

KI-179-5 & KI-179-7 R22-series Kannad AF Integra ELT Installation Kit Instructions
 For R22 helicopters without ELTs or if replacing RHC-option Pointer 3000-10 or 4000-10 ELT.
 KI-179-5 includes ELT transmitter; KI-179-7 is provisions only.

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.

NOTE

Rivets included in kit contents are provided as a courtesy and at lengths most commonly used on production helicopters. Proper rivet length is determined by installer during installation.

ITEM	PART NUMBER	KIT CONTENTS	QTY PER KI-179-5	QTY PER KI-179-7
1	KI-179-5 & -7Instr.	Kit Instructions	1	1
2	A837-2	Doubler	1	1
3	A837-3	Backing Plate	1	1
4	A837-10	Harness Assembly ("dongle" - contains registration data)	1	1
5	A837-11	Bracket - Forward	1	1
6	A837-12	Bracket - Aft	1	1
7	B260-3	Terminal - Ring	1	1
8	B263-1	Pin	3	3
9	B263-2	Socket	3	3
10	B263-14	Housing (3-pin)	1	1
11	B263-15	Housing (3-socket)	1	1
12	B267-3	Terminator - Shield (heat-activated; 1 spare)	2	2
13	D210-3	Nut	10	10
14	F654-25	Decal – "DO NOT PROGRAM..."	1	1
15	F837-3	Switch Assembly - ELT (remote)	1	1
16	KI-179-1A	Antenna Cable	1	1
		Includes: [1] B274-518 Cable – Coax, 50 ohm, 18 gage; 3 ft length [2] 5225395-6 Plug		
17	KI-179-1B	Wire - Unshielded (B274-22 wire; 3 ft length, marked "692")	1	1
18	KI-179-1C	Wire - Three-conductor, shielded & jacketed (B274-322 wire; 12 ft length, marked "-1849/-1850/-1851")	1	1
19	AV-300	Antenna	1	1
20	S1840502-01	Mounting Bracket (Kannad)	1	1
21	S1851501-02	ELT transmitter (Kannad AF Integra)	1	0
22	MS20470AD3-4+	Rivet (Note: "+" in part number indicates 50-qty pack)	1	1

ITEM	PART NUMBER	KIT CONTENTS (continued)	QTY PER KI-179-5	QTY PER KI-179-7
23	MS21042L08	Nut	3	3
24	MS21919WDG3	Clamp	2	2
25	MS21919WDG4	Clamp	1	1
26	MS21919WDG12	Clamp	1	1
27	MS21919WDG14	Clamp	2	2
28	MS27039C0806	Screw	3	3
29	MS27039C1-07	Screw	7	7
30	MS3367-5-9+	Ty-Rap (Note: "+" in part number indicates 20-qty pack)	2	2
31	MS3367-6-0	Ty-Rap	1	1
32	NAS1149FN816P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	1
33	NAS1149F0316P+	Washer (Note: "+" in part number indicates 10-qty pack)	2	2
34	NAS1149F0332P+	Washer (Note: "+" in part number indicates 20-qty pack)	1	1

Consumables:

Refer to R22 Maintenance Manual (MM) § 23-70 for approved materials list.

- B270-1 Sealant
- B270-13 Sealant
- R8260 Touch-up paint kit (refer to helicopter Maintenance Record for paint codes)

Special Tools:

- Step drill, 7/8 inch diameter capability
- Wire stripping and crimping tools
- Heat gun

Kit Instructions

1. Refer to R22 Service Letter SL-60. Verify registration marking indicated on A837-10 (dongle) harness assembly label matches aircraft registration marking.
2. Remove belly panel, control tunnel cover, right seat back, and aft cowling. Release cyclic friction, remove spring 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. Refer to Figures 1 & 2. If required, create or modify remote switch hole in A444 cyclic box cover per Figure 1. Clean up debris.

