Acme-Utah Research and Development Co.
ACME - URDC, Inc. 7915 South 1530 West
West Jordan, Utah 84088

MODEL AMPS-500, Part Number 171BS101-1/171BS101-M
COMPONENT MAINTENANCE MANUAL

SERVICE BULLETIN

ELECTRICAL POWER - General - Model AMPS-500, Battery Retainer Bracket Attachment Screw Replacement

1. Planning Information

A. Effectivity:

(1) Aircraft Modular Power System (AMPS) affect:
Model AMPS-500, P/N 171BS101-1 and -M

(a) Serial numbers 0016R, 0036R, 0040, 0068R, 0097, 0105R, 0112R, 0119R, 0126R, 0132R, 0135R, 0137, 0142, 0144R, 0160, 0163R, 0165R, 0180R, 0193R, 0197R, 0201, 0205, 0209R, 0246R, 0251R, 0290R, 0295R, 0304R, 0326, 0335, 0354R, 0391, 0416, 0417, 0421, 0424R, 0426, 0454, 0464, 0492R, 0517, 0524, 0529, 0532R, 0538R, 0549, 0562, 0572, 0573, 0574, 0611, 0612, 0663R, 0669, 0681, 0684, 0688, 0781R, 0782R, 0784R, 0813, 1001, 1004, 1006, 1010, 814 through 888

(b) New production serial numbers 889 through 1000 and 1026 and up incorporate correct battery retainer bracket attachment screws.

(2) Spares Affected:

None

B. Reason:

(1) AMPS-500 units that have the 171BS104-2 battery cell assembly installed are susceptible to chaffing of the heater blanket by four battery retainer bracket attachment screws. It is possible for the screws to actuate the heater circuit if the heating element is chaffed bare and contacts the attachment screw. This can cause overheating and possible damage to the battery cell assembly.

(2) AMPS-500 units which show signs of an overheated battery cell assembly, burnt heater blanket or heat damaged battery cells can be returned to the factory for warranty heater blanket/battery cell assembly replacement.

(3) The manufacturer requests inspection and replacement of the retainer bracket attachment screws as soon as possible to eliminate the added expense of replacing damaged battery cell assemblies. Even though a battery cell assembly may be recent new, any extended flight operation time can result in the puncture of the heater blanket by the screws, the heater blanket being turned on, and the possible damage of battery cells from over heating. Such damage will result in the replacement of an otherwise new battery cell assembly.

C. Description.

This Service Bulletin will accomplish the following:

(1) Notify operators using AMPS-500 units in their aircraft system.

(2) Identify AMPS-500 units by serial number that require inspection/replacement of battery retainer bracket attachment screws.

(3) Provide materials list for battery retainer bracket attachment screws.

D. Compliance:

(1) Compliance is mandatory but not safety of flight and must be accomplished within the present maintenance period and not later than the next maintenance cycle.

(2) Proof of Compliance.

(a) Operators shall mark out "A" of modification plate on right side of unit upon compliance.

(b) Operators are requested to notify Acme-URDC with unit serial number information when this service bulletin has been complied with.

(c) Affected units inspected which do not require corrective action will still require modification "A" to be marked out on the modification plate

E. Approval:

(1) The repairs outlined in this service bulletin have been shown to comply with the applicable Federal Aviation Regulation and are FAA approved.

(2) This service bulletin has been reviewed by the Factory FAA DMR and the repairs herein comply with the applicable Federal Aviation Regulations (FARs) and are FAA approved.

F. Manpower:

Inspection/Replacement of the AMPS-500 Battery retainer bracket attachment screws may be accomplished in the following approximate man-hours:

NOTE: Man-hours are estimated based on work to be performed by skilled personnel on units which have been placed in a maintenance status. The man-hour/elapsed time estimates do not include:

(1) Preparation for the inspection/replacement. Examples: Removing the unit from aircraft, transportation to maintenance locations, and obtaining tools.

(2) Non productive elapsed time. Examples: Cleaning, lunch and/or rest periods, quality assurance inspections.

(3) Administrative functions. Examples: Planning, parts requisitions, shift change coordination, and report writing.

