

E-1416

AS625-84

20 June 1986

USE INSTEAD OF

MS27373

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Title of Document: Hose Assembly, 3000 PSI, TFE, Flareless, 45° to 90°, Heavyweight

Date of Specific Issue Adopted: July 1984

Releasing Industry Group: Society of Automotive Engineers, Inc.

NOTICE: The procurement document for this component is AS604A.

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Military Coordinating Activity:  
Air Force - 11

(Project 4720-0706)

## Review Activities:

Army - AV, MI  
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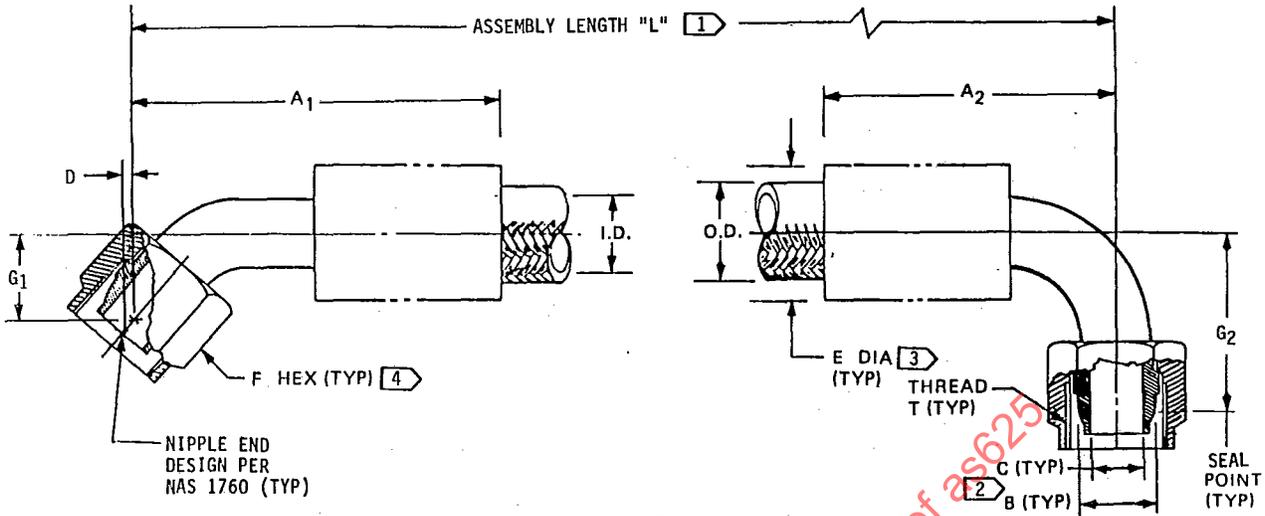


FIGURE 1

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 [2] DRILL DIA MIN	D REF	E [3] DIA MAX WITHOUT SLEEVING	F HEX REF
AS625E	1/4	.4375-20 UNJF-3B	.212	2.17	1.43	.2930	.135	.11	.88	.56
AS625G	3/8	.5625-18 UNJF-3B	.298	2.68	1.77	.4120	.240	.12	1.00	.69
AS625H	1/2	.7500-16 UNJF-3B	.391	3.11	2.05	.5600	.340	.13	1.20	.88
AS625J	5/8	.8750-14 UNJF-3B	.485	3.59	2.35	.6730	.410	.14	1.41	1.00
AS625K	3/4	1.0625-12 UNJ-3B	.602	3.25	2.89	.8100	.510	.16	1.69	1.25
AS625M	1	1.3125-12 UNJ-3B	.852	3.72	3.25	1.0620	.760	.21	2.00	1.50
AS625N	1-1/4	1.6250-12 UNJ-3B	1.101	4.65	4.13	1.3160	.925	.21	2.13	2.00

TABLE I (Cont'd)

