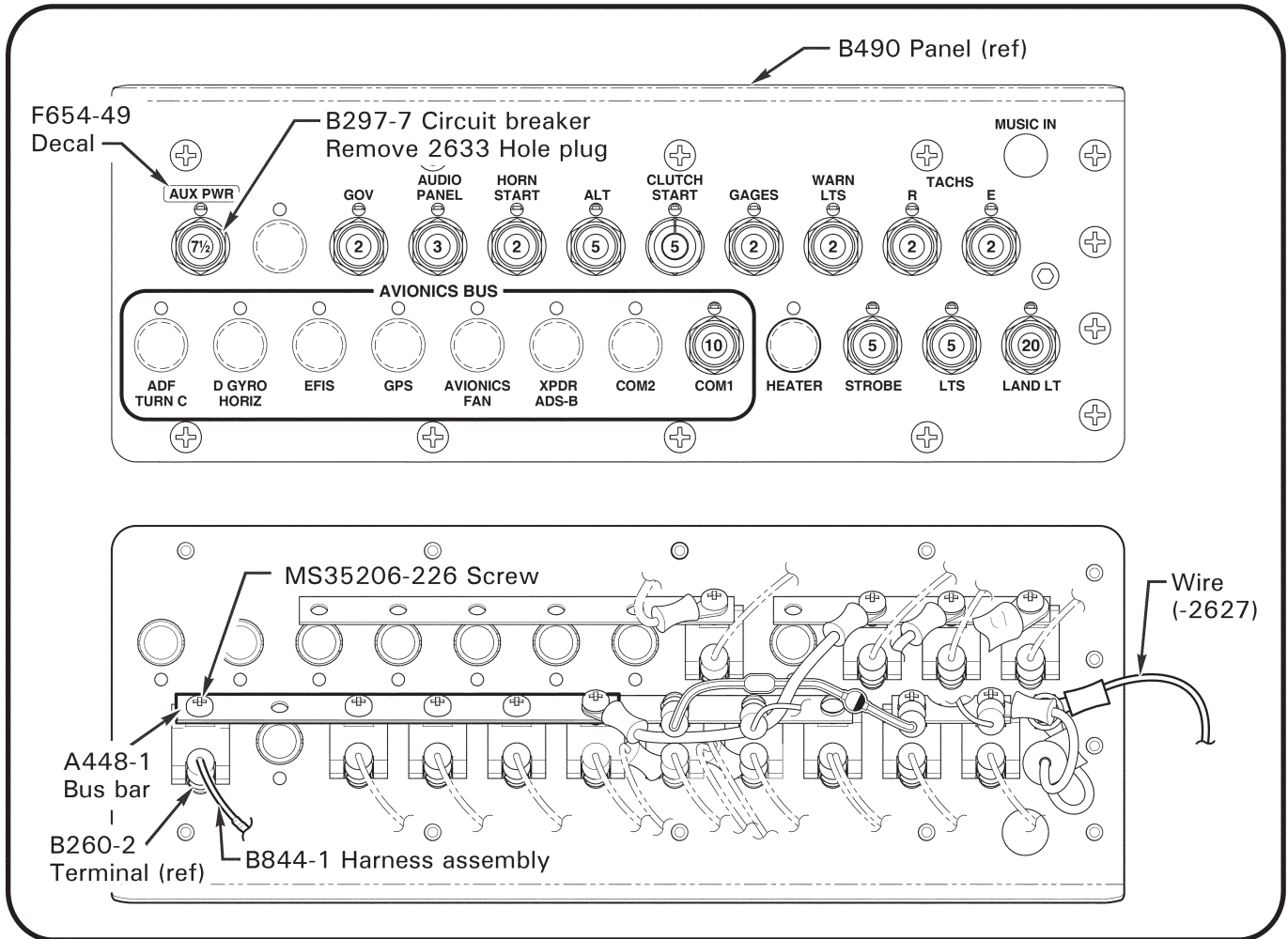


FIGURE 1 Circuit breaker installation