WORK PHASES	MAN-HOURS
Gain access to battery retainer bracket	0.05
Battery retainer bracket removal	0.05
Inspection	0.1
Battery bracket replacement	0.05
Close up	0.05
TOTAL MAN-HOURS	0.3

G. Material - Cost and Availability:

(1) AMPS-500

Parts required to accomplish this inspection/replacement are listed in paragraph 3.A. and can be obtained from Acme-URDC, operator stocks or established vendors. Kits are not available. Published prices in this service bulletin are not firm and are subject to change without notice.

(2) Spares:

Not Applicable

H. Tooling - Price and availability:

NONE

I. Weight and Balance:

NONE

J. References:

Data used in preparation of this service bulletin:

Data Identification	Change	Type of Data
ATA 24-30-03	JUL 31/91	Component Maintenance Manual With Illustrated Parts List, AMPS-500 P/N 171BS101-1/ 171BS101-M
171BS101, ECO 6245		Engineering Change Order

K. Publications affected:

Data Identification	Change	Type of Data
ATA 24-30-03	JUL 31/91	Component Maintenance Manual With Illustrated Parts List, dated DEC 15/90, AMPS-500, P/N 171BS101-1/171BS101-M (Replaces ATA 34-20-01)

2. Accomplishment Instructions:

Perform the following steps to inspect battery cell assembly and replace battery retainer bracket attachment screws:

A. Disassembly.

(1) Remove enclosure retaining screws (1, figure 1).

(2) Slide enclosure (2) from main case (9).

(3) Remove all battery retainer bracket attachment screws (3).

(4) Remove battery retainer brackets (4).

(5) Disconnect connector receptacle (5) from J4 pin connector (10).

(6) Remove battery cell assembly.

B. Inspection.

(1) Inspect battery covers (6) for signs of distortion or melting.

(2) Inspect heater blanket (7) surfaces for evidence of burning or overheating.

(3) Inspect battery cells (8) at both ends of for evidence of overheating. Can be determined by discoloration of cell plastic coating or peeling of the cell coating due to excessive heat.

C. Corrective Action.

(1) Units with discrepancy should be return to Acme-URDC for warranty heater blanket replacement.

(2) Units without discrepancies must have battery retainer bracket attachment screws replaced as detailed in paragraph 2.D.

D. Assembly.

(1) Place battery cell assembly in main case (9).

(2) Position battery retainer brackets (4) over battery cell assembly and in position in main case (9). Align threaded holes of battery retainer bracket (4) with holes in main case (9).

(3) Install the battery retainer bracket attachment screws (3). Ensure that the screws are the correct length (1/8 inch).

(4) Connect connector (5) with J4 pin connector (10).

(5) Place enclosure (2) over main case (9).

(6) Install enclosure retaining screws (1).

(7) Mark "A of modification plate to show compliance.

E. Testing - None required.

3. MATERIAL INFORMATION.

A. The basis for the following material data is per AMPS unit:

New Part No.	Qty	Unit Price	Key Word	Old Part No.	Instructions
500826	4	No charge	FHP Screw	MS24693 C2	May be obtained from Acme-URDC.
* None	4	$00.25 ea	FHP Screw	MS24693 C2	May be obtained from Hardware Specialties (FSCM 07679)

