

R66-series F049-012 (Engine) Electrical Harness Assembly Installation Kit Instructions

Applicable to helicopter S/N 0274 & prior, equipped with F059-01 Cabin [Main] Electrical Harness Assembly, Revision 1 & prior, and F049-02 or F049-09 [Engine] Electrical Harness Assembly. Isolates engine oil pressure warning light ground thru F059-01. Compliance with Rolls-Royce Service Bulletin RR300-72-014 must be accomplished prior to, or simultaneously.

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
1	KI-223Instr.	Kit Instructions	1
2	B162-2	Clipnut	3
3	B260-3	Terminal	1
4	F049-012	Electrical Harness Assembly – Engine	1
5	KI-223-1948	Wire Assembly (ground) Includes: [1] B274-22 Wire – 50-inch length (marked “-1948 KI-223”) [1] M39029/56-348 Socket	1
6	MS3367-4-9+	Ty-rap (Note: “+” in part number indicates 20-qty pack)	1
7	MS3367-5-0+	Ty-rap (Note: “+” in part number indicates 10-qty pack)	1
8	MS3367-5-9+	Ty-rap (Note: “+” in part number indicates 20-qty pack)	1
9	MS3367-7-9+	Ty-rap (Note: “+” in part number indicates 10-qty pack)	2
10	MS21042L04	Nut	2
11	MS21042L08	Nut	1
12	MS21919WCH4	Clamp	5
13	MS21919WCH8	Clamp	1
14	MS27039C0806	Screw	3
15	NAS620-4+	Washer (Note: “+” in part number indicates 20-qty pack)	1
16	NAS1149E0363R	Washer	1
17	NAS1149FN832P+	Washer (Note: “+” in part number indicates 20-qty pack)	1
18	NAS1149F0332P+	Washer (Note: “+” in part number indicates 20-qty pack)	1
19	NAS1352-04-6P	Screw	2

Consumables

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

- B270-5 Sealant
- B270-20 Adhesive

Special Tools:

- Wire stripping and crimping tools
- Pin insertion/extraction tool

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. Turn BATTERY switch OFF. Disconnect battery per MM § 96-11 (lead-acid) or § 96-12 (lithium-ion).
2. Remove G040 engine cowling assembly per MM § 53-21.
3. Refer to Illustrated Parts Catalog (IPC) Figure 71-3 and Figure 1. Locate D38999/26FC35SN plug on F059-01 (cabin) electrical harness. Remove and retain clamp screws & bar from backshell and loosen (backshell) collar. Disconnect F059 cabin harness plug from F049 engine harness receptacle. Remove ty-raps securing F059 harness wires to wire bundle.

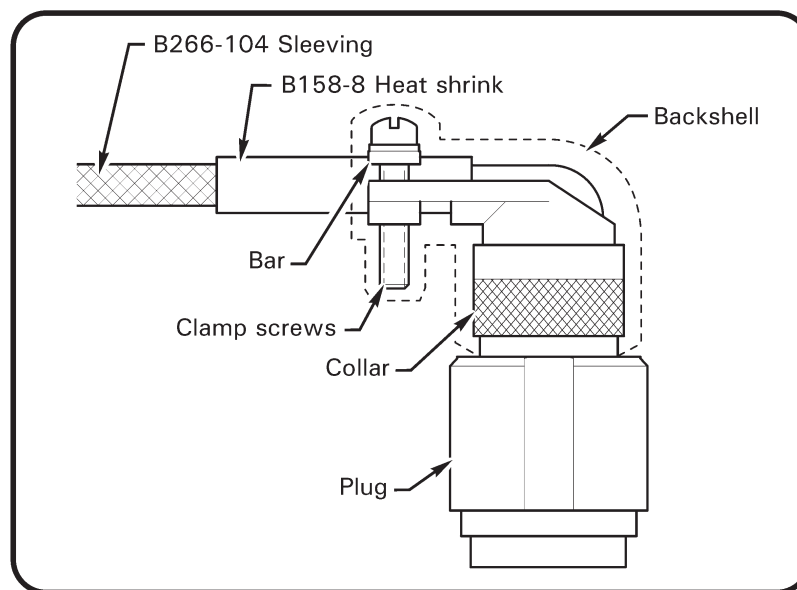


FIGURE 1 D38999/26FC35SN plug
(F059-01 cabin harness assembly)

