

INCH-POUND
 MIL-DTL-8834/1A
 18 April 2002
 SUPERSEDING
 MIL-S-8834/1
 21 June 1993

DETAIL SPECIFICATION

SWITCHES, TOGGLE, POSITIVE BREAK,
 FOUR POLE, MINIATURE, SEALED,
 SOLDER LUG, WITH OR WITHOUT LEVER LOCK,
 .469 OR .250 INCH MOUNTING BUSHING

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-DTL-8834.

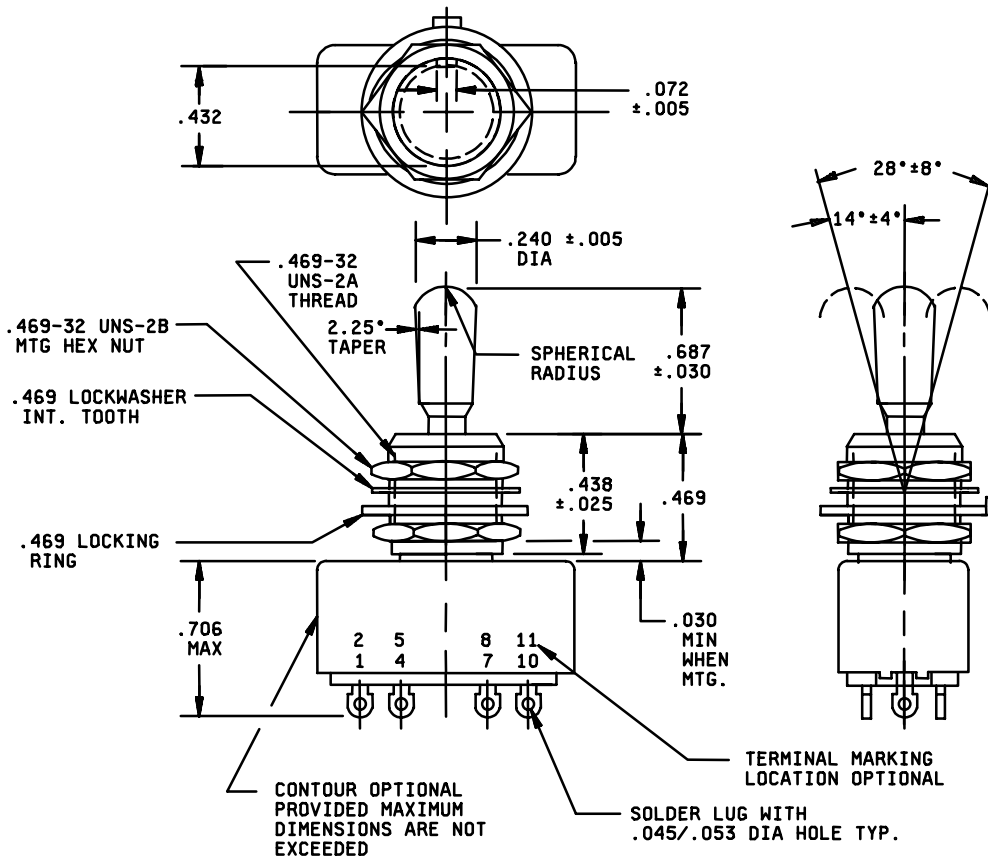
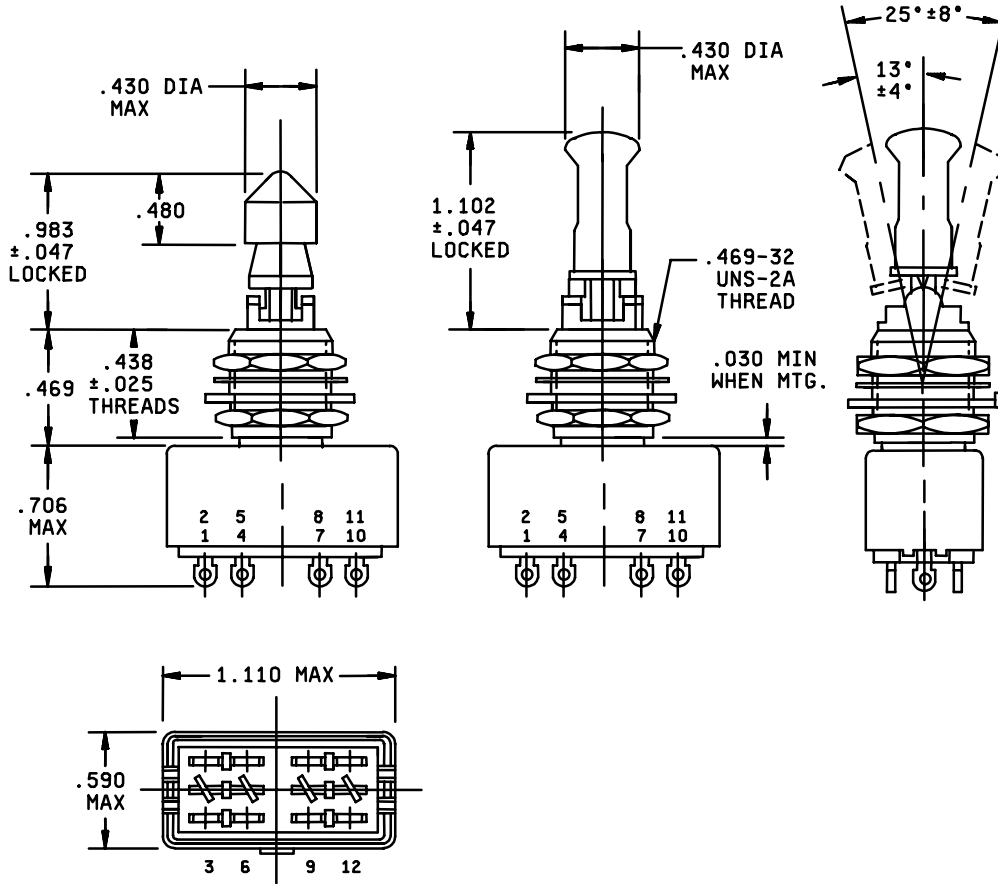


