

R66-series Battery Compartment Stiffener Installation Kit Instructions

(To comply with R66 Service Bulletin SB-31)

KI-263-1 is applicable to helicopter S/N 0478 & prior, (except 0474 and 0475);

*KI-263-2 is applicable to helicopter S/N 0479 & subsequent, (and 0474 and 0475);
equipped with B237-7 or B237-8 Lead-Acid Battery.*

KI-263-3 is applicable to helicopter S/N 0817 & subsequent equipped with D237-2 Lithium-Ion Battery.

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-263-1	QTY PER KI-263-2	QTY PER KI-263-3
1	KI-263Instr.	Kit Instructions	1	1	1
2	G131-9	Plate Assembly	0	0	1
3	G808-1	Beam	1	1	1
4	G808-2	Support – Outboard	1	1	1
5	G808-3	Support – Inboard	1	1	1
6	G920-3	Stiffener – Aft Battery Tray	1	0	0
7	MS20470AD4-3.5+	Rivet (Note: “+” in part number indicates 20-qty pack)	1	0	0
8	MS20470AD4-4+	Rivet (Note: “+” in part number indicates 50-qty pack)	1	0	0
9	MS27039C0806	Screw	0	0	2
10	NAS1097AD3-3+	Rivet (Note: “+” in part number indicates 50-qty pack)	1	1	1
11	NAS1097AD4-7+	Rivet (Note: “+” in part number indicates 20-qty pack)	1	1	1
12	NAS9301B-4-02	Rivet – Blind	4	0	0
13	NAS9301B-4-05	Rivet – Blind	4	4	4

Consumables

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

- Bonderite M-CR 1201 Aero (Alodine 1201).
- Epoxy primer.
- Light gray Imron paint.
- R8260 Touch-up paint kit (refer to helicopter Maintenance Record for paint codes).

Special Tools

- High-speed metal cutting wheel.
- Drilling, deburring, and countersinking tools.
- Clecos (sheet metal fastener) size #21 (black), #30 (copper), and #40 (silver).
- 90° angle drill.
- Manual, squeeze-type rivet installation tool.
- Blind rivet installation tool.
- C-Clamp, 1-inch.

Kit Instructions

NOTE

If helicopter is equipped with a lead-acid battery, install kit KI-262 per Service Bulletin SB-28 in conjunction with this kit, if not previously installed.

1. Defuel helicopter per MM 12-42A. Remove optional aux fuel tank per MM § 28-51A, if installed.

CAUTION

To minimize risk of electrical discharge: When disconnecting battery, disconnect negative (ground) cable from the battery first, then disconnect positive cable. When connecting battery, connect positive cable first, then connect negative (ground) cable.

2. Remove lead-acid battery per MM § 96-11A or lithium-ion battery per § 96-12B, as applicable.

For KI-263-1 only: Remove GCU per § 71-42A and aft-left seat back assembly (ref. R66 Illustrated Parts Catalog [IPC] Figure 25-1).

For KI-263-3 only: Remove and discard G131-3 plate and attaching screws.

3. Refer to Figure 1. Drill out flush rivets securing A738-19 gang channel to G251-1 panel and remove gang channel. Mark forward & aft ends of gang channel to facilitate installation.

