



**SUBJECT:**

Required maintenance for the Second Battery Installation (P/N 130-700234).

**APPLICABILITY :**

Aircraft with the subject modification embodied in accordance with TCCA STC  
No. SH 12 - 53 or any relevant foreign approvals.

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**RECORD OF REVISIONS**

Rev.	Pages at this Revision	Description, Reason Changed Pages	Prepared (name and date)	Checked (name and date)	App'd/Acc'd (Civil A/W Authority) (name and date)	Released (name and date)
0	1 through 23	Original Issue	D. Kerr 13 Dec., 2010	C. Timmins 13 Dec., 2010	N/A	R. Manson 16 Sept., 2011
1	1 through 25	Revised to incorporate top plate which replaces original battery tray. Operation with primary battery. Weight and Balance chart also revised.  (Pages 3, 4, 6 to 8, 10, 12, 13, 16, 18 to 23)	D. Kerr 5 Oct., 2011	C. Timmins 5 Oct., 2011	N/A	R. Manson 17 Nov., 2011
2	1 through 25	Revised to incorporate redesign of top plate and new angle. Weight and Balance Chart revised. (Page 8, 21 and 22)	D. Kerr 17 Nov., 2011	C. Timmins 17 Nov., 2011	N/A	R. Manson 28 March, 2011
3	1 through 26	Increased 100 flight hour inspection to 150 flight hours. Inserted a blank page 18.  (Pages 3, 18, 13 and 14)	D. Kerr 2 April 2012	C. Timmins 2 April 2012	N/A	R. Manson 2 May 2012
4	1 through 28	Correction to 100 flight hour/12 month Maintenance Check to correlate with SAFT Component Maintenance Manual. Revisions made to Section 8. Weight and Balance Charts revised. (Pages 3, 10, 12 to 16, 19 to 26)	D. Kerr 25 Sept., 2012	C. Timmins 25 Sept., 2012	N/A	R. Manson 28 Sept., 2012
5	1 through 28	Description of EC repair kit 350A086350 and MOD 07 3714. (Pages 4, 5, 10, 16, 19 to 22 & 26)	See page 1.	See page 1.	See page 1.	See page 1.

NOTE: Revisions to this document will be distributed to operators of this equipment by the STC holder.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

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**1. GENERAL**

- A. The Second Battery Installation comprises a second battery aft of the existing battery in the tail boom. The second nickel cadmium battery provides the aircraft with additional power, especially beneficial in extreme cold weather starting. This is the same type of battery used in the basic helicopter; it also weighs 15 kg (33 lbs). Refer to Figure 1.

The second battery is mounted on the top plate and is secured to the aft battery tray using a clamping strip and two lock handle bolts. Refer to Figure 3.

For aircraft that have EC repair kit 350A086350 applied, which incorporates the top plate, angles, battery clamp and lock handle bolts. The ballast needs to be re-calculated as this kit adds approximately 2.48 kg (5.47lbs.). Follow the Weight and Balance Chart for aircraft that has Retrofit Number 350A086350, shown on page 25.

For aircraft that embody MOD 07 3714 which requires the addition of a support plate with a handle fixed on it to manipulate the ballast plates at the end of the tailboom. Follow the Weight and Balance Charts for aircraft that embody MOD 07 3714, shown on page 26.

The Second Battery Installation consists of the following main components:

Detachable Provisions

- Second Battery
- Spare Fuse
- Relay

For instructions for initial installation, see IP-ECL-124.

- B. These Instructions for Continued Airworthiness are applicable to aircraft with the subject modification embodied.

