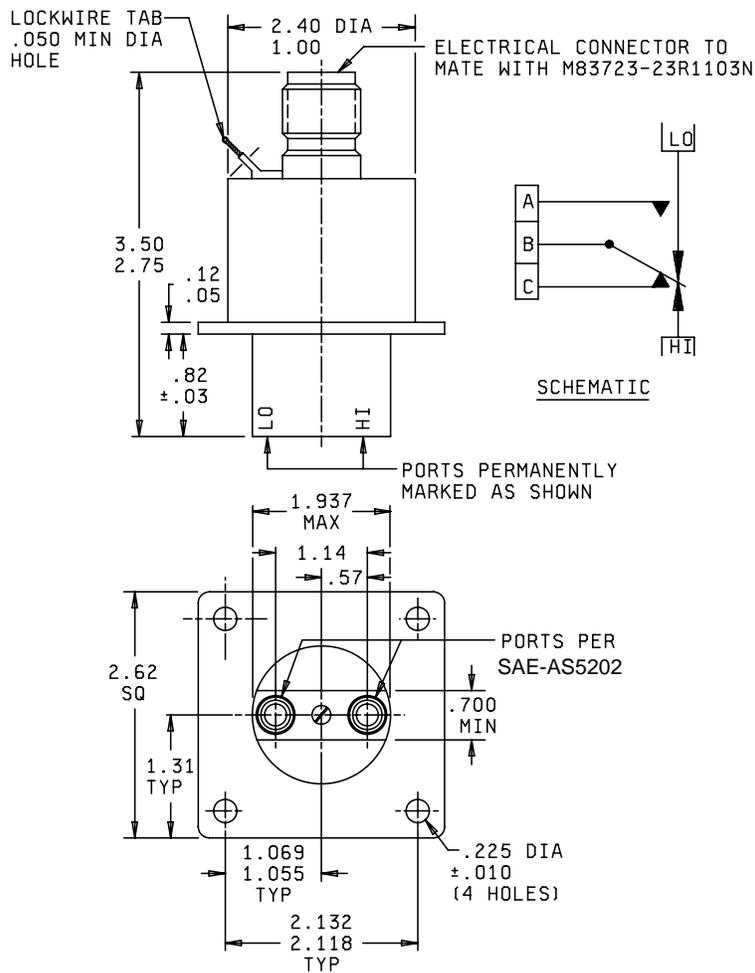


DETAIL SPECIFICATION SHEET  
SWITCHES, PRESSURE, DIFFERENTIAL (TYPE III), 4 AMPERES

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

The requirements for acquiring the switches described herein shall consist of this document and MIL-DTL-9395.