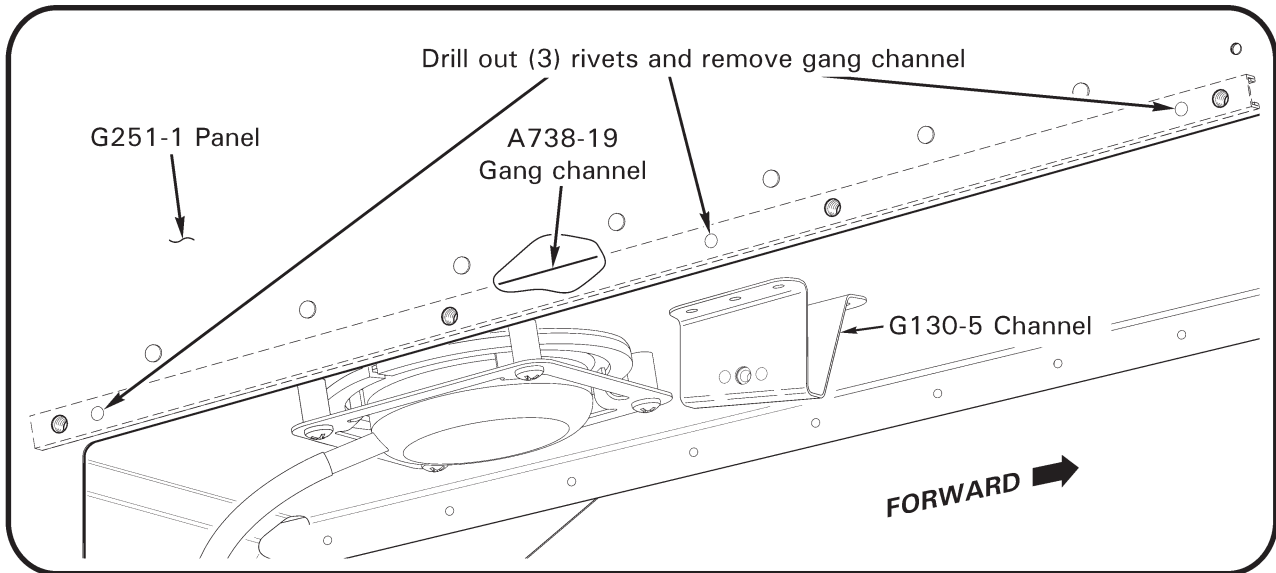


FIGURE 1 Existing installation
(A738-19 gang channel location)

4. Refer to Figure 2. Mark cutting lines on each side of center nutplate of gang channel using dimensions shown. Cut out center (nutplate) section using high-speed metal cutting wheel or similar tool; discard center section. Deburr rough edges of remaining two pieces. If required, sides of gang channel (at cut ends) may be squeezed inward to facilitate retention of nuts, ensuring nut is free to float longitudinally.

Kit Instructions (continued)

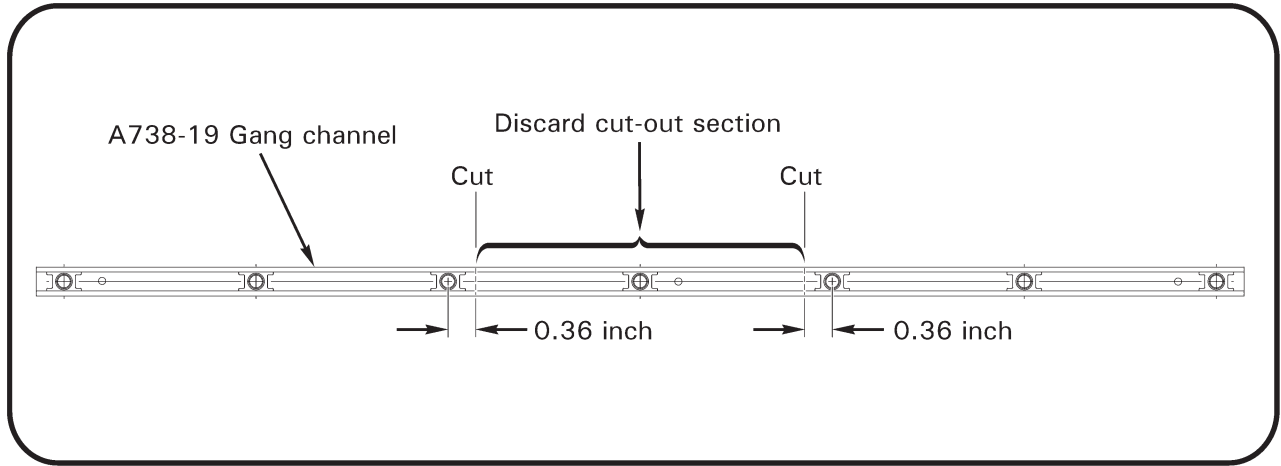


FIGURE 2 Create two gang channels
(cut-out center nutplate)

