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INSTALLATION INSTRUCTIONS

Firewall Mounted Battery Box

Cessna Models 150, 170, 172, 175, 180, 182, and 185 aircraft

Document Number: II-1005

REVISION HISTORY

Revision	Description	Date
0	Original Issue	24. Nov.08
A	Add Cessna 175 to AML	27.Dec.10
B	Update AML to include all 100 series Cessna aircraft , as well as Cessna 205 and 210 aircraft. Add requirement for load analysis for new applications.	03.Sep.15
C	Update AML based on FAA-accepted Model Qualification report	04.Jan.16

For updated revisions of this document, it is the owner/operators responsibility to contact F. Atlee Dodge Aircraft Services, LLC. through our website or directly at the numbers given above.

1 Introduction

1.1 Model Applicability

This Installation Instruction for Continued Airworthiness (ICA) is intended to augment the information contained in the original aircraft maintenance manual or structural repair manual. Additional information on recommended best practices and acceptable methods, techniques can be obtained from FAA AC 43.13-1B/2A.

This document is applicable to the following Make and Model aircraft once the STC is installed.

Cessna Model Numbers	TCDS	Rev	Certification Basis
150K ,A150L	3A19	49	CAR 3 dtd May 15, 1956, as amended
F150K FA150K	A13EU	15	CAR 3 dtd May 15, 1956, as amended
170,170A,B	A-799	55	170, 170 A: CAR 03 dtd Dec 15, 1946, as amended 170B: CAR 3 dtd Nov 01, 1949, as amended
172B,C,D,E,F,G,H,I,K,L,M,N,P	3A12	84	CAR 3 dtd Nov 01, 1949, as amended
F172D,E,F,G,H,K,L,M,N,P	A4EU	14	CAR 3 dtd May 15, 1956, as amended
R172E,F,G,H,J,K	3A17	47	CAR 3 dtd May 15, 1956
175, 175A,B,C	3A17	47	CAR 3 dtd May 15, 1956
180,180A,B,C,D,E,F,G,H,J,K	5A6	68	CAR 3 dtd Nov 01, 1949, as amended
182,182A,B,C,D,E,F,G,H	3A13	72	CAR 3 dtd Nov 01, 1949, as amended
185,185A,B,C,D,E A185E,F	3A24	40	CAR 3 dtd May 15, 1956, as amended

