

**R66 Lithium-Ion Battery to Lead-Acid Battery Conversion Kit Instructions**

*Converts lithium-ion battery installation to lead-acid battery installation; lead-acid battery not included. Instructions for reinstalling lithium-ion battery are included.*

**NOTE**

Visit [www.robinsonheli.com](http://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.

**NOTE**

Kit contains parts to install either B237-7 or B237-8 lead-acid battery.

ITEM	PART NUMBER	KIT CONTENTS	QTY
1	KI-247-2Instr.	Kit Instructions . . . . .	1
2	A959-12	Cap . . . . .	1
3	B158-16-1FT	Heat Shrink – Black (1 inch diameter, 1-foot length) . . . . .	1
4	D819-9	Decal – “Li-ION BATT...” . . . . .	1
5	G131-2	Plate – Small (use with B237-8 battery) . . . . .	1
6	G131-4	Plate – Large (use with B237-7 battery) . . . . .	1
7	G131-5	Terminal Assembly . . . . .	1
8	9589	Decal – “DO NOT OVER...” (Concorde p/n) . . . . .	1
9	MS27039C0809	Screw . . . . .	2
10	MS3367-7-9+	Ty-rap (Note: “+” in contents part number indicates 10-qty pack) . . . . .	1

**Kit Instructions**

**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.

1. Remove lithium-ion battery per R66 Maintenance Manual (MM) § 96-12 B. Remove and store F693-6 harness assembly. Cover battery terminals, vent, and harness connector with non-metallic tape.
2. Refer to Figure 1. Loosen B277-12 clamp securing A785-40 (vent) hose to A372-11 weldment and remove vent hose and clamps. Install A959-12 cap on weldment. Remove & retain two MS27039C0806 screws securing G131-9 plate; remove & retain plate. Store plate & screws, vent hose, and clamps.
3. Refer to R66 Illustrated Parts Catalog (IPC) Figure 96-11. Remove two 9-volt batteries mounted under the (LH forward) co-pilot’s seat.

**Kit Instructions (continued)**

**NOTE**  
Removal of 9-volt batteries is optional.

4. Refer to IPC Figure 96-31. **If B263-68 4-contact cap installed:**  
Access G597-8 or -9 (yellow battery charger) post assembly thru engine RH cowling door. Remove hardware securing G598 cover (marked "Li-ION BATT") and remove cover; retain hardware and cover for future use (suggest storing with maintenance records). Locate adjacent stowed B263-68 connector which includes wires -2573 & -2575. Cut ty-raps and remove black protective heat shrink from connector. Push connector into G598-3 or -5 faceplate until locking tabs snap securely in place.
5. Install B237-7 or B237-8 battery per MM § 96-11 B, using (2) MS27039C0809 screws (provided in kit) for installation of G131-2 or -4 plate.
6. Refer to MM Figure 96-1A or 96-1B, as appropriate. Secure lithium battery interface connector to positive cable (inboard of GCU) using (2) MS3367-7-9 ty-raps as shown; cinch ty-rap until snug without over-tightening, and trim tip flush with head. Install 9589 decal on battery as shown.
7. Install G248-8 (battery compartment) cover assembly and secure with retained hardware.
8. Install auxiliary fuel tank per MM § 28-51, if removed and required. Close baggage compartment door.
9. Refer to Figure 2. Install D819-9 decal as shown.
10. Perform functional check of battery by switching battery and strobe switches on and verifying strobe function. Turn battery switch off.
11. Revise helicopter's Weight and Balance Record in R66 Pilot's Operating Handbook (POH) Section 6 to reflect this installation by incorporating the following data:

**Remove:**

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
Lithium-Ion Battery	-15.60 lb	96.88 in.	-1511.33 in.-lb	-21.00 in.	377.60 in.-lb

**Install:**

(if B237-7 battery installed)

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
B237-7 Battery	+42.00 lb	96.88 in.	4068.96 in.-lb	-20.87 in.	-876.54 in.-lb

**OR**

(if B237-8 battery installed)

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
B237-8 Battery	+52.00 lb	96.88 in.	5037.76 in.-lb	-21.73 in.	-1129.96 in.-lb

12. Update POH Section 9 with Lithium-Ion Battery Supplement, available at <https://robinsonheli.com/>Publications>R66 Turbine>R66 POH>.
13. Make appropriate maintenance record entries.

