

INCH-POUND

MS16051G  
 12 March 2014  
 SUPERSEDING  
 MS16051F(AS)  
 16 January 1987

## DETAIL SPECIFICATION SHEET

## COUPLING, GROUND COOLING, COMBAT TYPE AIRCRAFT

This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the product described herein shall consist of this specification sheet.

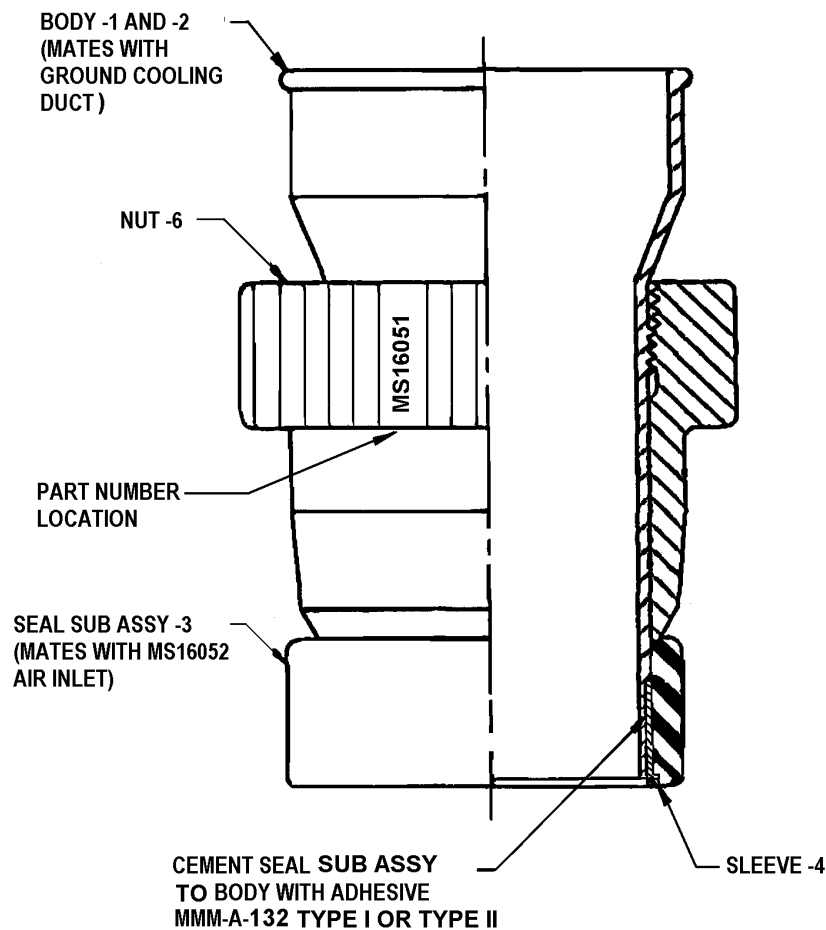
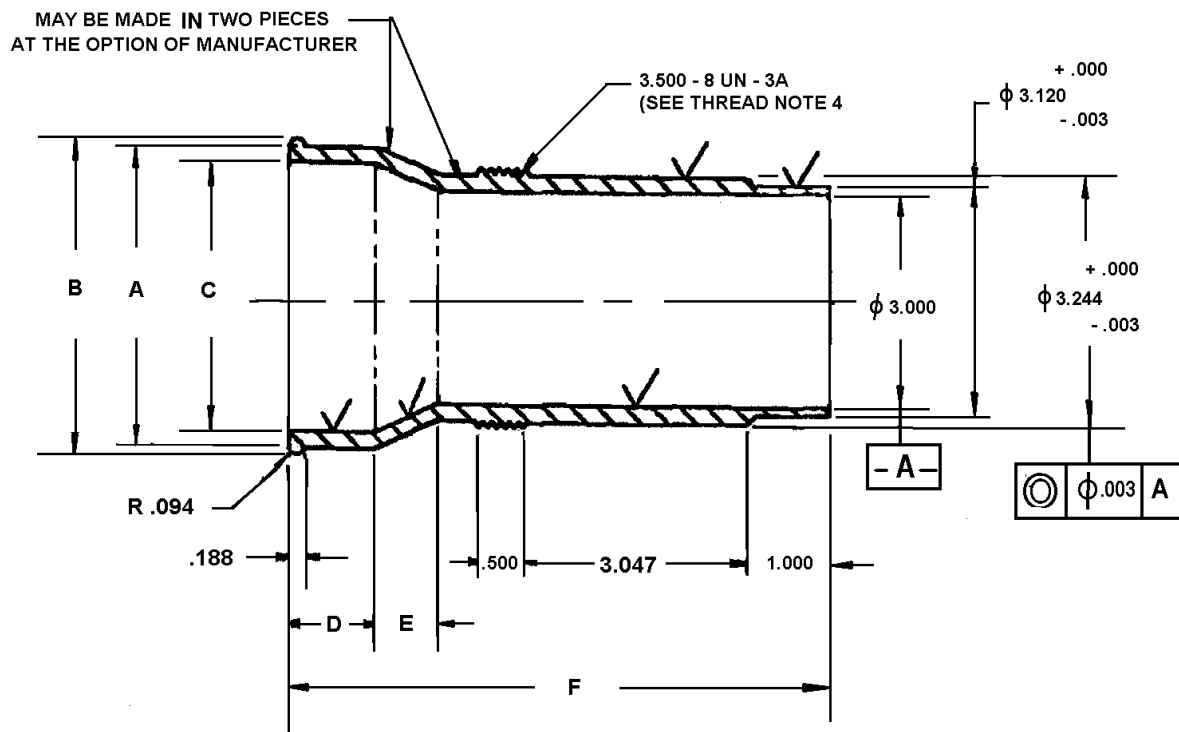
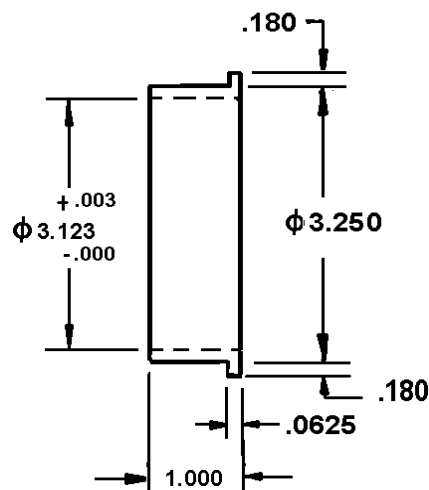


