

INCH-POUND

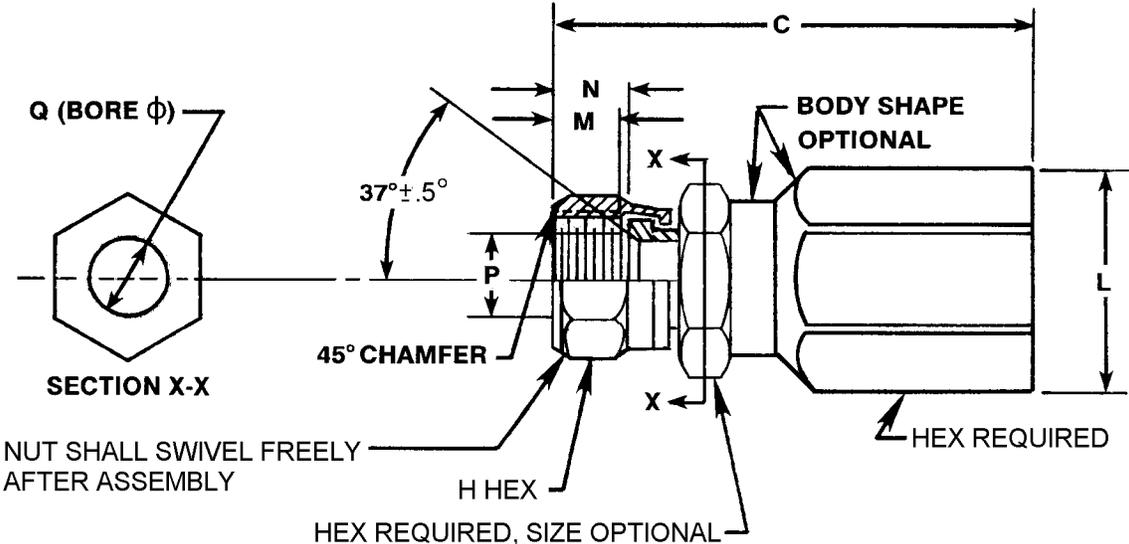
MIL-DTL-52525/9C  
 12 November 2008  
 SUPERSEDING  
 MIL-DTL-52525/9B  
 30 June 1998

DETAIL SPECIFICATION SHEET

FITTINGS, HOSE, SCREW-ON TO 37° FLARE FEMALE SWIVEL, STRAIGHT

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.



Part or Identifying Number (PIN)	Hose ID ref Inches (mm)	Tube OD Inches (mm)	Thread size (see note 3)	C max Inches (cm)
M52525/9-12-12	.750 (9.53)	.750 (19.05)	1-1/16-12-UNC	5.82 (14.8)
M52525/9-16-16	1.000 (25.40)	1.000 (25.40)	1-5/16-12-UNC	4.79 (12.167)
M52525/9-20-20	1.250 (31.75)	1.250 (31.75)	1-5/8-12-UNC	6.75 (17.15)
M52525/9-24-24	1.500 (38.10)	1.500 (38.10)	1-7/8-12-UNC	7.21 (18.31)

FIGURE 1. Fitting, screw-on to 37° flare, straight.

MIL-DTL-52525/9C

PIN	H Hex size inches (mm)	L max inches (mm)	M min inches (mm)	N inches (mm) +.030 (0.76) -.015 (0.38)	P (see note 4) inches (mm) +.005 (0.13) -.000
M52525/9-12-12	.750 (19.05)	1.625 (41.28)	.469 (11.91)	.562 (14.27)	.850 (21.59)
M52525/9-16-16	1.000 (25.40)	2.000 (50.80)	.563 (14.30)	.594 (15.09)	1.000 (25.40)
M52525/9-20-20	1.250 (31.75)	2.625 (66.68)	.563 (14.30)	.625 (15.88)	1.410 (35.81)
M52525/9-24-24	1.500 (38.10)	2.875 (73.03)	.661 (16.79)	.734 (18.64)	1.625 (41.28)

PIN	Q min Bore diameter inches (mm)
M52525/9-12-12	.61 (15.49)
M52525/9-16-16	.78 (19.81)
M52525/9-20-20	1.01 (25.65)
M52525/9-24-24	1.25 (31.75)

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 and use with SAE-J517 type 100RE hose.

FIGURE 1. Fitting, screw-on to 37° flare, straight - Continued.

