

ALUMINUM Compression Crimp FITTINGS

for use with
Aeroquip 666/667
medium pressure
Teflon* hose

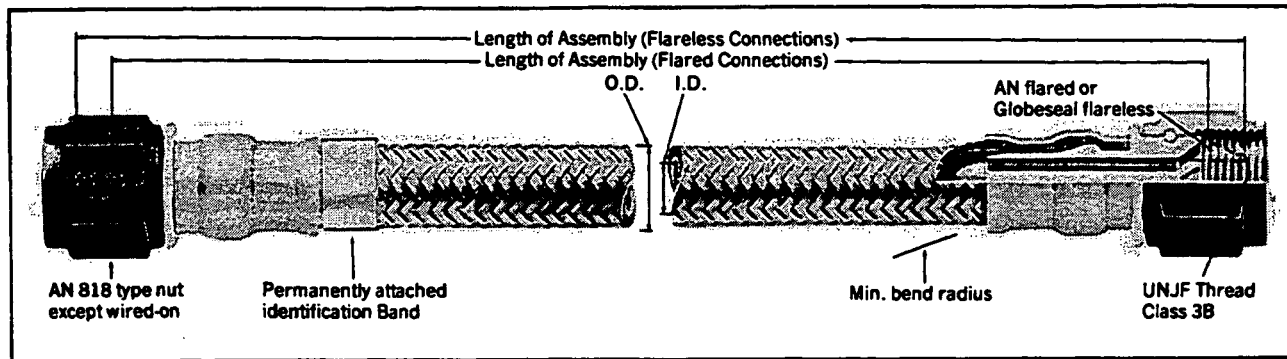
A new lightweight, low profile aluminum compression crimp fitting is now available with Aeroquip 666/667 medium pressure Teflon hose. This hose/fitting combination has been qualified and approved to MIL-H-25579C through -16 size. Aeroquip medium pressure Teflon hose is widely used in today's aerospace industry. Hose assemblies with new aluminum compression crimp fittings are suitable for temperatures ranging from -65°F . to $+275^{\circ}\text{F}$. with various types of fluids.

The unique combination of the "ramped" nipple and the crimping pattern used on the aluminum compression crimp fitting results in superior fitting retention under pressure. Burst pressure tests indicate that extreme pressures will result in "free hose" bursts rather than fitting blow-off. The fitting design effectively traps and holds the wire reinforcement of the hose in the area of the ramp on the fitting nipple. This assures that it will withstand pressures up to 4 times rated operating pressure.

* Teflon is a DuPont trademark.

666/667 Medium Pressure Teflon Hose and Aluminum Compression Crimp Fittings.

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.

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, -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, and brake systems, 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 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 impulsing 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 his 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 are controlled by a patented extrusion method used to produce Aeroquip Teflon hose liners.

Other Special Applications:

Aeroquip Teflon hose shown in this bulletin is 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 pressure 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. For hose data, see page 3.

Hose in accordance with MIL-H-27267

Operating Temperatures:

-65°F. to +275°F. fluid and ambient with aluminum fittings.

Construction:

Inner tube . . . Teflon resin. Stainless steel reinforcement.
666 Hose—Type 300 Series stainless steel wire braid outer cover.
667 Hose—two layers of Type 300 Series stainless steel wire braid.

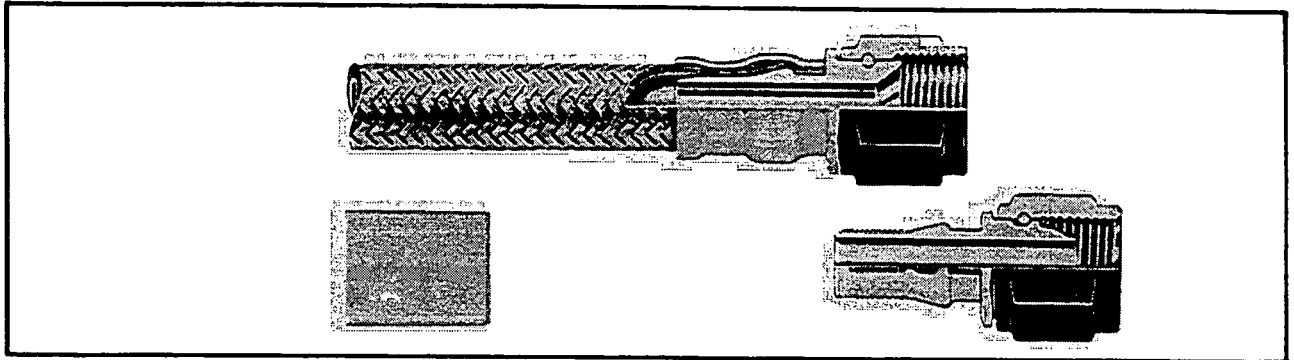
Identification:

Identification bands showing specification number, manufacturer's code number, operating pressure and other required information.

