

R66-series Aux Fuel Tank Installation Upgrade Kit Instructions

Kit upgrades existing factory-installed large auxiliary fuel tank installation to accommodate small (slimline) auxiliary tank installation. Helicopter must be equipped with upright battery installation (ref. R66 SB-28) and G248-8 (battery compartment) cover assembly (not included in kit).

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.

CAUTION

If interference is encountered with any aspect of this installation, contact RHC Technical Support for guidance before proceeding.

NOTE

Rivets included in kit contents are provided as a courtesy and at lengths most commonly used on production helicopters. Proper rivet length is determined by installer during installation.

ITEM	PART NUMBER	KIT CONTENTS	QTY
1	KI-239-5Instr.	Kit Instructions	1
2	G010-4	Aux Tank Assembly – Small	1
3	G682-40	Decal – “CAUTION MAXIMUM TOTAL...”	1
4	G755-3	Support Assembly – Small Tank.	1
5	G761-4	Doubler	1
6	G762-13	Plate Assembly	2
7	G768-12	Panel	1
8	G768-13	Panel	1
9	MS20426AD4-4+	Rivet (Note: “+” in part number indicates 50-qty pack)	1
10	NAS1097AD3-3+	Rivet (Note: “+” in part number indicates 50-qty pack)	1
11	NAS1474A08	Nutplate	2
12	NAS9302B-4-02	Rivet	4
13	NAS1149F0332P+	Washer (Note: “+” in part number indicates 20-qty pack)	1

Consumables

Refer to R66 Maintenance Manual (MM) § 20-70 for approved materials list.

- Gray epoxy primer
- Light gray Imron paint
- B270-1 Sealant

Special Tools

- Drilling, deburring, and countersinking tools
- 8-32 thread nutplate jig
- Step drill, 1/8 inch–1/2 inch size range
- Hand-held grinder
- Rotary file or drum sander

Kit Instructions

1. Remove G010-2 aux tank per MM § 28-51 and G755-1 support per MM § 28-52 and retain screws.
2. Temporarily install new G755-3 support using retained (3) B526-8 screws at baggage compartment floor and (6) retained B526-6 screws at G259 bulkhead. Position new G010-4 (small) aux tank assembly on support using carry straps (tank pin will align with relief in support); route drain tube into drain weldment on floor. Temporarily install aux tank to G259 bulkhead using (6) retained B526-6 screws.
3. Refer to Figure 1. Using tank as template, trace with scribe (2) holes onto G248-8 (battery compartment) cover assembly. Remove aux tank.
4. Refer to Figure 2. Using support as template, trace with scribe (2) holes onto G024 floor. Remove support.