ENGINEERING DATA:

SAE-J517, type 100R10 hoses have been discontinued by SAE. Use SAE-J517 hoses specified in table I. The “RE” designator at the end of the hose type “100RE” is a MIL-DTL-52471 term used to indicate a hose type that has been discontinued and to use an SAE-J517 replacement hose.

TABLE I. Hose type 100R10 to SAE replacement. 1/ 2/

M52471/6 Hose Type 100R10 (Now 100RE)		SAE-J517 replacement	SAE working pressure MPa	100R10 working pressure MPa
dash size	Working pressure psi (MPa)			
-12	5000	SAE J517 100R13-12	28	34.5
-16	4000	SAE J517 100R12-16	28	27.6
-20	3000	SAE J517 100R12-20	21	20.7
-24	2500	SAE J517 100R12-24	17.5	17.2

1/ If the SAE-J517 hose does not meet system requirements chose an SAE-J517 hose with pressure requirements at or above pressure requirements specified in this specification.

2/ The type 100R10 conversion to SAE-J517, type 100R hose is based strictly on pressure.

MIL-DTL-52525/9C

REQUIREMENTS:

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

The fittings described herein are for use with hose in accordance with SAE-J517 and hose assemblies in accordance with MIL-DTL-52471/3.

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 II. All finishes shall be capable of withstanding 96 hours minimum of salt spray.

## MIL-DTL-52525/9C

TABLE II. 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, class1. 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.

MIL-DTL-52525/9C

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

TABLE III. Maximum operating pressures of fittings. 1/ 2/ 3/

SAE dash size	Hose ID ref inches (mm)	psi	MPa
-12	.750 (19.05)	5000	34.5
-16	1.000 (25.40)	4000	27.6
-20	1.250 (31.75)	3000	20.7
-24	1.500 (38.10)	2500	17.2

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

3/ Source SAE-J517.

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

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

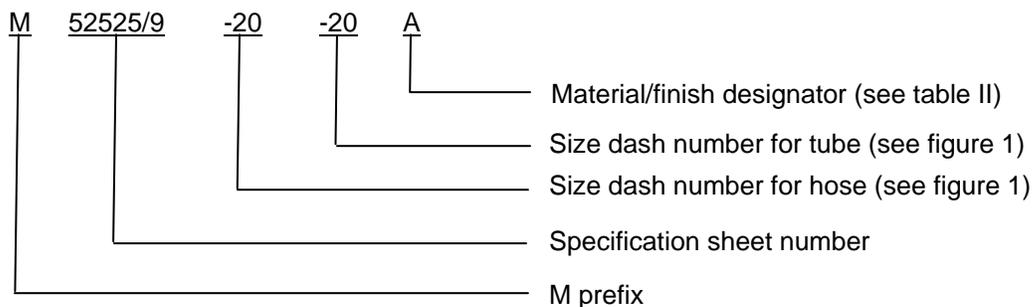
SAE dash size	Hose ID ref inches (mm)	Torque	
		Pound-force foot (lbf-ft)	N m
-12	.750 (19.05)	75	102
-16	1.000 (25.40)	100	136
-20	1.250 (31.75)	158	214
-24	1.500 (38.10)	225	305

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 number for hose size, a dash a number for tube size, and a material finish designator.



PIN example: M52525/9-20-20A, describes a connector for a 1.250 inch (31.75 mm) hose with a 1.250 inch (31.75 mm) tube, aluminum with an anodized 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-52525/9C

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

Marking shall include the manufacturer's name or trademark, size, and hose identifier 100R10. Location of marking is optional.

Harmonization to SAE-J516 cross reference PIN in table V 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 V. Harmonization to SAE-J516 cross reference PIN. 1/

PIN	SAE PIN
M52525/9-12-12	SAE J516 12-12 F240176
M52525/9-16-16	SAE J516 16-16 F240176
M52525/9-20-20	SAE J516 20-20 F240176
M52525/9-24-24	SAE J516 24-24 F240176

1/ Material and finish designators are omitted from PIN's 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-AMS2488
MIL-DTL-16232	ASTM B695	SAE-AMS2700
MIL-DTL-52471	ASTM F1136	SAE-AS4841
MIL-DTL-52471/3	SAE-AMS-C-81562	SAE-J516
MIL-DTL-81706	SAE-AMS-QQ-P-416	SAE-J517
ASME B1.1	SAE-AMS2417	SAE-J846

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:  
DLA - CC

(Project 4730-2007-077)

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>.