



# SERVICE INSTRUCTION SI0026 Rev A Page 1 of 11

**EFFECTIVE DATE:** This SERVICE INSTRUCTION is effective 12/19/12

**SUBJECT:** *Battery Compartment Insert Instruction*

**MODELS AFFECTED:** *CC11-100 OR CC11-160 S/N 00001 - 00236*

**COMPLIANCE TIME:** *COMPLIANCE NOT MANDATORY*

**PURPOSE:** *To provide instructions for the retrofit of a battery compartment insert to allow installation of alternate batteries and ELT's.*

**PARTS LIST:**

<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
AN365-832A	NUT, NYLON LOCK	2
AN507C632R16	SCREW, 6-32 X 1 C	1
AN507C632R8	SCREW, 6-32 X .5 C	6
AN507C832R16	SCREW, 8-32 X 1 C	2
AN525-832R7	SCREW, 8-32 X 7/16 WASHER HEAD	2
AN960-8	WASHER, FLAT #8	2
CK90002-001	BATTERY BOX TEMPLATE	1
HDW-31-9RFX	CONNECTOR – BNC 90 MALE/FEMALE, COAX CABLE	1
HDW-A3236-012-935	WASHER, C-SUNK	7
MS20426A3-6	RIVET	14
MS21059L06	NUT PLATE, TWO LUG	7
RM1015-006	2" LOOP TAPE, NON-ADHESIVE	24"
RM1016-006	2" HOOK TAPE, NON-ADHESIVE	12"
SC10950-024	PLACARD - ELT DISCONNECT	1
SC70350-001	BATTERY CABLES, 90 DEGREE	1
SC91031-003	BATTERY/ ELT COMPARTMENT	1
SC91032-001	BACKING PLATE, ELT	1
VP6003-003	BUTT SPLICE	1

**NOTE**

This Service Instruction provides approval for installation of alternate models of batteries to be installed. The list of approved batteries can be found in Table 1. This document does not provide approval for alternate models of ELT to be installed.

