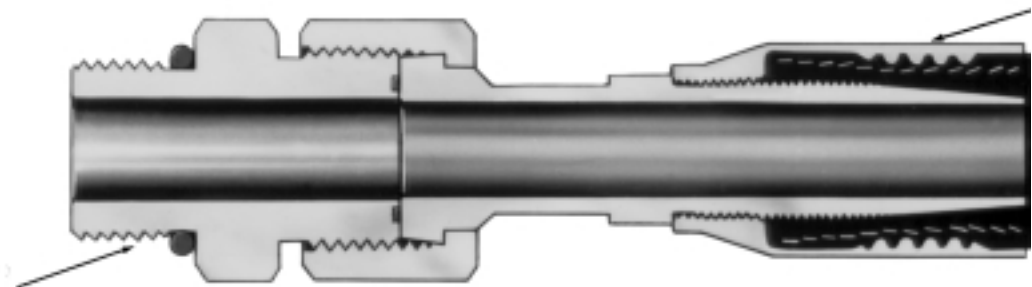


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NOTE: Due to the infinite number of adapter combinations, materials and finishes available, Eaton Aeroquip does not catalog all items it stocks or has the capability to manufacture. Eaton Aeroquip catalogs only its most popular standard adapters. Please contact Eaton Aeroquip directly for special adapter requirements, including stainless steel and brass components. These parts are provided to customers with the same quality and prompt delivery as stock items.

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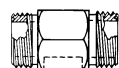
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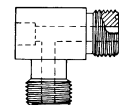
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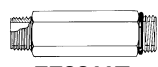


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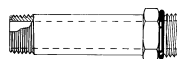
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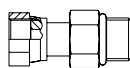
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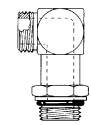
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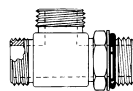
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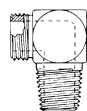
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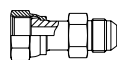


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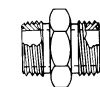
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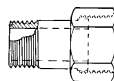


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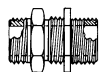
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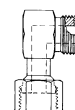
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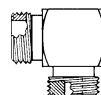
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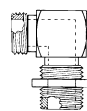
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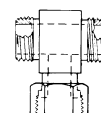
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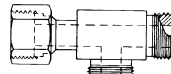
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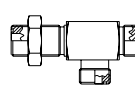
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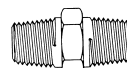


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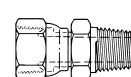
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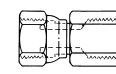
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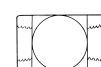
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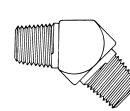
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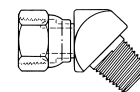
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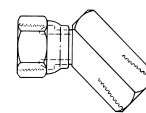
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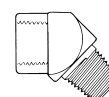
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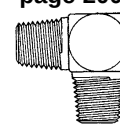
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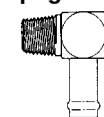
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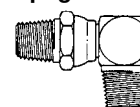
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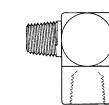
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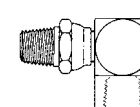
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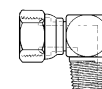
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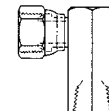
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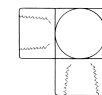
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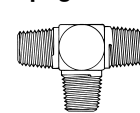
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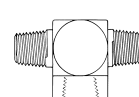
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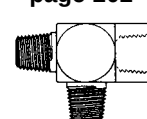
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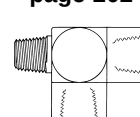
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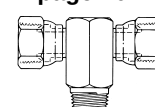
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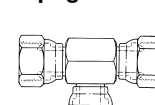
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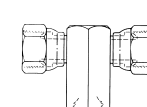
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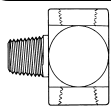


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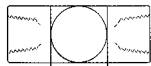


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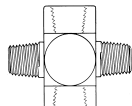
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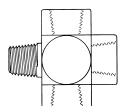
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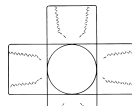
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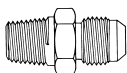


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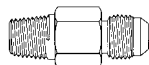


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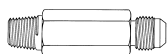
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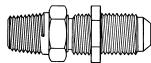
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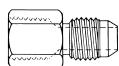
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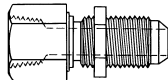
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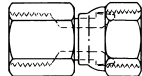
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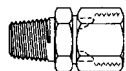
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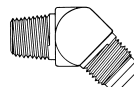
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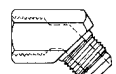
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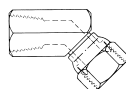
2018
page 204



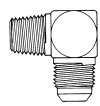
2023
page 205



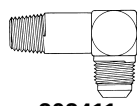
2044
page 205



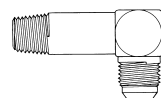
2243
page 205



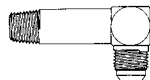
2024
page 205



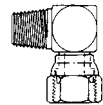
202411
page 205



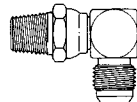
202413
page 205



202414
page 206



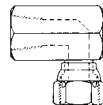
2250
page 206



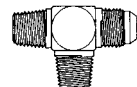
2249
page 206



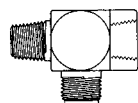
2025
page 206



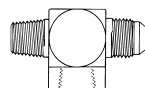
2244
page 206



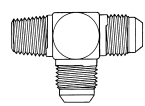
203007
page 206



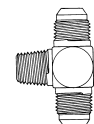
203301
page 206



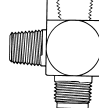
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page 207



