

6 July 2020



MIL-PRF-8805/1G  
w/Amendment 1

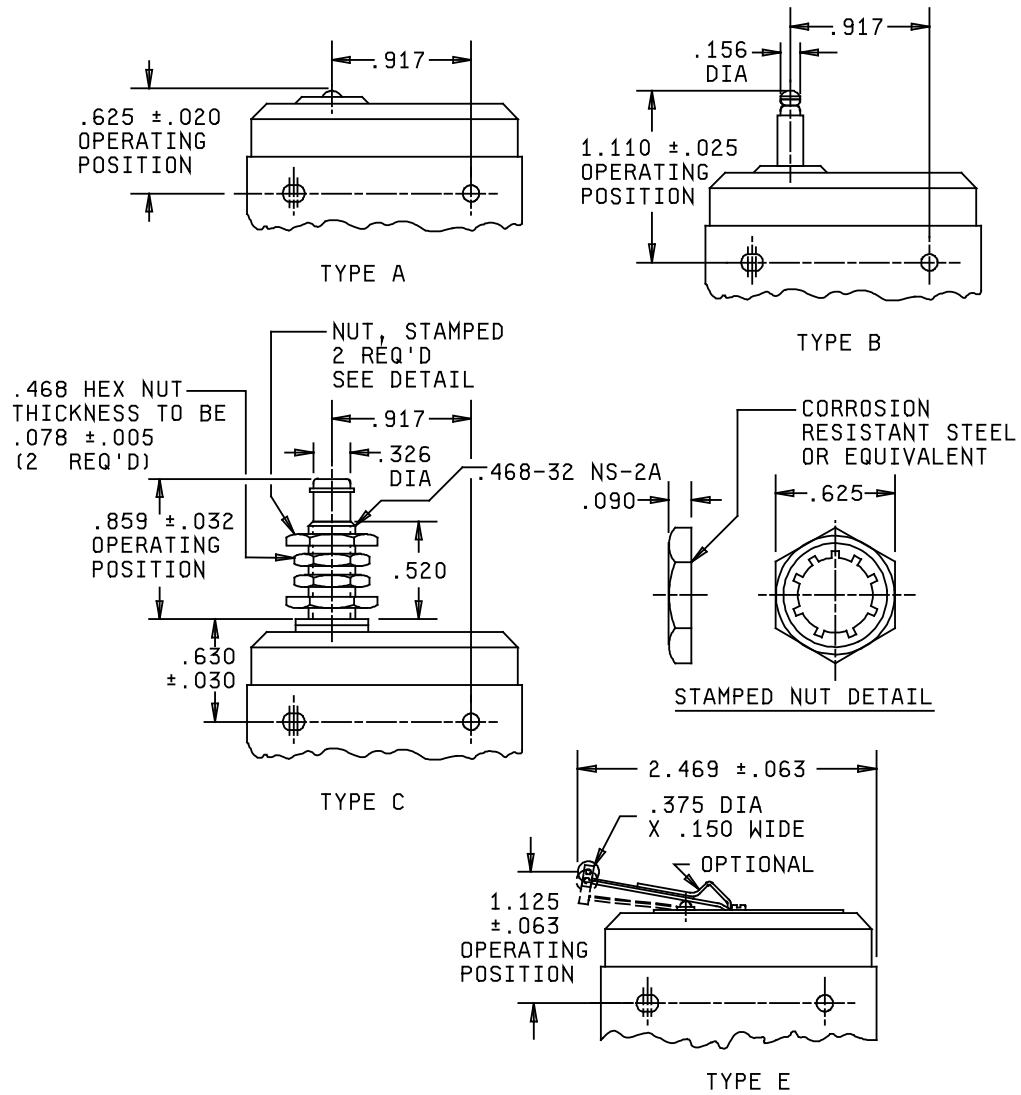
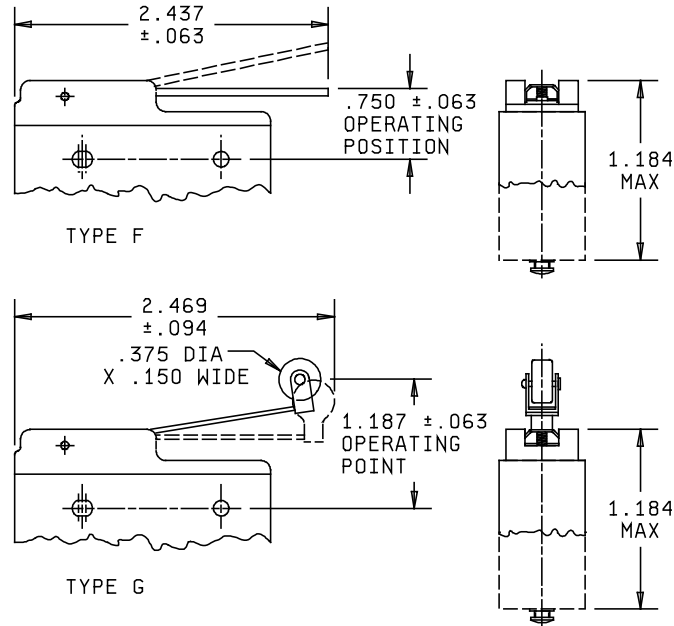


