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REV.
B

MA2085

FEDERAL SUPPLY CLASS
4720

RATIONALE

MA2085B HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

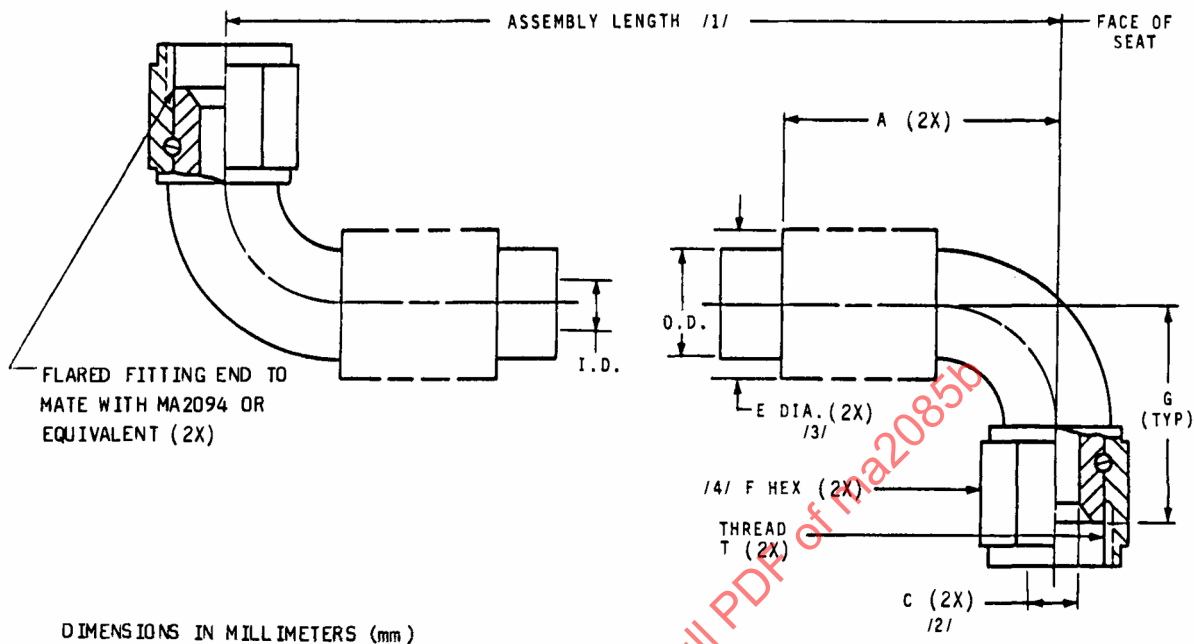


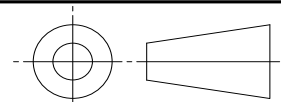
FIGURE 1

TABLE 1

HOSE ASSEMBLY NO. AND SIZE CODE	SIZE REF	THREAD T PER MA1370 (ISO 5855) 4H-5H REF	I.D. MIN	A MAX	C /2/ DRILL DIA MIN	E /3/ DIA MAX WITHOUT SLEEVING	F HEX REF	G		BALL SIZE MIN THRU DIA /2/	
								MIN	MAX	MS 19059 DASH NO.	DIA MM
MA2085E	6.0	MJ 12X1.25	5.38	44.45	3.43	17.53	14.22	15.621	18.796	4807	2.768
MA2085G	9.5	MJ 16X1.5	7.57	50.80	6.10	20.32	17.53	21.082	23.368	4812	4.775
MA2085H	12.5	MJ 18X1.5	9.93	60.45	8.64	24.64	22.35	23.114	28.956	4816	7.950
MA2085J	15.5	MJ 22X1.5	12.32	71.37	10.42	28.20	25.40	28.194	33.274	4818	9.525
MA2085K	19.0	MJ 27X1.5	15.29	82.55	12.95	35.06	31.75	34.036	38.100	4821	11.912
MA2085M	25.0	MJ 33X1.5	21.64	83.82	19.30	42.17	38.10	45.847	47.371	4829	18.262

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/MA2085B>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: MA2007



AEROSPACE STANDARD

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, CRES REINFORCED, 204 °C, 21,000 KPA, 60-DEG CONE, TO 90-DEG TO 90-DEG, LIGHTWEIGHT, METRIC

MA2085
SHEET 1 OF 5

REV.
B

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ISSUED 1989-01 REAFFIRMED 2015-04

