

INCH-POUND

MIL-DTL-52525/33A

1 December 2008

SUPERSEDING

MIL-F-52525/33

30 June 1987

DETAIL SPECIFICATION SHEET

FITTINGS, WIRE REINFORCED HYDRAULIC HOSE AND CLAMP-HALVES: FIELD ATTACHABLE (REUSABLE), SCREW-ON TO 37° FLARE FEMALE SWIVEL, 90° BENT TUBE, FOR USE WITH TYPE 100RE FOUR-SPRIAL-WRAP REINFORCEMENT HOSE

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 and MIL-DTL-52525.

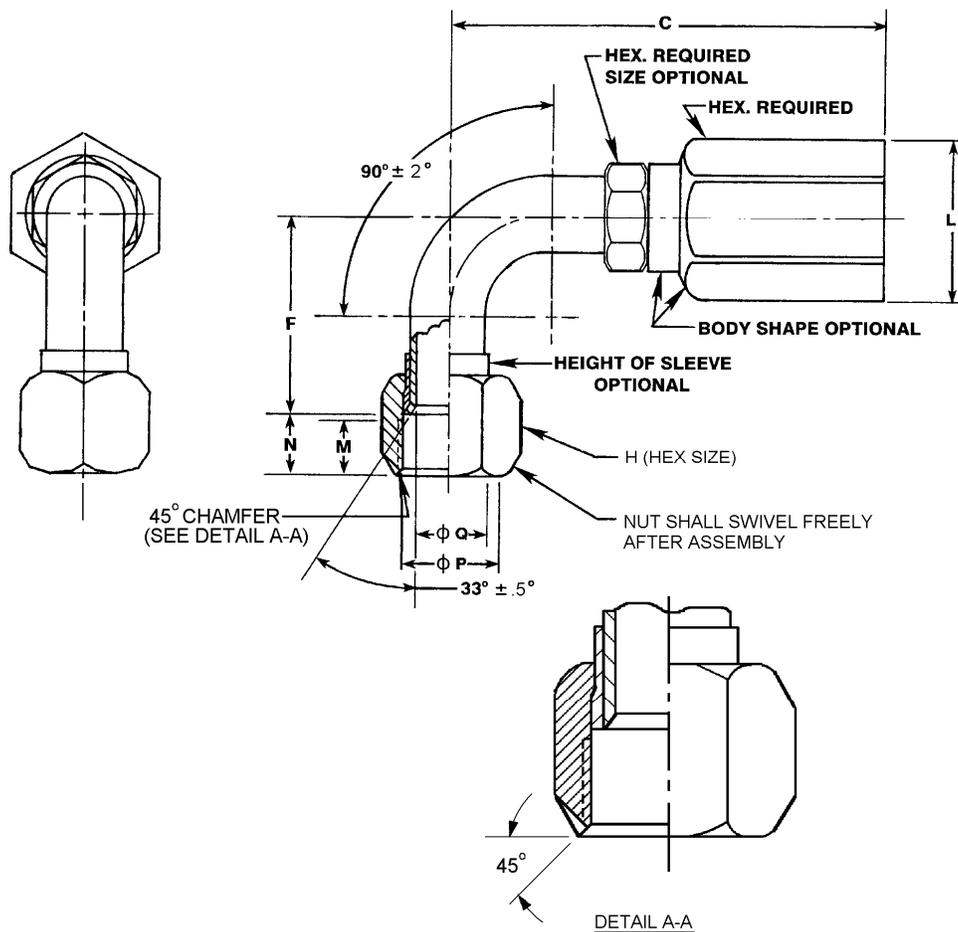


FIGURE 1. Fitting, screw-on to 37° flare, 90° bent tube, short drop.

