

ROBINSON HELICOPTER COMPANY

2901 Airport Drive, Torrance, California 90505

Phone (310) 539-0508 Fax (310) 539-5198

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KI-164 Carbon Monoxide Detector Field Installation Kit for R22 and R44 Helicopters

KIT CONTENTS:

1 ea B196-1	lamp, 14-volt
1 ea B196-21	lamp, 28-volt
1 ea B263-15	housing (3-socket)
1 ea B806-2	decal
1 ea B825-1	harness assembly (caution light)
1 ea B825-2	harness assembly (ground wire)
1 ea C696-1	detector assembly
1 ea KI-164INSTR	kit instructions
1 ea NAS1149FN416P	washer
1 ea NAS1149FN616P	washer
1 ea MS21042L04	nut
1 ea MS21042L06	nut
15 ea MS3367-4-9	Ty-rap
15 ea MS3367-5-9	Ty-rap
1 ea MS35206-215	screw
1 ea MS35206-232	screw

INSTRUCTIONS:

Review all instructions before proceeding with installation.

1. Verify kit contents. Contact RHC if any parts are missing or damaged.
2. Verify Master switch is off. Pull WARN LTS, GAGES, and LTS circuit breakers.
3. For 5-, 7-, or 9-instrument upper console, remove ALT, ENG FIRE (R44 only), OIL, and GOV OFF (if installed) lights from lower panel and cover panel with towel to prevent scratches. Remove perimeter screws securing A981, B197, or B206 face to upper console and pull face aft to expose caution lights wiring.
4. Refer to Figure 1. Remove black plastic plug from an unused caution light hole (fourth hole from left preferred) on instrument panel face. If there are no vacant caution light holes on face then layout, drill, and deburr one 0.469-inch diameter hole in lower panel centered between yellow ALT and red OIL lights. Install B825-1 harness assembly in hole and secure light receptacle with provided lockwasher and nut. Route -1552, -1553, and -1555 wires for twelve inches along console main harness and secure with MS3367-4-9 Ty-raps.
5. Position and secure A981, B197, or B206 face to upper console. Ensure no wires are pinched between face and nutplate tabs. Install yellow ALT, red ENG FIRE (R44 only), red OIL, and yellow GOV OFF lights.

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6. Apply B806-2 decal below newly installed light receptacle. Install appropriate voltage lamp into light receptacle as follows:

Ship voltage	Lamp
14-volt	B196-1
28-volt	B196-21

7. Open upper console. Temporarily cover exposed lower console opening with towel to catch any dropped hardware or drilling debris.
8. Locate and follow -44 wire from OIL warning light to either the warning lights terminal block or an A448-3 bus bar (plastic-covered copper strip Ty-rapped to wire harness on older ships). Route and connect -1552 wire's ring terminal to this terminal block (shown in Figure 1), or to bus bar, at screw with fewest terminals.
9. Reference Figure 1. Connect B825-2 harness assembly -1554 wire's ring terminal to upper console ground bus bar stud with fewest terminals.
10. Insert wiring sockets on B825-1 and B825-2 harness assemblies into supplied B263-15 housing as follows:

Wire#	Position in housing
-1553	1
-1554	2
-1555	3

11. Identify forward, middle, and aft screws as shown in Figure 2. Note position of washers & nuts and remove screws. On 28-volt ships, avoid losing washers between terminal block and B395-1 dimmer assembly. If screws are not installed, use C696- detector's body as a template and layout and drill forward and aft mounting holes as indicated.
12. Layout and drill a 0.875 inch-diameter hole in right side of console as shown in Figure 2. Use a vacuum cleaner to capture debris while drilling and deburring. Deburr hole edges and prime with zinc-chromate or epoxy primer.
13. Reference Figure 2. Secure warning lights terminal block with retained middle screw, washer, and nut.
14. Reference Figure 3 or 4, as appropriate. Insert C696-1 detector's harness thru 0.875 inch hole. Secure detector to console at forward screw position with hardware previously installed there. Use following screw with previously installed nut and washer in aft position:

