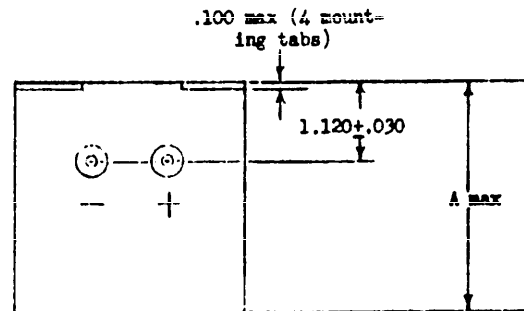
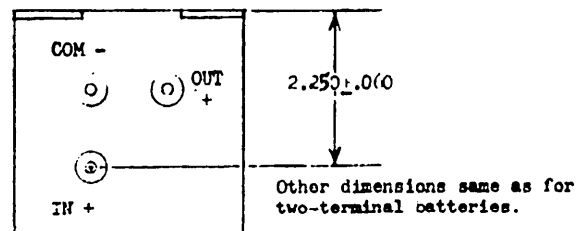
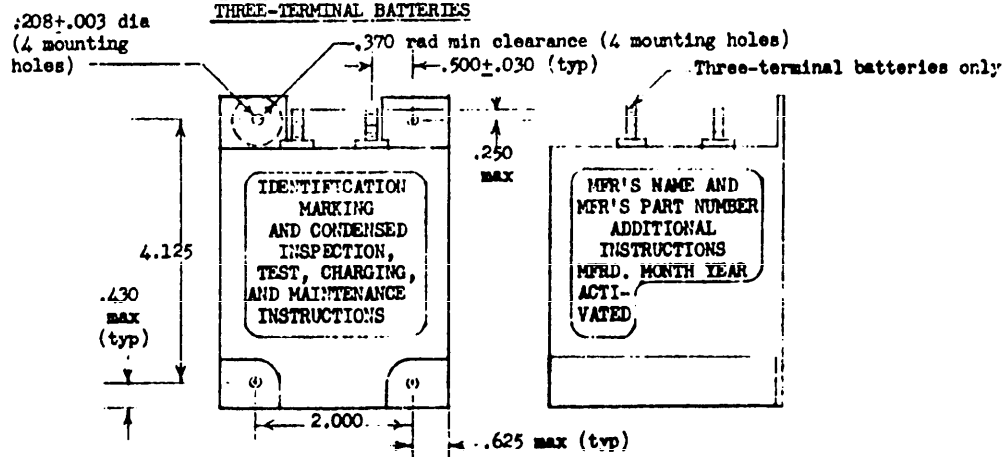


FED. SUP CLASS  
6140TWO-TERMINAL BATTERIESTHREE-TERMINAL BATTERIES

MS PART NUMBER	NUMBER OF TERMINAL POSTS	A	NOMINAL POTENTIAL, VOLTS	MAXIMUM WEIGHT, POUNDS
MS 3337	2	2.25	10.8	3
-2	2	3.50	21.6	4
-3	3	3.50	21.6	4.5

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 requested to employ this standard where suitable.

APPROVED 21 Nov 67 REVISED © 21 Jun 71

P.A. Navy - AS	TITLE BATTERIES, STORAGE, AIRCRAFT, HEAVY DUTY, 0.4 AMPERE-HOUR	MILITARY STANDARD
Other Cust		MS 3337(AS)
Procurement Specification MIL-B-8565	SUPERSEDES:	SHEET 1 OF 4

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## NOTES.