Kit Instructions (continued)

4. Refer to Figure 2. Locate ground connections inside inspection door, right side of main rotor gearbox compartment. Remove ty-raps securing ground and F059 harness wires.
5. Refer to Figure 1. Carefully route KI-223-1948 wire assembly thru B158-8 heat shrink to cabin harness plug (p/n 38999/26FC35SN). Install socket of KI-223-1948 wire assembly in pin hole 22 of plug. Verify socket security. Apply B270-20 adhesive to retained clamp screws and install bar to backshell. Torque screws to 40 in.-oz. Tighten (backshell) collar. Verify security.
6. Route -1948 wire along F059 harness wires and thru NAS557-14A grommet on firewall, removing B270-5 as necessary. Continue routing on forward side of firewall. Strip end of wire and crimp on B260-3 terminal. Inspect crimp per MM § 20-94 and verify security of terminal. Install terminal using existing nut at ground stud. Secure wires and harness using appropriately-sized ty-raps as required.
7. Remove F049-02 or -09 harness per MM § 71-11, step 4.
8. Refer to IPC Figures 71-3, 71-5, & 71-7. Install F049-012 harness assembly:
 - a. Position F577-1 bracket assembly on F049-012 harness assembly's D38999-20FC receptacle so receptacle's main keyway will face outboard. Install and tighten hardware; verify security. Install bracket on (right side of) engine gearbox, special torque nuts per MM § 20-33, and torque stripe per MM Figure 5-1.