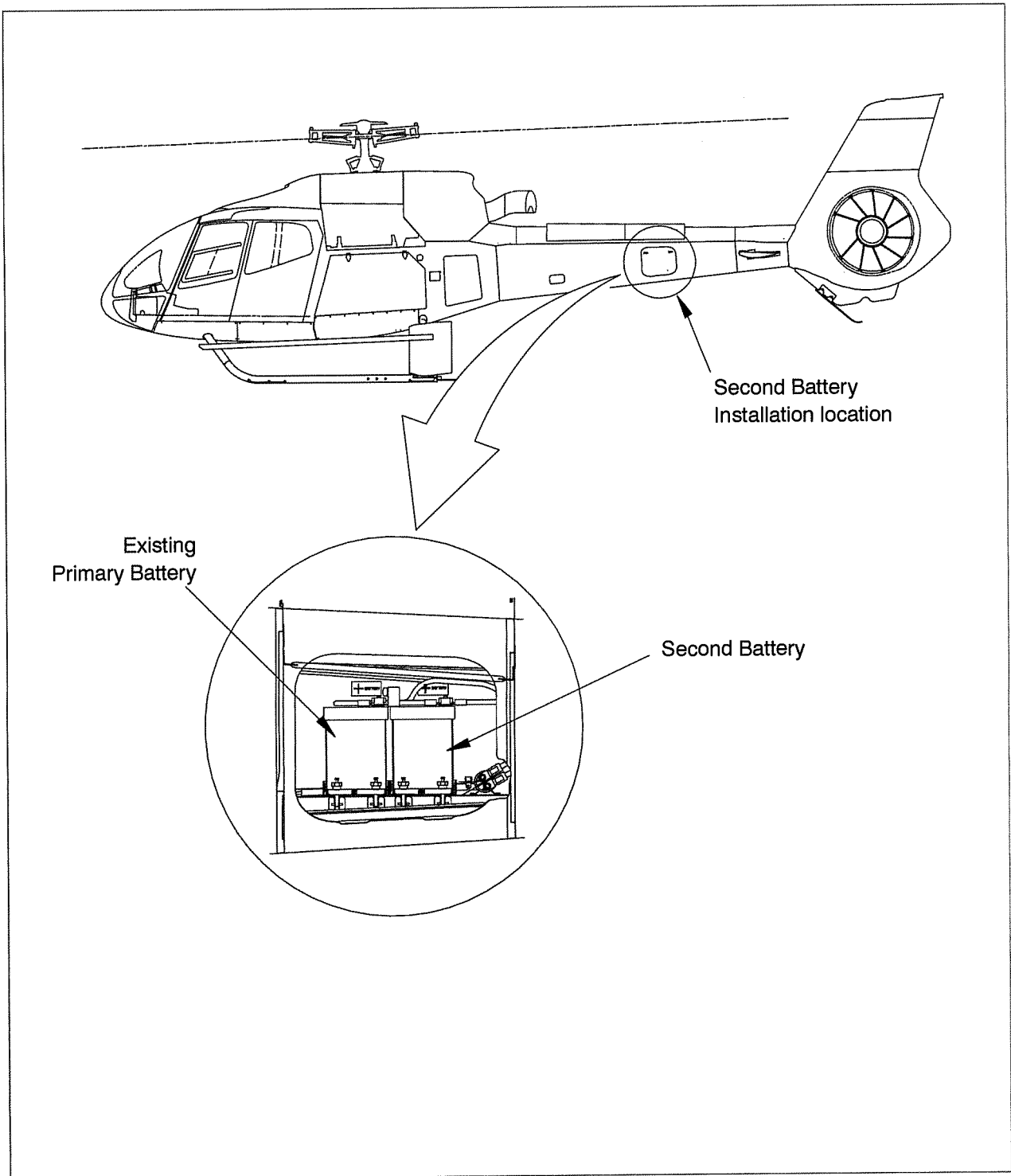


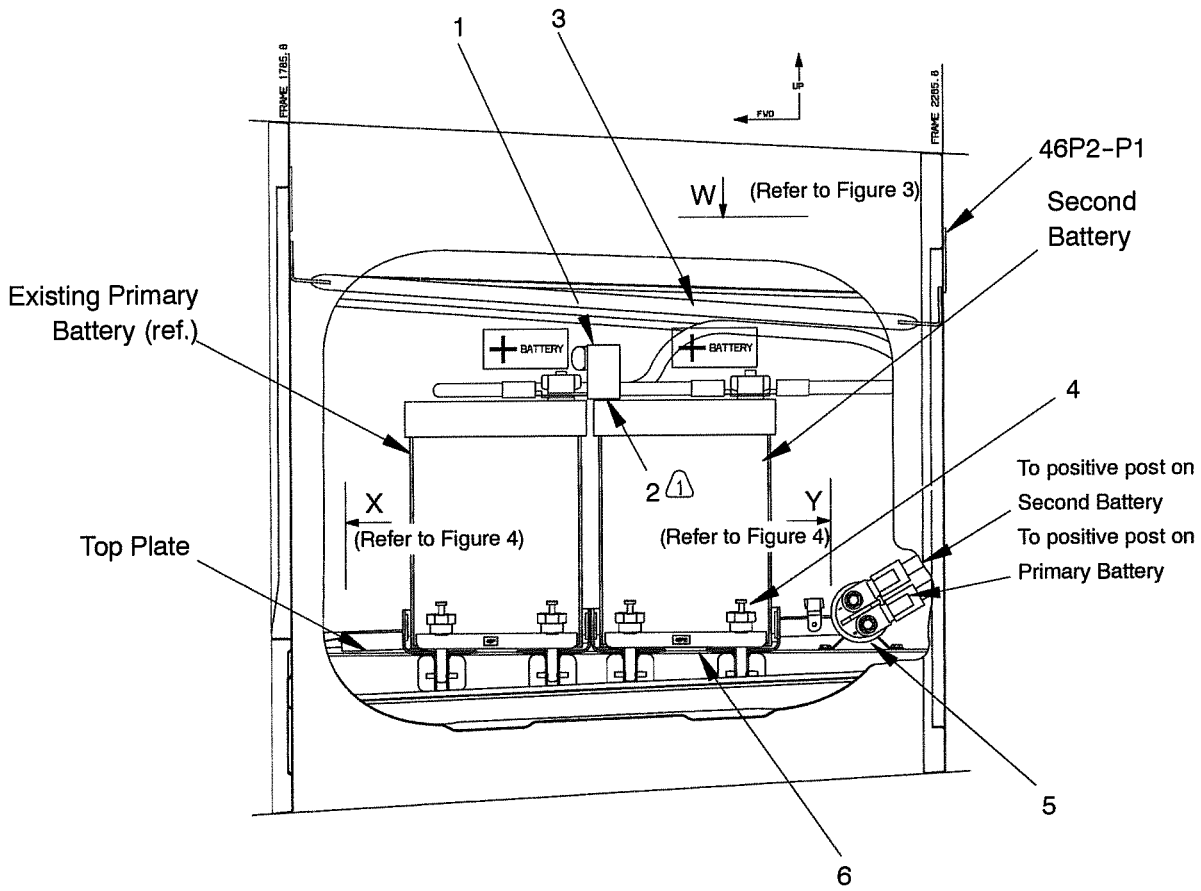
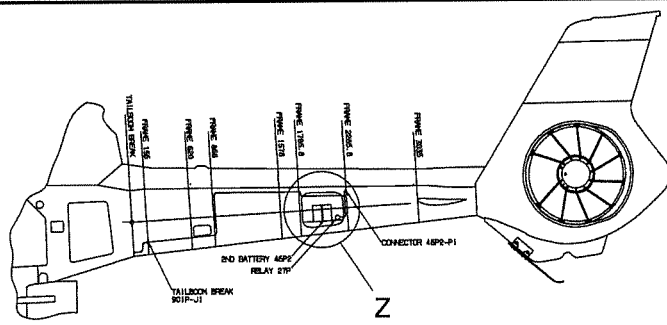
Figure 1 General Layout

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Legend (for Figure 2)

Item	Description
1.	Negative Fuse Block Assembly
2.	Teflon Tape (1" P/N 5433)
3.	Cable Support Tube
4.	Lock Handle Bolt
5.	Relay (27P)
6.	Battery Clamp



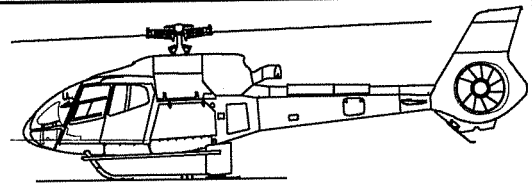
**DETAIL Z**

View of Battery Compartment with door removed

⚠ Apply teflon tape (item 2) as required on the under side of the negative fuse block assembly (item 1) of the primary battery.  
NOTES:

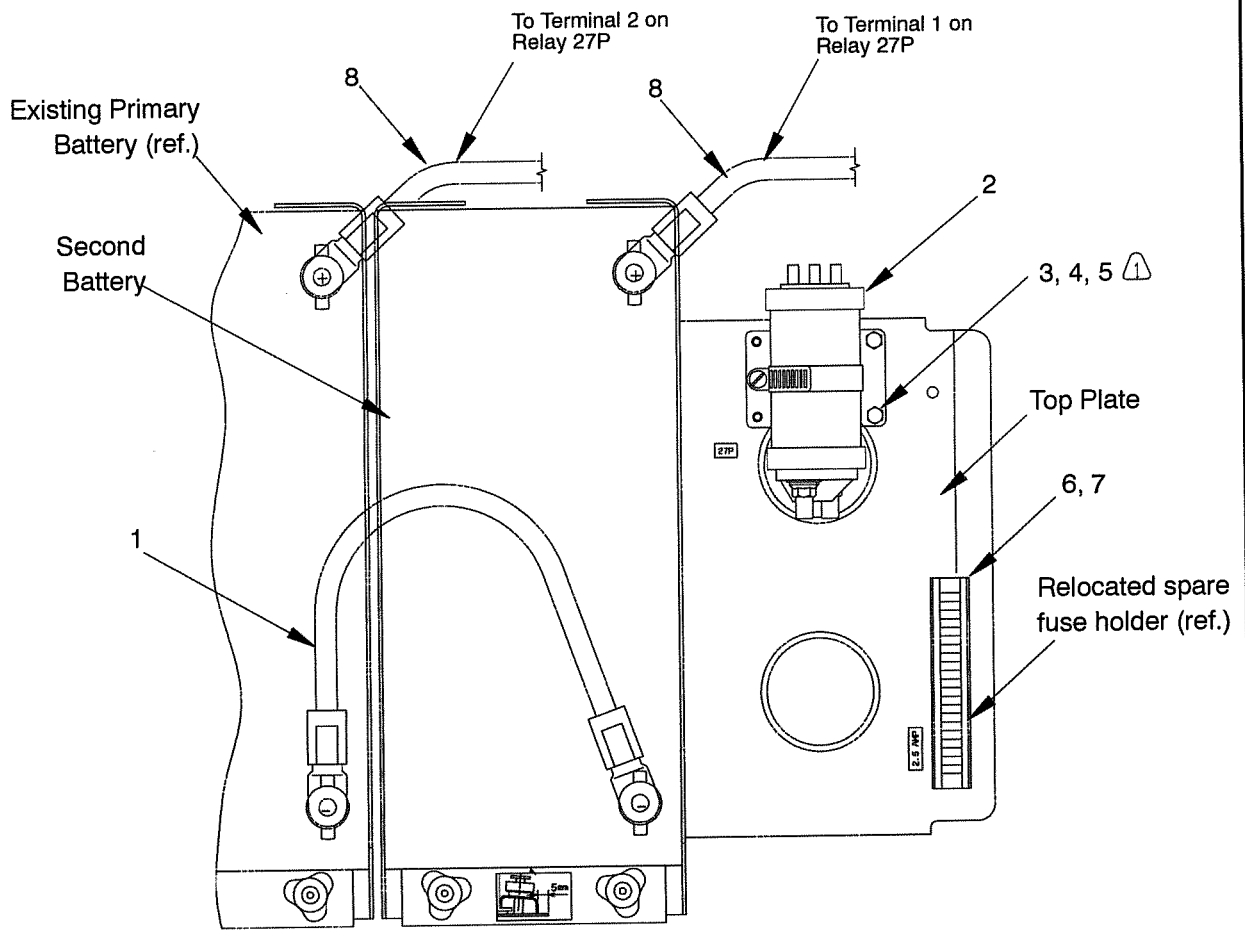
Figure 2 Battery Compartment (main view)

