

INCH-POUND

MIL-DTL-12632/1B  
25 April 2016  
SUPERSEDING  
MIL-L-12632A  
10 June 1974

DETAIL SPECIFICATION SHEET

LOUDSPEAKER, PERMANENT MAGNET (ENCASED, 2-WATT, FUNGUS-, GUNBLAST-, AND IMMERSION-RESISTANT), TYPE LS-590( )/U

Inactive for new design after 30 March 1999.

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

The complete requirements for procuring the loudspeaker described herein shall consist of this document and the latest issue of MIL-DTL-12632.

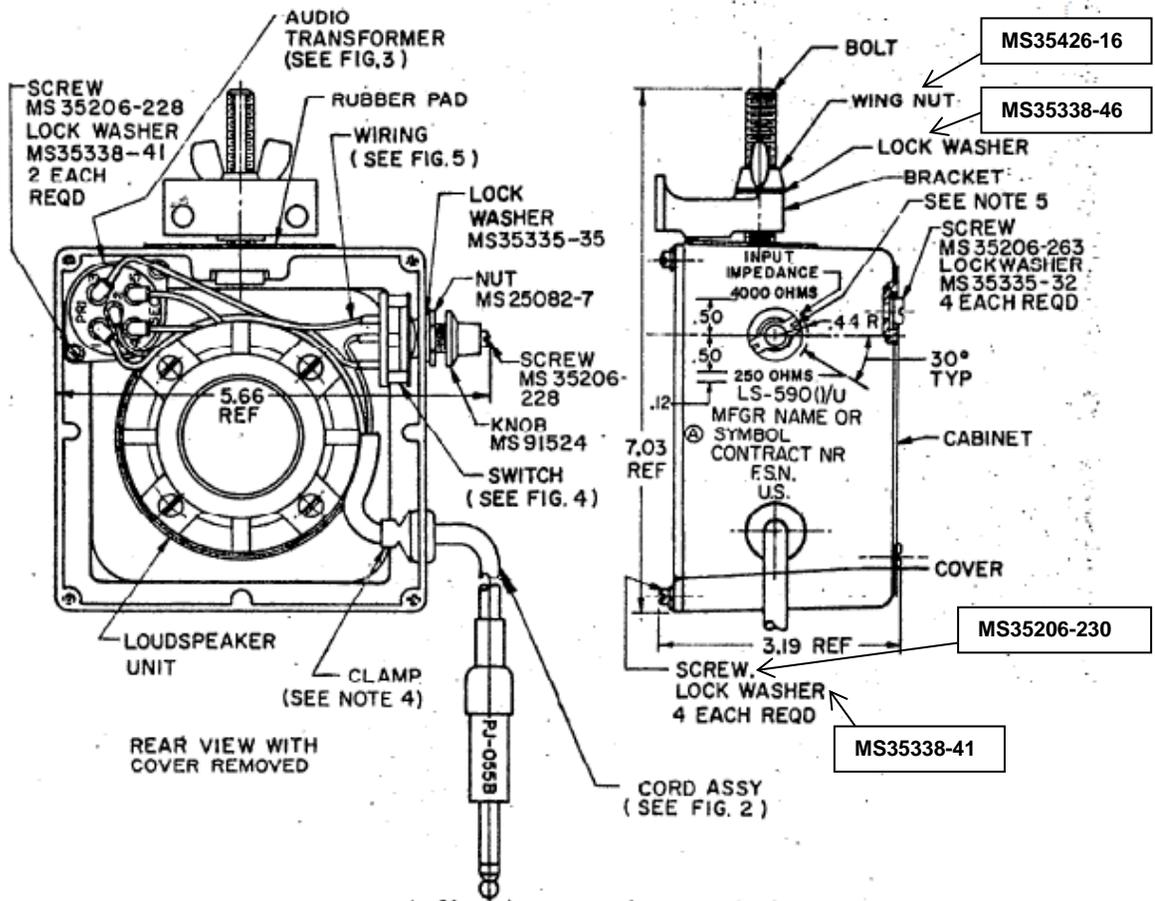


FIGURE 1. Loudspeaker LS-590( )/U.