	14-Volt Ship	28-Volt Ship
Aft screw	MS35206-232 screw	MS27039C0810 screw

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15. Connect B263-15 housing containing -1553, -1554, and -1555 wires to connector on C696-1 detector assembly.
16. Ty-rap wires to existing wire bundles as necessary with MS3367-4-9 and MS3367-5-9 Ty-raps.
17. Remove towel. Close and secure upper console.
18. Push WARN LTS, GAGES, and LTS circuit breakers in. Verify NAV LTS switch is off. Turn Master switch on and verify proper detector operation by immediately observing two short flashes of Carbon Monoxide warning light. If Carbon Monoxide warning light fails to flash, verify -1552 wire is connected to warning lights terminal block and not instrument lighting terminal block.
19. Refer to Equipment List/Weight and Balance record in Section 6 of helicopter's Pilot's Operating Handbook. Amend Equipment List and revise Basic Empty Weight, Longitudinal Moment, and Longitudinal C.G. using appropriate following data:

Item	Weight (lb)	Long. Arm (in.)	Long. Moment (in.-lb)	Lat. Arm (in.)	Lat. Moment (in.-lb)
R22 Carbon Monoxide Detector Installation	0.19	41.37	7.86	2.94	0.53

or

Item	Weight (lb)	Long. Arm (in.)	Long. Moment (in.-lb)	Lat. Arm (in.)	Lat. Moment (in.-lb)
R44 Carbon Monoxide Detector Installation	0.19	12.11	2.30	2.94	0.53

20. As appropriate, verify Pilot's Operating Handbook revision status is Feb 2004 or later for R22, or Apr 2003 or later for R44.
21. Make appropriate maintenance record entry(s).

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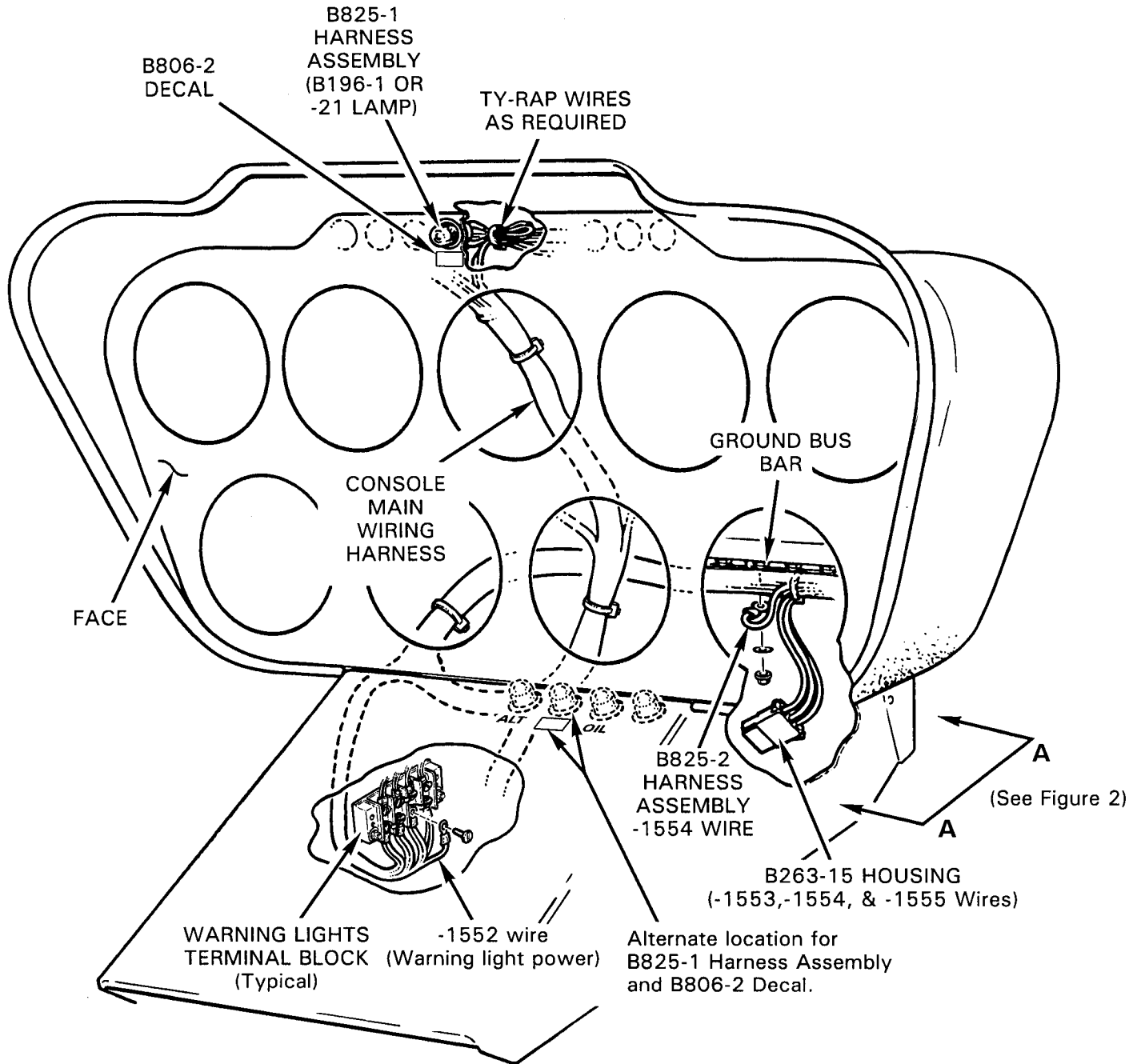


