Aeroquip

AEROSPACE ENGINEERING BULLETIN

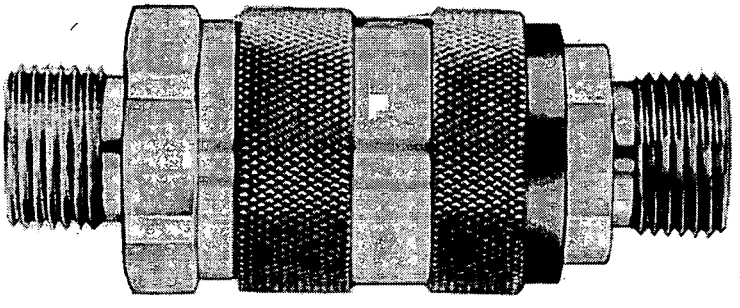
COUPLINGS

AA
41

Supersedes AEB-222A

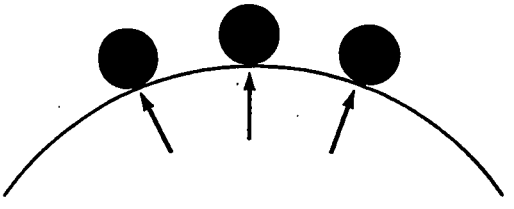
LOW PROFILE PUSH-PULL QUICK DISCONNECT COUPLINGS

1965 and 2055 SERIES



Speeds Maintenance and Provides Safety and Reliability for Aircraft Hydraulic and Coolant Systems

The 1965 and 2055 Series couplings are self-sealing, low profile quick disconnect couplings which offer long, dependable service for both high and low pressure fluid conveyance systems. The 1965 Series coupling is constructed of high strength, fire resistant stainless steel for reliable 3000 PSIG hydraulic service. All coupling sizes have been qualified to the performance requirements of MIL-C-25427A. The 2055 Series coupling is constructed of light weight aluminum and is excellent for low pressure hydraulic, lube oil or coolant systems with operating pressures up to 1000 PSIG. Both coupling styles incorporate an innovative "Arc Latch"™* locking mechanism. The couplings are connected and disconnected with a simple push-pull motion. The self-sealing design practically eliminates fluid loss or air inclusion and minimizes pressure drop. These features provide outstanding reliability and safety in addition to speeding fluid system maintenance.



CONVENTIONAL: Single point (ball bearing) contacts with locking surface

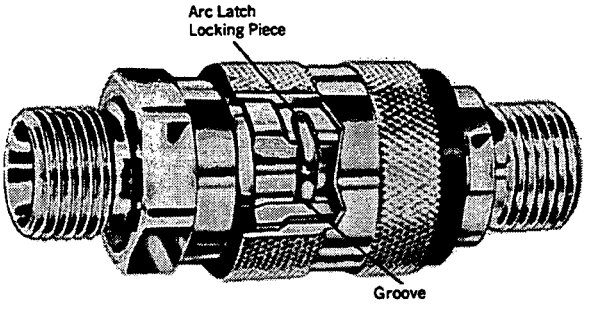
ARC LATCH DESIGN: Broad area contact with locking surface.