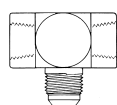
2028
page 207



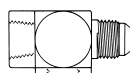
2030
page 207



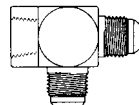
203006
page 207



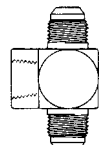
202901
page 207



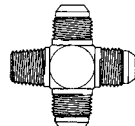
203104
page 207



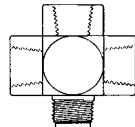
2029
page 208



2031
page 208

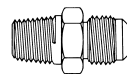


202003
page 208

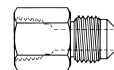


202006
page 208

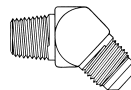
Pipe to
45° flare



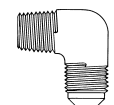
2000
page 208



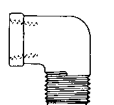
2001
page 209



2007
page 209



2003
page 209

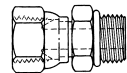


2002
page 209

Pipe to SAE
O-Ring boss



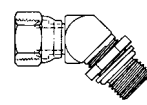
2246
page 209



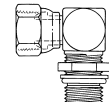
2066
page 210



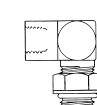
2216
page 210



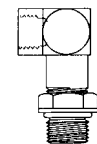
2067
page 210



2068
page 210



206801
page 210



206804
page 210

Pipe to
brazed & weld



73056
page 211



2261
page 211

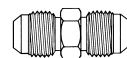


FF1026
page 211

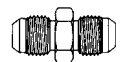


FF1159
page 211

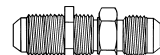
SAE 37°
(JIC)
flare union



2027
page 211



202712
page 212



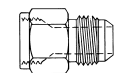
2041
page 212



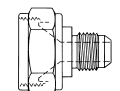
900599
page 212



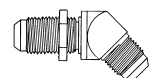
210292
page 212



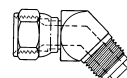
2215
page 212



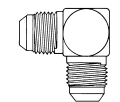
221501
page 212



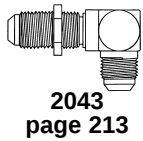
2042
page 213



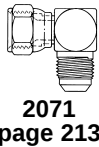
2070
page 213



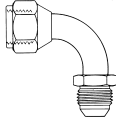
2039
page 213



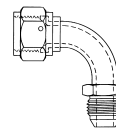
2043
page 213



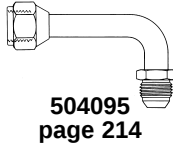
2071
page 213



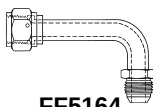
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page 213



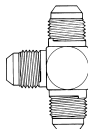
FF5163
page 214



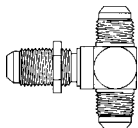
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page 214



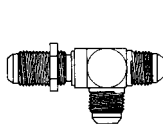
FF5164
page 214



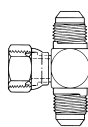
2033
page 214



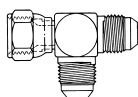
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page 214



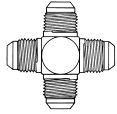
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page 214



203101
page 214



203102
page 215

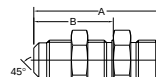


2020
page 215

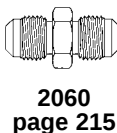


210212
page 215

SAE 45°
flare union



2056
page 215

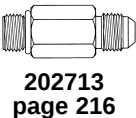


2060
page 215

SAE
O-Ring
to 37° flare



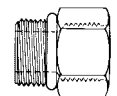
202702
page 215



202713
page 216



2266
page 216



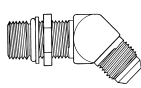
FF1010
page 216



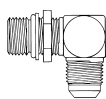
900598
page 216



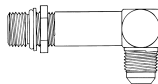
FF2138
page 216



2061
page 216



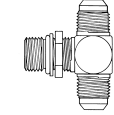
2062
page 216



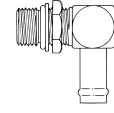
206209
page 216



203005
page 217

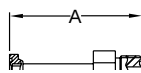


203003
page 217

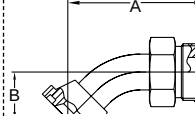


FF1167
page 217

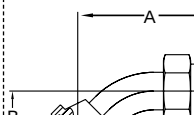
SAE
split flange to
ORS



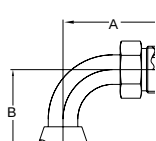
FF5943T
page 217



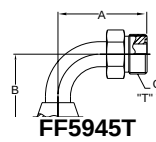
FF6001T
page 217



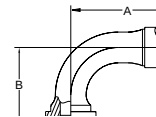
FF6002T
page 217



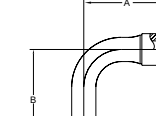
FF5946T
page 217



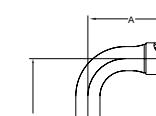
FF5945T
page 217



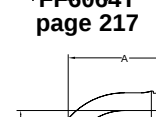
FF6062T
page 217



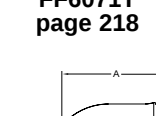
FF6063T
page 217



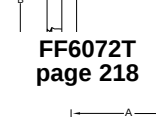
FF6064T
page 217



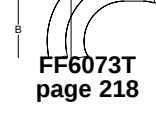
FF6071T
page 218



FF6072T
page 218

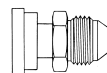


FF6073T
page 218

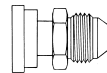


FF2522T
page 218

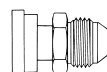
SAE
split flange to
37° flare



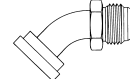
500025
page 218



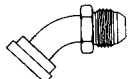
FF5239
page 218



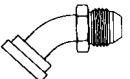
FF5541
page 218



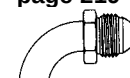
500023
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FF5238
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FF5539
page 219



