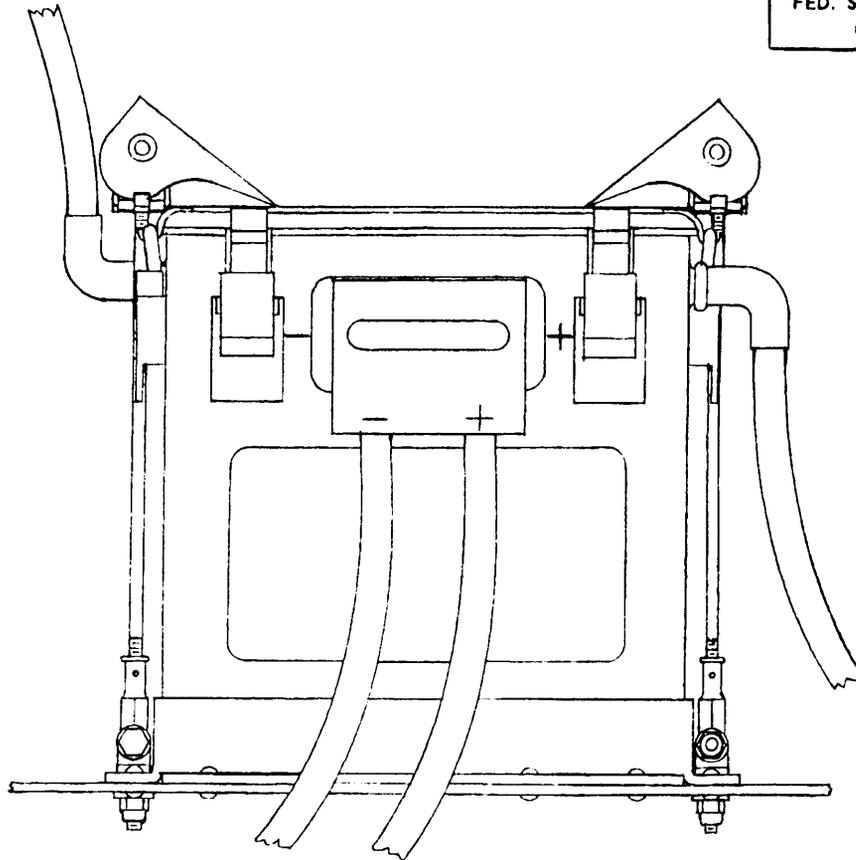


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**Notes:**

1. **Cradle.** - Each storage battery conforming to MS18093 shall be mounted in a cradle which shall support the bottom of the battery, and which shall fit the battery snugly to a height equal to  $0.15 \pm 0.05$  times the height of the battery. The battery shall be retained in the cradle by AN3156 clamps screwed onto suitable threaded rods and bearing on the hold-down hooks on the cover of the battery. The rods shall be hinged so that they can be moved out of the way when the battery is being installed and removed. The bottom surface of the battery shall be horizontal when the aircraft is cruising.
2. **Electric Connections.** - Electric connection shall be made to the battery by an MS3349 or MS25182 plug. If an MS25182 plug is used, the wires may be dressed from either or both sides of the plug. The battery case need not be bonded to the airframe. The installation shall be designed, and means shall be provided as necessary, so that when the aircraft is on the ground, and the plug is removed from the battery, if the plug is energized, it is not possible for any part of the plug to accidentally touch any other object in any way which can cause any damage.

Project Number 6140-N235

This standard has been approved by the Naval Air Systems Command, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

P.A. Navy - AS Other Cus	TITLE	MILITARY STANDARD
	BATTERIES, STORAGE, AIRCRAFT, INSTALLATION OF	MS 25193(AS)
Procurement Specification None	SUPERSEDES: AND10441 for NASC's use; and BUAER Drawing 55A3A913	SHEET 1 OF 2

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3. Venting. - Suction shall be applied to one of the vent tubes of the battery (outlet) so that there shall be a total difference of head (pressure + flow) of 24+12 inches of water between the two vent tubes whenever the forward speed of the aircraft equals or exceeds one-half its cruising speed. Any explosive, combustible, corrosive, or toxic substance which is released from the outlet shall be disposed of by the source of suction without any damage to the aircraft or personnel. The battery shall be installed so that any explosive, combustible, corrosive, or toxic substance which is released from the inlet or around the cover of the battery when no suction is applied to the outlet cannot do any damage to the aircraft or personnel. Venting shall be accomplished by a flexible hose attached to the outlet, and, at the option of the aircraft manufacturer, another flexible hose attached to the inlet. The hose(s) shall be retained on the vent tube(s) by friction achieved by elastomeric or mechanical clamping. The outlet hose shall slope continuously downward going away from the battery for at least six inches of vertical travel immediately after it leaves the battery, and the inlet hose, if used, shall slope continuously upward going away from the battery for at least six inches of vertical travel immediately after it leaves the battery. Either vent tube may be used as the outlet, with the other used as the inlet.

4. Accessibility.- When the aircraft is at rest on a flat horizontal pavement on its wheels, on the airframe and any one or more of its wheels, or on the airframe alone after a belly landing, it shall be possible for a man standing on the ground to obtain access to the battery without requiring any tool, and it shall be possible for him to disconnect the electric connector from the battery, without any part of his body being more than 66 inches above the ground at any time.

5. Stray Electrolyte. - The area around the battery shall not be susceptible to damage by any electrolyte which escapes from the battery.

6. Environment. - The battery shall not be subjected to environmental conditions (temperature, vibration, etc.) more severe than those to which the specification for the battery requires that it be subjected during testing.

7. Kind of Standard. - This is a design standard, and is not to be used as a part number.

(J) Redrawn.

APPROVED 15 JUN 56 REVISED (G) 10 JUNE 68 (H) 19 NOV 68 (J) 1 MAY 69

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P.A. Navy - AS Other Cust	TITLE BATTERIES, STORAGE, AIRCRAFT, INSTALLATION OF	MILITARY STANDARD
		MS 25193(AS)
Procurement Specification None	SUPERSEDES: AND10441 for NASC's use; and BUAER Drawing 55A3A913	SHEET 2 OF 2