



AEROSPACE ENGINEERING BULLETIN

AEB  
170A

HOSE/FITTINGS

Supersedes AEB-170



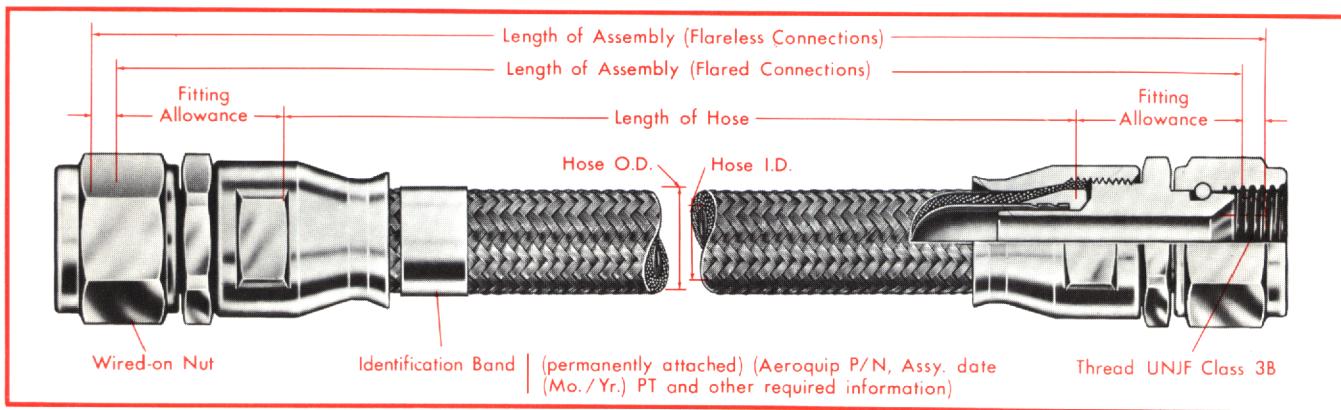
# Aeroquip 666/667 Medium Pressure Teflon Hose and "super gem"® Reusable Fittings

Aeroquip 666 and 667 medium pressure Teflon hose is widely used in aircraft applications handling fuel, oils and other fluids. The economy of the reusable fitting concept for military applications has been well established. Special fittings which represent up to 80% of the cost of a hose assembly are completely reusable. Engineering mock-ups can be made quickly on the spot from a small stock of bulk hose and fittings. Hose lines obsoleted by engineering changes can be readily salvaged and reworked into usable assemblies. This means inventory requirements can be greatly reduced. There are no ordering delays or waiting for factory assembled hose lines.

**Service Proven Lip Seal Fittings.** The success of the Aeroquip "super gem" reusable fitting lies in the separation of the retention function from the sealing function. Thus it is possible to apply the necessary holding force without squeezing the tube. Sealing is accomplished positively by a lip seal which is unaffected by aging or cold flow of the tube.

# 666/667 Medium Pressure Teflon Hose

Hose assemblies in accordance with MIL-H-25579



## General Characteristics:

**Chemical resistance:** Aeroquip Teflon hose is unaffected by all fuels, oils, alcohols, coolants, or solvents commonly used in aircraft. In addition, it is inert to acids both concentrated and diluted and propellants used in the missile field. It is superior in use to flexible metal hose in critical, high temperature steam applications, and with certain liquefied gases.

The Teflon liner has sufficient conductivity to prevent electrostatically induced hose failures. The tube is capable of conducting a direct current equal to or greater than 10 micro-amps in sizes -4, -6 and -8, and 20 micro-amps in size -10 and above with a potential of 1000 volts.

The method of construction of Aeroquip Teflon hose results in a lower volumetric expansion than any elastomer hose. This assures maximum response efficiency in ballistics ejection systems, brake systems, and so on, where there can be no softness under shock load.

Inherent resiliency and toughness are ensured in the extruded tube by close control of factors affecting crystallinity. Additional structural strength is supplied in Aeroquip Teflon hose by the tightly braided stainless steel wire reinforcement. The result is a lightweight hose able to withstand prolonged flexing and vibration under all service conditions.

The extruded tube has a tough, smooth, wax-like texture which resists erosion. No materials of a sticky or viscous nature will stick to its surface.

Teflon hose has essentially zero moisture absorption. This together with its chemical inertness and anti-adhesive characteristics make it ideal for missile fluid systems where non-contamination and cleanliness are so essential, and for pneumatic systems when maintenance of low dew point is necessary.

Service and shelf life of Aeroquip Teflon hose are unlimited for all practical purposes. However, experience has shown that service life on impulsive applications may eventually be limited by fatigue in the wire reinforcement. Maximum service life on such applications is best determined by the operator based on experience.

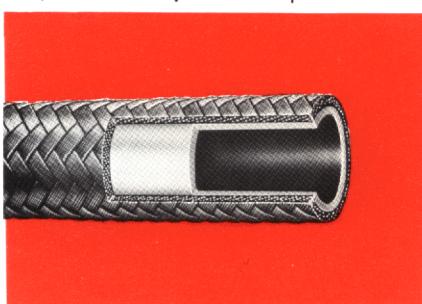
**Application Data:** Aeroquip 666/667 medium pressure Teflon hose may be used for all hydrocarbon fuel systems. The rate of effusion of gases and resistance to capillary leakage of fluid through the hose lines is controlled by a patented extrusion method used to produce Aeroquip Teflon hose liners.

**Other Special Applications . . .** Aeroquip Teflon hose shown in this bulletin are rated according to the listed specifications. These various ratings are for specific service conditions involving specified temperature, pressure and impulse conditions.

In many cases a specific rating can be successfully exceeded if other variables are modified. Thus a higher operating pressure might be allowable if temperature and impulse life are modified or, similarly, operating temperature may be raised if pres-

sure or surge conditions are reduced. Our experience and test facilities are available through trained field engineers to help with recommendations for special applications.

Aeroquip 666/667 medium pressure Teflon hose is also used in hydraulic and pneumatic applications at pressures up to 1500 psi.