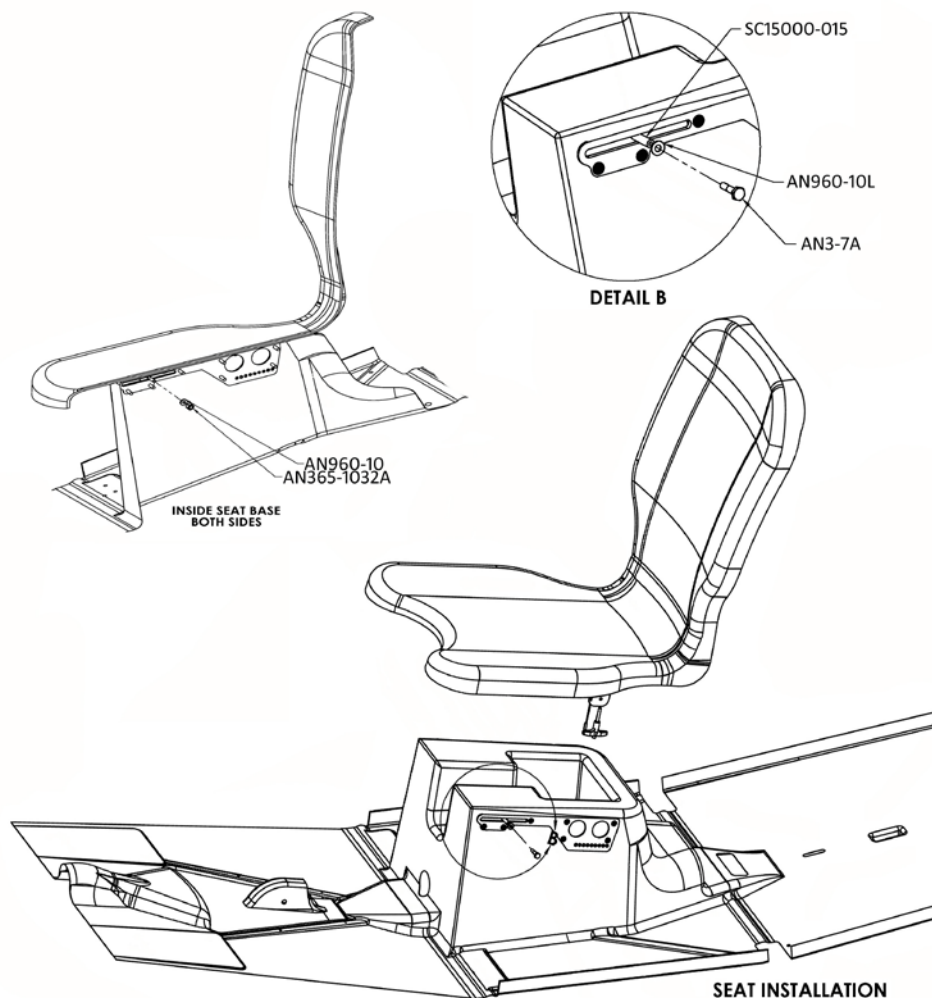
**CAUTION**

The modification made by completing this Service Instruction is not compatible with ACK ELT Model E-01, found in early serial number CC11-100 (Sport Cub) aircraft.

**INSTRUCTIONS:**

**1. Remove Front Seat**

- a. Remove attaching hardware and front seat (see Figure 1). Set hardware aside for reinstallation later. Remove any anti-chafe tape along the top edges of the seat base.



**Figure 1**

## 2. Remove Battery/ELT

- a. On the right side of the seat base, locate and disconnect the ELT antenna cable. Push the grommet and antenna cable into the seat base, being careful not to damage them (see Figure 2).



**Figure 3**



**Figure 2**

- b. Remove the battery cables the same way. If the cables have 90 degree terminal rings, they will have to also be disconnected at the end opposite the battery. (This will require accessing the panel on the underside of the fuselage, or waiting until the seat base has been cut out in Step 3).
- c. The blue/black auxiliary power wire will need to be cut on both sides of the splice. Push one end back into the seat base, and save the other end; they will be reconnected later.
- d. Remove the battery and ELT.

## 3. Install Template

- a. Place the battery box template (CK90002-001) on the seat base. Center it as much as possible. The aft edge of the template should be flush with the seat base.

Temporarily tape the template to the back of the seat base. Remove the template backing and press the vinyl into place. Take care to remove wrinkles and keep the template straight (see Figure 4).

- b. Using a razor blade, remove the vinyl strip between the two sides of the template. Your template should resemble the template in Figure 5.



**Figure 4**

- c. Take a marker and mark the seat base according to Figure 6. This will become a tab which supports the new insert. The tab should be approximately 2" long (fore to aft) and as wide (left to right) as you can make it while maintaining a flat surface (see Figure 8).

#### 4. Remove Original Battery Box

- a. Using an angled die grinder and a thin 3" cutoff wheel, cut out the area inside the template (see Figure 7). Make sure not to remove the tab marked in the previous step.

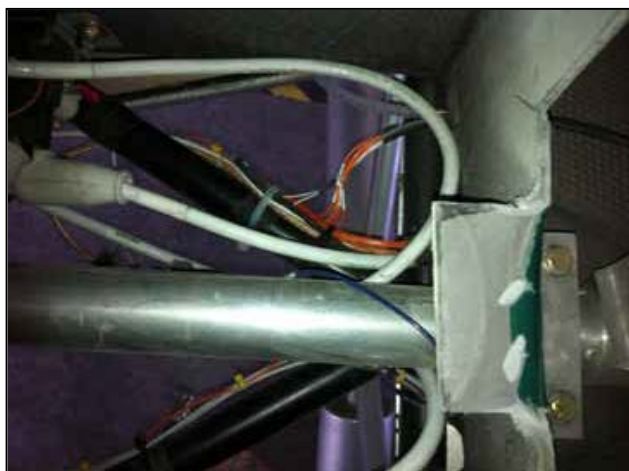


**Figure 5**

**NOTE**  
This operation is best performed with two people allowing one to cut and the other to follow with a vacuum. A long sleeve shirt and a dust mask during cutting are recommended.