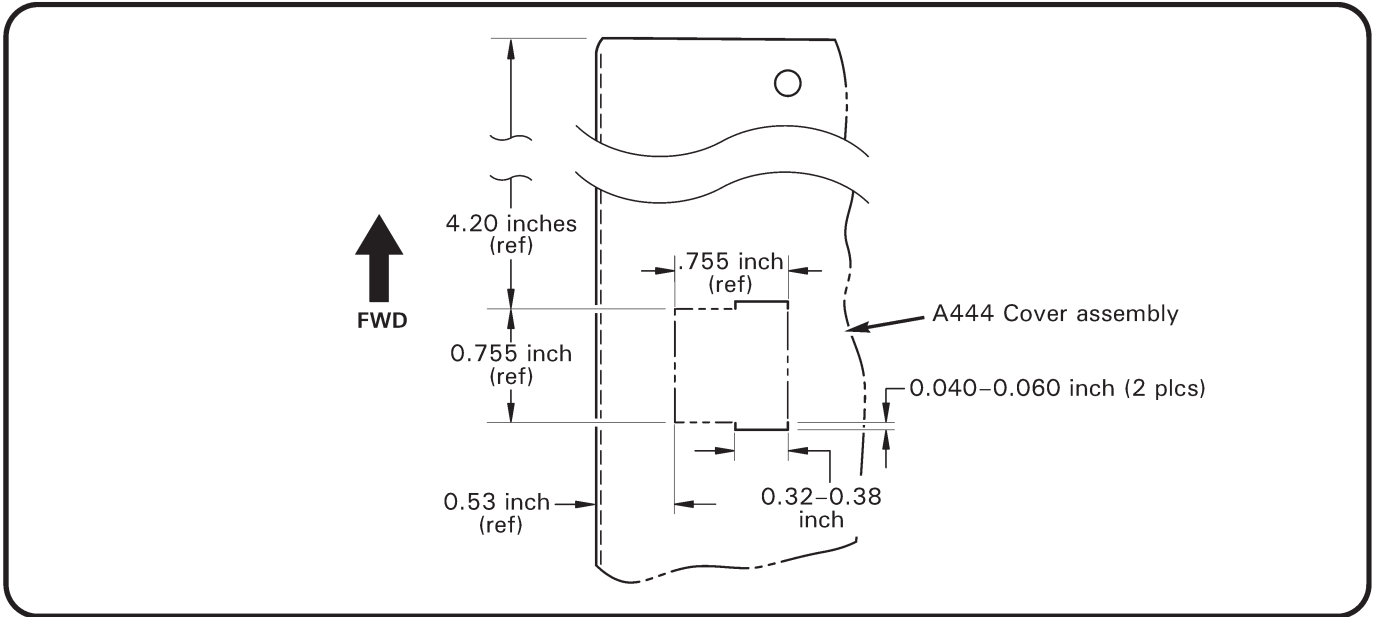


FIGURE 1

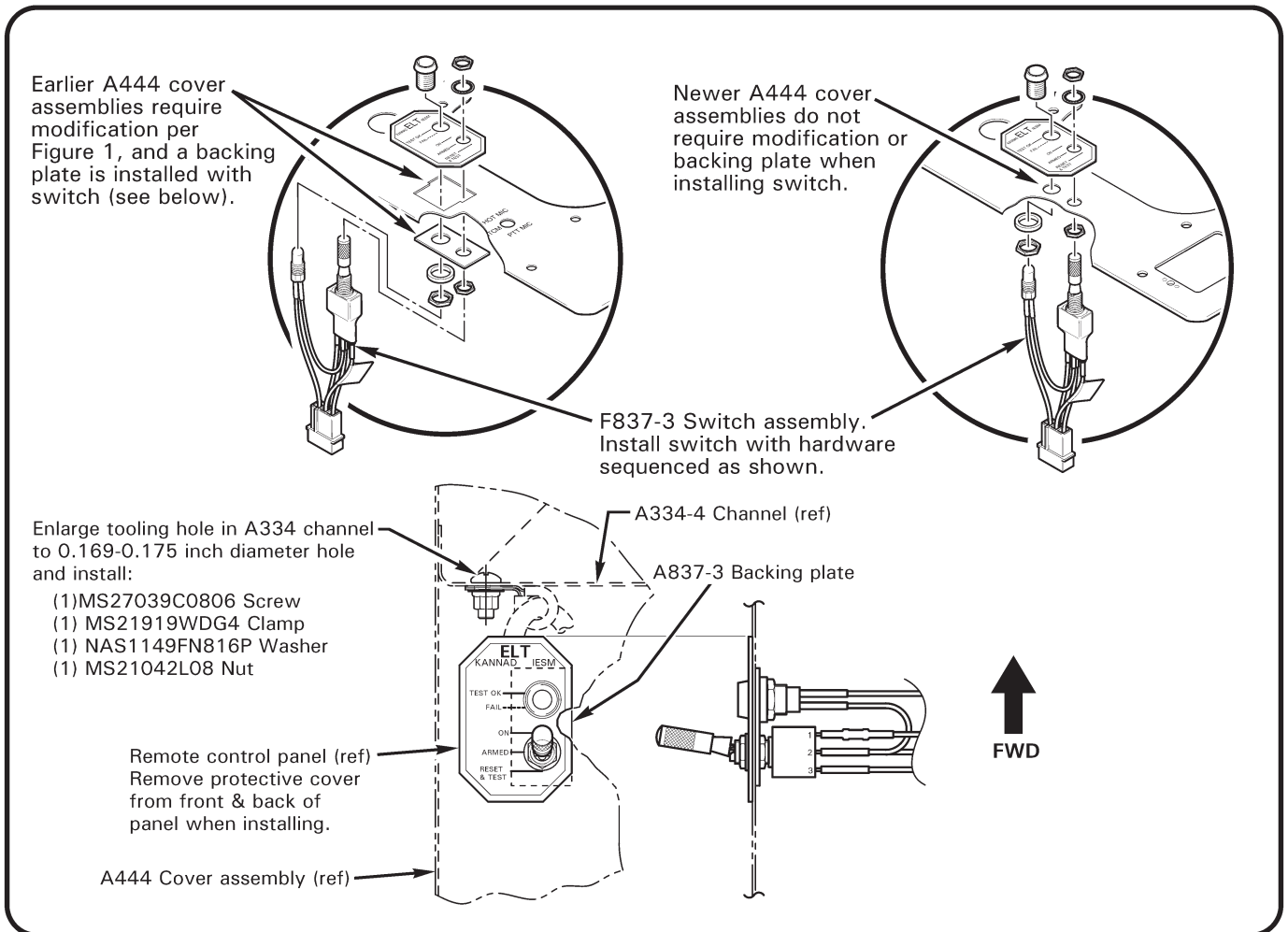


FIGURE 2

Kit Instructions (continued)

NOTE

Hole dimensions must be accurate for proper switch installation. Newer A444 cyclic box covers do not require modification.

6. Install F837-3 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. Refer to Figure 3. Attach A837-11 & A837-12 brackets and affix F654-25 decal to S1840502-01 mounting bracket with supplied hardware. Install mounting bracket assembly on left side of upper frame with clamps.
8. Determine if a three-conductor shielded & jacketed wire (continuously marked “1849/-1850/-1851”), or a four-conductor shielded & jacketed wire (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 appropriately-marked 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 KI-179-1C wire (marked “1849/-1850/-1851”) 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. Secure KI-179-1C wire using MS3367-5-9 ty-raps as required. Cinch ty-raps until snug without overtightening, and trim tips flush with heads. Trim wire leaving adequate slack for attachment of connectors.
10. At forward end of three- or four-conductor shielded & jacketed wire, strip insulation from and crimp a B263-2 socket on each orange, blue, and white wire; if installed, cut green wire flush with shield. Strip insulation and crimp B260-3 terminal on one end of supplied KI-179-1B wire (marked “692”). Strip insulation on opposite end of -692 wire, remove B267-3 terminator’s lead, and heat-shrink terminator and stripped -692 wire to shield. Insert sockets in B263-15 housing per Figure 5.
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 5.
12. Refer to Figure 2. Connect shielded wire forward connector to F837-3 remote switch. Secure shielded wire to A338-4 channel on cyclic box with MS21919WDG4 clamp. Route and secure -692 wire forward along main wire harness and connect it to ground stud at center of lateral bulkhead under floor.