** -4 size coupling uses ball latch mechanism due to low profile design size limitations.*

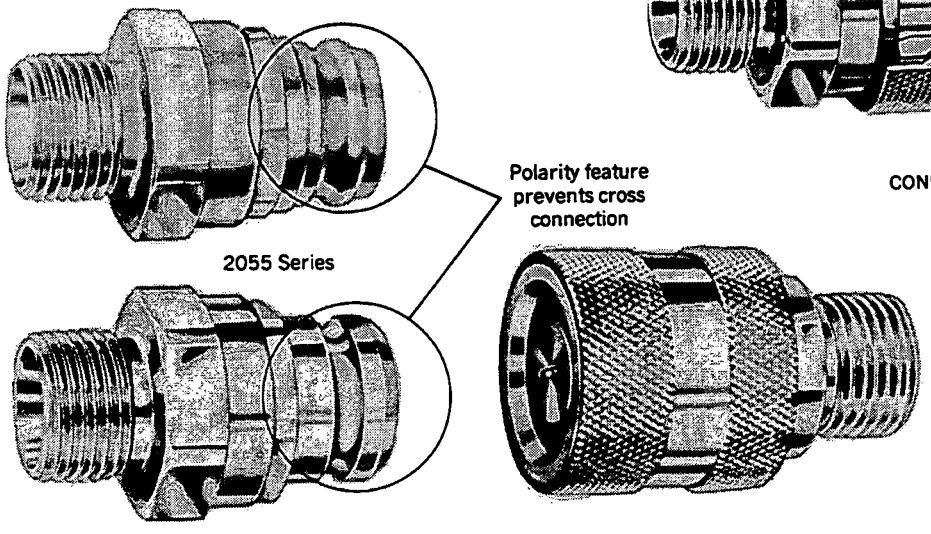
Coupling Design Data

"ARC LATCH"

LOCKING DESIGN



CONNECTED



2055 Series

1965 Series

DISCONNECTED

The Aeroquip "Arc Latch" locking design provides contact surfaces over a broad surface area. This broad contact area permits low unit loading and helps prevent brinnelling and undue wear of the metal locking surface. The wider surface contact also contributes to a more effective locking action and gives the couplings greater capability to withstand vibration environments.

For added safety, a polarity feature prohibits cross connection of high and low pressure coupling halves. In addition, a green band appears behind the coupling sleeve when securely locked.

** -4 size coupling uses ball latch mechanism due to low profile design size limitations.*

1965 Series 3000 PSIG Coupling

Basic Material: Stainless Steel

Packings: Nitrile (Petroleum Based) or EPR (Skydrol* Systems) Teflon† Back-Up Rings

Application: MIL-H-5606, MIL-H-83282 Hydraulic Systems, Skydrol

Temperature Range: -65°F. to +275°F. (-54°C. to +135°C.)

Pressures: Operating—3000 PSIG
Proof—4500 PSIG
Minimum Burst—7500 PSIG

Meets the performance requirements of MIL-C-25427A.

2055 Series 1000 PSIG Coupling

Basic Material: Aluminum

Packings: Nitrile (Petroleum Based) or EPR (Skydrol Systems)

Application: MIL-H-5606, MIL-H-83282 Hydraulic Systems, Skydrol, Lube Oil, Coolants

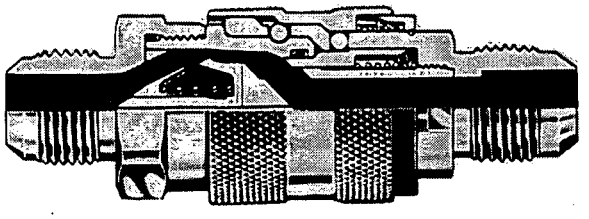
Temperature Range: -65°F. to +275°F. (-54°C. to +135°C.)

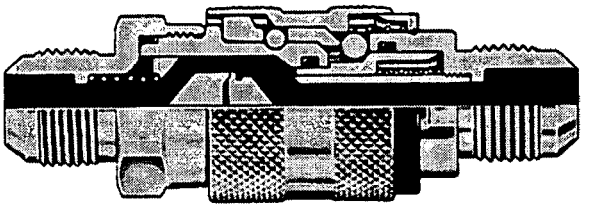
Operating Pressure: Operating—1000 PSIG
Proof—1500 PSIG
Minimum Burst—2500 PSIG

Meets the performance requirements of MIL-C-25427A except operating pressures.