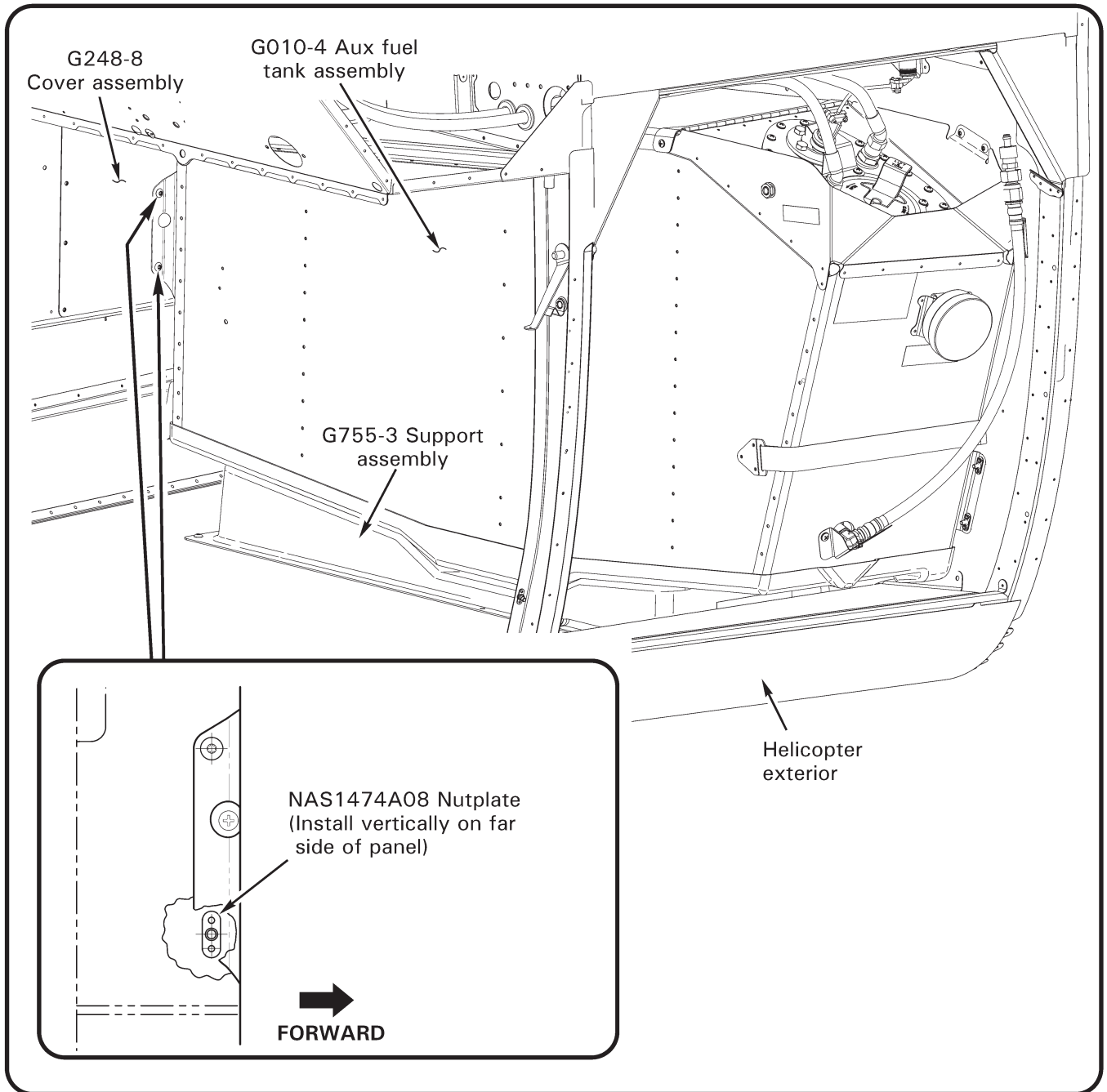
NOTE

It is recommended to use a vacuum while drilling into baggage compartment floor to avoid debris between floor and belly of helicopter.

5. Using a drill stop to prevent drilling thru belly, drill (2) 0.125–0.131 inch (#30 drill size) pilot holes in center of scribed hole locations in G024 floor. Clean up debris. Verify drilled hole positions using G755-3 support.
6. Refer to Figure 3. With flat side against floor, cleco (2) G762-13 plate assemblies thru threaded hole into newly drilled pilot holes, positioning plate assemblies parallel to helicopter's longitudinal axis. Using plate assemblies as template, drill (4) 0.120–0.130 inch rivet holes in floor. Remove plate assemblies. Enlarge (2) center holes to 0.190–0.196 inch (#11 drill size). Create 0.180–0.200 inch diameter, 100° countersinks in (4) rivet holes. Using a step drill, incrementally open (2) center holes to 0.443–0.463 inch. Deburr holes and clean up debris.
7. Loop a six-inch piece of 0.032 inch safety wire thru holes next to nutplate of G762 plate assembly as shown. With nutplate facing down, lower plate assembly thru 0.443–0.463 inch hole. Pull plate assembly up flush with floor and secure with cleco in one rivet hole. Remove safety wire. Install (1) NAS9302B-4-02 rivet in open rivet hole. Remove cleco and install second NAS9302B-4-02 rivet. Install second plate assembly as described.
8. Bond NAS1149F0332P washer over both installed G762 plate assemblies using B270-1 sealant. Touch up newly installed rivets using gray epoxy primer.

Kit Instructions (continued)

- 9. Refer to Figure 1. Remove & retain B526-6 screws securing G248-8 (battery compartment) cover assembly; remove cover assembly. Drill (2) 0.125–0.131 inch diameter pilot holes in center of scribed hole locations on cover assembly. Enlarge holes to 0.222–0.228 inch diameter. Using 8-32 thread nutplate jig positioned vertically, match drill (4) 0.097–0.102 inch diameter rivet holes in cover assembly. Deburr holes and create 0.135–0.155 inch diameter, 100° countersinks on decal-side of cover. Clean up debris. Install (2) NAS1474A08 nutplates (battery-side of cover) using (4) NAS1097AD3-3 rivets.



