

For fuel, oil, low pressure hydraulic,  
pneumatic and other systems



Eaton's Aeroquip® 3750 Series SAF-LOC coupling is used wherever a fast, safe connection is mandatory for fuel, oil, low pressure hydraulic, pneumatic and other systems. SAF-LOC couplings are foolproof — will not allow a stable, partially connected position that will allow fluid to flow.

In addition, three check points are used to verify positive connection — SOUND (click action), VISUAL and TOUCH (SAF-LOC indicator pins). The pins do not protrude until after the nut engages the locking hex. Eaton's SAF-LOC couplings connect and disconnect with one hand in a single, easy motion. The positive thread action of the nut gives a mechanical advantage that permits connection against line pressures to 60 psi (413 kPa). Nevertheless, forces encountered in operation up to 20 G's will not inadvertently disconnect the coupling.

### SAF-LOC Coupling



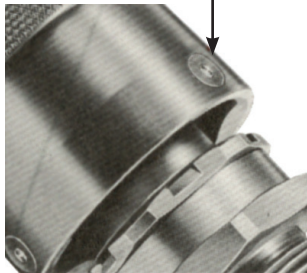
Coupling half, hose attaching



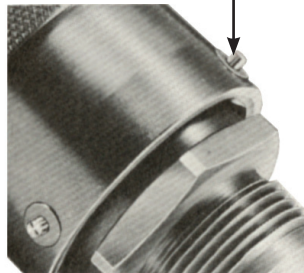
Coupling half, bulkhead mounting

### SAF-LOC Indicator Pins

Unlocked

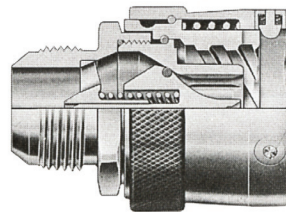


Locked

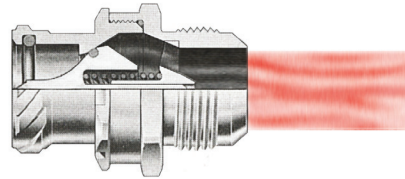


Fully tested in accordance with MIL-C-7413A

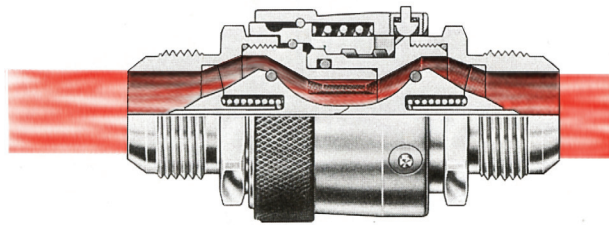
## Principle of Operation



Guided poppet valves closed

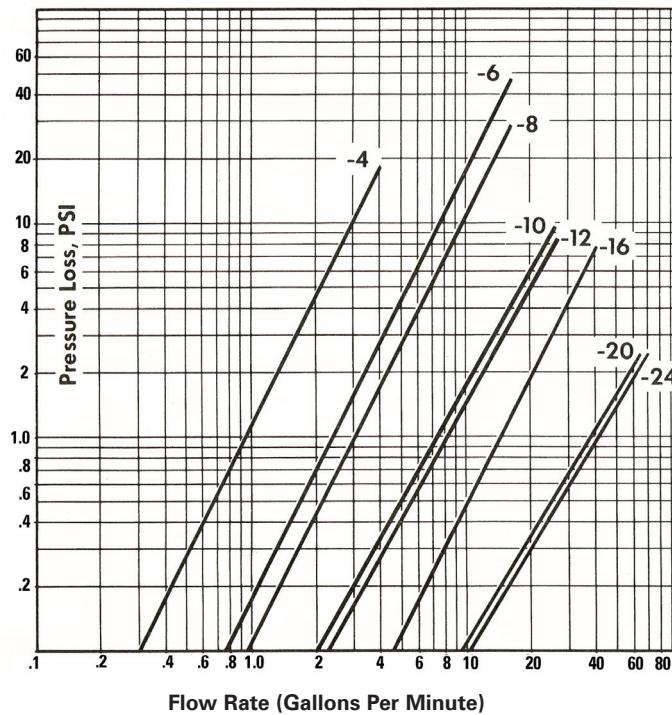


"O" ring seat seal



## Pressure Loss Versus Flow

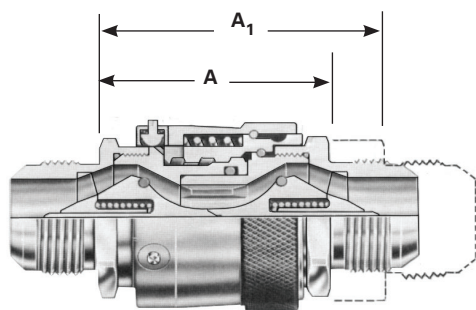