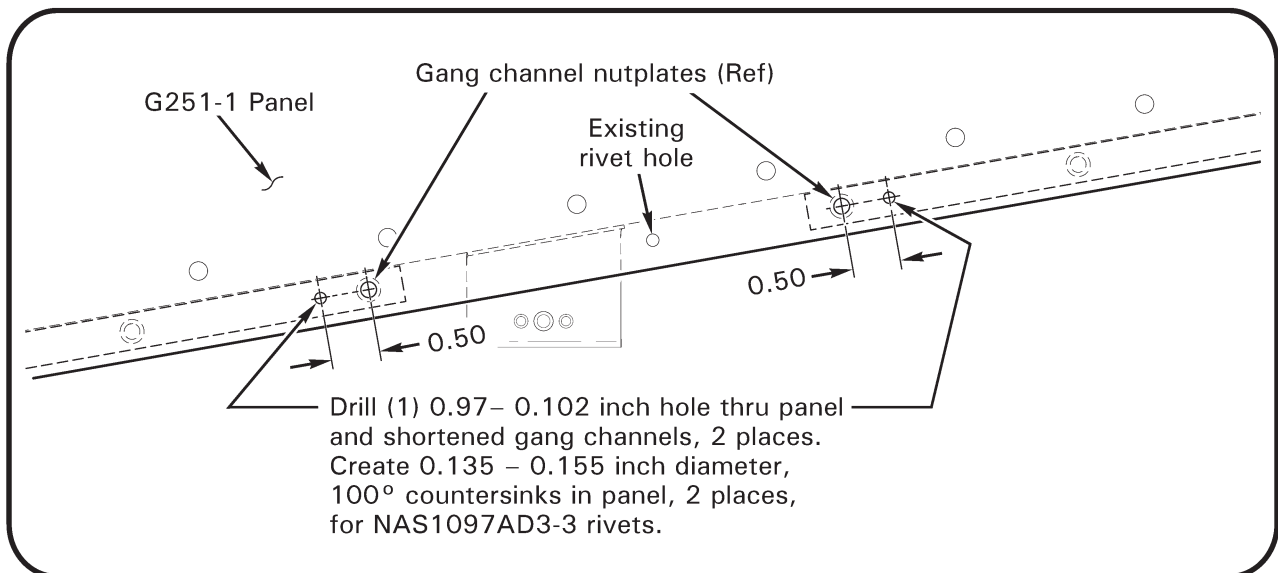
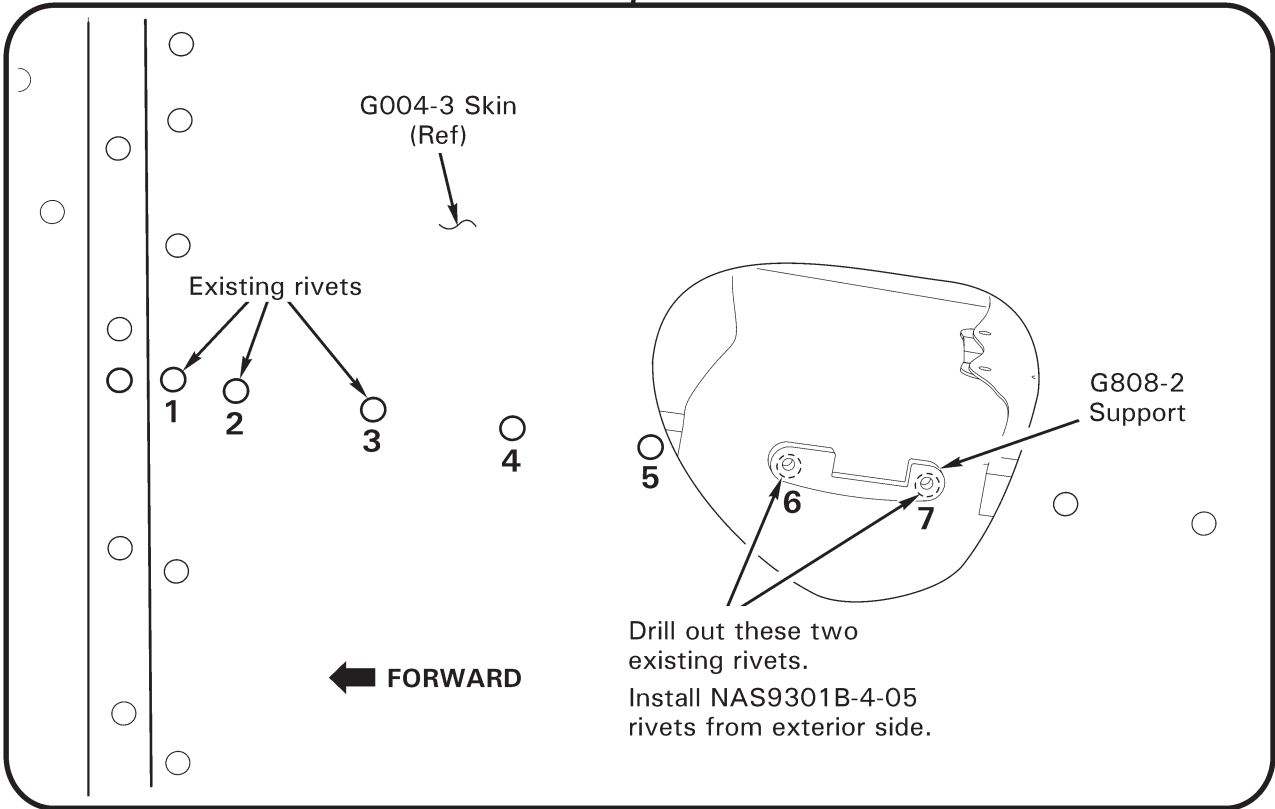
