FEDERAL SUPPLY CLASS
5925

RATIONALE

REVISE TO IMPROVE DRAWING/DIMENSION QUALITY, UPDATE REFERENCES, ALIGN SPECIFICATION WITH SAE GUIDELINES, AND REVIEW SPECIFICATION FOR KNOWN TECHNICAL PROBLEMS.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS58091.

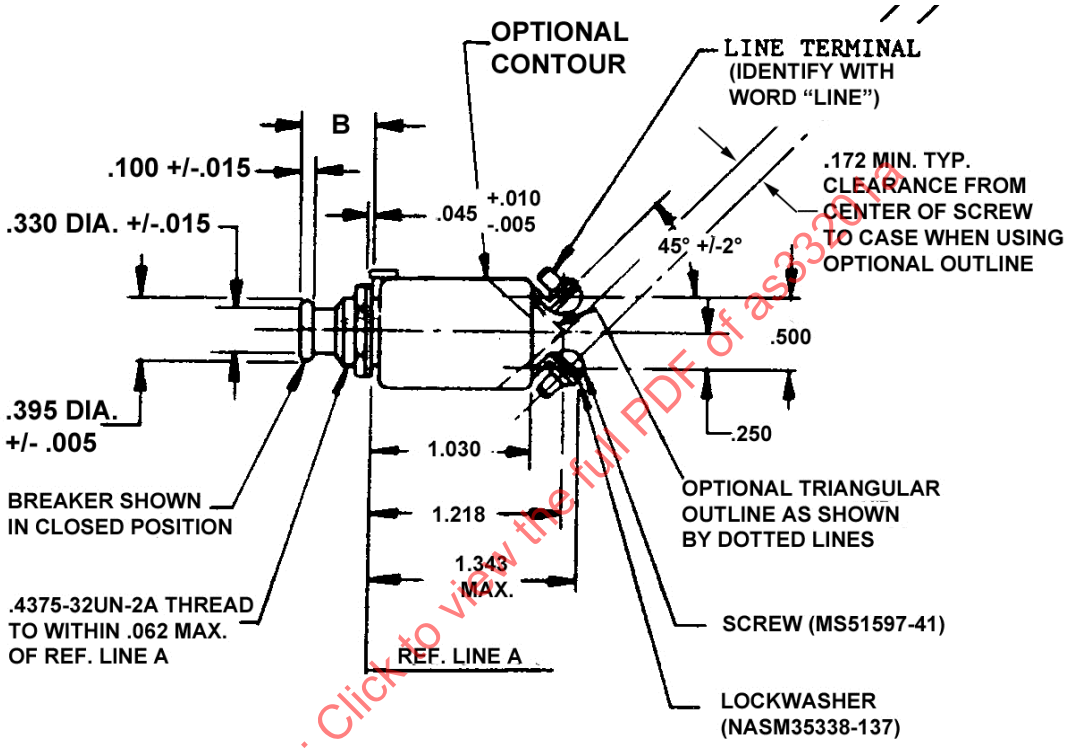
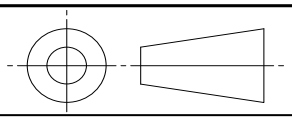