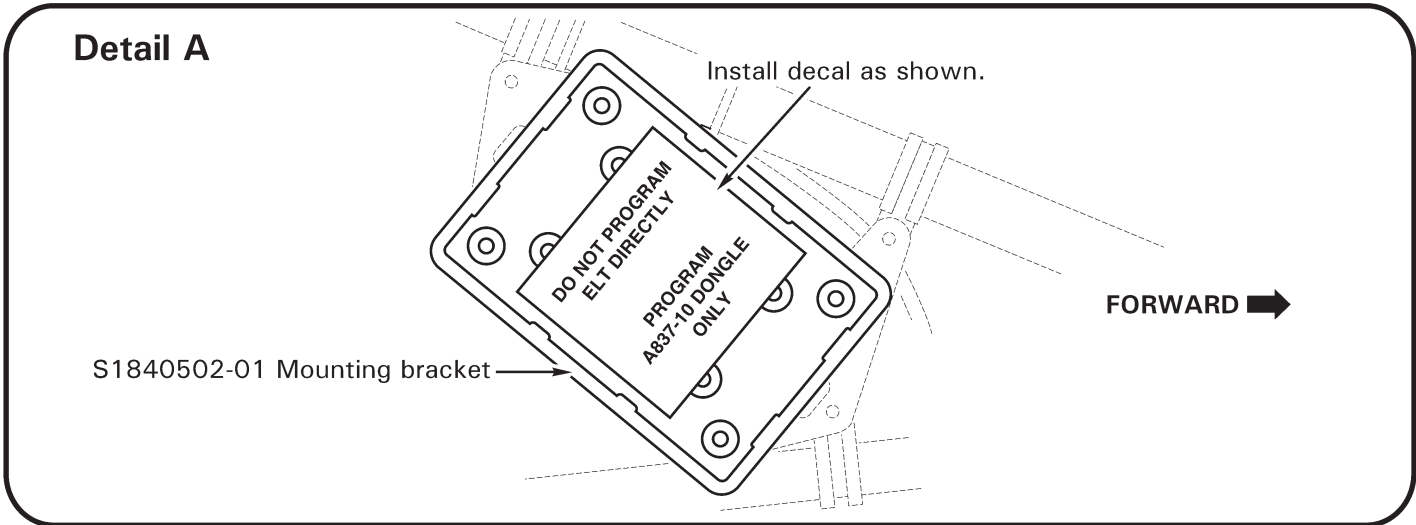
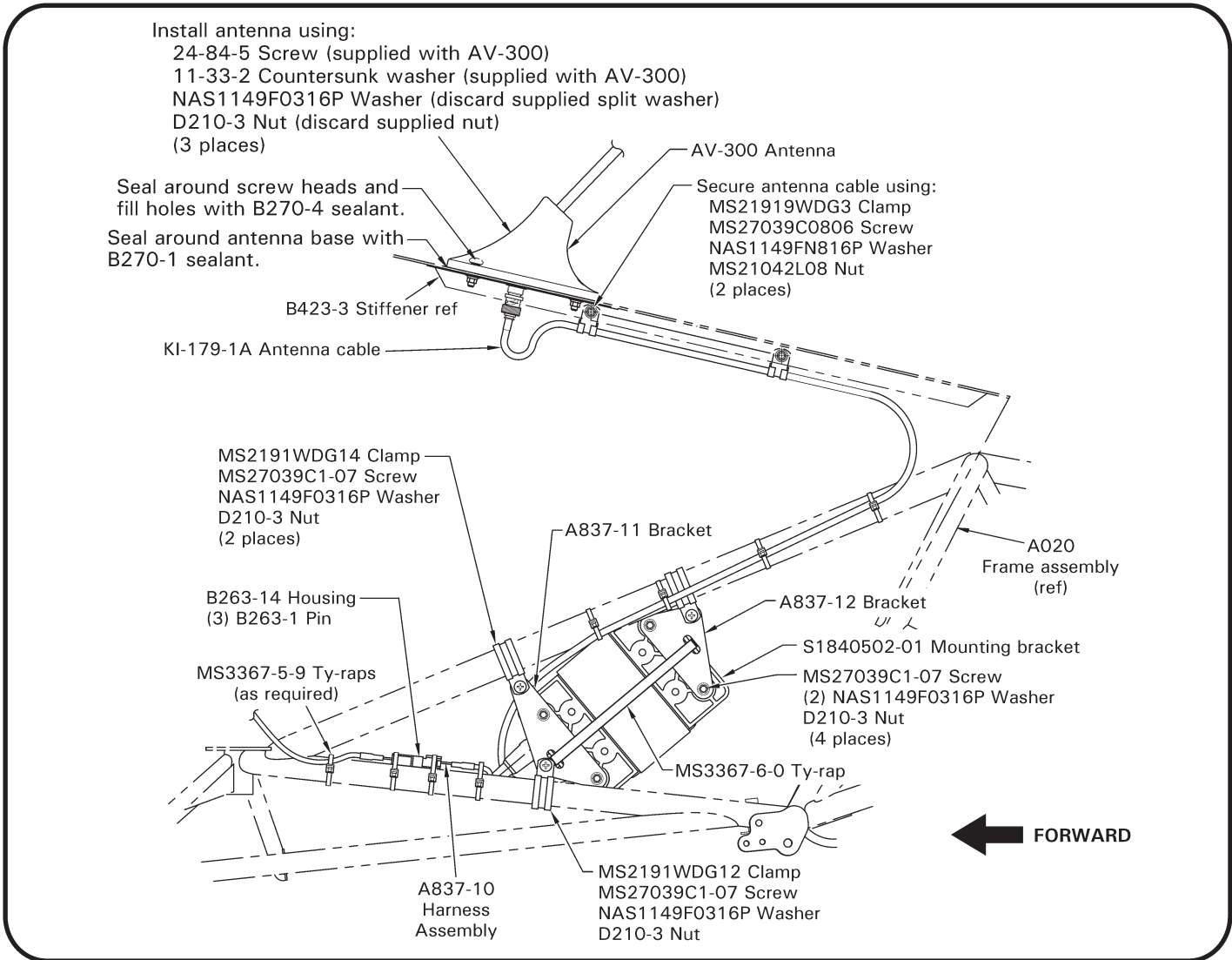


