

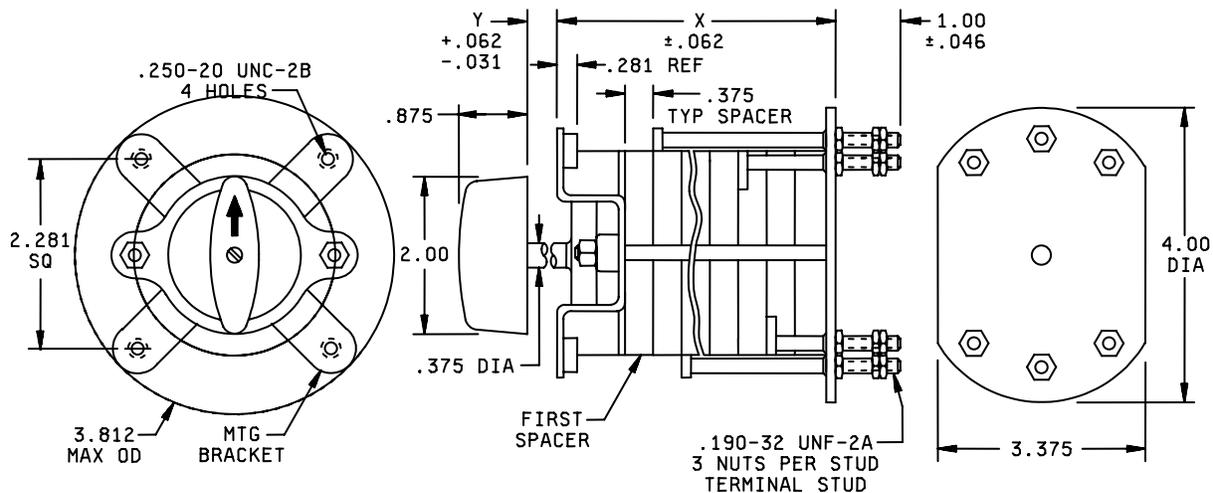
INCH POUND
MIL-DTL-15291/5B
6 February 2006
SUPERSEDING
MIL-S-15291/5A(SH)
22 July 1991

DETAIL SPECIFICATION SHEET

SWITCHES, ROTARY, SNAP ACTION CLASS 3SR FRONT MOUNTED,
BACK CONNECTED

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-15291.



NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is ± 0.015 .

FIGURE 1. Class 3SR switch (up to 6 studs).