FIGURE 1 - CIRCUIT BREAKER CONFIGURATIONS AND DIMENSIONS

ISSUED 1999-04 REVISED 2013-08

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8B1

PROCUREMENT SPECIFICATION: AS58091

SAE INTERNATIONAL

AEROSPACE STANDARD

(R) CIRCUIT BREAKER - AIRCRAFT, TRIP-FREE, PUSH-PULL, 1/2 THRU 20 AMPS, TYPE I
-55 THRU +121 °C

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)** **Tel: +1 724-776-4970 (outside USA)**
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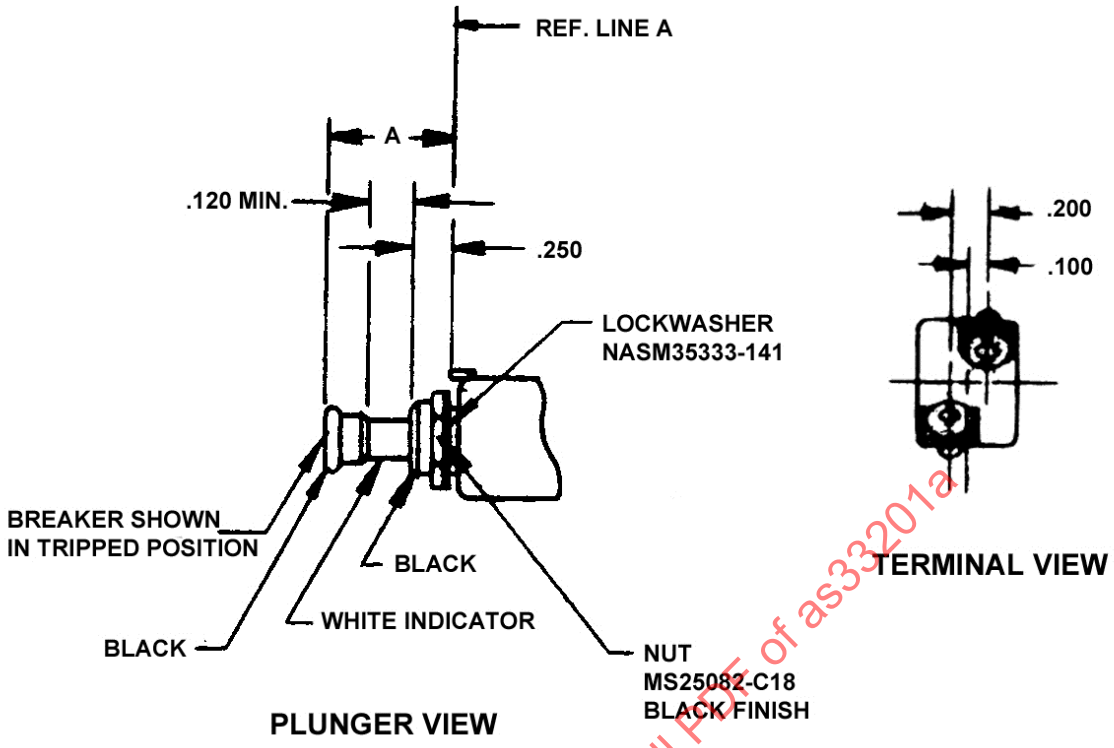