FIGURE 3

Kit Instructions (continued)

13. **For new installation of ELT:** Refer to Figure 4A. Drill thru doubler's pilot holes with #40 drill and secure doubler to skin with a sheet fastener as each hole is drilled. 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.

For cowling having rivet holes from a previously installed ELT antenna: Refer to Figure 4B. Align doubler's forward pilot holes with existing holes in cowling skin, secure with sheet fasteners, and match drill A837-2 doubler thru non-aligning holes in skin. Using doubler as template, enlarge existing antenna hole in cowling skin to match hole diameter of new doubler. Match drill 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. Touch-up newly installed rivets as necessary with appropriate paint color.

NOTE

Use of a step drill is recommended to enlarge an existing antenna hole in B429-2 aft cowling skin to match 0.688 inch diameter hole in A837-2 doubler.

14. Refer to Figure 4A. Drill and deburr two 0.169–0.170 inch diameter holes in B423-3 (formerly A032-12) stiffener.
15. Refer to Figure 3. Discard gasket supplied with AV-300 antenna. Install AV-300 antenna over the 0.688 inch diameter hole using hardware as shown. Seal around base with B270-1 sealant. Seal over screw heads and holes with B270-13 sealant.
16. Install aft cowling. Connect KI-179-1A 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 dongle to ELT transmitter. Connect KI-179-1A antenna cable to ELT transmitter. Connect dongle to ELT remote switch cable.
18. Verify current revision status of Kannad AF Integra Operation Manual (www.kannad.com) and perform the "CHECK" procedure described in the manual.
19. Refer to Figure 3. Install ELT transmitter on mounting bracket with supplied hook & loop fastener strap. Secure ELT using MS3367-6-0 ty-rap. Ensure clearance exists between ELT installation 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 spring pin, right seat back, tunnel covers, belly panel, & carburetor heat knob (if applicable). Verify proper function of post light.