To find the pressure loss (difference between inlet and outlet pressures) for a given coupling size at a given flow rate, 1) find the flow rate at bottom of chart and read up until the line intersects the pressure curve for the coupling size in question, 2) read across to find the pressure loss. Data in the chart at right is plotted for JP-4 fuel at 60°F (15.55°C).



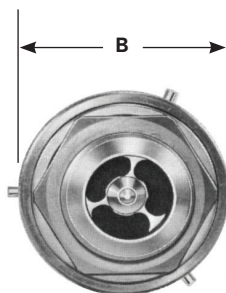
## Pressure Data

Sizes	-4 thru -12	-16, -20 & -24
Operating	1000 psi (6894.75 kPa)	600 psi (4136.85 kPa)
Proof	1500 psi (10342.12 kPa)	900 psi (6205.28 kPa)
Burst (min.)	3000 psi (20684.27 kPa)	1800 psi (12410.56 kPa)

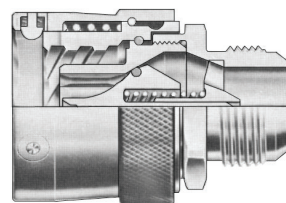
## Dimensional Data



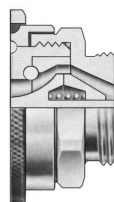
Coupling assembly



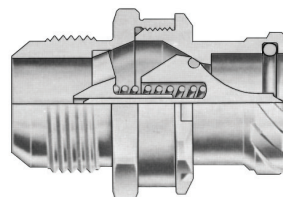
End view



Coupling half, hose attaching

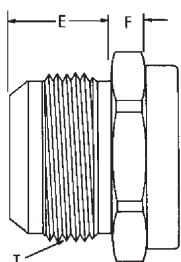


Alternative seal arrangement  
used on sizes -4 thru -12 (detail  
typical for both ends)

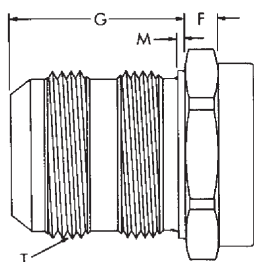


Coupling half, bulkhead mounting

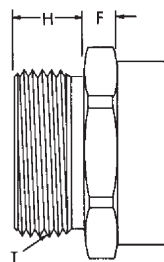
## End Fitting Dimensions



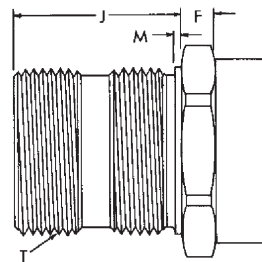
AS4395  
AN flared



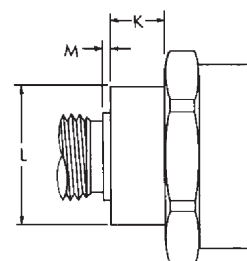
AS4396  
AN flared bulkhead



AS4375 (AS33514)  
MS flareless



AS4377 (AS33515)  
MS flareless bulkhead



Alternate detail —  
dimensions L and K typical  
in -4, -6, -20 and -24\* size  
adapters only. Dimension K  
is included in dimensions A,  
A<sub>1</sub>, C and D.