**Figure 6**



**Figure 7**



**Figure 8**

**5. Fit the New Battery Box**

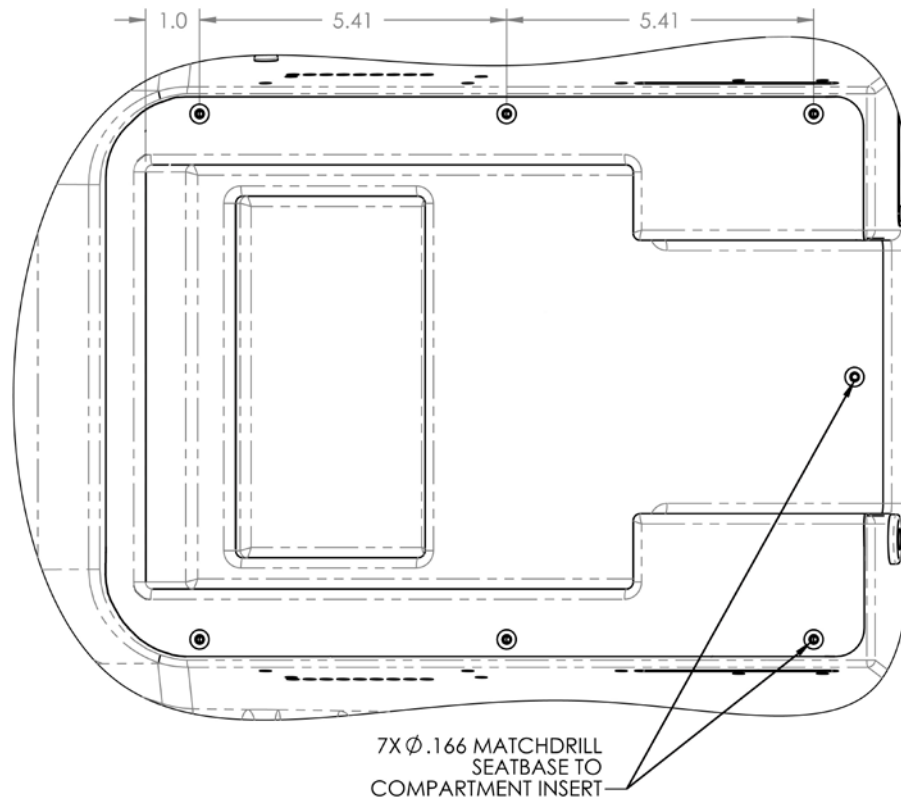
- a. The insert (SC91031-003) can now be fitted to the opening. The rough cutout made previously will need to be fine-tuned for the insert to fit with minimal movement.
- b. The insert needs to be flush with both the front and the top of the seat base. **Do not trim the front of the insert to achieve this.**



**Figure 9**

**6. Match Drill the Battery Box**

- a. Match the insert and seat base as shown in Figure 10 using 3/8" edge distance from the edge of the insert. Drill the holes with a #19 drill bit and countersink the holes to fit the large area countersunk washers (HDW-A3236-012-935).