**Hose in accordance with MIL-H-27267** Operating temperatures . . . -65° to +450° F. fluid and ambient.

**Construction . . .** Inner tube . . . spiral extruded Teflon resin.

**Reinforcement and outer cover . . .** 666 Hose—Type 300 Series stainless steel wire braid outer cover.

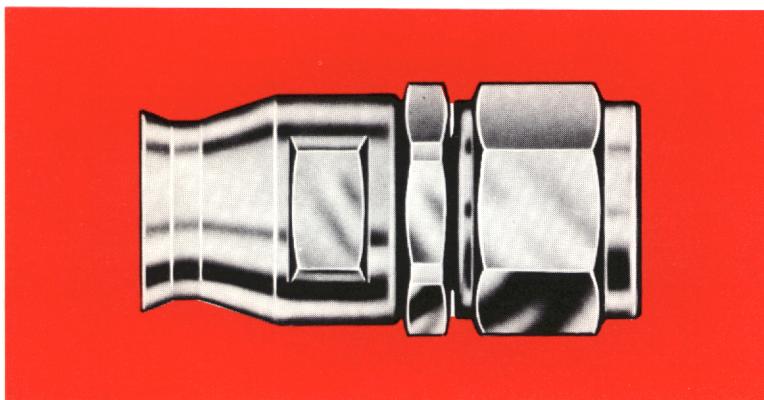
667 Hose—two layers of Type 300 Series stainless steel wire braid.

**Identification . . .** identification bands showing specification number, manufacturers code number, operating pressure and other required information.

**Specification . . .** Aeroquip medium pressure assemblies with 666 and 667 Teflon hose and "super gem" fittings comply with MIL-H-25579 industry standard for 1500 psi, high temperature lines for aircraft and missile fluid systems and for ground support use.

# "super gem" Reusable Fittings

In accordance with MIL-F-27272



Fittings . . .

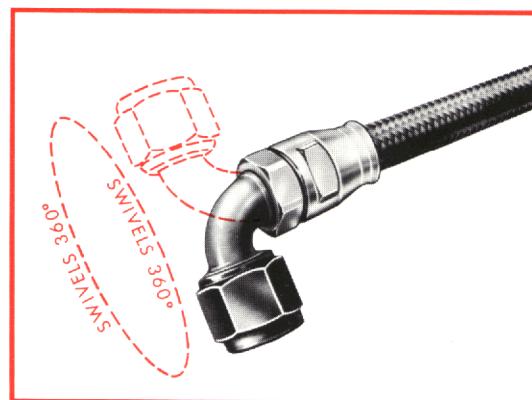
The "super gem" fitting provides permanent protection against leakage, even after high temperature aging and impulsive. The reason for this performance lies in the separation of the sealing function from the retention function. A lip seal is formed by the separation of the Teflon tube in an annular chamber, while positive grip on the wire reinforcement between socket and nipple sleeve provides permanent protection against fitting blow-off.

"super gem" fittings have a dry lube (Molybdenum disulfide) coating on thread and sealing surfaces. This is a permanent coating and requires no additional lubrication during assembly.

"super gem" fittings are designed for assembly to a gap dimension which indicates proper assembly.

"super gem" fittings are available in both flared and flareless types to mate with MS33656 and MS33514 end connections. In addition, elbow fittings are available in standard 45° and 90° styles. Special elbows, crosses, tees, wyes, adapters, bosses, etc. may be made for custom installations.

<b>"super gem"</b> fitting standard material specifications:	Nut—Cres., QQ-S-763 (304.)
	Wire—Cres., AMS5685 (305).
	Nipple—Cres., QQ-S-763 (304).
	Socket—Cres., QQ-S-763 (304).



## Adjustable elbows

"super gem" adjustable elbow fittings are easily positioned through 360° to the desired relative angle between opposite elbow fittings. Mock-up and prototype installation changes are simplified, as the position angle can be determined on the actual installation.



**3-piece fitting** The Aeroquip medium pressure "super gem" reusable fitting consists of 3 pieces; a socket, sleeve and nipple assembly.

## 666/667 Hose Data

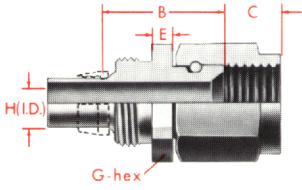
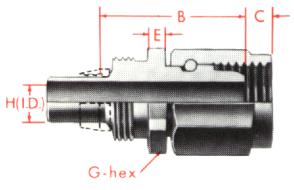
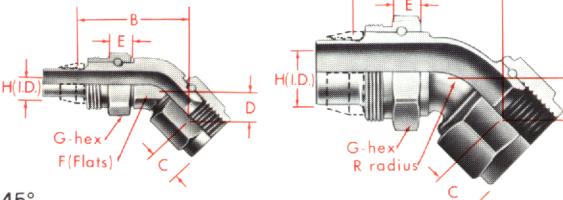
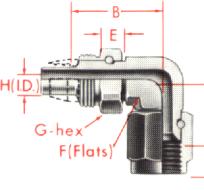
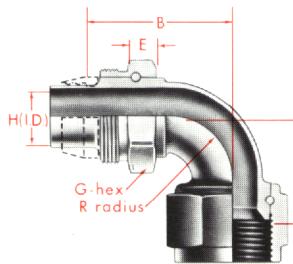
Dash Size	-3†	-4	-5	-6	-8	-10	-12	-16	-20	-24
Part number	AE240-3	666-4	666-5	666-6	666-8	666-10	666-12	667-16	667-20	667-24
Hose I.D. (inches)	.125	.188	.250	.313	.406	.500	.625	.875	1.125	1.375
Hose O.D. (inches)	.250	.312	.375	.466	.562	.656	.789	1.109	1.359	1.672
Fluid operating pressure (psi)	1500	1500	1500	1500	1500	1500	1000	1250	1000	1000
Vacuum data (max. inches hg.)	28	28	28	28	28	28	28*	28*	28*	28*
Proof pressure (psi)	3000	3000	3000	3000	3000	3000	2000	2500	2000	2000
Min. burst pressure (psi)	12000	12000	10000	9000	8000	7000	5000	5000	4000	4000
Min. bend radius (inches)	1.50	2.00	2.00	4.00	4.62	5.50	6.50	7.38	11.00	14.00
Weight per inch (lbs.)	.0034	.0068	.0082	.0098	.0121	.0166	.0205	.0431	.0484	.0700

\*With internal support coil, contact Aeroquip.

†Non-conductive hose also available in other sizes for gaseous and liquid oxidizing systems.