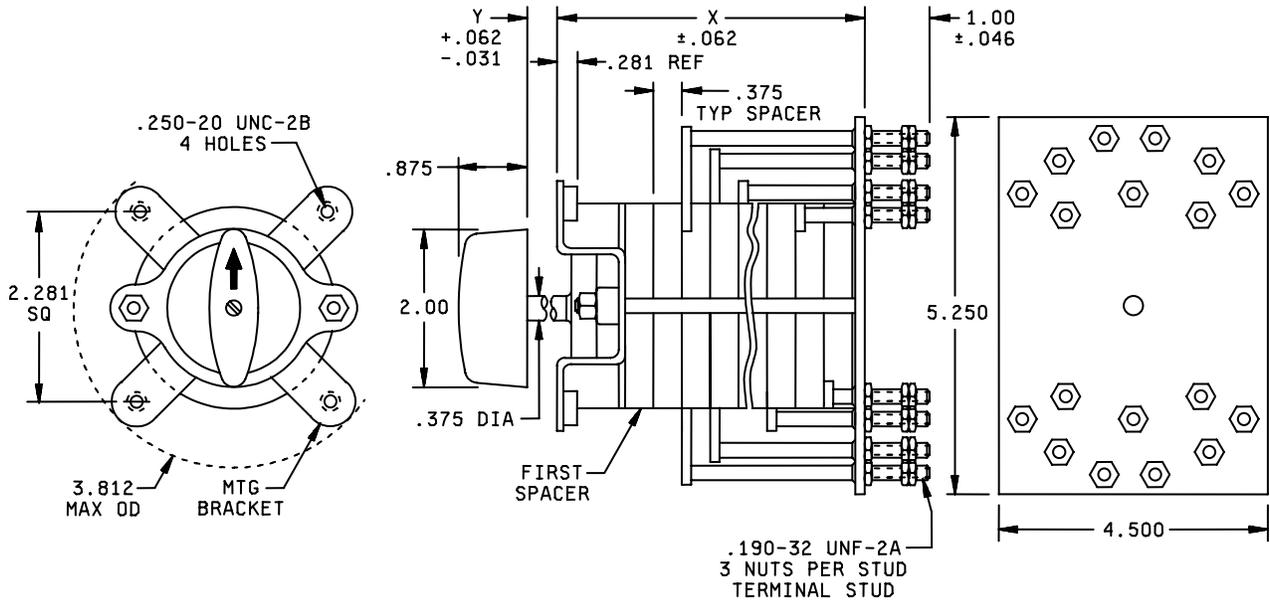
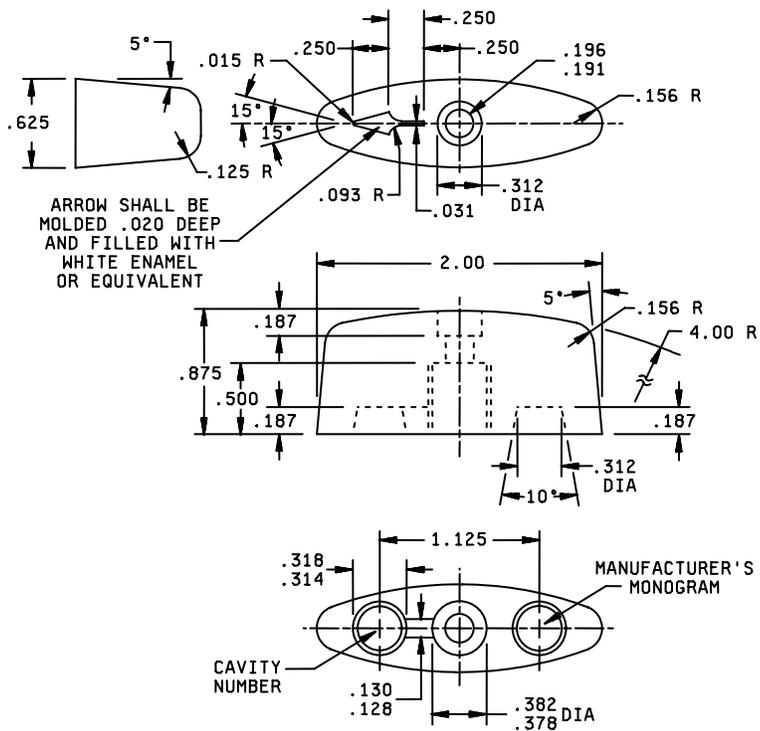


FIGURE 2. Class 3SR switch (up to 18 studs).