** Skydrol is a Monsanto trademark* *† Teflon is a DuPont trademark*

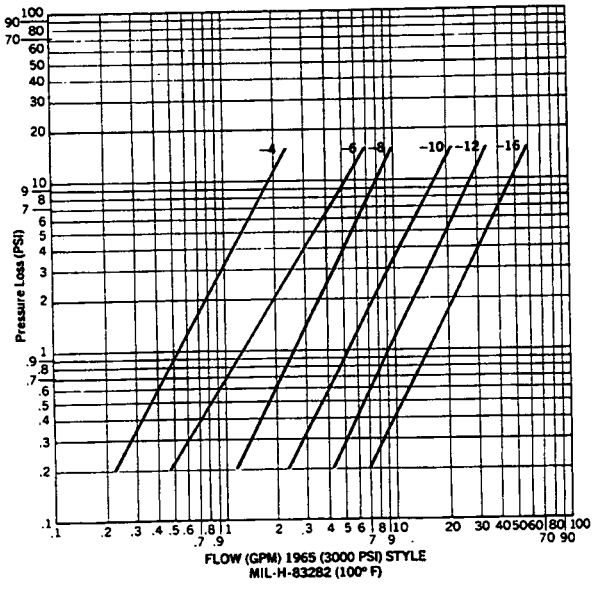
Pressure/Flow Chart



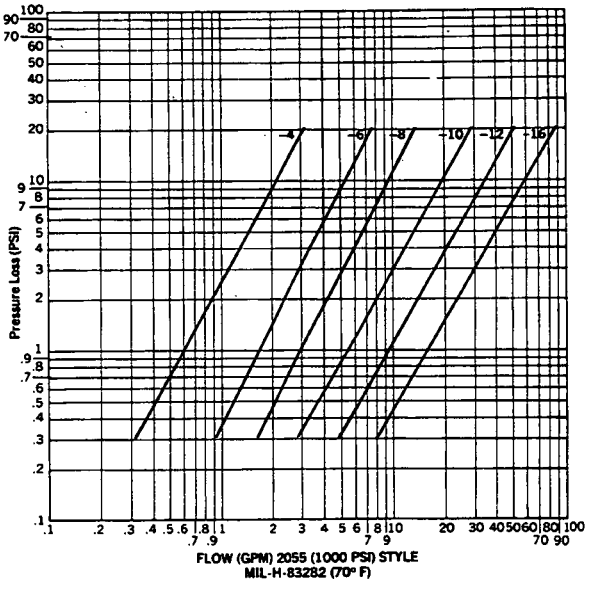


Cutaway Showing Fluid Flow

1965 Series
3000 PSIG Coupling



2055 Series
1000 PSIG Coupling



Pressure Flow Chart: To find the net pressure loss (difference between the coupling and an equivalent length of straight tube) for a given coupling size at a given flow rate:

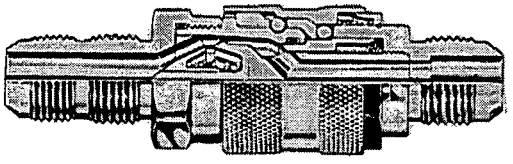
1. Find the flow rate at the bottom of the chart and read up until the line intersects the curve for the coupling size in question.
2. Read across to find pressure loss.

1965 Series 3000 PSIG Low Profile Couplings

Sizes, Applications and Part Numbers

Aeroquip couplings are available with all standard type end fitting combinations. To order, select the style, application, size and corresponding part number for coupling halves or complete coupling assembly from the table below (Example: Style 1, MIL-H-5606, -4 size, complete assembly: AE82302E). Aeroquip couplings for other fluids and end fittings are also available. Contact your nearest Aeroquip distributor, an Aeroquip sales engineer or the Aeroquip sales service engineering department (517) 787-8121.