INCHES	MM
.12	3.05
.44	11.18
.50	12.70
3.19	81.03
5.66	143.76
7.03	178.56

Component name	Applicable document	Part number
Nut	MS25082	MS25082-7
Screw	AIA/NAS NASM35206	MS35206-228, -230, -263
Lock Washer	AIA/NAS NASM35335	MS35335-32, 35
Lock Washer	AIA/NAS NASM35338	MS35338-41, 46
Wing nut	MS35426	MS35426-16
Knob	AIA/NAS NASM91524	MS91524

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are  $\pm .02$  (.51 mm) and  $\pm 1/2^\circ$  on angles.
4. Steel clamp firmly clamped on cable jacket. Design is optional. A strain relief bushing (e.g., Heyco) is a suitable substitute for the grommet/clamp combination.
5. Drill .391 (9.93 mm) diameter hole for retry switch.

FIGURE 1. Loudspeaker LS-590( )/U – Continued.

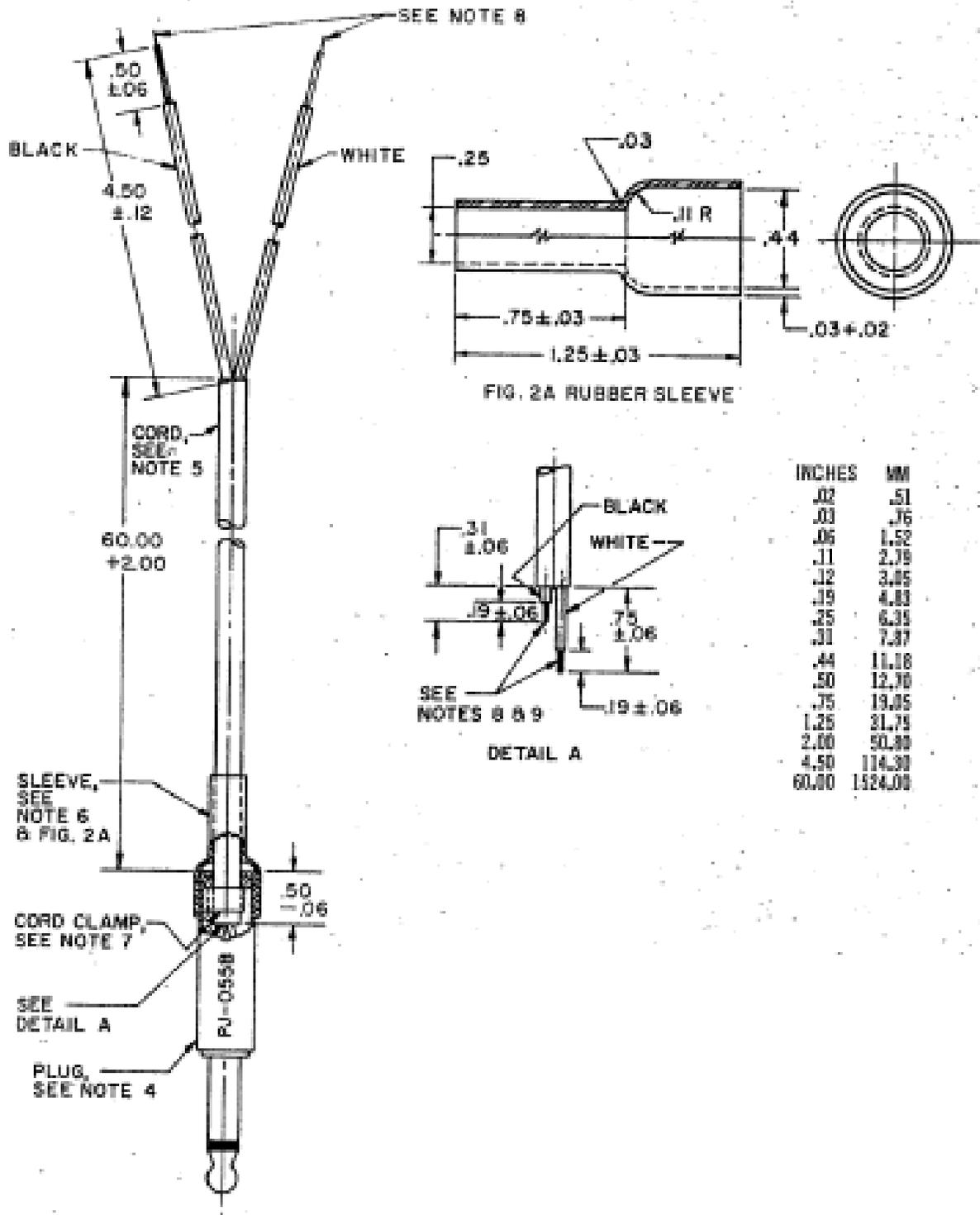


FIGURE 2. Cord assembly.

INCHES	MM
.02	.51
.03	.76
.06	1.52
.11	2.79
.12	3.05
.19	4.83
.25	6.35
.31	7.87
.44	11.18
.50	12.70
.75	19.05
1.25	31.75
2.00	50.80
4.50	114.30
60.00	1524.00

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Unless otherwise specified, tolerance is  $\pm .02$  (.51 mm).
4. Plug shall conform to type PJ-055B of MIL-DTL-642/4.
5. Cord shall conform to type COS-2(18) of MIL-DTL-3885.
6. Sleeve shall be of rubber, conforming to ASTM D2000 type M2BC415.
7. Cord clamp supplied with PJ-055B plug.
8. Skin back ends, twist and solder coat.
9. Connect white conductor to tip terminal and black conductor to sleeve terminal of PJ-055B plug.

FIGURE 2. Cord assembly - Continued.