Specification:

Aeroquip medium pressure assemblies with 666 and 667 Teflon hose and Aluminum Compression Crimp fittings comply with the MIL-H-25579 industry standard for 1500 psi, high temperature lines for aircraft and missile fluid systems and for ground support use where temperatures do not exceed 275°F.

New Aluminum Compression Crimp Fittings



The unique combination of the "ramped" nipple and the crimping pattern used on the aluminum compression crimp fitting results in superior fitting retention under pressure. Burst pressure tests indicate that extreme pressures will result in "free hose" bursts rather than fitting blow-off. The fitting design effectively traps and holds the wire reinforcement of the hose in the area of the ramp on the fitting nipple.

Aluminum Compression Crimp 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.

Fitting Standard Material Specifications:

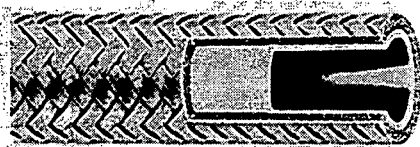
	Material	Specification
Nut	2024-T851 Alum.	QQ-A-2256
Shoulder (flareless)	6061-T651 or T6 Alum.	QQ-A-2258
Wire	CRES (305)	AMS5685
Elbow Bent Tube Forged	6061-T6 Alum. 6061-T6 Alum. 6061-T6 Alum.	WW-T-7006 QQ-A-367
Nipple Straight Elbow	2024-T851 Alum. 6061-T651 or T6 Alum.	QQ-A-2256 QQ-A-2258
Socket	CRES (304)	QQ-S-763

Matched for Matchless Performance

Aeroquip fitting tolerances are engineered to match Aeroquip hose tolerances, therefore the use of Aeroquip fittings and/or the use of Aeroquip hose with fittings supplied by other manufacturers, ex-

pressly voids any responsibility on the part of Aeroquip Corporation for performance of the complete hose line assembly.

666/667 Hose Data

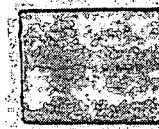


Also available in Non-Conductive Hose for gaseous and liquid oxidizing systems.

* With internal support coil, contact Aeroquip Information on 666 hose in sizes -3 through -6 is available by requesting AEB-213.

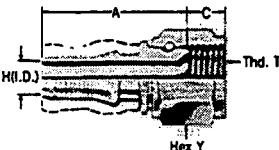
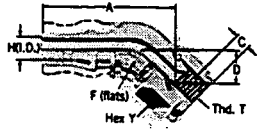
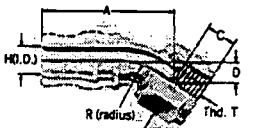
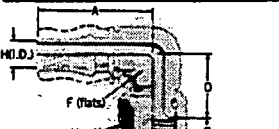
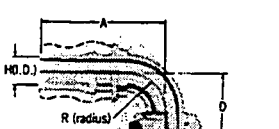
Dash Size	-8	-10	-12	-16
Part Number	666-8	666-10	666-12	667-16
Hose I.D. (inches)	.406	.500	.625	.875
Hose O.D. (max. inches)	.585	.687	.812	1.140
Fluid Operating Pressure (psi)	1500	1500	1000	1250
Vacuum Data (max. inches Hg)	28	28	28 *	28 *
Proof Pressure (psi)	3000	3000	2000	2500
Min. Burst Pressure (psi)	8000	7000	5000	5000
Min. Bend Radius (inches)	4.62	5.50	6.50	7.38
Weight per Inch (lbs.)	.0121	.0166	.0205	.0431

Flared Fittings



Socket must be ordered separately under Aeroquip Part Number AE21498 (letter size code same as nipple assembly)

Socket AE21498 (Code)

