

By: Zach Archer 01 Sep 2011
Approved: Pat Cox 17 Oct 2011

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KI-179-4 R44-series KANNAD 406 AF-COMPACT ELT FIELD INSTALLATION KIT

KIT CONTENTS:

1 ea	KI-179-4instr	kit instructions
1 ea	KI-179-2A	antenna cable
1 ea	A837-2	doubler
1 ea	A837-9	switch assy, ELT remote
1 ea	A837-10	harness assy ("dongle")
3 ea	B260-3	terminal, ring
4 ea	B263-1	pin
6 ea	B263-2	socket
1 ea	B263-10	housing, 1-pin
1 ea	B263-11	housing, 1-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)
2 ft	B274-20	wire, 20-gage unshielded
3 ft	B274-22	wire, 22-gage unshielded
15 ft	B274-380	wire, four-conductor shielded & jacketed
1 ea	D693-4	strap assembly
1 ea	F654-25	decals
1 ea	C837-5	angle
1 ea	AV-300	antenna
11 ea	MS20470AD3-4	rivet
2 ea	MS21042L08	nut
8 ea	MS21042L3	nut
3 ea	MS21919WDG16	clamp
2 ea	MS27039C0806	screw
5 ea	MS27039C1-09	screw
50 ea	MS3367-5-9	ty-rap
2 ea	NAS1149FN816P	washer
5 ea	NAS1149F0316P	washer
3 ea	NAS1149F0332P	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 ("dongle") label matches aircraft registration marking. Contact RHC if any parts are missing or damaged.

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2. Remove belly panels, control tunnel covers, aft-right seat back, and tailcone 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 C444 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 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 C444 cyclic box cover per Figure 1. Clean up debris.

<p>NOTE Hole dimensions must be accurate for proper switch installation.</p>

6. Install A837-9 remote switch assembly into C444 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. Install S1840502-01 ELT mounting bracket using C837-5 angle, clamps, and hardware per Figure 3. Affix F654-25 decal onto face of bracket per Figure 5.
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 (continuously marked "1849-1852", refer to following table for helicopter effectivity) for remote switch is pre-installed. If shielded wire is pre-installed, locate forward & aft ends, cut ty-raps as necessary to free them, and skip to step 11. If no shielded wire is installed, or if it cannot be located, proceed to step 9.

Aircraft with four-conductor cable pre-installed		
Model	Battery Location	Helicopter S/N
R44 I	Aft or Nose	1474 and subsequent
	Under Seat	1490 and subsequent
R44 II	Aft or Nose	10564 and subsequent
	Under Seat	10685 and subsequent

9. Locate main wire bundle passing through cabin aft bulkhead, behind right-aft seat back, and running forward through controls tunnel to instrument console. Run supplied B274-380 wire following this main wire bundle from ELT remote switch location in controls tunnel, aft through tunnel, behind right-aft seat back, through cabin aft bulkhead, along upper frame, and across hydraulic reservoir support to ELT mounting bracket. Trim wire leaving adequate slack for attachment of connector.

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10. At forward end of 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.
12. Connect forward end of cable to A837-9 remote switch. Route and secure -692 wire forward along main wire harness and connect it to ground stud at center of lateral bulkhead under floor.
13. Reference Figure 3. Position A837-2 doubler on C706-1 tailcone cowling interior and bend doubler to match cowling contour. Drill thru doubler's pilot holes with #40 drill and secure doubler to cowling with a sheet fastener as each hole is drilled. For cowling 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 cowling. Using doubler as a template, match drill center 0.688-inch diameter hole and three surrounding 0.190-inch diameter holes in C706-1 cowling. Remove doubler and deburr cowling and doubler. Attach doubler to cowling using 7, or 11, MS20470AD3-4 rivets. Fabricate and install antenna doubler-to-airframe ground wire using supplied B274-20 wire, connectors, and hardware, or re-use similar wire from previous ELT antenna installation.
14. Discard gasket supplied with AV-300 antenna. Install AV-300 antenna in 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. Install tailcone cowling.
15. Reference Figure 3. Connect KI-179-2A antenna cable to antenna, route cable to ELT mounting bracket, and secure cable to frame with ty-raps. Connect antenna doubler ground wire and secure wire with ty-raps as required.
16. 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.
17. Obtain the latest Kannad 406 AF-Compact Operation Manual online at: <http://www.kannad.com> and perform the "CHECK" procedure described in the manual.
18. Install ELT on mounting bracket. Secure ELT with D693-4 strap. Ensure clearance exists between ELT installation and drive train.
19. 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-rape as required. Reinstall friction knob and roll pin, right-aft seat back, tunnel covers, belly panels, & carburetor heat knob (if applicable). Verify proper function of post light.
20. Refer to Weight & Balance Record in helicopter's Pilot's Operating Handbook section 6. Update Running Basic Empty Weight using following data:

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Component	Weight (lb)	Longitudinal Arm (inches)	Longitudinal Moment (in.-lb)	Lateral Arm (inches)	Lateral Moment (in.-lb)
Kannad ELT system	2.51	119.48	300	-4.16	-10.45
Pointer 3000-10 or 4000-10 (if removing previous RHC installation)	-2.70	121.5	-328	-	-

21. Make appropriate maintenance record entries.

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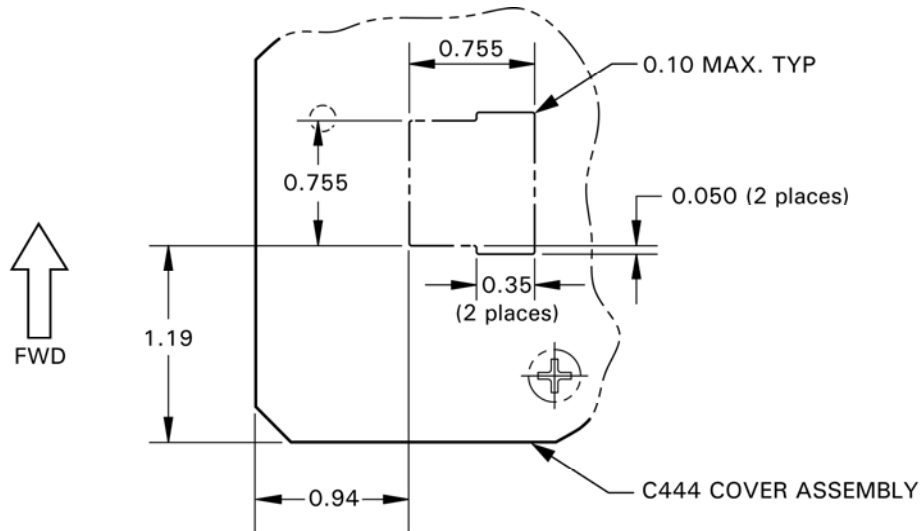


FIGURE 1 C444 COVER MODIFICATION
(view looking down, all dimensions in inches)

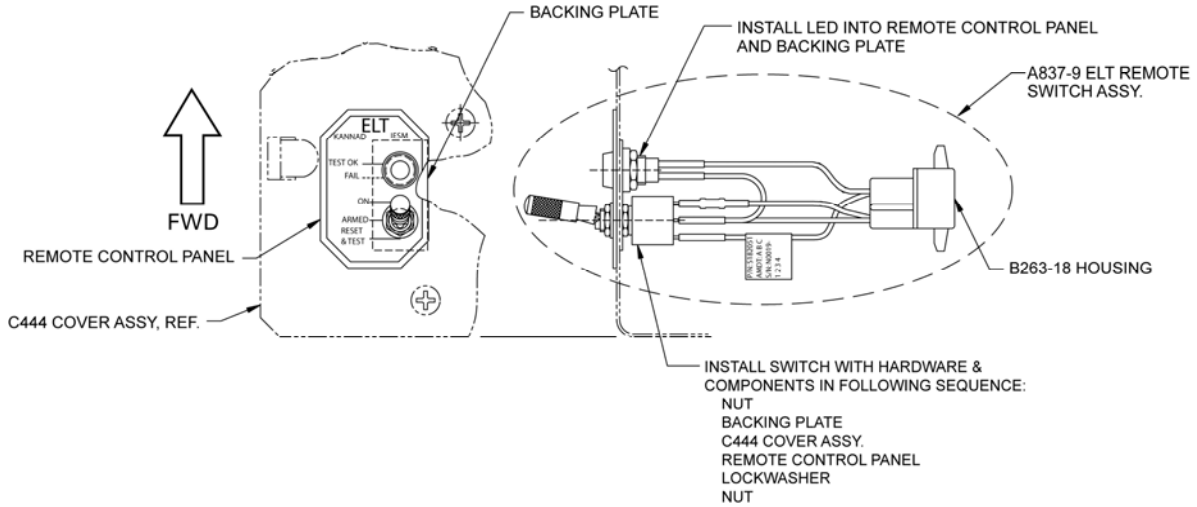


FIGURE 2 ELT REMOTE SWITCH INSTALLATION
(view looking down)