FIGURE 2 - CIRCUIT BREAKER CONFIGURATIONS AND DIMENSIONS

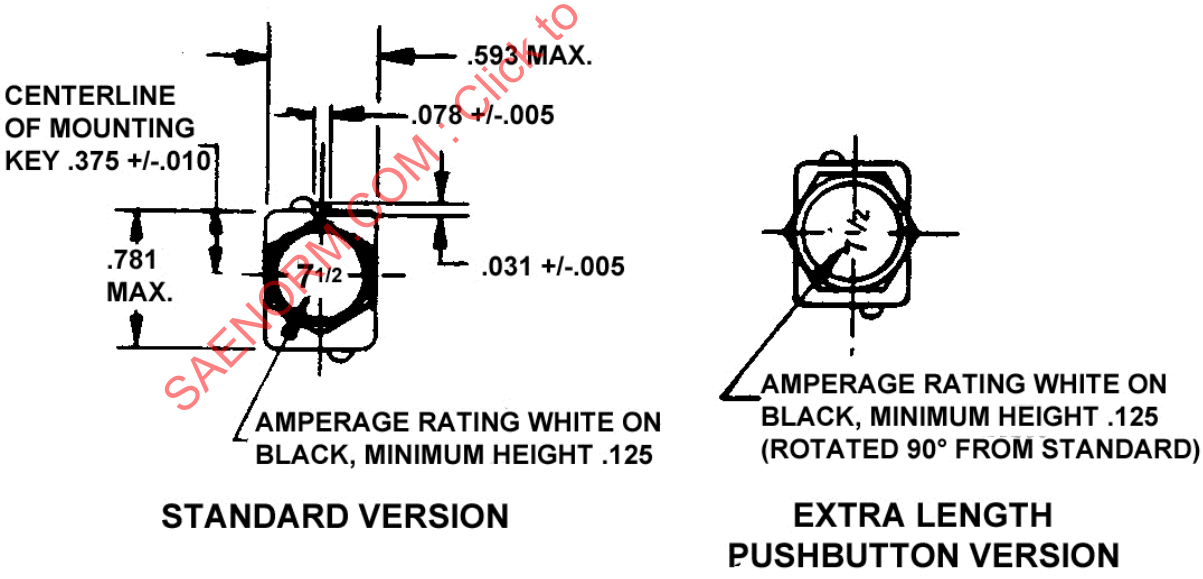


FIGURE 3 - CIRCUIT BREAKER CONFIGURATIONS AND DIMENSIONS

TABLE 1 - PUSHBUTTON DIMENSIONS (FIGURE 1 AND 2)

PUSHBUTTON	A MAX.	B MIN.
STANDARD	.750	.470
EXTRA LENGTH	1.125	.845

TABLE 2 - ELECTRICAL AND MECHANICAL CHARACTERISTICS

ELECTRICAL AND MECHANICAL CHARACTERISTICS										
DASH NO.	NOMINAL AMPERAGE RATING (A)	VOLTAGE DROP MAX (V)	WEIGHT MAX (POUND)	OPERATING FORCE MAX (POUND)		ENDURANCE CYCLES				
						RESISTIVE		INDUCTIVE		MECH NO LOAD
				PULLOUT	RESET	AC	DC	AC	DC	
1	1	1.10	.055	.75 TO 5	1.2 TO 8	1/ 5000	2/ 5000	N/A	2/ 2500	10,000
1-1/2	1-1/2	.80								
2	2	.75								
2-1/2	2-1/2	.70								
3	3	.55								
4	4	.45								
5	5	.35								
7-1/2	7-1/2	.30								
10	10	.28								
15	15	.25								
20	20	.25								

1/ 115/200 VOLT 400 HZ SYSTEM, TESTED AT 120 ± 5 VOLTS 380 TO 420 HZ.
2/ 28 VOLTS DC SYSTEM, TESTED AT 30 ± 2 VOLTS.

TABLE 3 - DETAIL CALIBRATION REQUIREMENTS

1/ DETAIL CALIBRATION REQUIREMENTS										
NOMINAL AMPERAGE RATING (A)	OVERLOAD TRIP TIME IN SECONDS AT PERCENT RATED CURRENT -55 TO +121 °C			AMBIENT EFFECT ON CALIBRATION AT PERCENT RATED CURRENT					
				+25 °C		+121 °C		-55 °C	
	200%	500%	1000%	115%	138%	100%	138%	115%	160%
1	1.5 TO 40	.15 TO 3.0	.035 TO 0.8	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX
1-1/2									
2									
2-1/2									
3									
4									
5									
7-1/2									
10									
15									
20									
15									
20									

AMBIENT TEMPERATURE TOLERANCE ±2 °C

1/ SEE TABLE 8 FOR ADDITIONAL CALIBRATION PERFORMANCE REQUIREMENTS.

TABLE 4 - INTERRUPTING CURRENT REQUIREMENTS

INTERRUPTING CURRENT (AMPERES) REQUIREMENTS 1/						
NOMINAL AMPERAGE RATING (A)	TEST DESIGNATION PER AS58091					
	A	B	C	D	E	F
1	2800	2800	6000	6000	(a) 1500 (b) 750	(a) 3000 (b) 1000
1/2	2800	2800				
2	2800	2800				
2-1/2	2800	2800				
3	2500	2500				
4	2500	2500				
5	2500	2500				
7-1/2	2500	2500				
10	2500	2500				
15	2500	2500				
20	2000	2000				

1/ SEE TABLE 6 FOR ADDITIONAL INTERRUPTING REQUIREMENTS.

