ROBINSON
HELICOPTER COMPANY
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Revised: 20 DEC 2000

KI-153 R44 14V FORWARD BATTERY RELAY UPGRADE KIT

KIT CONTENTS:

1 each	A780-35	battery cable
2 each	B158-103	heat shrink, 1-inch length (B158-103-1)
1 each	B161-2	spirap, 8-inch length (B161-2-8)
1 each	B161-4	spirap, 6-inch length (B161-4-6)
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-153INSTR	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	MS35489-40	grommet
2 each	MS21042L3	nut
1 each	MS25171-4S	nipple
2 each	MS27039C1-06	screw
2 each	NAS1149F0332P	washer

INSTRUCTIONS: (refer to Figure 1)

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

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

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

4. Disconnect battery cable from relay and remove cable, with attached -64 wire, from aircraft.

5. Loosen relay mounting screws. Remove upper mounting hardware.

6. Disconnect remaining -580 & -587 cables from relay and remove relay.

7. Remove insulating nipples and cut #10-size ring terminals from both -141 & -142 wires/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 both ring terminal insulation & diode lead then shrink with heat gun.

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8. Remove ty-raps from -580 & -587 cables within 6 inches of battery-end of cables. Insulating nipple to remain in place on cables.

9. With terminals pointing forward, position B415-1 relay in place at original relay location and lightly secure relay lower mounting flange with MS21039C1-06 screw, NAS1149F0332P washer, & MS21042L3 nut.

10. On supplied A780-35 battery cable, wrap -64 wire with B161-2 spirap then wrap cable with B161-8 spirap. Trim spirap as required. Install MS25171-4S nipple on -64 wire end of cable. Install MS35489-40 grommet on battery end of cable.

11. Attach both -64 wire and -142 wire/diode to relay coil positive terminal (positive terminal has number 86 and polarity mark adjacent to it). Route -64 wire to relay from above and route -142 wire/diode to relay from below. Ensure ring terminals clear surrounding structure and torque screw to 9-11 inch-pounds.

12. As required, clean ring terminals on -580 & -587 cables. To minimize bending preload, position ring terminals back-to-back and attach to relay lower stud (stud has number 88 adjacent to it) using supplied wave washer and brass self-locking nut.

13. To prevent cables from preloading against tail rotor flight controls, orient -580 & -587 cables to protrude as horizontally as possible from relay. Lightly tighten brass self-locking nut. Install B161-4 spirap on cabin heat control cable at area of -580 & -587 cable contact. Ty-rap -580 & -587 cables as required to clear surrounding structure. Ensure minimum 0.2 inch clearance between all cables and tail rotor flight controls.

14. Attach -141 wire/diode to relay coil negative terminal (negative terminal has number 85 and polarity mark adjacent to it). Orient -141 wire/diode parallel to -580 & -587 cables and torque screw to 9-11 inch-pounds.

15. Install remaining MS21039C1-06 screw, NAS1149F0332P washer, & MS21042L3 nut in relay upper mounting flange. Tighten both upper and lower mounting hardware.

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16. Attach A780-35 cable to relay upper stud (stud has number 88a adjacent to it) using supplied wave washer and brass self-locking nut. Attach opposite cable end to battery positive terminal. Ensure wire clearance with surrounding structure and torque both brass self-locking nuts on relay to 105-115 inch-pounds. Position insulating nipples over relay stud/cable connections and secure with ty-raps. Ensure -64 wire clearance with surrounding structure and ty-rap as required.

17. Ty-rap -141 wire to -580 & -587 cables as required, leaving sufficent slack at wire-diode connection to relieve strain.