# **“super gem” Swivel Fittings**

Fittings in accordance with MIL-F-27272

	HOSE	ALUM series Nipple	Fitting Assy.	CRES series Nipple	Fitting Assy.
STRAIGHT FLARED SWIVEL (mates with MS33656)	AE240-3 666-4 666-5 666-6 666-8 666-10 666-12 667-16 667-20 667-24	G65008-4 G65008-5 G65008-6 G65008-8 G65008-10 G65008-12 G65058-16 G65058-20 G65058-24	F66826-4 F66826-5 F66826-6 F66826-8 F66826-10 F66826-12 F66821-16 F66821-20 F66821-24	G65000-3 G65000-4 G65000-5 G65000-6 G65000-8 G65000-10 G65000-12 G65057-16 G65057-20 G65057-24	F66000-3 F66000-4 F66000-5 F66000-6 F66000-8 F66000-10 F66000-12 F66057-16 F66057-20 F66057-24
MS27061 nipple *MS27053 fitting assembly					
GLOBESEAL™ FLARELESS SWIVEL (mates with MS33514)	AE240-3 666-4 666-5 666-6 666-8 666-10 666-12 667-16 667-20 667-24	G65016-4 G65016-5 G65016-6 G65016-8 G65016-10 G65016-12 G67022-16 G67022-20 G67022-24	F66840-4 F66840-5 F66840-6 F66840-8 F66840-10 F66840-12 F62024-16 F62024-20 F62024-24	G65018-3 G65018-4 G65018-5 G65018-6 G65018-8 G65018-10 G65018-12 G67023-16 G67023-20 G67023-24	F66018-3 F66018-4 F66018-5 F66018-6 F66018-8 F66018-10 F66018-12 F68023-16 F68023-20 F68023-24
MS27386 nipple *MS27381 fitting assembly					
Flared elbows (adjustable)					
45° MS27067 nipple *MS27059 fitting assembly		AE240-3 666-4 666-5 666-6 666-8 666-10 666-12 667-16 667-20 667-24	F66555-4 F66555-5 F66555-6 F66555-8 F66532-10 F66532-12 F66533-16 F66533-20 F66533-24	G6533-3 G6533-4 G6533-5 G6533-6 G6533-8 G6534-10 G6534-12 G6562-16 G6562-20 G6562-24	F6633-3 F6633-4 F6633-5 F6633-6 F6633-8 F6634-10 F6634-12 F6679-16 F6679-20 F6679-24
MS27063 nipple *MS27055 fitting assembly					
BENT TUBE					
90° MS27068 nipple *MS27060 fitting assembly		AE240-3 666-4 666-5 666-6 666-8 666-10 666-12 667-16 667-20 667-24	F6699-4 F6699-5 F6699-6 F6699-8 F6653-10 F6653-12 F66535-16 F66535-20 F66535-24	G6505-3 G6505-4 G6505-5 G6505-6 G6505-8 G6506-10 G6506-12 G6560-16 G6560-20 G6560-24	F6605-3 F6605-4 F6605-5 F6605-6 F6605-8 F6606-10 F6606-12 F6677-16 F6677-20 F6677-24
MS27065 nipple *MS27057 fitting assembly					

\*Add—(size) to MS number. If material is to be CRES, add suffix “C” to size.

SOCKET:

FLAT

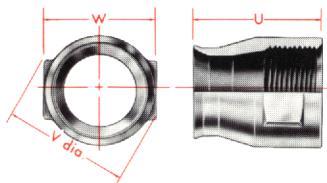
MS27069-(size) C

666 Hose:

F506-(size) C

667 Hose:

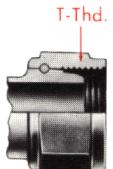
F756-(size) C



SLEEVE



T-Thd.

NUT  
FlaredNUT  
Flareless

MS27070-(size) C

666 Hose:

900767-(size) C

667 Hose:

900867-(size) C

Y-Hex.

Y-Hex.

**FITTING**

WEIGHT (lbs.) Cres	max Alum	FITTING					F	G	min H	R	SOCKET			NUT	
		max A	cut-off B	C	nominal D	E					U	max V	W	thread T	hex Y
.047	.024	1.15	.70	.34		.12		.50	.090		.62	.52	.44	.3750-24	.50
.069	.038	1.35	.74	.37		.12		.56	.161		.81	.66	.56	.4375-20	.56
.086	.046	1.41	.77	.38		.12		.62	.224		.83	.73	.62	.5000-20	.62
.106	.057	1.47	.81	.38		.14		.69	.261		.85	.81	.69	.5625-18	.69
.198	.111	1.70	.93	.43		.15		.88	.345		.98	1.02	.88	.7500-16	.88
.283	.157	1.86	1.05	.50		.17		1.00	.440		1.08	1.17	1.00	.8750-14	1.00
.374	.196	1.93	1.13	.57		.19		1.25	.560		1.15	1.31	1.12	1.0625-12	1.25
.658	.345	2.15	1.30	.60		.22		1.50	.828		1.26	1.74	1.50	1.3125-12	1.50
1.085	.606	2.52	1.44	.64		.28		1.81	1.058		1.51	2.18	1.88	1.6250-12	1.81
1.742	.880	2.71	1.66	.74		.28		2.12	1.282		1.58	2.46	2.12	1.8750-12	2.12
.048	.017	1.37	.92	.13		.22		.44	.090		.62	.52	.44	.3750-24	.50
.072	.022	1.50	.89	.22		.23		.56	.161		.81	.66	.56	.4375-20	.56
.090	.038	1.57	.93	.22		.25		.62	.224		.83	.73	.62	.5000-20	.62
.114	.044	1.68	1.02	.19		.27		.69	.261		.85	.81	.69	.5625-18	.69
.210	.080	1.92	1.16	.21		.31		.88	.345		.98	1.02	.88	.7500-16	.88
.305	.093	2.14	1.32	.24		.31		1.00	.440		1.08	1.17	1.00	.8750-14	1.00
.452	.164	2.21	1.40	.31		.36		1.12	.560		1.15	1.31	1.12	1.0625-12	1.25
.677	.250	2.42	1.58	.32		.41		1.50	.828		1.26	1.74	1.50	1.3125-12	1.50
1.187	.396	2.79	1.72	.37		.44		1.81	1.058		1.51	2.18	1.88	1.6250-12	1.81
1.680	.646	3.09	2.07	.33		.50		2.12	1.282		1.58	2.46	2.12	1.8750-12	2.12
.055	.030	1.55	1.08	.34	.283	.22	.44	.44	.090		.62	.52	.44	.3750-24	.50
.079	.055	1.81	1.18	.37	.322	.23	.44	.56	.160		.81	.66	.56	.4375-20	.56
.106	.070	1.88	1.22	.38	.340	.25	.56	.62	.220		.83	.73	.62	.5000-20	.62
.125	.080	1.97	1.29	.38	.389	.27	.56	.69	.261		.85	.81	.69	.5625-18	.69
.241	.144	2.58	1.79	.43	.465	.31	.62	.88	.345		.98	1.02	.88	.7500-16	.88
.319	.178	2.43	1.58	.50	.536	.31		1.00	.440	.62	1.08	1.17	1.00	.8750-14	1.00
.480	.249	2.89	2.05	.57	.623	.36		1.12	.560	.84	1.15	1.31	1.12	1.0625-12	1.25
.758	.404	3.02	2.14	.63	.660	.41		1.50	.828	.97	1.26	1.74	1.50	1.3125-12	1.50
1.223	.635	3.52	2.42	.64	.768	.44		1.81	1.058	1.19	1.51	2.18	1.88	1.6250-12	1.81
1.828	.736	3.83	2.75	.77	.867	.50		2.12	1.253	1.38	1.58	2.46	2.12	1.8750-12	2.12
.073	.036	1.33	.86	.34	.530	.22	.44	.44	.090		.62	.52	.44	.3750-24	.50
.098	.056	1.54	.91	.37	.580	.23	.44	.56	.160		.81	.66	.56	.4375-20	.56
.138	.075	1.63	.97	.38	.655	.25	.56	.62	.220		.83	.73	.62	.5000-20	.62
.160	.091	1.71	1.03	.38	.720	.27	.56	.69	.261		.85	.81	.69	.5625-18	.69
.288	.148	2.09	1.31	.43	.830	.31	.62	.88	.345		.98	1.02	.88	.7500-16	.88
.331	.180	2.26	1.41	.50	1.126	.31		1.00	.440	.62	1.08	1.17	1.00	.8750-14	1.00
.498	.262	2.76	1.92	.57	1.376	.36		1.12	.560	.84	1.15	1.31	1.12	1.0625-12	1.25
.786	.419	2.93	2.05	.63	1.500	.41		1.50	.828	.97	1.26	1.74	1.50	1.3125-12	1.50
1.272	.659	3.45	2.34	.64	1.782	.44		1.81	1.058	1.19	1.51	2.18	1.88	1.6250-12	1.81
1.922	.749	3.77	2.68	.77	2.032	.50		2.12	1.253	1.38	1.58	2.46	2.12	1.8750-12	2.12

