

INCH POUND

MIL-DTL-9395/40B

30 May 2001

SUPERSEDING

MIL-S-9395/40A

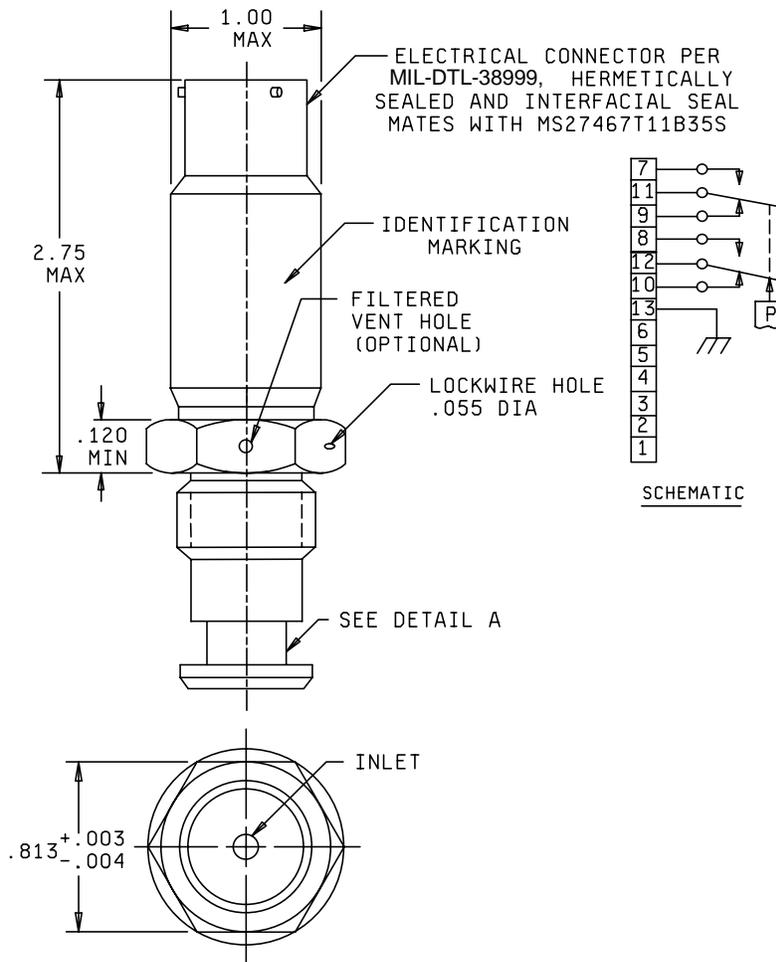
30 June 1978

DETAIL SPECIFICATION SHEET

SWITCHES, PRESSURE, (GAGE), TYPE II,
LOW LEVEL TO 5 AMPERE

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

The complete requirements for procuring the switches described herein shall consist of this document and the latest issue of Specification MIL-DTL-9395.

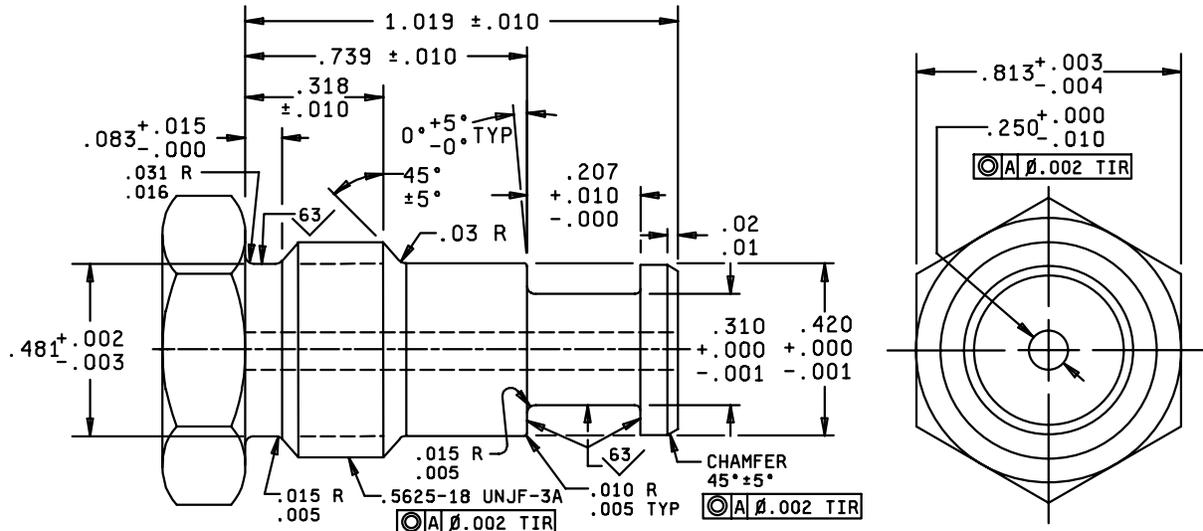


WEIGHT: NOT TO EXCEED .25 LBS

CONFIGURATION 1

FIGURE 1. Switches.

