

INCH-POUND

MS27720H

4 May 2012

SUPERSEDING

MS27720G

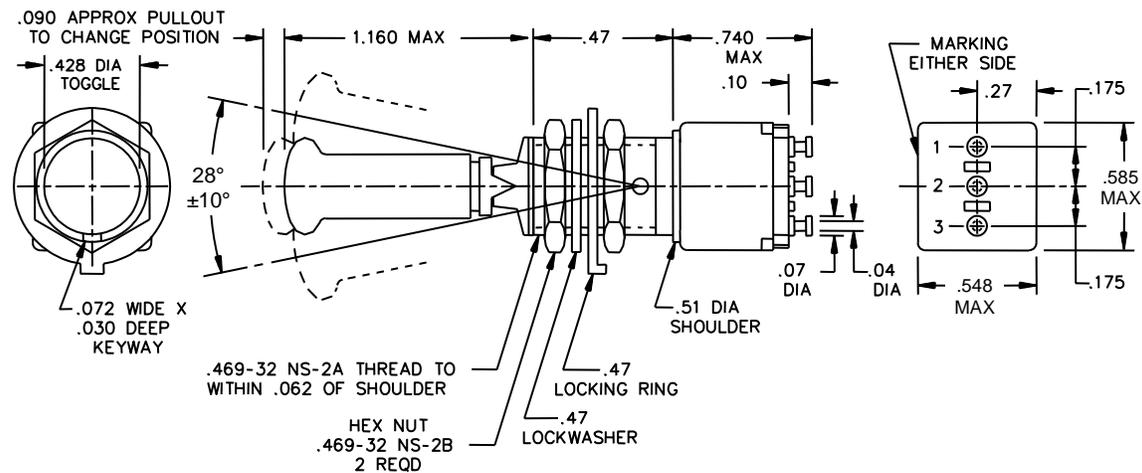
20 May 1988

## DETAIL SPECIFICATION SHEET

SWITCH, TOGGLE, MINIATURE, SINGLE POLE  
TOGGLE SEAL, LEVER LOCK

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 sheet and the latest issue of MIL-DTL-83731.



Inches	mm	Inches	mm	Inches	mm
.005	0.13	.072	1.83	.47	11.94
.020	0.51	.090	2.29	.51	12.95
.030	0.76	.10	2.54	.535	13.59
.04	1.02	.175	4.45	.575	14.61
.062	1.57	.27	6.86	.740	18.80
.07	1.78	.428	10.87	1.160	29.46

## NOTES:

1. Dimensions are in inches.
5. Metric equivalents are given for general information only.
2. Unless otherwise specified, tolerance is  $\pm 0.020$  (0.51 mm) on two place decimals and  $\pm 0.005$  (0.31 mm) on three place decimals.
4. Configuration of switch case is optional provided maximum dimensions specified are not exceeded.
3. For hardware detail specifications, see supplement of MIL-DTL-83731.

FIGURE 1. Dimensions and configurations.

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LOCKING COMBINATIONS  
 ← (KEYING SIDE)

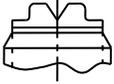
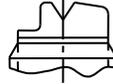
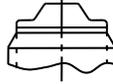
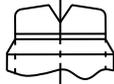
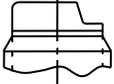
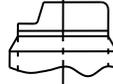
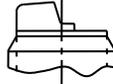
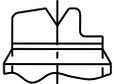
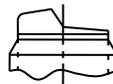
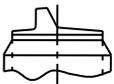
<p>A</p>  <p>LOCKED IN THREE POSITIONS</p>	<p>B</p>  <p>LOCKED IN CENTER AND DOWN POSITIONS (KEYING SIDE)</p>	<p>D</p>  <p>LOCKED OUT OF CENTER POSITION</p>	<p>E</p>  <p>LOCKED IN CENTER POSITION</p>
<p>F</p>  <p>LOCKED IN UP POSITION (OPPOSITE KEYING)</p>	<p>G</p>  <p>LOCKED IN DOWN POSITION (KEYING SIDE)</p>	<p>H</p>  <p>LOCKED OUT OF CENTER AND DOWN POSITION (KEYING SIDE)</p>	<p>J</p>  <p>LOCKED OUT OF CENTER AND UP POSITION (OPPOSITE KEYING)</p>
<p>K</p>  <p>LOCKED IN CENTER AND UP POSITION (OPPOSITE KEYING)</p>	<p>L</p>  <p>LOCKED OUT OF DOWN POSITION (KEYING SIDE)</p>	<p>M</p>  <p>LOCKED OUT OF AND INTO UP POSITION (OPPOSITE KEYING)</p>	<p>N</p>  <p>LOCKED OUT OF UP POSITION (OPPOSITE KEYING)</p>
<p>P</p>  <p>LOCKED OUT OF AND INTO DOWN POSITION (KEYING SIDE)</p>	<p>FIGURES A THRU P DO NOT REPRESENT DETAILS OF CONSTRUCTION. THEY SCHEMATICALLY ILLUSTRATE LOCKING CONFIGURATIONS AND MOM POSITIONS</p>		

FIGURE 2. Detail requirements.

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Canceled MS part number 1/	Substitute part number 1/	Available locking combinations	Circuits made with toggle lever in				
			Keying side		Center position	Opposite keying side	
			1-2	4-5		2-3	5-6
MS27720-21	MS27720-21-1	All	ON		OFF		ON
-22	-22-1	D, F, G	OFF		NONE		ON
-23	-23-1	D, F, G	ON		NONE		ON
-26	-26-1	F	MOM-ON		NONE		ON
-27	-27-1	E, L, N	MOM-ON		OFF		MOM-ON
-31	-31-1	E, F, K, L, M, N	MOM-ON		OFF		ON

1/ The canceled part numbers are no longer acquirable; the substitute part numbers have a lower dielectric withstanding voltage at reduced barometric pressure (see test voltage requirement below.)

## REQUIREMENTS:

All switches on this standard are designed so that the movement of the switch mechanism is opposite to that of the toggle lever.

Test voltage for dielectric withstanding voltage at reduced barometric pressure, shall be 400 V rms minimum.

Electrical endurance shall be performed for 30,000 cycles.

Mechanical endurance shall be performed 50,000 cycles at -65°C and then 50,000 cycles at 85°C.

Intermediate current shall be performed for 30,000 cycles.

Terminals shall be molded into the switch case and shall accommodate No. 18 AWG wire.

Locking arrangement: Positive locking shall be accomplished and shall prevent motion of the toggle lever until the locking mechanism is manually released.

The force required to release the locking mechanism shall be 3 to 5 pounds.

The locking means at the top of the toggle bushing shall be capable of withstanding a torque of 20 pound inches applied in both directions immediately following the humidity test.

Maximum weight shall be .066 pound.

Electrical ratings for 28 V dc and 115 V ac at 400 Hz. Lamp load = 1 ampere, resistive load = 5 amperes, inductive load = 2 amperes.

Part or Identifying Number (PIN) example: MS27720-21-1A (locking combination 'A').

In the event of a conflict between the text of this standard and the reference cited herein, the text of this standard shall take precedence.

Referenced Government documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

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Referenced documents

MIL-DTL-83731

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodian:

Army - CR  
Navy - AS  
Air Force - 85  
DLA - CC

Preparing activity:

DLA - CC

(Project 5930-2011- 127)

Review activity:

Army - AV  
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil/>.