All dimensions in inches.

max. A = maximum length of fitting including socket when fitting is assembled on hose.

nom. D = nominal drop dimensions—Tolerance is  $\pm .020"$  on forged fittings and  $\pm .035"$  on bent tube fittings.

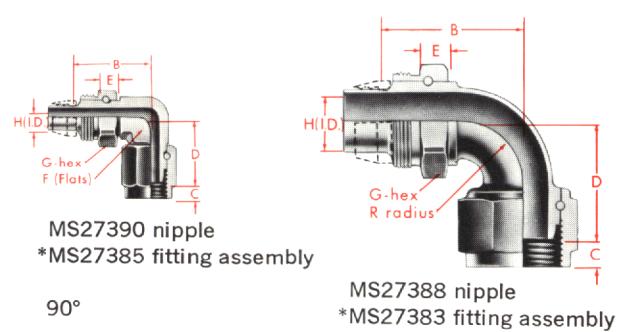
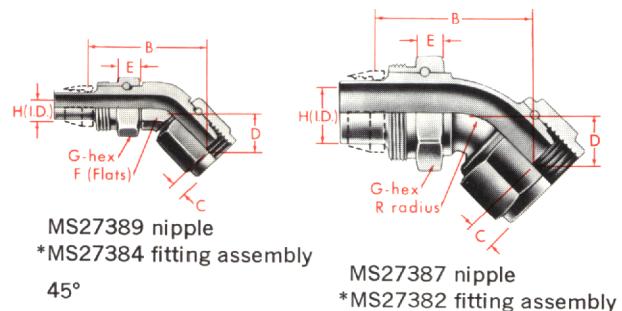
R = radius of elbow measured to centerline.

F = distance across forging flats.

# **“super gem” Swivel nut Globeseal flareless & 4-hole flanged elbows**

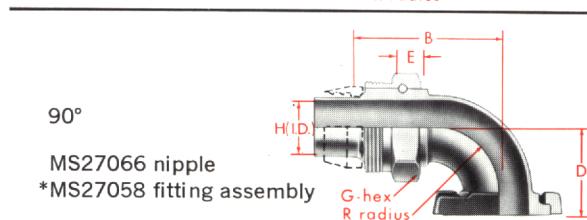
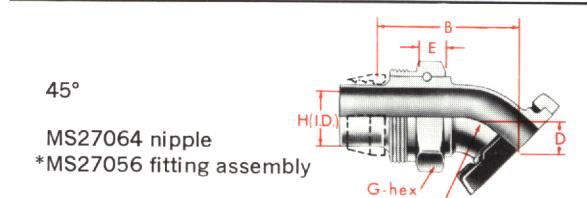
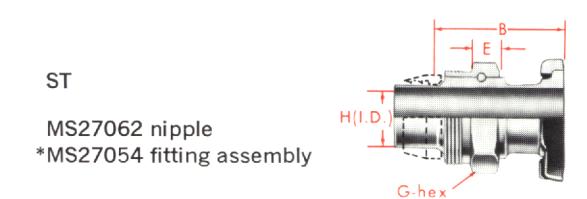
**ADJUSTABLE** In accordance with **MIL-F-27272**

## Globeseal flareless elbows



HOSE	ALUM series		CRES series	
	Nipple	Fitting Assy.	Nipple	Fitting Assy.
AE240-3			G65113-3	F66113-3
666-4	G65114-4	F62124-4	G65113-4	F66113-4
666-5	G65114-5	F62124-5	G65113-5	F66113-5
666-6	G65114-6	F62124-6	G65113-6	F66113-6
666-8	G65114-8	F62124-8	G65113-8	F66113-8
666-10	G65102-10	F62148-10	G65101-10	F66101-10
666-12	G65102-12	F62148-12	G65101-12	F66101-12
667-16	G65396-16	F62151-16	G65421-16	F66421-16
667-20	G65396-20	F62151-20	G65421-20	F66421-20
667-24	G65396-24	F62151-24	G65421-24	F66421-24
FORGED BENT TUBE	AE240-3		G65104-3	F66104-3
	666-4	G65117-4	F66631-4	G65104-4
	666-5	G65117-5	F66631-5	G65104-5
	666-6	G65117-6	F66631-6	G65104-6
	666-8	G65117-8	F66631-8	G65104-8
	666-10	G65116-10	F66693-10	G65103-10
	666-12	G65116-12	F66693-12	G65103-12
	667-16	G65397-16	F66746-16	G65422-16
	667-20	G65397-20	F66746-20	G65422-20
	667-24	G65397-24	F66746-24	G65422-24