FIGURE 1. Dimensions and configurations -Continued.

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| Inches | mm   | Inches | mm   | Inches | mm   | Inches | mm    | Inches | mm    | Inches | mm    |
|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|-------|
| .001   | .03  | .063   | 1.60 | .177   | 4.50 | .375   | 9.53  | .750   | 19.05 | 1.184  | 30.07 |
| .002   | .05  | .085   | 2.16 | .210   | 5.33 | .469   | 11.91 | .859   | 21.82 | 1.187  | 30.15 |
| .003   | .08  | .090   | 2.29 | .219   | 5.56 | .520   | 13.21 | .917   | 23.29 | 1.937  | 49.20 |
| .020   | .51  | .094   | 2.39 | .250   | 6.35 | .625   | 15.88 | .984   | 24.99 | 2.422  | 61.52 |
| .025   | .64  | .140   | 3.56 | .326   | 8.28 | .630   | 16.00 | 1.000  | 25.40 | 2.437  | 61.90 |
| .032   | .81  | .150   | 3.81 | .344   | 8.74 | .687   | 17.45 | 1.110  | 28.19 | 2.469  | 62.71 |
| .046   | 1.17 | .156   | 3.96 | .359   | 9.12 | .719   | 18.26 | 1.125  | 28.58 |        |       |

NOTES:

- Dimensions are in inches.
- Metric equivalents are given for general information only.
- Unless otherwise stated, tolerance is  $\pm .015$  (0.38 mm).
- Exact shape of switch optional provided dimensions specified are not exceeded.
- Terminals: Captive construction or equivalent.
  - Screw terminals are supplied with lockwashers and No. 6-32 NC-2A, Fil HD, binder HD, or pan HD screws.
  - Solder lug terminals shall accommodate one No. 14 AWG wire.
- Mounting holes shall accept .139 (3.53 mm) maximum diameter pins or screws on  $1.000 \pm .002$  (25.40  $\pm$  .05 mm) centers.
- Switch terminal surface shall be free of plastic flash and may extend .030 (.76 mm) maximum beyond plastic body surface.
- Actuators may be permanently affixed by threading into the plastic cover.

FIGURE 1. Dimensions and configurations -Continued.

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REQUIREMENTS:

Dimensions and configurations: See figure 1.

Enclosure design: 1 (unsealed).

Temperature characteristic: 1 (-55°C to +85°C).

Shock type: M (100 g), (contacts not monitored during test).

Vibration grade: 1 (10 to 500 Hz) (momentary transfer of contacts permitted in free position; no contact transfer, in excess of 10 microseconds, permitted in actuated position).

Weight: .1 pound maximum.

Operating characteristics: See table 1.

Strength of actuating means:

Type A and B: 10 pounds.

Type C: 25 pounds.

Type D, E, F, and G: 8 ounces

Terminal strength: (solder terminals): 5 pounds.

Explosion: Not applicable.

Contact resistance: Not applicable.

