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engineering and design applications and for existing use shall
be made from this document.

		FED. SUP CLASS 6140	
REQUIREMENTS <ol style="list-style-type: none"> 1. THE PLUG SHALL CONFORM TO THE REQUIRED DIMENSIONS IN ALL ATTITUDES. 2. <u>MAXIMUM WEIGHT</u>. THE WEIGHT OF EACH PLUG SHALL NOT EXCEED 0.125 POUNDS. 3. THE PLUG SHALL HAVE A THREAD AS SHOWN AND BE IN ACCORDANCE WITH MIL-S-7742. THE PLUG SHALL INCLUDE A HOLE ON EACH END OF THE AXIS AS INDICATED. A GRAVITY CONTROLLED VALVE SHALL PREVENT ELECTROLYTE SPILLAGE WHEN BATTERY IS TILTED. 4. <u>OPERATION</u>. WHEN THE AXIS OF THE PLUG IS WITHIN 31 DEGREES OF ITS NORMAL VERTICAL ATTITUDE IN ANY DIRECTION, THE VALVE SHALL BE OPEN. WHEN THE AXIS OF THE PLUG IS MORE THAN 45 DEGREES FROM ITS NORMAL VERTICAL ATTITUDE IN ANY DIRECTION, DOWN TO THE INVERTED VERTICAL ATTITUDE, THE VALVE SHALL BE CLOSED. 			
<p>(C) ENTIRE STANDARD REVISED AND REDRAWN</p>			
P.A. NAVY - AS Other Cust		TITLE PLUG VENTING, GRAVITY-CONTROLLED, ELECTROLYTE ACCESS HOLE, CELL, AIRCRAFT LEAD ACID STORAGE BATTERY	
USAF - 99 ARMY - EL		MILITARY STANDARD MS 25185	
PROCUREMENT SPECIFICATION MIL-B-83769		SHEET 1 OF 2	

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5. TESTS FOR OPENING AND CLOSING. WHEN THE PLUG IS TESTED FOR OPENING AND CLOSING, IT SHALL BE INSTALLED ON THE TOP OF A BOX HAVING AN INTERNAL VOLUME OF 54 ± 1 CUBIC INCHES. THE BOX SHALL BE APPROXIMATELY CUBIC, OR A RIGHT CIRCULAR CYLINDER WITH THE HEIGHT APPROXIMATELY EQUAL TO THE DIAMETER. A PRESSURE GAUGE SHALL ALSO BE INSTALLED ON THE BOX. THE BOX SHALL BE CONNECTED THROUGH A VALVE TO A SOURCE OF COMPRESSED AIR WHICH, WHEN THE VALVE IS OPEN, SHALL MAINTAIN A PRESSURE OF 9.5 ± 0.5 POUNDS PER SQUARE INCH IN THE BOX WHETHER THE VALVE IN THE PLUG IS CLOSED OR OPEN. THE BOX SHALL BE AIRTIGHT EXCEPT FOR THE OPENINGS FOR THE PLUG, PRESSURE GAUGE AND VALVE. THE PRESSURE GAUGE AND VALVE SHALL HAVE THE SMALLEST POSSIBLE INTERNAL VOLUME. THE PLUG SHALL BE STARTED GENTLY, MOVED SMOOTHLY AND STOPPED GENTLY AT THE NEW SETTING WITHOUT OVERSHOOTING, SO AS TO MINIMIZE SHOCK AND VIBRATION OF THE PLUG.

6. THE PLUGS SHALL CONFORM TO THE REQUIREMENTS OF MIL-B-83769 FOR LEAD-ACID STORAGE BATTERIES EXCEPT AS MODIFIED BY THE FOLLOWING:

3.5.20 TESTS FOR OPENING AND CLOSING.

3.5.20.1 TESTS FOR OPENING. WHEN THE PLUG IS ROTATED TO THE SPECIFIED ANGLE AND THE AIR SUPPLY VALVE IS CLOSED, THE PRESSURE SHALL DECAY AT LEAST 95 PERCENT IN 10 ± 0.5 SECONDS.

3.5.20.2 TESTS FOR CLOSING. WHEN THE PLUG IS ROTATED TO THE SPECIFIED ANGLE AND THE AIR SUPPLY IS OPENED, THE PRESSURE SHALL NOT DECAY MORE THAN 5 PERCENT IN 2.5 ± 0.1 MINUTES.