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1. DIMENSIONS. The dimensions of each battery shall be as shown and listed on sheet 1. All dimensions are in inches. All tolerances are  $\pm 0.010$  unless otherwise specified.
2. MS PART NUMBERS. The MS part numbers of the batteries shall be as listed on sheet 1.
3. ELECTRIC CONNECTIONS. Each battery shall include as its electric connections two or three number 10 threaded posts, as shown and listed on sheet 1. The functions of the electric connections of each battery shall be as shown on sheet 1.
4. ELECTRIC CIRCUIT. The electric circuit of each three-terminal battery is optional except that the battery shall be usable with electric connections made to it as shown on sheet 1 and specified below.
5. NOMINAL POTENTIAL. The nominal potential of each battery shall be as listed on sheet 1.
6. NOMINAL CAPACITY. The nominal capacity of each battery shall be 0.4 ampere-hour.
7. MARKING. The identification marking and all instructions which are used while the battery is installed in an aircraft shall be marked on the front of each battery as shown on sheet 1. All other required marking shall be on either the front or the right side of each battery as shown on sheet 1. If any of this marking is on a removable cover, the manufacturer's name and manufacturer's part number shall also be marked in the location and orientation shown on sheet 1.
8. WEIGHT. The weight of each battery filled with electrolyte shall not exceed the value listed on sheet 1 in any state of charge.
9. SPECIFICATION. The batteries shall conform to requirements of MIL-B-8565 for no-maintenance, plate-mounted, heavy duty high discharge rate batteries as modified above and as follows:

GENERAL: Replace "design standard", wherever it occurs, with "procurement standard".

3.8.2 THREADED-POST-CONNECTED BATTERIES. Replace "suitable terminal lugs" with "one, two, or three suitable terminal lugs". Replace "its terminal posts" with "each of its terminal posts".

3.15 MARKING. Replace "four inches wide" with "two inches wide".

TABLE 2 - TEST VALUES - Replace "-40 F", in two places, with "0 F".

4.6.8 CHARGES - and all its subparagraphs.

For two-terminal batteries, replace with:

4.6.8 CHARGES. After each discharge, except those of the Life Test, the battery shall be left idle (no connection made to it) at  $70 \pm 10^\circ\text{F}$  for  $1.0 \pm 0.1$  hour, and shall then be given a constant-current charge, a two-step constant-current charge, a constant-potential charge, or a constant-potential-with-fixed-series-resistor charge, as selected by the manufacturer, with values selected by the manufacturer, for a period not to exceed one hour for the Life Test and not to exceed eight hours for all other tests. Except for the Life Test, the battery shall then be left idle for at least four hours before the next discharge.

For three-terminal batteries, replace with:

4.6.8 CHARGES. After each discharge, the battery shall be left idle (no connection made to it) at  $70 \pm 10^\circ\text{F}$  for  $1.0 \pm 0.1$  hour, and shall then be charged at  $70 \pm 10^\circ\text{F}$ . For each charge of the Life Test, a potential of  $28.0 \pm 0.5$  volts shall be applied to the battery for  $5.0 \pm 0.1$  hours. For all other charges, a potential of  $27.0 \pm 0.5$  volts shall be applied to the battery for  $10.0 \pm 0.1$  hours. The battery shall not draw more than 1.5 amperes from the source of potential at any time during any charge.

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 comply with this standard when applicable.

P.A. Navy - AS Other Cost	TITLE BATTERIES, STORAGE, AIRCRAFT, HEAVY DUTY, 0.4 AMPERE-HOUR	MILITARY STANDARD
		MS 3337(AS)
Procurement Specification MIL-B-8565	SUPERSEDES:	SHEET 2 OF 4

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4.6.10 "EVALUATION OF EQUIPMENT" TEST - Replace "45-minute discharge" with "30-millisecond high current discharge in accordance with 4.7.25.1, and also, for MS3337-1 batteries, after a 5-minute rest period, a 30-millisecond low-current discharge in accordance with 4.7.25.2".

For three-terminal batteries, add:

4.6.13 SHORTED INPUT. The COM - and IN + terminals shall be connected together externally at all times except when the battery is being charged, during all tests except the Life Test.

#### 4.7.2 DIELECTRIC STRENGTH

For MS3337-1 and -2 batteries: Replace "2,500±500 volts" with "500±50 volts". Add: "The battery shall not draw more than 1 milliamperes from the source of potential at any time"

For MS3337-3 batteries: Delete.

#### 4.7.13 LIFE - Replace the text and Table 6 with:

4.7.13 LIFE - The battery shall be subjected to 100 cycles of discharge and charge. Each cycle shall consist of a discharge in accordance with 4.7.25.1 and then a charge in accordance with 4.6.8 as modified above.

