

Attitude & Directional Indicator Field Installation Kit Instructions

KI-65 Attitude Indicator Field Installation Kit Instructions

KI-66 Directional Gyro Field Installation Kit Instructions

For installing below-listed Attitude Indicator and/or Directional Gyro in R22-, R44-, & R44II-series helicopters.

CAUTION

Gyroscopic instrument bearings are sensitive. Handle instrument carefully (handle like eggs).

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 PER KI-65	QTY PER KI-66
1	KI-65/KI-66Instr.	Kit Instructions	1	1
2	A448-1	Bus Bar (6-hole)	1	1
3	B195-9	Connector Nut	1	1
4	B195-11	Post Light – Blue (with hood, 28V)	1	1
5	B196-1	Lamp – 14V	1	1
6	B260-2	Terminal – Ring	1	1
7	B263-13	Housing (2-socket)	1	1
8	B297-5	Circuit Breaker (5 amp)	1	1
9	B802-1	Harness Assembly – Attitude Indicator	1	0
10	B802-2	Harness Assembly – Directional Gyro	0	1
11	B802-3	Harness Assembly – Splitter	1	1
12	B802-4	Harness Assembly – Adapter	1	1
13	B823-XX	Attitude Indicator (select p/n [below] as required)	1	0
	B823-12	Attitude Indicator (electro-mechanical gyro)	0	0
	B823-17	Attitude Indicator (LCD)	0	0
14	B823-18	Directional Gyro	0	1
15	305183	Amp Pin Extractor	1	1
16	MS3367-4-9+	Ty-Rap (Note: “+” in part number indicates 20-qty pack)	1	1
17	MS24693-S26+	Screw (Note: “+” in part number indicates 10-qty pack)	0	1
18	MS24693-S30+	Screw (Note: “+” in part number indicates 10-qty pack)	1	0
19	MS35206-226+	Screw (Note: “+” in part number indicates 10-qty pack)	1	1

Special Tools

- Wire stripping and crimping tools

Kit Instructions

1. Turn BATTERY switch OFF. Disconnect battery per R22 Maintenance Manual (R22 MM) § 33-10, or R44 Maintenance Manual (R44 MM) § 37-10.
2. Remove caution and warning light lenses and lamps above engine instrument cluster and cover area with cushion to prevent scratches. Remove (6) screws securing perimeter of instrument face and pull face aft.
3. If not already provided, drill (1) 0.189 inch diameter post light hole centered vertically 0.30 inch above appropriate optional instrument mounting hole. Deburr hole and clean up debris. Polish off paint around post light hole on back side as required to provide electrical ground path and install B195-11 post light.

For 14V systems only: Replace post light's 28V lamp with provided 14V lamp.

If installed, locate existing post light connector nut ty-rapped in console wire harness and install on post light terminal. If post light connector nut is not installed, attach B195-9 connector nut to post light and route wire to instrument lighting terminal block, located just forward of low RPM warning horn. Cut and strip wire as required, install B260-2 terminal, connect to instrument lighting terminal block, and secure with ty-raps.

NOTE

Parenthetic dash numbers, such as (-513), indicate number marked on wiring.

4. Refer to Figure 1. As applicable, locate in upper console's wiring harness either 2-socket housing containing [power] wire (-513) & [ground] wire (-514), or 3-socket housing containing wires (-513), (-514) & (-525), or 4-socket housing containing wires (-513) & (-514). Remove housing's heat shrink covering. If 2-socket housing, proceed to next step. If 3-socket housing, install B802-4 adapter; wire (-525) will not be used. If 4-socket housing, extract sockets and attached wires (-513) & (-514) using provided pin extractor; install socket & wire (-513) in position 1 of provided B263-13 2-socket housing and install socket & wire (-514) in position 2.
5. If both an attitude indicator and directional gyro are to be installed, connect supplied B802-3 splitter to either the 2-socket housing containing wires (-513) & (-514), or B802-4 adapter installed in the preceding step.
6. As applicable, remove B190 plastic hole cover and mount attitude indicator in upper optional instrument location with (3) MS24693-S30 screws, and mount directional gyro in lower optional instrument location with (3) MS24693-S26 screws.
7. Connect supplied B802-1 or -2 instrument harness, as applicable, to newly installed instrument, ensuring connector locks and strain relief (if used) points down. Connect opposite end to either splitter, or 2-socket housing containing wires (-513) & (-514), or B802-4 adapter, as applicable.
8. With amp rating on circuit breaker button oriented correctly, install B297-5 circuit breaker in circuit breaker panel hole marked "D GYRO HORIZ". Connect circuit breaker to bus bar. If existing bus bar is not long enough, replace it with supplied A448-1 6-hole bus bar, trimming overlap end to 0.20 inch edge distance; replace existing installation screw at overlap side with MS35206-226 screw and install with retained lockwasher. Locate existing wire (-513) and attached terminal in circuit breaker wiring harness, remove heat shrink from terminal, and connect terminal to the "D GYRO HORIZ" circuit breaker opposite the bus bar connection. Ty-rape wiring as required. Install circuit breaker panel.