Acceleration: 50g (except type E and type G shall be 20g).

Moisture resistance: Minimum insulation resistance, wet condition, 1 megohm.

Dielectric withstanding voltage:

Sea level: 600 V rms between all terminals and ground.

Altitude: 300 V rms at 50,000 ft.

(In qualification inspection table after electrical endurance the dielectric withstanding voltage points of application between all unconnected terminals of the same pole is not applicable).

Mechanical endurance: See table II.

Electrical ratings: See table II.

Current ratings: Application information (see table IV and V).

Qualification:

Group submission: See table III.

Part or Identifying Number (PIN): See table VI.

Table I. Operating characteristics and PIN's. 1/

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| Type                                                                                                                                              | Nominal contact separation<br>(See table IV.)<br>(Inch) <u>3/</u> | Maximum operating force<br><br>(Ounce) | Minimum release force<br><br>(Ounce) | Maximum differential travel<br><br>(Inch) | Travel                          |                                  | PIN's <u>2/</u> |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------------|---------------------------------|----------------------------------|-----------------|-------|
|                                                                                                                                                   |                                                                   |                                        |                                      |                                           | Maximum pretravel<br><br>(Inch) | Minimum overtravel<br><br>(Inch) | Terminal        |       |
|                                                                                                                                                   |                                                                   |                                        |                                      |                                           |                                 |                                  | Solder          | Screw |
| A<br>Pin plunger<br>Pin plunger<br>Pin plunger<br>Pin plunger                                                                                     | .010                                                              | 13                                     | 4                                    | .003                                      | .040                            | .005                             | -028            | -027  |
|                                                                                                                                                   | .020                                                              | 13                                     | 4                                    | .005                                      | .040                            | .005                             | -003            | -004  |
|                                                                                                                                                   | .040                                                              | 20                                     | 4                                    | .007                                      | .040                            | .005                             | -005            | -006  |
|                                                                                                                                                   | .070                                                              | 28                                     | 4                                    | .010                                      | .040                            | .005                             | -007            | -008  |
| B<br>Spring plunger<br>Spring plunger<br>Spring plunger<br>Spring plunger                                                                         | .010                                                              | 10                                     | 4                                    | .003                                      | .040                            | .050                             | -009            | -010  |
|                                                                                                                                                   | .020                                                              | 13                                     | 4                                    | .005                                      | .040                            | .050                             | -011            | -012  |
|                                                                                                                                                   | .040                                                              | 20                                     | 4                                    | .007                                      | .040                            | .050                             | -013            | -014  |
|                                                                                                                                                   | .070                                                              | 28                                     | 4                                    | .010                                      | .040                            | .050                             | -015            | -016  |
| C<br>Panel mount<br>¼-inch overtravel<br>Panel mount<br>¼-inch overtravel<br>Panel mount<br>¼-inch overtravel<br>Panel mount<br>¼-inch overtravel | .010                                                              | 13                                     | 4                                    | .003                                      | .040                            | .203                             | -017            | -018  |
|                                                                                                                                                   | .020                                                              | 13                                     | 4                                    | .005                                      | .040                            | .203                             | -019            | -020  |
|                                                                                                                                                   | .040                                                              | 20                                     | 4                                    | .007                                      | .040                            | .203                             | -021            | -022  |
|                                                                                                                                                   | .070                                                              | 28                                     | 4                                    | .010                                      | .040                            | .203                             | -023            | -024  |
| D<br>Leaf spring<br>Leaf spring<br>Leaf spring<br>Leaf spring                                                                                     | .010                                                              | 6.5                                    | .5                                   | .030                                      | .156                            | .031                             | -025            | -026  |
|                                                                                                                                                   | .020                                                              | 7.5                                    | .5                                   | .050                                      | .156                            | .031                             | -002            | -001  |
|                                                                                                                                                   | .040                                                              | 8.0                                    | .5                                   | .065                                      | .156                            | .031                             | -029            | -030  |
|                                                                                                                                                   | .070                                                              | 9.5                                    | .5                                   | .080                                      | .219                            | .031                             | -031            | -032  |
| E<br>Roller leaf spring<br>Roller leaf spring<br>Roller leaf spring<br>Roller leaf spring                                                         | .010                                                              | 9.5                                    | .5                                   | .030                                      | .188                            | .031                             | -033            | -034  |
|                                                                                                                                                   | .020                                                              | 9.5                                    | .5                                   | .050                                      | .188                            | .031                             | -035            | -036  |
|                                                                                                                                                   | .040                                                              | 9.5                                    | .5                                   | .065                                      | .188                            | .031                             | -037            | -038  |
|                                                                                                                                                   | .070                                                              | 10                                     | .5                                   | .080                                      | .219                            | .031                             | -039            | -040  |
| F<br>Hinge leaf<br>Hinge leaf<br>Hinge leaf<br>Hinge leaf                                                                                         | .010                                                              | 3                                      | .5                                   | .060                                      | .375                            | .160                             | -041            | -042  |
|                                                                                                                                                   | .020                                                              | 3.5                                    | .5                                   | .093                                      | .406                            | .156                             | -043            | -044  |
|                                                                                                                                                   | .040                                                              | 4                                      | .5                                   | .140                                      | .515                            | .109                             | -045            | -046  |
|                                                                                                                                                   | .070                                                              | 7                                      | .75                                  | .150                                      | .515                            | .125                             | -047            | -048  |
| G<br>Hinge roller leaf<br>Hinge roller leaf<br>Hinge roller leaf<br>Hinge roller leaf                                                             | .010                                                              | 3                                      | .5                                   | .080                                      | .281                            | .156                             | -049            | -050  |
|                                                                                                                                                   | .020                                                              | 3.5                                    | .5                                   | .093                                      | .312                            | .140                             | -051            | -052  |
|                                                                                                                                                   | .040                                                              | 4                                      | .5                                   | .131                                      | .469                            | .109                             | -053            | -054  |
|                                                                                                                                                   | .070                                                              | 7                                      | .75                                  | .150                                      | .469                            | .125                             | -055            | -056  |