TABLE 5 - ENVIRONMENTAL PERFORMANCE

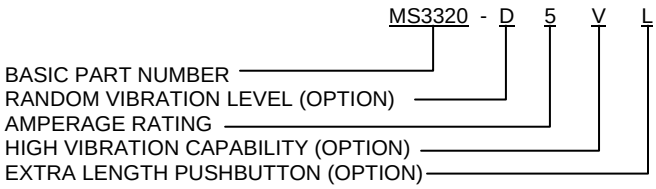
ENVIRONMENTAL PERFORMANCE	
MAX OPERATING ALTITUDE	70 000 FEET
OPERATING AMBIENT TEMP RANGE	-55 TO +121 °C
VIBRATION - IN ACCORDANCE WITH AS58091	SINE - REQUIRED HIGH LEVEL SINE - (OPTIONAL) RANDOM - (OPTIONAL)
SHOCK	50G, MIL-STD-202, METHOD 213, CONDITION A
ACCELERATION	10G

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS58091.

1. DESIGN: DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ±.031. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THE STANDARD SHALL TAKE PRECEDENCE.

2. HIGH TEMPERATURE VIBRATION TESTS SHALL BE CONDUCTED AT +121 °C RATHER THAN +71 °C.

3. THE PART NUMBERS FOR CIRCUIT BREAKERS IN ACCORDANCE WITH THIS SPECIFICATION SHALL CONFORM TO THE EXAMPLE BELOW.



WHEN A DESIGNATOR IS NOT APPLICABLE IT SHALL BE OMITTED FROM THE PART NUMBER.

CIRCUIT BREAKERS MEETING THE RANDOM VIBRATION REQUIREMENTS OF MIL-STD-202, METHOD 214-1 SHALL BE DESIGNATED BY ADDING APPROPRIATE PREFIX LETTER TO THE MS DASH NUMBER.

4. ALL QUALIFICATION INSPECTION TESTS REQUIRED BY AS58091 SHALL BE PERFORMED EXCEPT FOR THE FOLLOWING CHANGES:

   a. TEST GROUP I - OVERLOAD CALIBRATION SHALL BE PERFORMED AT 200% OF RATED CURRENT ONLY.

   b. TEST GROUPS II AND III - DO NOT PERFORM THE VOLTAGE DROP TEST.

   c. TEST GROUP IV AND X - PERFORM THE AMBIENT EFFECT ON CALIBRATION TEST ONLY AT +121 °C.

   d. ADD TEST GROUP XXIV - 2 SAMPLES. INTERRUPTION CAPACITY - LINE TO LINE (AC). THESE SAMPLES SHALL BE SUBJECTED TO THE INTERRUPTING CAPACITY TEST SPECIFIED IN TABLE 6:

TABLE 6

TEST NO.	SYSTEM	VOLTAGE BEFORE FAULT	CALIBRATED FAULT CURRENT AMPERES	TRANSIENT VOLTAGE AFTER CALIBRATED FAULT CURRENT INTERRUPTION (V)	OPEN CIRCUIT VOLTAGE
A	400 CYCLE 115/200 VOLT	200 V ± 8 V	1200 A IN 10 TO 25 CYCLES AFTER FAULT INITIATION THROUGH TWO CIRCUIT BREAKERS IN SERIES POWER FACTOR .4 TO .5 LAGGING	208 WITHIN 3 CYCLES 260 WITHIN 6 CYCLES 286 MAXIMUM	200 V ± 8 V

   e. ADD TEST GROUP XXV-5 SAMPLES OF EACH RATING. EACH OF THESE 5 SAMPLES SHALL BE SUBJECTED TO THE TESTS IN TABLE 9 AND SHALL MEET THE REQUIRED LIMITS SHOWN. THESE 5 SAMPLES SHALL NOT BE SUBJECTED TO TEST GROUP 1.

      (1) All TESTS SHALL BE PERFORMED WITH 36 INCH WIRE TERMINATED LEADS (BOTH TERMINALS) USING AS22759/32-/35, 41-/46 WIRE TYPES, OR MS25471 AND TERMINATIONS AS SPECIFIED IN TABLE 7. ALL OTHER TESTS CALLING FOR WIRE LEADS SHALL BE PERFORMED AS SPECIFIED IN AS58091.