**FIGURE 1 G010-4 aux tank & G755-3 support installed
(locate nutplate holes on battery compartment cover)**

Kit Instructions (continued)

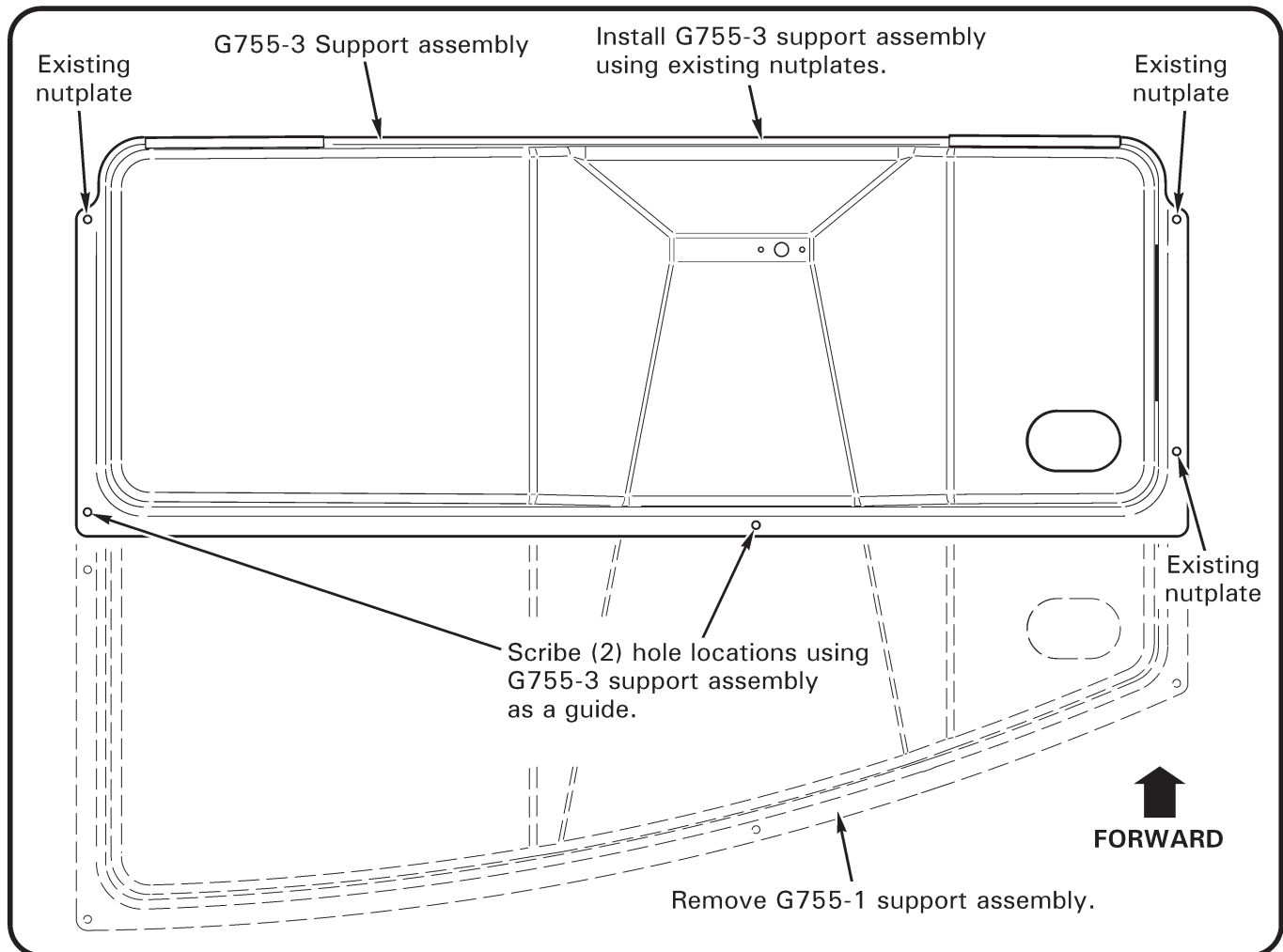


FIGURE 2 G755 supports
(locate nutplate holes on baggage compartment floor)

10. Install G248-8 (battery compartment) cover assembly using retained (14) B526-6 screws.
11. Refer to Figure 2. Install G755-3 support assembly using retained (6) B526-6 screws securing support assembly to bulkhead, and retained (5) B526-8 screws securing support assembly to floor. Verify security.
12. Position G010-4 (small) aux tank assembly on support assembly (tank pin will align with relief in support); route drain tube into floor weldment. Install retained (6) B526-6 screws securing aux tank to G259-1 bulkhead, and retained (2) B526-6 screws securing aux tank to G248-8 (battery compartment) cover assembly. Verify security.
13. Continue aux tank installation per MM § 28-51 B, steps 3 thru 5.

