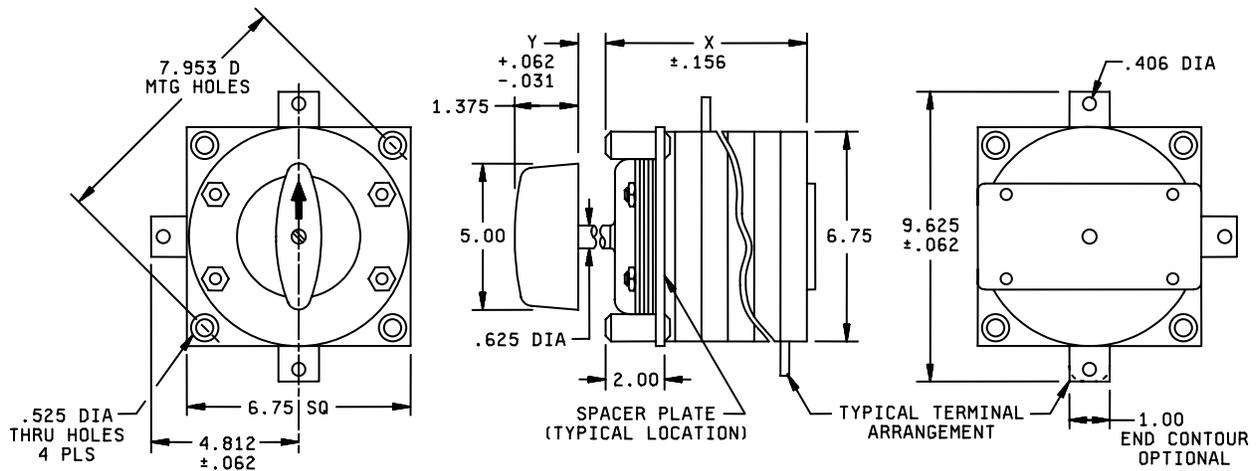


DETAIL SPECIFICATION SHEET

SWITCHES, ROTARY, SNAP ACTION CLASS 20SR FRONT MOUNTED, SIDE CONNECTED

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

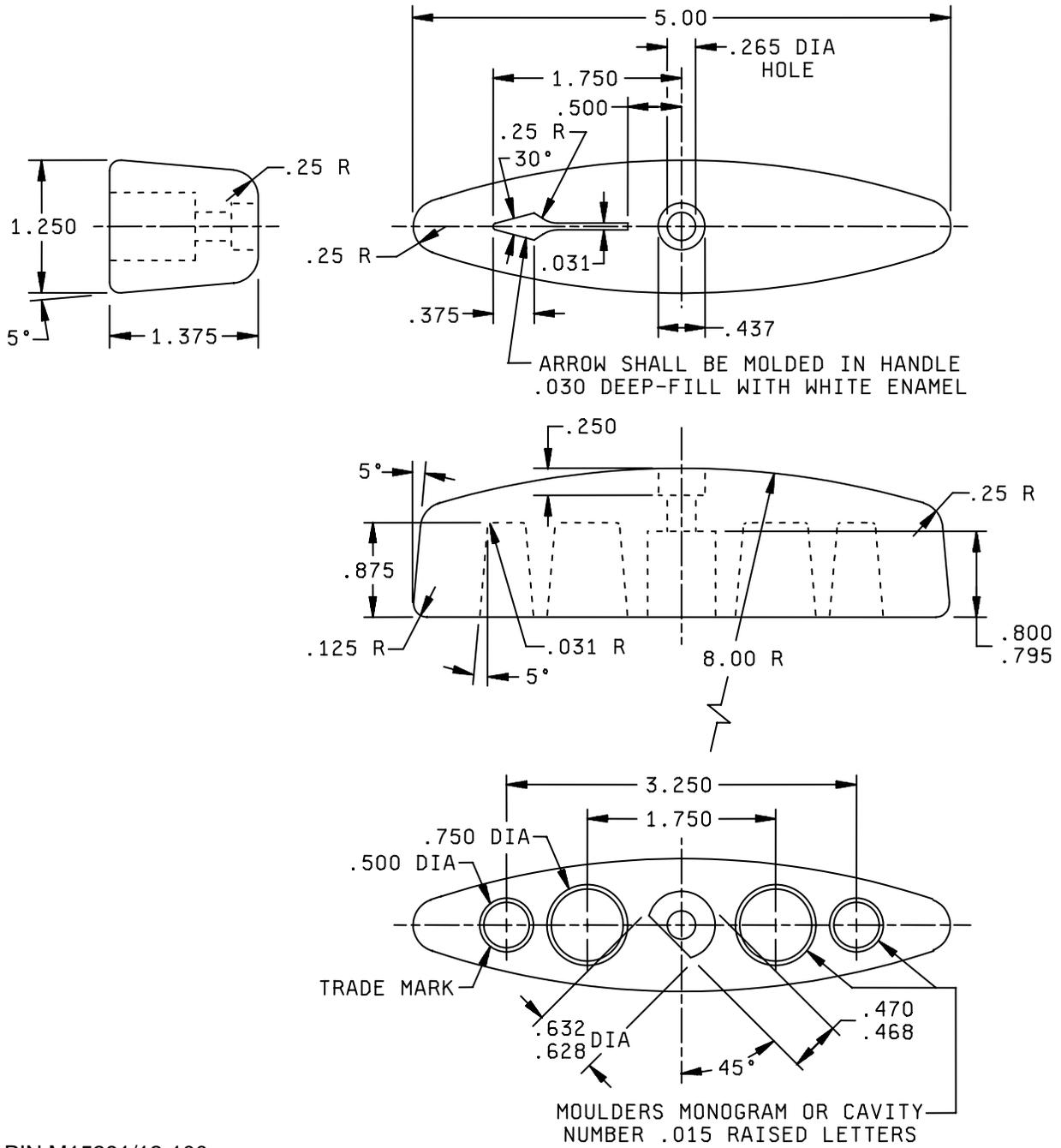
The complete requirements for acquiring the switch described herein shall consist of this specification and the latest issue of MIL-DTL-15291.