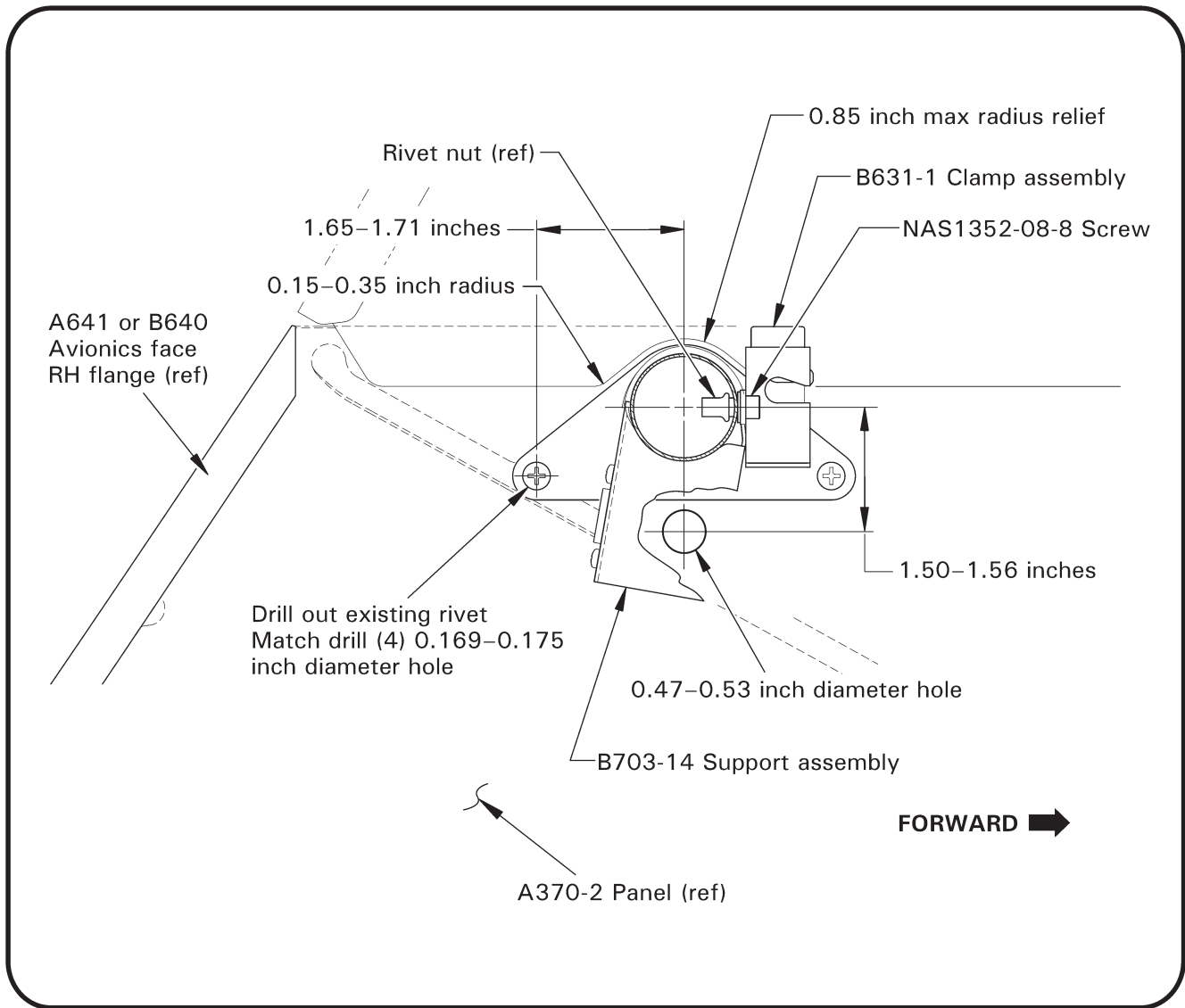


FIGURE 2 Support assembly installation
(view looking inboard; RH shown)

