ROBINSON
HELICOPTER COMPANY
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Issued: 20 Aug 2001

KI-158 R22 14V FWD BATTERY RELAY UPGRADE KIT

KIT CONTENTS:

1 each	A780-32	battery cable
2 each	B158-103	heat shrink, 1-inch length (B158-103-1)
3 each	B161-2	spirap, 8 inch length (B161-2-8)
1 each	B161-8	spirap, 12 inch length (B161-8-12)
2 each	B260-2	ring terminal
1 each	B415-1	relay
1 each	KI-158INSTR	Kit instructions
5 each	MS3367-4-9	ty-rap
5 each	MS3367-5-9	ty-rap
5 each	MS3367-7-9	ty-rap
1 each	MS25171-2S	nipple
1 each	MS25171-4S	nipple
1 each	MS35489-40	grommet
2 each	MS21042L3	nut
2 each	MS27039C1-06	screw
2 each	NAS1149F0332P	washer

INSTRUCTIONS: (refer to Figures 1 & 2)

1. Verify kit contents match above list. Contact RHC if any parts are missing or damaged.

2. Verify Master switch is off. Lift console to access battery. Disconnect negative ground cable from battery then disconnect positive cable from battery. Washers used to shim between cable terminals and battery posts, if any, are to remain in place.

3. Disconnect -64 wire, B304-2 diode, and -141 & -142 wire/diodes from battery relay coil terminals. Discard B304-2 diode.

4. Disconnect battery positive cable and -64 wire from relay and discard.

5. Disconnect remaining -587 starter cable from relay. Remove and discard existing insulating nipple, if any, on cable. Remove and discard relay and mounting hardware.

6. Remove and discard insulating nipples and cut #10-size ring terminals from -141 & -142 wire/diodes at edge of terminal crimp. Strip 0.25 inch of clear heat shrink from cut diode leads; avoid nicking leads. On both cut diode leads, install a 1-inch length of B158-103 heat shrink followed by a B260-2 ring terminal. Crimp ring terminals on leads. Position heat shrink to cover ring terminal insulation and shrink with heat gun.

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7. Install B415-1 relay per Figure 2 (studs facing aft) using supplied MS27039C1-06 screws, NAS1149F0332P washers, and MS21042L3 nuts.

8. Install B161-8 spirap and B161-2 spirap on A780-32 cable and -64 wire as shown in Figure 2. Install MS35489-40 grommet at battery-end of A780-32 cable.

9. Install B161-2 spirap on -141 and -142 wire/diodes.

10. Install MS25171-4S nipple on A780-32 battery cable at -64 wire end. Connect both -64 wire and -142 wire/diode to relay coil positive terminal (coil positive terminal has number 86 and polarity mark adjacent to it). Torque screw to 9-11 inch-pounds.

11. Connect A780-32 cable to relay upper stud using hardware supplied with relay. Torque nut to 105-115 inch-pounds (includes self-locking torque). Bend ring terminal to minimize preload (see Figure 2).

12. As required, clean ring terminal on -587 cable and install supplied MS25171-2S nipple. Connect cable to relay lower stud using hardware supplied with relay. Torque nut to 105-115 inch-pounds (includes self-locking torque).

13. Attach -141 wire/diode to relay coil negative terminal (coil negative terminal has number 85 and polarity mark adjacent to it). Torque screw to 9-11 inch-pounds.

14. Connect A780-32 cable to battery positive terminal.

15. Ensure A780-32 & -587 cables have adequate clearance with surrounding structure and flight controls. Reposition cable(s) as required.

16. Ensure all connections tight, insulating nipples in position, and wiring secured with ty-raps as appropriate.

17. Ensure Master switch is off. Connect battery ground cable.

18. Verify proper relay function.

19. Close battery box and close and secure console.

20. Reset clock and verify clock operates with master off and clutch switch disengaged.

21. With an appropriately qualified person at the controls, start helicopter using checklist.

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22. Verify engine and rotor tachometers function when both Master and Alternator switches are turned off.

