



MIL-S-15291/11A(SH)

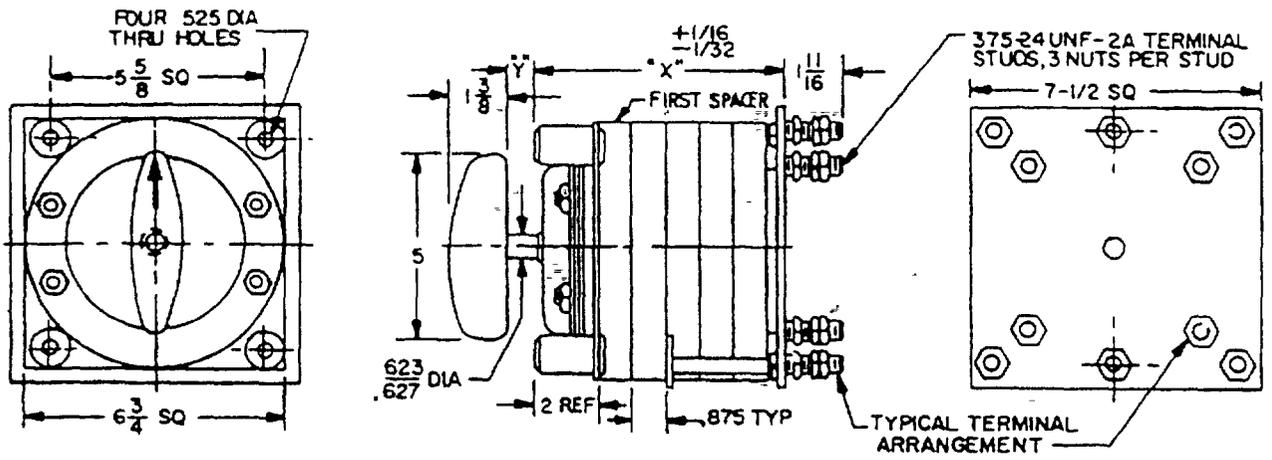


FIGURE 2 Class 20SR switch (up to 10 studs)

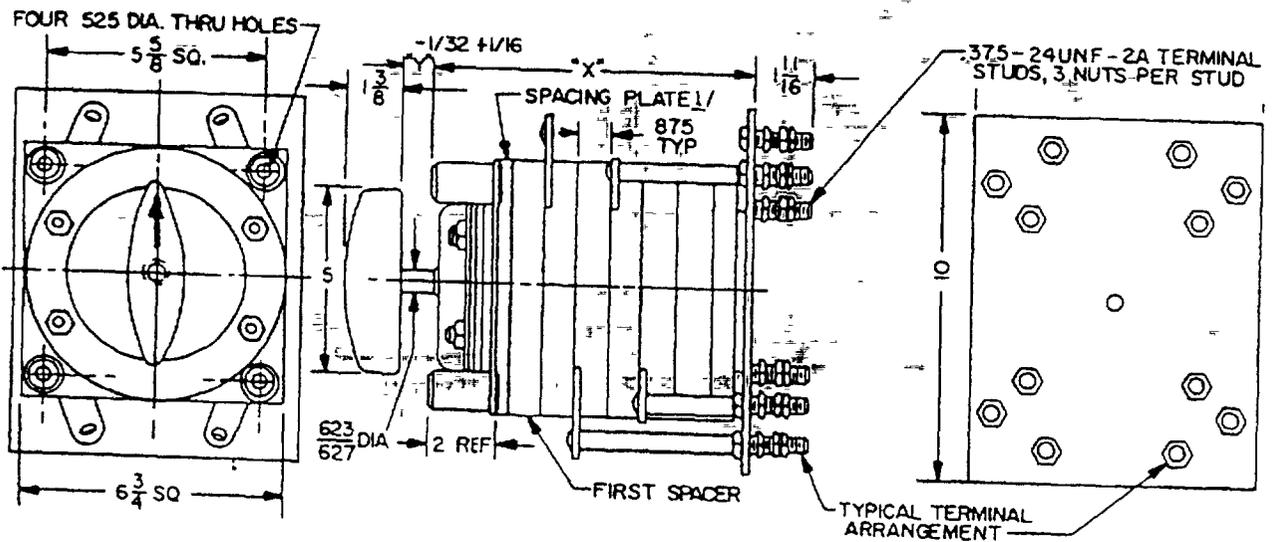
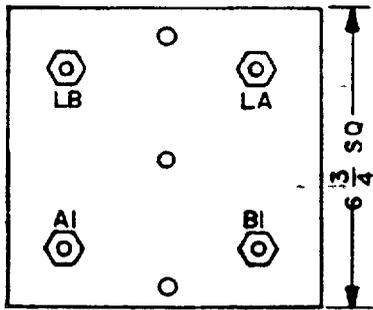
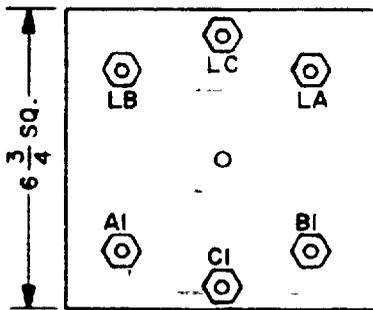