FIGURE 1. Coupling assembly, ground cooling, combat type aircraft.

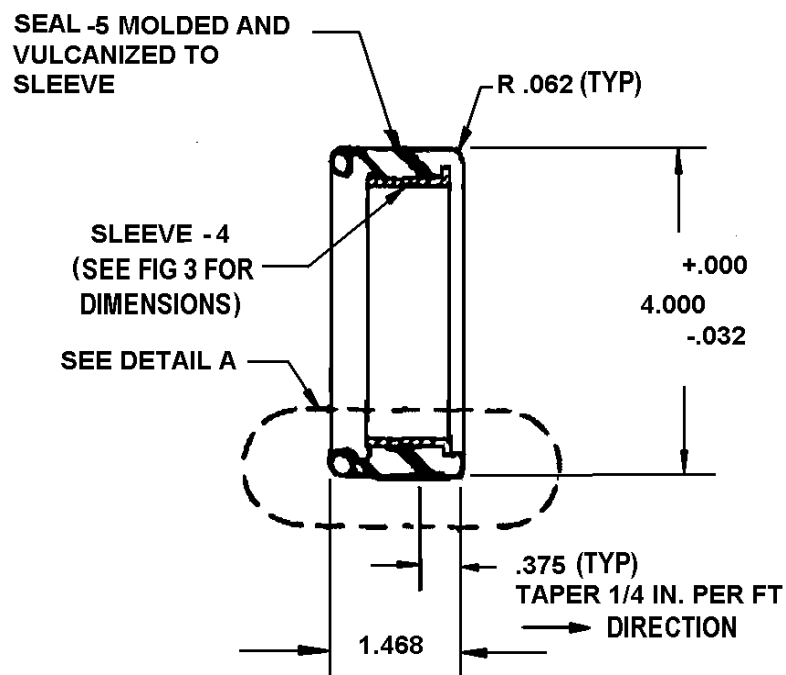
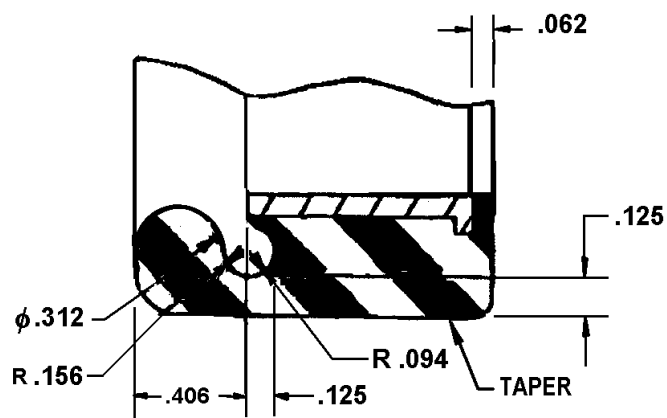
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Body dash no	A	B	C	D	E	F
-1	4.000	4.188	3.750	1.281	0.906	7.313
-2	8.000	8.188	7.750	1.281	4.227	10.825