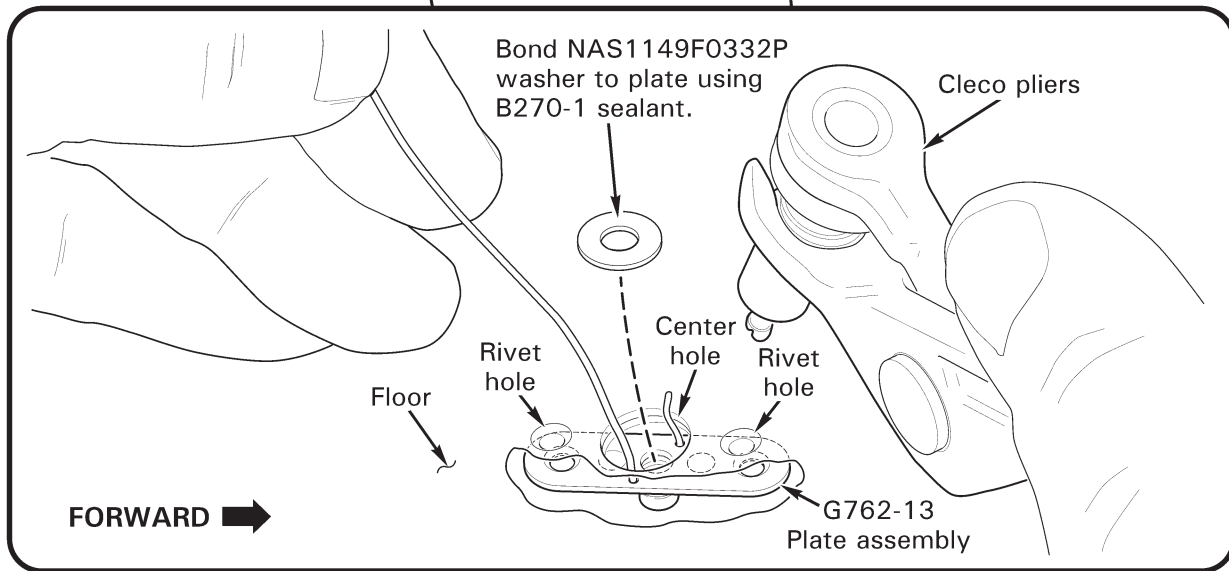