MIL-DTL-52525/33A

Part or Identifying Number (PIN)	Hose		Tube		Thread size (see note 3)	H hex size inches (mm)
	Dash No.	ID ref inches (mm)	Dash no.	OD inches (mm)		
M52525/33-12-12	-12	.750 (19.05)	-12	.750 (19.05)	1.063-12 UNC	1.250 (31.75)
M52525/33-16-16	-16	1.000 (25.40)	-16	1.000 (25.40)	1.313-12-UNC	1.500 (38.10)

PIN	C max inches (mm)	F max inches (mm)	L max inches (mm)	M min inches (mm)	N inches (mm) +.030 (0.76) -.015 (0.38)
M52525/33-12-12	5.50 (139.70)	2.40 (60.96)	1.88 (47.75)	.469 (11.91)	.562 (14.27)
M52525/33-16-16	6.25 (158.75)	3.10 (78.74)	2.31 (58.67)	.563 (14.30)	.594 (15.09)

PIN	P (see note 4) inches (mm) ±.005 (0.13)	Q min bore dia. inches (mm)
M52525/33-12-12	.850 (21.59)	.61 (15.49)
M52525/33-16-16	1.100 (27.94)	.78 (19.81)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Threads shall be in accordance with ASME B1.1 series with constant pitches (UNC), class 2B.
4. Dimension P to be concentric with dimension Q with in .015 inch (0.38 mm) full indicator movement.
5. All dimensions not shown shall be in accordance with SAE-J516.
6. These fittings are similar to SAE-J516 type for use with SAE-J517, type 100RE hose.

FIGURE 1. Fitting, screw-on to 37° flare, 90° bent tube, short drop - Continued.

MIL-DTL-52525/33A

REQUIREMENTS:

Fittings shall be as specified on figure 1 and in tables I, II, and III.

The fittings described herein are for use with MIL-DTL-52471/7, SAE-J517, type 100RE hose, which is high pressure multiple-spiral-wrap reinforcement reinforced and MIL-DTL-52471/8 hose assemblies.

If fittings are to be used on an oxygen hose, see MIL-DTL-52525.

Materials and finishes shall be in accordance with MIL-DTL-52525 and in table I. All finishes shall be capable of withstanding 96 hours minimum of salt spray.

## MIL-DTL-52525/33A

TABLE I. Material and finish identification codes. 1/ 2/

PIN code material/plating finish	Material	Plating finish
A	Aluminum alloy 6061 or 7075	Anodize in accordance with MIL-A-8625, type II.
AN		Anodize in accordance with MIL-A-8625, type II and NAVAIR trivalent chromium pretreatment (TCP) in accordance with MIL-DTL-81706, type 2, class A.
BN		Bare aluminum with NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
C	Steel	Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2.
CN		Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2 and NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
YC	Chrome-molybdenum steel alloy 4130	Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2.
YN		Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2 and NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
F	Steel	NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
FN	Chrome-molybdenum steel alloy 4130	
G	Steel	Zinc plating with colorless passivate in accordance with ASTM B633, type V, Fe/Zn 25.
YG	Chrome-molybdenum steel alloy 4130	
H	Steel	Zinc phosphate finish in accordance MIL-DTL-16232, type Z, class 1. 3/
YH	Chrome-molybdenum steel alloy 4130	
J	Steel	Zinc plating with chromate conversion in accordance with ASTM B633; type II or III, Fe/Zn 5, or ASTM B695, type II, class 5.
YJ	Chrome-molybdenum steel alloy 4130	
K	Nickel-copper alloy UNS N04400	No additional finish.
M	High-chromium nickel alloy UNS N06690	No additional finish.
N	Steel	Zinc aluminum in accordance with ASTM F1136, grade 3, NC.
YN	Chrome-molybdenum steel alloy 4130	
P	Steel	Zinc plating with colorless passivate in accordance with ASTM B633, type VI, Fe/Zn 5.
YP	Chrome-molybdenum steel alloy 4130	
S	Corrosion resistant steel	No additional finish. Passivation in accordance with SAE-AMS2700, type 6 or 7.
SN		Passivation above and NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
T	Titanium	Anodize in accordance with SAE-AMS2488, type 2.
V	Steel	Zinc-nickel in accordance with SAE-AMS2417, type 1.
W	Steel	Any zinc plating above.
YW	Chrome-molybdenum steel alloy 4130	
Z	Steel	Any zinc plating above with NAVAIR TCP in accordance with MIL-DTL-81706, type 2, class A.
YZ	Chrome-molybdenum steel alloy 4130	

1/ All materials and finishes shall be in accordance with MIL-DTL-52525.

