

E-14-16

AS116B-84

20 June 1986

USE INSTEAD OF

MS27370

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Title of Document: Hose Assembly, Nonmetallic - 3000 PSI, TFE, Flareless, Straight to 45°, Lightweight

Date of Specific Issue Adopted: March 1984

Releasing Industry Group: Society of Automotive Engineers, Inc.

NOTICE: The procurement document for this component is AS1339B.

NOTICE: When reaffirmation, amendment, revision, or cancellation of this standard is initially proposed, the industry group responsible for this standard shall inform the military coordinating activity of the proposed change and request their participation.

## Custodians:

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## Military Coordinating Activity:

Air Force - 11

(Project 4720-0665)

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AS116

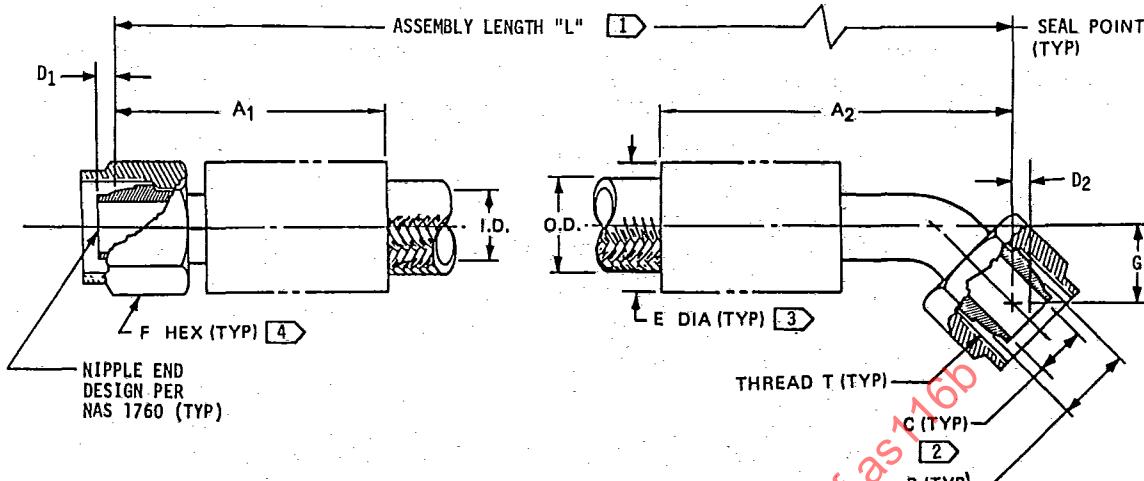


FIGURE 1

DIMENSIONS IN INCHES

TABLE I

HOSE ASSEMBLY NO. AND SIZE CODE	SIZE REF	THREAD T PER MIL-S-8879 REF	I.D. MIN	A <sub>1</sub> MAX	A <sub>2</sub> MAX	B SEAL DIA BASIC	C <sub>2</sub> DRILL DIA MIN	D <sub>1</sub> REF	D <sub>2</sub> REF	E <sub>3</sub> DIA MAX WITHOUT SLEEVING	F HEX REF
AS116-04	1/4	.4375-20 UNJF-3B	.212	1.56	2.12	.2930	.135	.16	.11	.69	.56
AS116-06	3/8	.5625-18 UNJF-3B	.298	1.75	2.44	.4120	.240	.16	.12	.80	.69
AS116-08	1/2	.7500-16 UNJF-3B	.391	2.00	2.75	.5600	.340	.19	.13	.97	.88
AS116-10	5/8	.8750-14 UNJF-3B	.485	2.25	3.25	.6730	.410	.20	.14	1.11	1.00
AS116-12	3/4	1.0625-12 UNJ-3B	.602	2.50	3.75	.8100	.510	.23	.16	1.38	1.25
AS116-16	1	1.3125-12 UNJ-3B	.852	3.00	4.50	1.0620	.760	.30	.21	1.66	1.50

TABLE I (Cont'd)

HOSE ASSEMBLY NO. AND SIZE CODE	SIZE REF	G		BALL SIZE MIN THRU DIA <sub>2</sub>	
		MIN	MAX	MS19059 DASH NO.	DIA IN.
AS116-04	1/4	.31	.50	4807	.109
AS116-06	3/8	.44	.62	4812	.188
AS116-08	1/2	.50	.75	4816	.313
AS116-10	5/8	.56	.81	4818	.375
AS116-12	3/4	.62	.88	4821	.469
AS116-16	1	.81	1.09	4829	.719