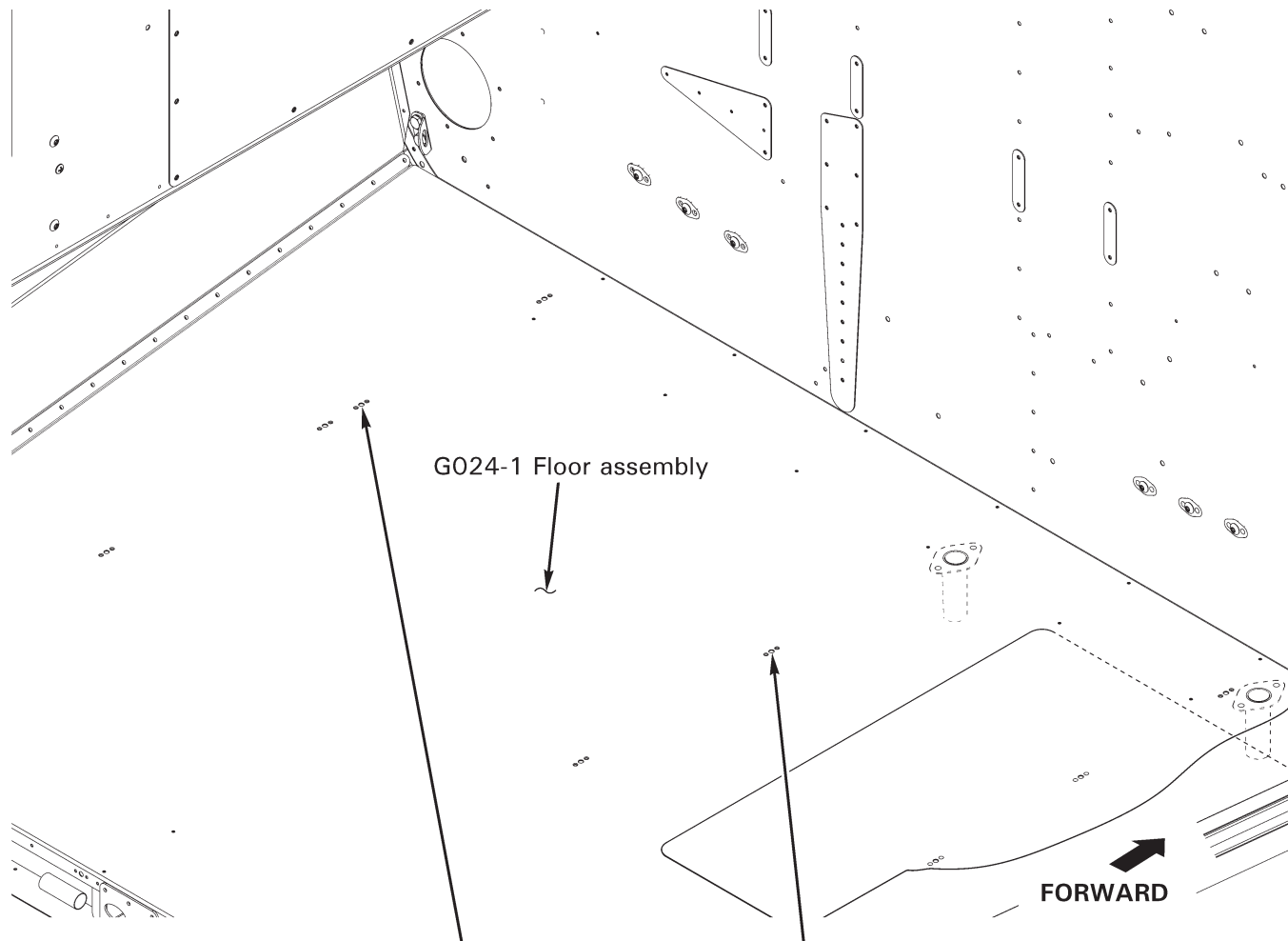


