

By: *Pat Cox* 14 JAN 2009
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KI-179-3 R22-series KANNAD 406 AF-COMPACT ELT FIELD INSTALLATION KIT

KIT CONTENTS:

1 ea	KI-179-3instr	kit instructions
1 ea	KI-179-1A	antenna cable
1 ea	A837-2	doubler
1 ea	A837-9	switch assy, ELT remote
1 ea	A837-10	harness assy ("dongle"- contains registration data)
1 ea	A837-11	bracket (forward)
1 ea	A837-12	bracket (aft)
1 ea	B260-3	terminal, ring
3 ea	B263-1	pin
5 ea	B263-2	socket
1 ea	B263-14	housing, 3-pin
1 ea	B263-19	housing, 6-socket
2 ea	B267-3	terminator, shield (heat-activated)(1 spare)
3 ft	B274-22	wire, 22-gage unshielded
12 ft	B274-380	wire, four-conductor shielded & jacketed
1 ea	B359-2	ty-rap, releasable
1 ea	1327-82	antenna
12 ea	MS20470AD3-4	rivet
3 ea	MS21042L08	nut
10 ea	MS21042L3	nut
2 ea	MS21919WDG3	clamp
1 ea	MS21919WDG4	clamp
1 ea	MS21919WDG12	clamp
2 ea	MS21919WDG14	clamp
3 ea	MS24694-C51	screw
3 ea	MS27039C0806	screw
7 ea	MS27039C1-07	screw
50 ea	MS3367-5-9	ty-rap
3 ea	NAS1149FN816P	washer
10 ea	NAS1149F0316P	washer
1 ea	S1840501-01	Kannad 406 AF-Compact ELT
1 ea	S1840502-01	mounting bracket for ELT

REQUIRED CONSUMABLES:

A/R	B270-1	sealant
A/R	B270-4	sealant

INSTRUCTIONS:

NOTE
Read instructions completely before installation. Wire stripping & terminal crimping tools and heat gun are required.

1. Verify kit contents match list. Verify registration marking indicated on A837-10 harness assy label matches aircraft registration marking. Contact RHC if any parts are missing or damaged.

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2. Remove belly panel, control tunnel cover, right seat back, and aft cowling. Release cyclic friction, remove roll pin securing cyclic friction knob, remove knob, and install a ty-rap or pin thru shaft to retain spacers. Remove carburetor heat knob on aircraft with carburetor heat assist. Remove screws securing A444 cyclic box cover, lift cover, and disconnect wire from post light. Remove post light from cover.
3. If installed, remove existing: ELT, ELT remote switch, ELT mounting bracket & associated hardware, and ELT antenna & antenna doubler. Leave wiring connecting remote switch and ELT in aircraft, but install heat shrink or otherwise insulate existing connector for remote switch to protect the power wire within. Appropriately secure both connectors.
4. Mask cyclic box area to prevent debris falling in.
5. Create or modify remote switch hole in A444 cyclic box cover per Figure 1. Clean up debris.

NOTE

Hole dimensions must be accurate for proper switch installation.

6. Install A837-9 remote switch assembly into A444 cover with "RESET & TEST" position of switch AFT and secure with supplied hardware per Figure 2. Verify that momentary position of switch coincides with "RESET & TEST" position. Reinstall post light. Unmask cyclic box area.
7. Attach A837-11 & A837-12 brackets to S1840502-01 mounting bracket with supplied hardware per Figure 3. Install mounting bracket assy on left side of upper frame with clamps per Figure 3.
8. Determine if a three-conductor shielded wire (marked only at ends with "-689 -690 -691", beginning approximately 1995 production year), or a four-conductor shielded wire (jacket continuously marked "1849-1852", beginning with R22 S/N 3808) for remote switch is pre-installed. Pre-installed shielded wire may be covered with black expansion sleeving. If shielded wire is pre-installed, locate forward end (typically terminates at a six-socket housing near wiring entrance to circuit breaker panel) & aft end (in main rotor gearbox compartment), cut ty-raps as necessary to free them, and skip to step 10. If shielded wire is not installed, or if it cannot be located, proceed to following step.
9. Route supplied B274-380 shielded wire along main wire bundle from ELT remote switch location at cyclic box aft thru controls tunnel, thru keel panel, up behind right seat back, thru cabin bulkhead, along upper frame tubing to ELT mounting bracket, and secure with ty-raps as required. Trim wire leaving adequate slack for attachment of connectors.
10. Refer to Figure 4. At forward end of three- or four-conductor shielded wire, strip insulation from and crimp a B263-2 socket on each colored wire and heat-shrink B267-3 terminator on shield. Fabricate -692 wire from approximately two feet of B274-22 wire. Strip insulation and crimp B260-3 terminal on one end of -692 wire. Strip insulation on opposite end of -692 wire and crimp both this end and B267-3 terminator's lead in a single B263-2 socket. Insert sockets in B263-19 housing per Figure 4.
11. At aft end of shielded wire, strip insulation from and crimp B263-1 pins on orange, blue, and white wires. If shielded wire has four conductors, cut green wire flush with shield. Insert pins in B263-14 housing per Figure 4.