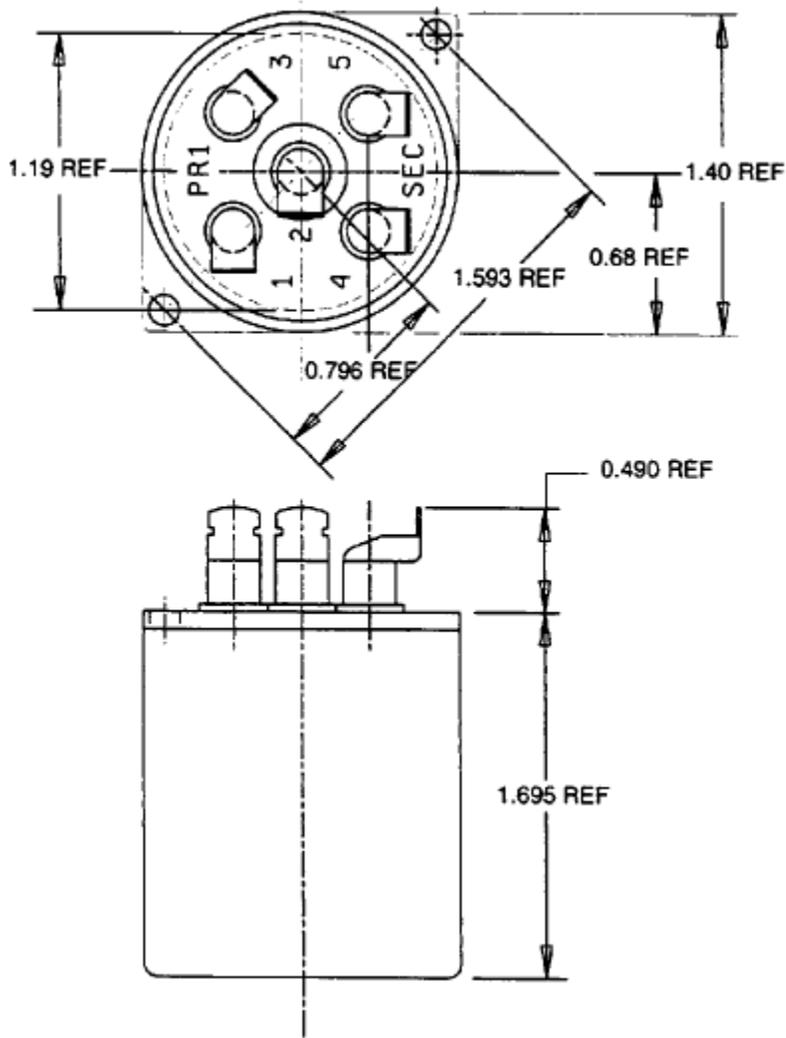


FIGURE 3. Audio transformer.

Electrical characteristics

Rated power level: 2 watts

Frequency response range: 250 to 5,000 Hz at  
rated power

Reference frequency:  $4,000 \pm 400\Omega$  tapped at  
 $250 \pm 25\Omega$ .

Secondary impedance:  $8\Omega$