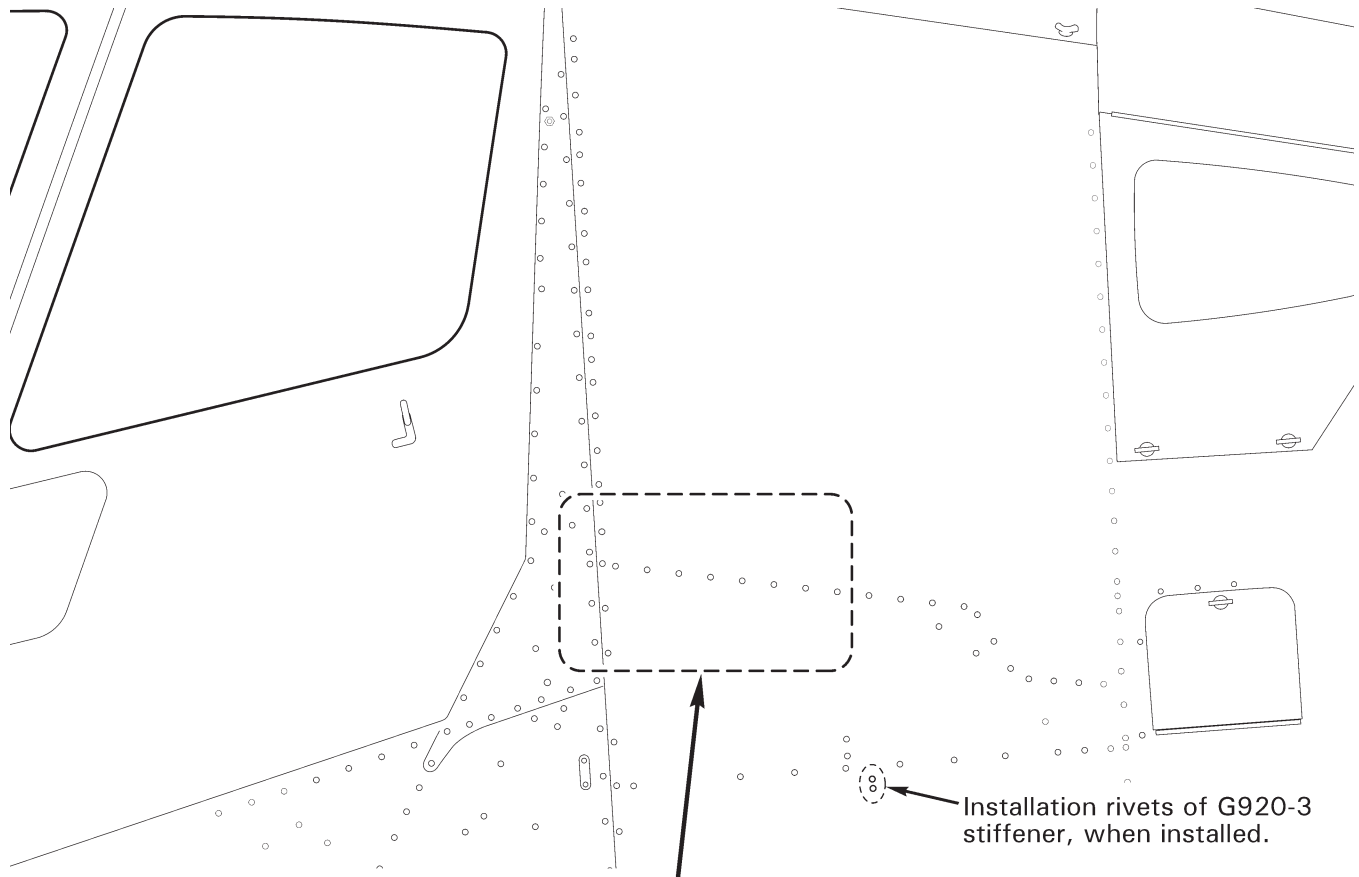