	Hose	Nipple Assembly	max. A	C	nom. D	min. H	F/R*	Thread "T"	hex Y	Weight lbs.
 <p>Straight</p>	666-8	AE23649H	1.61	.43		.340		.750-16UNJF-3B	.88	.064
	666-10	AE23649J	1.80	.50		.430		.875-14UNJF-3B	1.00	.088
	666-12	AE23649K	1.96	.57		.548		1.062-12UNJF-3B	1.25	.134
	667-16	AE23649M	2.32	.60		.778		1.3125-12UNJF-3B	1.50	.205
 <p>AE23653H 45°</p>	666-8	AE23653H	2.27	.43	.465	.340	.625	.750-16UNJF-3B	.88	.080
	666-10	AE23653J	2.30	.50	.536	.430	.625	.875-14UNJF-3B	1.00	.094
	666-12	AE23653K	2.74	.57	.623	.548	.844	1.0625-12UNJF-3B	1.25	.145
 <p>AE23653J, K, M, 45° Bent Tube Elbow</p>	667-16	AE23653M	3.10	.63	.660	.778	.969	1.3125-12UNJF-3B	1.50	.228
	666-8	AE23657H	1.80	.43	.830	.340	.625	.750-16UNJF-3B	.88	.084
	666-10	AE23657J	2.12	.50	1.126	.430	.625	.875-14UNJF-3B	1.00	.098
 <p>AE23657H 90°</p>	666-12	AE23657K	2.61	.57	1.376	.548	.844	1.062-12UNJF-3B	1.25	.156
	667-16	AE23657M	3.02	.63	1.500	.778	.969	1.3125-12UNJF-3B	1.50	.238
	666-10	AE23657J	2.12	.50	1.126	.430	.625	.875-14UNJF-3B	1.00	.098
 <p>AE23657J, K, M, Bent Tube Elbow</p>										

Note: Fitting weights include sockets.

All dimensions in inches

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

nom. D = nominal drop dimensions—

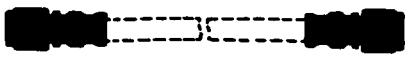
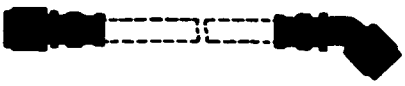
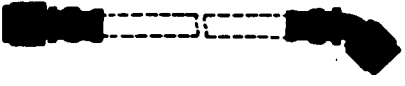

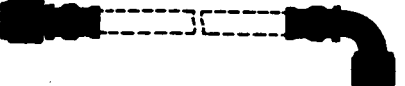
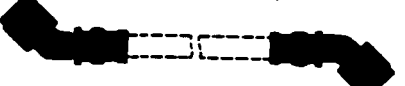
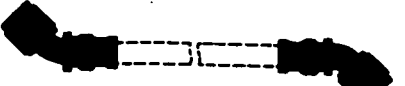
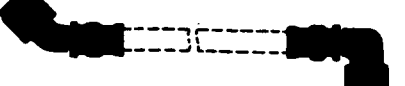
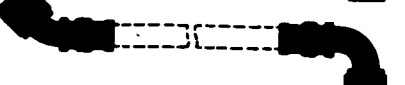
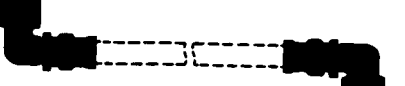
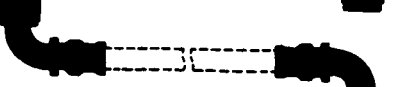
Tolerance is ±.020" on forged fittings and ±.035" on bent tube fittings.

* R = radius of elbow measured to centerline (bent tube).

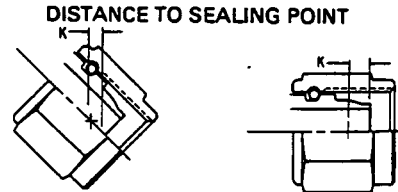
F = distance across flats (forged).