1.2 Parts List

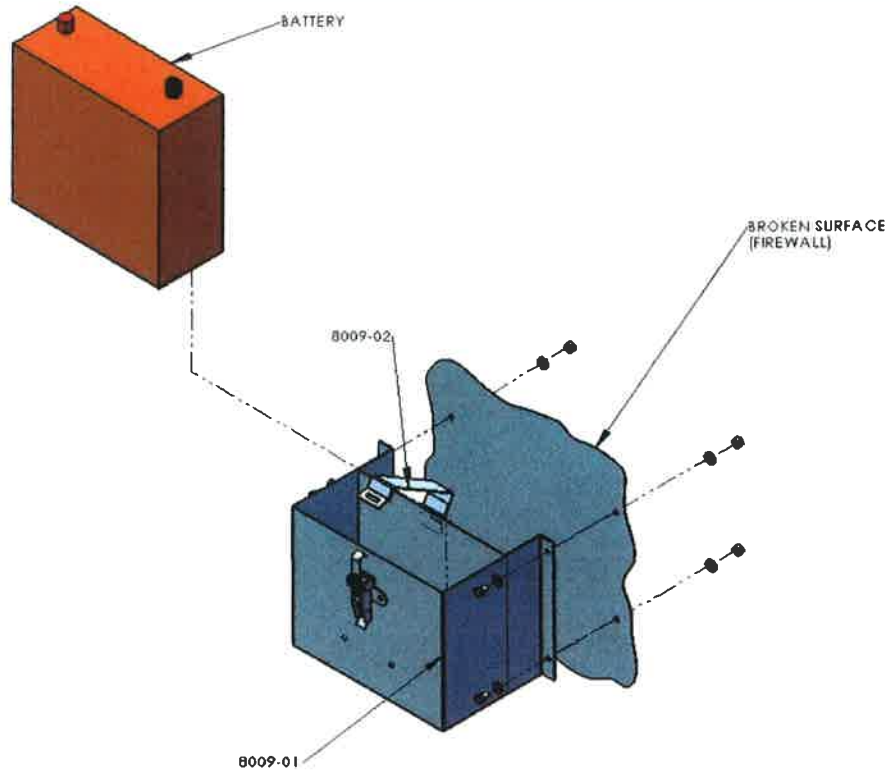


Figure 1.1: Typical Battery Box Parts Breakdown.

Part Description	Part No.	Qty	Comment
Battery	SBS-J-16	1	Hawker PMA'd not supplied
Battery Box Assembly	8008	1	PMA'd FAD supplied
Attachment Screws	AN525 10R8	4	ALT: AN3-4A Local Purchase
Washer	NAS1149 0363	4	Local Purchase
Nut plates	MS21059 3	4	Local Purchase
Rivets	MS24426-AD3-4	8	Local Purchase For nutplates

2 Modification Description

NOTE:

This Installation Instruction is concerned with structural issues only and does not address the electrical features of each aircraft for which installation is sought.

Only “PMA'd” batteries and “Sealed” batteries should be used with this STC.

The modification consists of mounting a stainless steel battery box on the left hand side firewall of the applicable aircraft. The battery box is supplied PMA'd for installation. The corresponding original battery and associated hardware may be removed from the rear underfloor.

The battery box is attached with four (4) #10 screws through the firewall. This box holds a lightweight 12 volt battery. The front of the battery box has two (2) holes to which a electrical starter contact relay may be mounted. A latch is provided to secure the battery in the box. The battery may be installed straight or tilted as shown to facilitate ease of battery removal.

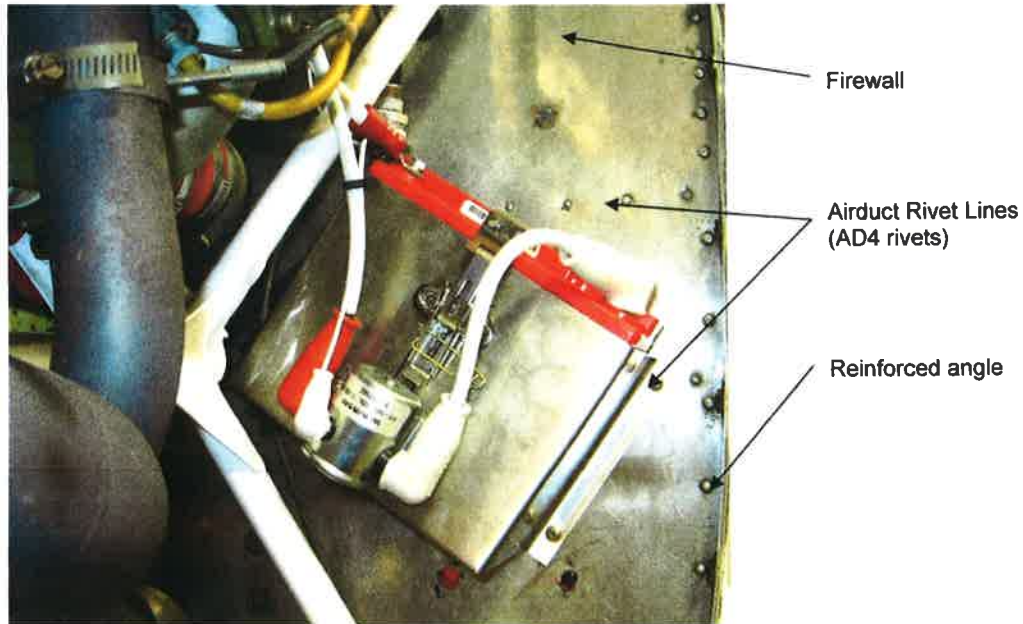


Figure 2.1: Typical Battery Box Installation on Firewall (forward).