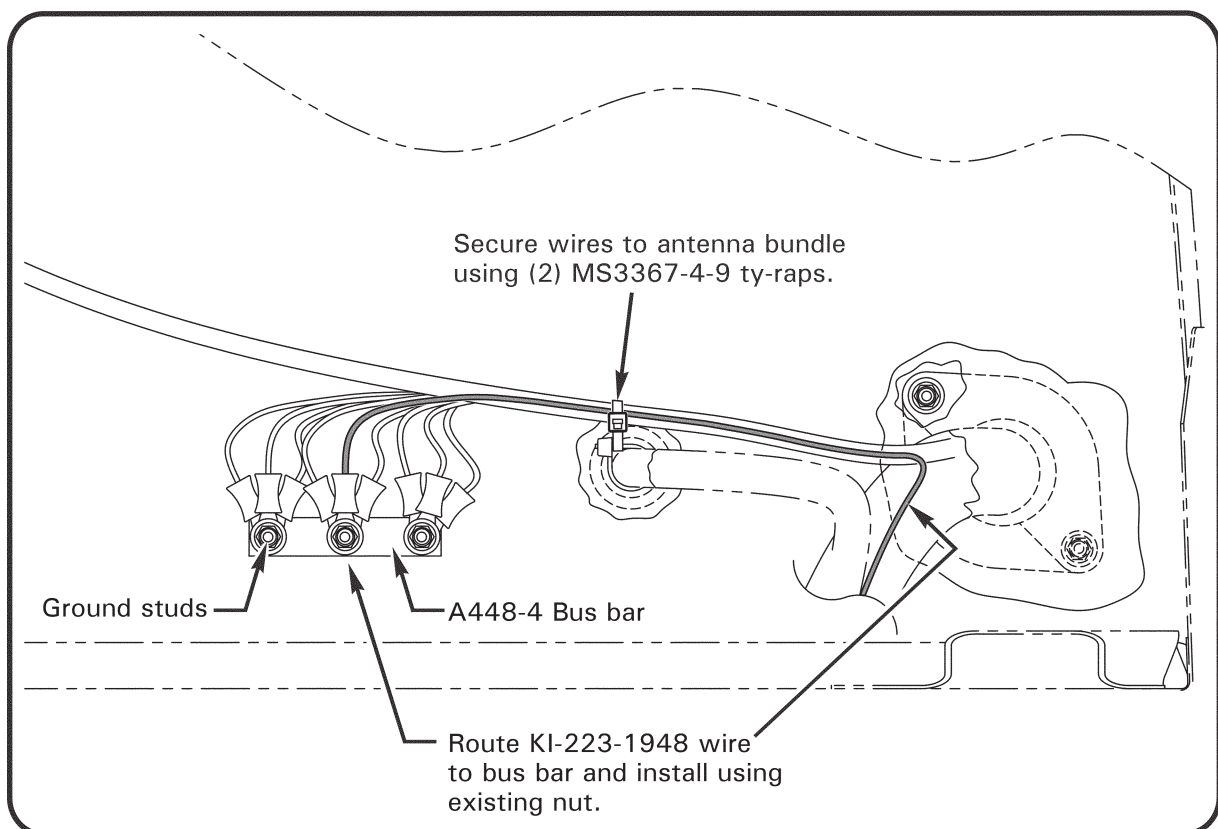


FIGURE 2 Bus bar ground location
(view looking inboard & forward)

Kit Instructions (continued)

8.
 - b. Install MS21919WCH8 clamp around harness assembly and install clamp on F577-3 bracket assembly. Install and tighten hardware. Install bracket on (right side of) engine gearbox, special torque nuts per MM § 20-33, and torque stripe per MM Figure 5-1.
 - c. Connect harness to D745-3 pressure switch assembly at connectors. Verify security. Install (2) MS3367-7-9 ty-raps to secure plug. Cinch ty-raps until snug without overtightening and trim tips flush with heads.
 - d. Connect harness plug to engine magnetic plug near oil line unions. Verify plug security.
 - e. Install harness wire terminals (white-to-white, green-to-green) on measured gas temperature (MGT) thermocouple studs. Install hardware, special torque nuts per MM § 20-33, and torque stripe per MM Figure 5-1.
 - f. Verify (2) engine-supplied MS9592-050 brackets are installed on engine lube oil filter assembly per Rolls-Royce SB RR300-72-014. Install (2) MS21919WCH4 clamps around harness assembly and install clamps on brackets. Install and tighten hardware; verify security.
 - g. Connect harness plugs to anti-ice valve assembly solenoid, anti-ice pressure switch assembly, and N₁ speed pick-up assembly. Verify security.
 - h. Install (2) MS21919WCH4 clamps around harness assembly and install clamps on (bottom of) engine gearbox. Install hardware, special torque nuts per MM § 20-33, and torque stripe per MM Figure 5-1.
 - i. Stand-off ty-rap G426-1 (fuel differential pressure) switch assembly's wire from F741-1 line assembly using MS3367-4-9 ty-raps. Connect switch wire to harness at connectors. Install (2) MS3367-5-9 ty-raps to secure connectors to harness. Cinch ty-raps until snug without overtightening and trim tips flush with heads.
 - j. Install harness wire terminal on ignition exciter box stud. Install hardware, special torque nut per MM § 20-33, and torque stripe per MM Figure 5-1.
 - k. Connect harness plug to engine magnetic plug on bottom of engine gearbox. Verify plug security.
9. Connect F049-012 (engine) electrical harness assembly to F059-01 (cabin) electrical harness assembly. Verify security. Secure F059-01 harness using appropriately-sized ty-raps as required. Apply B270-5 sealant to aft-side of firewall, covering NAS557-14A grommet and wiring, as required.

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.

10. Connect battery per MM § 96-11 (lead-acid) or § 96-12 (lithium-ion).
11. Install G040 engine cowling assembly per MM § 53-21.
12. Make appropriate maintenance record entries, with no change to weight and balance.