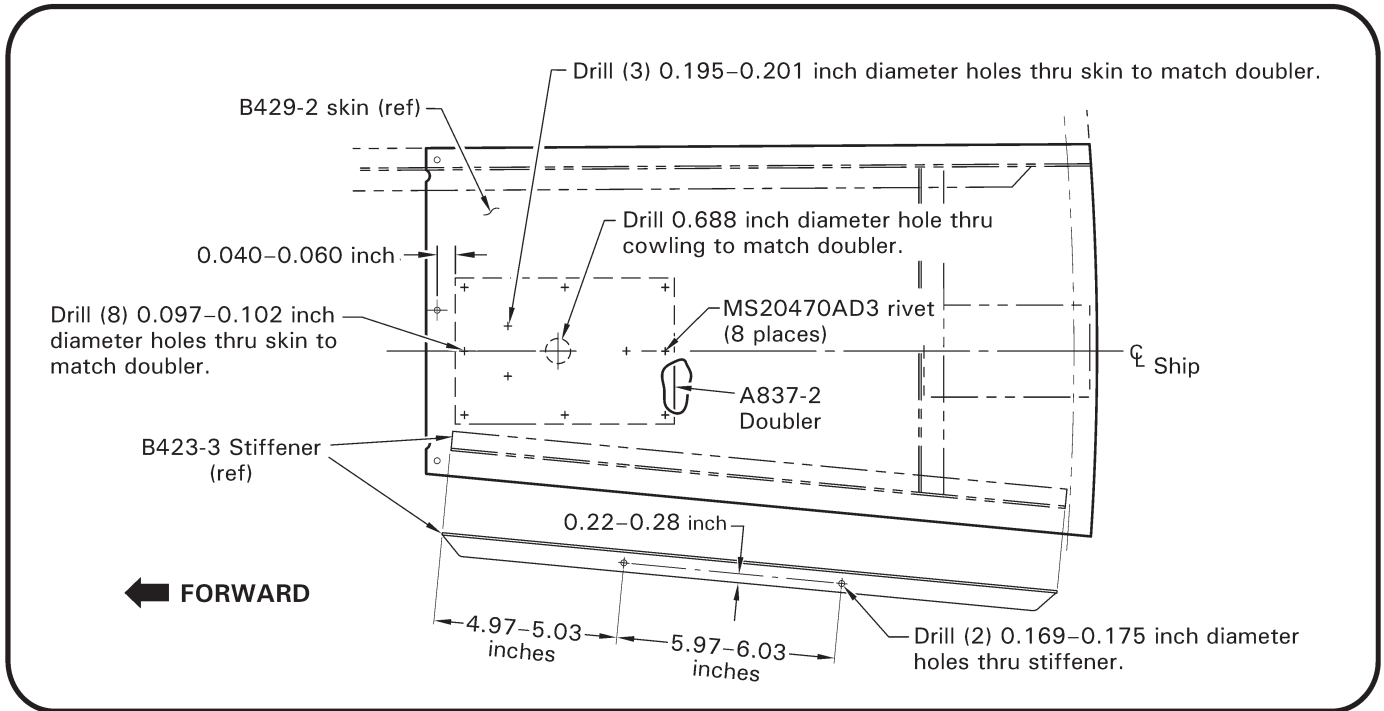


FIGURE 4A
(view looking down)

