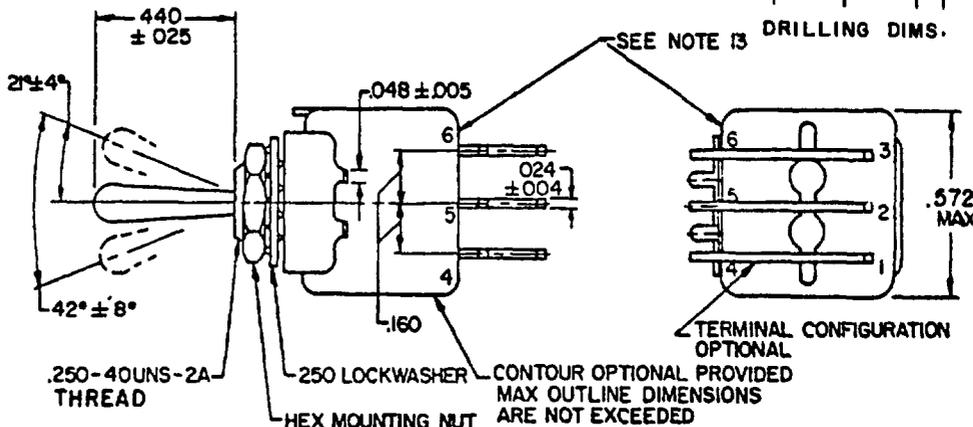
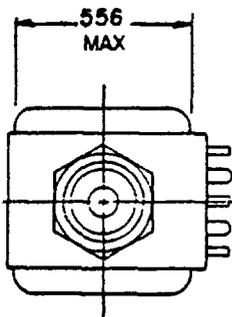
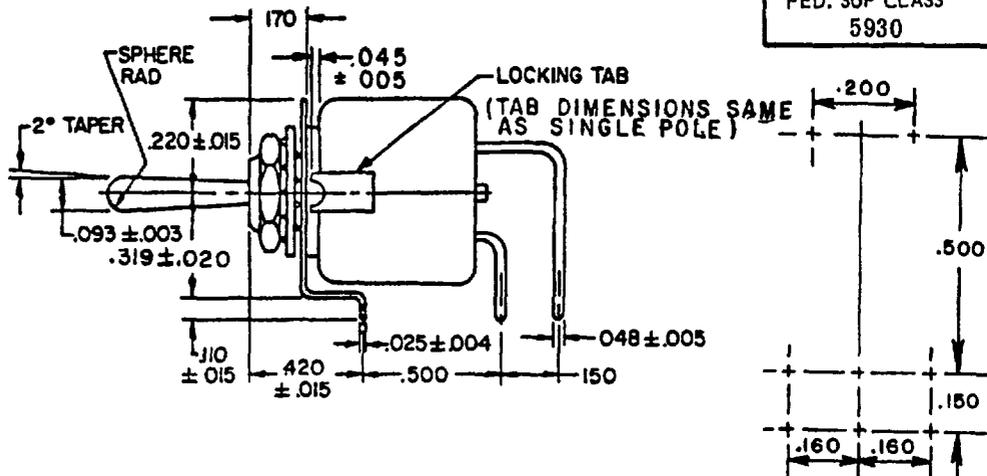


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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are  $\pm .010$  on decimals and  $\pm .5^\circ$  on angles.
4. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
5. Referenced documents shall be of the issue in effect on date of invitation for bid.
6. 115 Vac 60 hertz electrical endurance tests are to be performed at room temperature and pressure.
7. Switches shall be rigidly mounted to the shock test equipment by means of their terminals and subjected to shock tests, Method 207, of MIL-STD-202. The switch shall be electrically and mechanically operative at the conclusion of the test and there shall be no mechanical transfer during the test.
8. Terminals: Gold plated.
9. Weight: 8.75 grams, maximum.
10. Strength of terminals: (See page 2.)
11. Altitude: 50,000 feet.
12. Strength of actuator: Lever pivot and lever stop 6 pounds.
13. Terminals need not be marked. Terminal identification is shown for reference purpose only.
14. Mounting, bracket-brass, tin plated or coated.
15. For hardware detail specifications, see appendix of MIL-S-8834.
16. MS dash no. -321, -331, -341, and -351, dielectric withstanding voltage: 1,200 Vrms at sea level.