HOSE ASSEMBLY NO. AND SIZE CODE	SIZE REF	G <sub>1</sub>		G <sub>2</sub>		BALL SIZE MIN THRU DIA [2]	
		MIN	MAX	MIN	MAX	MS19059 DASH NO.	DIA IN.
AS625E	1/4	.31	.50	.69	.88	4807	.109
AS625G	3/8	.44	.62	.88	1.09	4812	.188
AS625H	1/2	.50	.75	1.00	1.31	4816	.313
AS625J	5/8	.56	.81	1.19	1.50	4818	.375
AS625K	3/4	.62	.88	1.38	1.75	4821	.469
AS625M	1	.81	1.09	1.69	2.06	4829	.719
AS625N	1-1/4	1.24	1.31	2.51	2.57	4834	.875

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LIST OF ACTIVE SHEETS

CUSTODIAN: SAE G-3/G-3D

PROCUREMENT: AS 604

**SAE** The Engineering Resource For Advancing Mobility  
400 COMMONWEALTH DRIVE WARRENDALE, PA 15096

**AEROSPACE STANDARD**

HOSE ASSEMBLY, 3000 PSI, TFE, FLARELESS, 45° TO 90°, HEAVYWEIGHT

**AS625 SH 1 OF 4**

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TABLE II

SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT OF	HOSE OR SLEEVE OUTSIDE DIAMETER (MAX-MIN) (5)						
			HOSE SIZE						
			1/4	3/8	1/2	5/8	3/4	1	1-1/4
-	(-) INDICATES HOSE ONLY, NO SLEEVE	400	.455 .395	.595 .535	.735 .675	.935 .875	1.090 1.030	1.410 1.350	1.650 1.590
A	ABRASION SLEEVE TUBULAR (TFE-AS1291-CODE B) (6)	400	.540 .468	.715 .635	.855 .770	1.025 .960	1.195 1.125	1.515 1.445	1.825 1.755
B	ABRASION SLEEVE COIL (NYLON AS1294) (7)	275	.509 .413	.684 .584	.809 .733	1.005 .923	1.170 1.088	1.492 1.408	1.750 1.690
C	FIRE SLEEVE (AS1072 SIL-FG) (15 MIN) (8) (9) (13)	400	.688 .562	.875 .750	1.000 .875	1.250 1.125	1.375 1.250	1.750 1.625	2.000 1.875
E	ABRASION SLEEVE SHRINK-ON (FEP) (11)	350	.458 .417	.638 .592	.773 .727	.973 .927	1.148 1.102	1.438 1.392	1.688 1.632
F	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) (11)	275	.490 .440	.670 .610	.795 .745	.997 .937	1.174 1.112	1.482 1.428	1.740 1.680
G	FIRE SLEEVE (AS1072 SIL FG) (5 MIN) (8) (9) (12)	400	.688 .562	.875 .750	1.000 .875	1.250 1.125	1.375 1.250	1.750 1.625	2.000 1.875
H	FIRE SLEEVE INTEGRAL SILICONE (15 MIN) (13)	400	.700 .640	.880 .820	1.000 .940	1.203 1.143	1.343 1.283	1.656 1.596	1.906 1.846
J	FIRE SLEEVE INTEGRAL SILICONE (5 MIN) (12)	400	.705 .645	.880 .820	1.005 .945	1.217 1.143	1.382 1.280	1.748 1.593	1.906 1.846
K	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER (10)	300	.505 .480	.675 .645	.795 .765	.985 .955	1.150 1.120	1.470 1.440	1.720 1.680
L	ABRASION SLEEVE COIL (PTFE-AS1293) (7)	400	.522 .449	.692 .622	.817 .747	1.007 .937	1.172 1.102	1.492 1.422	1.750 1.690