TABLE 2

SLEEVE CODE	SLEEVE MATERIAL	TEMP LIMIT °C	TOLERANCE	HOSE OR SLEEVE OUTSIDE DIAMETER /5/					
				HOSE SIZE					
				E	G	H	J	K	M
-	(--) INDICATES HOSE ONLY NO SLEEVE (AS1624)	204	MAX MIN	9.91 9.14	12.45 11.56	15.62 14.86	18.54 17.53	25.15 24.13	32.26 31.24
A	ABRASION SLEEVE TUBULAR (TFE-AS1291 - CODE B) /6/	204	MAX MIN	12.70 11.18	15.24 13.72	18.54 17.02	21.34 19.81	28.19 26.67	35.56 34.04
B	ABRASION SLEEVE COIL NYLON (AS1294) /7/	135	MAX MIN	11.43 9.91	13.97 12.45	17.65 16.13	20.57 19.05	27.43 25.91	34.54 33.02
C	FIRE SLEEVE (AS1072 SIL-FG) (15 MIN) /8/ /9/ /13/	204	MAX MIN	15.88 12.70	19.05 15.88	22.22 19.05	25.40 22.22	31.75 28.58	38.10 34.92
D	ABRASION SLEEVE SHRINK-ON (FEP) /11/	177	MAX MIN	10.77 9.50	13.72 12.19	16.89 15.62	20.07 18.54	27.18 25.65	34.29 32.77
E	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) /11/	135	MAX MIN	11.43 10.16	14.22 12.83	17.65 16.38	20.57 19.05	27.43 25.91	34.54 33.02
F	FIRE SLEEVE (AS1072 SIL-FG) (5 MIN) /8/ /9/ /12/	204	MAX MIN	15.88 12.70	19.05 15.88	22.22 19.05	25.40 22.22	31.75 28.58	38.10 34.92
G	FIRE SLEEVE INTEGRAL SILICONE (15 MIN) (AS1722) /13/	204	MAX MIN	16.76 15.24	18.92 17.40	22.73 21.21	25.53 24.00	30.99 29.46	38.48 36.96
H	FIRE SLEEVE INTEGRAL SILICONE (5 MIN) /12/	204	MAX MIN	16.76 15.24	18.92 17.40	22.73 21.21	25.53 24.00	30.99 29.46	38.48 36.96
J	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER /10/	177	MAX MIN	12.45 11.28	14.48 13.59	17.65 16.51	20.32 19.30	27.18 26.16	34.29 33.27
K	ABRASION SLEEVE COIL (PTFE-AS1293) /7/	204	MAX MIN	12.70 11.18	15.24 13.72	18.54 17.02	21.90 20.37	28.19 26.67	35.56 34.04

TABLE 3

HOSE ASSEMBLY LENGTH	AVAILABLE INCREMENTS	TOLERANCE
UNDER 457 MM	(NOT LESS THAN) 3 MM	(PLUS OR MINUS) 3 MM
457 TO 914 MM	(NOT LESS THAN) 7 MM	(PLUS OR MINUS) 7 MM
915 TO 1270 MM	(NOT LESS THAN) 13 MM	(PLUS OR MINUS) 13 MM
OVER 1270 MM	(NOT LESS THAN) 26 MM	(PLUS OR MINUS) 1 PERCENT

TABLE 4

HOSE OR SLEEVE CODE	HOSE OR TYPE SLEEVE	UNITS	MAXIMUM WEIGHT					
			HOSE SIZE					
			E	G	H	J	K	M
-	HOSE ONLY	KG/M	.161	.268	.357	.482	.982	1.518
A	ABRASION SLEEVE (TFE-AS1291-B)	KG/M	.054	.071	.071	.089	.125	.161
B	ABRASION SLEEVE (NYLON AS1294)	KG/M	.018	.036	.054	.054	.071	.089
C	FIRE SLEEVE (15 MIN) AS1072	KG/M	.125	.161	.196	.214	.304	.375
D	ABRASION SLEEVE (FEP)	KG/M	.036	.054	.054	.089	.107	.125
E	ABRASION SLEEVE (AS1073B)	KG/M	.036	.054	.054	.071	.089	.107
F	FIRE SLEEVE (5 MIN) AS1072	KG/M	.125	.161	.196	.214	.304	.375
G	FIRE SLEEVE INTEGRAL (15 MIN) WITH HOSE	KG/M	.339	.482	.625	.839	1.768	2.089
H	FIRE SLEEVE INTEGRAL (5 MIN) WITH HOSE	KG/M	.339	.482	.625	.839	1.768	2.089
J	ABRASION SLEEVE POLYESTER WITH HOSE	KG/M	.214	.286	.393	.536	1.071	1.607
K	ABRASION SLEEVE (PTFE-AS1293)	KG/M	.054	.071	.089	.089	.107	.125
NONE	FIRE SLEEVE CLAMP	KG/EA	.011	.011	.011	.012	.012	.012
NONE	FITTING END (HOSE SIZE - 90°)	KG/EA	.034	.055	.094	.139	.265	.381

	AEROSPACE STANDARD	MA2085 SHEET 2 OF 5	REV. B
	HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, CRES REINFORCED, 204 °C, 21,000 KPA, 60-DEG CONE, TO 90-DEG TO 90-DEG, LIGHTWEIGHT, METRIC		

CONSTRUCTION AND PERFORMANCE: MA2007. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.

OPERATING CHARACTERISTICS: SEE MA2007.

MATERIALS: HOSE AND FITTINGS - PER MA2007.
SLEEVES - SEE APPLICABLE STANDARD, TABLE 2.

MARKING: MARKING SHALL BE PER MA2007 ON A STAINLESS STEEL BAND NOT OVER 25.4 MM WIDE, OR ON THE COLLAR. THE CHARACTERS SHALL BE A MINIMUM OF 1.6 MM 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 FIRESLEEVE CLAMP.