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DETAIL A

INCHES	MM	INCHES	MM	INCHES	MM
.001	.03	.02	.5	.318	8.08
.002	.05	.03	.8	.420	10.67
.003	.08	.031	.79	.481	12.22
.004	.10	.055	1.40	.739	18.77
.005	.13	.083	2.11	.813	20.65
.010	.25	.120	3.05	1.00	25.40
.015	.38	.207	5.26	1.019	25.88
.016	.41	.250	6.35	2.75	69.8
		.310	7.87		

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. Exact shape of switch is optional provided outline dimensions specified are not exceeded and connector location area is as specified.
4. Schematic shown is for switches with pressure ports exposed to zero lb_f/in².
5. Packing groove in accordance with MIL-G-5514.
6. Surface finish 125 roughness height reference, except where otherwise specified.
7. Surface finish per ANSI B 46.1.
8. Switch shall incorporate a redundant seal.

FIGURE 1. Switches - Continued.

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REQUIREMENTS:

Dimensions, weight, and electrical schematic: See figure 1.

Materials: All external parts including pressure port, housing, and electrical connector shall be fabricated from corrosion-resistant (stainless) steel suitable for welding. External parts shall be joined by welding; solder joints shall not be allowed.

Calibration: See tables I, II, III, and IV.

Proof pressure: 4500 lb_f/in². If a vent is not used, the electrical chamber shall withstand 4500 lb_f/in² without rupture.

System pressure: 3000 lb_f/in².

Burst pressure: 7500 lb_f/in².

Vent port leakage:

Leakage rate: Shall not exceed .15 cubic centimeters in 250 cycles.

Electrical ratings: See table I.

Minimum current: 25,000 cycles.

Low level: 50,000 cycles

NOTE: Switches shall be subjected only to low level loads prior to delivery.

Seal:

Pressure chamber: Media proof, except leakage of .15 cubic centimeters (maximum) in 250 cycles is allowed.

Electrical chamber: Hermetic.

Pressure port: See figure 1.

Media: Hydraulic fluid per MIL-H-5606 or MIL-PRF-83282.

High temperature (operating and nonoperating): B (+275°F).

Low temperature (operating and nonoperating): D (-65°F) ambient; and (-40°F) fluid.

Altitude: C (70,000 ft).

Shock: C (100 G).

Vibration: S (test condition D, method 204 of MIL-STD-202, except 10 to 2,000 Hz, 10 G).

Life (mechanical): F (50,000 cycles).

Life (electrical): B (25,000 cycles).

Acceleration: C (8 G).

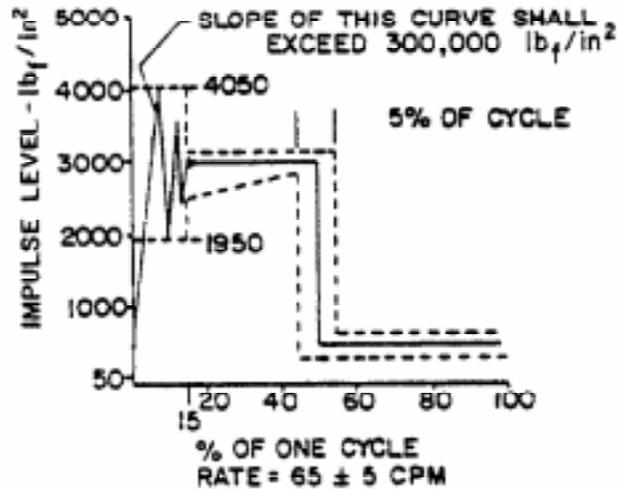


FIGURE 2 Pressure rise requirements.

Pulsation amplitude: 50 to 4050 lb_f/in^2 and back to 50 lb_f/in^2 (applied per figure 2).

Pulsation frequency: 65 ± 5 cycles per minute.

Pressure rise: 300,000 lb_f/in^2 minimum.

Dielectric withstanding voltage (at reduced barometric pressure): Applicable.

Electrical connector torque: Applicable.

Pressure port mounting torque: 15 foot-pounds.

