

INCH POUND  
 MS90311K  
 1 April 2005  
 SUPERSEDING  
 MS90311J  
 18 October 1985

DETAIL SPECIFICATION SHEET

SWITCH, TOGGLE, POSITIVE BREAK, MINIATURE TOGGER SEALED,  
 SOLDER LUG, DOUBLE POLE, .469 MOUNTING BUSHING

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

The complete requirements for acquiring the switch described herein shall consist of this specification and the latest  
 issue of MIL-DTL-8834.

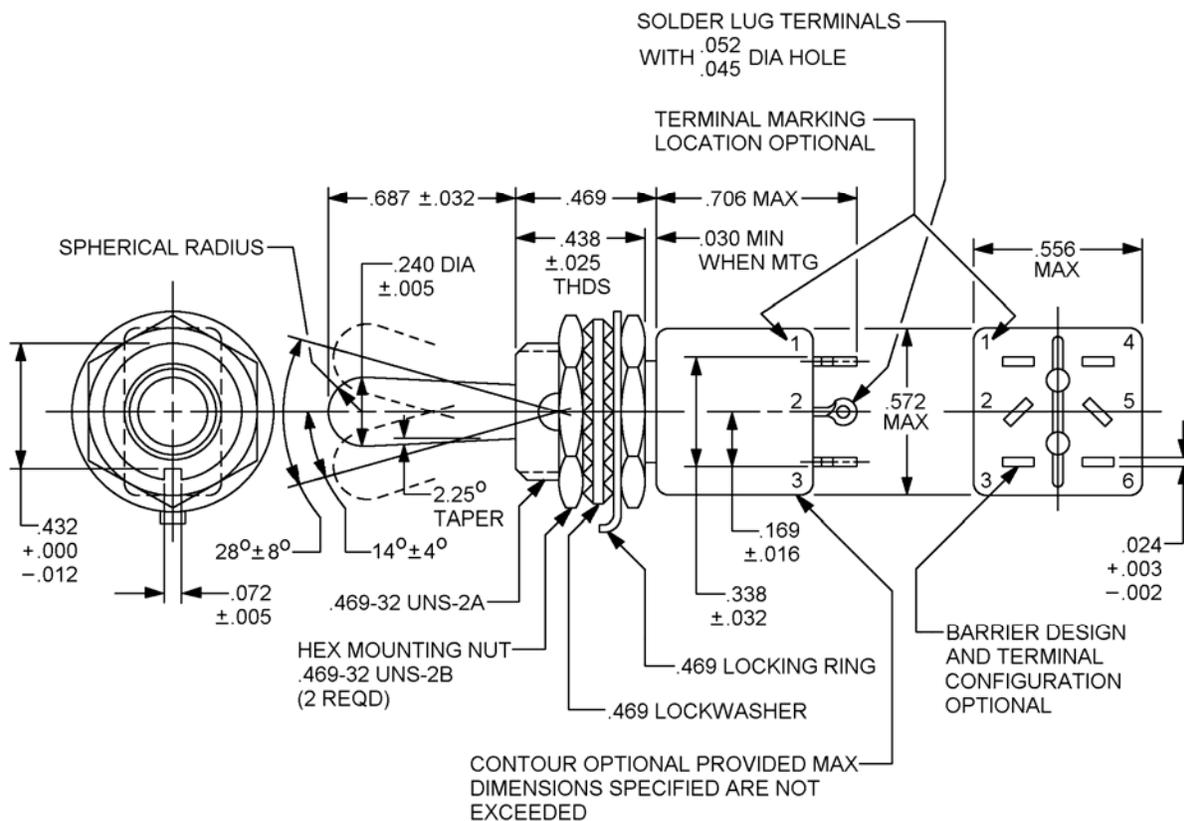


FIGURE 1. Dimensions and configuration.

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| Inches | mm   | Inches | mm   | Inches | mm    |
|--------|------|--------|------|--------|-------|
| .002   | 0.05 | .030   | 0.76 | .432   | 10.97 |
| .003   | 0.08 | .032   | 0.81 | .438   | 11.13 |
| .005   | 0.13 | .045   | 1.14 | .469   | 11.91 |
| .010   | 0.25 | .052   | 1.32 | .556   | 14.12 |
| .012   | 0.30 | .072   | 1.83 | .572   | 14.53 |
| .016   | 0.41 | .169   | 4.29 | .687   | 17.45 |
| .024   | 0.61 | .240   | 6.10 | .706   | 17.93 |
| .025   | 0.64 | .338   | 8.59 |        |       |

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest 0.01 mm) are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.010$  (0.25 mm) on decimals and  $\pm 5^\circ$  on angles.
4. For hardware detail specifications, see appendix of MIL-DTL-8834.

FIGURE 1. Dimensions and configuration - Continued.

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## REQUIREMENTS:

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

Maximum weight: .0429 pound (19.4 grams).

Dielectric withstanding voltage: 50,000 feet.

Toggle seal test: Method I for series 700 and 800. Method II for series 200 and 300

Shock: Method I and Method II (high impact). The switch shall be electrically and mechanically operative at the conclusion of the shock test except there can be mechanical transfer of the contact mechanism at all levels when tested in accordance with Method II (high impact).

Terminal strength: 5 pounds normal to the mounting plane and 2 pounds in other planes.

Altitude: 50,000 feet.

Electrical ratings: See table I.

Part or Identifying Number (PIN): See table I.

TABLE I. Detail requirements.

| MS dash no.<br>1/ |              | Circuit made between terminals as indicated with toggle lever in these positions 2/ |               |               | Current capacity in amperes |           |   |                |           |   | Life low current level switching 5 mV |
|-------------------|--------------|---|---------------|---------------|-----------------------------|-----------|---|----------------|-----------|---|---------------------------------------|
|                   |              |   |               |               | Resistive load              |           |   | Inductive load |           |   |                                       |
|                   |              |   |               |               | 28 V dc                     | 115 volts |   | 28 V dc        | 115 volts |   |                                       |
| 40 hertz ac       | 400 hertz ac | 40 hertz ac   | 400 hertz ac  |               |                             |           |   |                |           |   |                                       |
| -711              | -211         | On<br>2-3 5-6   | Off           | On<br>1-2 4-5 | 5                           | 2         | 3 | 1              | 1         | 2 | 25 $\mu$ A<br>4/                      |
| -721              | -221         |   | None          | Off           |                             |           |   |                |           |   |                                       |
| -731              | -231         |   |               | On<br>1-2 4-5 |                             |           |   |                |           |   |                                       |
| -741              | -241         |   | Off           | None          |                             |           |   |                |           |   |                                       |
| -771              | -271         | Mom-on<br>2-3 5-6   |               |               |                             |           |   |                |           |   |                                       |
| -781              | -281         | None  |               |               |                             |           |   |                |           |   |                                       |
| -811              | -311         | On<br>2-3 5-6   | On<br>1-2 4-5 |               |                             |           |   |                |           |   |                                       |

1/ Direction of movement of internal mechanism is opposite to the direction of the toggle movement.

2/ With time constant of  $.020 \pm .002$  seconds.

3/ Contact resistance not to exceed 50 ohms during life, low current level switching.

4/ Non-functional terminals shall not be supplied.

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Referenced documents:  
MIL-DTL-8834

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.

Custodians:  
Army - CR  
Navy - AS  
Air Force - 11  
DLA - CC

Preparing activity:  
DLA - CC  
  
(Project 5930-1912)

Review activities:  
Army - AR, AT, AV, MI  
Navy - EC  
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 <http://assist.daps.dla.mil/>.