500024
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FF5162
page 219

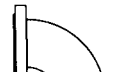


FF5540
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SAE
split flange to
SAE
split flange



504089
page 220



FF5321
page 220



FC2119
page 220



449-74446
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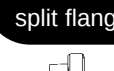


FC2713
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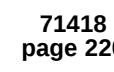


FC3425
page 220

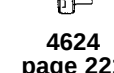
Braze
& weld to
split flange



71418
page 220



4624
page 221



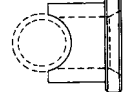
71423
page 221



71423
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71416
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71422
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FC2119
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Braze
& weld to
37° flare



73014
page 221



202232
page 221



FF1131
page 222



FF1307
page 222



SAE
Flareless
to 37° union



FF1315
page 222



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Flare and Flareless



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Specials



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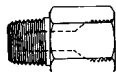
202124/FF1327
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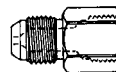
FT1353/FF1354
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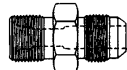
Metric Thread



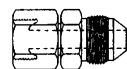
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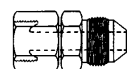
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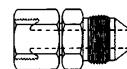
15.117
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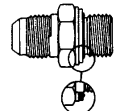
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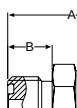


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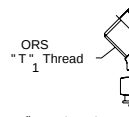


GG308-NP
page 224

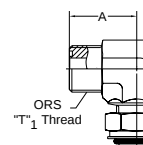
ISO 6149



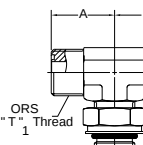
FF2742T
page 225



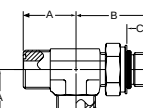
FF2743T
page 225



FF2744T
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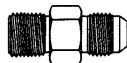


FF2745T
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FF2746T
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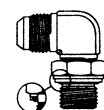
BSPP Thread



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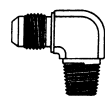


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BSPT Thread



GG110-NP
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GG310-NP
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JIS30° Thread



FF2593
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O-Rings



SAE O-Ring Boss
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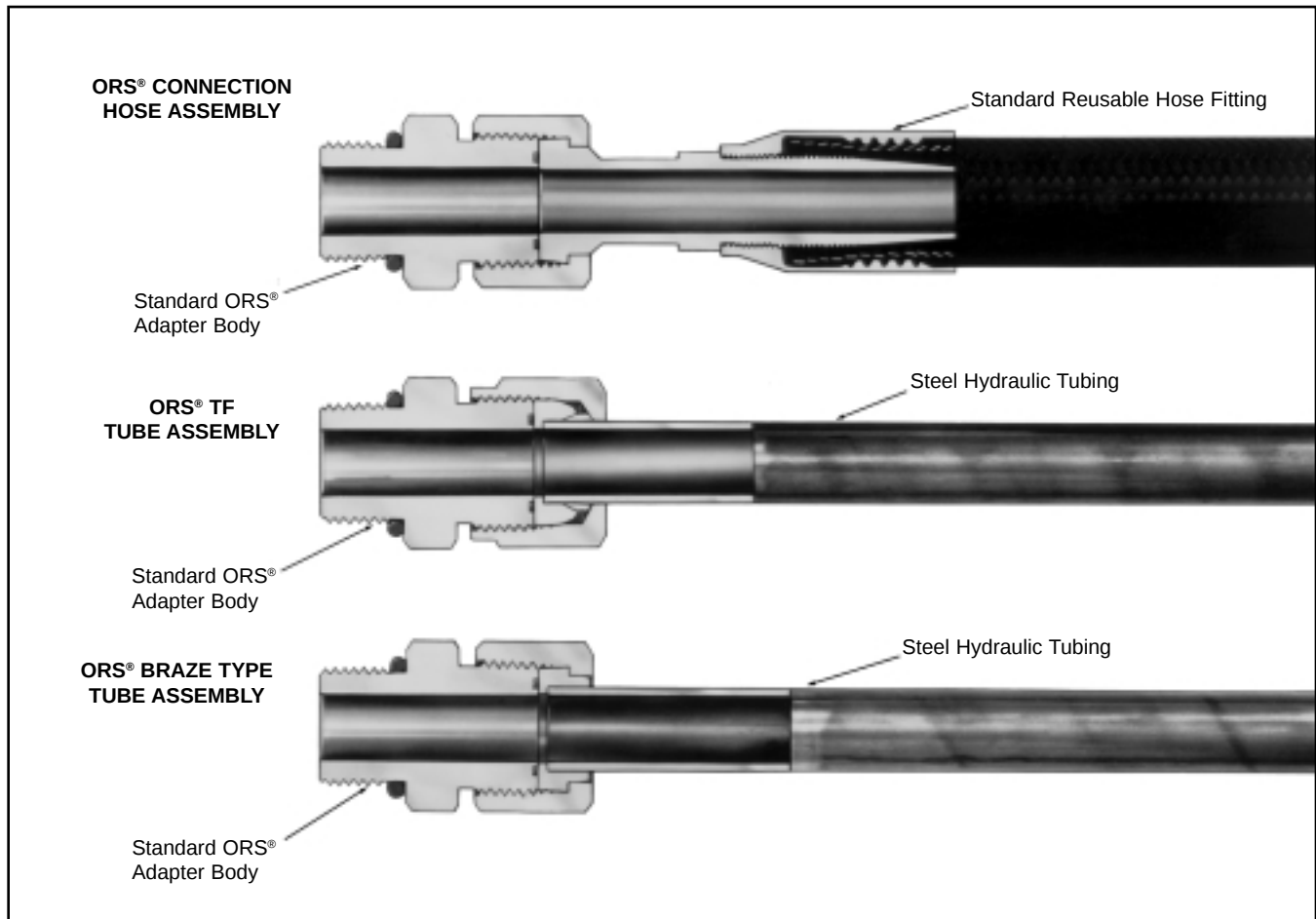
ORS
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The Aeroquip ORS® Connection is the Universal Answer to Troublesome Fluid Leakage Problems