1/ Characteristics may change  $\pm 25$  percent after endurance test.

2/ For replacement cross reference see table VI.

3/ Nominal contact separation values are shown for information and classification purposes only.  
Measurement is not required.

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TABLE II. Electrical rating.

| Load                               | 28 V dc            |                         | 115 V ac – 60 Hz   |                         |
|------------------------------------|--------------------|-------------------------|--------------------|-------------------------|
|                                    | Current<br>amperes | Number of<br>operations | Current<br>amperes | Number of<br>operations |
| Resistive – sea level<br>50,000 ft | 2                  | 100,000                 | 15                 | 50,000                  |
|                                    | 2                  | 100,000                 | 15                 | 50,000                  |
| Inductive – sea level<br>50,000 ft | 1                  | 100,000                 | 15                 | 100,000                 |
|                                    | 1                  | 100,000                 | 15                 | 100,000                 |
| Lamp – sea level<br>50,000 ft      | 1.5                | 100,000                 | 1.5                | 100,000                 |
|                                    | 1.5                | 100,000                 | 1.5                | 100,000                 |

TABLE III. Qualification inspection group submission.

| Examination<br>or test                             | Basic<br>switch                                                                                | Other switch<br>samples                                                                                                        | Extent of<br>approval |
|----------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Qualification inspection<br>table of MIL-PRF-8805. | M8805/1-038<br>(all sample units)<br>M8805/1-034<br>(2 sample units)<br>Table VI,<br>group II. | 2 sample units each<br>of all other samples.<br>1. Visual and<br>mechanical<br>examination.<br>2. Operating<br>characteristics | All                   |