FIGURE 2. Body -1 and -2 dimensions and configuration.FIGURE 3. Sleeve -4 dimensions and configuration.  
(Enlarged view)

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FIGURE 4. Seal sub-assembly -3 dimensions and configuration.FIGURE 5. Detail A dimensions and configuration.  
(Enlarged view)

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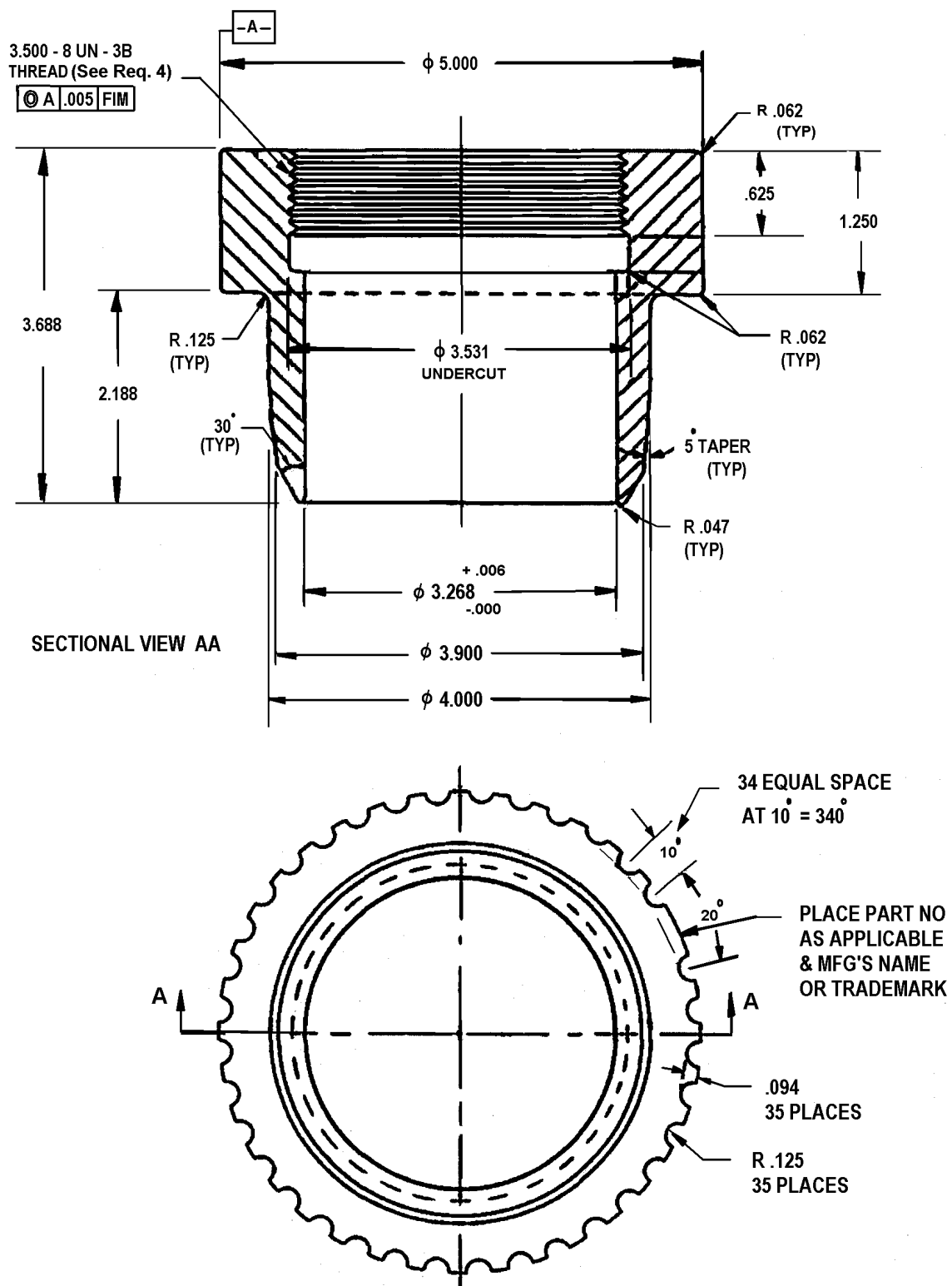


FIGURE 6. Nut -6 dimensions and configuration.