Hose Assemblies

The ORS® connection can be used with flexible hydraulic hose, combining the reusability of the hose fitting and the ORS connection. The result is the ultimate reusable fitting.

Tube Assemblies

The ORS connection can be attached to hydraulic tubing to make a tube assembly. Two methods of attachment are available.

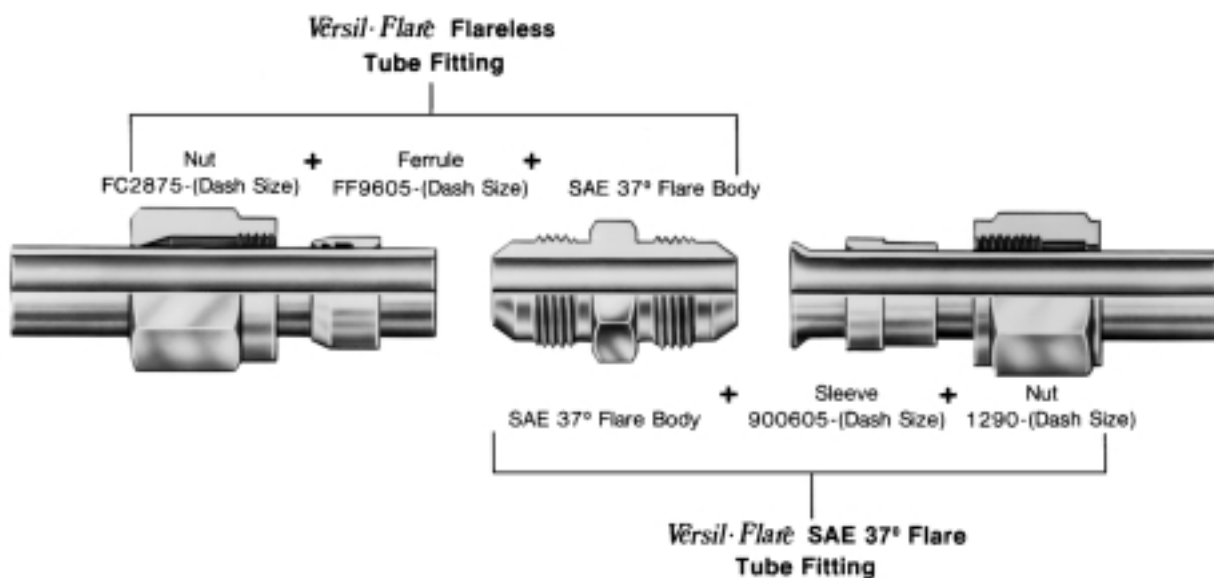
1. ORS-TF: The ORS female can be jointed directly to steel tubing with the patented ORS-TF (wedge type) tube fitting, another Aeroquip innovation. The fitting becomes an integral part of your system at a fraction of the time and expense brazing requires.

The versatility these options provides make ORS the only connection you need for high-pressure situations.

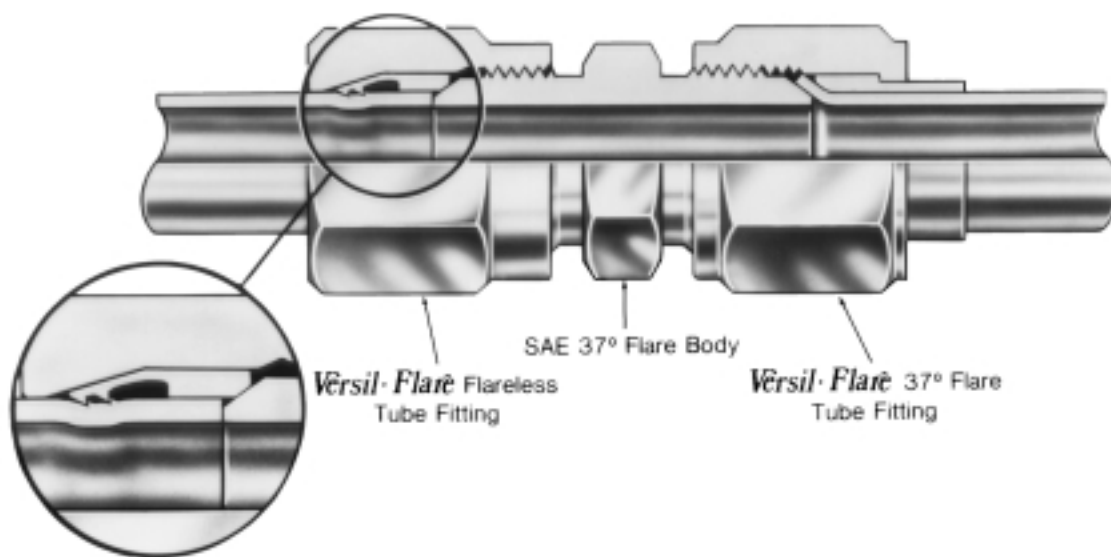
It attaches to most types of fluid conveying lines, controlling most types of fluid, facing the toughest conditions.