QUALIFICATION:

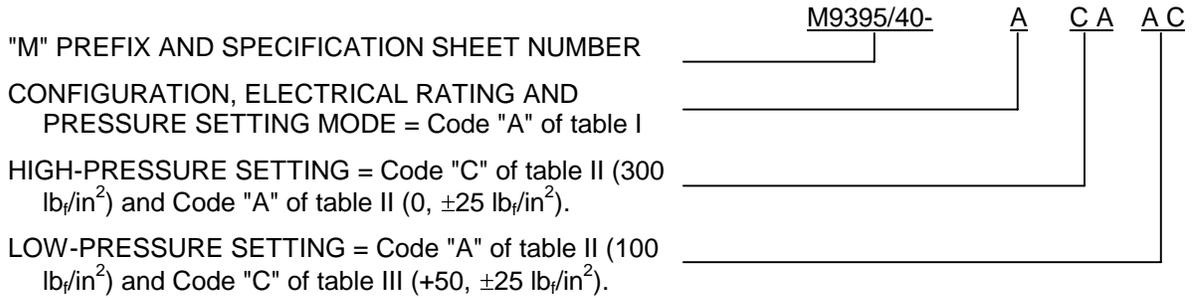
Single submission: Restricted to switch submitted.

Group submission: See table V.

PART NUMBER: Consists of "M" prefix followed by specification sheet number; a dash (-); and a five-letter code. The five-letter identifies the configuration, electrical rating, and pressure setting mode (code from table I); high-pressure setting to within 100 lb_f/in^2 (code from table II) followed by high-pressure setting to within 25 lb_f/in^2 and applicable tolerance (code from table III); and low-pressure setting to within 100 lb_f/in^2 (code from table II) followed by low-pressure setting to within 25 lb_f/in^2 and applicable tolerance (code from table III). The five-letter code used in the following example identifies a switch of configuration 1, low level to 1 ampere electrical rating, which actuates on increasing pressure at 300 ± 25 lb_f/in^2 , and deactuates on decreasing pressure at 150 ± 25 lb_f/in^2 .

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EXAMPLE:



NOTE: Design limitations (actuation values and tolerances, deabband and deactuation values and tolerances) should be coordinated with manufacturer(s) listed on the QPL for this specification sheet before specifying a particular "M" number. The fact that operating characteristics can be coded does not necessarily mean that it can be manufactured or procured.

TABLE I. Codes for configurations, electrical ratings, and pressure setting modes.

	Configuration 1		Pressure setting mode	
	Low level to 1 A resistive	1.5 to 5 A resistive	High setting	Low setting
Code - -	A	D	At (or max) <u>1/</u>	At (or min) <u>1/</u>
Code - -	B	E	At (or max) <u>1/</u>	Differential <u>2/</u>
Code - -	C	F	Differential <u>2/</u>	At (or min) <u>1/</u>

1/ Setting values are designated by characters from tables II and III.

2/ Setting values are designated by characters from table IV.

TABLE II. Codes for pressure settings to within 100 lb_f/in².

Code	Pressure (lb _f /in ²)	Code	Pressure (lb _f /in ²)	Code	Pressure (lb _f /in ²)	Code	Pressure (lb _f /in ²)
A	100	J	900	S	1700	1	2500
B	200	K	1000	T	1800	2	2600
C	300	L	1100	U	1900	3	2700
D	400	M	1200	V	2000	4	2800
E	500	N	1300	W	2100	5	2900
F	600	P	1400	X	2200	6	3000
G	700	Q	1500	Y	2300		
H	800	R	1600	Z	2400		

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TABLE III. Codes for pressure settings to within 25 lb_f/in² and tolerances.

	Unit				Tolerance (lb _f /in ²)
	0	+25	+50	+75	
Code	A	B	C	D	±25
Code	E	F	G	H	±50
Code	J	K	L	M	±75
Code	N	P	Q	R	±100
Code	S	T	U	V	±150
Code	W	X	Y	Z	±200
Code	1	2	3	4	±300
Code	5	6	7	8	±400
Code	9	0	1	-	Min or Max

TABLE IV. Codes for differential pressure settings. 1/

Code	Differential value (lb _f /in ²)	Code	Differential value (lb _f /in ²)
A	0	M	275
B	25	N	300
C	50	P	325
D	75	Q	350
E	100	R	375
F	125	S	400
G	150	T	425
H	175	U	450
J	200	V	475
K	225	W	500
L	250		

TABLE V. Extent of qualification.

Part number	Number of samples required	Tests	Qualifies
M9395/40-DADAA AADAA A6N3U D6N3U	2 each resistive 2 each intermediate current 2 each low level 2 each resistive	Complete per qualification inspection of MIL-DTL-9395	All

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA -CC

Preparing activity:
DLA -CC

(Project 5930-1730-16)

Review activities:

Army - AV
Navy -MC, SH
Air Force - 99