Temperature rise:  $40^\circ\text{C}$ , max, above an  
ambient of  $65^\circ\text{C}$ , with rated  
power at 300 Hz.

Test voltage: 500 volts rms.

Duty cycle: Continuous.

Maximum altitude: 10,000 feet.

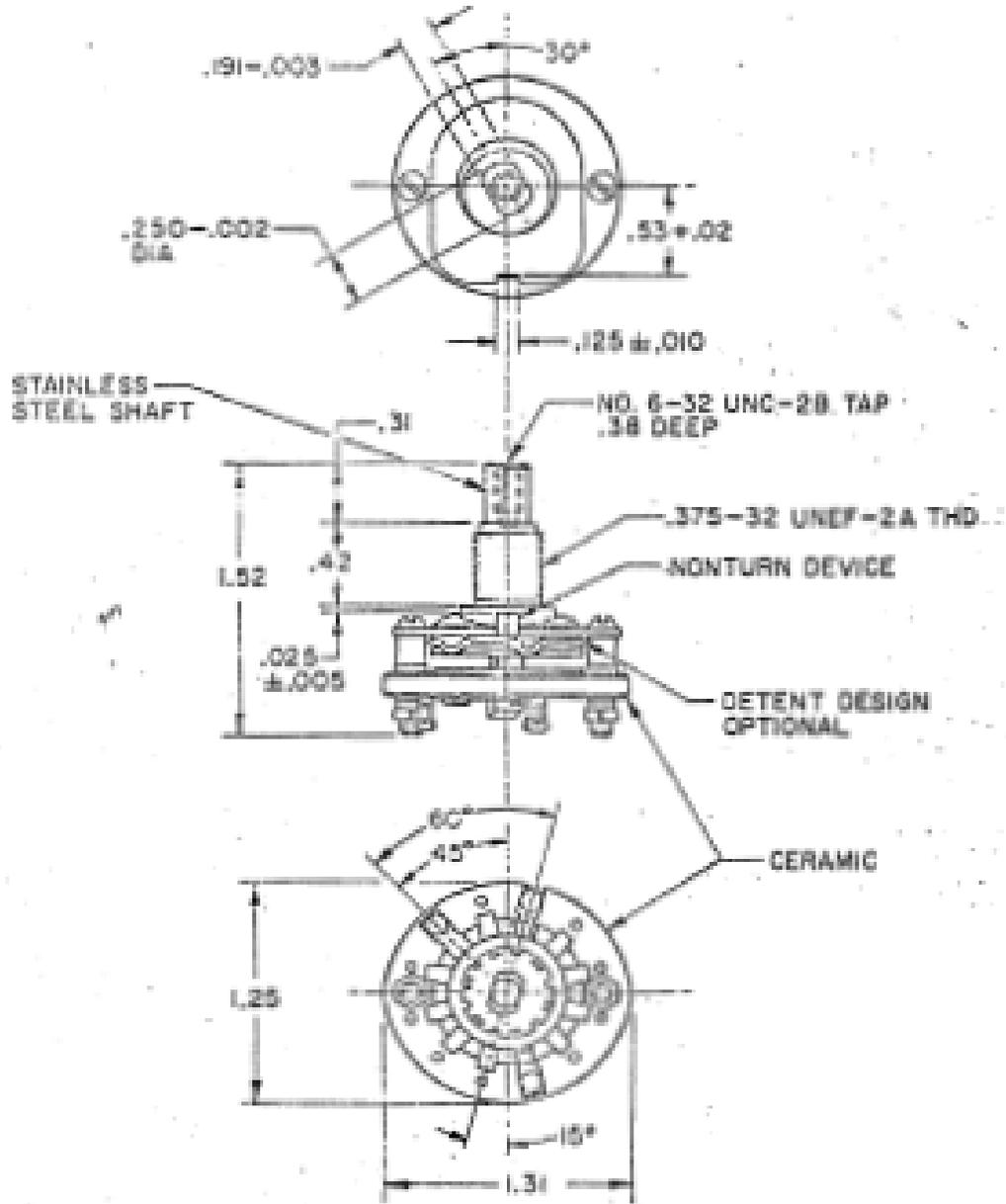
Harmonic distortion: Not more than 1 percent  
at rated power.