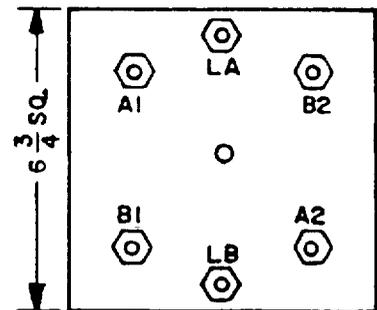
FIGURE 3 Class 20SR switch (up to 12 studs)



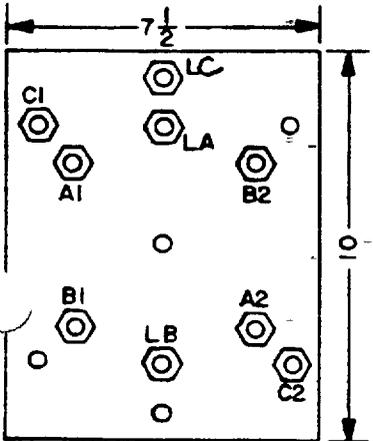
DETAIL "A"



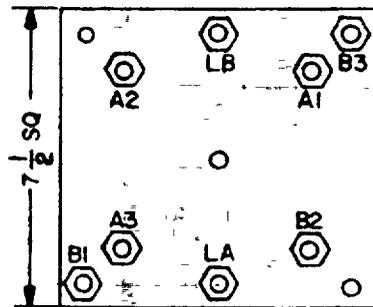
DETAIL "B"



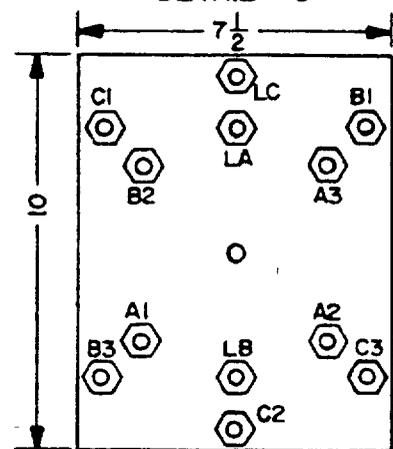
DETAIL "C"



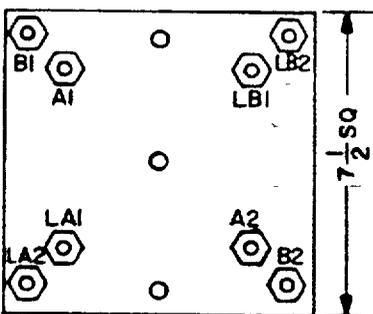
DETAIL "D"



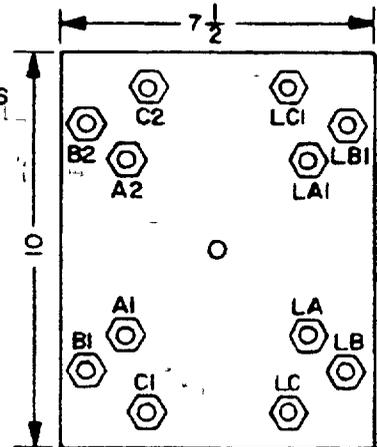
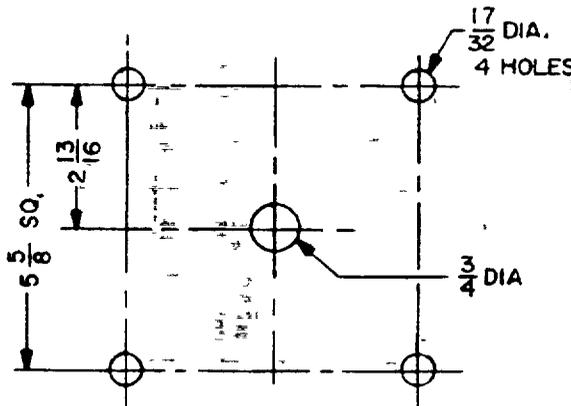
DETAIL "E"



