

KI-209 R44 II Starting Circuit Time-Delay Installation Kit Instructions
For compliance with R44 Service Letter SL-42

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 NUMBER	PART NUMBER	DESCRIPTION	QTY PER KI-209
KIT CONTENTS			
1	B158-4-1	Heat Shrink (1-inch length)	1
2	B260-3	Terminal	2
3	B261-2	Splice	2
4	D821-1	Harness Assembly	1
5	D821-2	Harness Assembly	1
6	D821-3	Harness Assembly	1
7	D880-1	Time Delay Assembly - Ignition Starting	1
8	MS3367-4-9	Ty-Rap	40
9	MS3367-5-9	Ty-Rap	40
10	MS3367-7-9	Ty-Rap	10

Special Tools:

Wire stripping and terminal crimping tools are required.

Kit Instructions

1. Verify proper 20° BTDC magneto-to-engine timing (cold spark advance) for both magneto’s main contacts; verify engine-left magneto retard contact opening occurs at, or slightly after, TDC. As required, adjust timing per Lycoming Engines and/or TCM Ignition Systems instructions.
2. Turn BATTERY switch OFF. Open upper console, left forward seat, or remove left cowling assembly to access battery; disconnect negative cable, then positive cable from battery. For tailcone batteries, refer to R44 Illustrated Parts Catalog (IPC) Figure 8-69H item 18, dated JUL 2008 (or subsequent); open aft cowl door, mark and disconnect -64 coil-control wire and adjacent diodes from battery relay coil terminal screw, and temporarily insulate -64 wire’s ring terminal.
3. Remove forward and aft belly panels and horizontal covers below center collective stick and between aft seats.

Kit Instructions (continued)

4. Refer to Figure 1, and IPC Figure 8-35 item 21, dated JUL 2008 (or subsequent). Disconnect -1601 and -1602 wires, attached to single receptacle, from fuse block. Slide 1-inch length B158-4-1 heat shrink over, and completely cover, receptacle and apply heat. While heat shrink is hot, pinch and close the open tip using smooth-jaw pliers to seal tip. Verify wire is insulated and verify heat shrink security.
Alternately: Cut receptacle from -1601 & -1602 wires. Strip wire ends, and verify jacket and insulation are completely removed from conductor. Insert -1601 wire into one side and -1602 wire into opposite side of one (supplied) B261-2 butt splice, and crimp both sides of splice. Verify security.
5. a. Helicopters with Aft or Tailcone Battery: Refer to Figure 1, and IPC Figure 8-35 items 3 and 23. Connect (supplied) D821-2 harness assembly (-2379 wire) receptacle to fuse block, opposite -1528 wire. Verify "5A" stamp on heat shrink is legible. Attach D821-2 harness assembly ring terminal to shunt at same screw securing -13 wire to shunt. Verify harness security.
b. Helicopters with Nose or Underseat Battery: Refer to Figure 1, and IPC Figure 8-35 items 3 and 33. Connect (supplied) D821-3 harness assembly (-2379 wire) receptacle to fuse block, opposite -1528 wire. Verify "5A" stamp on heat shrink is legible. Route -2379 wire forward thru firewall and along airframe harness to shunt (shunt is installed near battery). Cut -2379 wire as required, strip end, and crimp (supplied) B260-3 ring terminal on wire. Attach D821-3 harness assembly ring terminal to shunt at same screw securing -13 wire to shunt. Verify harness security.
6. Secure wires in steps 4 and 5 to airframe harness using supplied ty-raps.
7. Refer to IPC Figure 8-33 item 7, dated JUL 2008 (or subsequent). From A999-4 master radio relay assembly, follow the single 16-gage wire approximately 5 inches and disconnect it from airframe harness -582 wire at the single-wire connector (cut and discard ty-raps as required).
8. From (supplied) D880-1 time delay, connect -582 wire's 1-pin connector to master radio relay's 1-socket connector. Connect time delay -582 and -2317 wires' 1-socket connector to airframe harness -582 wire 1-pin connector.
9. Connect (supplied) D821-1 harness assembly 3-socket connector to D880-1 time delay 3-pin connector.
10. Refer to IPC Figure 8-33B item 7, dated JUL 2008 (or subsequent). Disconnect -1528 wire from ignition booster (SlickSTART) VIN ("voltage-in") tab and cut off wire's receptacle. Strip -1528 wire end, insert wire into (supplied) B261-2 butt splice, and crimp splice; verify security.
11. Route D821-1 harness assembly -2314 wire along airframe harness to open end of B261-2 splice installed on -1528 wire in previous step. Strip -2314 wire end, insert wire into splice opposite -1528 wire, and crimp splice; verify security.
12. Route D821-1 harness assembly -2316 wire along airframe harness and connect receptacle to VIN tab on SlickSTART.
13. Route D821-1 harness assembly -2315 wire along airframe harness and attach ring terminal to 2-hole ground bus bar located below entrance to circuit breaker box on inboard side of LH keel panel.
14. Secure wires in steps 8 thru 13 to airframe harness using supplied ty-raps.
15. Verify freedom of flight controls thru full-range of travel, and no contact with wiring.