TABLE III

HOSE ASSEMBLY LENGTH	AVAILABLE INCREMENTS	TOLERANCE
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 LBS/INCH (*)						
			HOSE SIZE						
			1/4	3/8	1/2	5/8	3/4	1	1-1/4
-	HOSE ONLY	LBS/IN	.012	.028	.040	.062	.086	.140	.154
A	ABRASION SLEEVE (TFE-AS1291-B)	LBS/IN	.003	.004	.004	.005	.007	.009	.011
B	ABRASION SLEEVE (NYLON AS1294)	LBS/IN	.001	.002	.003	.003	.004	.005	.007
C	FIRE SLEEVE (15 MIN) AS1072	LBS/IN	.007	.010	.011	.015	.017	.021	.025
E	ABRASION SLEEVE (FEP)	LBS/IN	.002	.003	.003	.005	.006	.007	.009
F	ABRASION SLEEVE (AS1073B)	LBS/IN	.002	.003	.003	.004	.005	.006	.008
G	FIRE SLEEVE (5 MIN) AS1072	LBS/IN	.007	.010	.011	.015	.017	.021	.025
H	FIRE SLEEVE INTEGRAL (15 MIN) ON HOSE	LBS/IN	.022	.042	.056	.081	.102	.154	.190
J	FIRE SLEEVE INTEGRAL (5 MIN) ON HOSE	LBS/IN	.022	.042	.056	.081	.102	.154	.190
K	ABRASION SLEEVE POLYESTER WITH HOSE	LBS/IN	.013	.028	.039	.060	.082	.130	.160
L	ABRASION SLEEVE (PTFE-AS1293)	LBS/IN	.003	.004	.005	.005	.006	.007	.009
NONE	FIRE SLEEVE CLAMP (*)	LBS/EA	.020	.020	.025	.026	.026	.033	.038
NONE	FITTING END ( 45° ) (*)	LBS/EA	.078	.130	.221	.327	.597	.860	1.580
NONE	FITTING END ( 90° ) (*)	LBS/EA	.078	.136	.233	.327	.615	.945	1.710

(\*) FIRE SLEEVE CLAMP AND FITTING END ARE IN LBS EACH.

## AEROSPACE STANDARD

HOSE ASSEMBLY, 3000 PSI, TFE, FLARELESS,  
45° TO 90°, HEAVYWEIGHT

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CONSTRUCTION AND PERFORMANCE: AS 604. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.

OPERATING CHARACTERISTICS: SEE AS 604.

MATERIALS: HOSE AND FITTINGS - PER AS 604.  
SLEEVES - SEE APPLICABLE STANDARD, TABLE VI

MARKING: MARKING SHALL BE PER AS 604 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 OR STAMPED ON THE BAND OR ON AN END FITTING OR A FIRESLEEVE CLAMP.

FLAG NOTES:

- ① LENGTH "L" IS A THREE DIGIT NUMBER OF WHICH THE FIRST TWO DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE THIRD 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" 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 604.
- ⑤ DIAMETERS ARE LISTED FOR CLAMP SELECTION. TUBULAR SLEEVES MAY NOT BE A PERFECT ROUND AND SHALL BE MEASURED WITH A DIAMETER TAPE RULER (OFTEN REFERRED TO AS 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
1-1/4	3.50 ± .25

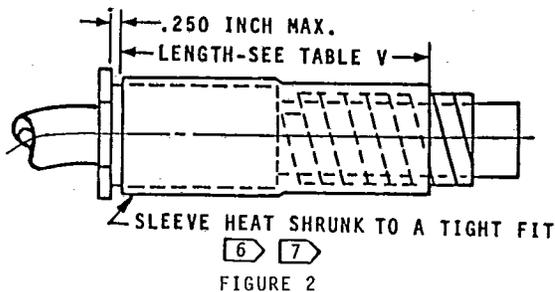


FIGURE 2

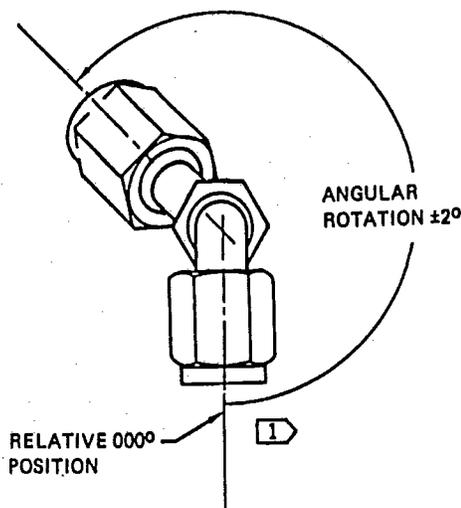


FIGURE 3

Issued JULY 1984 Revised

AEROSPACE STANDARD

HOSE ASSEMBLY, 3000 PSI, TFE, FLARELESS,  
45° TO 90°, HEAVYWEIGHT

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