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REQUIREMENTS:1. Ground cooling coupling consists of:

- a. Body -1 or -2 shall mate with ground cooling duct (See table 1 for dimensions).
- b. Seal sub assembly (-3) permanently cemented to body with adhesive. Seal sub assembly shall mate with MS16052 air inlet.
- c. Sleeve (-4) see figure 3 to be cemented on body.
- d. Seal (-5) molded and vulcanized to sleeve.
- d. Nut nylon (-6) threaded and installed onto body -1 or -2. (See figure 6 for detail dimensions).

PIN No	Body Dash No	Seal Assembly	sleeve	Seal only	Nylon Nut
MS16051-1	-1	-3	-4	-5	-6
MS16051-2	-2	-3	-4	-5	-6

2. Materials:

- a. Body. Aluminum alloy in accordance with SAE-AMS-QQ-A-225/6 or ASTM-B211 or tubing SAE-AMS-WW-T-700/6, temper T6 or cast from ASTM-B108/B108M or SAE-AMS-A-21180.
- b. Sleeve. Aluminum alloy in accordance with SAE-AMS-QQ-A-225/6 or ASTM-B211 temper T6 or T73.
- c. Nut. Plastic - Polyamide Nylon in accordance with L-P-410, Polyhexamethylene Adipamide (Nylon 6/6).
- d. Seal. Molded rubber in accordance with MIL-PRF-6855, Type A, Class 2, Grade 40.

3. Finish:

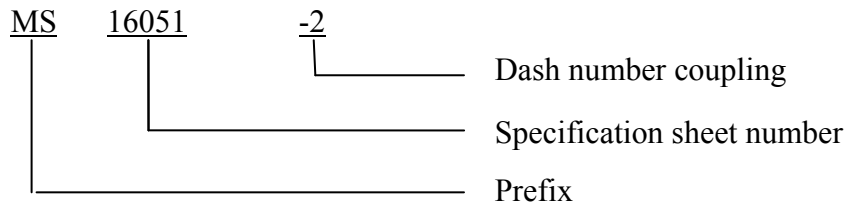
- a. Body. Body shall be finished in accordance with MIL-A-8625, Type I or Type II, Class 1.
- b. Surface roughness. Surfaces marked ( √ ) to have 125 micro inches Ra max. Surface texture shall be in accordance with ASME B46.1.

4 Threads: Thread dimensions and designation shall be in accordance with FED-STD-H28.

5. Heat treat: Sleeve shall be heat treated in accordance with SAE-AMS-2772 ultimate tensile stress 62,000 PSI min to 64,000 PSI max.

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6. Part or Identification Number (PIN): The PIN consists of the letter MS, the specification sheet number, and a dash number of coupling.



PIN example:

MS16051-2 indicates 8 inches aluminum aircraft ground cooling coupling assembly with -2 body dimensions designed in accordance with figure 2.

7. Marking: Marking shall consist of the complete standard part number and manufacturer's name, Trademark, or Cage Code and shall be impression stamped or laser etched and shall be protected from corrosion.

#### NOTES:

1. Break all sharp edges and remove all burrs.
2. Unless otherwise specified, dimensions are in inches.  
Tolerances: decimals  $\pm 0.010$ ; angles  $\pm 1^\circ$ .
3. In the event of conflict between the text of this specification sheet and the references cited herein, the text of this specification sheet shall take precedence.
4. Referenced documents shall be in effect on the date of invitation for bids.
5. Body may be designed in two pieces at the option of the manufacturer (see figure 2). If the two pieces are welded as an assembly, a non-destructed test (NDT) should be done on the weld before anodize.
6. Certain provision of this document is the subject of International Standardization Agreements NATO STANAG 3917. When change notice, revision, or cancellation of this document is proposed which will effect or violate the International Standardization Agreement concerned, the preparing activity shall take appropriate reconciliation action through International Standardization channels including departmental standardization office if required.

Document source information:

(Copies of military documents are available online at <http://quicksearch.dla.mil>).

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ASTM documents are available online at [www.astm.org](http://www.astm.org) or from ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

SAE documents are available online at [www.sae.org](http://www.sae.org) or from SAE International, 400 Commonwealth drive, Warrendale, PA 15096-0001.

Referenced documents: In addition to MS16051, this document references the following:

FED-STD-H28  
L-P-410  
MMM-A-132  
MIL-A-8625  
MIL-PRF-6855  
MS16052  
NATO STANAG 3917  
ASME B46.1  
ASTM-B108/B108M  
ASTM-B211  
SAE-AMS-2772  
SAE-AMS-A-21180  
SAE-AMS-QQ-A-225/6  
SAE-AMS-WW-T-700/6

## CONCLUDING MATERIAL

Custodians:  
Army-AV  
Navy-AS  
Air Force-99

Preparing activity:  
Navy-AS  
  
(Project 4730-2013-093)

Review activities:  
Army-MI  
Navy-SA  
Air Force-71  
DLA-CC

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>.