1	B	2	B	3	A	4	---
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LIST OF ACTIVE SHEETS

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SHEET COMPLETELY REVISED

PREPARED BY SAE SUBCOMMITTEE G-3D, AEROSPACE HOSE, OF SAE COMMITTEE G-3, AEROSPACE FITTINGS, HOSE, &amp; TUBING ASSEMBLIES

**SAE**  
The Engineering  
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400 COMMONWEALTH DRIVE, WARRENTON, PA 15096

**AEROSPACE STANDARD**  
HOSE ASSEMBLY, NONMETALLIC, 3000 PSI, TFE,  
FLARELESS, STRAIGHT TO 45°, LIGHTWEIGHT

AS116

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TABLE II

SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT OF	TOLE-RANCE	HOSE OR SLEEVE OUTSIDE DIAMETER <sup>5</sup>					
				HOSE SIZE					
				1/4	3/8	1/2	5/8	3/4	1
-	(--) INDICATES HOSE ONLY, NO SLEEVE (AS 1624)	400	MAX MIN	.390 .360	.490 .455	.615 .585	.730 .690	.990 .950	1.270 1.230
A	ABRASION SLEEVE TUBULAR (TFE-AS1291-CODE B)	400	MAX MIN	.500 .440	.600 .540	.730 .670	.840 .780	1.110 1.050	1.400 1.340
B	ABRASION SLEEVE COIL (NYLON AS1294)	275	MAX MIN	.450 .390	.550 .490	.695 .635	.810 .750	1.080 1.020	1.360 1.300
C	FIRESLEEVE (AS1072 SIL-FG) (15 MIN) <sup>8</sup> <sub>9</sub> <sup>13</sup>	400	MAX MIN	.625 .500	.750 .625	.875 .750	1.000 .875	1.250 1.125	1.500 1.375
D	ABRASION SLEEVE INTEGRAL SILICONE COMPOSITE <sup>10</sup> <sub>14</sub>	350	MAX MIN	.500 .460	.600 .560	.700 .660	.830 .790	1.120 1.070	1.400 1.350
E	ABRASION SLEEVE SHRINK-ON (FEP) <sup>11</sup>	350	MAX MIN	.424 .374	.540 .480	.665 .615	.790 .730	1.070 1.010	1.350 1.290
F	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS 1073 - CODE B) <sup>11</sup>	275	MAX MIN	.450 .400	.560 .505	.695 .645	.810 .750	1.080 1.020	1.360 1.300
G	FIRESLEEVE (AS1072 SIL FG) (5 MIN) <sup>8</sup> <sub>9</sub> <sup>12</sup>	400	MAX MIN	.625 .500	.750 .625	.875 .750	1.000 .875	1.250 1.125	1.500 1.375
H	FIRESLEEVE INTEGRAL SILICONE (15 MIN) (AS 1722) <sup>13</sup>	400	MAX MIN	.660 .600	.745 .685	.895 .835	1.005 .945	1.220 1.160	1.515 1.455
J	FIRESLEEVE INTEGRAL SILICONE (5 MIN) <sup>12</sup>	400	MAX MIN	.660 .600	.745 .685	.895 .835	1.005 .945	1.220 1.160	1.515 1.455
K	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER <sup>10</sup>	300	MAX MIN	.490 .444	.570 .535	.695 .650	.800 .760	1.070 1.030	1.350 1.310
L	ABRASION SLEEVE COIL (PTFE-AS1293) <sup>7</sup>	400	MAX MIN	.500 .440	.600 .540	.730 .670	.862 .802	1.110 1.050	1.400 1.340

TABLE III

HOSE ASSEMBLY LENGTH	AVAILABLE INCREMENTS	TOLERANCE	
		(PLUS OR MINUS) .125 INCH	(PLUS OR MINUS) 1 PERCENT
UNDER 18 INCHES	(NOT LESS THAN) .125 INCH	(PLUS OR MINUS) .125 INCH	
18 TO 36 INCHES	(NOT LESS THAN) .250 INCH	(PLUS OR MINUS) .250 INCH	
36 TO 50 INCHES	(NOT LESS THAN) .500 INCH	(PLUS OR MINUS) .500 INCH	
OVER 50 INCHES	(NOT LESS THAN) 1.000 INCH	(PLUS OR MINUS) 1 PERCENT	