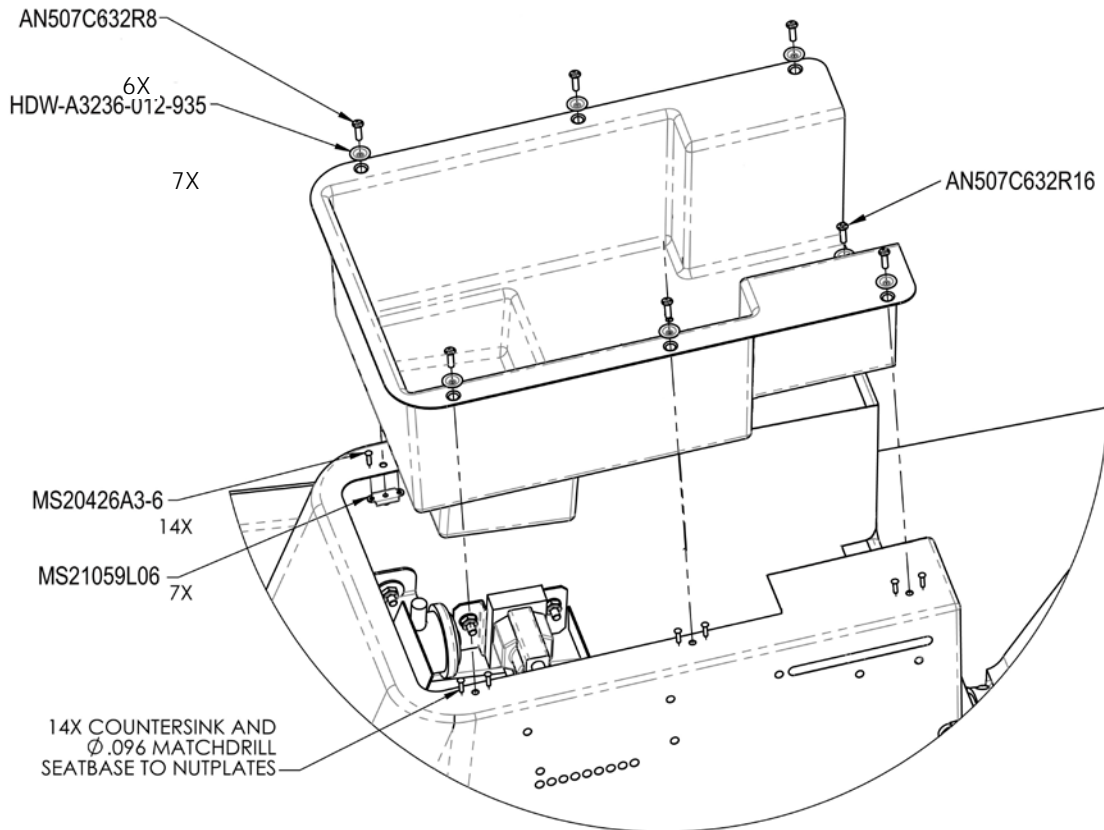


**Figure 10**



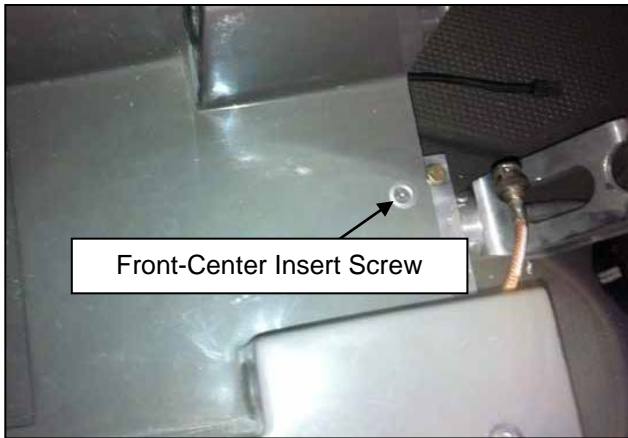
**7. Installing the Insert Hardware**

- a. Match drill the nutplates to the seat base using the hardware shown in Figure 11.
- b. Countersink the seat base for the rivets that attach the nutplates to the seat base.



**Figure 11**

- c. Temporarily attach the insert to the seat base with the hardware shown in Figure 11. Note the center screw placement shown in Figures 12 & 13.