## 4-hole flanged elbows

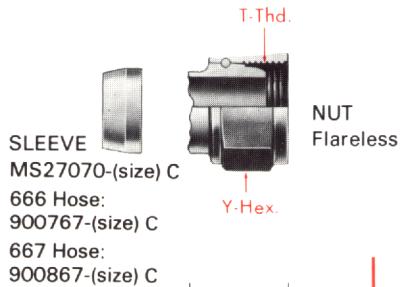
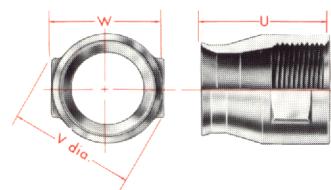


HOSE	ALUM series		CRES series	
	Nipple	Fitting Assy.	Nipple	Fitting Assy.
666-8	G61010-8	F62010-8	G61008-8	F62008-8
666-10	G61010-10	F62010-10	G61008-10	F62008-10
666-12	G61010-12	F62010-12	G61008-12	F62008-12
667-16	G61009-16	F62009-16	G61007-16	F62007-16
667-20	G61009-20	F62009-20	G61007-20	F62007-20
667-24	†G61009-24	F62009-24	†G61007-24	F62007-24
BENT TUBE	666-8	G65119-8	F66722-8	G65121-8
	666-10	G65119-10	F66722-10	G65121-10
	666-12	G65119-12	F66722-12	G65121-12
	667-16	G65193-16	F66513-16	G65244-16
	667-20	G65193-20	F66513-20	G65244-20
	667-24	†G65193-24	F66513-24	†G65244-24
BENT TUBE	666-8	G65120-8	F66723-8	G65122-8
	666-10	G65120-10	F66723-10	G65122-10
	666-12	G65120-12	F66723-12	G65122-12
	667-16	G65194-16	F66512-16	G65245-16
	667-20	G65194-20	F66512-20	G65245-20
	667-24	†G65194-24	F66512-24	†G65245-24

†Nipple with removable flange—other sizes captive.

\*Add—(size) to MS number. If material is to be CRES, add suffix “C” to size.

**SOCKET:**  
FLAT  
MS27069-(size) C  
666 Hose:  
F506-(size) C  
667 Hose:  
F756-(size) C



### FITTING

WEIGHT (lbs.)		FITTING							SOCKET		NUT				
Cres	Alum	max A	cut-off B	C	nominal D	E	F	G	min H	R	U	max V	W	thread T	hex Y
.060	.021	1.70	1.23	.13	.432	.22	.44	.44	.090		.62	.52	.44	.3750-24	.50
.095	.041	1.92	1.29	.22	.424	.23	.44	.56	.160		.81	.66	.56	.4375-20	.56
.114	.048	1.99	1.32	.22	.448	.25	.56	.62	.220		.83	.73	.62	.5000-20	.62
.139	.059	2.11	1.43	.19	.526	.27	.56	.69	.261		.85	.81	.69	.5625-18	.69
.263	.147	2.73	1.95	.21	.622	.31	.62	.88	.345		.98	1.02	.88	.7500-16	.88
.302	.127	2.62	1.77	.24	.725	.31		1.00	.440	.62	1.08	1.17	1.00	.8750-14	1.00
.482	.184	3.07	2.23	.31	.800	.36		1.12	.560	.84	1.15	1.31	1.12	1.0625-12	1.25
.722	.276	3.21	2.33	.32	.854	.41		1.50	.828	.97	1.26	1.74	1.50	1.3125-12	1.50
1.115	.453	3.72	2.61	.36	.962	.44		1.81	1.058	1.19	1.51	2.18	1.88	1.6250-12	1.81
1.838	.741	4.12	3.03	.32	1.155	.50		2.12	1.253	1.38	1.58	2.46	2.12	1.8750-12	2.12
.065	.027	1.33	.86	.13	.741	.22	.44	.44	.090		.62	.52	.44	.3750-24	.50
.101	.042	1.54	.91	.22	.725	.23	.44	.56	.160		.81	.66	.56	.4375-20	.56
.126	.053	1.63	.97	.22	.808	.25	.56	.62	.220		.83	.73	.62	.5000-20	.62
.164	.064	1.71	1.03	.19	.915	.27	.56	.69	.261		.85	.81	.69	.5625-18	.69
.297	.148	2.09	1.31	.21	1.052	.31	.62	.88	.345		.98	1.02	.88	.7500-16	.88
.311	.133	2.26	1.41	.24	1.392	.31		1.00	.440	.62	1.08	1.17	1.00	.8750-14	1.00
.507	.208	2.76	1.92	.31	1.626	.36		1.12	.560	.84	1.15	1.31	1.12	1.0625-12	1.25
.749	.291	2.93	2.05	.32	1.776	.41		1.50	.828	.97	1.26	1.74	1.50	1.3125-12	1.50
1.192	.477	3.45	2.34	.36	2.056	.44		1.81	1.058	1.19	1.51	2.18	1.88	1.6250-12	1.81
1.887	.760	3.77	2.68	.32	2.438	.50		2.12	1.253	1.38	1.58	2.46	2.12	1.8750-12	2.12

### FITTING

WEIGHT (lbs.)		FITTING							FLANGE		SOCKET			
Cres	Alum	max A	cut-off B	nominal D	E	G	min H	R	M	N	P	U	max V	W
.267	.168	2.04	1.27		.31	.88	.345	.50	1.39	.95	.21	.98	1.02	.88
.331	.197	2.17	1.35		.31	1.00	.440	.62	1.47	1.04	.21	1.08	1.17	1.00
.377	.227	2.36	1.55		.36	1.12	.560	.84	1.59	1.16	.21	1.15	1.31	1.12
.666	.352	2.46	1.61		.41	1.50	.828	.97	1.75	1.31	.21	1.26	1.74	1.50
1.099	.573	2.77	1.69		.44	1.81	1.058	1.19	2.19	1.66	.27	1.51	2.18	1.88
1.212	.814	2.87	1.81		.50	2.12	1.282	1.38	2.38	1.81	.27	1.58	2.46	2.12
.256	.152	2.05	1.25	.338	.31	.88	.345	.50	1.39	.95	.21	.98	1.02	.88
.317	.177	2.26	1.42	.375	.31	1.00	.440	.62	1.47	1.04	.21	1.08	1.17	1.00
.428	.245	2.74	1.90	.468	.36	1.12	.560	.84	1.59	1.16	.21	1.15	1.31	1.12
.652	.362	2.86	1.98	.505	.41	1.50	.828	.97	1.75	1.31	.21	1.26	1.74	1.50
1.089	.586	3.32	2.22	.569	.44	1.81	1.058	1.19	2.19	1.66	.27	1.51	2.18	1.88
1.533	.810	3.58	2.50	.624	.50	2.12	1.253	1.38	2.38	1.81	.27	1.58	2.46	2.12
.262	.162	2.00	1.21	.772	.31	.88	.345	.50	1.39	.95	.21	.98	1.02	.88
.330	.183	2.26	1.41	.896	.31	1.00	.440	.62	1.47	1.04	.21	1.08	1.17	1.00
.447	.254	2.76	1.92	1.156	.36	1.12	.560	.84	1.59	1.16	.21	1.15	1.31	1.12
.679	.397	2.93	2.05	1.282	.41	1.50	.828	.97	1.75	1.31	.21	1.26	1.74	1.50
1.151	.586	3.45	2.34	1.500	.44	1.81	1.058	1.19	2.19	1.66	.27	1.51	2.18	1.88
1.606	.875	3.77	2.68	1.688	.50	2.12	1.253	1.38	2.38	1.81	.27	1.58	2.46	2.12