2. ORS-Braze Type: The ORS component can be brazed to hydraulic tubing.

Versil·Flare™ Flareless and Versil·Flare™ SAE 37° Flared type both styles use the same SAE 37° flared body



Before Connection

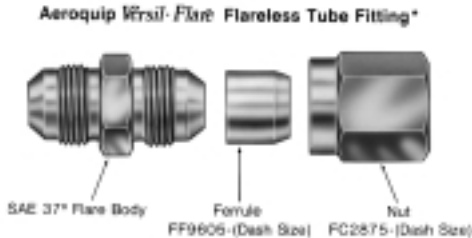


After Connection

One inventory of bodies (any standard SAE 37° flare fitting) allows both flareless and flared type connection of standard steel hydraulic tubing. It is no longer necessary to inventory

flared tube fittings plus the special bodies, nuts and sleeves for flareless tube fittings. The Aeroquip total tube fitting concept reduces inventory expense.

Aeroquip Versil•Flare™ Flareless Tube Fitting



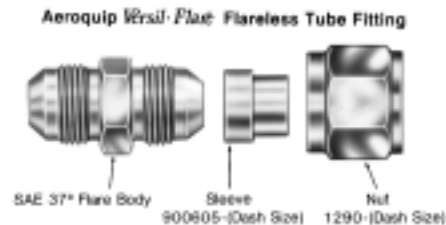
The Aeroquip Versil•Flare™ Flareless Tube Fitting can use any standard SAE 37° male flare adapter or hose fitting as a body. This eliminates the need to inventory special flareless tube fitting bodies and results in reduced inventory expense. Aeroquip Versil•Flare™ Flareless Tube Fittings are available in size from $\frac{3}{16}$ " tube O.D. to 2" tube O.D.

Presetting tools and extra assembly time are eliminated because there's no need for flaring, special preparation or presetting with the Aeroquip Versil•Flare™ Flareless Tube Fitting. The chance of assembly error is reduced because the ferrule can be installed only one way and assembly is the same for all sizes and tube wall thicknesses. This assures a tight joint every time. These features improve production rates.

Tubing selection and sizing

Aeroquip Versil•Flare™ Flareless and Standard SAE 37° flare type, tube fittings can be used with SAE J-525 electric resistance welded, cold worked annealed, SAE J-524 seamless annealed tubing and SAE J527 brazed double wall low carbon steel tubing. SAE J356 welded flash controlled normalized steel tubing can only be used with Aeroquip Versil•Flare™

Aeroquip Versil•Flare™ Flared Tube Fitting



The Aeroquip industrial standard three piece flare type tube fitting can be used on the full range of standard steel hydraulic tubing in various wall thicknesses from $\frac{3}{16}$ " tube O.D. to 2" tube O.D. All three components are constructed from high quality zinc plated steel for long service life.

The standard SAE 37° flare angle is used to produce a highly efficient seal under hydraulic pressures. The sleeve is used to help support the tube and absorb vibration.

Assembly is easy. A properly sized wrench and flaring tool are all that is necessary. This is important in tight locations. Aeroquip standard SAE 37° flare type fittings can also be disassembled and re-assembled repeatedly.

Aeroquip quality is built into every component to assure leakproof connections.

The Aeroquip standard SAE 37° flare type tube fitting conforms to the following hydraulic tube fitting standards. Military specification, MIL-F-18866 and Society of Automotive Engineers, SAE J514.

Flareless tube fittings. **The maximum hardness of the above tubing should not exceed Rockwell B65.** Selection of proper tubing material, size and wall thickness depends on corrosion conditions, pressure and flow requirements and other operating requirements of the system.

Aeroquip Part Numbers

Aeroquip adapter part numbers consist of a base number followed by a size designation. If the part number contains a "T" character between the base number and size designator, the first size designator signifies the tube size.

Example: FF1852 T 06 04 S

Base part number _____

"T" character _____

Tube size _____

Pipe or port size _____

Material designation suffix (steel) _____

If the part number does not contain a "T" character between the base number and the size description, the first size designation signifies the port size.

Example: 2021- 4 -6 S

Base part number _____

Pipe or port size _____

Tube size _____

Material designation suffix (steel) _____

How to Order Adapters

Adapters are ordered using the complete part number as shown on the adapter pages.

Example: 2021- 8 -10 S

Base part number _____

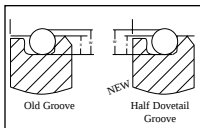
Pipe or port size _____

Tube or hose end _____

Material designation suffix (steel) _____

ORS® Adapter Conversion*

ORS adapters have been replaced with the half dovetail groove design. The half dovetail groove is manufactured with an angle on the OD wall. This angle captures the O-ring for maximum retention. For ease of installation, a half dovetail groove installation tool may be used.