**Figure 12**



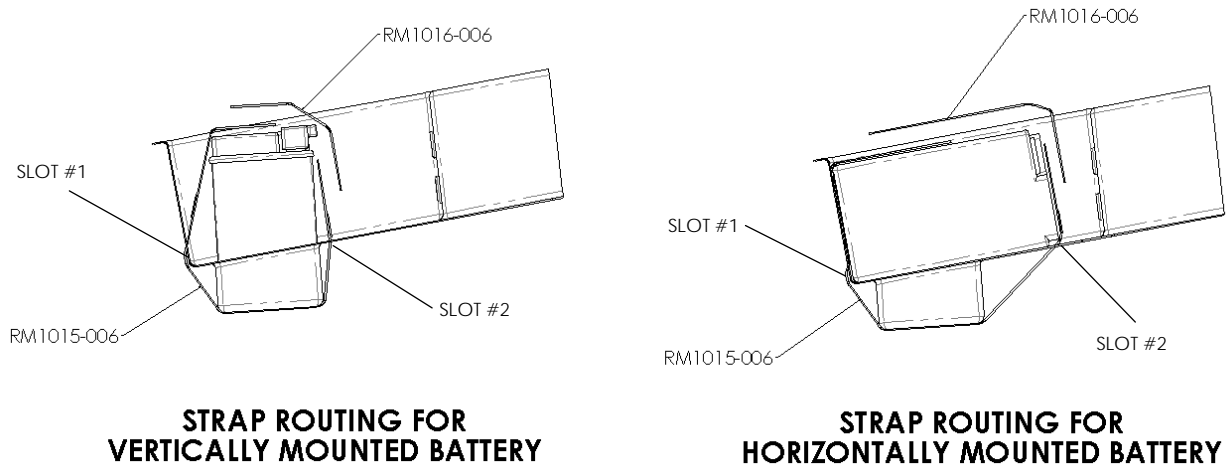
**Figure 13**

**8. Battery Installation**

Approved Batteries				
Part Number	Voltage (V)	Cold Cranking Amps (CCA)	Amp-hour (Ah)	Certified?
SP91001-301	12	265	17	No
SP91001-101	12	200	12	No
VP6301-001	12	220	16	Yes
SP91001-002	12	180	10	No
SP91001-001	12	135	8	No

**Table 1 – Approved Battery List**

- a. Place the battery in the insert either vertically or horizontally, depending on the battery. The battery will be installed with a hook/loop retention strap as seen in Figure 14. Cut two slots 2 1/4" x 1/8" in the insert to route the strap **under** the insert and **around** the battery:
  - Slot #1 – Centered at the base of the rear vertical surface.
  - Slot #2 – Centered on the bottom surface, in front of the battery's leading edge.



**Figure 14**

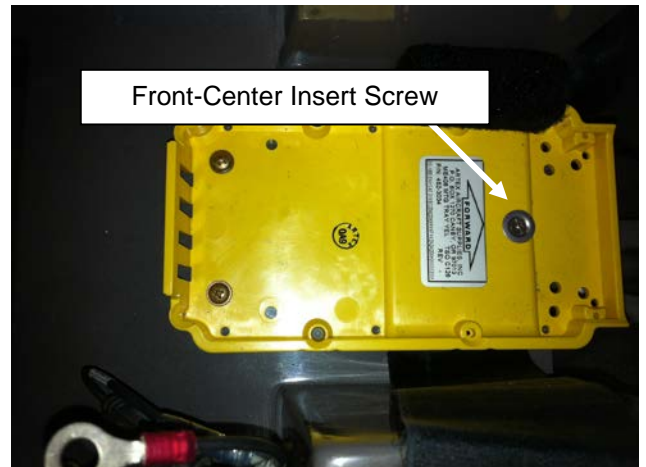
- b. Route the (RM1015-006) strap under the insert and push each end through the slots created in the above step.
- c. Attach the two ends of the (RM1015-006) strap with a section of (RM1016-006) strap with a minimum overlap of 2.75”.

**9. ELT Installation**

- a. With the battery in place, locate the position for the ELT mount. The ELT should be located as far aft as possible without causing interference with the battery (see Figure 15). Clearance of 1/4” is recommended. The front of the mount will be attached to the seat base by the front-center insert screw (see Figures 13 & 16). Position the mount accordingly.