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TABLE IV. Direct current ratings. 1/  
(Application Information)

| Nominal contact separation in inches | Direct current (volts) | Noninductive                    |                                   |                                 |                                   | Inductive                       |                                   |                                 |                                   |
|--------------------------------------|------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|
|                                      |                        | Heater load                     |                                   | Lamp load                       |                                   | Motor, relay, or solenoid load  |                                   |                                 |                                   |
|                                      |                        | Normally open contact (amperes) | Normally closed contact (amperes) | Normally open contact (amperes) | Normally closed contact (amperes) | Sea level                       |                                   | 50,000 feet                     |                                   |
|                                      |                        |                                 |                                   |                                 |                                   | Normally open contact (amperes) | Normally closed contact (amperes) | Normally open contact (amperes) | Normally closed contact (amperes) |
| .010                                 | 6-8                    | 15                              | 20                                | 1.5                             | 3.0                               | 8.0                             | 8.0                               | 7.0                             | 7.0                               |
|                                      | 12-14                  | 15                              | 20                                | 1.5                             | 3.0                               | 5.0                             | 5.0                               | 5.0                             | 5.0                               |
|                                      | 24-30                  | 2.0                             | 2.0                               | 1.5                             | 2.0                               | 1.0                             | 1.0                               | 1.0                             | 1.0                               |
|                                      | 110-115                | .4                              | .4                                | .4                              | .4                                | .03                             | .03                               | .02                             | .02                               |
|                                      | 220-230                | .2                              | .2                                | .2                              | .2                                | .02                             | .02                               | .01                             | .01                               |
| .020                                 | 6-8                    | 15                              | 20                                | 1.5                             | 3.0                               | 15                              | 20                                | 15                              | 15                                |
|                                      | 12-14                  | 15                              | 20                                | 1.5                             | 3.0                               | 10                              | 10                                | 8.0                             | 8.0                               |
|                                      | 24-30                  | 6.0                             | 6.0                               | 1.5                             | 3.0                               | 5.0                             | 5.0                               | 2.0                             | 2.0                               |
|                                      | 110-115                | .4                              | .4                                | .4                              | .4                                | .05                             | .05                               | .03                             | .03                               |
|                                      | 220-230                | .2                              | .2                                | .2                              | .2                                | .03                             | .03                               | .02                             | .02                               |
| .040                                 | 6-8                    | 15                              | 20                                | 1.5                             | 3.0                               | 15                              | 20                                | 15                              | 15                                |
|                                      | 12-14                  | 15                              | 20                                | 1.5                             | 3.0                               | 15                              | 20                                | 15                              | 15                                |
|                                      | 24-30                  | 10                              | 10                                | 1.5                             | 3.0                               | 10                              | 10                                | 5.0                             | 5.0                               |
|                                      | 110-115                | .6                              | .6                                | .6                              | .6                                | .1                              | .1                                | .05                             | .05                               |
|                                      | 220-230                | .3                              | .3                                | .2                              | .3                                | .05                             | .05                               | .03                             | .03                               |
| .070                                 | 6-8                    | 15                              | 20                                | 1.5                             | 3.0                               | 15                              | 20                                | 15                              | 15                                |
|                                      | 12-14                  | 15                              | 20                                | 1.5                             | 3.0                               | 15                              | 20                                | 15                              | 15                                |
|                                      | 24-30                  | 15                              | 20                                | 1.5                             | 3.0                               | 10                              | 10                                | 7.5                             | 7.5                               |
|                                      | 110-115                | .75                             | .75                               | .75                             | .75                               | .4                              | .4                                | .2                              | .2                                |
|                                      | 220-230                | .3                              | .3                                | .3                              | .3                                | .2                              | .2                                | .1                              | .1                                |

1/ Maximum inrush current 30 amperes for normally closed contacts and 15 amperes for normally open contacts

TABLE V Alternating current rating at 60 Hz. 1/  
(Application information)

| Alternating current (Volts) | Heater load           |                         | Lamp load (tungsten)  |                         | Motor, relay, or solenoid load |                         |
|-----------------------------|-----------------------|-------------------------|-----------------------|-------------------------|--------------------------------|-------------------------|
|                             | Normally open contact | Normally closed contact | Normally open contact | Normally closed contact | Normally open contact          | Normally closed contact |
|                             | (amperes)             | (amperes)               | (amperes)             | (amperes)               | (amperes)                      | (amperes)               |
| 110-125                     | 15.0                  | 15.0                    | 1.5                   | 3.0                     | 15.0                           | 15.0                    |
| 220-250                     | 15.0                  | 15.0                    | 1.25                  | 2.5                     | 15.0                           | 15.0                    |
| 440-460 2/                  | 3.0                   | 3.0                     | .75                   | 1.0                     | 2.5                            | 2.5                     |
| 600 2/                      | 2.0                   | 2.0                     | .50                   | .8                      | 2.0                            | 2.0                     |

1/ Maximum inrush current 30 amperes for normally closed contacts and 15 amperes for normally open contacts.