FLAG NOTES:

- /1/ LENGTH "L" IS A FOUR DIGIT NUMBER OF WHICH THE FIRST THREE DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE CENTIMETERS (CM), AND THE FOURTH DIGIT, THE FRACTION OF A CM IN MILLIMETERS. LENGTH "L" IS MEASURED FROM "FACE OF SEAT" TO "FACE OF SEAT". FOR LENGTH INCREMENTS AND TOLERANCES SEE TABLE 3.
- /2/ A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE FITTING I.D. HOWEVER, THE APPLICABLE BALL DIAMETER LISTED IN TABLE 1 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 MA2058 AND MATE WITH MA2094 60° CONE 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 MA2007.
- /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. +1.27 MM. AXIAL MOVEMENT OF THE SLEEVE INSTALLED ON THE HOSE SHALL NOT EXCEED 1.27 MM. 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 5 FIGURE 2.
- /7/ COIL ABRASION SLEEVES, WHEN ASSEMBLED ON A STRAIGHT HOSE, SHALL HAVE AN AVERAGE GAP BETWEEN COILS NOT EXCEEDING 1.27 MM. 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 5 AND FIGURE 2. CODE "B" (NYLON COIL) ABRASION SLEEVES SHALL BE TERMINATED WITH SAE-AMS-DTL-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 5

HOSE SIZE	LENGTH (MM)
DN E DN G	50.0 ± 6
DN H DN J	63.5 ± 6
DN K DN M	76.0 ± 6

	AEROSPACE STANDARD	MA2085 SHEET 3 OF 5	REV. B
	HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, CRES REINFORCED, 204 °C, 21,000 KPA, 60-DEG CONE, TO 90-DEG TO 90-DEG, LIGHTWEIGHT, METRIC		

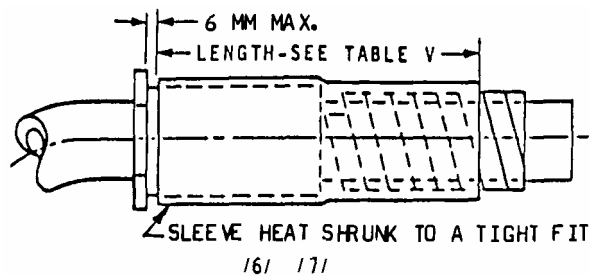


FIGURE 2

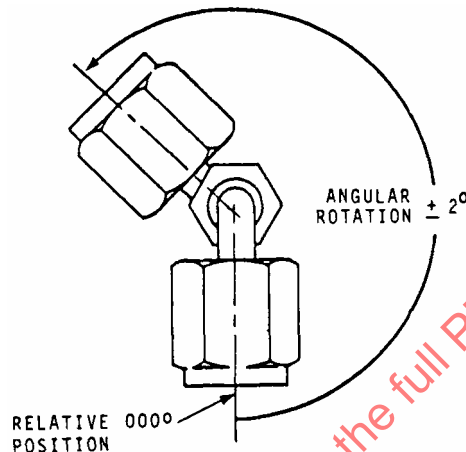


FIGURE 3

- /8/ THE TABLE 2 SLEEVE DIAMETERS FOR AS1072 SLEEVES APPLY WHEN THE SLEEVE IS COMPRESSED, OR CLAMPED, TO CONTACT THE HOSE. IN THIS CASE A WRINKLE MAY OCCUR OVER APPROXIMATELY 10% OF THE SLEEVE CIRCUMFERENCE.
- /9/ THE CUT ENDS OF THE FIRESLEEVE SHALL BE COATED WITH RTV SILICONE RUBBER, PRIOR TO INSTALLATION, TO PREVENT WICKING OF FLUIDS. THE FIRESLEEVE ENDS SHALL BE SECURED TO THE HOSE ASSEMBLY END FITTINGS WITH CORROSION RESISTANT STEEL BANDS. AFTER INSTALLATION, CRACKS OR VOIDS IN THE FIRE SLEEVE, WHICH EXPOSE THE FIBERGLASS, SHALL BE COATED WITH RTV SILICONE RUBBER.
- /10/ INTEGRAL ABRASION SLEEVE SHALL FORM AN INTEGRAL, PERMANENT PART OF THE HOSE AND SHALL INATE A MAXIMUM OF 1.50 MM FROM THE END OF THE COLLAR.
- /11/ FEP AND POLYOLEFIN SHRINK ABRASION SLEEVES SHALL BE SHRUNK TO A SNUG FIT OVER THE HOSE AND END FITTING COLLARS.
- /12/ ADD "AS1055 TYPE IIB CLASS A-S/P" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE RESISTANT" (5 MINUTES), WITH AS1055.
- /13/ ADD "AS1055 TYPE IIB CLASS B-S/P" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE PROOF" (15 MINUTES), WITH AS1055.

	AEROSPACE STANDARD	MA2085 SHEET 4 OF 5	REV. B
	HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, CRES REINFORCED, 204 °C, 21,000 KPA, 60-DEG CONE, TO 90-DEG TO 90-DEG, LIGHTWEIGHT, METRIC		