NOTES

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is plus or minus 0.015

FIGURE 1 Class 20SR switch



PIN M15291/12-100

FIGURE 2 Handle.

TABLE I. Type and switching characteristics.

M15291/11 DASH NO. TYPE DESIGNATION	DETAIL REF	DIM "X"	HANDLE OR SHAFT POSITION	CIRCUIT AND SPACER CONFIGURATION ROTOR POSITION, SPACER LOCATIONS, TERMINAL MARKING AND LOCATIONS									NOTES		
				TORQUE IN-LBS	DIM "Y"	NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7		NO 8	NO 9
-001 20SR2A2	FIG 1	4.812	OFF 												
	72	.437	OFF 												
-002 20SR3A2	FIG 1	5.687	OFF 												
	72	.437	OFF 												
-003 20SR2B2	FIG 1	6.562	OFF 												
	72	.437	OFF 												
-004 20SR3B2	FIG 1	8.312	OFF 												
	72	.437	OFF 												
-005 20SR2E2	FIG 1	6.562	OFF 												
	72	.437	ON 2 												
-006 20SR3E2	FIG 1	8.312	OFF 												
	72	.437	ON 2 												
-007 20SR4F2	FIG 1	7.437	1 2 												
	72	.437	OFF 												
-008 20SR6F2	FIG 1	9.187	1 2 												
	80	.437	OFF 												
-009 20SR2S2	FIG 1	4.812	ON 1 												
	72	.312	OFF 												
-010 20SR3S2	FIG 1	5.687	ON 1 												
	72	.312	OFF 												

REQUIREMENTS:

Applicable specification: MIL-DTL-15291

Dimensions and mounting: See figure 1

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): High impact, MIL-S-901

Contact resistance: 1.5 milliohms maximum

Dielectric withstanding voltage: 2,000 Vrms

Insulation resistance: 200 megohms minimum

Mounting bolts: (4) ½ diameter, length, and headstyle to suit application. Bolts 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)	200	500	6,000	8	4,000
Direct current	200	250	4,000	3	--

Terminal marking: Terminal markings shown in table I locate terminals as viewed from the front of the switch (handle end) Markings shall be stamped in rear surfaces of terminals.

GENERAL INFORMATION:

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 ratings 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.

TABLE III. Extended ratings.

Switching characteristics	AC 60 or 400 Hz											
	125 volts				250 volts				500 volts			
	Resistive or lamp load		Inductive load 0.75 p.f.		Resistive or lamp load		Inductive load 0.75 p.f.		Resistive or lamp load		Inductive load 0.75 p.f.	
	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations
All	200	6,000	200	6,000	200	6,000	200	6,000	200	6,000	200	6,000
	DC											
	120 volts				250 volts				350 volts			
	Resistive or Lamp load		Inductive load		Resistive or Lamp load		Inductive load <sup>1</sup>		Resistive or Lamp load		Inductive load	
	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations	Amp.	Operations
All	200	4,000	--	--	200	4,000	200	4,000	--	--	--	--

<sup>1</sup>0.025 henry for inductive circuit

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

TABLE IV. Application and acquisition guide.

M15291/12 Dash No.	Type Designation	For new or Existing design	For replacement	Circuit Configuration
-001	20SR2A2	X		A (off-on-off-on)
-002	20SR3A2	X		A (off-on-off-on)
-003	20SR2B2	X		B (off-on-1-off-on 2)
-004	20SR3B2	X		B (off-on-1-off-on 2)
-005	20SR2E2	X		E (off-on-1-on 2-on 3)
-006	20SR3E2	X		E (off-on-1-on 2-on 3)
-007	20SR4F2	X		F (off-on 1-on 1 & 2-on 2)
-008	20SR6F2	X		F (off-on 1-on 1 & 2-on 2)
-009	20SR2S2	X		S (on 1-on 2-off-off)
-010	20SR3S2	X		S (on 1-on 2-off-off)

Referenced Documents:

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

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 5930-1909)

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/>.