3.5.21 IMMERSION IN ACID. THERE SHALL NOT BE ANY DAMAGE DONE TO THE PLUG BY THIS TEST

4.6.20 TESTS FOR OPENING AND CLOSING. THE TESTS SHALL BE CONDUCTED AS FOLLOWS AND IN THE ORDER SHOWN:

a. OPENING AT $27^{\circ} \pm 5^{\circ}\text{C}$ ($80^{\circ} \pm 9^{\circ}\text{F}$) - THE PLUG SHALL BE SET IN THE INVERTED VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 49° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.1.

b. CLOSING AT $27^{\circ} \pm 5^{\circ}\text{C}$ ($80^{\circ} \pm 9^{\circ}\text{F}$) - THE PLUG SHALL BE SET IN ITS NORMAL VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 49° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.2.

c. OPENING AT $-40^{\circ} \pm 2.8^{\circ}\text{C}$ ($-40^{\circ} \pm 5^{\circ}\text{F}$) - THE PLUG SHALL BE PLACED IN A TEMPERATURE CHAMBER AT THE SPECIFIED TEMPERATURE FOR 2.0 ± 0.1 HOURS. WHILE REMAINING IN THE CHAMBER AT THE SPECIFIED TEMPERATURE, THE PLUG SHALL BE SET IN THE INVERTED VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 31° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.1.

d. CLOSING AT $-40^{\circ} \pm 2.8^{\circ}\text{C}$ ($-40^{\circ} \pm 5^{\circ}\text{F}$) - THE PLUG SHALL BE PLACED IN A TEMPERATURE CHAMBER AT THE SPECIFIED TEMPERATURE FOR 2.0 ± 0.1 HOURS. WHILE REMAINING IN THE CHAMBER AT THE SPECIFIED TEMPERATURE, THE PLUG SHALL BE SET IN ITS NORMAL VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 49° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.2.

e. OPENING AT $60^{\circ} \pm 2.8^{\circ}\text{C}$ ($140^{\circ} \pm 5^{\circ}\text{F}$) - THE PLUG SHALL BE PLACED IN A TEMPERATURE CHAMBER AT THE SPECIFIED TEMPERATURE FOR 2.0 ± 0.1 HOURS. WHILE REMAINING IN THE CHAMBER AT THE SPECIFIED TEMPERATURE, THE PLUG SHALL BE SET IN THE INVERTED VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 31° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.1.

f. CLOSING AT $60^{\circ} \pm 2.8^{\circ}\text{C}$ ($140^{\circ} \pm 5^{\circ}\text{F}$) - THE PLUG SHALL BE PLACED IN A TEMPERATURE CHAMBER AT THE SPECIFIED TEMPERATURE FOR 2.0 ± 0.1 HOURS. WHILE REMAINING IN THE CHAMBER AT THE SPECIFIED TEMPERATURE, THE PLUG SHALL BE SET IN ITS NORMAL VERTICAL ATTITUDE WITH THE AIR SUPPLY VALVE OPEN. THE PLUG SHALL BE ROTATED TO AN ANGLE OF 49° DEGREES AND THE SUPPLY VALVE SHALL THEN BE CLOSED. THE PLUG SHALL MEET THE REQUIREMENTS OF 3.5.20.2.

4.6.21 IMMERSION IN ACID. THE PLUG SHALL BE IMMersed IN SULFURIC ACID (H_2SO_4) OF SPECIFIC GRAVITY 1.300 AT $90^{\circ} \pm 2.8^{\circ}\text{C}$ ($200^{\circ} \pm 5^{\circ}\text{F}$) FOR 240 HOURS. THE PLUG SHALL THEN BE DRAINED AND WIPED DRY, BUT NOT FLUSHED OR WASHED. THE PLUG SHALL THEN BE EXAMINED FOR COMPLIANCE TO THE REQUIREMENTS OF 3.5.21.

NOTES:

1. DIMENSIONS. THE DIMENSIONS OF EACH PLUG ARE IN INCHES AND SHALL BE AS SHOWN ABOVE WHERE ONLY MAXIMUM OR MINIMUM DIMENSIONS ARE SHOWN. THE PLUG NEED NOT HAVE THE SHAPE SHOWN, BUT THE PLUG INCLUDING ALL PROTRUSIONS SHALL BE CONTAINED WITHIN THE OUTLINE SHOWN. VERTICAL DIMENSIONS ARE MEASURED FROM THE SEATING PLANE, AND NEED BE COMPLIED WITH ONLY WHEN THE PLUG IS INSTALLED.
2. ANGLES. ALL ANGLES ARE MEASURED FROM THE NORMAL VERTICAL ATTITUDE OF THE PLUG AND SHALL BE WITHIN ± 1 DEGREE OF THE SPECIFIED VALUE.

APPROVED 20 NOV 56 REVISED (C) FOR CHANGES SEE SHEETS 1 AND 2

P.A. NAVY - AS Other Cust USAF - 93 ARMY - EL	TITLE PLUG, VENTING, GRAVITY-CONTROLLED, ELECTROLYTE ACCESS HOLE, CELL, AIRCRAFT LEAD-ACID STORAGE BATTERY	MILITARY STANDARD MS 25185
PROCUREMENT SPECIFICATION MIL-B-83769	SUPERSEDES	SHEET 2 OF 2

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PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

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