Kit Instructions (continued)

9. Secure B197 face. Reinstall caution and warning light lamps and lenses.
10. Connect battery per R22 MM § 33-10, or R44 MM § 37-10.
11. Functional check instrument, post light (on NAV LTS circuit), warning lights, and "D GYRO HORIZ" circuit breaker.

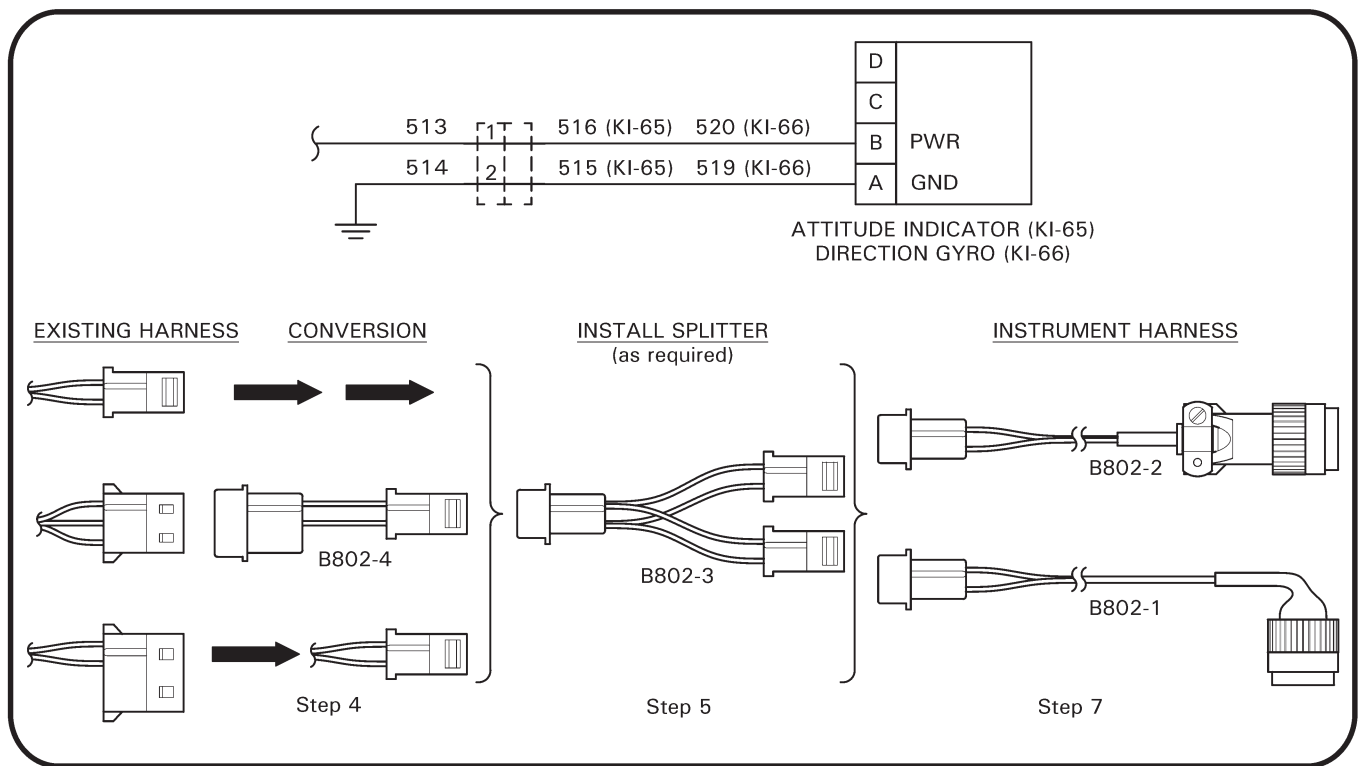


FIGURE 1 Harness connections and schematic

Kit Instructions (continued)

12. Revise helicopter's Equipment List & Weight and Balance Record in Pilot's Operating Handbook (POH) Section 6 to reflect this installation by incorporating the following data:

Select by helicopter model & instrument installed:

Helicopter Model & RHC P/N Manufacturer	Weight (lb)	Arm (inches)	Moment (in.-lb)
R22 B823-12 Attitude Indicator, Gyro (Mid Continent p/n 4300-203)	2.4	47.5	114
R22 B823-17 Attitude Indicator, LCD (Kelly Manufacturing p/n RCA2610-3)	0.5	47.5	24
R22 B823-18 Directional Gyro (Mid Continent p/n 3300-10)	1.9	47.5	90
R44 B823-12 Attitude Indicator, Gyro (Mid Continent p/n 4300-203)	2.4	19	46
R44 B823-17 Attitude Indicator, LCD (Kelly Manufacturing p/n RCA2610-3)	0.5	19	10
R44 B823-18 Directional Gyro (Mid Continent p/n 3300-10)	1.9	19	36

13. Make appropriate maintenance record entries.