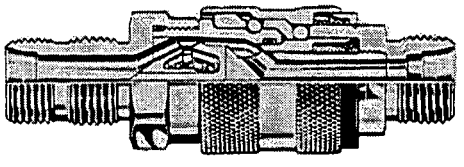
Style I



(MS33657 & MS33656 ends)

Size	Operating Pressure (PSIG)	Coupling Assembly		Coupling Half Bulkhead Mounting		Coupling Half Hose Attaching		Coupling Assembly Weight (Lbs.)
		MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	
-4	3000	AE82302E	AE82310E	AE82303E	AE82311E	AE82304E	AE82312E	.242
-6	3000	AE82302G	AE82310G	AE82303G	AE82311G	AE82304G	AE82312G	.380
-8	3000	AE82302H	AE82310H	AE82303H	AE82311H	AE82304H	AE82312H	.555
-10	3000	AE82302J	AE82310J	AE82303J	AE82311J	AE82304J	AE82312J	.947
-12	3000	AE82302K	AE82310K	AE82303K	AE82311K	AE82304K	AE82312K	1.268
-16	3000	AE82302M	AE82310M	AE82303M	AE82311M	AE82304M	AE82312M	1.969

Style II

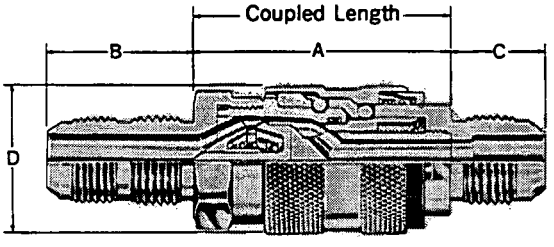


(MS33515 and MS33514 ends)

Size	Operating Pressure (PSIG)	Coupling Assembly		Coupling Half Bulkhead Mounting		Coupling Half Hose Attaching		Coupling Assembly Weight (Lbs.)
		MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	
-4	3000	AE82306E	AE82314E	AE82307E	AE82315E	AE82308E	AE82316E	.236
-6	3000	AE82306G	AE82314G	AE82307G	AE82315G	AE82308G	AE82316G	.370
-8	3000	AE82306H	AE82314H	AE82307H	AE82315H	AE82308H	AE82316H	.537
-10	3000	AE82306J	AE82314J	AE82307J	AE82315J	AE82308J	AE82316J	.902
-12	3000	AE82306K	AE82314K	AE82307K	AE82315K	AE82308K	AE82316K	1.221
-16	3000	AE82306M	AE82314M	AE82307M	AE82315M	AE82308M	AE82316M	1.875

Coupling Dimensions

Style I



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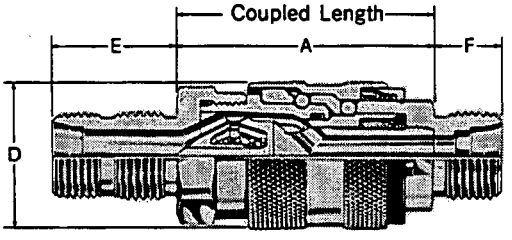
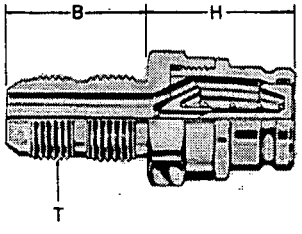
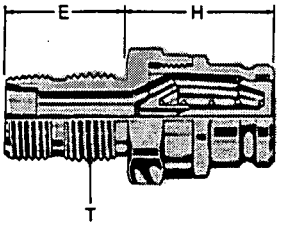


Coupling Half, Bulkhead Mounting

For Style 1

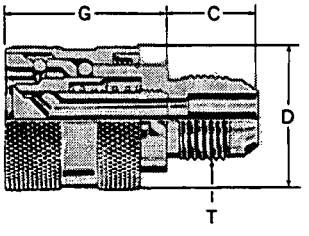


For Style II



Coupling Half, Hose Attaching

For Style I



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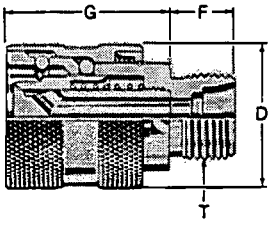