DETAIL "F"



DETAIL "G"



DETAIL "H"

NOTE

1 Terminal studs viewed from rear

FIGURE 4 Mounting dimensions and terminal stud locations

TABLE I Type and switching characteristics.

M15291/11 Dash No Type designation	Detail ref	Dim "X" "Y"	Dim Torque in.-lbs	Handles or shaft position	Circuit and spacer configuration rotor position, spacer locations, terminal marking and locations									Notes
					No 1	No 2	No 3	No 4	No 5	No 6	No 7	No 8	No 9	
-001	Figs 1 & 4 Detail A	15 4 15	72	OFF ON										
	20SR2A1	7 16		OFF										
-002	Figs 1 & 4 Detail B	13 5 16	72	OFF ON										
	20SR3A1	7 16		OFF										
-003	Figs 1 & 4 Detail C	11 6 16	72	OFF ON										
	20SR2B1	7 16		OFF										
-004	Figs 3 & 4 Detail D	8 7 16	72	OFF ON										
	20SR3B1	7 16		OFF										
-005	Figs 2 & 4 Detail E	11 6 16	72	OFF ON										
	20SR2E1	7 16		OFF										
-006	Figs 3 & 4 Detail F	8 7 16	72	OFF ON										
	20SR3E1	7 16		OFF										
-007	Figs 2 & 4 Detail G	11 6 16	72	OFF ON										
	20SR4F1	7 16		OFF										
-008	Figs 3 & 4 Detail H	7 8 16	80	OFF ON										
	20SR6F1	7 16		OFF										

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**REQUIREMENTS**

Applicable specification:	MIL-S-15291
Dimensions and mounting:	See figures 1, 2, 3, and 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
Insulation (spacers and decks)	Glass alkyd, MAI-60 (or MAI-30) in accordance with MIL-M-14
Spacer plate:	MAI-60, MAI-30 or GFI-10 in accordance with MIL-M-14
Contact resistance:	1.5 milliohms maximum
Dielectric withstanding voltage:	2,000 Vrms
Insulation resistance:	200 megohms minimum
Temperature rise:	50 °C maximum
Contact material:	Rotor, phosphor bronze – Stationary contact, copper
Mounting bolts:	(4) 1/2 diameter, length, and headstyle to suit application. Bolts not furnished.
Handle:	M15291/12-100.

TABLE II *Electrical and endurance ratings.*

Tests	Current (amperes)	Voltage (volts)	Electrical operations (number of operations)	Test rate (operations per minute)	Dc-energized operations (number of operations)
Alternating current (rms)	200	500	6,000	8	4,000
Direct current	200	250	4,000	3	-

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Terminal marking:

Terminal markings shall be in accordance with details A through H, as specified in table I.

**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.



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APPLICATION AND  
ACQUISITION GUIDE:

PIN and type designation cross reference shall be as shown in table IV.

TABLE IV. *Application and acquisition guide*

M15291/11 dash No	Type designation	For replacement only In new design use	Circuit configuration
-001	20SR2A1	M15291/12-001	A (off-on-off-on)
-002	20SR3A1	M15291/12-002	A (off-on-off-on)
-003	20SR2B1	M15291/12-003	B (off-on 1-off-on 2)
-004	20SR3B1	M15291/12-004	B (off-on 1-off-on 2)
-005	20SR2E1	M15291/12-005	E (off-on 1-on 2-on 3)
-006	20SR3E1	M12591/12-006	E (off-on 1-on 2-on 3)
-007	20SR4F1	M12591/12-007	F (off-on 1-on 1 & 2-on 2)
-008	20SR6F1	M12591/12-008	F (off-on 1-on 1 & 2-on 2)

Revision letters are not used to denote changes due to the extensiveness of the changes

Preparing activity:  
Navy - SH  
(Project 5930-N663-12)