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Legend (for Figure 3)

Item	Description
1.	Harness (Negative Cable Connection)
2.	Relay (27P)
3.	Screw
4.	Washer
5.	Electrical Joint Compound (P/N Penetrox A13)
6.	Velcro Hook (P/N 999-100004.142)
7.	Velcro Loop (P/N 999-100004.042)
8.	Harness (Positive Cable Connection)



VIEW W

Top view of Battery Compartment

⚠ Contact between mating surfaces to be kept free from protective coating. Before installation, apply electrical joint compound (item 5).  
NOTES:

Figure 3 Second Battery on Battery Tray

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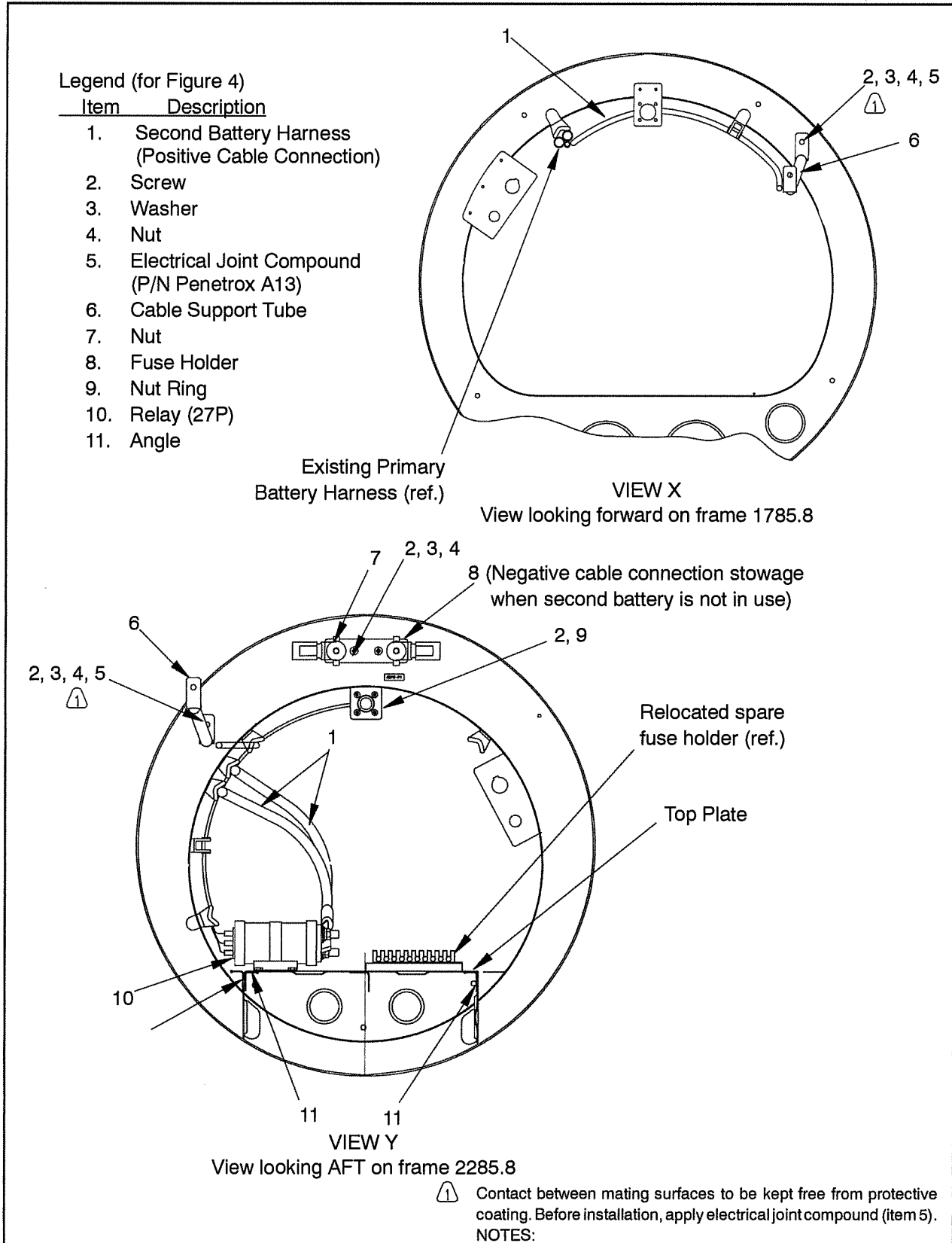


Figure 4 Battery Compartment (detail views)

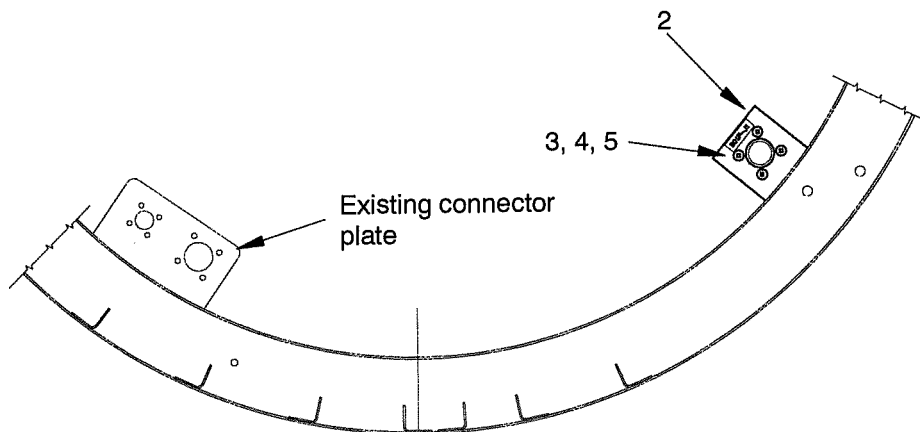
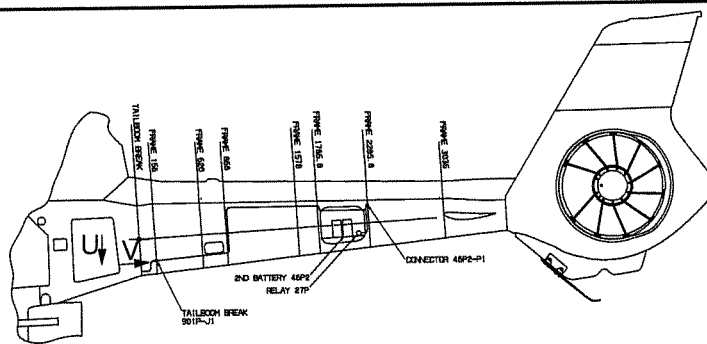
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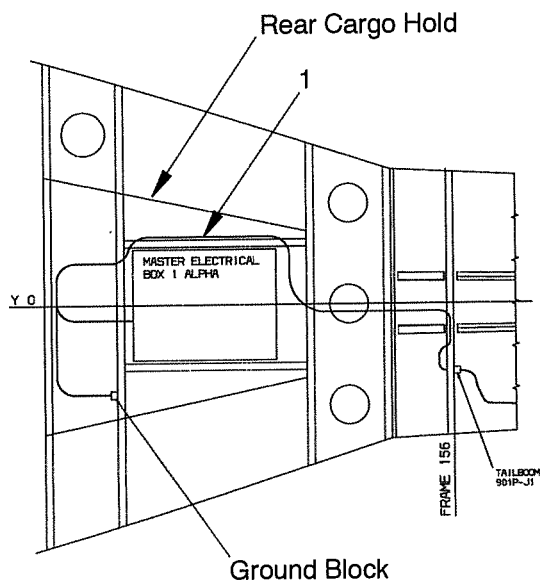