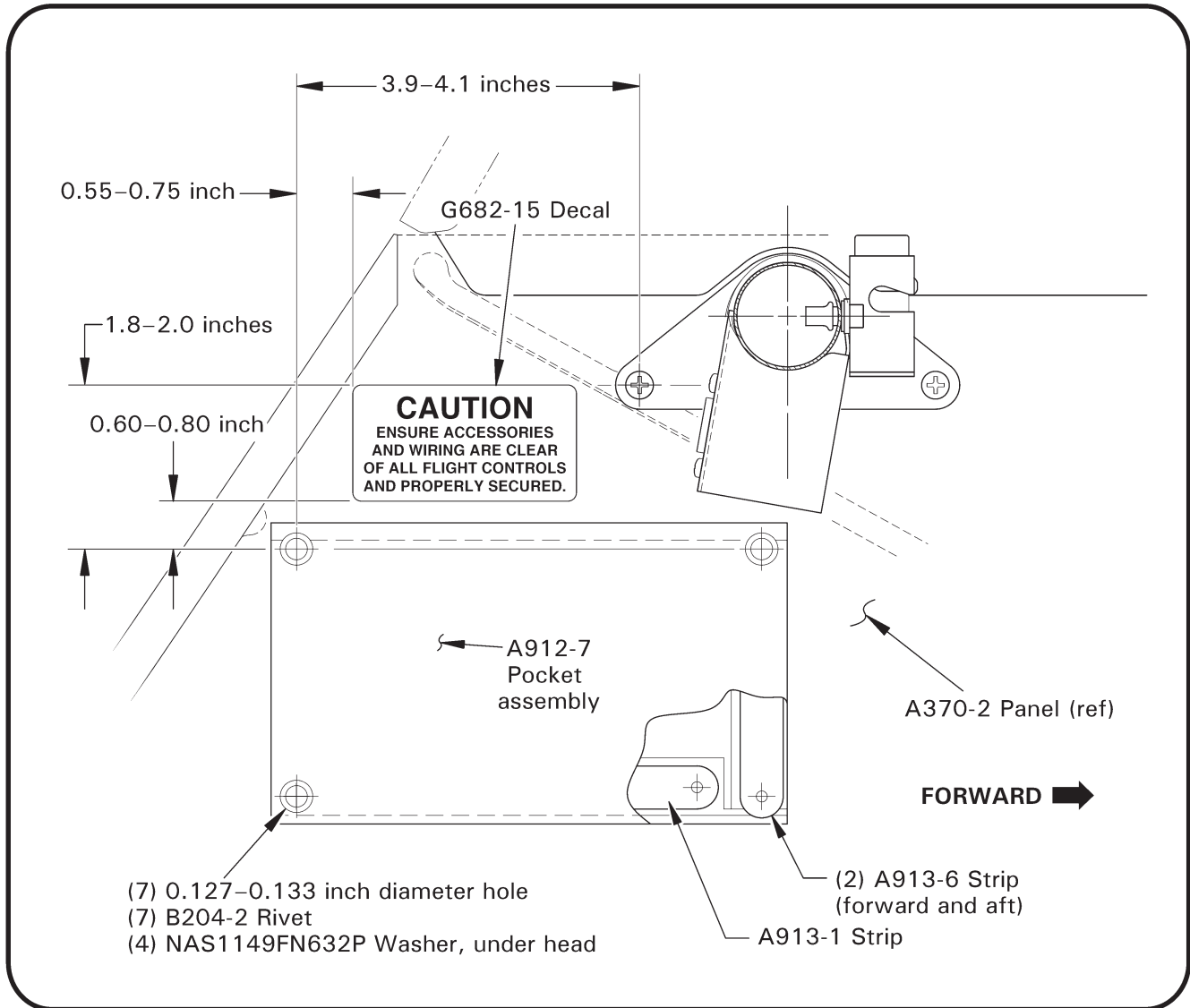


FIGURE 3 Pocket assembly installation
(view looking inboard; RH shown)