FIGURE 3 Layout installation dimensions
(newly-created gang channels)

NOTE

Proper rivet length is determined by installer during installation. Application of Bonderite (alodine) and/or prime/paint to drilled hole(s) edges is at installer's discretion.

5. Refer to Figure 3. Temporarily install the two (newly-created) gang channels using clecos in rivet holes and (battery cover) B526-6 screws. Lay out hole locations for additional (2) rivet holes as shown and drill (2) 0.097–0.102 inch diameter holes. Create 0.135–0.155 inch diameter, 100° countersinks in panel. Attach gang channels to battery-side of G251-1 panel, using (4) NAS1097AD3-3 rivets.



**FIGURE 4 Helicopter LH side
(G808-2 support installation)**

Kit Instructions (continued)

6. Refer to Figure 4. Locate horizontal line of rivets on exterior of helicopter LH side (G004-3 skin) as shown. Locate and drill out rivets illustrated as “6” & “7”.

CAUTION

Potential exists for incorrect installation of G808-1 & G808-2; ensure parts are directionally marked prior to installation.

7. Refer to Figure 5. Mark G808-1 beam for forward and outboard directions, and G808-2 (longer end) for forward direction.
8. Refer to Figure 4. Position G808-2 support on inboard-side (battery compartment) of G004-3 skin as depicted. Temporarily secure support (on one side) using appropriately-sized cleco, ensuring both open rivet holes align with holes of support and longer side of support is forward (see Figure 5).
9. Install (1) NAS9301B-4-05 rivet in open rivet hole from exterior G004-3 skin. Remove cleco and install remaining NAS9301B-4-05 rivet to secure support. At installer's option, MS20470AD4-series solid rivets may substitute for NAS9301B-4-series rivets, provided due care is used to preserve exterior finish.