All dimensions in inches.

max. A = maximum length of fitting including socket when fitting is assembled on hose.

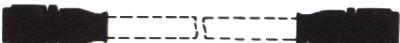
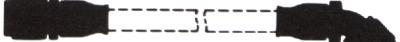
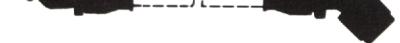
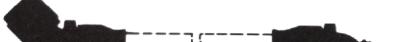
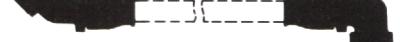
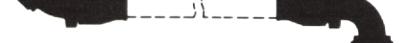
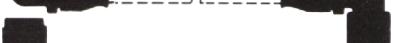
nom. D = nominal drop dimensions—Tolerance is  $\pm .020"$  on forged fittings and  $\pm .035"$  on bent tube fittings.

R = radius of elbow measured to centerline.

F = distance across forging flats.

## Hose assemblies/Swivel flared to swivel flared

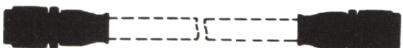
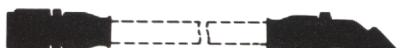
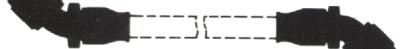
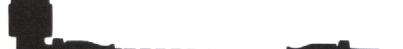
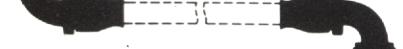
All hose assemblies shown on this page conform to MS8000. MS style code indicates configuration and material.  
In accordance with MIL-H-25579.

A	B	Dash size *	Material	Assembly base no.	MS style code	Nipple A part no.	Nipple B part no.	
		-4 thru -12	ALUM	T666002	G	G65008	G65008	
		CRES	M666000	A	G65000	G65000		
		-16 thru -24	ALUM	T667004	G	G65058	G65058	
		CRES	M667000	A	G65057	G65057		
		FORGED	-4 thru -8	ALUM	T666306	H	G65008	G6529
			CRES	M666300	B	G65000	G6533	
		BENT TUBE	-10 and -12	ALUM	T666111	H	G65008	G6530
			CRES	M666100	B	G65000	G6534	
		FORGED	-4 thru -8	ALUM	T667119	H	G65058	G6563
			CRES	M667118	B	G65057	G6562	
		BENT TUBE	-16 thru -24	ALUM	T666305	J	G65008	G6531
			CRES	M666301	C	G65000	G6505	
		FORGED	-10 and -12	ALUM	T666110	J	G65008	G6532
			CRES	M666101	C	G65000	G6506	
		BENT TUBE	-16 thru -24	ALUM	T667121	J	G65058	G6561
			CRES	M667108	C	G65057	G6560	
		FORGED	-4 thru -8	ALUM	T666315	K	G6529	G6529
			CRES	M666302	D	G6533	G6533	
		BENT TUBE	-10 and -12	ALUM	T666120	K	G6530	G6530
			CRES	M666102	D	G6534	G6534	
		FORGED	-16 thru -24	ALUM	T667124	K	G6563	G6563
			CRES	M667123	D	G6562	G6562	
		BENT TUBE	-4 thru -8	ALUM	T666316	M	G6529	G6531
			CRES	M666303	E	G6533	G6505	
		FORGED	-10 and -12	ALUM	T666121	M	G6530	G6532
			CRES	M666103	E	G6534	G6506	
		BENT TUBE	-16 thru -24	ALUM	T667127	M	G6563	G6561
			CRES	M667126	E	G6562	G6560	
		FORGED	-4 thru -8	ALUM	T666310	N	G6531	G6531
			CRES	M666304	F	G6505	G6505	
		BENT TUBE	-10 and -12	ALUM	T666114	N	G6532	G6532
			CRES	M666104	F	G6506	G6506	
		BENT TUBE	-16 thru -24	ALUM	T667130	N	G6561	G6561
			CRES	M667129	F	G6560	G6560	

\*—3 size assemblies available. Write for information.

## Swivel flareless to swivel flareless

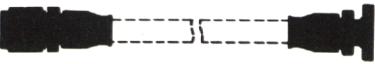
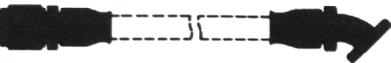
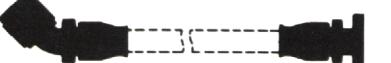
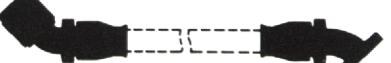
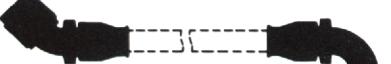
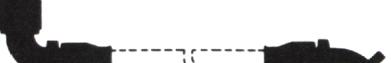
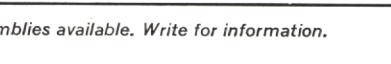
All hose assemblies shown on this page conform to MS8001.  
 MS style code indicates configuration and material.  
 In accordance with MIL-H-25579.