**Kit Instructions (continued)**

To reinstall D237-2 lithium-ion battery, perform steps 14 thru 27.

**CAUTION**

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

14. Verify external electrical power is disconnected. Remove B237-7 or B237-8 battery per MM § 96-11 A. Remove A959-12 cap from A372-11 weldment.
15. Refer to Figure 1. Install retained A785-40 (vent) hose on weldment using retained (1) B277-12 clamp.
16. Ensure D237-2 lithium-ion battery is ready for installation per MM § 96-12 C 2. Install retained F693-6 harness assembly to battery.
17. Carefully install battery. Connect battery per MM § 96-12 C 6 & 7. Connect (vent) hose to battery using retained (1) B277-12 clamp. Verify security of hose.
18. Cut ty-raps securing (stowed) lithium battery interface connector to battery positive cable and connect to F693-6 harness assembly. Secure connector using (1) MS3367-4-9 ty-rap.
19. Install retained G131-9 plate using retained (2) MS27039C0806 screws, leaving screws loose enough to slide plate (holes are slotted). Position plate until it just contacts top of battery. Tighten screws to secure plate. Verify security.
20. Install G248-8 (battery compartment) cover assembly and secure with retained hardware.
21. Install auxiliary fuel tank per MM § 28-51, if removed and required. Close baggage compartment door.
22. Refer to IPC Figure 96-31. **If B263-68 4-contact cap installed:**

Access G597-8 or -9 (yellow battery charger) post assembly thru engine RH cowling door. Detach B263-68 (4-contact cap) connector from post assembly. Cut B158-16 heat shrink (provided) to 2.4 inches. Slide heat shrink over connector and apply heat. Verify connector is insulated and heat shrink is secure. Stow connector by securing to adjacent wire bundle using appropriately-sized ty-raps. Install retained G598 cover (marked "Li-ION BATT") using retained (2) MS35206-214 screws.
23. Refer to IPC Figure 96-11. Install retained or new two 9-volt batteries as shown, as required.
24. Perform functional check of lithium-ion battery by switching battery and strobe switches on and verifying strobe function. Turn battery switch off.

**Kit Instructions (continued)**

25. Revise helicopter's Weight and Balance Record in POH Section 6 to reflect this installation by incorporating the following data:

**Remove:**

(if B237-7 battery removed)

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
B237-7 Battery	-42.00 lb	96.88 in.	-4068.96 in.-lb	-20.87 in.	+876.54 in.-lb