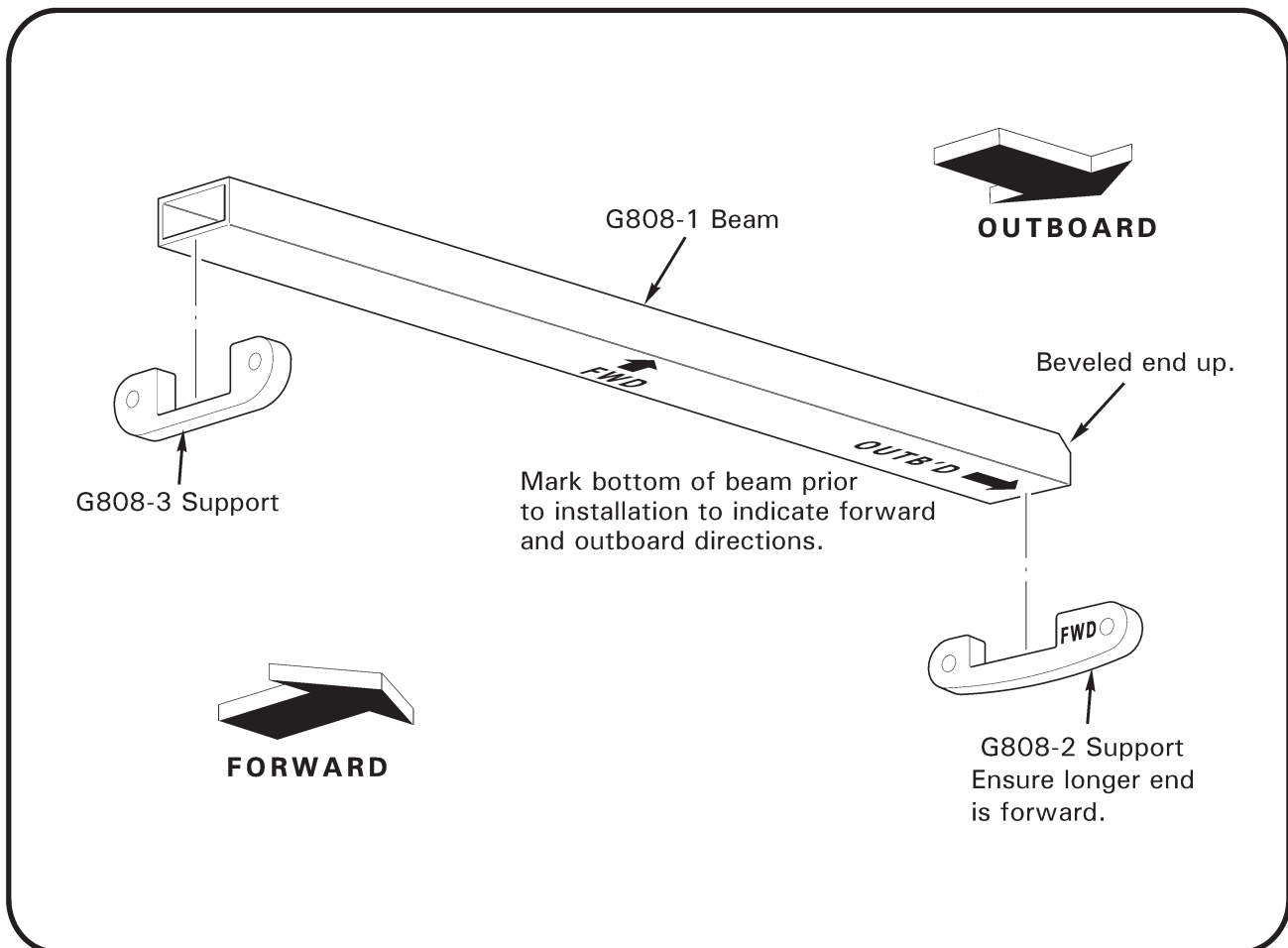


FIGURE 5 Installation positioning diagram

Kit Instructions (continued)