FIGURE 3 Baggage compartment floor
(install plate assemblies in baggage compartment floor)

Kit Instructions (continued)

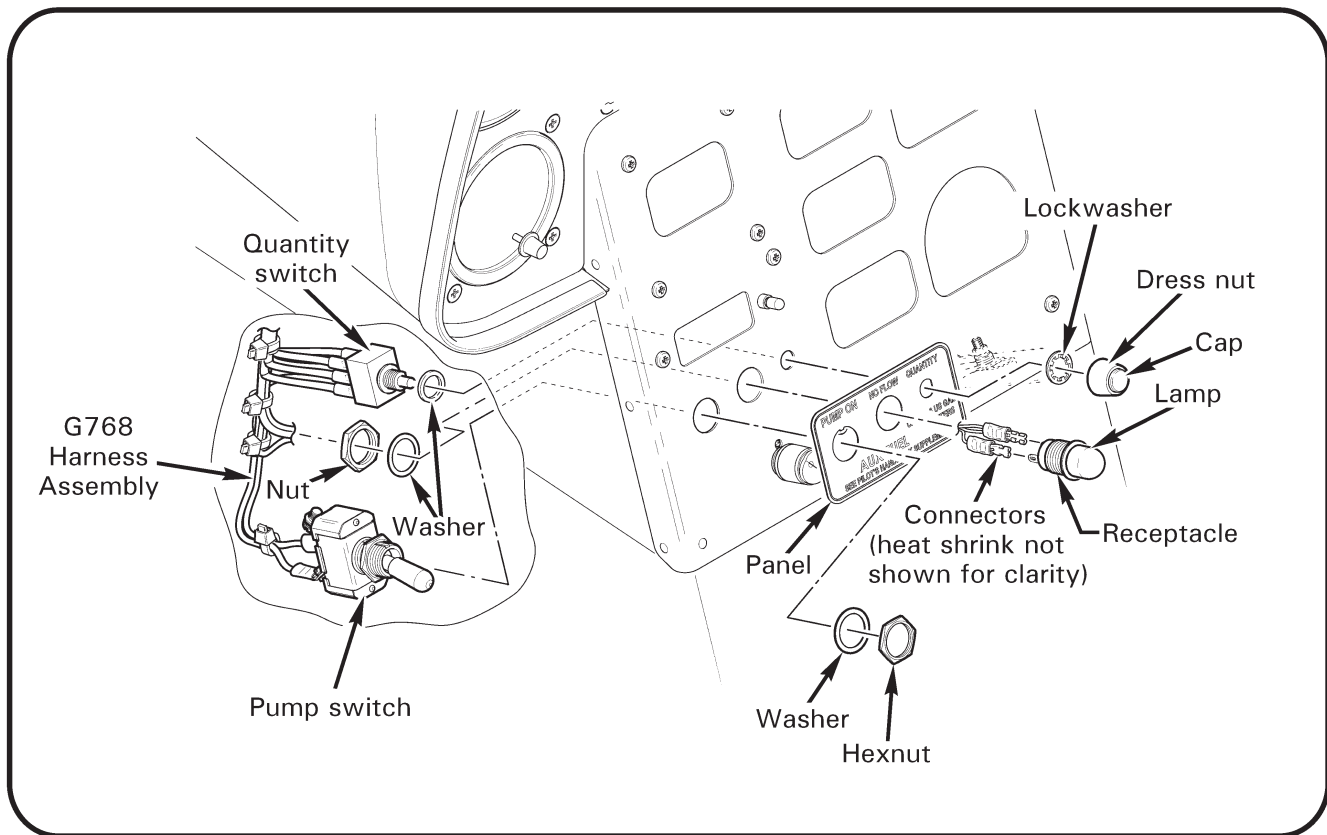


FIGURE 4 Replacement of G768 panel
(removal of existing panel shown)

14. Refer to Figures 4 and 4A. Remove visible hex nut and washer from PUMP ON switch assembly, remove cap & dress nut from QUANTITY switch assembly. Access interior of upper console. Disconnect wires from NO FLOW light (receptacle), remove retaining nut & washer, and withdraw light and receptacle. Select new G768-12 (horizontal) or G768-13 (vertical) panel matching ship console configuration and replace original panel. Install light and switches in reverse order. Secure upper console.

OPTIONAL: To allow G755-1 Rev A thru G large support to accept small aux fuel tank, perform steps 15 thru 20.

15. Refer to Figure 5. With G755-1 support removed from helicopter, position G761-4 doubler on inside of support as shown and mark location of one rivet hole. Remove doubler.

WARNING

Review appropriate Safety Data Sheet (SDS) when working in proximity to hazardous materials. Specific recommendations for use of personal protective equipment are located in the SDS.

16. Drill (1) 0.127 – 0.133 inch diameter hole at marked location. Install doubler using cleco in newly drilled hole. Using doubler as template, drill remaining seven holes.