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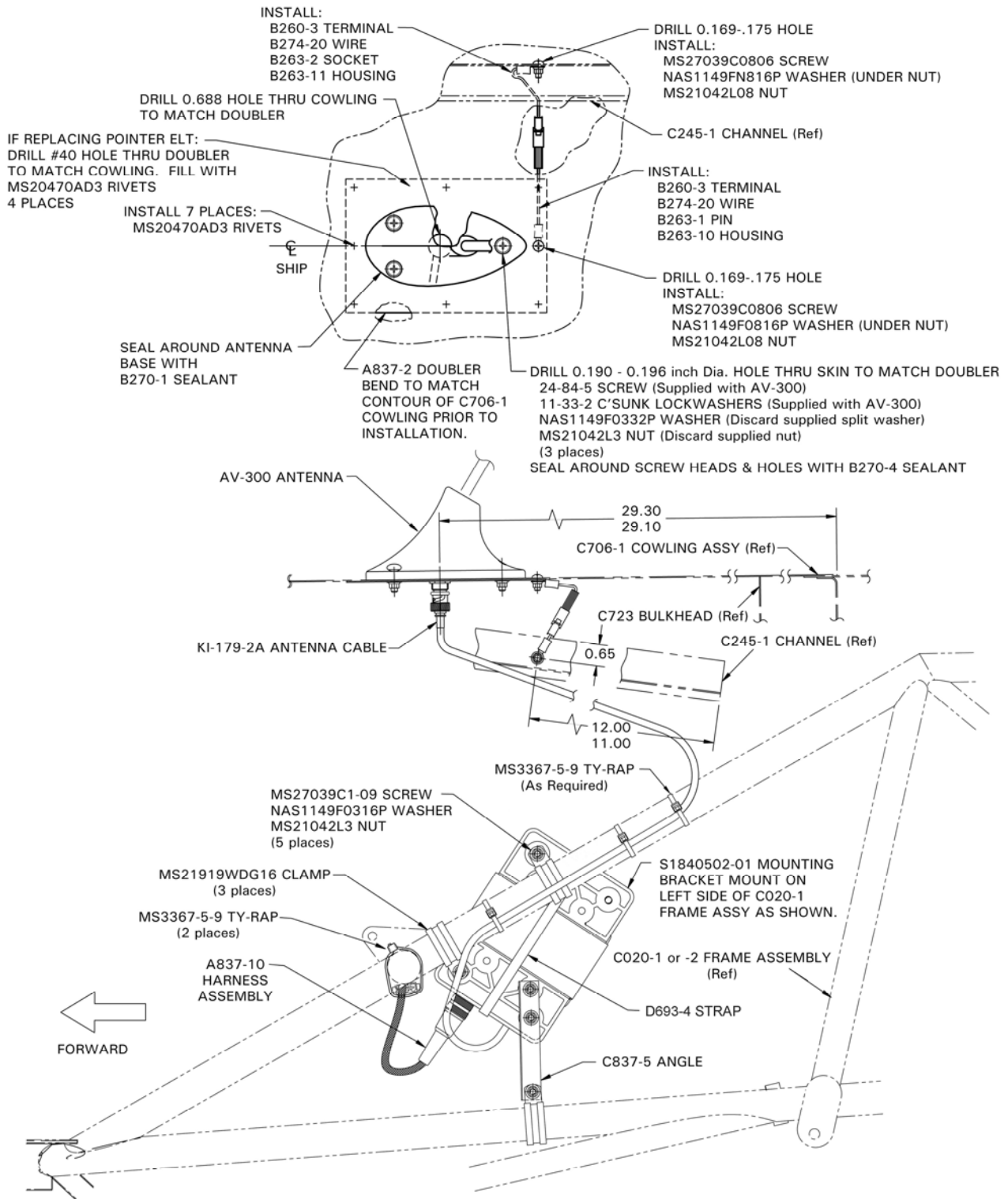