#### 4.7.16 ONE-HOUR DISCHARGE AT -40 F. - Replace "-40 F", in the title and the text, with "0 F"

4.7.21 ALTITUDE - Replace the text with: "The battery shall be subjected to the Altitude Test Procedure VI Condition D of MIL-E-5272 except that the temperature shall be -22 F instead of -65 F."

4.7.22 MECHANICAL SHOCK - Replace the first sentence with: "The battery shall be subjected to the Shock Test Procedure V of MIL-E-5272 except that the acceleration for the Equipment Crash Safety Test shall be 50 g instead of 30 g." Add: "The battery shall then be subjected to an "Evaluation of Equipment" test."

4.7.24 VIBRATION - Add to first sentence: "except that Curve A shall be changed so that the double amplitude at all frequencies between 5 and 50 Hz shall be 0.080 inch and the peak acceleration at all frequencies between 50 and 500 Hz shall be ±10 g." Replace the last sentence with: "The battery shall be subjected to an "Evaluation of Equipment" test, and then a 45-minute discharge, during the last hour of vibration."

#### 4.7.25 SPECIAL TESTS -

For MS3337-1 batteries, add:

4.7.25.1 30-MILLISECOND HIGH CURRENT DISCHARGE - The battery shall be discharged for 30±1 milliseconds with a current of 40±1 amperes and a minimum potential of 5 volts.

4.7.25.2 30-MILLISECOND LOW CURRENT DISCHARGE - The battery shall be discharged for 30±1 milliseconds with a current of 5.0±0.3 amperes and a minimum potential of 8.5 volts.

For MS3337-2 and -3 batteries, add:

4.7.25.1 30-MILLISECOND HIGH CURRENT DISCHARGE - The battery shall be discharged for 30±1 milliseconds with a current of 45±1 amperes and a minimum potential of 12 volts.

4.7.29 HUMIDITY - Add: "The battery shall be charged before it is subjected to the "Evaluation of Equipment" test."

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APPROVED 21 Nov 67 REVISED 10 Jun 71

P.A. Navy - AS Other Cust	TITLE BATTERIES, STORAGE, AIRCRAFT, HEAVY DUTY, 0.4 AMPERE-HOUR	MILITARY STANDARD
		MS 3337(AS)
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4.7.30 SALT SPRAY - Add: "The battery shall be charged before it is subjected to the first "Evaluation of Equipment" test, but not between the first and second "Evaluation of Equipment" tests."

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4.7.31 ADDITIONAL QUALIFICATION TESTS - Add:

4.7.31.1 VIBRATION AT -22 F - The battery shall be subjected to a Vibration Test in accordance with 4.7.24 as modified above at -22 F.

4.7.31.2 VIBRATION AT 180 F - The battery shall be subjected to a Vibration Test in accordance with 4.7.24 as modified above at 180 F. The battery shall be charged in accordance with 4.6.8 as modified above immediately before the "Evaluation of Equipment" test except that there shall not be any rest period between the charge and the discharge.

4.7.31.3 EXPOSURE TO -65 F, and 30-MILLISECOND DISCHARGE(S) AT -22 F - The battery shall be kept in a chamber maintained at -65 F for 12 hours. The temperature of the chamber shall then be increased to -22 F, and after 12 hours in the chamber maintained at -22 F, the battery shall be subjected to an "Evaluation of Equipment" test in accordance with 4.6.10 as modified above.

4.7.31.4 30-MILLISECOND DISCHARGE(S) AT 180 F - The battery shall be kept in a chamber maintained at 180 F for 2 hours and then, while remaining in the chamber maintained at 180 F, shall be subjected to an "Evaluation of Equipment" test in accordance with 4.6.10 as modified above.

4.7.31.5 SIXTY-DAY STAND - The battery shall be stored for 60+1 days at 70+10 F, and shall then be subjected to an "Evaluation of Equipment" test in accordance with 4.6.10 as modified above.

© Entire standard revised and redrawn to add part number MS3337-3.

Project Number 6140-N314.

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P.A. Navy - AS Other Cust	TITLE BATTERIES, STORAGE, AIRCRAFT, HEAVY DUTY, 0.4 AMPERE-HOUR	MILITARY STANDARD	
		MS	3337(AS)
Procurement Specification MIL-B-8565	SUPERSSEDES:	SHEET	4 OF 4

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