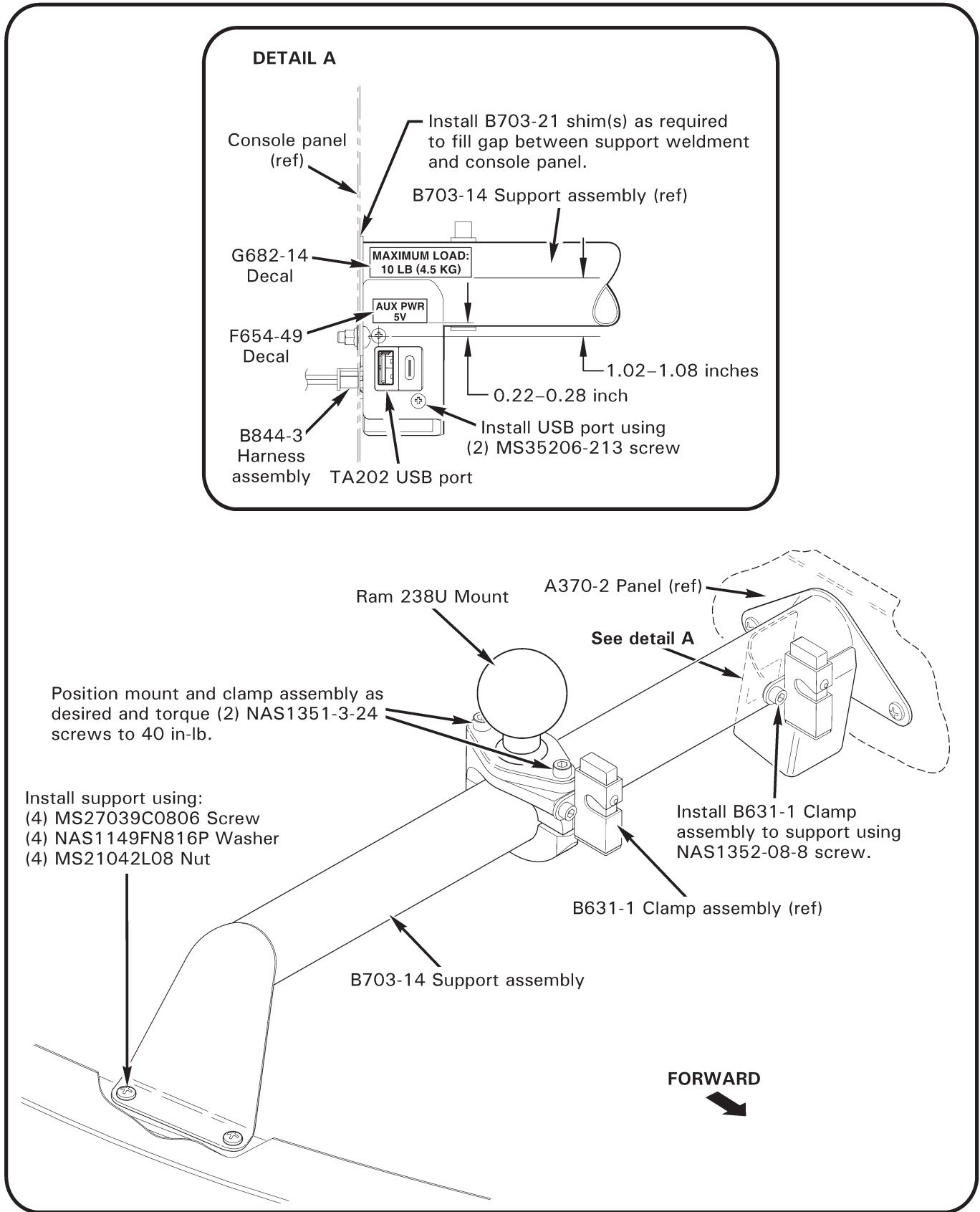


FIGURE 4 Completed support assembly installation
 (view looking inboard; RH shown)