FIGURE 1. Switches with .469 inch mounting bushing.

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LOCKING LEVER STYLE I

LOCKING LEVER STYLE II



Inches	mm	Inches	mm
.005	0.13	.432	10.97
.010	0.25	.438	11.13
.012	0.30	.469	11.91
.025	0.64	.480	12.19
.030	0.76	.590	14.99
.045	1.14	.687	17.45
.047	1.19	.706	17.93
.053	1.35	.983	24.97
.072	1.83	1.102	27.99
.240	6.10	1.110	28.19
.430	10.92		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ for decimals and $\pm .5^\circ$ for angles.
4. For hardware detail specifications see appendix of MIL-DTL-8834.
5. Nonfunctional terminals shall not be supplied.

FIGURE 1. Switches with .469 inch mounting bushing - Continued.

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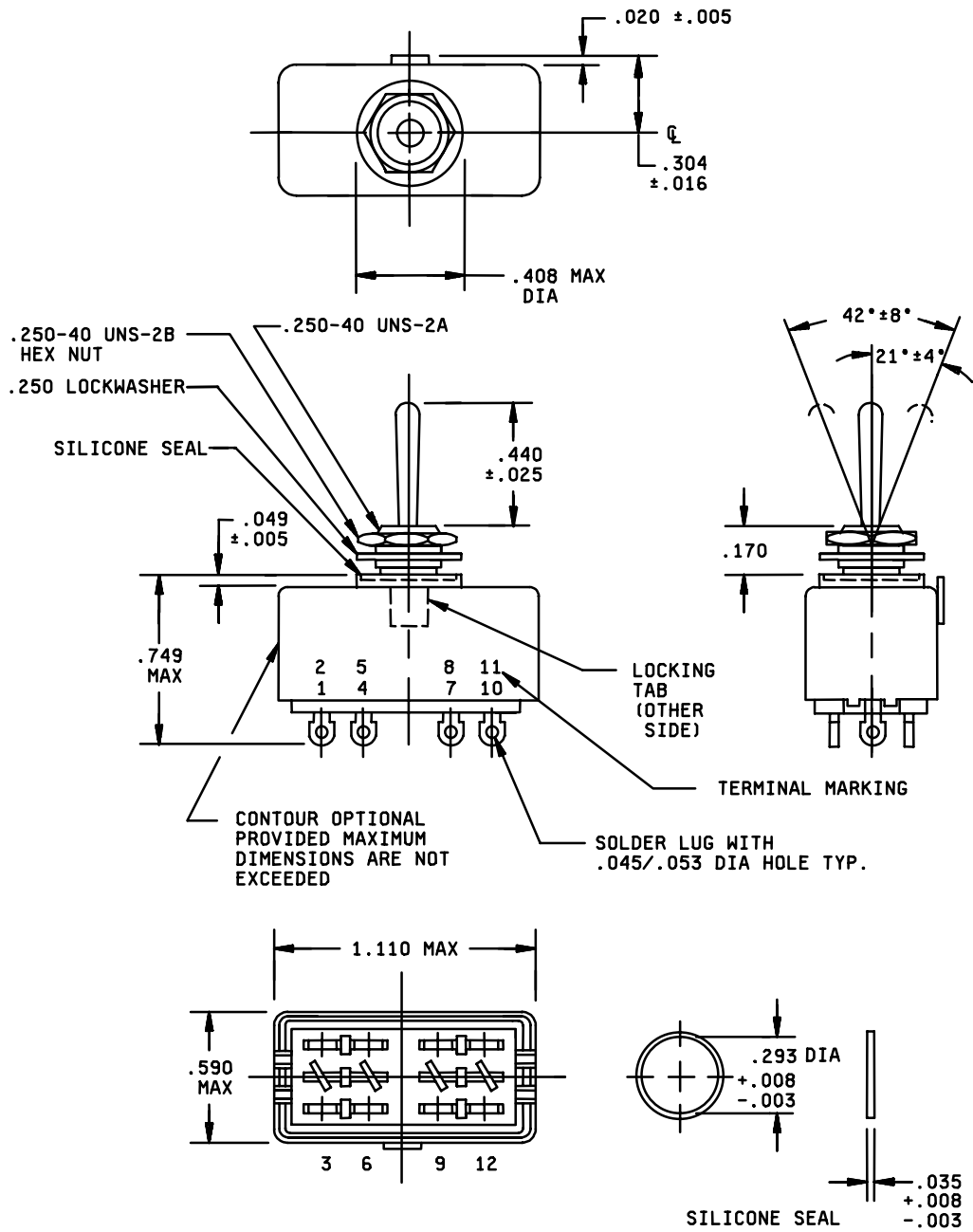
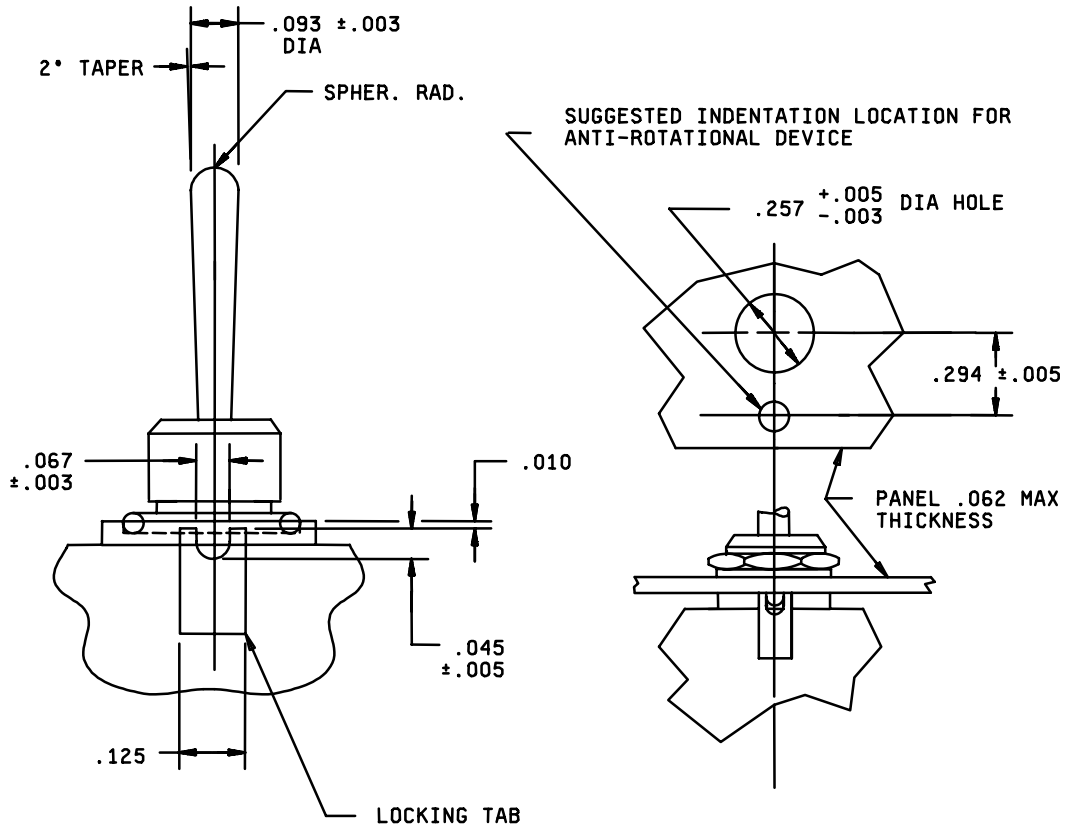