Legend (for Figure 5)

Item	Description
1.	Harness
2.	Connector Plate
3.	Screw
4.	Washer
5.	Nut



VIEW V  
View looking aft on frame 156



VIEW U  
View on Master Electrical Box

Figure 5 Harness Routing Details

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**C. REFERENCES**

DOCUMENT	DOCUMENT TITLE
AC-43.13 - 1B	Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair
AMM	Aircraft Maintenance Manual
CMM	Component Maintenance Manual
IP-ECL-124	Installation Procedure
Manual Number 24-30-99	Operating and Maintenance Manual for Nickel-Cadmium Aircraft Batteries, November 7, 2011
Manual Number 24-33-96	SAFT 151CH1 Component Maintenance Manual with Illustrated Parts List, Aircraft Battery, Revision 1, February 15, 2001
MOD 07 3714	Modification 07 3714
MTC	Standard Practices Manual
POST MOD 3587	POST Modification 3587
PRE MOD 3587	PRE Modification 3587

**D. ABBREVIATIONS & DEFINITIONS**

ABBREVIATION	DEFINITION
BAT EPU	Battery External Power Unit
CG	Center of Gravity
D	Days
D. BAT	Direct Battery
EC	Eurocopter (France)
ECL	Eurocopter Canada Limited
EXT PWR BAT	External Power Battery
FH	Flight Hours
FWD	Forward
hrs	hours
LH	Left-Hand
M	Months
P/N	Part Number
ref.	reference

**E. UNITS OF MEASUREMENT**

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
Ah	Ampere-hours
in	inch
kg	kilogram
lb	pound
m	meter
Nm	Newton Meters

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## 2. AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

No airworthiness limitations associated with this installation.

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**3. CONTROL AND OPERATION**

Apart from the following, control and operation of the aircraft remains unchanged: the aircraft has an increase in electrical power.

For information on operating the SAFT 151CH1 Battery, refer to the "SAFT" Operating and Maintenance Manual for Nickel-Cadmium aircraft batteries, Document Number ATA 24-30-99, November 7, 2011.

**4. INSPECTION SCHEDULE AND MAINTENANCE ACTION**

**CAUTION: PRIOR TO WORKING ON THE BATTERY OR BATTERY CIRCUIT ENSURE THAT THE AIRCRAFT ELECTRICAL SYSTEM IS NOT ENERGIZED.**

For battery inspection schedule and functional test refer to the "SAFT" 151CH1, Operating and Maintenance Manual for Nickel-Cadmium aircraft batteries, Document Number ATA 24-30-99, November 7, 2011 and the "SAFT" F6177 Series, Component Maintenance Manual with Illustrated Parts List, Document Number ATA 24-33-96, Revision 1, February 15, 2001. See Section 5 of this document for more information.

**NOTE:** Use torque per EC, MTC, Volume 2, Chapter 20.02.05.404, unless otherwise specified.

**4.1. INSPECTION SCHEDULE**

**4.1.1. Before the first flight of each day:**

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect battery connector, for: a. security	a. Secure as required.

Table 1 Inspection Schedule and Maintenance Action  
Before the first flight of each day

**4.1.2. Every three months:**

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Perform routine maintenance in accordance with the battery manufacturers recommendations.	For more information refer to the "SAFT" 151CH1, Component Maintenance Manual with Illustrated Parts List, Document Number 24-33-96, Revision 1, February 15, 2001.

Table 2 Inspection Schedule and Maintenance Action  
Every three months

**4.1.3. Every six months:**

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Perform routine maintenance in accordance with the battery manufacturers recommendations.	For more information refer to the "SAFT" 151CH1, Component Maintenance Manual with Illustrated Parts List, Document Number 24-33-96, Revision 1, February 15, 2001.

Table 3 Inspection Schedule and Maintenance Action  
Every six months

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**INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

4.1.4. Every 100 flight hrs or 12 months (to coincide with the 100 hrs or 12 months Maintenance Check in the SAFT Maintenance Manual):

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Perform routine maintenance in accordance with the battery manufacturers recommendations.	For more information refer to the "SAFT" 151CH1, Component Maintenance Manual with Illustrated Parts List, Document Number 24-33-96, Revision 1, February 15, 2001.

Table 4 Inspection Schedule and Maintenance Action  
Every 100 flight hrs or 12 months

4.1.5. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect battery connection, for: a. general condition	a. If terminal lugs or wire is damaged, harness must be replaced. Contact ECL for replacement harness.
B	- Check Battery Harness, for: a. cracks, fraying and burns b. loose connections c. security	a. Contact ECL for replacement parts. b. Re-tighten as required c. Re-tighten as required.
C	- Check battery compartment, view shown in Figure 2 for: a. spilled electrolyte and alkaline deposits b. security	a. Remove battery and neutralize spills as required in accordance with AC43.13-1B, Chapter 11-20. Also refer to AMM 24-33-00, 2-1 for cleaning the battery compartment. b. Re-tighten as required.
D	- Check lock handle bolts, item 4, on the Battery Clamp, item 6 in Figure 2 for: a. security b. corrosion c. scoring	a. Re-tighten as required. b. No corrosion is allowed. If corrosion is found, contact ECL for replacement parts. c. No scoring is allowed. If scoring is found, contact ECL for replacement parts.

Table 5 Inspection Schedule and Maintenance Action  
Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first  
(continued on following page)



**INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

4.1.5. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
E	- Check mounting hardware, items 3 and 4, for Relay (27P), item 2 in Figure 3 for: a. security	a. Secure as required.
F	- Visually inspect the spare fuse holder, located on the top plate in Figure 3 for: a. secure mounting b. general condition (physical damage)	a. Secure as required. b. Contact ECL for replacement parts.
G	- Visually inspect velcro hook, item 6 and velcro loop, item 7 located on the spare fuse holder in Figure 3 for: a. wear	a. Wear is not permitted. If wear is evident, replace velcro in accordance with EC MTC Volume 3, Chapter 20.03.04.406. Refer to Figure 3 for replacement part number.
H	- Check mounting hardware, items 2 and 9 for connection 46P2-P1 on frame 2285.8 in Figure 4 for: a. secure mounting	a. Secure as required.
I	- Check mounting hardware, items 2, 3 and 4 for the Fuse Holder, item 8 (located on frame 2285.8) in Figure 4 for: a. secure mounting	a. Secure as required.
J	- Check mounting hardware, items 2, 3 and 4 for the cable support tube, item 6 in Figure 4 for: a. security	a. Secure as required.
K	- Check mounting hardware, items 3, 4 and 5 on connector plate (2) on frame 156 in Figure 5 for: a. secure mounting	a. Secure as required.
L	- Check placards and markings (refer to Section 10) for: a. legibility b. secure mounting	a. If placard has become illegible, contact ECL for replacement parts. b. Secure or reattach placards as required.