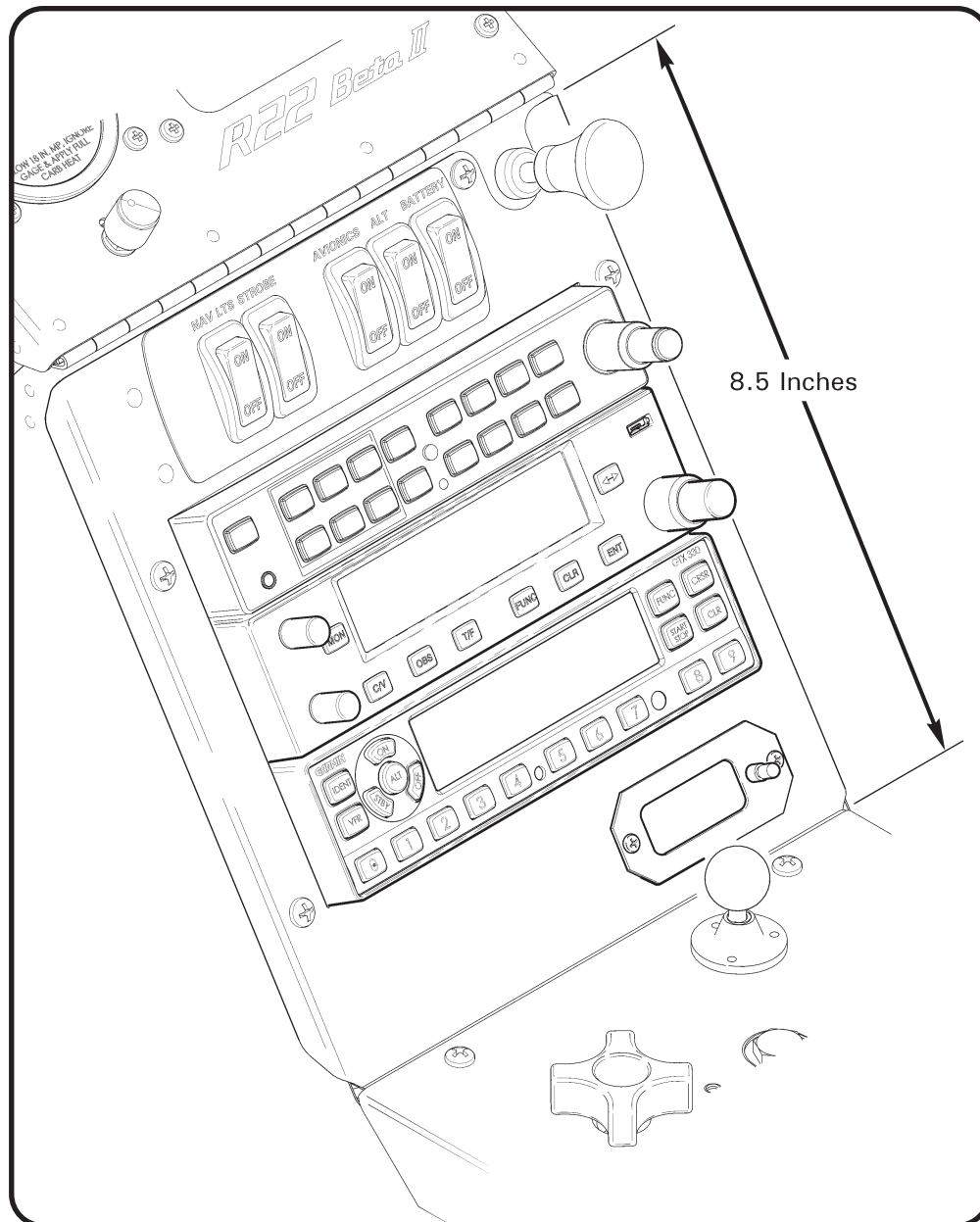


FIGURE 5 KI-254-2 lower console requirements