**OR**

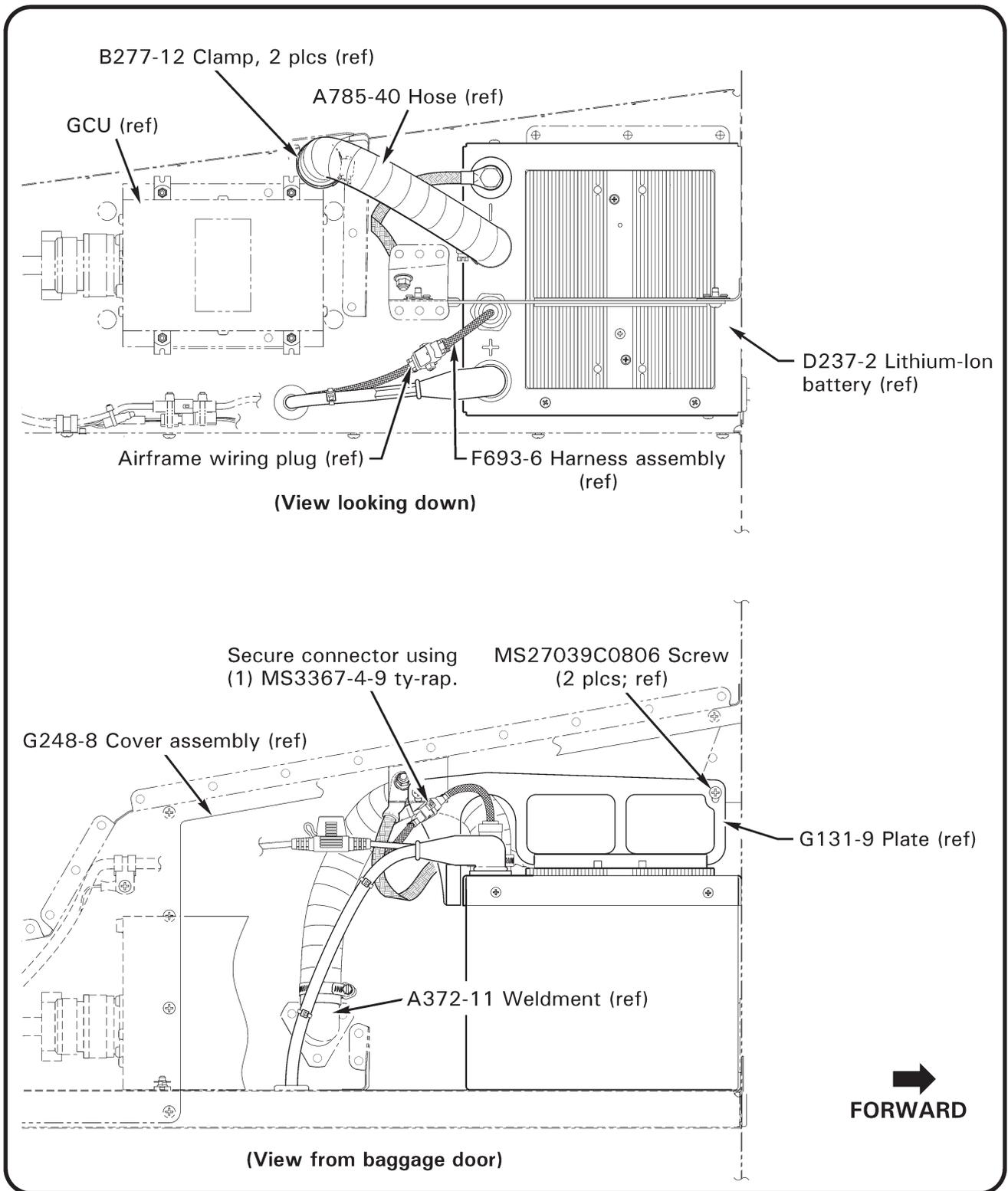
(if B237-8 battery removed)

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
B237-8 Battery	-52.00 lb	96.88 in.	-5037.76 in.-lb	-21.73 in.	+1129.96 in.-lb