A	B	Dash size *	Material	Assembly base no.	MS style code	Nipple A part no.	Nipple B part no.	
		-4 thru -12	ALUM	T666035	G	G65016	G65016	
		-16 thru -24	CRES	M666049	A	G65018	G65018	
		-4 thru -12	ALUM	T667012	G	G67022	G67022	
		-16 thru -24	CRES	M667014	A	G67023	G67023	
		FORGED	-4 thru -8	ALUM	T666320	H	G65016	G65114
			CRES	M666384	B	G65018	G65113	
		BENT TUBE	-10 and -12	ALUM	T666125	H	G65016	G65102
			CRES	M666261	B	G65018	G65101	
		FORGED	-16 thru -24	ALUM	T667142	H	G67022	G65396
			CRES	M667171	B	G67023	G65421	
		BENT TUBE	-4 thru -8	ALUM	T666319	J	G65016	G65117
			CRES	M666371	C	G65018	G65104	
		FORGED	-10 and -12	ALUM	T666124	J	G65016	G65116
			CRES	M666276	C	G65018	G65103	
		BENT TUBE	-16 thru -24	ALUM	T667143	J	G67022	G65397
			CRES	M667172	C	G67023	G65422	
		FORGED	-4 thru -8	ALUM	T666372	K	G65114	G65114
			CRES	M666385	D	G65113	G65113	
		BENT TUBE	-10 and -12	ALUM	T666272	K	G65102	G65102
			CRES	M666277	D	G65101	G65101	
		FORGED	-16 thru -24	ALUM	T667168	K	G65396	G65396
			CRES	M667173	D	G65421	G65421	
		BENT TUBE	-4 thru -8	ALUM	T666344	M	G65114	G65117
			CRES	M666386	E	G65113	G65104	
		FORGED	-10 and -12	ALUM	T666273	M	G65102	G65116
			CRES	M666278	E	G65101	G65103	
		BENT TUBE	-16 thru -24	ALUM	T667169	M	G65396	G65397
			CRES	M667174	E	G65421	G65422	
		FORGED	-4 thru -8	ALUM	T666314	N	G65117	G65117
			CRES	M666387	F	G65104	G65104	
		BENT TUBE	-10 and -12	ALUM	T666148	N	G65116	G65116
			CRES	M666279	F	G65103	G65103	
		FORGED	-16 thru -24	ALUM	T667170	N	G65397	G65397
			CRES	M667175	F	G65422	G65422	

\*—3 size assemblies available. Write for information.

## Hose assemblies/Swivel flared to 4-hole flange

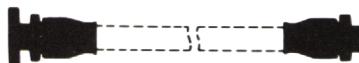
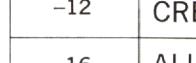
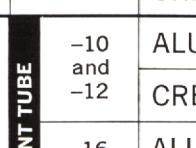
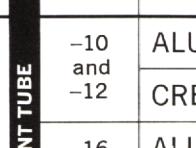
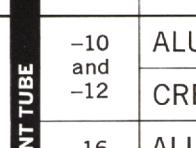
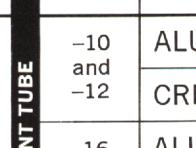
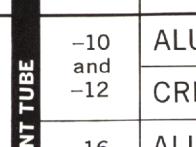
All hose assemblies shown on this page conform to MS8002.  
 MS style code indicates configuration and material.  
 In accordance with MIL-H-25579.

A	B	Dash size *	Material	Assembly base no.	MS style code	Nipple A part no.	Nipple B part no.
		-10 and -12	ALUM	T666042	K	G65008	G61010
		CRES	M666043	A	G65000	G61008	
		-16 thru -24	ALUM	T667003	K	G65058	G61009
		CRES	M667029	A	G65057	G61007	
		-10 and -12	ALUM	T666138	M	G65008	G65119
		CRES	M666139	B	G65000	G65121	
		-16 thru -24	ALUM	T667111	M	G65058	G65193
		CRES	M667189	B	G65057	G65244	
		-10 and -12	ALUM	T666140	N	G65008	G65120
		CRES	M666141	C	G65000	G65122	
		-16 thru -24	ALUM	T667115	N	G65058	G65194
		CRES	M667190	C	G65057	G65245	
		-10 and -12	ALUM	T666170	T	G6530	G61010
		CRES	M666265	G	G6534	G61008	
		-16 thru -24	ALUM	T667109	T	G6563	G61009
		CRES	M667191	G	G6562	G61007	
		-10 and -12	ALUM	T666142	P	G6530	G65119
		CRES	M666143	D	G6534	G65121	
		-16 thru -24	ALUM	T667106	P	G6563	G65193
		CRES	M667192	D	G6562	G65244	
		-10 and -12	ALUM	T666144	R	G6530	G65120
		CRES	M666145	E	G6534	G65122	
		-16 thru -24	ALUM	T667116	R	G6563	G65194
		CRES	M667193	E	G6562	G65245	
		-10 and -12	ALUM	T666158	U	G6532	G61010
		CRES	M666159	H	G6506	G61008	
		-16 thru -24	ALUM	T667110	U	G6561	G61009
		CRES	M667194	H	G6560	G61007	
		-10 and -12	ALUM	T666160	V	G6532	G65119
		CRES	M666161	J	G6506	G65121	
		-16 thru -24	ALUM	T667112	V	G6561	G65193
		CRES	M667195	J	G6560	G65244	
		-10 and -12	ALUM	T666146	S	G6532	G65120
		CRES	M666147	F	G6506	G65122	
		-16 thru -24	ALUM	T667101	S	G6561	G65194
		CRES	M667196	F	G6560	G65245	

\*—8 size assemblies available. Write for information.

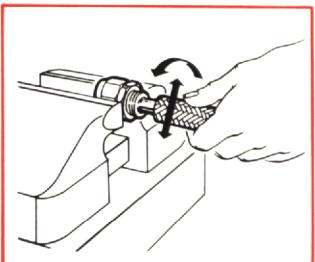
## 4-hole flange to 4-hole flange

All hose assemblies on this page conform to MS8004.  
 MS style code indicates configuration and material.  
 In accordance with MIL-H-25579.