2/ Embitterment test need not be run.

3/ Zinc phosphate finish is hexavalent chromium free.

Maximum operating pressure shall be as specified in table II. Maximum operating pressures are for low carbon steel fittings consult manufacturer for values on other materials.

TABLE II. Maximum operating pressures of fittings. 1/ 2/

SAE dash size	Hose ID inches (mm)	psi	MPa
-12	.750 (19.05)	6250	43.1
-16	1.000 (25.40)	5000	34.5

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

Over tightening torque shall be as specified in table III. Over tightening torque values are for low carbon steel fittings consult manufacturer for values on other materials.

TABLE III. Over-tightening torque for swivel nut. 1/ 2/ 3/

SAE dash size	Hose ID ref inches (mm)	Torque	
		Pound-force inches (lb-in)	N m
-12	.750 (19.05)	900	102
-16	1.000 (25.40)	1200	136

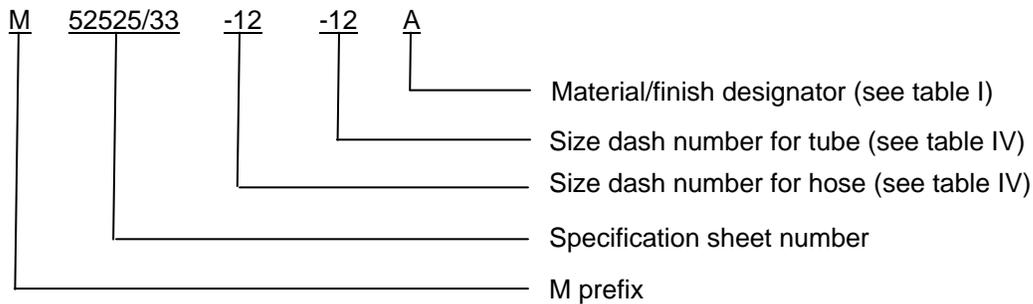
1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

3/ Test torques are for low carbon steel fittings.

Consult manufacturer for values for other materials.

PIN: The PIN consists of the letter "M" the specification sheet number, a dash, a number for hose size, a dash, a number for tube size, and a material finish designator.



PIN example: M52525/33-12-12A, describes a 90° connector for a .750 inch hose ID, and a .750 inch tube OD, aluminum with an anodize finish.

To the users of this document, it is recommended that the use of carbon steel material with cadmium plating be used only when the other materials and finishes specified in this document cannot meet performance requirements.

MIL-DTL-52525/33A

Color identification. Color identification shall be in accordance with SAE-AS4841.

Marking shall include the manufacturer's name or trademark, size, and hose identifier RE. Location of marking is optional.

Harmonization to SAE-J516 cross reference PIN in table IV is for reference only. SAE style fittings may not have the same material/finish as required by MIL-DTL-52525 and legacy with MIL-DTL-52471.

TABLE IV. Harmonization to SAE-J516 cross reference PIN. 1/

PIN	SAE PIN
M52525/33-12-12	SAE J516 12-12 F241454
M52525/33-16-16	SAE J516 16-16 F241454

<sup>1/</sup> Material and finish designators are omitted from PIN's, see table I and SAE-J846.

Changes from previous issue. 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. In addition to MIL-DTL-52525, this document references the following:

MIL-A-8625	ASTM B633	SAE-AMS2700
MIL-DTL-16232	ASTM B695	SAE-AS4841
MIL-DTL-52471	ASTM F1136	SAE-J516
MIL-DTL-52471/7	SAE-AMS-C-81562	SAE-J517
MIL-DTL-52471/8	SAE-AMS-QQ-P-416	SAE-J846
MIL-DTL-81706	SAE-AMS2417	
ASME B1.1	SAE-AMS2488	

CONCLUDING MATERIAL

Custodians:

Army - AT  
Navy - SH  
Air Force - 99  
DLA - CC

Preparing activity:  
DLA - CC

(Project 4730-2008-079)

Review activities:

Army - CR4  
Navy - AS, CG, MC, SA, YD

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>.