FIGURE 1

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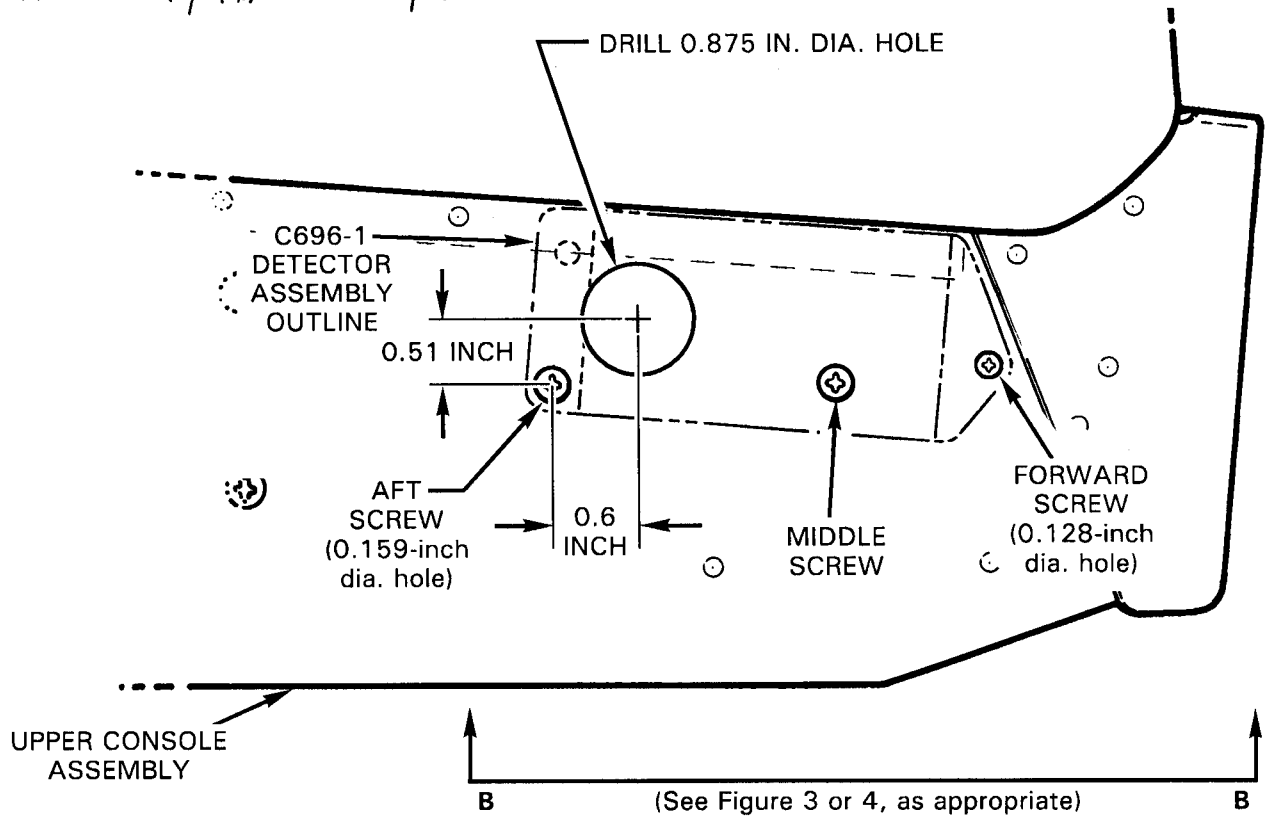