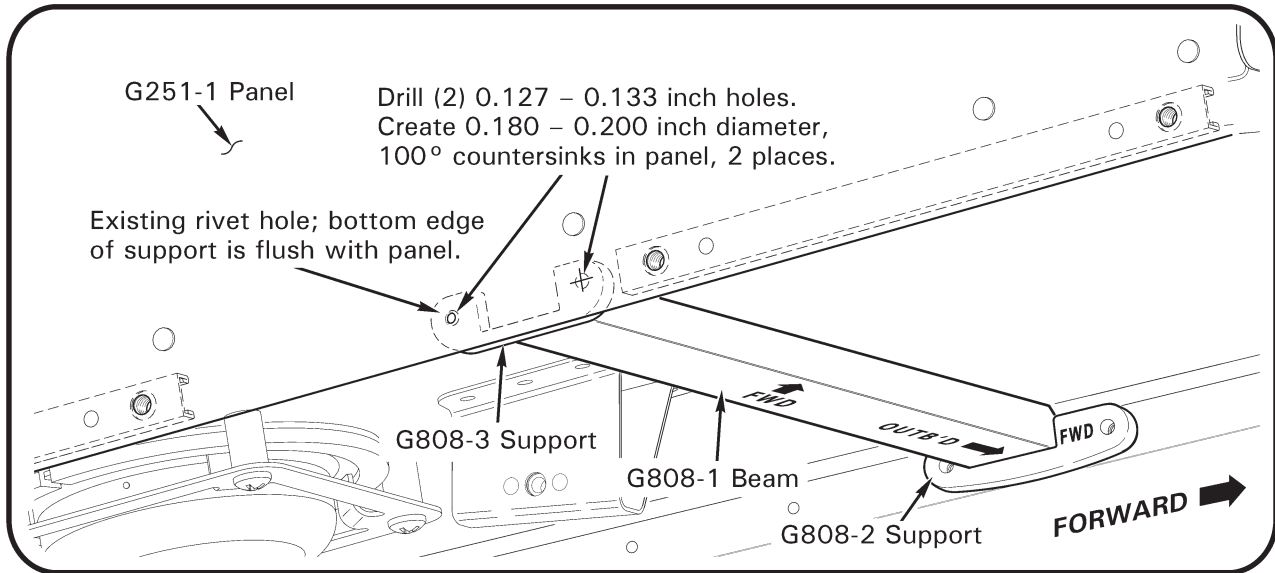


FIGURE 6 Installation of G808-3 Support
(outboard-side of G251-1 panel; secures beam in place)

10. Refer to Figures 5 & 6. Position G808-3 support on baggage compartment-side of G251-1 panel, with support aft-hole over existing rivet hole, and install appropriately-sized cleco in aft hole. Position support bottom edge flush with lower edge of panel and clamp in place. Using support as drill guide, drill (1) 0.127–0.133 inch diameter hole; transfer cleco, then drill (enlarge) opposite hole. Remove support. Create (2) 0.180–0.200 inch diameter, 100° countersinks at holes on baggage compartment-side of panel.
11. Refer to Figures 5 & 6. Position G808-1 beam on G808-2 support, beveled end up. Simultaneously install G808-3 support and beam to battery-side of G251-1 panel as depicted, using appropriately-sized clecos. Progressively remove clecos and install (2) NAS1097AD4-7 rivets. Clean up debris.
12. **For KI-263-1 only:** Refer to Figure 7. To install G920-3 stiffener:
 - a. Drill out outboard rivet securing G130-6 angle to G249-1 battery tray as indicated. Position G920-3 stiffener as shown. Hold in place using appropriately-sized clecos at the drilled-out rivet hole, and two existing holes in G249-1 tray and corresponding holes in stiffener.
 - b. Using stiffener as template, progressively drill (5) 0.127–0.133 inch diameter holes and install clecos; two in G004-3 skin and three in G259-1 bulkhead. Remove stiffener and deburr holes.
 - c. Cleco stiffener in place at two existing holes in G249-1 tray. Install: (1) MS20470AD4-3.5 rivet in drilled-out rivet hole, (2) NAS9301B-4-02 rivets in G004-3 skin (from exterior), and (3) MS20470AD4-3.5 rivets in bulkhead.
13. Touch-up installed rivet heads in battery compartment area using light gray Imron paint. Touch-up exterior G004-3 skin as necessary.

Kit Instructions (continued)

CAUTION
Use an insulated tool when connecting terminals to battery.

14. Install lead-acid battery per MM § 96-11B, or KI-262 instructions if battery is upright per SB-28.
For KI-263-3: Install lithium-ion battery per § 96-12C using supplied G131-9 plate assembly secured with supplied MS27039C0806 screws.
15. Install auxiliary fuel tank per MM § 28-51, if removed and required. Close baggage compartment door.
16. Perform functional check of battery by switching BATTERY switch on and verifying strobe function. Turn battery switch off.
17. Make appropriate maintenance record entries. No change to Weight and Balance Record is required.