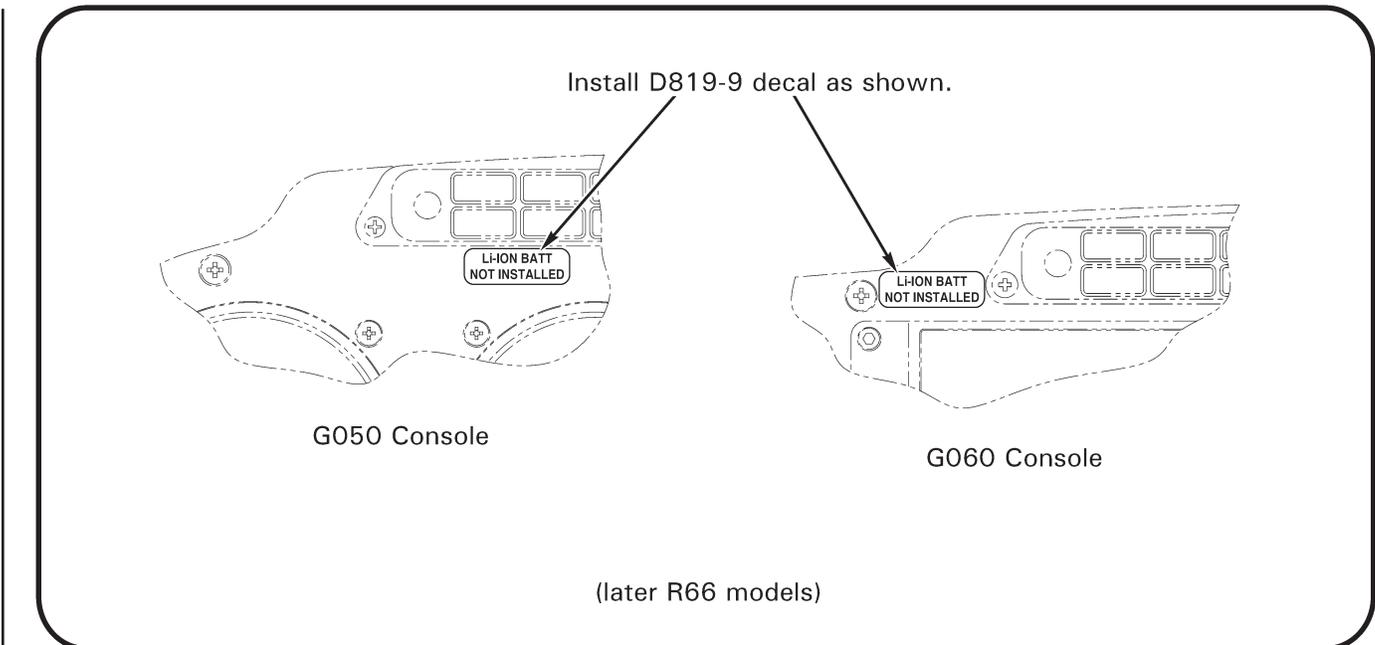
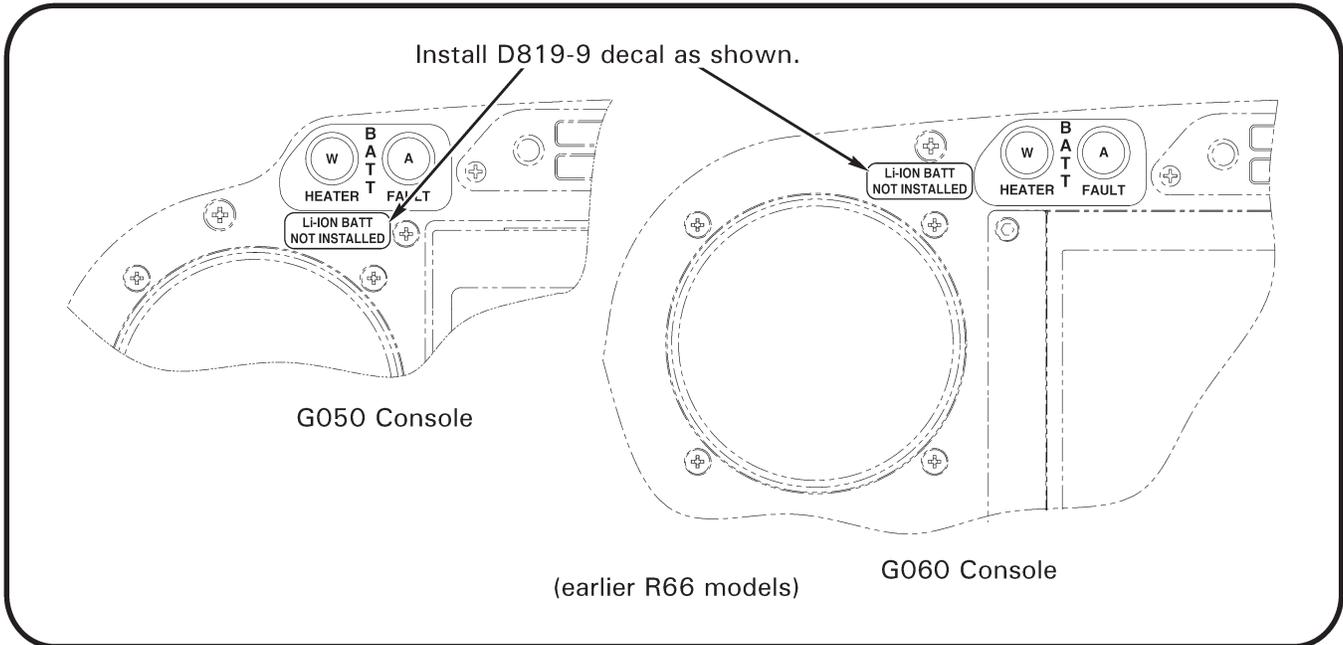
**Install:**

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
D237-2 Lithium-Ion Battery	+15.60 lb	96.88 in.	+1511.33 in.-lb	-21.00 in.	-377.60 in.-lb

26. Remove POH Page in front of Lithium-Ion Battery Supplement in Section 9 of the POH. Remove D819-9 decal from console (refer to Figure 2).
27. Make appropriate maintenance record entries.



**FIGURE 1 Lithium-ion battery installation**



**FIGURE 2**