Flared fitting hose assemblies part numbers/Swivel to swivel

(Per MIL-H-25579 and MIL-H-27267)

A	B		Dash Size	Material	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
			-8 thru -16	Alum.	AE3660340	AE23649	AE23649
		Forged	-8	Alum.	AE3660360	AE23649	AE23653
		Bent Tube	-10 thru -16	Alum.	AE3660360	AE23649	AE23653
		Forged	-8	Alum.	AE3660350	AE23649	AE23657
		Bent Tube	-10 thru -16	Alum.	AE3660350	AE23649	AE23657
		Forged	-8	Alum.	AE6279	AE23653	AE23653
		Bent Tube	-10 thru -16	Alum.	AE6279	AE23653	AE23653
		Forged	-8	Alum.	AE6280	AE23653	AE23657
		Bent Tube	-10 thru -16	Alum.	AE6280	AE23653	AE23657
		Forged	-8	Alum.	AE6281	AE23657	AE23657
		Bent Tube	-10 thru -16	Alum.	AE6281	AE23657	AE23657

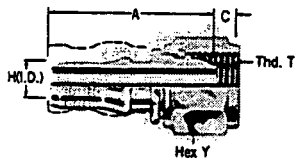
Globeseal™ Flareless Fittings



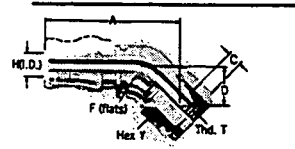
Socket must be ordered separately under Aeroquip Part Number AE21498 (letter size code same as nipple assembly).

Socket AE21498 (Code)

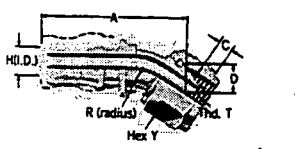
K = gauge point location per NAS 1760



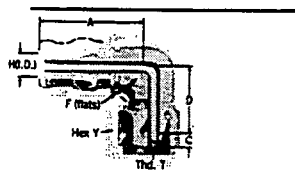
Straight



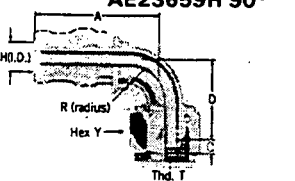
AE23655H 45°



AE23655J, K, M, 45° Bent Tube Elbow



AE23659H 90°



AE23659J, K, M 90° Bent Tube Elbow

Hose	Nipple Assembly	max. A	C	nom. D	min. H	K	F/R*	Thread "T"	hex Y	Weight lbs.
666-8	AE23651H	1.90	.15		.340	.189		.750-16 UNJF-3B	.88	.063
666-10	AE23651J	2.10	.22		.430	.201		.875-14 UNJF-3B	1.00	.095
666-12	AE23651K	2.40	.15		.548	.228		1.0625-12 UNJF-3B	1.25	.152
667-16	AE23651M	2.84	.08		.778	.297		1.3125-12 UNJF-3B	1.50	.236
Forged										
666-8	AE23655H	2.47	.15	.668	.340	.134	.625	.750-16 UNJF-3B	.88	.083
Bent Tube										
666-10	AE23655J	2.55	.22	.793	.430	.142	.625	.875-14 UNJF-3B	1.00	.101
666-12	AE23655K	3.05	.15	.934	.548	.161	.844	1.0625-12 UNJF-3B	1.25	.158
667-16	AE23655M	3.50	.08	1.051	.778	.210	.969	1.3125-12 UNJF-3B	1.50	.243
Forged										
666-8	AE23659H	1.80	.15	1.121	.340		.625	.750-16 UNJF-3B	.88	.086
Bent Tube										
666-10	AE23659J	2.12	.22	1.488	.430		.625	.875-14 UNJF-3B	1.00	.104
666-12	AE23659K	2.61	.15	1.816	.548		.844	1.0625-12 UNJF-3B	1.25	.166
667-16	AE23659M	3.01	.08	2.054	.778		.969	1.3125-12 UNJF-3B	1.50	.252

Note: Fitting weights include sockets.

All dimensions in inches

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

nom. D = nominal drop dimensions—

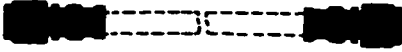
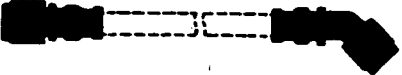

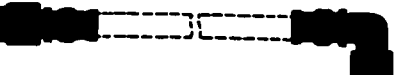
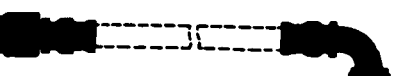

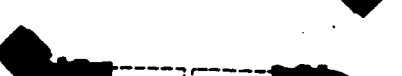
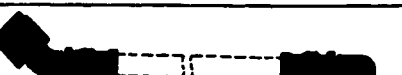
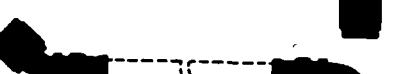


Tolerance is $\pm .020$ " on forged fittings and $\pm .035$ " on bent tube fittings.

* R = radius of elbow measured to centerline (bent tube).