* Can be ordered by description: FHP 100°, 4-40 UNC x 1/8 inch

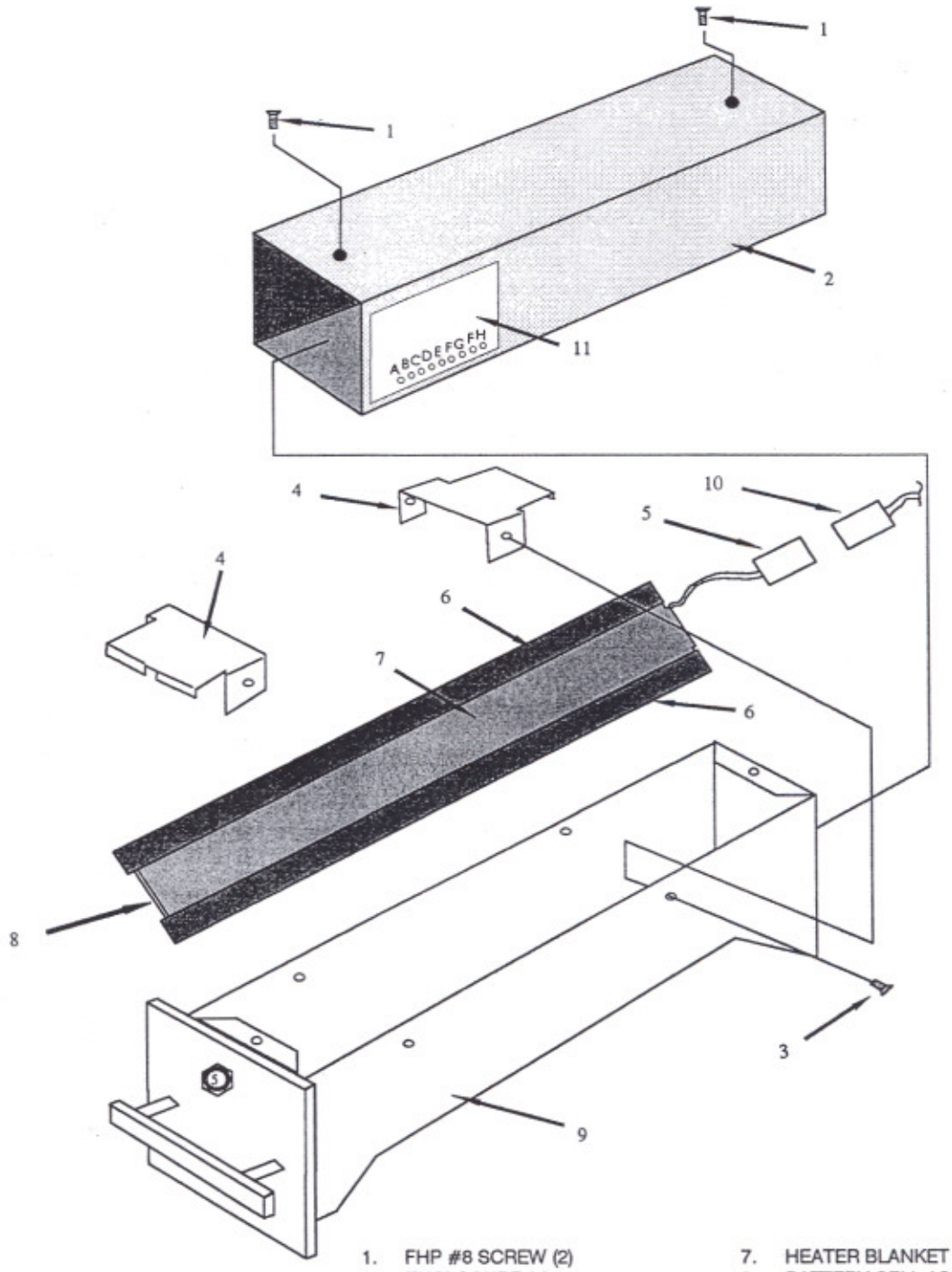
B. The basis for the following material data is per spares:

NONE

Any inquiries regarding accuracy, timeliness, completeness, and legibility of this Service Bulletin should be directed to the following:

Acme Electric
Utah Research and Development
7915 South 1530 West
P.O. Box 10
West Jordan, Utah 84088

ATTN: Product Support
Telephone (801) 255-2405
FAX (801) 562-9004



1. FHP #8 SCREW (2)
2. ENCLOSURE (1)
3. FHP #4 SCREW (4)
4. BATTERY RETAINER BRACKET (2)
5. CONNECTOR RECEPTACLE (1)
6. BATTERY COVER (2)
7. HEATER BLANKET (1)
8. BATTERY CELL ASSY (2)
9. MAIN CASE (1)
10. PIN CONNECTOR J4 (1)
11. MODIFICATION PLATE (1)

Figure 1. Aircraft Modular Power System