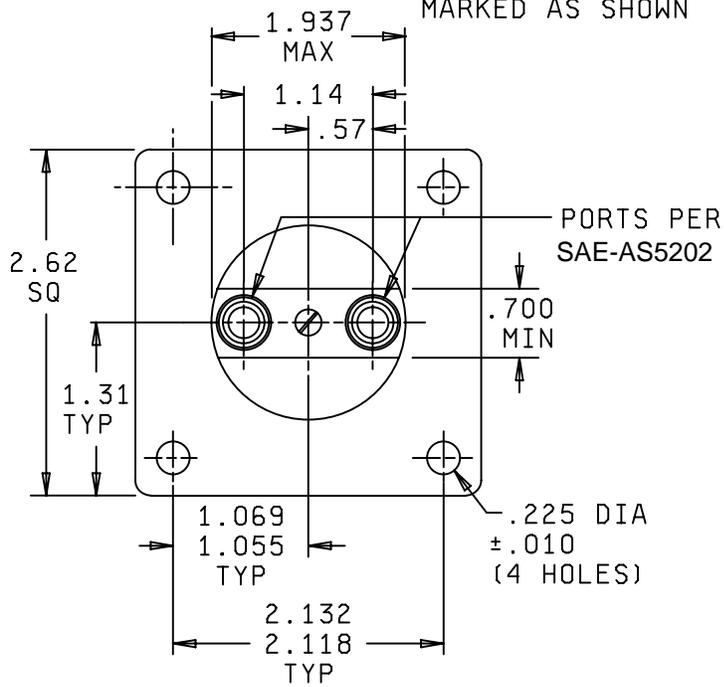
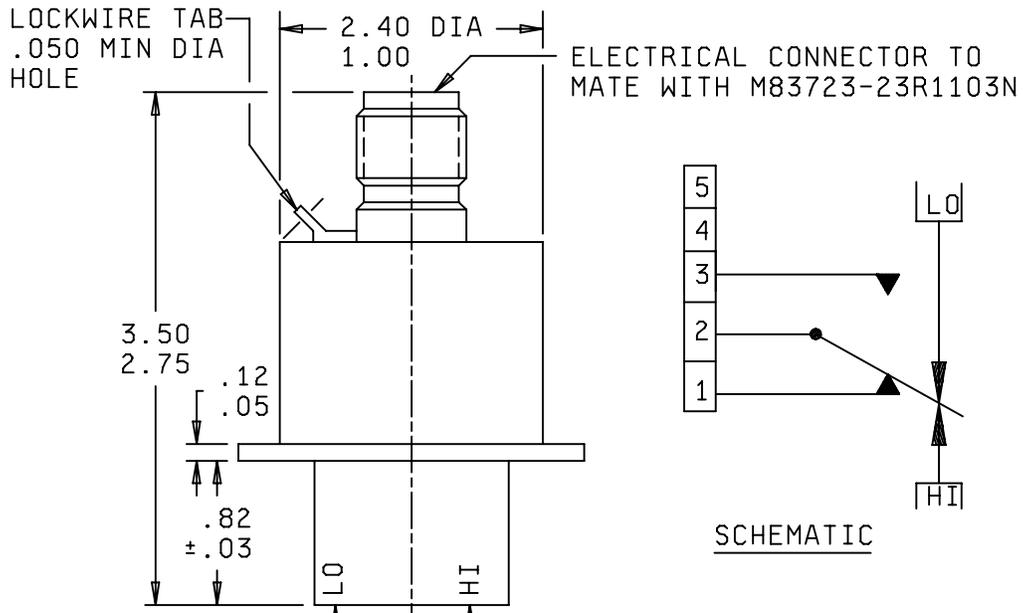


WEIGHT: NOT TO EXCEED .8 lbs.

Configuration 1

FIGURE 1. Switches, pressure, differential, type III.