F = distance across flats (forged).

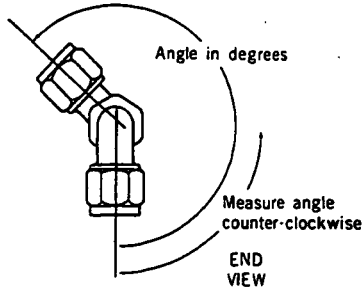
Flareless fitting hose assemblies part numbers/Swivel to swivel

(Per MIL-H-25579 and MIL-H-27267)

A	B		Dash Size	Material	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
 <p>Flareless (NAS 1760)</p>			-8 thru -16	Alum.	AE3660370	AE23651	AE23651
		Bent Tube Forged	-8	Alum.	AE3660390	AE23651	AE23655
			-10 thru -16	Alum.	AE3660390	AE23651	AE23655
		Bent Tube Forged	-8	Alum.	AE3660380	AE23651	AE23659
			-10 thru -16	Alum.	AE3660380	AE23651	AE23659
		Bent Tube Forged	-8	Alum.	AE6282	AE23655	AE23655
			-10 thru -16	Alum.	AE6282	AE23655	AE23655
		Bent Tube Forged	-8	Alum.	AE6283	AE23655	AE23659
			-10 thru -16	Alum.	AE6283	AE23655	AE23659
		Bent Tube Forged	-8	Alum.	AE6284	AE23659	AE23659
			-10 thru -16	Alum.	AE6284	AE23659	AE23659

For complete ordering instructions, see next page.

How to order hose, fittings and assemblies



Position angle

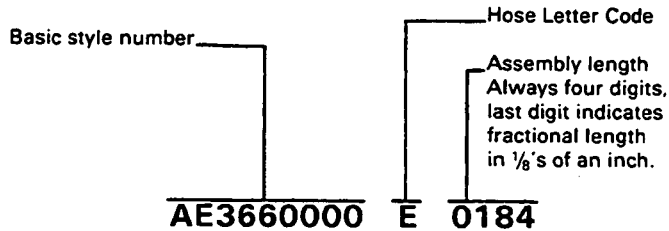
On assemblies with an elbow fitting on each end, measure the position angle as shown above and suffix the angle to the basic style number. In all cases, the angle should be expressed in 3 digits. For example, 35° should be written as 035. If the angle desired is 0°, specify 000.

Basic assembly numbers

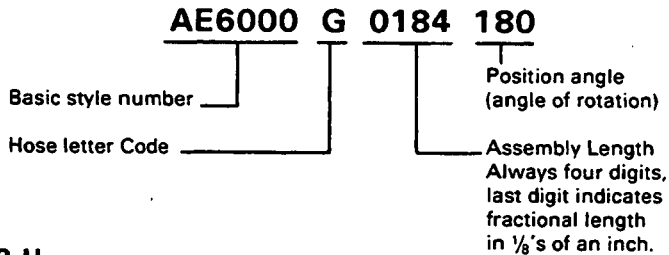
The basic part numbers shown here represent standard configurations with materials, markings, and cleaning requirements conforming to MIL-H-25579. If your requirements differ from these standards, the hose assemblies you order will be assigned new numbers by Aeroquip.

Sample part number:

Straight and single elbow assemblies.



Double elbow assemblies



Fittings

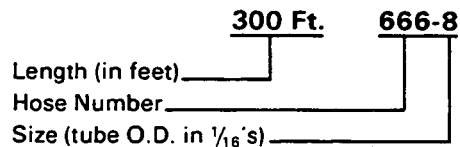
AE21502-H

Basic Fitting Number

Hose Dash Size	-8	-10	-12	-16
Letter Code	H	J	K	M

Bulk Hose

Bulk hose will be supplied in 25-foot lengths whenever possible; however, we reserve the right to ship random lengths over 3 feet unless otherwise specified. An additional charge will be made for hose cut to specified lengths.



Note: Contact Aeroquip for information concerning proper tooling and assembly procedure for production of Aeroquip 666/667 hose assemblies with Compression Crimp fittings.



Aeroquip Corporation

Engineered Systems Group

Aerospace Division

300 S. East Avenue, Jackson, MI 49203-1972

Phone: 517-787-8121, Fax: 517-787-5758

www.aeroquip.com

Specifications subject to change without notice / Aeroquip products are protected by patents internationally

DISTRIBUTED BY