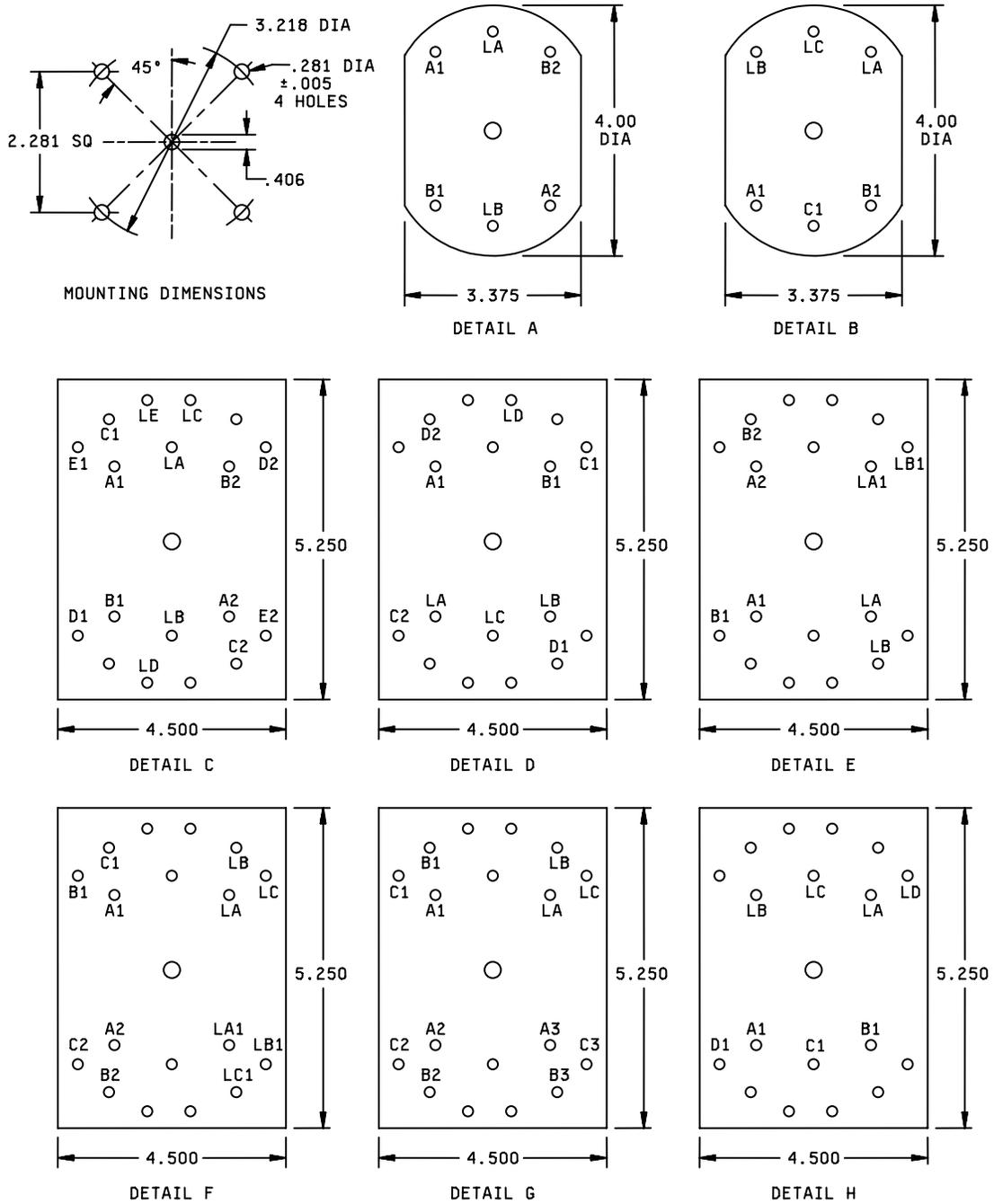
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PIN M15291/5-100.

FIGURE 3. Handle.

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NOTE: Viewed from the rear of the switch.

FIGURE 4. Mounting dimensions and terminal stud locations

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REQUIREMENTS:

- Applicable specification: MIL-DTL-15291.
- Dimensions and mounting: See figures 1 through 4.
- Switching characteristics: See table I.
- Angle of throw: 90 degrees.
- Switching action: Snap action, reciprocating.
- Electrical and endurance ratings: See table II.
- Stop strength (applicable to switches with stops): 100 inch-pounds.
- Vibration: 50 Hz, MIL-STD-167-1.
- Shock: High impact, MIL-S-901.
- Overload: 600 percent of ac rating, 50 make and break operations.
- Contact resistance: 0.01 ohms maximum.
- Dielectric withstanding voltage: 2,000 V rms.
- Insulation resistance: 200 megohms minimum.
- Temperature rise: 50°C maximum.
- Mounting screws: .250-20UNC-2A (4) length and head style to suit application. Screws not furnished.