Half Dovetail Groove Installation Tool

The half dovetail groove installation tool compresses the O-Ring, allowing it to easily slide into the groove in the adapter. Use of the tool maximizes efficiency and minimizes any fatigue that may be associated with repeated insertions over an extended period of time. One tool is required per dash size (or by adapter size). Each tool comes with an illustrated instruction sheet. Tools are available by using the following part numbers: FT1405-04, FT1405-06, FT1405-08, FT1405-10, FT1405-12, FT1405-16, FT1405-20, FT1405-24.



*Eaton Aeroquip reserves the right to use straight groove on some ORS.

How to order ORS® Adapters and Tube Fittings

ORS tube fitting body with O-Ring, locknut and washer, where applicable.

Example: FF1852T 08 08 S

Base part number _____

ORS tube size _____

Pipe or port size _____

Material designation suffix (steel) _____

ORS tube fitting body without O-Rings

Example: FF1852T 1- 08 08 S

Base part number _____

Add 1- after base part number to eliminate O-Rings _____

ORS tube size _____

Pipe or port size _____

Material designation suffix (steel) _____

ORS bulkhead tube fitting body without bulkhead nut or O-Rings

Example: FF2030T 2- 08 08 S

Base part number _____

Add 2- after base part number to eliminate bulkhead nut _____

ORS tube size _____

Pipe or port size _____

Material designation suffix (steel) _____

ORS-TF Tube Fitting Components

ORS-TF tube fittings, nut, ferrules, and sleeves can be ordered under the following kit part number:

Example: FF90146- 08 S

Dash size _____

Material designation suffix (steel) _____

By ordering a single part number in kit form, you will receive the components ready to be assembled to an ORS tube fitting body:

Example: FF90146-08S includes:

FC1851-08S	(ORS-TF Nut)
FF90102-08S	(ORS-TF Ferrule)
FF90103-08S	(ORS-TF Sleeve)

How to order ORS® Adapters and Tube Fittings (cont.)

Nuts and Shoulders (Braze Type)

Nuts and shoulders can be ordered separately. Simply use the base number, dash size, and material designation.

Example: FC2326- 04 S

Base part number _____

Dash size _____

Material designation suffix (steel) _____

O-Rings

Buna-N O-Rings are standard. Other materials may also be specified by adding a material designator prefix if the part number begins with a numeric and a material designator suffix if the part number begins with an alpha character. In all cases, the suffix "S" shall be omitted.

Material Designation Prefix/Suffix	Material	Operating Temperature Range
S (standard)	90 Durometer Buna-N Nitrile Rubber	-40°F to +250°F (-40°C to +121°C)
212	EPR Ethylene Propylene Rubber	-65°F to +300°F (-55°C to +150°C)
213	Viton* Fluoroelastomer	-15°F to +400°F (-26°C to +204°C)
214	Buna-N, Low Temperature Nitrile Rubber	-65°F to +225°F (-55°C to +100°C)
352	Neoprene	-65°F to +300°F (-55°C to +150°C)

Example: FF2031T0804 -213

ORS/Male NPTF Adapter Base part number and size _____

Suffix for Viton* _____

O-Rings can be ordered separately.

Example: FF9446- 11

O-Ring Base part number _____

Dash size _____

Body Material

Steel is standard. Other materials may also be specified by adding a material designator prefix if the part number begins with a numeric and a material designator suffix if the part number begins with an alpha character. In all cases, the suffix "S" shall be omitted.

Material Designator Prefix/Suffix	Material
B (suffix only)	Brass
259	316-Stainless
4	Monel
S	Steel

How to Order Conversion Adapters BSPP/BSPT

Example: GG110-NP 08- 08

Base part number including material _____

37° end dash size _____

Port thread dash size _____

Metric

Example: GG108-NP 08- 16

Base part number including material _____

37° end dash size _____

Port thread size in mm _____

*Viton is a DuPont trademark.

Dimensions

Aeroquip tube fittings are ordinarily designed and produced to the functional requirements set forth in SAE Standards J512, J513, J514, J1926 and J1453. However, in some cases the envelope dimensions of certain components vary slightly from cataloged or SAE referenced dimensions. The SAE reference numbers and fitting descriptions given are in accordance with SAE Standard J846.

Availability

All items listed in the current price schedule are normally carried in stock. Price and delivery of non-stocked and special parts may be obtained from your Eaton Aeroquip Sales Representative or Distributor.

Loctite® Vibra-Seal 516 for External Pipe Threads

Loctite Vibra-Seal has the following characteristics:

- Non-hardening thread sealant
- Resists shredding and peeling during assembly
- Can be reused up to 5 times without recoating
- Provides resistance to vibrational loosening
- Excellent resistance to solvents and oils
- Operating temperatures range -65°F to +250°F

Machine applied so that it leaves first $\frac{1}{2}$ to 2 threads uncovered for ease of assembly. Because of the excellent characteristics of this product, we are offering Loctite Vibra-Seal on all of our parts that have male pipe threads. Factory applied Loctite for external pipe threads may be ordered for steel parts by adding the prefix "307-" to the completed part number, and dropping suffix "S" if the part number begins with a numeral. Example: 307-2021-8-8. If the part number begins with an alpha character, add the suffix "-307" to the completed part number and drop the suffix "S". Example: FF2031T0606-307.