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12. Connect shielded wire forward connector to A837-9 remote switch. Secure shielded wire to A338-4 channel on cyclic box with MS21919WDG4 clamp per Figure 2. Route and secure -692 wire forward along main wire harness and connect it to ground stud at center of lateral bulkhead under floor.
13. Position A837-2 doubler on inside of B429-4 aft cowling skin per Figure 3. Drill thru doubler's pilot holes with #40 drill and secure doubler to skin with a sheet fastener as each hole is drilled. For skin having rivet holes from a previously installed ELT antenna, align doubler's forward pilot holes with existing holes in cowling, secure with sheet fasteners, and additionally match drill A837-2 doubler thru non-aligning holes in skin. Using doubler as a template, match drill center 0.688-inch diameter hole and three surrounding 0.190-inch diameter holes in skin. Remove doubler and deburr skin and doubler. Attach doubler to skin using 8, or 12, MS20470AD3-4 rivets, as applicable.
14. Drill and deburr two 0.170 inch diameter holes in B423-3 (formerly A032-12) stiffener per Figure 3.
15. Install 1327-82 antenna over the 0.688-inch diameter hole per Figure 3. Seal around base with B270-1 sealant. Seal over screw heads and holes with B270-4 sealant.
16. Reference Figure 3. Install aft cowling. Connect KI-179-2A antenna cable to antenna, route cable to ELT mounting bracket, and secure cable to frame with ty-raps.
17. Check ELT switch is in "OFF" position and remote switch is in "ARMED" position. Connect A837-10 harness assy to ELT. Connect KI-179-2A antenna cable to ELT. Connect A837-10 harness assy to ELT remote switch cable.
18. Obtain the latest Kannad 406 AF-Compact Operation Manual online at: <http://www.kannad.com> and perform the "CHECK" procedure described in the manual.
19. Install ELT on mounting bracket. Install B359-2 ty-rap per Figure 3 and do NOT trim it. Ensure clearance exists between ELT installation, including B359-2 ty-rap, and drive train.
20. Ensure no foreign objects in flight controls or tunnel area. Reconnect post light wire to post light and reinstall cyclic cover. Ensure ELT remote switch wiring does not interfere with flight controls and ty-rap as required. Reinstall friction knob and roll pin, right seat back, tunnel covers, belly panel, & carburetor heat knob (if applicable). Verify proper function of post light.
21. Refer to Weight & Balance Record in helicopter's Pilot's Operating Handbook section 6. Update Running Basic Empty Weight using following data:

Component	Weight (lb)	Longitudinal Arm (inches)	Longitudinal Moment (in.-lb)	Lateral Arm (inches)	Lateral Moment (in.-lb)
Kannad ELT system	2.62	116.1	304	-4.20	-11
Pointer 3000-10 or 4000-10 (if removing previous RHC installation)	-2.70	121.5	-328	-	-

22. Make appropriate maintenance record entries.

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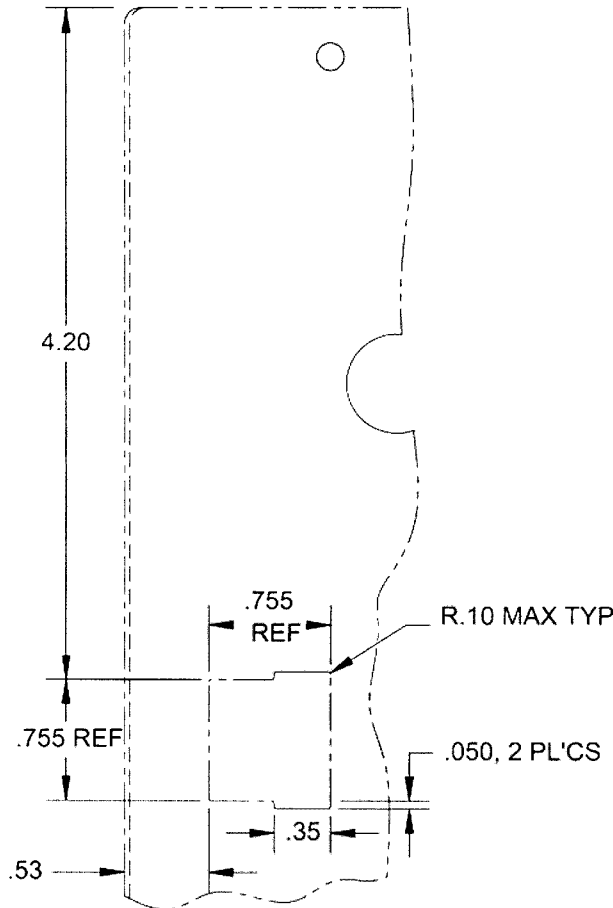