Dash Size	-4	-6	-8	-10	-12	-16
Letter Code	E	G	H	J	K	M
Tube Size	¼"	⅜"	½"	⅝"	¾"	1"
A	1.748	1.943	2.159	2.522	2.612	3.017
B	1.047	1.125	1.281	1.422	1.593	1.593
C	.550	.556	.657	.758	.864	.911
D MAX.	.910	1.130	1.270	1.530	1.740	2.090
E	.969	1.015	1.156	1.297	1.406	1.406
F	.453	.469	.562	.625	.688	.688
G	1.210	1.320	1.420	1.750	1.906	2.160
H	1.014	1.092	1.261	1.500	1.510	1.760
THD "T"	.4375-20	.5625-18	.7500-16	.8750-14	1.0625-12	1.3125-12
	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A
Uncoupled Length, Max.	2.250	2.440	2.710	3.280	3.430	3.940

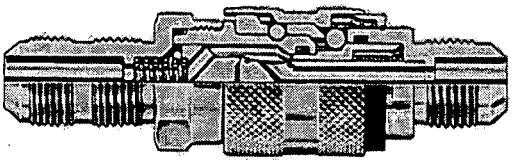
NOTE: All dimensions in inches

2055 Series 1000 PSIG Low Profile Couplings

Sizes, Applications and Part Numbers

Aeroquip couplings are available with all standard type end fitting combinations. To order, select the style, application, size and corresponding part number for coupling halves or complete coupling assembly from the table below (Example: Style 1, MIL-H-5606, -4 size, complete assembly: AE82318E). Aeroquip couplings for other fluids and end fittings are also available. Contact your nearest Aeroquip distributor, an Aeroquip sales engineer or the Aeroquip sales service engineering department (517) 787-8121.

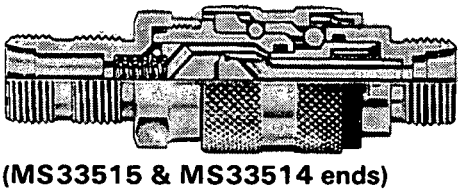
Style I



(MS33657 & MS33656 ends)

Size	Operating Pressure (PSIG)	Coupling Assembly		Coupling Half Bulkhead Mounting		Coupling Half Hose Attaching		Coupling Assembly Weight (Lbs.)
		MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	
-4	1000	AE82318E	AE82326E	AE82319E	AE82327E	AE82320E	AE82328E	.097
-6	1000	AE82318G	AE82326G	AE82319G	AE82327G	AE82320G	AE82328G	.159
-8	1000	AE82318H	AE82326H	AE82319H	AE82327H	AE82320H	AE82328H	.240
-10	1000	AE82318J	AE82326J	AE82319J	AE82327J	AE82320J	AE82328J	.412
-12	1000	AE82318K	AE82326K	AE82319K	AE82327K	AE82320K	AE82328K	.578
-16	1000	AE82318M	AE82326M	AE82319M	AE82327M	AE82320M	AE82328M	.904

Style II

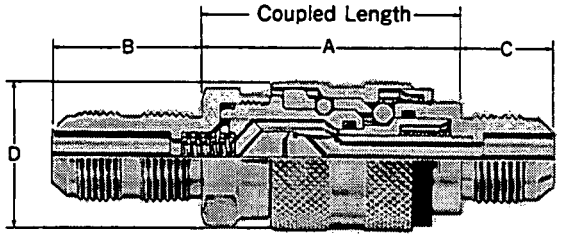


(MS33515 & MS33514 ends)