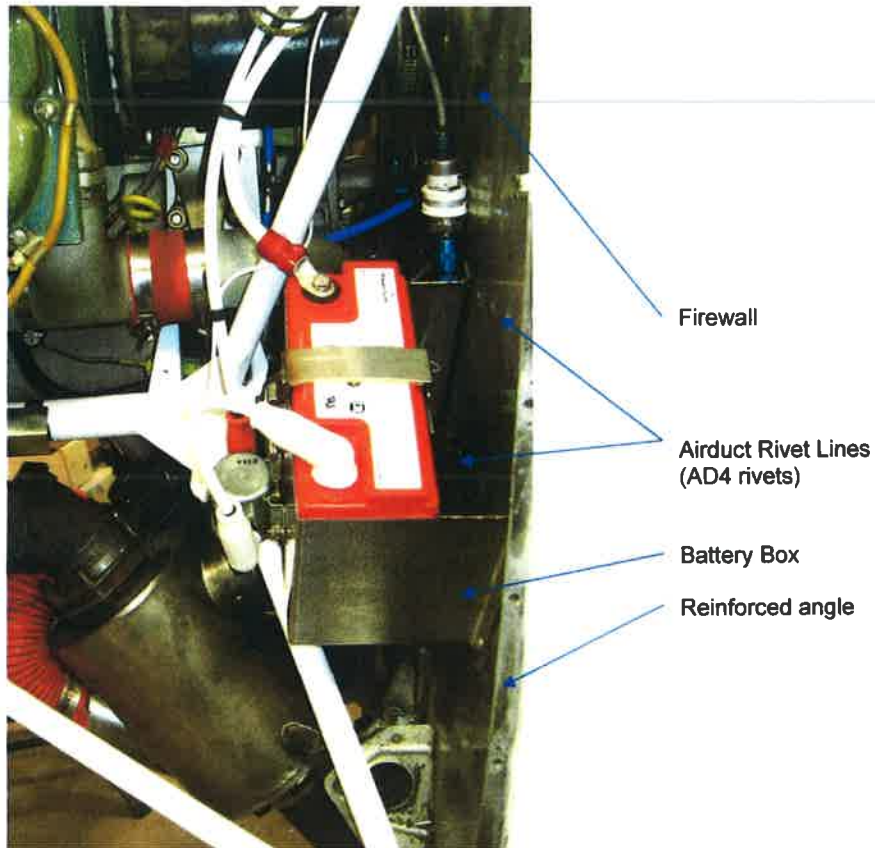


Figure 2.2: Typical Battery Box Installation on Firewall (side).

3 Initial Installation

NOTE:

PRIOR TO STARTING WORK

It is incumbent upon the installer to perform an electrical load analysis to show that the battery is compatible with the owner's aircraft.

NOTE:

PRIOR TO STARTING WORK

Turn OFF, all BATTERY SWITCHs in aircraft prior to starting work on the battery and electrical system. Disconnect both leads of battery, secure and stow properly.

Prior to installation of the firewall battery box it is assumed that the original battery, associated housing, electrical equipment and wires have been removed. The removed equipment weight and location should be documented for modification of the equipment list and weight and balance of the aircraft.

Additionally the left side of the firewall must be clear of mounted equipment. If the aircraft for installation has a seaplane engine mount the battery box will need to be mounted lower than shown. The following installation photo show preferred locations for the installation.

The battery box must be secured in the following manner (ref. figure 2)

- Total of four (4) #10 structural screws to be used.
- Each screw will attach to a permanently mounted nutplate on the rear side of the firewall.
- Two of four (2/4) of the screws must be attached to **either** the duct work or to the edge reinforcement angle.
- The battery box may be tilted as shown in the section 3.1 photos.

3.1 Installation Photos

The following photographs show installation on different configured aircraft.