A	B	Dash size *	Material	Assembly base no	MS style code	Nipple A part no.	Nipple B part no.
		-10 and -12	ALUM	T666040	G	G61010	G61010
		-16 thru -24	CRES	M666041	A	G61008	G61008
		-10 and -12	ALUM	T667002	G	G61009	G61009
		-16 thru -24	CRES	M667030	A	G61007	G61007
		-10 and -12	ALUM	T666128	H	G61010	G65119
		-16 thru -24	CRES	M666129	B	G61008	G65121
		-10 and -12	ALUM	T667104	H	G61009	G65193
		-16 thru -24	CRES	M667197	B	G61007	G65244
		-10 and -12	ALUM	T666130	J	G61010	G65120
		-16 thru -24	CRES	M666131	C	G61008	G65122
		-10 and -12	ALUM	T667105	J	G61009	G65194
		-16 thru -24	CRES	M667198	C	G61007	G65245
		-10 and -12	ALUM	T666132	K	G65119	G65119
		-16 thru -24	CRES	M666133	D	G65121	G65121
		-10 and -12	ALUM	T667113	K	G65193	G65193
		-16 thru -24	CRES	M667199	D	G65244	G65244
		-10 and -12	ALUM	T666134	M	G65119	G65120
		-16 thru -24	CRES	M666135	E	G65121	G65122
		-10 and -12	ALUM	T667114	M	G65193	G65194
		-16 thru -24	CRES	M667200	E	G65244	G65245
		-10 and -12	ALUM	T666136	N	G65120	G65120
		-16 thru -24	CRES	M666137	F	G65122	G65122
		-10 and -12	ALUM	T667117	N	G65194	G65194
		-16 thru -24	CRES	M667201	F	G65245	G65245

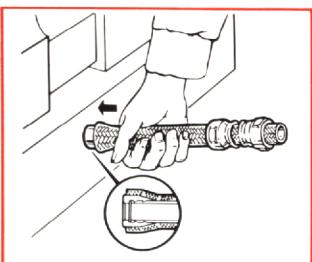
\*—8 size assemblies available. Write for information.

# How to assemble Medium Pressure Teflon Hose and "super gem" Reusable Fittings



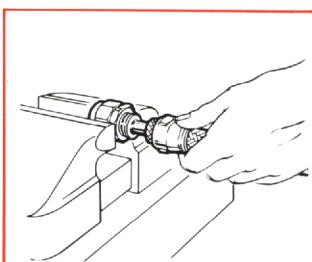
## Step 1

Wrap hose with tape at cut-off point and cut squarely to length through taped area using a sharp cut-off wheel or a fine-tooth hack saw. Remove tape and trim any loose wires flush with tube stock. Any burrs on the bore of the tube stock should be removed with a knife. Clean the hose bore. Sometimes wire braid will tend to "neck down" on one end and "flare out" on the opposite end. This is characteristic of wire braid hose and can be used to an advantage in the assembly of the "super gem" fittings. Slip two sockets skirt to skirt over the "necked down" end of the hose. Mount nipple hex in a vise. Work the hose bore over the nipple in a circular motion to size the tube and aid in separating the braid prior to fitting the sleeve. Remove hose from nipple.



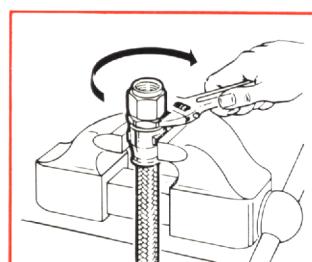
## Step 2

Carefully insert the sleeve over the end of the inner tube and under the wire braid by hand. Complete positioning of the sleeve by pushing the sleeve end against a flat surface until tube bottoms against shoulder in sleeve I.D. Visually inspect to see that tube stock butts against the inside shoulder of the sleeve and that no wires are trapped under sleeve.



## Step 3

Hold the nipple with hex in vise. Push hose over nipple with twisting motion until seated against nipple chamfer. Push socket forward, and hand start threading of socket to nipple.



## Step 4

Wrench tighten nipple hex until clearance with socket hex is  $1/32"$  or less (may vary from 0.023 to 0.046 inch.) Tighten further to align corners of nipple and socket hexes.

To disassemble  
Unscrew and remove nipple; slide socket back on hose by tapping against flat surface; remove sleeve with pliers.

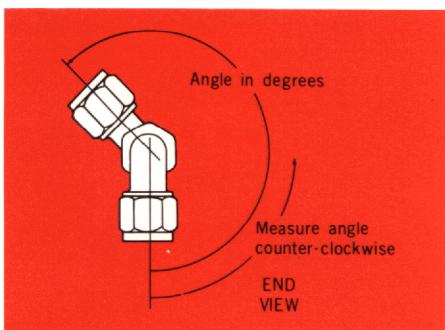
*Molykote G-n Paste* is a registered trademark of the Dow Corning Corporation.

### Hose size (dash size)

Hose size is expressed as a dash number which designates the tube OD in  $1/16$ 's of an inch. This number is added immediately following the basic style number and is normally separated from it with a dash. However, on assemblies with elbow fittings on each end, hose size is expressed with an alphabetic code; a similar code letter may be used to indicate jump size. When position angle and letter code are used, dashes are omitted between basic style number and hose size; also between hose size and lengths.

Dash size	Letter code
-4	F
-5	G
-6	H
-8	J
-10	K
-12	L
-16	M
-20	N
-24	P

## How to complete assembly part number

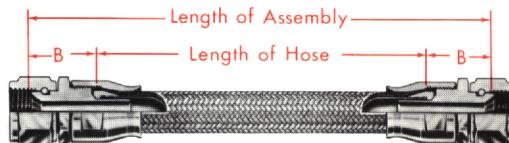


Measure assembly length from end fitting sealing surface to end fitting sealing surface (see page 2, "Assembly length" call-out on hose assembly picture). Assembly length is always expressed in four digits (see example).

### Position angle

On assemblies with an elbow fitting on each end, measure the position angle as shown above and prefix the angle to the basic style number. In all cases, the angle should be expressed in 3 digits. For example 35° should be written as 035. If the angle desired is 0°, specify 000.

\* Contact your Aeroquip distributor or Aeroquip for information on various protective sleeving for 666/667 Teflon Hose.



Determine hose cut-off length by subtracting fitting cut-off factor ( $B+B$ ) from hose assembly length or by calculating the length from the information shown on the hose assembly drawing. The cut-off length may also be determined by measuring the used length of hose being replaced.

## Basic assembly numbers

The basic part numbers shown here represent standard configurations with materials, markings, and cleaning requirements conforming to MIL-H-25579. If your requirements differ from these standards, the hose assemblies you order will be assigned new numbers by Aeroquip.

### These part numbers are generated as follows:

#### Example:

Straight to straight assemblies

Basic style number

Assembly length  
Always four digits, last digit indicates fractional length in  $1/16$ 's of an inch.

**M666000-10-0184**

Hose dash size

Double elbow assemblies

**180 M 666302 J 0184**

Position angle

Basic style \*

Assembly length  
Always four digits, last digit indicates fractional length in  $1/16$ 's of an inch.

Hose dash size  
(letter code)



Aerospace Group  
300 S. East Avenue, Jackson, MI 49203-1972  
Phone: 517-787-8121, Telex: 223412, Fax: 517-787-5758

A TRIHOVA Company

AEROQUIP CORPORATION / MAUMEE, OHIO, U.S.A. 43537

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