Table 5 Inspection Schedule and Maintenance Action  
Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first

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**INSPECTION SCHEDULE AND MAINTENANCE ACTION (continued)**

4.1.6. Every 600 FH or 24 M (Margin: 60 FH or 73 D) to coincide with the 600 FH or 24 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Visually inspect battery ground wire in rear cargo hold, in Figure 5 for: a. security	a. Secure as required.
B	- Check temperature sensor harness connection and condition, check "BATT TEMP" warning light on warning caution panel.	a. Check battery temperature sensor in accordance with EC AMM, Chapter 24.33.00,5-1.

Table 6 Inspection Schedule and Maintenance Action  
Every 600 FH or 24 M to coincide with the 600 FH or 24 M helicopter inspection, whichever occurs first



**5. REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION**

**CAUTION DO NOT REPAIR OR OVERHAUL THE SAFT BATTERY.  
CONTACT SAFT FOR INFORMATION ON COMPONENT  
MAINTENANCE OR REPAIR**

For replacement components and repair / overhaul information of the nickel-cadmium Part Number 151CH1 battery, contact:

SAFT

12, rue Sadi Carnot

93170 Bagnolet - France

Telephone: +33 (0) 1 49 93 19 18

Fax: +33 (0) 1 49 93 19 56

Website: www.saftbatteries.com

**6. TROUBLESHOOTING**

If the secondary SAFT Battery fails to perform to specification, refer to the "SAFT" 151CH1, Component Maintenance Manual with Illustrated Parts List, Document Number 24-33-96, Revision 1, February 15, 2001. See Section 5 of this document for more information.

For electrical system troubleshooting, refer to Figure 6, Second Battery Installation Harness, Wiring Diagram.

ITEM	TROUBLE / SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
1	"BATT TEMP" warning light on the Warning Caution Panel illuminates during flight.	Faulty existing primary battery	Disconnect existing primary battery, switch battery locations and continue operation utilizing second battery. Replace existing primary battery when practical.
		Faulty second battery	Disconnect second battery and continue operation utilizing existing primary battery. Refer to SAFT 151CH1 Component Maintenance Manual for troubleshooting information.
		Faulty Relay (27P). Refer to Figure 2.	Replace relay.

Table 7 Troubleshooting Guide

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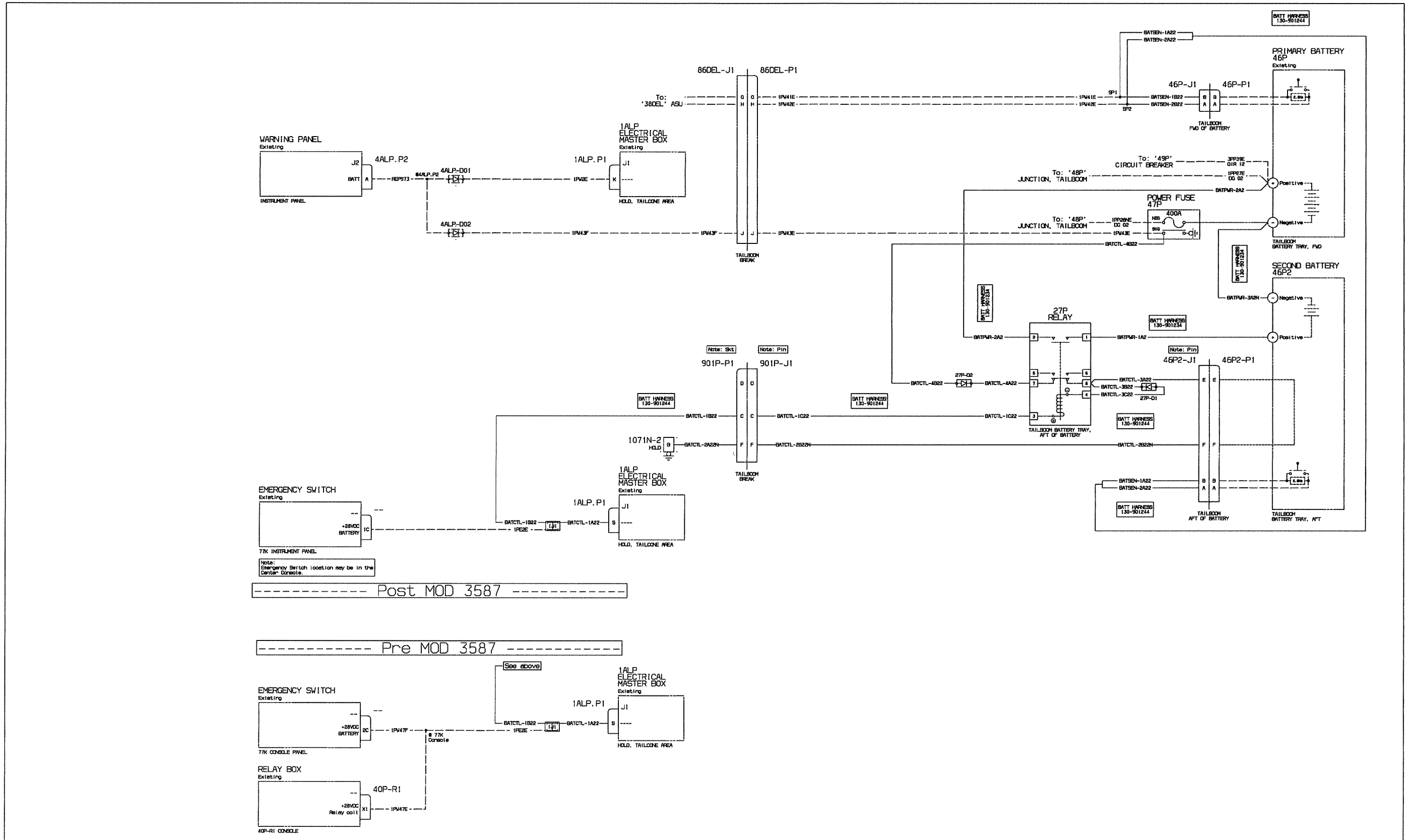


Figure 6 Second Battery Harness Installation, Wiring Diagram

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## 7. SPECIAL TOOLING

For special tooling requirements for the "SAFT" 151CH1, refer to the Operating and Maintenance Manual for Nickel-Cadmium aircraft batteries, Document Number 24-30-99, November 7, 2011 and the "SAFT" 151CH1, Component Maintenance Manual with Illustrated Parts List, Document Number 24-33-96, Revision 1, February 15, 2001.

## 8. REMOVAL AND REPLACEMENT

Proceed as follows if any of these items need to be removed.

### Preliminaries

- Follow Precautions to be taken when handling batteries on the ground (refer to Safety Instructions EC 130 B4 Standard Practices Manual, Chapter 20.07.02.206).
- Read General Safety Instructions - Electrical Power Supply System (EC 130 B4 Aircraft Maintenance Manual, Chapter 24-00-00, 3-1).
- Set the "D.BAT" pushbutton to "OFF" (refer to Removal / Installation EC 130 B4 Aircraft Maintenance Manual, Chapter 24-33-00, 4-1).
- Set the "EXT PWR BAT" (PRE MOD 07 3537) or "BAT EPU" (POST MOD 07 3537) pushbutton to "OFF" (refer to Electric Power Supply on the Ground EC 130 B4 Aircraft Maintenance Manual, Chapter 24-00-00, 2-1).
- Disconnect external power unit and the battery (refer to Removal / Installation EC 130 B4 Aircraft Maintenance Manual, Chapter 24-33-00, 4-1).
- Open battery compartment access door located in tailboom LH side by releasing the two latches.