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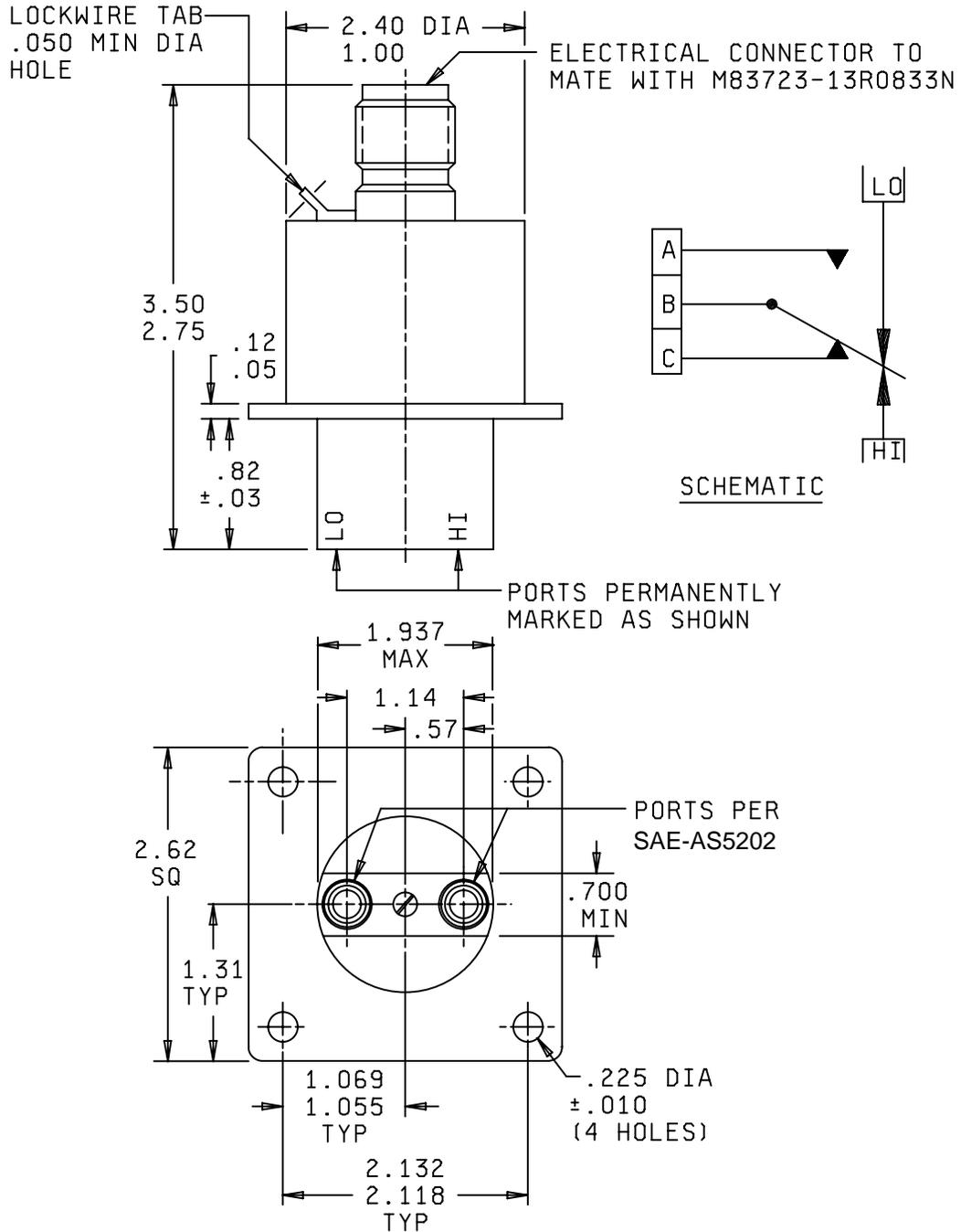


WEIGHT: NOT TO EXCEED .8 lbs

Configuration 2

FIGURE 1. Switches, pressure, differential, type III - Continued.

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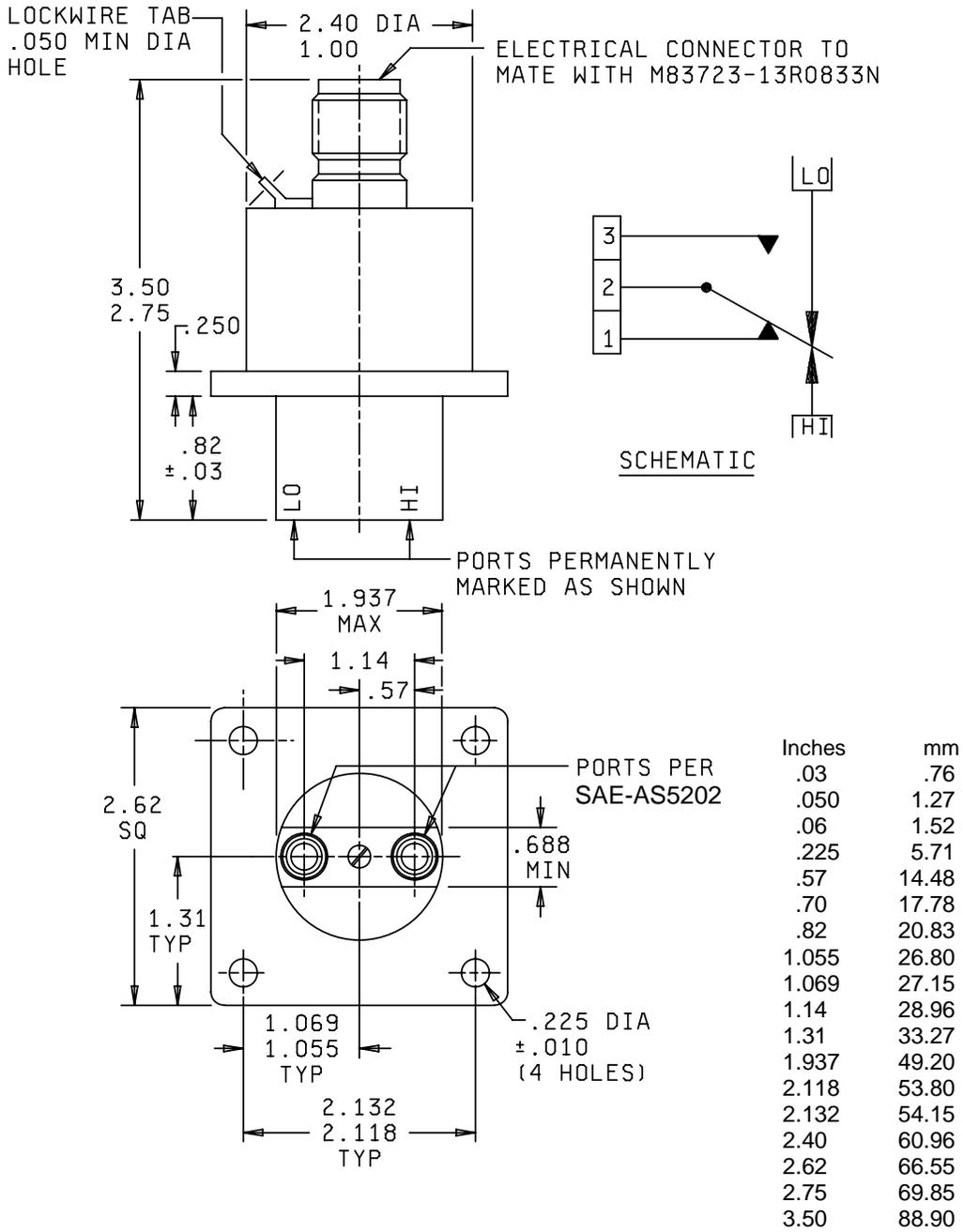