23. Return Master and Alternator switches to on position and shutdown helicopter using checklist.

24. Make appropriate maintenance record entry.

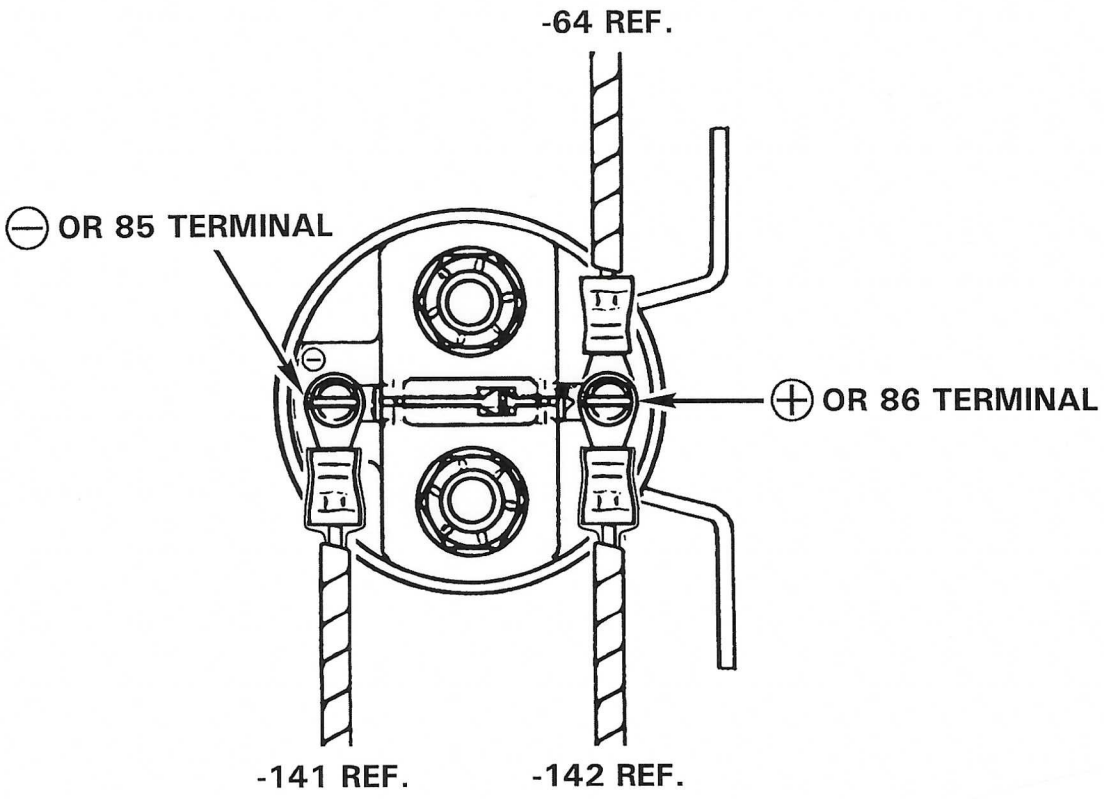

FIGURE 1

B415-1 RELAY COIL-CONTROL WIRING

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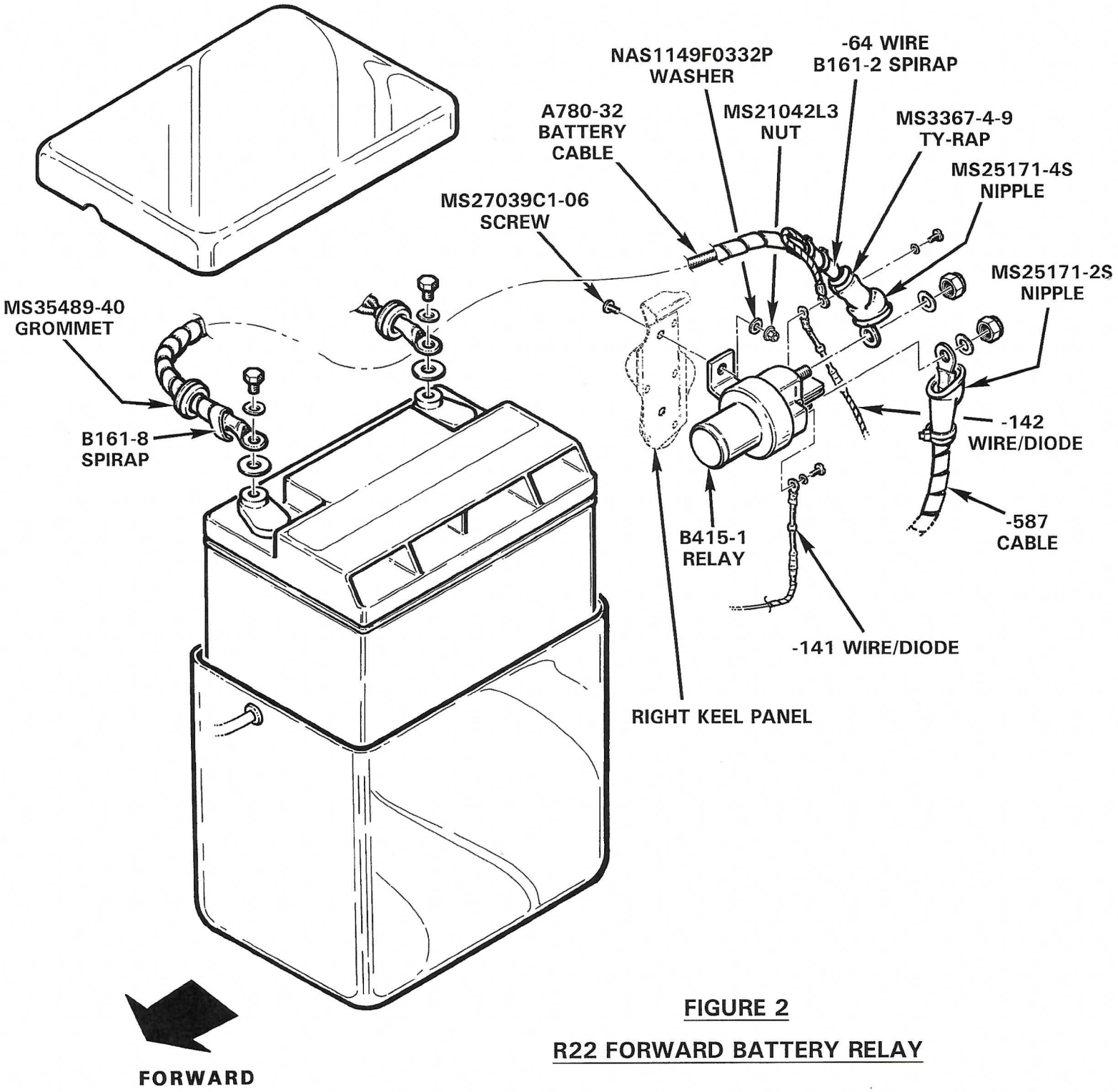

FIGURE 2

R22 FORWARD BATTERY RELAY