Note: where couplings are to be installed in MS33649 boss or equivalent, specify the ends to AS930

\* On AS4375 (AS33514) only

## Coupling Styles and Part Numbers

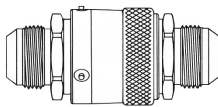
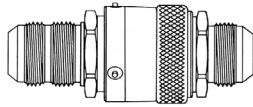
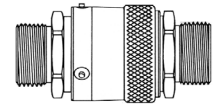
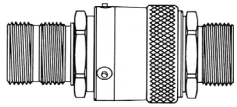
SAF-LOC couplings for fuel, oil and hydraulic return applications are available with various end fitting combinations. Select the base part number for coupling halves or coupling assembly from the table on page 5.

Complete the part number as shown at right. Couplings for other fluids are available. Contact Eaton for further information.

### Example for Ordering

**3750 - 8** = Complete coupling part number  
                   → = Base number  
                   → = Dash size (tube O.D. in 1/16")

## Coupling Styles and Part Numbers

Coupling Half		Style I AS4395 AS4395			Style II AS4396 AS4395			Style III AS4375 AS4375			Style IV AS4377 AS4375		
													
Application		Fuel	Lube Oil	Hydraulic Return	Fuel	Lube Oil	Hydraulic Return	Fuel	Lube Oil	Hydraulic Return	Fuel	Lube Oil	Hydraulic Return
Specification		Mil-C-7413 Type I	Mil-C-7413 Type II Class A + B	Mil-C-25427 Class 600	Mil-C-7413 Type I	Mil-C-7413 Type II Class A + B	Mil-C-25427 Class 600	Mil-C-7413 Type 1	Mil-C-7413 Type II Class A + B	Mil-C-25427 Class 600	Mil-C-7413 Type 1	Mil-C-7413 Type II Class A + B	Mil-C-25427 Class 600
Part Number	Coupling Half, Bulkhead Mounting	3752	375204	375207	375201	375200	375208	375209	375210	375211	375212	375213	375214
	Coupling Assembly	3750	375004	375007	375001	375000	375008	375009	375010	375011	375012	375013	375014
	Coupling Half, Hose Attaching	3755	375504	375506	3755	375504	375506	375507	375508	375503	375507	375508	375503

**To determine over-all length** add the end fitting dimension for each end (dimensions E, G, H or J from the table below) to the base assembly length (dimension A or A1) for the desired coupling style. For coupling half length add end fitting dimensions to the basic length (dimension C or D).

Leak proof dust caps and dust plugs are available for all sizes (see page 6).

