

McLean

REPAIR AND OVERHAUL INSTRUCTIONS

BATTERIES - AIRCRAFT STORAGE - LEAD ACID

(This EO replaces EO 40-5A-3 dated 18 Dec 50)

SEALING COMPOUND DETERIORATION

- 1 Batteries that show signs of acid leakage due to failure of the sealing compound can be repaired as follows:-
 - (a) Carefully chip away the defective compound from around the cell covers and container.
 - (b) Remove any trace of acid by washing with ammonia in dilute solution and flushing with clean water. Care is to be taken to ensure that the neutralizing solution is not introduced into the cells.
 - (c) Dry off thoroughly with air blast to ensure a clean dry working area where the sealing compound will make contact.
 - (d) Inspect the cell covers to ensure that a close fit exists between the covers and the container. Covers that are not close fitting will allow the heated sealing compound to run down past the covers into the cell. Taking care not to scorch the container or covers warm the area where the sealing compound is to be poured with a flame from a small torch.

NOTE

Compounds adhere best to warmed, clean, dry surfaces.

- (e) Heat the sealing compound to approximately 163°C (325°F) ensuring that no smoke is given off which would indicate an overheat condition. Prolonged heating of the compound destroys its resistance to cracking at cold temperatures. When at the correct temperature the compound should not run like water but should pour more like syrup.
- (f) Pour heated sealing compound to half fill the grooves between the cell cover and container. Allow first pour to cool and then fill to the correct level with more hot sealing compound. Small amounts of new compounds can be heated and conveniently poured from a clean metal container.
- (g) After the sealing compound has cooled, trim off any excess. Flame it to level it out and make it adhere well. Do not scorch container or covers. Blow out any flame which springs from container or covers while flaming seal.

CAUTION

No attempt is to be made to repair batteries until at least six hours after last charge due to the possibility of ignition of explosive gases. Protective goggles are to be worn when carrying out sealing repairs.

*Prepared by
 AMO/SAC/ADA*

TYPE K1 BATTERIES

LEAKS AT INTERCELL JOINTS

2 Leaks occurring at intercell joints of Type K1 batteries can be repaired as follows:-

- (a) Prior to filling for initial charge, test for leaks by subjecting the battery to an internal air pressure of 5 psi while applying tap water to the external battery top. Establish area of any leak which will be indicated by air bubbles, thoroughly clean battery and allow to dry.
- (b) In a clean glass jar, prepare a cement consisting of Koppers "Adhesive For Polystyrene" and the smallest grains available of polystyrene (obtained from a disused K1 battery container). Gradually add the polystyrene to the adhesive with constant agitation allowing the grains to dissolve. The percentage of dissolved polystyrene by weight is approximately 25-30%. Seal jar and allow to remain for at least 12 hours at which time a thin free flowing cement will have formed.

CAUTION

Heat should never be applied while the polystyrene is dissolving as it introduces the risk of evaporation, increasing the hazards of toxicity and flammability. Use the cement in a well ventilated area away from naked lights. Replace container cap immediately after use.

- (c) Clean area of leak by means of a small pointed knife or jeweller's screwdriver, ensuring that no small amount of loose cement or any foreign material remain which would hinder a good bonding of the new cement.

- (d) Apply the cement by means of a fine pointed eye dropper to the area of the leak. Break any air bubbles that may form with the point of a pen knife to ensure a cement bond of homogeneous structure.

- (e) Allow repair to dry for approximately 24 hours and then repeat pressure test as detailed in para 2(a).

NOTE

Cracks 1/8" wide by 1" long have been successfully repaired using the foregoing procedure.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

CAUTION

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