FIGURE 2. Switches with .250 inch mounting bushing.

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Inches	mm	Inches	mm	Inches	mm
.003	0.08	.049	1.24	.294	7.47
.005	0.13	.062	1.57	.304	7.72
.008	0.20	.067	1.70	.408	10.36
.010	0.25	.093	2.36	.440	11.18
.016	0.41	.125	3.18	.590	14.99
.020	0.51	.170	4.32	.749	19.02
.025	0.64	.250	6.35	1.110	28.19
.035	0.89	.257	6.53		
.045	1.14	.293	7.44		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ for decimals and $\pm .5^\circ$ for angles.
4. For hardware detail specifications see appendix of MIL-DTL-8834.
5. Nonfunctional terminals shall not be supplied.

FIGURE 2. Switches with .250 inch mounting bushing - Continued.

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REQUIREMENTS:

Design and construction: See figures 1 and 2. For switches with center-on circuits, the nontearable requirement is not applicable; delayed action of the toggle lever may cause circuit to close or open before snap action occurs.

Switching characteristics: See table I. Direction of the movement of internal mechanism is opposite to the direction of the toggle lever movement.

Weight:

.469 bushing, standard lever: .06 pound maximum.

.469 bushing, locking lever: .074 pound maximum.

.250 bushing: .035 pound maximum.

Strength of terminals: Applied force shall be 5 pounds minimum normal to the mounting plane and 2 pounds minimum in other planes.

Strength of actuating-lever pivot and lever stop:

Switches with .250 inch mounting bushing: Applied force shall be 6 pounds.

Dielectric withstanding voltage:

At atmospheric pressure: For switches with center-on circuits, dielectric withstanding test voltage shall be 1,200 V rms at sea level.