Figure 1 A444 COVER MODIFICATION
(view looking down, all dimensions in inches)

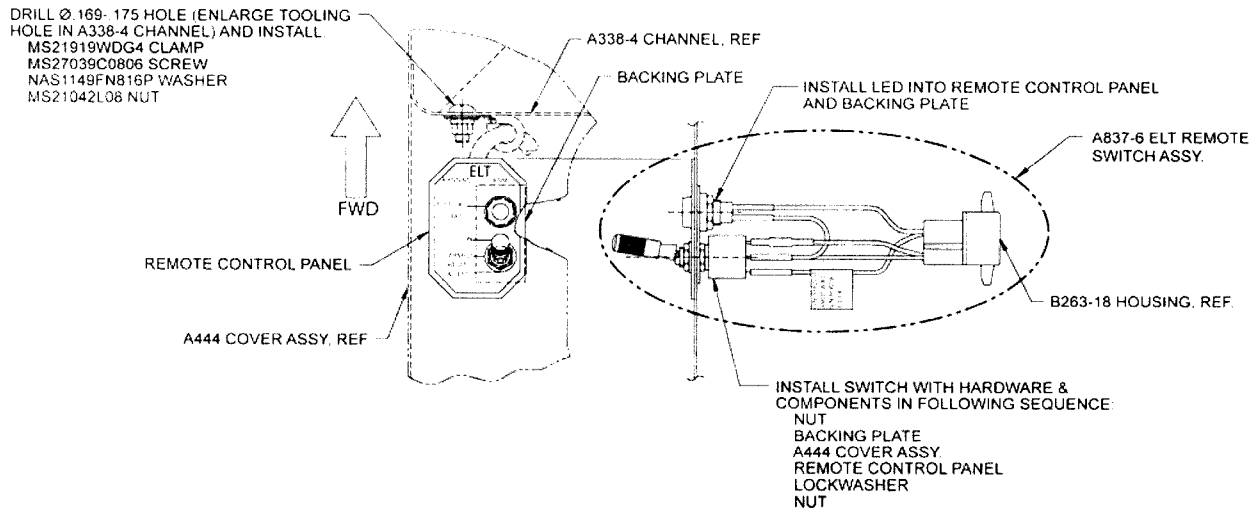


FIGURE 2 ELT REMOTE SWITCH INSTALLATION
(left view looking down, all dimensions in inches)