2/ These ratings apply only to sensitive switches having a nominal contact separation of .020, .040, or .070 inch. Nominal contact .010 is not rated for service at 440 volts or above.

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TABLE VI. Replacement cross reference.

| PIN         | Replaces JAN-S-63<br>unless otherwise noted | PIN         | Replaces JAN-S-63<br>unless otherwise noted |
|-------------|---------------------------------------------|-------------|---------------------------------------------|
| M8805/1-001 | SS04B20                                     | M8805/1-029 | SS04A40                                     |
| M8805/1-002 | SS04A20                                     | M8805/1-030 | SS04B40                                     |
| M8805/1-003 | MS35061 (SigC)<br>SS01A20                   | M8805/1-031 | SS04A70                                     |
| M8805/1-004 | MS35061 (SigC)<br>SS01B20                   | M8805/1-032 | SS04B70                                     |
| M8805/1-005 | SS01A40                                     | M8805/1-033 | SS05A10                                     |
| M8805/1-006 | SS01B40                                     | M8805/1-034 | SS05B10                                     |
| M8805/1-007 | MS35061 (SigC)<br>SS01A70                   | M8805/1-035 | MS35063(SigC)<br>SS05A20                    |
| M8805/1-008 | MS35061 (SigC)<br>SS01B70, MS25026          | M8805/1-036 | MS35063(SigC)<br>SS05B20                    |
| M8805/1-009 | SS02A10                                     | M8805/1-037 | SS05A40                                     |
| M8805/1-010 | SS02B10                                     | M8805/1-038 | SS05B40                                     |
| M8805/1-011 | SS02A20                                     | M8805/1-039 | MS35063(SigC)<br>SS05A70                    |
| M8805/1-012 | SS02B20                                     | M8805/1-040 | MS35063(SigC)<br>SS05B70                    |
| M8805/1-013 | SS02A40                                     | M8805/1-041 | SS06A10                                     |
| M8805/1-014 | SS02B40                                     | M8805/1-042 | SS06B10                                     |
| M8805/1-015 | SS02A70                                     | M8805/1-043 | SS06A20                                     |
| M8805/1-016 | SS02B70                                     | M8805/1-044 | SS06B20                                     |
| M8805/1-017 | SS03A10                                     | M8805/1-045 | SS06A40                                     |
| M8805/1-018 | SS03B10                                     | M8805/1-046 | SS06B40                                     |
| M8805/1-019 | MS35062(SigC)<br>SS03A20                    | M8805/1-047 | SS06A70                                     |
| M8805/1-020 | MS35062(SigC)<br>SS03B20                    | M8805/1-048 | SS06B70                                     |
| M8805/1-021 | SS03A40                                     | M8805/1-049 | SS07A10                                     |
| M8805/1-022 | SS03B40                                     | M8805/1-050 | SS07B10                                     |
| M8805/1-023 | MS35062(SigC)<br>SS03A70                    | M8805/1-051 | SS07A20                                     |
| M8805/1-024 | MS35062(SigC)<br>SS03B70                    | M8805/1-052 | SS07B20                                     |
| M8805/1-025 | SS04A10                                     | M8805/1-053 | SS07A40                                     |
| M8805/1-026 | SS04B10                                     | M8805/1-054 | SS07B40                                     |
| M8805/1-027 | SS01B10                                     | M8805/1-055 | SS07A70                                     |
| M8805/1-028 | SS01A10                                     | M8805/1-056 | SS07B70                                     |

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Reference documents: MIL-PRF-8805

**Amendment Notations.** The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5930-2021-050)

Review activities:

Army - AR, MI  
Navy - AS, MC, OS, SH  
Air Force - 19

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