

User activity Air Force - 11

 Army - AV
 Navy - FL
 Air Force - 31
 USA - ES

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FED SUP CLASS 5930		APPROVED 15 May 1972 REVISED (A) 14 May 1974 (B) 25 Apr 1975 (C) 28 Sep 1987	
MARKING (EITHER SIDE)		CONTOUR OF SWITCH OPTIONAL PROVIDED MAX DIMENSIONS SPECIFIED ARE NOT EXCEEDED	
		469-32 NS-2A THREAD TO WITHIN 0.60 OF SHOULDER HEX NUT 469-32 NS 2B 2 REOD 47 LOCKWASHER 47 LOCKING RING	
T. TITLE SWITCH, TOGGLE, ONE POLE, ENVIRONMENTALLY SEALED, LEVER-LOCK, INTEGRATED WIRE TERMINALS		MILITARY STANDARD MS27781	
SUPPLEMENTS MS27781-1		SUPPLEMENTS MS27781-1	
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Inches	mm	Inches	mm
.005	0.13	.432	10.97
.008	0.20	.469	11.91
.012	0.30	.47	11.9
.020	0.51	.635	16.13
.060	1.52	1.05	26.7
.076	1.93	1.140	28.96
.38	9.7	1.270	32.26
.42	10.7	1.662	42.21

NOTES

1. Dimensions are inches
2. Metric equivalents are given for general information only
3. Unless otherwise specified, tolerance is $\pm .020$ (0.51 mm) for two place decimals and $\pm .005$ (0.13 mm) for three place decimals.
4. For hardware detail specifications, see appendix of MIL-S-3950
5. Contact installing/removal tool in accordance with M81969/14-03.
6. Grommet sealing plug, in accordance with MS27488A16
7. The sealing grommet shall seal on a smooth wire insulation of .068 (1.73 mm) to 103 (2.62 mm) diameters
8. Terminal shall adequately accept a wire contact within dimensional limits of M39029/1-102.
9. The terminal end of switch shall be color coded blue to indicate contact size.
10. Direction of internal mechanism movement is opposite to the direction of the toggle movement.
11. Sealing plugs may be used in nonfunctional grommet holes
12. Maximum weight is .108 pound
13. Locking arrangement Positive locking shall be accomplished and shall prevent motion of the toggle lever until the locking mechanism is manually released.
14. The force required to release the locking mechanism shall be 3 to 5 pounds.
15. The locking means at the top of the toggle bushing shall be capable of withstanding a torque of 20 inch-pounds applied in both directions immediately following the humidity test
16. Part number example MS27781-21A (locking combination 'A')
17. In the event of a conflict between the text of this standard and the reference cited herein, the text of this standard shall take precedence
18. Referenced Government documents of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this standard to the extent specified herein

P A Air Force - 85 Other Cust Army - ER Navy - AS	International Interest	TITLE SWITCH, TOGGLE, ONE POLE, ENVIRONMENTALLY SEALED, LEVER-LOCK, INTEGRATED WIRE TERMINALS	MILITARY STANDARD
			MS27781
Procurement Specification MIL-S-3950		SUPSEDES	PAGE 2 OF 4

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Review activities
Army - AY
NAVY - NR
Air Force - 00
CLA - 65

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Locking combinations

A	LOCKED IN THREE POSITIONS	B	LOCKED IN CENTER AND DOWN POSITIONS (KEYING SIDE)	D	LOCKED OUT OF CENTER POSITION	E	LOCKED IN CENTER POSITION	F	LOCKED IN UP POSITION (OPPOSITE KEYING)	G	LOCKED IN DOWN POSITION (KEYING SIDE)	H	LOCKED OUT OF CENTER AND DOWN POSITION (KEYING SIDE)
J	LOCKED OUT OF CENTER AND UP POSITION (OPPOSITE KEYING)	K	LOCKED IN CENTER AND UP POSITION (OPPOSITE KEYING)	L	LOCKED OUT OF DOWN POSITION (KEYING SIDE)	M	LOCKED OUT OF AND INTO UP POSITION (OPPOSITE KEYING)	N	LOCKED OUT OF UP POSITION (OPPOSITE KEYING)	P	LOCKED OUT OF AND INTO DOWN POSITION (KEYING SIDE)	FIGURES A THROUGH P DO NOT REPRESENT DETAILS OF CON- STRUCTION THEY SCHEMATICALLY ILLUSTRATE LOCKING CONFIGURATIONS AND MOMENTARY POSITIONS	

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DLA - ES

Review activities

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(Continued) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

DA
Air Force - 85
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International
interest

TITLE

SWITCH, TOGGLE, ONE POLE,
ENVIRONMENTALLY SEALED,
LEVER-LOCK, INTEGRATED
WIRE TERMINALS

MILITARY STANDARD

MS27781

Procurement Specification
MIL-S-3950

SUPERSEDES

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Detail requirements

MS part number	Available locking combinations	Circuit with toggle lever in		Current capacity (amperes)		Current capacity (amperes)	
		Keying side	Center keying side	Lamp-load Resistive circuit	Inductive circuit	Lamp-load Resistive circuit	Inductive circuit
MS27781-21	All	1-2 On	Off	2-3 On		115 volts, 60 and 400 hertz ac	
MS27781-22	D, F, G	Off	None	2-3 On			10
MS27781-23	D, F, G	1-2 On	None	2-3 On			
MS27781-24	E, F, K, M	None	Off	2-3 On			
MS27781-25	F	None	Mom off	2-3 On			
MS27781-26	F	1-2 Mom on	None	2-3 On			
MS27781-27	E, L, N	1-2 Mom on	Off	2-3 Mom on			
MS27781-28	E	1-2 Mom on	Off	None			7
MS27781-29	F	Mom. off	None	2-3 On			
MS27781-30	F	1-2 Mom on	None	Off			
MS27781-31	E, F, K, L, M, N	1-2 Mom. on	Off	2-3 On			
MS27781-32	E	None	On 1-2	2-3 Mom on			
MS27781-33	E, F, K, M, N	None	On 1-2	2-3 On			
				5	20	15	15
				4	15	10	2
							15
							10

Test requirements

Test shall be performed in accordance with MIL-S-3950 except

- During all tests, switches shall be fully wired with appropriate wire and terminal contacts
- Contact voltage drop - the contact voltage drop with two terminals and the switch contact in series shall not exceed 8 millivolts measured from one wire contact through the contacts to the other wire contacts

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