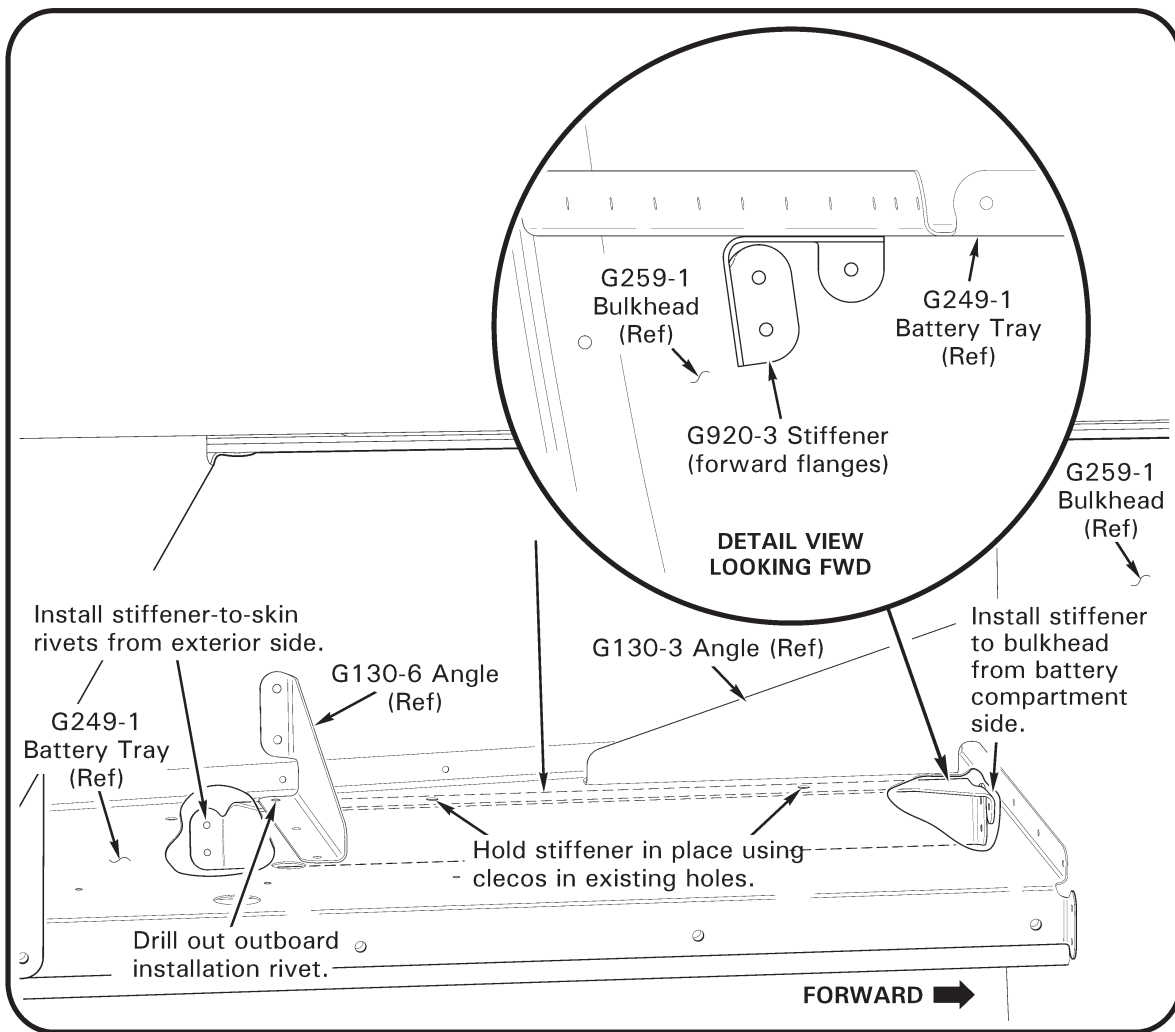


FIGURE 7 G920-3 Stiffener Installation
(view looking outboard from baggage compartment)