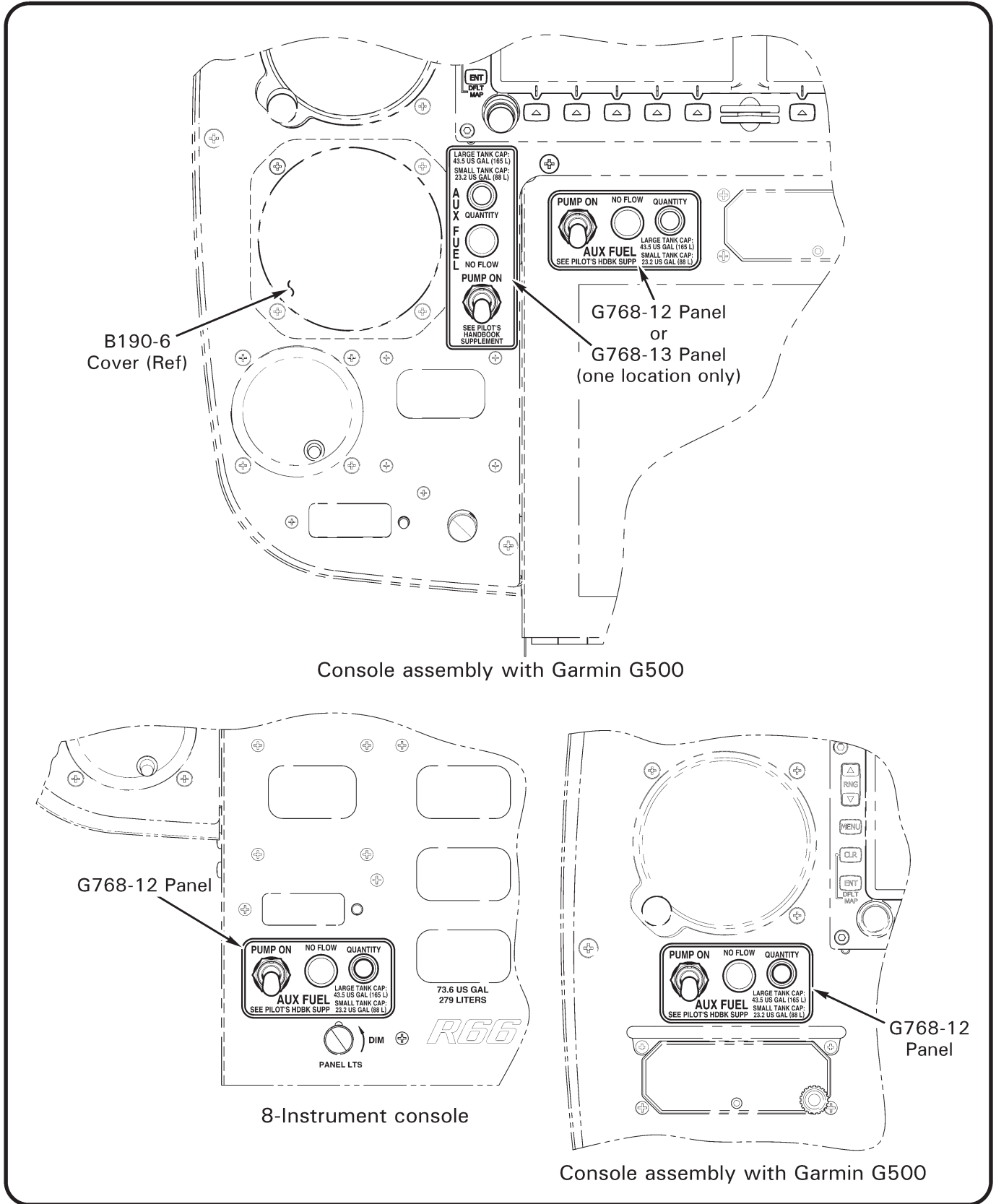


FIGURE 4A G768 panel locations
(select appropriate location)

Kit Instructions (continued)

17. Create (8) 0.215–0.235 inch diameter, 100° countersinks on outside of support. Install G761-4 doubler to inside of G755-1 support using (8) MS20426AD4-4 rivets, heads on outside of support.
18. Cut out support material inside doubler, following inside doubler edge. Sand or file edges smooth.
19. Touch up rivets & bare edges using primer and/or light gray Imron paint.
20. Change to weight and balance is negligible; for entries in Weight and Balance Record in R66 Pilot’s Operating Handbook (POH) Section 6, use data for G755-1 as presented below.
21. Fuel as required per MM § 12-41, considering fuel requirements for fuel indication check per step 23 below. Verify sump drain hose does not leak.
22. Turn battery switch on and push in (5 amp) AUX FUEL PUMP circuit breaker. Turn pump switch on and inspect vent/return and pump drain hose assemblies where they connect to aux & main tanks. Verify no fuel leaks. Turn pump and battery switches off.
23. Perform fuel indication check as follows:
 - a. Verify main bladder has no more than 65 gallons fuel; defuel main bladder per MM § 12-42, as required.
 - b. Pull fuel valve into off position.
 - c. Fuel (small) aux tank with 5.9 gallons ± 0.5 gallon per MM § 12-41.
 - d. Continue check per MM § 28-21 Part D, steps 3 thru 5.
24. Remove G682-30 decal on inside of main baggage compartment door. Clean area and install G682-40 decal in same location, positioned to be readable with door open. Close and secure main baggage compartment door.
25. As required, revise Weight and Balance Record in R66 Pilot’s Operating Handbook (POH) Section 6 to reflect G010-4 (small) aux tank assembly installation using the following data:

Remove:

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
G010-2 (large) Aux Tank Assembly	-30.0 lb	101.0 in.	-3030 in.-lb	1.5 in.	-45.0 in.-lb
G755-1 (large) Support Assembly	-3.0 lb	101.0 in.	-303 in.-lb	-1.2 in.	3.6 in.-lb