TABLE II. Electrical and endurance ratings.

Tests	Current (amperes)	Voltage (volts)	Electrical operations (number of operations)	Test rate (operations per minute)	De-energized operations (number of operations)
Alternating current (rms)	30	500	20,000	30	10,000
Direct current	30	250	15,000	15	---

Terminal marking: Terminal markings shall be in accordance with details A through H, as specified in table I. Terminal markings in table I are as viewed from the front (handle end) of the switch.

Switches not covered by specification sheets: Switches which are fabricated from standard parts, as used in qualified switches, but which do not comply with switches detailed herein with respect to circuit characteristics, switching action, mounting arrangement, and handle details may be acquired under this specification from contractors having qualification approval under this specification.

Extended ratings: Switches detailed herein have been tested and found satisfactory at the extended rating listed in table III. Reduced life expectancy must be anticipated for switches used at these increased voltage or current levels. Tests under the conditions of table III are not required for qualification acceptance and they are not repeated routinely as for maintenance of qualification. Supplemental evaluations and tests applicable to particular circuit requirements are recommended.

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TABLE III. Extended ratings.

Switching characteristics	AC - 60 or 400 Hertz											
	125 volts				250 volts				500 volts			
	Resistive or lamp load		Inductive load 0.75 pF		Resistive or lamp load		Inductive load 0.75 pF		Resistive or lamp load		Inductive load 0.75 pF	
	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations
All	30	20,000	30	20,000	30	20,000	30	20,000	30	20,000	30	20,000
E, F	40	6,000	40	6,000	---	---	---	---	---	---	---	---
A, B <u>1/</u>	40	6,000	40	6,000	30	6,000	30	6,000	30	6,000	30	6,000
	DC											
	120 volts				250 volts				350 volts			
	Resistive or lamp load		Inductive, load <u>4/</u>		Resistive or lamp load		Inductive, load <u>4/</u>		Resistive or lamp load		Inductive, load <u>4/</u>	
	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations	Amp	Operations
All	30	13,000	25	6,000	15	13,000	---	---	---	---	---	---
A, B	30	15,000	25	6,000	25	6,000	25	6,000	15	6,000	15	6,000
A, B <u>3/</u>	---	---	---	---	30	15,000	---	---	---	---	---	---

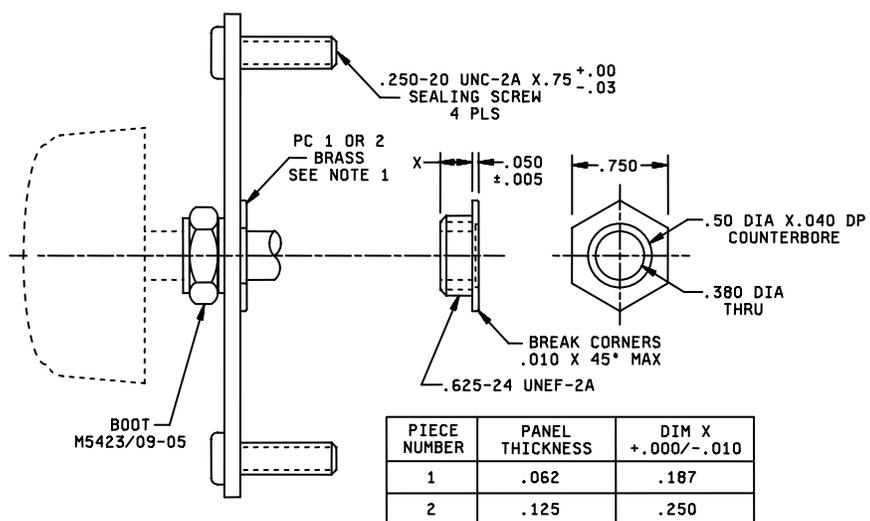
1/ Single pole break - all other ratings are based on breaking both sides of the line in accordance with figures 1 and 2 of MIL-DTL-15291.