TABLE IV

HOSE OR SLEEVE CODE	HOSE OR TYPE SLEEVE	UNITS	MAXIMUM WEIGHT					
			HOSE SIZE					
			1/4	3/8	1/2	5/8	3/4	1
A	HOSE ONLY	LBS/IN	.009	.015	.020	.027	.055	.085
B	ABRASION SLEEVE (TFE-AS1291-B)	LBS/IN	.003	.004	.004	.005	.007	.009
	ABRASION SLEEVE (NYLON AS1294)	LBS/IN	.001	.002	.003	.003	.004	.005
C	FIRESLEEVE (15 MIN) AS1072	LBS/IN	.007	.009	.011	.012	.017	.021
D	ABRASION SLEEVE INTEGRAL WITH HOSE	LBS/IN	.012	.016	.024	.034	.067	.110
E	ABRASION SLEEVE (FEP)	LBS/IN	.002	.003	.003	.005	.006	.007
F	ABRASION SLEEVE (AS1073B)	LBS/IN	.002	.003	.003	.004	.005	.006
G	FIRESLEEVE (5 MIN) AS1072	LBS/IN	.007	.009	.011	.012	.017	.021
H	FIRESLEEVE INTEGRAL (15 MIN) WITH HOSE	LBS/IN	.019	.027	.035	.047	.099	.117
J	FIRESLEEVE INTEGRAL (5 MIN) WITH HOSE	LBS/IN	.019	.027	.035	.047	.099	.117
K	ABRASION SLEEVE POLYESTER WITH HOSE	LBS/IN	.012	.016	.022	.030	.060	.090
L	ABRASION SLEEVE (PTFE-AS1293)	LBS/IN	.003	.004	.005	.005	.006	.007
NONE	FIRE SLEEVE CLAMP	LBS/EA	.020	.020	.025	.026	.026	.033
NONE	FITTING END (HOSE SIZE - STRAIGHT)	LBS/EA	.060	.090	.150	.240	.520	.713
NONE	FITTING END (HOSE SIZE - 45°)	LBS/EA	.078	.126	.218	.327	.597	.860

SHEET COMPLETELY REVISED

PREPARED BY SAE SUBCOMMITTEE G-3D, AEROSPACE HOSE, OF SAE COMMITTEE G-3, AEROSPACE FITTINGS, HOSE, &amp; TUBING ASSEMBLIES

AEROSPACE STANDARD

HOSE ASSEMBLY, NONMETALLIC, 3000 PSI, TFE, FLARELESS, STRAIGHT TO 45°, LIGHTWEIGHT

AS116

SH 2

Issued AUGUST 1976 Revised <sup>1</sup>) OCTOBER 1979 <sup>6</sup>) MARCH 1984

AS116

CONSTRUCTION AND PERFORMANCE: AS 1339. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.

OPERATING CHARACTERISTICS: SEE AS 1339.

MATERIALS:

HOSE AND FITTINGS - PER AS 1339.  
SLEEVES - SEE APPLICABLE STANDARD, TABLE II

MARKING: MARKING SHALL BE PER AS 1339 ON A STAINLESS STEEL BAND NOT OVER 1.0 INCH WIDE, OR ON THE COLLAR. THE CHARACTERS SHALL BE A MINIMUM OF 1/16 INCH HIGH. THE BAND SHALL BE SO DESIGNED AS TO REMAIN TIGHT ON THE HOSE TO PREVENT RELATIVE MOVEMENT AND RESULTANT CHAFING. IT SHALL BE OF SUFFICIENT STRENGTH TO PREVENT REMOVAL BY HAND. HOSE ASSEMBLY DATE AND "PT" SYMBOL SHALL BE ELECTROETCHED ON THE BAND OR ON AN END FITTING OR A FIRE-SLEEVE CLAMP.