**NOTE:** Follow safety procedures in "SAFT" 151CH1, Operating and Maintenance Manual for Nickel-Cadmium aircraft batteries, Document Number 24-30-99, November 7, 2011 before removing / installing battery.

### A. REMOVAL

#### 1) SECOND BATTERY (Refer to Figures 2, 3 and 4)

- a) Disconnect the battery temperature sensor connector (46P2-P1) of the second battery.
- b) Disconnect harness (1) from the negative post on the existing primary battery leaving the fuse block assembly secured to the post. Disconnect harness (1) from the negative post on the second battery. Refer to Figure 3.
- c) Secure harness (1, negative cable connection) to fuse holder (8) located at the top of frame 2285.8 using nuts 7 (2 places). Refer to Figure 4.
- d) Disconnect harness (8) from the positive post on the second battery (BATPWR-1A2). Refer to Figure 3. Cap and stow harness on cable support (3). Refer to Figure 2.
- e) Loosen both lock handle bolts (4, 2 places) and remove battery clamp (6, 1 place) from the battery tray. Refer to Figure 2.
- f) Carefully slide the second battery out of the tailboom.

**NOTE:** Follow storage procedures in "SAFT" 151CH1, Operating and Maintenance Manual for Nickel-Cadmium aircraft batteries, Document Number 24-30-99.

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**8. REMOVAL AND REPLACEMENT (continued)**

**A. REMOVAL**

**2) OPERATING WITH EXISTING PRIMARY BATTERY, WITH SECOND BATTERY REMOVED**  
(Refer to Figures 2 and 3)

**NOTE:** Once the Second Battery is removed, follow instructions given below. Recalculate the Weight and Balance before flight. Refer to Section 9, Chart 1 and Section 9.1.

- a) Disconnect harness (8) from positive post on existing primary battery (BATPWR-2A2). Refer to Figure 3. Cap and stow harness on cable support (3). Refer to Figure 2.
- b) Ensure that wire (3PP39E) and wire (1PP27E) remain connected on positive post on existing primary battery.
- c) Close all areas opened for service in the PRELIMINARIES paragraph of this section.
- d) Before energizing the aircraft power supply system, read safety instruction (refer to Electrical Power Supply on the Ground, EC 130 B4 Aircraft Maintenance Manual, Chapter 24-00-00, 2-1).
- e) Reconnect the external power unit and battery. Refer to Removal / Installation EC 130 B4 Aircraft Maintenance Manual, Chapter 24-33-00, 4-1.
- f) Perform Functional Tests in accordance with DC Power Supply System in accordance with Aircraft Maintenance Manual, Chapter 24-30-00, 5-1.
- g) Perform Functional Tests in accordance with Battery Temperature Warning Light in accordance with Aircraft Maintenance Manual, Chapter 24-33-00, 5-1.



**8. REMOVAL AND REPLACEMENT (continued)**

**A. REMOVAL (continued)**

- 3) OPERATING WITH EXISTING PRIMARY BATTERY WITHOUT SECOND BATTERY REMOVED (Refer to Figures 2, 3 and 4)
  - a) Disconnect the battery temperature sensor connector (46P2-P1) of the second battery.
  - b) Disconnect harness (1) from the negative post on the existing primary battery leaving the fuse block assembly secured to the post. Disconnect harness (1) from the negative post on the second battery. Refer to Figure 3.
  - c) Secure harness (1, negative cable connection) to fuse holder (8) located at the top of frame 2285.8 using nuts 7 (2 places). Refer to Figure 4.
  - d) Disconnect harness (8) from the positive post on the second battery (BATPWR-1A2). Refer to Figure 3. Cap and stow harness on cable support (3). Refer to Figure 2.
  - e) Disconnect harness (8) from positive post on existing primary battery (BATPWR-2A2). Refer to Figure 3. Cap and stow harness on cable support (3). Refer to Figure 2.
  - f) Ensure that wire (3PP39E) and wire (1PP27E) remain connected on positive post on existing primary battery.
  - g) Close all areas opened for service in the PRELIMINARIES paragraph of this section.
  - h) Before energizing the aircraft power supply system, read safety instruction (refer to Electrical Power Supply on the Ground, EC 130 B4 Aircraft Maintenance Manual, Chapter 24-00-00, 2-1).
  - i) Reconnect the external power unit and battery. Refer to Removal / Installation EC 130 B4 Aircraft Maintenance Manual, Chapter 24-33-00, 4-1.
  - j) Perform Functional Tests in accordance with DC Power Supply System in accordance with Aircraft Maintenance Manual, Chapter 24-30-00, 5-1.
  - k) Perform Functional Tests in accordance with Battery Temperature Warning Light in accordance with Aircraft Maintenance Manual, Chapter 24-33-00, 5-1.
- 4) SECOND BATTERY HARNESS (Refer to Figure 3)
  - a) If the negative cable connection is damaged, disconnect harness (1) from the negative post on the existing primary battery (BATPWR-3A2N) leaving the fuse block assembly secured to the post. Disconnect harness (1) from the negative post on the second battery.
  - b) If the positive cable connection is damaged on the secondary battery, disconnect harness (8) (BATPWR-1A2) from the positive post on the second battery and terminal 2 on relay (27P).
  - c) If positive cable connection is damaged on the existing primary battery, disconnect harness (8) (BATPWR-2A2) from the positive post on the positive post on the existing primary battery and terminal 1 on relay 927P).
- 5) LOCK HANDLE BOLTS (Refer to Figure 2)
  - a) Loosen the lock handle bolts (4) that secure the battery clamp (6) to the battery tray. Remove the lock handle bolts and retain the battery clamp (6, 1 place) for reinstallation.
- 6) SPARE FUSE HOLDER (Refer to Figure 3)
  - a) Remove fuse holder from tray.

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8. **REMOVAL AND REPLACEMENT** (continued)

B. REPLACEMENT

**NOTE** Use torque per EC, MTC, Volume 2, Chapter 20.02.05.404, unless otherwise specified.

1) SECOND BATTERY (Refer to Figures 2, 3 and 4)

**NOTE:** Ensure PRELIMINARIES given at the beginning of Section 8 of this document are followed before reconnecting either batteries, or reinstalling the second battery. If the aircraft has been operating from the existing primary battery only follow instructions from in B.1.a. If reinstalling the secondary battery following instructions from B.1.b. If reconnecting the second battery follow instructions from B.1.c.

- a) Reconnect harness (8) on the positive post of the existing primary battery (BATPWR-2A2). Ensure that wire (3PP39E) and wire (1PP27E) remain connected on positive post on existing primary battery as well. If second battery is already installed, connect harness (8) to positive post on second battery (BATWR-1A2). Refer to Figure 3.
- b) If not already installed, carefully place second battery on battery tray and ensure correct seating. Secure using battery clamp (6, 1 place) and tighten lock handle bolts (4, 2 places). Refer to Figure 2.
- c) If not already accomplished, connect harness (8) to positive post on second battery (BATWR-1A2). Refer to Figure 3.
- d) Remove nuts (7) securing harness (1) to fuse holder (8) at frame 2285.8. Remove harness (1) and return both nuts (7) onto fuse holder (8). Refer to Figure 4.
- e) Reconnect harness (1) (BATPWR-3A2N) to the negative post on the existing primary battery and the negative post on the second battery. Reposition the negative fuse block assembly (47P) on the negative post of the existing primary battery and secure using wing nuts. Refer to Figure 3.