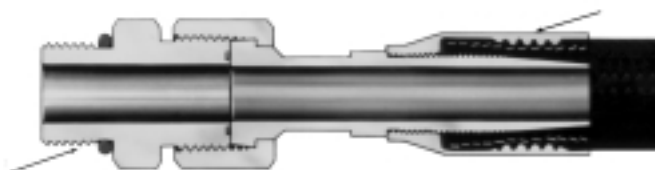
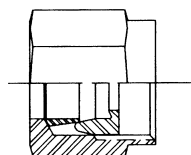
**Loctite is a trademark of Loctite Corp.*

ORS-TF® TUBE FITTINGS

The Patented* ORS-TF® tube fitting utilizing the ORS-TF nut, ferrule and sleeve can be joined directly to steel tubing to solve your fluid leakage problems. It does not require the time and expense of brazing and provides the advantage of repetitive reuse. It is a compression type fitting that works on a variety of tubing (See page 430 for tubing specifications). See page 352 for assembly instructions.

ORS-TF Kit
Part No. FF90146-(Size)

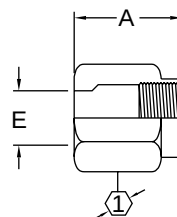
Includes:
FC1851 ORS-TF Nut
FF90102 ORS-TF Ferrule
FF90103 ORS-TF Sleeve



Keep It Simple and Clean with ORS

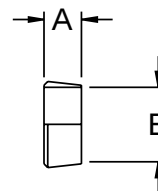
*Patent #5,217,261

ORS-TF Nut
Part No. FC1851-(Size)



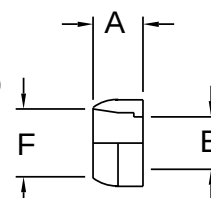
Dash Size	Tube O.D.	Thread T1	A	E	①
04S	.25	9/16-18	.84	.26	.69
06S	.38	11/16-16	.93	.38	.81
08S	.50	13/16-16	1.06	.51	.94
10S	.63	1-14	1.13	.63	1.12
12S	.75	1 3/16-12	1.28	.76	1.38
16S	1.00	1 7/16-12	1.35	1.01	1.62
20S	1.25	1 11/16-12	1.41	1.26	1.88
24S	1.50	2-12	1.47	1.51	2.25

ORS-TF Ferrule
Part No. FF90102-(Size)



Dash Size	Tube O.D.	A	E
04S	.25	.25	.26
06S	.38	.25	.38
08S	.50	.30	.51
10S	.63	.30	.63
12S	.75	.30	.76
16S	1.00	.30	1.01
20S	1.25	.30	1.26
24S	1.50	.30	1.51

ORS-TF Sleeve
Part No. FF90103-(Size)

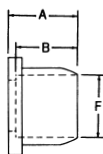


Dash Size	Tube O.D.	A	E	F
04S	.25	.32	.17	.25
06S	.38	.34	.26	.38
08S	.50	.37	.38	.50
10S	.63	.40	.48	.63
12S	.75	.44	.61	.76
16S	1.00	.50	.81	1.00
20S	1.25	.56	1.05	1.26
24S	1.50	.62	1.26	1.51

Material: Corrosion-resistant plated steel.

All dimensions in inches.

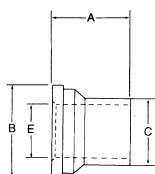
ORS BRAZE TYPE



ORS-BR Shoulder Internal Braze
Part No. FC1229-(Dash size)*
(Ref. SAE 520115)

Dash Size	Tube O.D.	A	B	F
0404S	.25	.29	.25	.25
0604S	.38	.33	.25	.25
0606S	.38	.29	.25	.38
0806S	.50	.39	.25	.38
0808S	.50	.42	.38	.50
1008S	.63	.57	.38	.50
1208S	.50	.61	.38	.50
1010S	.63	.42	.38	.62
1210S	.75	.61	.38	.62
1212S	.75	.44	.38	.75
1414S	.88	.68	.62	.88
1612S	1.00	.55	.38	.75
1614S	1.00	.56	.44	.88
1616S	1.00	.56	.50	1.00
2016S	1.25	.68	.50	1.00
2020S	1.25	.56	.50	1.25
2420S	1.50	.74	.50	1.25
2424S	1.50	.56	.50	1.50

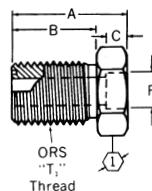
CAUTION: In applications exceeding +480°F (such as during brazing) order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F toxic gases are given off.



ORS-BR Shoulder External Braze/Weld
Part No. FC2325-(Dash size)*
(Ref. SAE 520172)

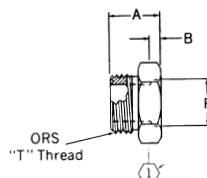
Dash Size	Tube O.D.	A	B	C	E
0404S	.25	.88	.50	.25	.17
0604S	.38	.96	.62	.25	.16
0606S	.38	.96	.62	.38	.26
0806S	.50	1.12	.74	.38	.26
0808S	.50	1.25	.74	.50	.36
1008S	.63	1.34	.92	.50	.36
1010S	.63	1.34	.92	.62	.45
1210S	.75	1.44	1.09	.62	.45
1212S	.75	1.44	1.09	.75	.55
1612S	1.00	1.51	1.34	.75	.55
1616S	1.00	1.63	1.34	1.00	.78
2016S	1.25	1.63	1.59	1.00	.78
2020S	1.25	1.63	1.59	1.25	1.05
2416S	1.50	1.63	1.91	1.00	.78
2424S	1.50	1.63	1.91	1.50	1.26

CAUTION: In applications exceeding +480°F (such as during brazing) order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F toxic gases are given off.