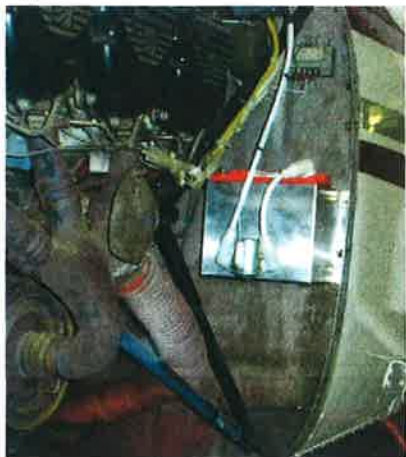


PHOTO 3.1: Horizontal Inst'll with Typical Engine Mount.

This installation is mounted lower than normal. The firewall edge angle and one of the duct rivets is used.

The battery may not be removable without removing battery box.



PHOTO 3.2: Canted Inst'll with Seaplane Typical Engine Mount.

This installation is mounted using the firewall edge angle and one of the duct rivets is used.

The battery box canted to the outside allows for battery ease.

If the aircraft being modified is different or if your installation needs to be in another firewall location please contact F. Atlee Dodge Aircraft Services, LLC

3.2 Installation -

1. Turn off all electrical master and battery switches in the aircraft. Detach all electrical connections to the battery and stow appropriately.
2. Undo the latch mechanism and remove the battery for the box. If the battery cannot be removed due to aircraft structure, then proceed to step 3 and remove the battery box with the battery in it.
3. Using the proper tool (screwdriver / socket wrench) remove the hardware. These are attached thru the firewall to floating nutplates.
4. The battery box assembly is approximately 3 lbs. Weigh the battery, add to battery box assembly weight and make the appropriate log book entry.

4 Weight & Balance

The battery box assembly is approximately 3 lbs.

The installer will weigh the battery to be installed. Typical weights are approximately 14-16 lbs.

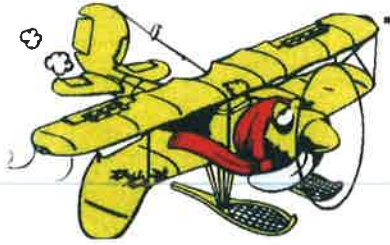
Contactors and electrical wire must be weighed for your application

The moment and arm must be determined by the installer. Update aircraft CG as necessary.

Make the appropriate log book entry.

5 Limitations

No additional limitations.



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RETAIN THIS DOCUMENT WITH THE AIRCRAFT RECORDS

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This document meets the requirements of 14 CFR 23.1529 (Appendix G). Additionally it is found acceptable to the FAA AEG in accordance with the guidelines outlined in FAA Order 8110.54.

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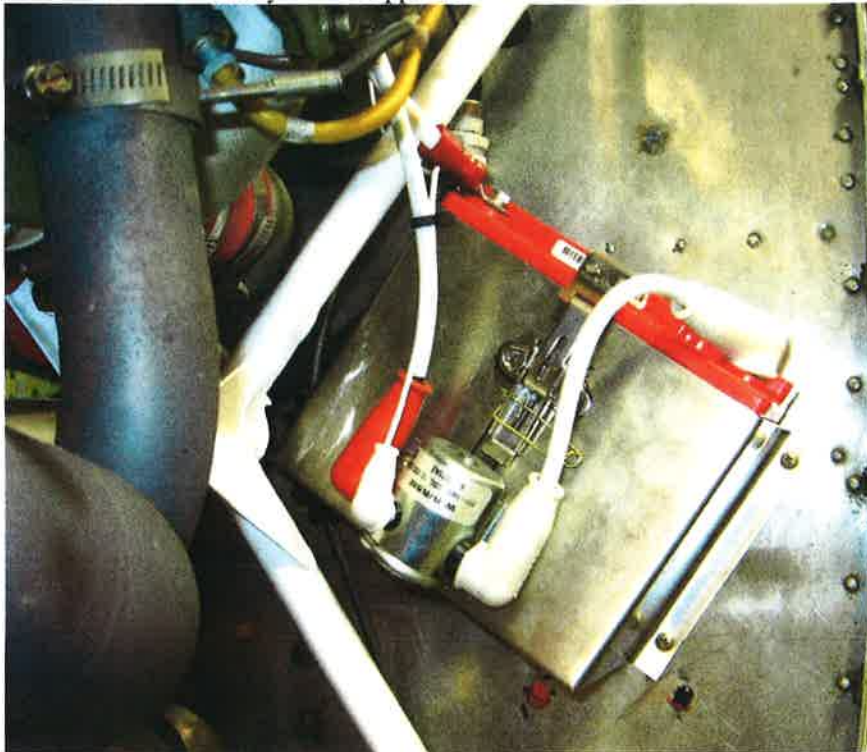