Size	Operating Pressure (PSIG)	Coupling Assembly		Coupling Half Bulkhead Mounting		Coupling Half Hose Attaching		Coupling Assembly Weight (Lbs.)
		MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	MIL-H-5606 MIL-H-83282	Skydrol	
-4	1000	AE82322E	AE82330E	AE82323E	AE82331E	AE82324E	AE82332E	.095
-6	1000	AE82322G	AE82330G	AE82323G	AE82331G	AE82324G	AE82332G	.155
-8	1000	AE82322H	AE82330H	AE82323H	AE82331H	AE82324H	AE82332H	.233
-10	1000	AE82322J	AE82330J	AE82323J	AE82331J	AE82324J	AE82332J	.397
-12	1000	AE82322K	AE82330K	AE82323K	AE82331K	AE82324K	AE82332K	.561
-16	1000	AE82322M	AE82330M	AE82323M	AE82331M	AE82324M	AE82332M	.871

Coupling Dimensions

Style I



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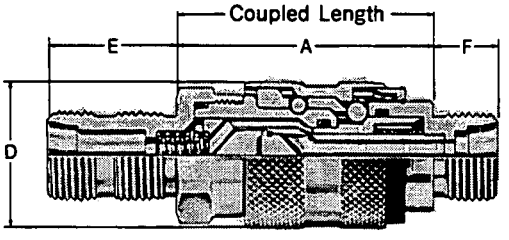
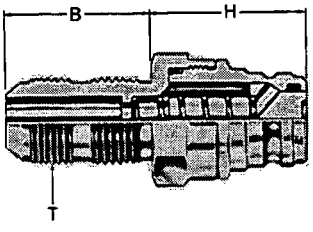


Coupling Half, Bulkhead Mounting

For Style 1



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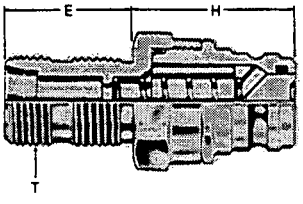
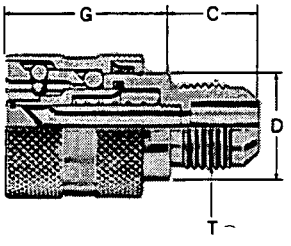