FIGURE 2: VIEW A-A
(looking inboard)

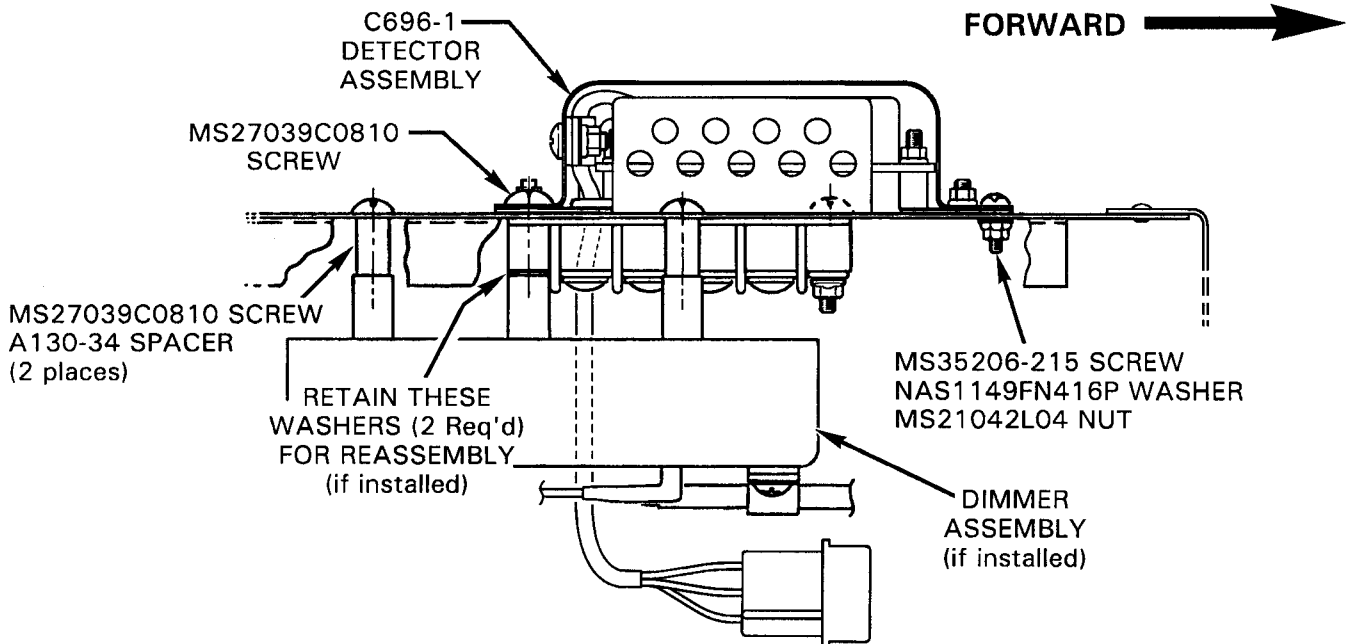


FIGURE 3: VIEW B-B FOR R44
(looking up)