WEIGHT: NOT TO EXCEED .8 lbs

Configuration 3

FIGURE 1. Switches, pressure, differential, type III - Continued.

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Configuration 4

WEIGHT: NOT TO EXCEED .97 lbs

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1 inch =25.4 mm.
3. Unless otherwise specified, tolerance is ±.02 (0.51 mm).

FIGURE 1. Switches, pressure, differential, type III - Continued.

REQUIREMENTS:

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

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

Proof pressure: 250 lb<sub>f</sub>/in<sup>2</sup>g high over low and simultaneously.

System pressure: 125 lb<sub>f</sub>/in<sup>2</sup>g high over low and simultaneously.

Burst pressure: 500 lb<sub>f</sub>/in<sup>2</sup>g high over low and simultaneously.

Electrical ratings: Operating voltage: 28 Vdc. Current rating: 4 amperes resistive, 2 amperes inductive.

Seal:

High pressure chamber: Media proof. During this test the low pressure chamber shall be open to atmosphere. Subject switches to proof pressure for 2 minutes using hydraulic fluid IAW MIL-PRF-6083 with chamber pressure continuously being monitored. Isolate the chamber at proof pressure with the chamber disconnected from the pressure source. Under that condition, the pressure shall not drop more than 1 lb<sub>f</sub>/in<sup>2</sup>g for the first 30 seconds to allow stabilization of test equipment; no pressure loss is allowed thereafter.

Low pressure chamber: Media proof. Test as above except low pressure port is connected to high pressure port.

Electrical chamber: See table I.

Electrical connector: See figure 1.

Pressure port: See figure 1.

Media: Dry air; nitrogen; fuel IAW MIL-DTL-5624; oil IAW MIL-PRF-7808; or hydraulic fluid IAW MIL-PRF-6083.

High temperature (operating and nonoperating): C (350°F).

Low temperature (operating and nonoperating): D (-65°F).

Altitude: C (70,000 feet).

Shock: C (100 G).

Vibration: S (test condition D, method 204 of MIL-STD-202).

Life mechanical: A (100,000 cycles).

Life electrical: C (50,000 cycles).

Acceleration: C (8 G).

Pulsation amplitude: A (0 percent).

Pulsation frequency: A (0 Hz).

Pressure rise: B (more than 1,000 lb<sub>f</sub>/in<sup>2</sup>/s).

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

Connector torque: Applicable.

Flame test: Applicable.

Explosion: Applicable.