(B) Denotes changes

Army - AR, AT  
Navy -  
Air Force -

User activities

Army - EL, MI, AV  
Navy - AS, EC  
Air Force -

17, 85, 99

Review activities

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

APPROVED 8 JUN 1977 REVISED 6 FEB 1978 (B) 10 Dec 81

|   |                        |   |                   |
|---|------------------------|---|-------------------|
| P A AF-85<br>Other Cust<br>Navy - AS<br>Army - ER | International Interest | TITLE<br>SWITCHES, TOGGLE, POSITIVE BREAK,<br>MINIATURE, TOGGLE SEALED, DOUBLE<br>POLE, PRINTED CIRCUIT BOARD<br>TERMINALS, RIGHT ANGLE MOUNT | MILITARY STANDARD |
|   |                        | SUPERSEDES  | MS 21434          |
| Procurement Specification<br>MIL-S-8834           |                        |   | PAGE 1 OF 2       |

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Terminal strength. Terminals shall be subjected to a 5-pound pull for 5 to 10 seconds with the long dimension of the terminal contact vertical. The force shall be applied to the terminal at a point .06 inch below the bottom of the switch base, and in a direction parallel to the axis of the toggle lever in its center position. Two outboard terminals shall be tested. However, a terminal shall be tested only once in one direction.

| INCHES | MM  | INCHES | MM   | INCHES | MM    | INCHES | MM    |
|--------|-----|--------|------|--------|-------|--------|-------|
| .003   | .08 | .025   | .64  | .160   | 4.06  | .440   | 11.18 |
| .004   | .10 | .045   | 1.14 | .170   | 4.32  | .500   | 12.70 |
| .005   | .13 | .067   | 1.70 | .200   | 5.08  | .556   | 14.12 |
| .010   | .25 | .093   | 2.36 | .220   | 5.59  | .572   | 14.53 |
| .015   | .38 | .100   | 2.54 | .250   | 6.35  |        |       |
| .020   | .51 | .110   | 2.79 | .319   | 8.10  |        |       |
| .024   | .61 | .150   | 3.81 | .420   | 10.67 |        |       |

DETAIL REQUIREMENTS

| MS dash no. | Circuit made between terminals as indicated with toggle lever in these positions (a) |                |                    | Current capacity in amperes |                       |                        |                |                       |                        | Life, low current level switching 5 MV |
|-------------|--|----------------|--------------------|-----------------------------|-----------------------|------------------------|----------------|-----------------------|------------------------|--|
|             |  |                |                    | Resistive load              |                       |                        | Inductive load |                       |                        |  |
|             |  |                |                    | 28 volts dc                 | 115 volts 60 hertz ac | 115 volts 400 hertz ac | 28 volts dc    | 115 volts 60 hertz ac | 115 volts 400 hertz ac |  |
| -211        |  | OFF            | ON<br>1-2, 4-5     |                             |                       |                        |                |                       |                        |  |
| -221        | ON<br>2-3, 5-6   |                | OFF                |                             |                       |                        |                |                       |                        |  |
| -231        |  | NONE           | ON<br>1-2, 4-5     |                             |                       |                        |                |                       |                        |  |
| -241        |  |                | NONE               | 5                           | 2                     | 3                      | 1<br>(b)       | 1                     | 2                      | 25 microamperes<br>(c)                 |
| -271        | MOM-ON<br>2-3, 5-6   |                | OFF                |                             |                       |                        |                |                       |                        |  |
| -281        | NONE   |                | MOM-ON<br>1-2, 4-5 |                             |                       |                        |                |                       |                        |  |
| -311        | ON<br>2-3, 5-6   |                |                    |                             |                       |                        |                |                       |                        |  |
| -331<br>1/  | ON<br>2-3, 5-6   | ON<br>2-3, 4-5 | ON<br>1-2, 4-5     |                             |                       |                        |                |                       |                        |  |
| -341<br>1/  | MOM-ON<br>2-3, 5-6   | ON<br>2-3, 4-5 | MOM-ON<br>1-2, 4-5 |                             |                       |                        |                |                       |                        |  |
| -321<br>1/  | NONE   | ON<br>2-3, 5-6 | MOM-ON<br>1-2, 4-5 |                             |                       |                        |                |                       |                        |  |
| -351<br>1/  | ON<br>2-3, 5-6   | ON<br>2-3, 4-5 | MOM-ON<br>1-2, 4-5 |                             |                       |                        |                |                       |                        |  |

- (a) Direction of movement of internal mechanism is opposite to the direction of the toggle movement.
- (b) With the time constant of .020 ± .002 seconds.
- (c) Contact resistance not to exceed 50 ohms during life, low current level switching.
- (d) Non-functional terminals shall not be supplied.

(B) 1/ Delayed action of the switch toggle lever may cause circuit to close or open before snap action mechanism trips

|   |                        |   |                   |
|---|------------------------|---|-------------------|
| P A AF - 85                             | International interest | TITLE<br>SWITCHES, TOGGLE, POSITIVE BREAK,<br>MINIATURE, TOGGLE SEALED, DOUBLE<br>POLE, PRINTED CIRCUIT BOARD<br>TERMINALS, RIGHT ANGLE MOUNT | MILITARY STANDARD |
| Other Cust<br>Navy - AS<br>Army - ER    |                        |   | MS21434           |
| Procurement Specification<br>MIL-S-8834 |                        | SUPERSEDES  | PAGE 2 OF 2       |

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Review activities  
 Army - EL, MI, AV  
 Navy - AS, EC  
 Air Force 17, 85, 99

User activities  
 Army - AR, AT  
 Navy -  
 Air Force -

APPROVED 8 JUN 1977 REVISED (A) For changes see page 1 (B) FOR CHANGES SEE PAGE 2