**Figure 15**



**Figure 16**



- b. Match drill two of the rear holes in the mount (see Figure 16). Depending on the ELT model these holes will be:
  - Artex:            2.00" Spacing Holes
  - Kannad:         2.55" Spacing Holes
- c. Remove the battery and then uninstall the insert. Match drill the insert for the front ELT mount hole to the front-center insert screw.
- d. Mount the ELT back plate to the underside of the insert and attach (see Figure 16) the ELT mount to the top of the seat base using:



**Figure 17**

Rear (2) Holes

- (2) SCREW, 8-32 X 1 C - AN507C832R16
- (2) NUT, NYLON LOCK - AN365-832A
- (1) BACKING PLATE, ELT - SC91032-001

Front Hole (Previously Installed)

- (1) SCREW, 6-32 X 1C – AN507C632R16 (Front-Center Insert Screw)
- (1) WASHER C-SUNK - HDW-A3236-012-935

**NOTE**

Orient the Velcro strap as shown in Figure 17 to allow removal of ELT.

**10. Battery Cable Installation**

- a. Mark the locations that the battery cables will enter the battery box area and drill a 5/8" hole on each side of the battery box (See Figure 18).



**Figure 18**



**Figure 19**

- b. The battery cables and grommets can be fed through the holes at this point and connected to the battery. If replacing the original cables, horizontally mounted batteries will require 90 degree terminal ring cables (SC70350-001) while vertically mounted batteries will require straight terminal rings (Previously Installed).
- c. Feed the blue auxiliary power wire through the right hole and grommet (See Figure 19).
- d. Connect the blue and black sections of the auxiliary power wire with the provided butt splice (VP6003-003). Note that the splice combines two different gauge wires.

**11.ELT Antenna Installation**

- a. Feed the antenna cable and grommet back through the front hole.

**CAUTION**  
**Do not connect the antenna at this time. It will make contact when the seat is completely tilted forward and can damage the ELT.**

- b. Mount the ELT to the seat base and secure the strap as shown in Figure 20.



**Figure 20**

**12.Reinstall Front Seat**

- a. Reinstall the seat insert with the removed hardware.
- b. Reinstall the front seat opposite of the removal steps.

**NOTE**  
**Over tightening the seat mounting bolts may prevent the seat from sliding.**



**Figure 21**

- c. Attach the antenna to the 90 degree connector (HDW-31-9RFX).
- d. Attach the 90 degree connector (HDW-31-9RFX) to the antenna cable, and connect it to the ELT.
- e. Attach the ELT Disconnect Placard (10950-024) on the right side of the seat base as shown in Figure 21.

**NOTE**  
**Consider reinstalling anti chafe tape to the top edges of the seat base.**



# SERVICE INSTRUCTION SI0026 Rev A Page 11 of 11

---

## WEIGHT AND BALANCE

This modification of the seat base and addition of the seat insert has a negligible effect on weight and balance. If the battery is moved or replaced, or the ELT unit is moved, the weight and balance information needs to be updated. For reference, the front seat is located 67.00 inches aft of the aircraft datum.

## FORMS AND DOCUMENTATION

Make entry in aircraft log book indicating that the battery compartment has been altered per this Service Instruction, also noting any battery changes.

## MAJOR REPAIR OR ALTERATION

Installation of this service bulletin is a major alteration per ASTM F2483 Section 9. A Major Repair or Alteration (MRA) form is not required for installation in an SLSA aircraft per Section 6.5.2 of the Aircraft Maintenance Manual.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify Cub Crafters, Inc. of the address of the current owner to:

Cub Crafters, Inc.  
1918 S. 16<sup>th</sup> Avenue  
Yakima, WA 98903.  
1-877-484-7865 or 1-509-248-9491  
[support@cubcrafters.com](mailto:support@cubcrafters.com)

Please include the aircraft registration number, serial number, current name, and address of the owner and/or operator.