At reduced barometric pressure: Switches shall be tested in accordance with MIL-STD-202, method 105, test condition B (50,000 feet).

Shock: Method I (100 g's, sawtooth).

Sealing: Test in accordance with MIL-STD-202, test method 112, test condition B, except use tap water instead of silicone oil and an absolute pressure of 2 ± 0.5 inches of mercury instead of 1.5 inches maximum. A continuous stream of bubbles is defined as 2 or more bubbles present in the water at the same time and originating from the same location on the switch.

Electrical endurance: Altitude tests are to be conducted while at a pressure equivalent of 50,000 feet.

Resistive loads:

28 V dc: 5 amperes.

115 V ac, 400 Hz: 3 amperes.

115 V ac, 60 Hz: 2 amperes at room temperature and pressure only.

Inductive loads:

28 V dc: 1 ampere with time constant of $.020 \pm .002$ seconds.

115 V ac, 400 Hz: 2 amperes.

115 V ac, 60 Hz: 1 ampere at room temperature and pressure only.

Electrical life, low level switching: contact resistance shall not exceed 50 ohms on any single contact closure.

Contact load: Each switch contact shall make, carry, and break a resistive load of 25 microamperes maximum at an open circuit voltage of 5 millivolts dc maximum.

Monitoring circuit: Monitoring equipment shall provide a record of the number of cycles and shall record failures or discontinue the test if a failure occurs. Each contact closure shall be monitored.

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Samples for qualification and group B inspection, group submission for approval of all PIN's:

Basic switches: M8834/01-274 and -222E

Other switches: M8834/01-211 and -213A

Part or Identifying Number (PIN): M8834/01- 27 2 E

Circuit number _____
(see table I)

Switch type _____

- 1 - .469 bushing, standard lever.
- 2 - .469 bushing, locking lever style I.
- 3 - .469 bushing, locking lever style II.
- 4 - .250 bushing, thin lever.

Lever locking configuration _____
(see table I and figure 3, omit if not applicable)

Example: M8834/01-272F.

TABLE I. Switching characteristics.

Circuit number	Circuits made between terminals as indicated with the toggle lever in these positions						Available lever locking configurations (see figure 3)
	Opposite keyway side		Center position		Keyway side		
21	2-3 5-6	ON 8-9 11-12	OFF		1-2 4-5	ON 7-8 10-11	A, B, D
22	2-3 5-6	ON 8-9 11-12	NONE		OFF		C, E
23	2-3 5-6	ON 8-9 11-12	NONE		1-2 4-5	ON 7-8 10-11	C, E
24	2-3 5-6	ON 8-9 11-12	OFF		NONE		B, J
27	2-3 5-6	MOM ON 8-9 11-12	OFF		1-2 4-5	MOM ON 7-8 10-11	F, H
28	NONE		OFF		1-2 4-5	MOM ON 7-8 10-11	K
31	2-3 5-6	ON 8-9 11-12	OFF		1-2 4-5	MOM ON 7-8 10-11	G, K, L
34 <u>1/</u>	2-3 5-6	ON 8-9 11-12	2-3 4-5	ON 7-8 11-12	1-2 4-5	ON 7-8 10-11	A, B, C, D
35 <u>1/</u>	2-3 5-6	ON 8-9 11-12	2-3 4-5	ON 7-8 11-12	1-2 4-5	MOM ON 7-8 10-11	G, K, L
36 <u>1/</u>	2-3 5-6	MOM ON 8-9 11-12	2-3 4-5	ON 7-8 11-12	1-2 4-5	MOM ON 7-8 10-11	F, H
37 <u>1/</u>	NONE		2-3 5-6	ON 8-8 11-12	1-2 4-5	MOM ON 7-8 10-11	K

1/ The nonteachable requirement is not applicable to switches with center-on circuits.