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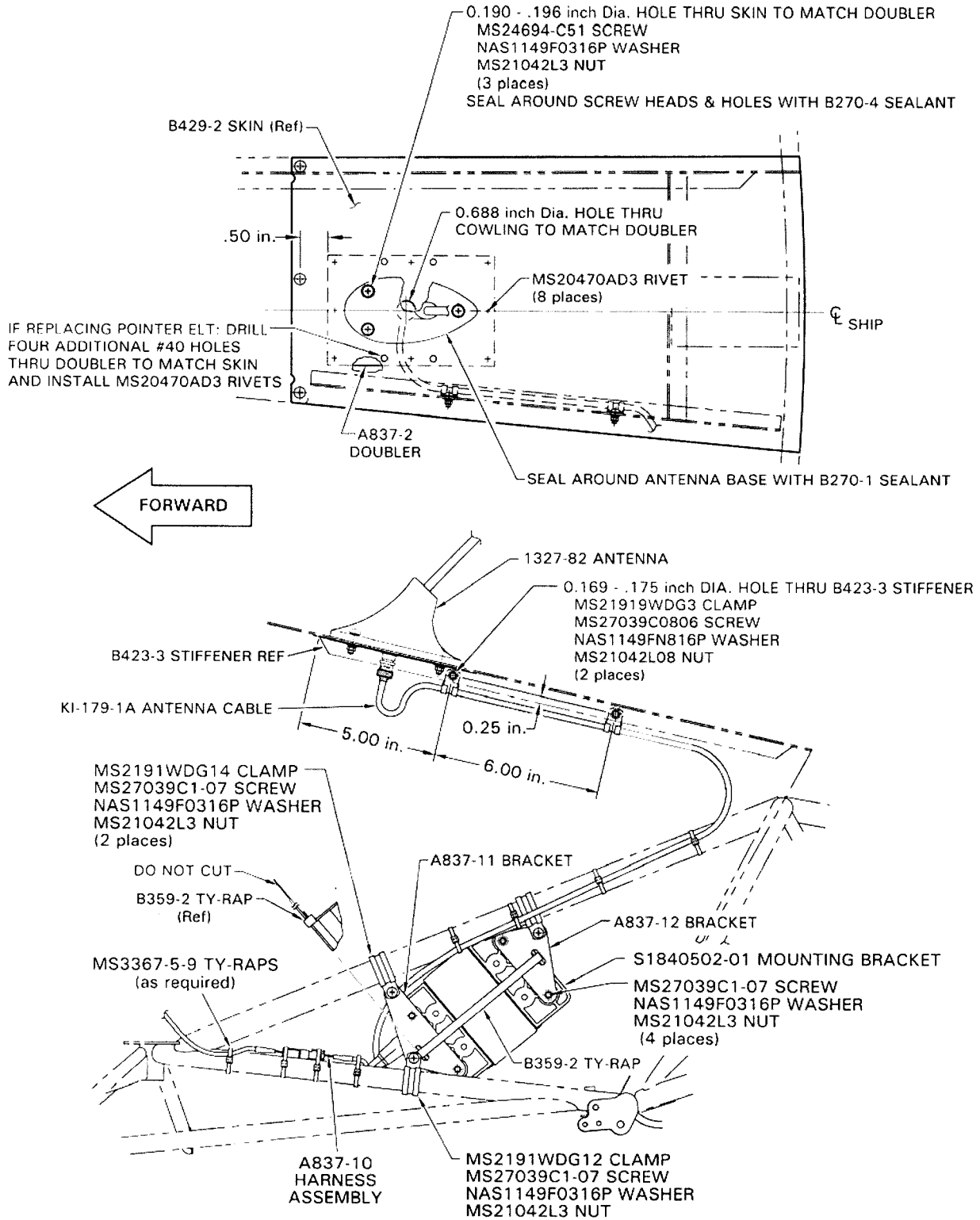


Figure 3 ELT & ELT ANTENNA INSTALLATION

(lower view looking inboard, main fuel tank shown removed for clarity)
(all dimensions in inches)

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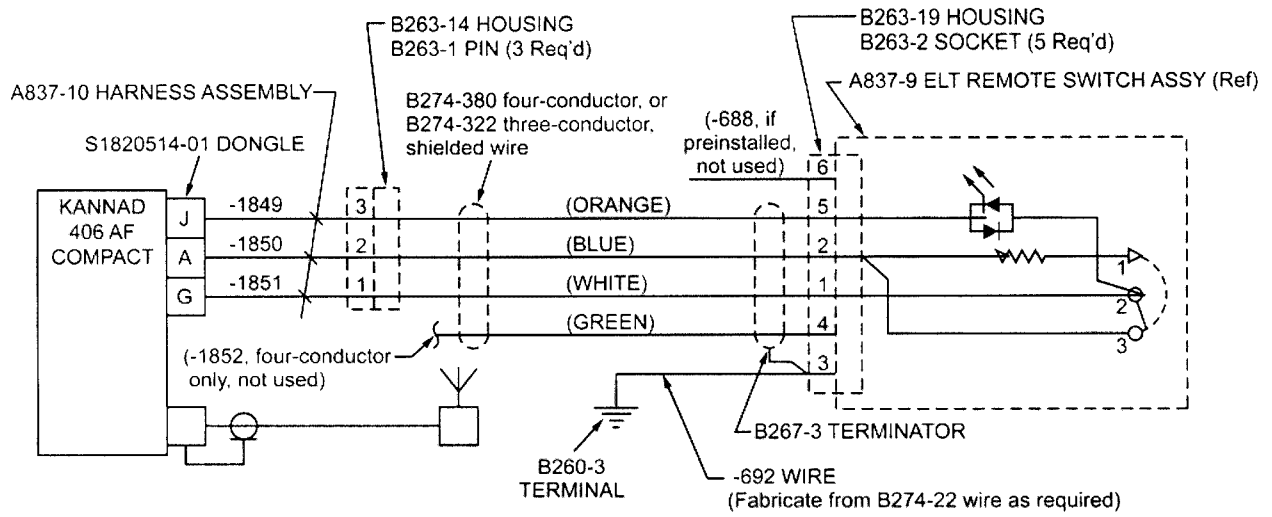


FIGURE 4 WIRING SCHEMATIC