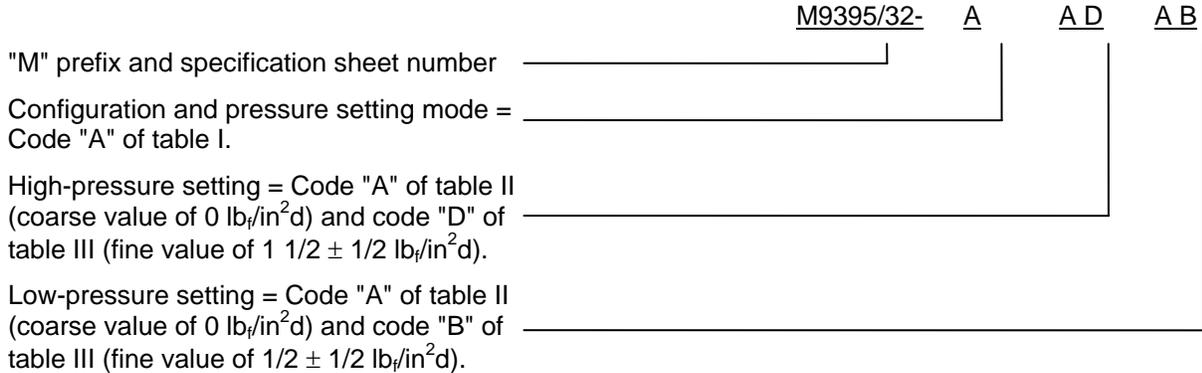
QUALIFICATION:

Single submission: Restricted to switch submitted.

Group submission: See table V.

Part number: Part numbers shall be as follows:

Example:



Note: Design limitations (actuation values and tolerances, deadband and deactuation values and tolerances) should be coordinated with the 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 acquired.

TABLE I. Codes for combinations of configurations and pressure setting modes.

|      | Configuration 1    |          | Configuration 2    |          | Pressure              |                       |
|------|--------------------|----------|--------------------|----------|-----------------------|-----------------------|
|      | Electrical chamber |          | Electrical chamber |          | High setting          | High setting          |
|      | Hermetic           | Unsealed | Hermetic           | Unsealed |                       |                       |
| Code | A                  | D        | G                  | K        | At (or max) <u>1/</u> | At (or min) <u>1/</u> |
| Code | B                  | E        | H                  | L        | At (or max) <u>1/</u> | Deadband <u>2/</u>    |
| Code | C                  | F        | J                  | M        | Deadband <u>2/</u>    | At (or min) <u>1/</u> |
|      | Configuration 3    |          | Configuration 4    |          | Pressure setting mode |                       |
|      | Electrical chamber |          | Electrical chamber |          | High setting          | Low setting           |
|      | Hermetic           | Unsealed | Hermetic           | Unsealed |                       |                       |
| Code | N                  | R        | U                  | X        | At (or max) <u>1/</u> | At (or min) <u>1/</u> |
| Code | P                  | S        | V                  | Y        | At (or max) <u>1/</u> | Deadband <u>2/</u>    |
| Code | Q                  | T        | W                  | Z        | Deadband <u>2/</u>    | At (or min) <u>1/</u> |

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

2/ Setting values are designated by codes from tables II and IV.

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TABLE II. Codes for coarse settings.

| Code | Coarse value<br>(lb <sub>f</sub> /in <sup>2</sup> d) | Code | Coarse value<br>(lb <sub>f</sub> /in <sup>2</sup> d) | Code | Coarse<br>value(lb <sub>f</sub> /in <sup>2</sup> d) |
|------|--|------|--|------|---|
| A    | 0  | L    | 30   | W    | 80  |
| B    | 2.5  | M    | 35   | X    | 85  |
| C    | 5  | N    | 40   | Y    | 90  |
| D    | 7.5  | P    | 45   | Z    | 95  |
| E    | 10   | Q    | 50   | 1    | 100   |
| F    | 12.5   | R    | 55   | 2    | 105   |
| G    | 15   | S    | 60   | 3    | 110   |
| H    | 17.5   | T    | 65   | 4    | 115   |
| J    | 20   | U    | 70   | 5    | 120   |
| K    | 25   | V    | 75   | 6    | 125   |