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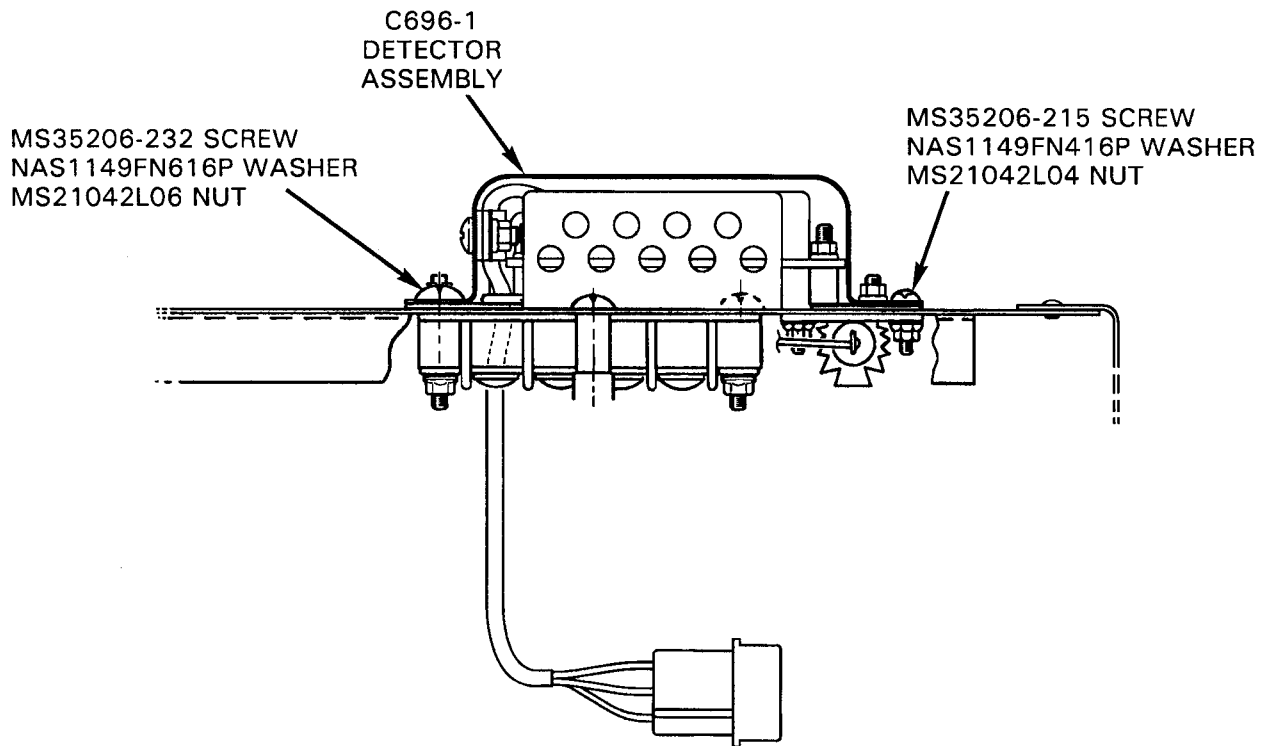


FIGURE 4: VIEW B-B FOR 14-VOLT R22 & R44
(looking up)