Coupling Half, Hose Attaching

For Style I



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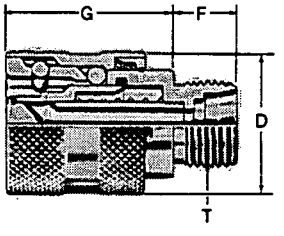
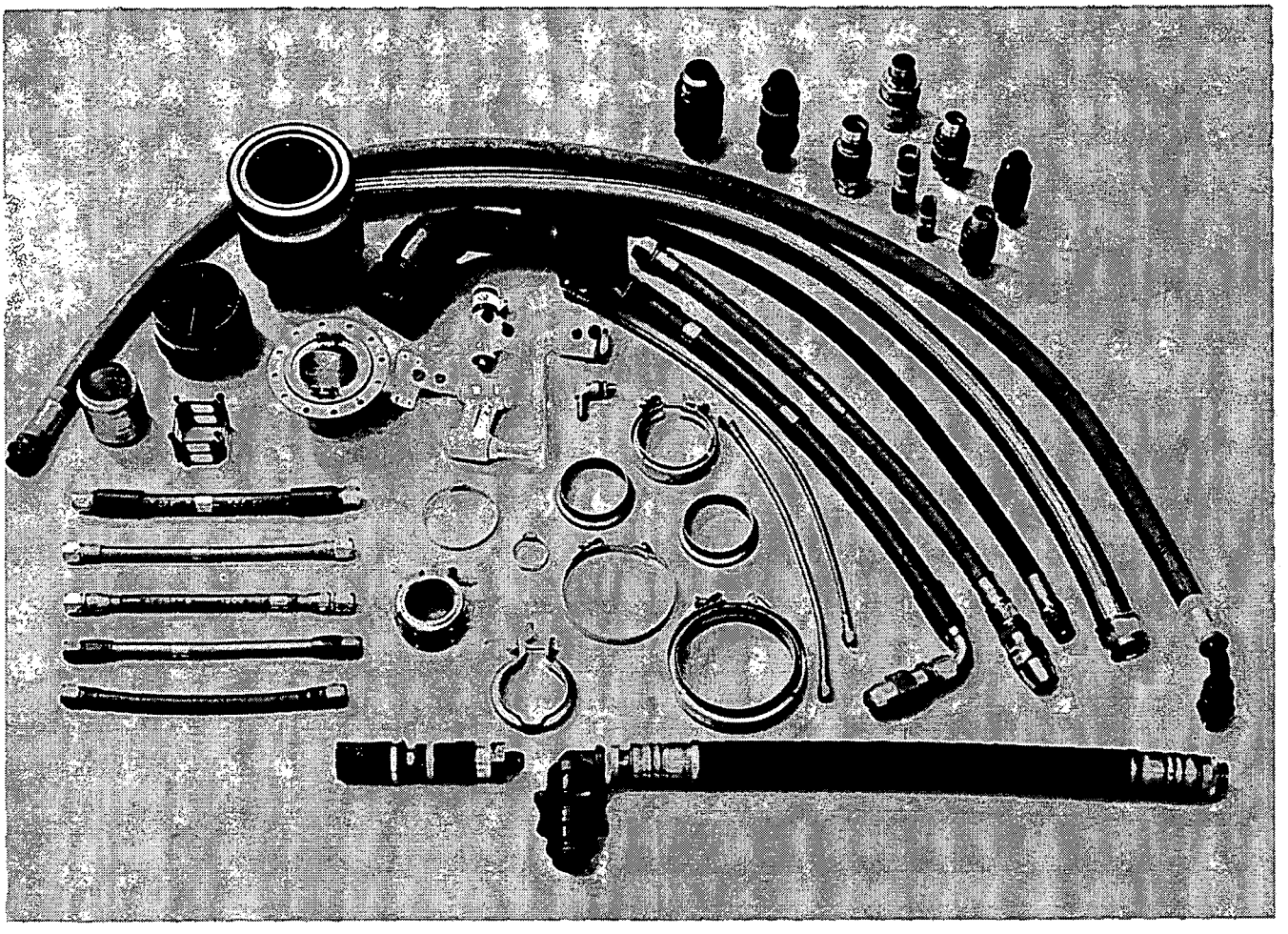


Dash Size	-4	-6	-8	-10	-12	-16
Letter Code	E	G	H	J	K	M
Tube Size	¼"	⅜"	½"	⅝"	¾"	1"
A	1.748	1.943	2.159	2.522	2.612	3.017
B	1.047	1.125	1.281	1.422	1.593	1.593
C	.550	.556	.657	.758	.864	.911
D MAX.	.910	1.130	1.270	1.530	1.740	2.090
E	.969	1.015	1.156	1.297	1.406	1.406
F	.453	.469	.562	.625	.688	.688
G	1.244	1.320	1.420	1.750	1.906	2.160
H	1.014	1.092	1.261	1.500	1.510	1.760
THD "T"	.4375-20	.5625-18	.7500-16	.8750-14	1.0625-12	1.3125-12
	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A	UNJF-3A
Uncoupled Length	2.290	2.440	2.710	3.280	3.430	3.940

NOTE: All dimensions in inches

Other Proven Aeroquip Products



Aeroquip also manufactures duct assemblies and components, band clamps, instrument mount clamps, Marman™ V-Band Couplings, check valves, swivel joints, tube fittings, ratchet lock, push-pull and modular self-sealing quick disconnect couplings, Teflon, rubber and thermoplastic hose with both crimp and reusable fittings.

For information on other low profile coupling designs write for: AEB-240A—1800 & 1801 Series Low Profile Ratchet Lock Couplings; Qualified to performance requirements of MIL-C-25427A

Aeroquip

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