**NOTE** If there is not enough clearance on the negative post to secure the wing nut, the items on the post can be transposed.

- f) Reconnect the battery temperature sensor connector (46P2-P1) of the second battery.
- g) Proceed to item 5.

2) SECOND BATTERY HARNESS (Refer to Figure 3)

- a) If replacing the negative cable connection, reconnect harness (1) (BATPWR-3A2N) from the negative post on the existing primary battery to the negative post on the second battery. Reposition the negative fuse block assembly (47P) on the negative post of the existing primary battery and secure using wing nuts.

**NOTE** If there is not enough clearance on the negative post to secure the wing nut, the items on the post can be transposed.

- b) If replacing the positive cable connection on the secondary battery, reconnect harness (8) (BATPWR-1A2) to terminal 2 on relay (27P) across the cable support tube to the positive post on the second battery.
- c) If replacing the positive cable connection on the existing primary battery, reconnect harness (8) (BATPWR-2A2) to terminal 1 on relay (27P) across the cable support tube positive post on the existing primary battery.
- d) Proceed to item 5.

**8. REMOVAL AND REPLACEMENT (continued)**

**B. REPLACEMENT**

- 3) LOCK HANDLE BOLTS (Refer to Figure 2)
  - a) Reposition the battery clamp (6) on the battery tray and secure using the lock handle bolts.
- 4) SPARE FUSE HOLDER (Refer to Figure 3)
  - a) Secure the fuse holder to the tray using velcro hook and loop.
- 5) Close all areas opened for service in the PRELIMINARIES paragraph of this section.
- 6) Before energizing the aircraft power supply system, read safety instruction (refer to Electrical Power Supply on the Ground, EC 130 B4 Aircraft Maintenance Manual, Chapter 24-00-00, 2-1).
- 7) Reconnect the external power unit and battery. Refer to Removal / Installation EC 130 B4 Aircraft Maintenance Manual, Chapter 24-33-00, 4-1.
- 8) Perform Functional Tests in accordance with DC Power Supply System in accordance with Aircraft Maintenance Manual, Chapter 24-30-00, 5-1.
- 9) Perform Functional Tests in accordance with Battery Temperature Warning Light in accordance with Aircraft Maintenance Manual, Chapter 24-33-00, 5-1.



**9. WEIGHT AND BALANCE DATA**

1. Weight and Balance Chart utilizing the Second Battery.

**A. Removed Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Battery Tray (existing)	-0.80	-1.8	-7.16	-281.9	-5.73	-507.4
<b>Total</b>	<b>-0.80</b>	<b>-1.8</b>	<b>-7.16</b>	<b>-281.9</b>	<b>-5.73</b>	<b>-507.4</b>

**B. Added Items**

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
SAFT Battery (if installed)	14.97	33.0	7.16	281.9	107.19	9302.7
Connector Plate	0.03	0.1	5.21	205.1	0.16	20.5
Cable Support Tube	0.18	0.4	7.14	281.1	1.29	112.4
Lock Handle Bolt (qty. 2)	0.10	0.2	7.14	281.1	0.71	56.2
Battery Clamp	0.04	0.1	7.14	281.1	0.29	28.1
Fuse Holder (on Frame 2285.8)	0.13	0.3	7.34	289.0	0.95	86.7
Negative Ground Cable Nut (on Frame 2285.8) (qty. 2)	0.03	0.1	7.34	289.0	0.22	28.9
Relay 27P (on Top Plate)	0.50	1.1	7.28	286.6	3.64	315.3
Top Plate	0.38	0.8	7.16	281.9	2.72	225.5
Angle	0.14	0.3	7.16	281.9	1.00	84.6
Angle	0.06	0.1	7.16	281.9	0.43	28.2
Angle	0.12	0.3	7.16	281.9	0.86	84.6
Harness	0.77	1.7	7.14	281.1	5.50	477.9
<b>Total</b>	<b>17.45</b>	<b>38.5</b>	<b>7.16</b>	<b>281.9</b>	<b>124.95</b>	<b>10851.6</b>
<b>Total (Second Battery removed)</b>	<b>2.48</b>	<b>5.5</b>	<b>7.16</b>	<b>281.9</b>	<b>17.77</b>	<b>1548.9</b>

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9. **WEIGHT AND BALANCE DATA** (continued)

2. Weight and Balance Chart if aircraft has Retrofit Number 350A086350.

A. <u>Added Items</u>						
DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
SAFT Battery (if installed)	14.97	33.0	7.16	281.9	107.19	9302.7
Connector Plate	0.03	0.1	5.21	205.1	0.16	20.5
Cable Support Tube	0.18	0.4	7.14	281.1	1.29	112.4
Fuse Holder (on Frame 2285.8)	0.13	0.3	7.34	289.0	0.95	86.7
Negative Ground Cable Nut (on Frame 2285.8) (qty. 2)	0.03	0.1	7.34	289.0	0.22	28.9
Relay 27P (on Top Plate)	0.50	1.1	7.28	286.6	3.64	315.3
Harness	0.77	1.7	7.14	281.1	5.50	477.9
<b>Total</b>	<b>16.61</b>	<b>36.7</b>	<b>7.16</b>	<b>281.9</b>	<b>118.94</b>	<b>10344.4</b>
<b>Total (Second Battery removed)</b>	<b>1.64</b>	<b>3.7</b>	<b>7.17</b>	<b>281.5</b>	<b>11.75</b>	<b>1041.7</b>

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9. **WEIGHT AND BALANCE DATA** (continued)

**NOTE:** The information given below is for the aircraft with the existing primary and second battery installed.

9.1. **WEIGHING** - This information supersedes basic EC 130 Aircraft Maintenance Manual, Chapter 08-10-00, 3-2.

9.1.1. **CG correction** (aircraft that embody MOD 07 3714)

The additional ballast is subject to the minimum flight weight according to the following procedure:

- a) Calculation of minimum flight weight with ballast: Mm.  
Calculate the minimum flight weight without ballast from:
  - The equipped empty weight without ballast including options, customization and mission equipment items installed by the operator.
  - The weight of a pilot or the minimum number of persons on board during the mission.
  - The minimum weight of the fuel during the mission.
- b) Calculation of number of plates authorized
  - 1 ballast plate: Weight = 1.6 kg ; Xg = 10.55 m.