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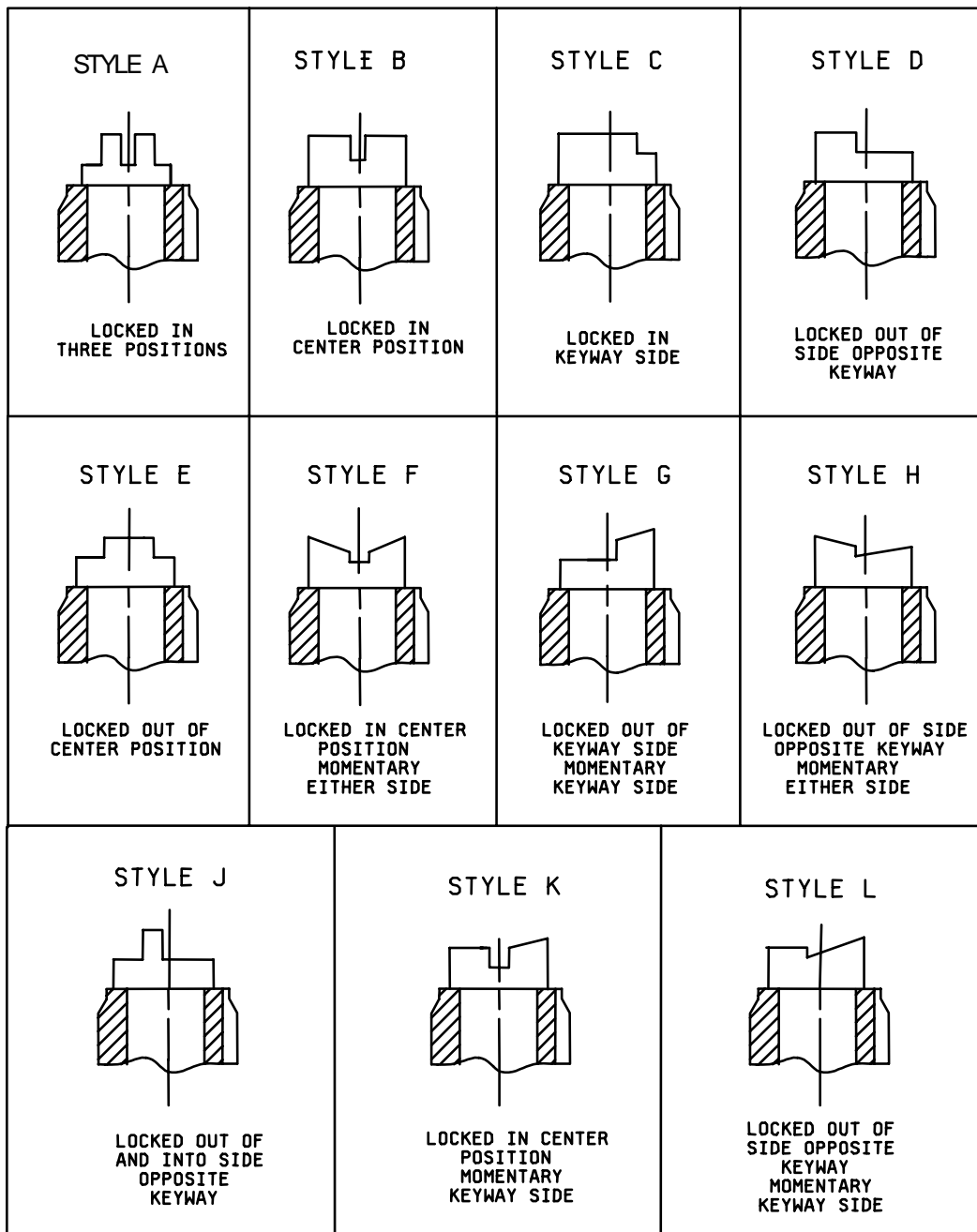


FIGURE 3. Lever locking configurations.

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Custodian:
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

Review activities:
Air Force 99

(Project 5930-1751)