Polarity: Additive, with terminals 3 and 4  
connected.

NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Unless otherwise specified, tolerance is  $\pm .02$  (.51 mm).
4. Solder lug terminals, No. 18 AWG.
5. Markings shall be as shown.
6. Complete dimensions and configuration characteristics are in MIL-PRF-27/1 (Part number M27/1-01, Type TF4R21YY), for a GRADE 4, CLASS R, FAMILY 21 type transformer.

FIGURE 3. Audio transformer - Continued.



INCHES	MM	INCHES	MM
.002	.05	.250	6.35
.003	.08	.31	7.87
.005	.13	.38	9.65
.010	.25	.42	10.67
.02	.51	.53	13.46
.025	.64	1.25	31.75
.125	3.18	1.31	33.27
.191	4.85	1.52	38.61

FIGURE 4. Rotary switch.

NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are  $\pm .02$  (.51 mm) and  $\pm 1/2^\circ$ .
4. Construction-single section, single pole.
5. Contacts shall be non-shorting.
6. Stops shall be provided to limit rotation to 2 (two) positions.
7. Terminals-angle of bend  $60^\circ$  to  $90^\circ$ .
8. Torque (rotational) at  $25^\circ +10^\circ -5^\circ\text{C}$ : 1.5 pound-inches min; 6 pound inches max. and at  $-55^\circ\text{C} \pm 2^\circ\text{C}$ : 1.5 pound-inches min; 8 pound inches max.
9. Life, rotational: 10,000 rotational cycles at  $+125^\circ\text{C}$ .

FIGURE 4. Rotary switch - Continued.