<b>Existing Primary and Second Battery Installed</b>	
Minimum takeoff weight (including ballast)	Limitation of Allowable Ballast Plates
1616 kg	0
1655 kg	1
1694 kg	2

**NOTE:** The information given below is for the aircraft with only the existing primary battery installed.

<b>Existing Primary Battery Installed</b>	
Minimum takeoff weight (including ballast)	Limitation of Allowable Ballast Plates
1500 kg	2
1539 kg	3
1578 kg	4
1616 kg	5
1655 kg	6
1694 kg	7

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**10. PLACARDS AND MARKINGS**

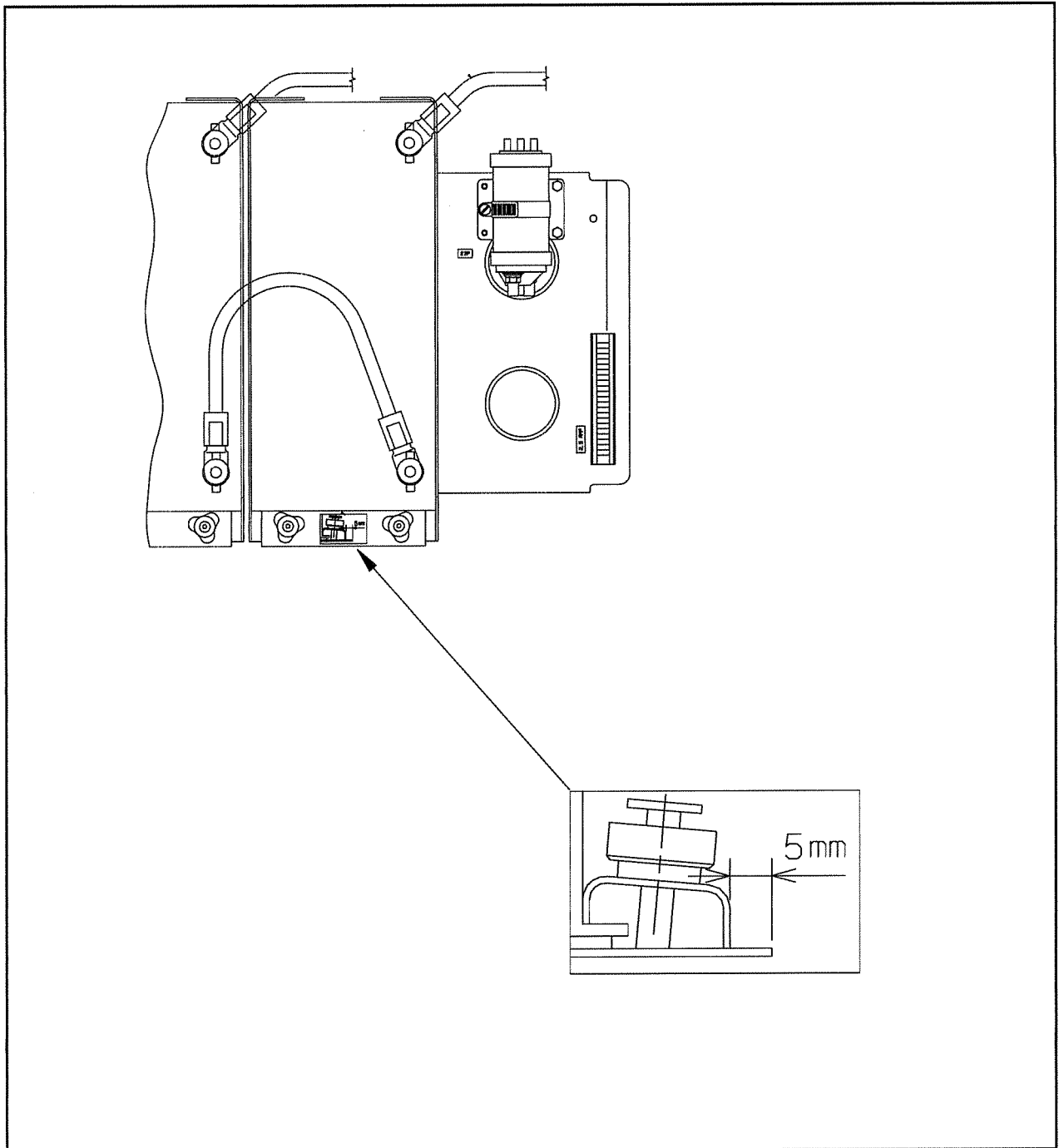


Figure 7 Label location on the Battery Clamp

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10. **PLACARDS AND MARKINGS** (continued)

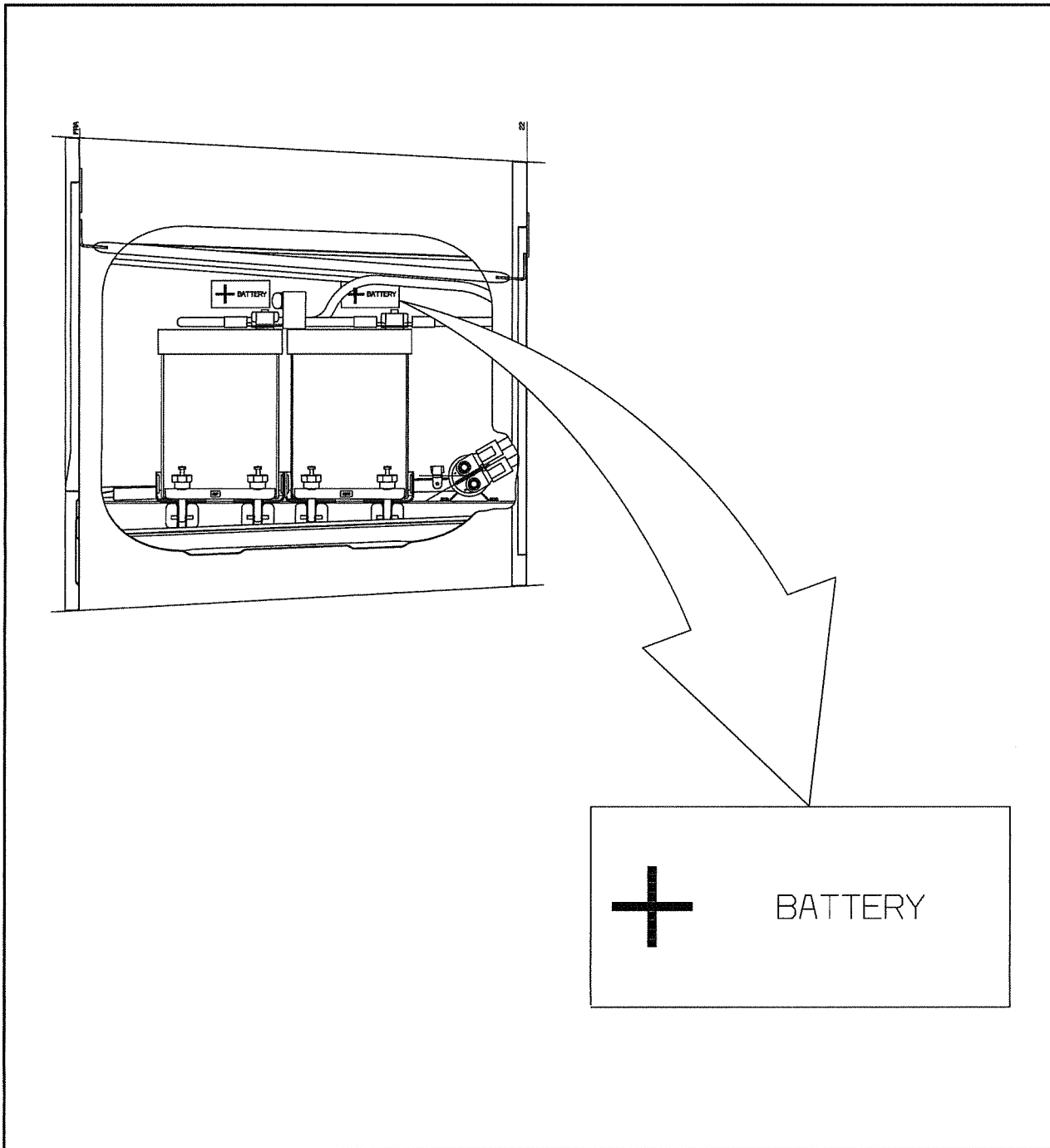


Figure 8 Label location on the inside of the tailboom

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