Dash size		-4	-6	-8	-10	-12	-16	-20	-24
Tube size		1/4 (6.35)	3/8 (9.52)	1/2 (12.7)	5/8 (.625)	3/4 (19.04)	1 (25.4)	1-1/4 (31.75)	1-1/2 (38.09)
Dimensions in inches (mm)	A	2.37 (60.19)	2.02 (51.30)	1.68 (42.67)	2.39 (60.70)	2.17 (55.11)	*2.56 (65.02)	4.06 (103.12)	*3.61 (91.69)
	A <sub>1</sub>	3.14 (79.75)	2.80 (71.11)	2.47 (62.73)	3.40 (86.36)	3.18 (80.77)	*3.83 (97.28)	5.66 (143.76)	*5.20 (132.07)
	B	1.53 (38.86)	1.53 (38.86)	1.53 (38.86)	1.91 (48.51)	1.91 (48.51)	2.16 (54.86)	2.70 (68.58)	2.70 (68.58)
	C	1.76 (44.70)	1.59 (40.38)	1.37 (34.79)	1.89 (48.00)	1.78 (45.21)	*2.17 (55.11)	2.97 (75.43)	*2.74 (69.59)
	D	1.38 (35.05)	1.21 (30.73)	1.10 (27.94)	1.51 (38.35)	1.40 (35.55)	*1.66 (42.16)	2.69 (68.32)	*2.46 (62.48)
Weight in lbs (kg)	Style I	.22 (.09)	.22 (.09)	.22 (.09)	.62 (.28)	.59 (.26)	.66 (.29)	1.33 (.60)	1.26 (.57)
	Style II	.22 (.09)	.22 (.09)	.24 (.10)	.65 (.29)	.62 (.28)	.70 (.31)	1.39 (.63)	1.33 (.60)
	Style III	.21 (.09)	.21 (.09)	.21 (.09)	.58 (.26)	.57 (.25)	.62 (.28)	1.27 (.57)	1.25 (.56)
	Style IV	.22 (.09)	.22 (.09)	.23 (.10)	.60 (.27)	.60 (.27)	.66 (.29)	1.29 (.58)	1.28 (.58)
Dimensions in inches (mm)	E	.550 (13.97)	.556 (14.12)	.657 (16.68)	.758 (19.25)	.864 (21.94)	.911 (23.13)	.958 (24.33)	1.083 (27.50)
	F	.19 (4.82)	.19 (4.82)	.19 (4.82)	.26 (6.60)	.26 (6.60)	.26 (6.60)	.32 (8.12)	.32 (8.12)
	G	1.047 (26.59)	1.125 (28.57)	1.281 (32.53)	1.422 (36.11)	1.593 (40.46)	1.593 (40.46)	1.640 (41.65)	1.656 (42.06)
	H	.453 (11.50)	.469 (11.91)	.562 (14.27)	.625 (15.87)	.688 (17.47)	.688 (17.47)	.688 (17.47)	.688 (17.47)
	J	.969 (24.61)	1.015 (25.78)	1.156 (29.36)	1.297 (32.94)	1.406 (35.71)	1.406 (35.71)	1.406 (35.71)	1.406 (35.71)
	K	H. A.	.40 (10.16)	.22 (5.58)	—	—	—	.46 (11.68)	*.23 (5.84)
		B. M.	.29 (7.36)	.11 (2.79)	—	—	—	.46 (11.68)	*.23 (5.84)
	L	.69 (17.52)	.81 (20.57)	—	—	—	—	1.88 (47.75)	*2.12 (53.84)
	M	.031 (0.78)	.031 (0.78)	.031 (0.78)	.031 (0.78)	.031 (0.78)	.031 (0.78)	.031 (0.78)	.031 (0.78)
	Thd "T"	7/16 -20	9/16 -18	3/4 -16	7/8 -14	1 1/16 -12	1 5/16 -12	1 5/8 -12	1 7/8 -12

H.A. — Hose Attaching Half  
B.M. — Bulkhead Mounting Half

\* Dimensions for Styles I, II and IV are slightly less.



Dust Caps and Plugs

Leak proof dust caps and dust plugs are available for all sizes. Specify fluid system when ordering. Attaching cable is not included.

Description	Part Number
Cap Assembly	378000 - size
Plug Assembly	378200 - size

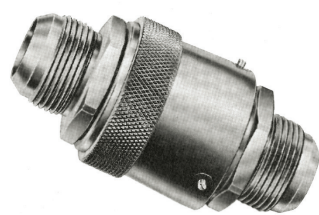
Size	Use
-8	for sizes -4, -6, -8
-12	for sizes -10, -12
-16	for size -16
-24	for sizes -20, -24

Operation of Eaton's Aeroquip SAF-LOC coupling is simple. There are no sliding seals to cause valves to stick open. Threaded coupling action permits manual connection, even against line pressure.

Couplings can be furnished with special packings and body materials for a variety of fluids or gases. Other end fittings or connection variations may be designed for special coupling situations such as remote operation. Contact your Eaton representative or send details of your application for engineering assistance.

Operating Temperatures

	Continuous	Intermittent
Fuel	-65°F to +160°F (-53.88°C to +71.1°C)	-
Synthetic oil	-65°F to +325°F (-53.88°C to +162.77°C)	-65°F to +375°F (-53.88°C to +190.5°C)
Petroleum oil	-65°F to +250°F (-53.8°C to +121.1°C)	-65°F to +325°F (-53.88°C to +162.7°C)
Hydraulic return	-65°F to +275°F (-53.8°C to +135°C)	+



Material and Finish

Coupling Body and Valves*	Anodized aluminum alloy, Type 2024 (AMS 4120)
Springs	Stainless steel, Type 304 (AMS 5697)
Packings*	
Fuel Couplings	Synthetic Rubber (Spec. Mil-P-5315)
Oil Couplings	Viton A compound

\*Other materials and packings can be furnished on request

**NOTES:**

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