Install:

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
G010-4 (small) Aux Tank Assembly	+23.0 lb	96.8 in.	2226.4 in.-lb	3.5 in.	80.5 in.-lb
G755-3 (small) Support Assembly	+2.0 lb	96.8 in.	193.6 in.-lb	-0.4 in.	-0.8 in.-lb

26. Make appropriate maintenance record entries.

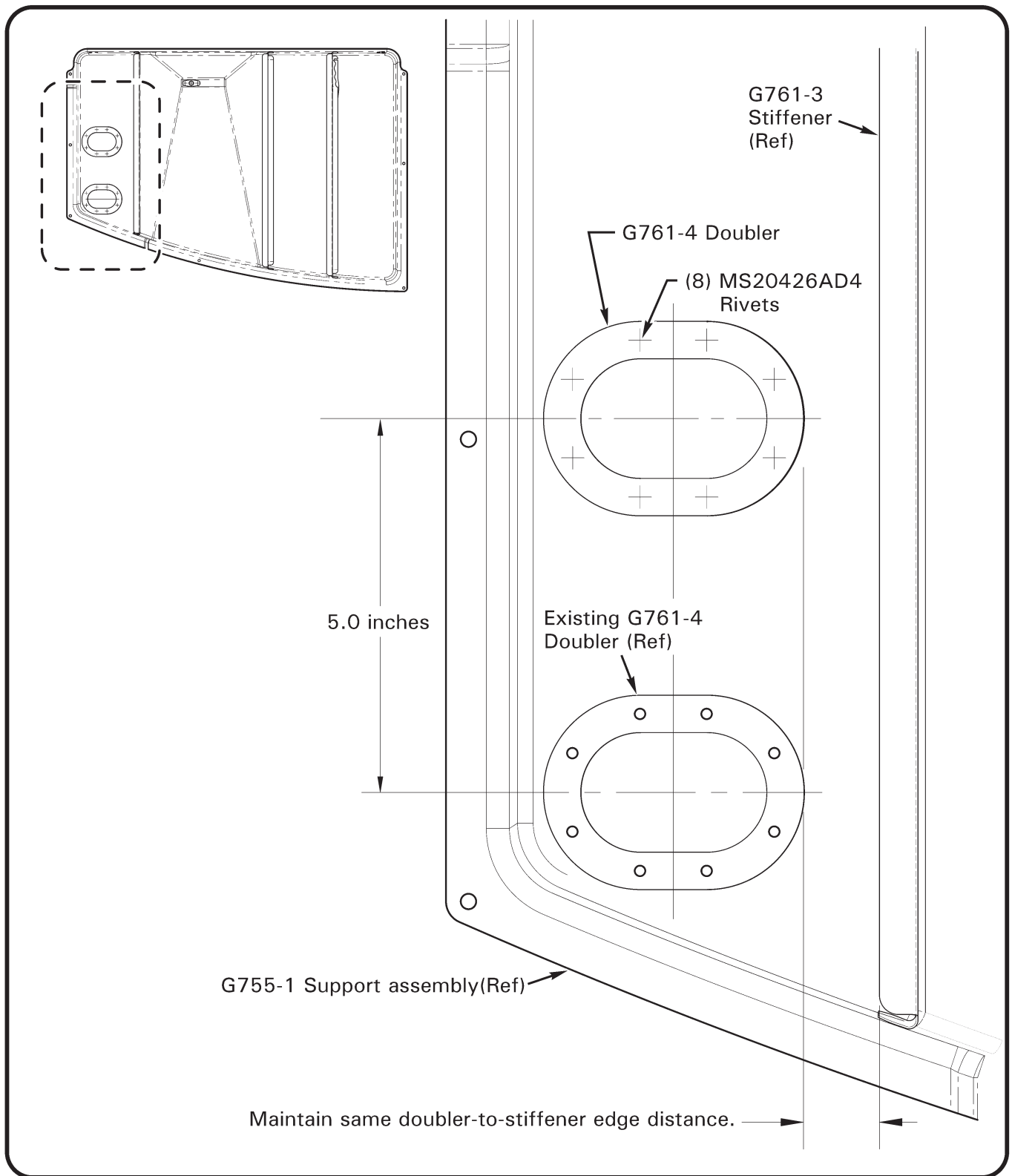


FIGURE 5 Modification of G755-1 support assembly
(optional for support assemblies revision A thru H)