FIGURE 3 ELT AND ELT ANTENNA INSTALLATION

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

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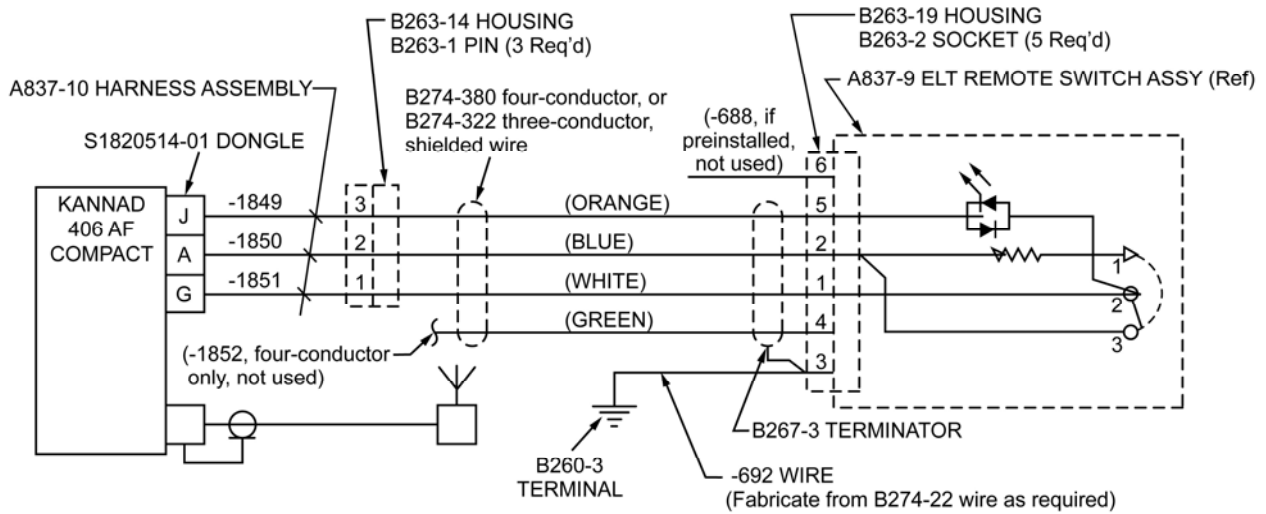


FIGURE 4 WIRING SCHEMATIC

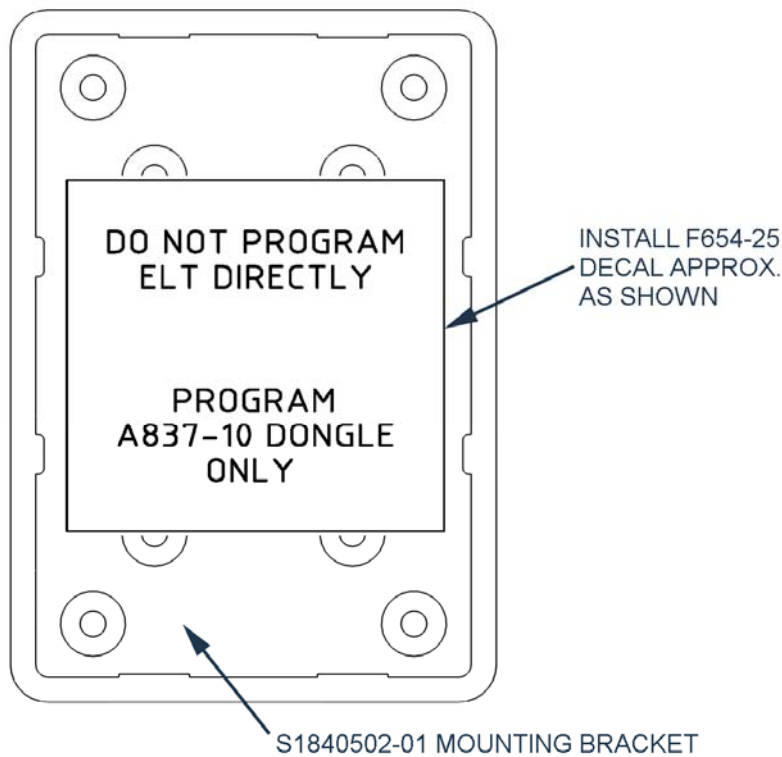


FIGURE 5 F654-25 DECAL INSTALLATION

(view looking at ELT side of bracket)