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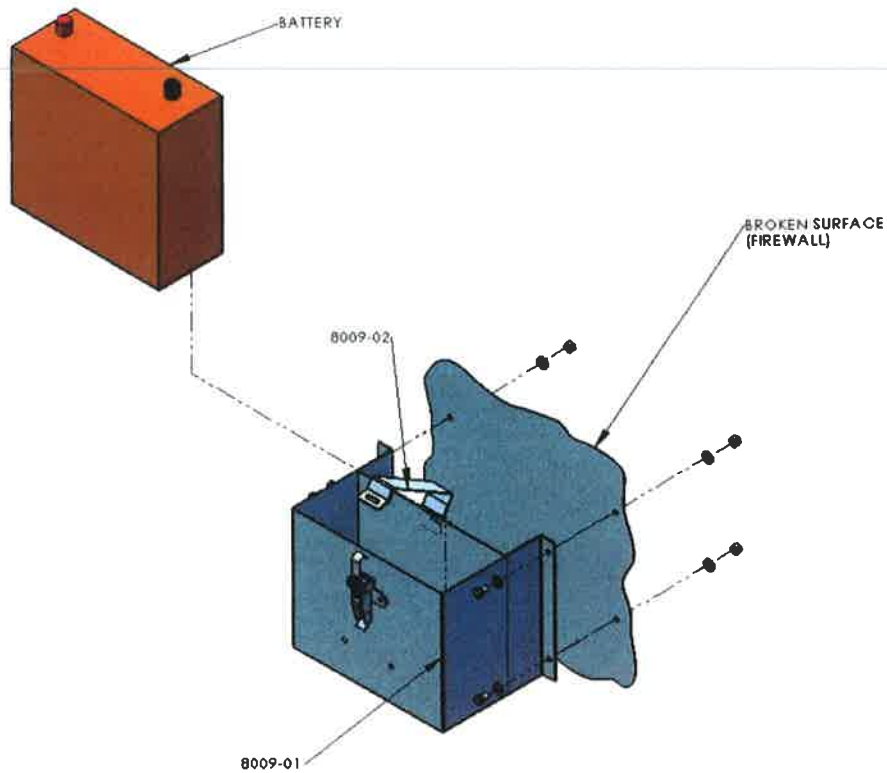


Figure 2: Typical Battery Box Parts Breakdown.

2.1 Parts List

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Washer	NAS1149 0363	4	Local Purchase
Nut plates	MS21059 3	4	Local Purchase
Rivets	MS20426AD3-4	8	For nutplates Local Purchase

3 Installation and Removal Procedures

Refer to Installation Instructions II-1005.

4 Maintenance

If repairs are deemed necessary, high quality welds may be used on the battery box using the appropriate welding equipment and consumables for AISI 304 stainless steel.

4.1 Inspection Requirements

The battery box should be inspected on a regular 100 hr/annual or progressive basis in accordance with the applicable maintenance manual. Replace hardware as required.

5 Airworthiness Limitations

This Airworthiness Limitations Section is FAA approved and specifies maintenance required under paragraphs 43.16 and 91.403 of the Federal Aviation Regulations unless an alternate program has been FAA approved. This modification does not affect the airworthiness section of the FAA Approved Maintenance Manual.

No additional airworthiness limitations have been imposed by this modification.

----- END -----