## FLAG NOTES:

- 1 LENGTH "L" IS A FOUR DIGIT NUMBER OF WHICH THE FIRST THREE DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE FOURTH DIGIT, THE FRACTION OF AN INCH IN EIGHTHS. LENGTH "L" IS MEASURED FROM "SEAL POINT" TO "SEAL POINT." FOR LENGTH INCREMENTS AND TOLERANCES SEE TABLE III. TO CONVERT "SEAL POINT" TO "SEAL POINT" TO "END TO END" MEASUREMENT, ADD "D<sub>1</sub>" AND "D<sub>2</sub>" TO LENGTH "L".
- 2 A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE FITTING I.D. HOWEVER, THE APPLICABLE BALL DIAMETER LISTED IN TABLE I SHALL PASS THROUGH THE END FITTING AFTER IT IS ASSEMBLED TO THE HOSE.
- 3 DISTANCE ACROSS CORNERS OF THE COUPLING NUT MAY EXCEED THIS DIMENSION.
- 4 STANDARD COUPLING NUTS SHALL BE IN ACCORDANCE WITH MS21921 OR MS27073 AND MATE WITH MS33514 FITTING ENDS. NONSTANDARD COUPLING NUTS MAY BE USED, PROVIDED THEY ARE DIMENSIONALLY AND FUNCTIONALLY EQUIVALENT, AND PROVIDED THEY CANNOT BE REMOVED FROM THE FITTING. NUTS SHALL MEET TORQUE TEST REQUIREMENTS PER AS 1339.
- 5 DIAMETERS ARE LISTED FOR CLAMP SELECTION. TUBULAR SLEEVES MAY NOT BE A PERFECT ROUND AND SHALL BE MEASURED WITH A DIAMETER TAPE RULE (OFTEN REFERRED TO AS A PI-TAPE).
- 6 TUBULAR ABRASION (TFE) SLEEVES SHALL HAVE AN I.D. NO GREATER THAN HOSE O.D. + .05 INCH. AXIAL MOVEMENT OF THE SLEEVE INSTALLED ON THE HOSE SHALL NOT EXCEED .05 INCH. ENDS OF THE TUBULAR SLEEVE SHALL BE TERMINATED WITH A LENGTH OF MIL-I-23053/11 (FEP) CLASS 1 OR 2, COLOR CLEAR, PER TABLE V FIGURE 2.
- 7 COIL ABRASION SLEEVES, WHEN ASSEMBLED ON A STRAIGHT HOSE, SHALL HAVE AN AVERAGE GAP BETWEEN COILS NOT EXCEEDING .05 INCH. DISPLACEMENT OF THE COILS OF THE SLEEVE, CAUSING A GREATER GAP, SHALL NOT BE CAUSE FOR REJECTION IF THE COILS CAN BE REPOSITIONED TO MEET THE GAP REQUIREMENTS. ENDS OF THE COIL SLEEVE SHALL BE TERMINATED WITH A LENGTH OF HEAT SHRINKABLE SLEEVING IN ACCORDANCE WITH TABLE V AND FIGURE 2. CODE "B" (NYLON COIL) ABRASION SLEEVES SHALL BE TERMINATED WITH MIL-I-23053/5 CLASS 1 OR 3, COLOR BLACK. CODE "L" (COIL ABRASION) SLEEVES SHALL BE TERMINATED WITH MIL-I-23053/12A, CLASS 1, COLOR TRANSPARENT, PTFE. (OPTIONAL MIL-I-23053/11 (FEP) CLASS 1 OR 2, COLOR CLEAR).

TABLE V

HOSE SIZE	LENGTH (INCHES)
1/4 3/8	2.00 ± .25
1/2 5/8	2.50 ± .25
3/4 1	3.00 ± .25

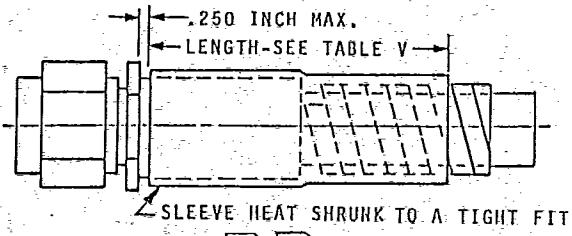


FIGURE 2

SHEET COMPLETELY REVISED

PREPARED BY SAE SUBCOMMITTEE G-3D, AEROSPACE HOSE, OF SAE COMMITTEE G-3, AEROSPACE FITTINGS, HOSE, &amp; TUBING ASSEMBLIES

AEROSPACE STANDARD

HOSE ASSEMBLY, NONMETALLIC, 3000 PSI, TFE,  
FLARELESS, STRAIGHT TO 45°, LIGHTWEIGHT

AS116

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