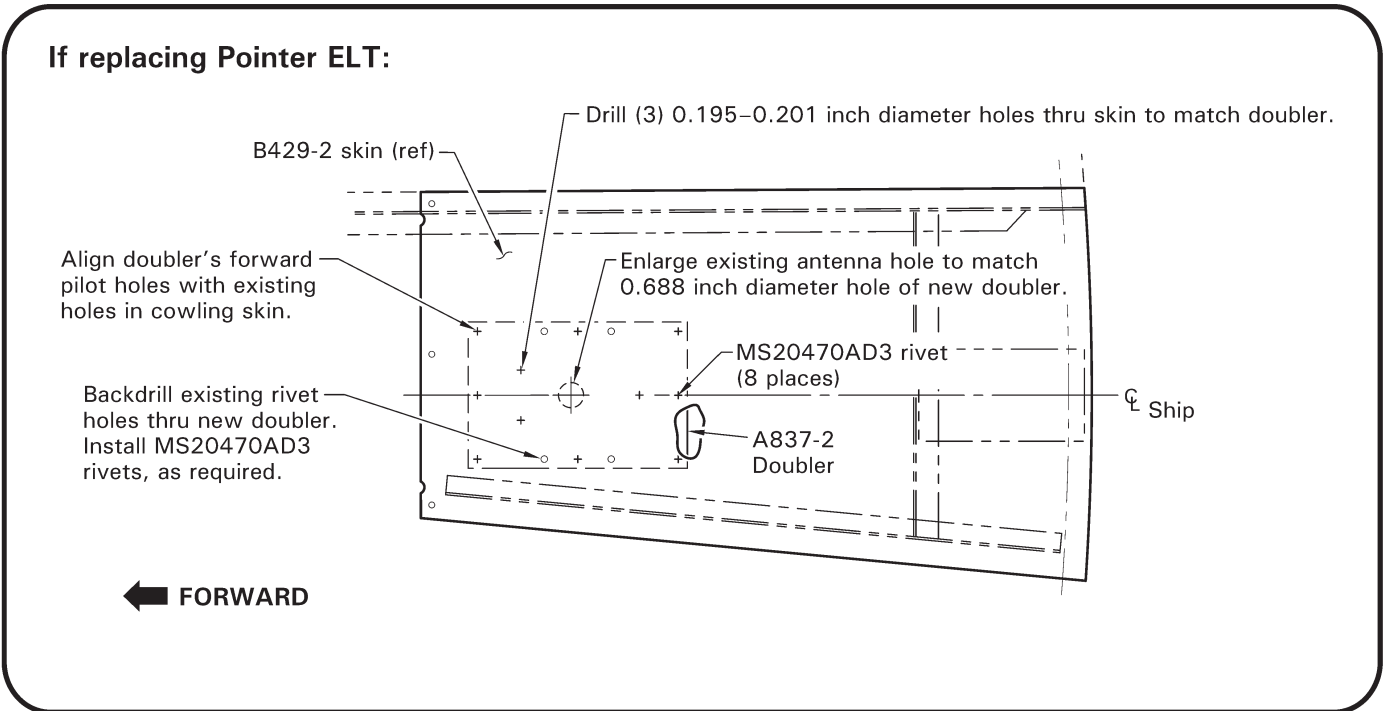


FIGURE 4B
(view looking down)

Kit Instructions (continued)

21. Revise helicopter’s Weight and Balance Record in Pilot’s Operating Handbook (POH) Section 6 to reflect this installation by incorporating the following data:

Remove (as required):

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
Pointer 3000-10 ELT (RHC Installation)	-2.70 lb	+121.5 in.	-328 in-lb	Negligible.	Negligible.

Add:

Item	Weight	Long. Arm	Long. Moment	Lat. Arm	Lat. Moment
Kannad AF Integra ELT (RHC Installation)	+2.62 lb	+116.1 in.	+304 in-lb	-4.20 in.	-11.0 in-lb

22. Make appropriate maintenance record entries.

23. The helicopter owner or operator must register the ELT. Visit www.cospas-sarsat.org for instructions.

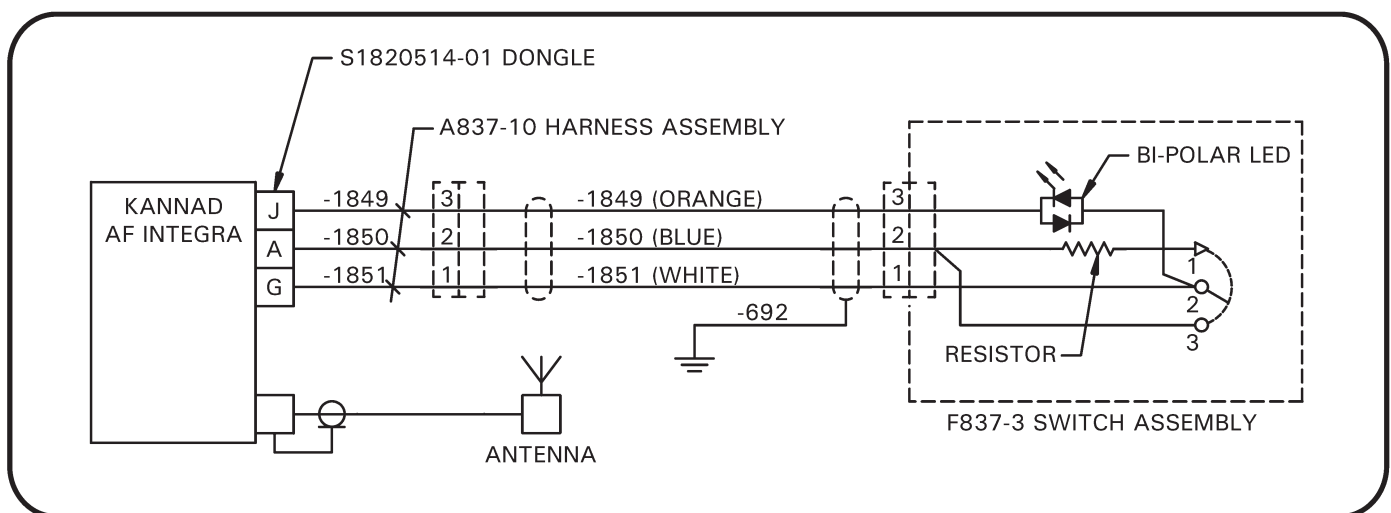


FIGURE 5