TABLE III. Codes for combinations of fine settings and tolerances values.

|      | Fine value (lb <sub>f</sub> /in <sup>2</sup> d) for<br>settings below 20 lb <sub>f</sub> /in <sup>2</sup> d              |    |   |     |   | Tolerance<br>(lb <sub>f</sub> /in <sup>2</sup> ) |
|------|--|----|---|-----|---|--|
|      | 0  | .5 | 1 | 1.5 | 2 |  |
| Code | A  | B  | C | D   | E | ±.5lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | F  | G  | H | J   | K | ±1 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | L  | M  | N | P   | Q | ±2 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | R  | S  | T | U   | V | ±3 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | W  | X  | Y | Z   | 1 | ±5 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | 2  | 3  | 4 | 5   | 6 | ±8 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | 7  | 8  | 9 | 0   | + | Min or Max                                       |
|      | Fine value (lb <sub>f</sub> /in <sup>2</sup> d) for<br>settings below 20 lb <sub>f</sub> /in <sup>2</sup> d<br>and above |    |   |     |   | Tolerance<br>(lb <sub>f</sub> /in <sup>2</sup> ) |
|      | 0  | .5 | 1 | 1.5 | 2 |  |
| Code | A  | B  | C | D   | E | ±1 lb <sub>f</sub> /in <sup>2</sup> d <u>1/</u>  |
| Code | F  | G  | H | J   | K | ±2 lb <sub>f</sub> /in <sup>2</sup> d <u>2/</u>  |
| Code | L  | M  | N | P   | Q | ±3 lb <sub>f</sub> /in <sup>2</sup> d <u>3/</u>  |
| Code | R  | S  | T | U   | V | ±5 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | W  | X  | Y | Z   | 1 | ±8 lb <sub>f</sub> /in <sup>2</sup> d            |
| Code | 2  | 3  | 4 | 5   | 6 | ±15 lb <sub>f</sub> /in <sup>2</sup> d           |
| Code | 7  | 8  | 9 | 0   | + | Min or Max                                       |

1/ Not applicable for pressure settings above 33 lb<sub>f</sub>/in<sup>2</sup>d.

2/ Not applicable for pressure settings above 66 lb<sub>f</sub>/in<sup>2</sup>d.

3/ Not applicable for pressure settings above 100 lb<sub>f</sub>/in<sup>2</sup>d.

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TABLE IV. Codes for deadband settings.

| Code | Deadband value (lb <sub>f</sub> /in <sup>2</sup> d) | Code | Deadband value (lb <sub>f</sub> /in <sup>2</sup> d) |
|------|---|------|---|
| A    | 0   | T    | 11  |
| B    | .5  | U    | 12  |
| C    | 1   | V    | 13  |
| D    | 1.5   | W    | 14  |
| E    | 2   | X    | 15  |
| F    | 2.5   | Y    | 16  |
| G    | 3   | Z    | 18  |
| H    | 3.5   | 1    | 20  |
| J    | 4   | 2    | 22  |
| K    | 4.5   | 3    | 24  |
| L    | 5   | 4    | 26  |
| M    | 5.5   | 5    | 28  |
| N    | 6   | 6    | 30  |
| P    | 7   | 7    | 35  |
| Q    | 8   | 8    | 40  |
| R    | 9   | 9    | 45  |
| S    | 10  | 0    | 50  |

TABLE V. Extent of qualification.

| Part number<br>M9395/32-         | Number of<br>samples required  | Tests  | Qualifies |
|----------------------------------|--|--|-----------|
| ABAAC<br>GBAAC<br>A6R3M<br>N6R3M | 2 each resistive<br>2 each resistive<br>2 each inductive<br>2 each inductive | Complete IAW qualification<br>inspection of MIL-DTL-9395 | ALL       |

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Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced Documents:

MIL-PRF-6083  
MIL-DTL-9395

MIL-DTL-5624  
MIL-STD-202

MIL-PRF-7808  
SAE-AS5202

Custodians:

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

Preparing activity:  
DLA - CC

(Project 5930-2006-052)

Review activities:

Army - AT, AV  
Navy - AS, MC, SH  
Air Force - 19, 99

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/> .