Kit Instructions (continued)

16. Verify BATTERY switch is OFF. Connect positive cable, then negative cable to battery. For tailcone battery, remove temporary insulation and connect -64 wire and adjacent diodes to battery relay coil terminal screw.
17. Install removed panels, covers, and cowling, as applicable.
18. Perform helicopter start and shut-down procedures per Pilot's Operating Handbook. Verify STARTER ON light illuminates while cranking engine, and engine fires while start button is depressed.
19. There is no appreciable change to helicopter weight and balance. Make appropriate maintenance record entries.

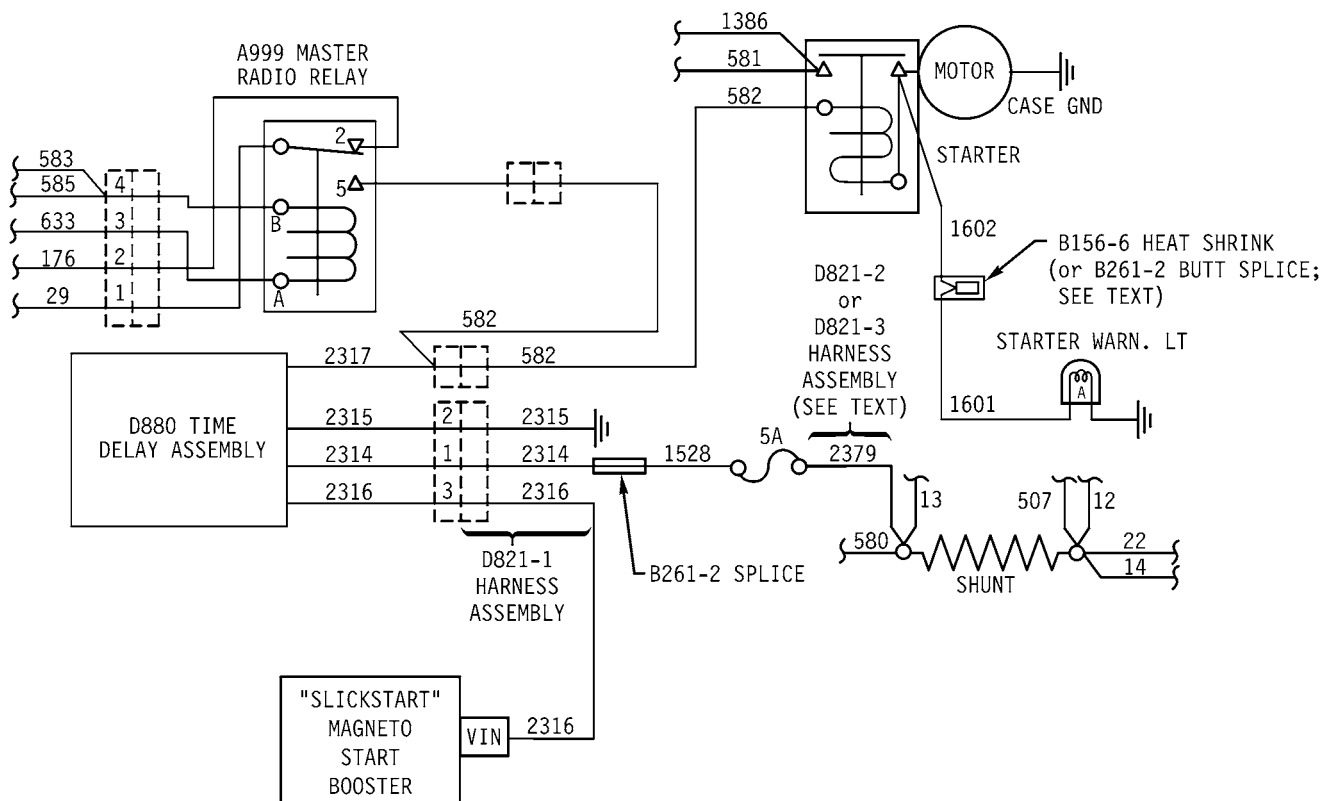


FIGURE 1