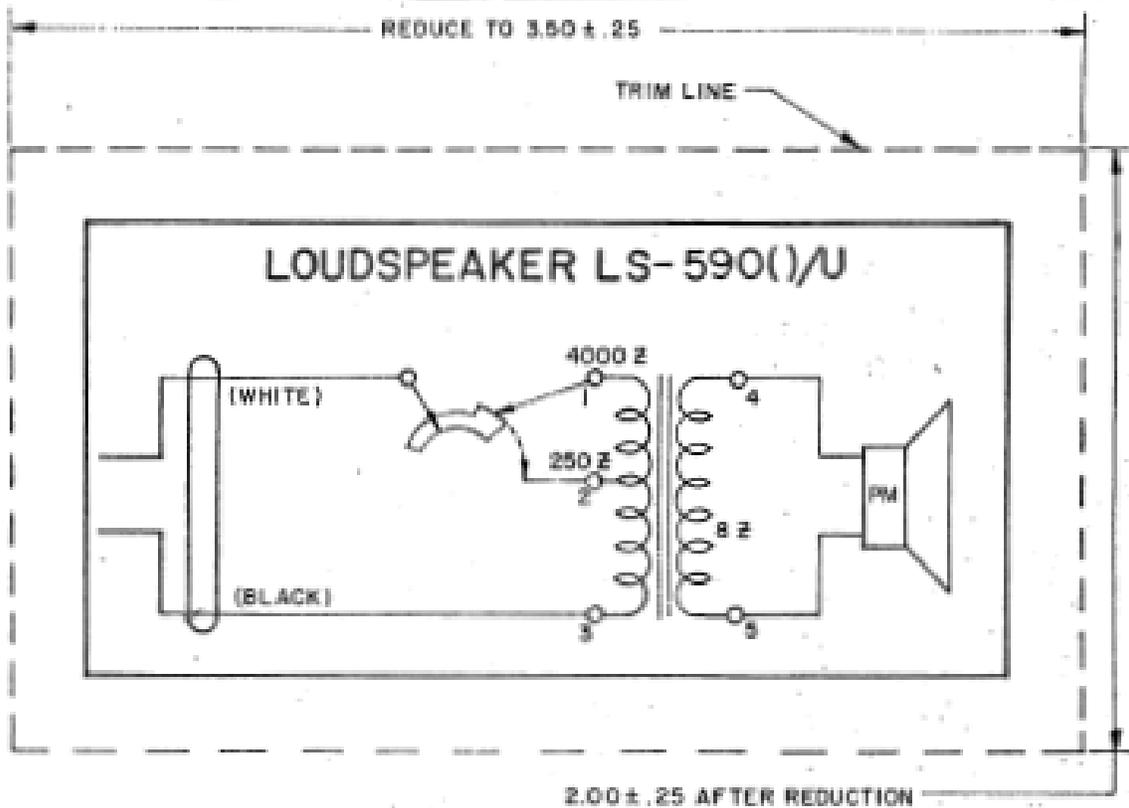


FIGURE 5. Schematic diagram and label size.

REQUIREMENTS:

Design and construction (see figure 1): Loudspeaker unit - Type LS-445/U of MIL-DTL-12606. Cabinet - In accordance with MIL-DTL-12632. Cord assembly - See figure 2. Cord - Type COS-2(18) of MIL-DTL-3885. Plug - Type PJ-055B of MIL-DTL-642/4. Audio transformer - See figure 3. Rotary switch - See figure 4. Wiring - See figure 5.	Schematic-diagram label: In accordance with MIL-DTL-12632 and figure 5.  Frequency response test voltage (rms): 22.5 volts (250-ohm connection). 90.0 volts (4,000-ohm connection).  Marking: See figure 1.
--	---

The margins of this specification sheet are marked with vertical lines to indicate where changes from the previous issue were made. 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 upon the entire content, regardless of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to MIL-DTL-12632, this document references the following:

AIA/NAS NASM35206  
AIA/NAS NASM35335  
AIA/NAS NASM35338  
AIA/NAS NASM91524  
ASTM D2000  
MIL-DTL-642/4  
MIL-DTL-3885  
MIL-DTL-12606  
MIL-PRF-27/1  
MS25082  
MS35426

CONCLUDING MATERIAL

Custodians:  
Army – CR  
Navy – EC  
Air Force – 85  
DLA – CC

Preparing activity:  
DLA - CC  
  
(Project 5965-2016-003)

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 <https://assist.dla.mil>.