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

19. Verify proper relay function.

20. As required, coat battery and relay terminals with suitable corrosion-preventative compound.

21. Close battery box. Remove all debris and perform final flight control clearance check. Secure upper console.

22. Reset clock.

23. Make appropriate maintenance record entry.

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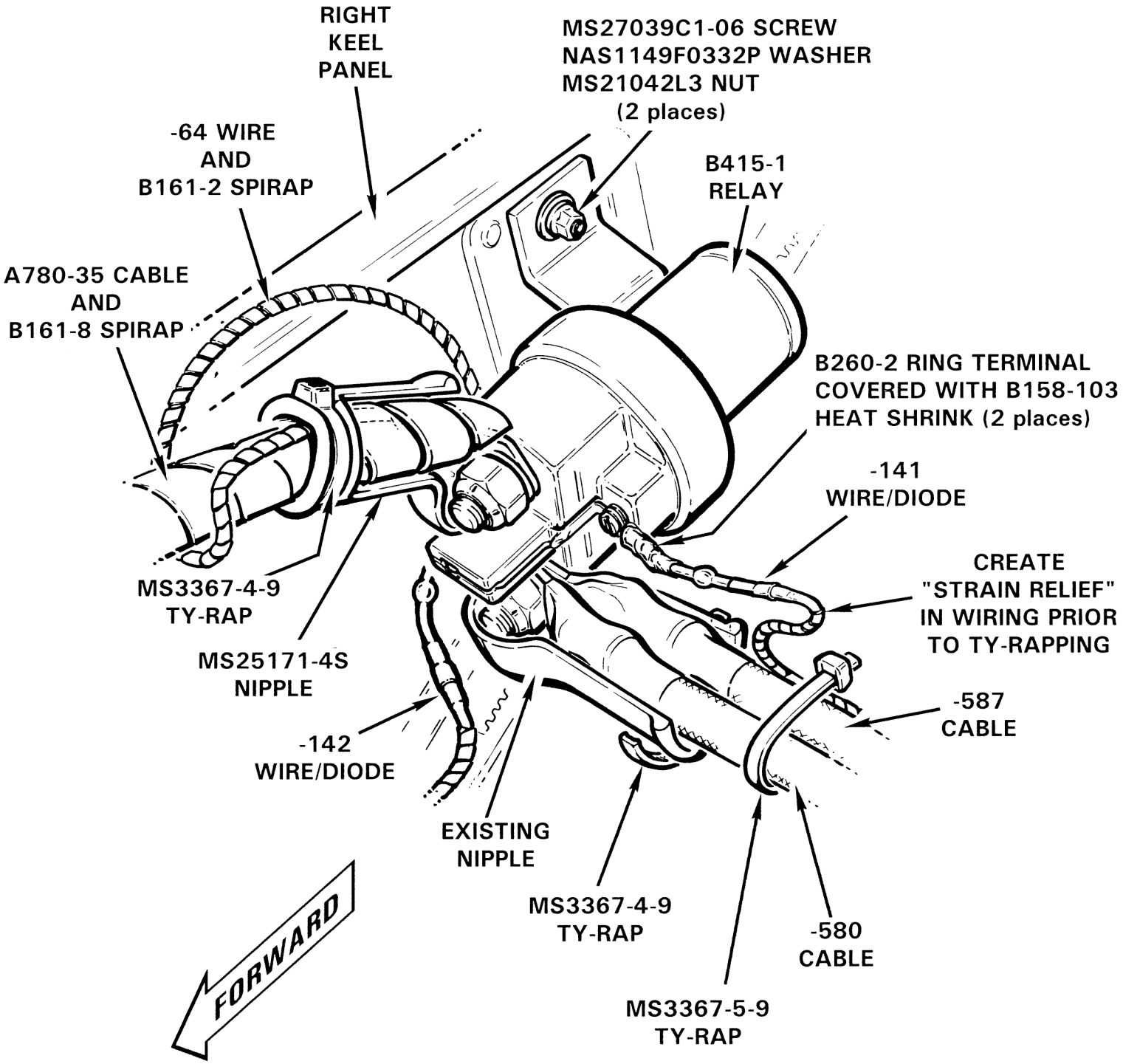

R44 14V FORWARD BATTERY RELAY

FIGURE 1