2/ 0.08 henry for inductive current.

3/ Switch with special arc snuffers.

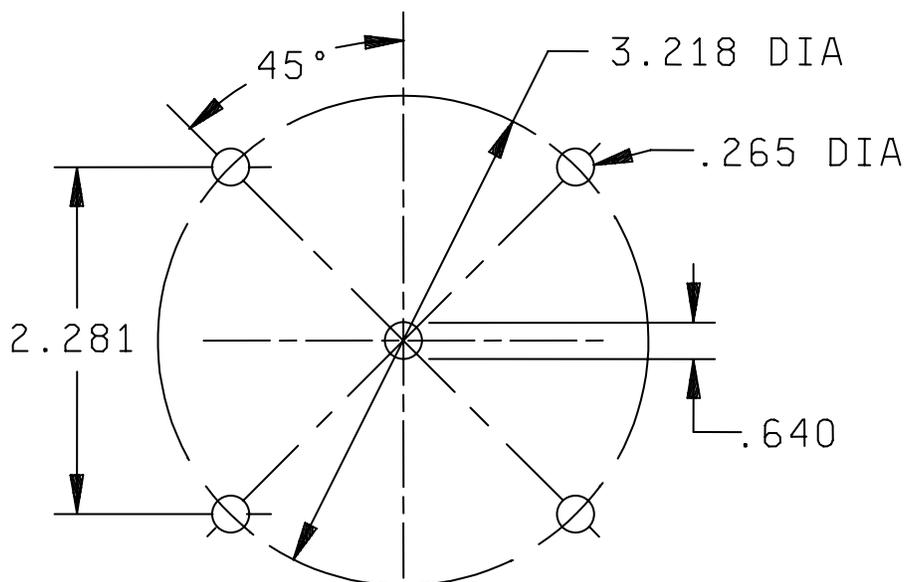
Sealed mounting: Switches listed in table I as having "Y" dimensions not less than 7/16 inch can be mounted with a kit, figure 5, to effect a submersible seal (SBM 15) between switch and mounting panel. Panel drilling must comply with figure 6. Kits not supplied unless specified (see 6.2 of MIL-DTL-15291).

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NOTE: Finish shall be zinc and dichromate, ASTM B 633.

FIGURE 5. Kit for panel seal mounting.



NOTE: Do not chamfer mounting holes. Breaking 1/64 maximum permissible.

FIGURE 6. Panel drilling for mounting kit.

APPLICATION AND ACQUISITION GUIDE: PIN and type designation cross reference shall be as shown on table IV.

TABLE IV. Application and acquisition guide.

M15291/5 dash no.	Type designation	For new or existing design	For replacement	Circuit configuration
-001		X		A (off-on-off-on)
-002	1SR2A1	X		A (off-on-off-on)
-003	1SR3A1	X		A (off-on-off-on)
-004	3SR4A1	X		B (off-on 1-off-on 2)
-005	3SR4A1	X		B (off-on 1-off-on 2)
-006	3SR3B1	X		B (off-on 1-off-on 2)
-007	---	X		E (off-on 1-on 2-on 3)
-008	3SR3E1	X		F (off-on 1-on 1 and 2-on 2)
-009	3SR4F1	X		F (off-on 1-on 1 and 2-on 2)
-010	3SR6F1	X		S (see table I)
	3SR4S1			

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Referenced Documents:

MIL-DTL-15291
MIL-S-901
MIL-STD-167-1
ASTM B633

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:
Navy - SH
DLA - CC

Preparing activity:
DLA - CC

(Project 5930-1901)

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/> .