ORS Bulkhead Male/Braze Adapter
Part No. FF1922T(Size)*
(Ref. SAE 520604)

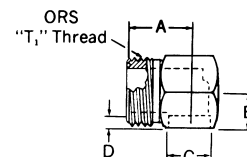
Dash Size	Tube O.D.	Thread T1	A	B	C	F	
0404S	.25	9/16-18	1.61	1.24	.25	.25	.81
0606S	.38	1 1/16-16	1.72	1.34	.25	.38	1.00
0808S	.50	1 3/16-16	1.94	1.44	.38	.50	1.12
0810S	.50	1 3/16-16	1.94	1.44	.38	.62	1.12
1010S	.63	1-14	2.11	1.60	.38	.62	1.31
1212S	.75	1 3/16-12	2.18	1.64	.38	.75	1.50
1214S	.75	1 3/16-12	2.18	1.64	.38	.88	1.50
1616S	1.00	1 7/16-12	2.43	1.66	.50	1.00	1.75
2020S	1.25	1 11/16-12	2.43	1.66	.50	1.25	2.00
2024S	1.25	1 11/16-12	2.43	1.66	.50	1.50	2.12
2424S	1.50	2-12	2.43	1.66	.50	1.50	2.38



ORS/Braze Adapter
Part No. FF1851T(Size)*
(Ref. SAE 520104)

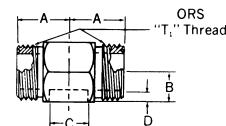
Dash Size	Tube O.D.	Thread T	A	B	F	
0404S	.25	9/16-18	.78	.25	.25	.62
0406S	.25	9/16-18	.78	.25	.38	.62
0604S	.38	1 1/16-16	.83	.25	.25	.75
0606S	.38	1 1/16-16	.83	.25	.38	.75
0608S	.38	1 1/16-16	.95	.38	.50	.75
0806S	.50	1 3/16-16	.88	.25	.38	.88
0808S	.50	1 3/16-16	1.01	.38	.50	.88
0810S	.50	1-14	1.01	.38	.62	.88
1008S	.63	1 3/16-12	1.12	.38	.50	1.06
1010S	.63	1-14	1.12	.38	.62	1.06
1210S	.75	1 3/16-12	1.17	.38	.62	1.25
1212S	.75	1 3/16-12	1.21	.38	.75	1.25
1214S	.75	1 3/16-12	1.21	.38	.88	1.25
1216S	.75	1 3/16-12	1.45	.50	1.00	1.50
1612S	1.00	1 7/16-12	1.21	.38	.75	1.50
1616S	1.00	1 7/16-12	1.47	.50	1.00	1.50
1620S	1.00	1 7/16-12	1.47	.50	1.25	1.75
2016S	1.25	1 11/16-12	1.47	.50	1.00	1.75
2020S	1.25	1 11/16-12	1.47	.50	1.25	1.75
2024S	1.25	1 11/16-12	1.47	.50	1.50	2.12
2424S	1.50	2-12	1.47	.50	1.50	2.12
2428S	1.50	2-12	1.60	.62	1.75	2.38

*Aeroquip braze counterbores are dimensioned for sized or emerger tubing. If tubing is used as received, contact Aeroquip for appropriate part number.



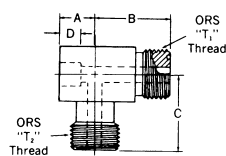
90° ORS/Braze Port Adapter
Part No. FF1856T(Size)*
(Ref. SAE 520204)

Dash Size	Tube O.D.	Thread T1	A	B	C	D
0404S	.25	9/16-18	.85	.38	.25	.25
0606S	.38	1 1/16-16	.98	.41	.38	.25
0808S	.50	1 3/16-16	1.10	.59	.50	.38
0810S	.50	1 3/16-16	1.20	.66	.62	.38
1010S	.63	1-14	1.31	.66	.62	.38
1012S	.63	1-14	1.41	.72	.75	.38
1208S	.75	1 3/16-12	1.47	.74	.50	.38
1212S	.75	1 3/16-12	1.47	.72	.75	.38
1216S	.75	1 3/16-12	1.62	.94	1.00	.52
1616S	1.00	1 7/16-12	1.64	.94	1.00	.52
1620S	1.00	1 7/16-12	1.76	1.12	1.25	.53
2016S	1.25	1 11/16-12	2.14	1.13	1.00	.53
2020S	1.25	1 11/16-12	1.76	1.12	1.25	.53
2424S	1.50	2-12	1.92	1.25	1.50	.52



ORS/ORS/Braze Port Adapter
Part No. FF1858T(Size)*
(Ref. SAE 520472)

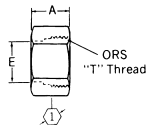
Dash Size	Tube O.D.	Thread T1	A	B	C	D
0404S	.25	9/16-18	.85	.36	.25	.25
0606S	.38	1 1/16-16	.98	.39	.38	.25
0608S	.38	1 1/16-16	1.04	.55	.50	.38
0808S	.50	1 3/16-16	1.10	.57	.50	.38
1010S	.63	1-14	1.31	.64	.62	.38
1212S	.75	1 3/16-12	1.47	.69	.75	.38
1216S	.75	1 3/16-12	1.62	.91	1.00	.52
1616S	1.00	1 7/16-12	1.64	.91	1.00	.52
2020S	1.25	1 11/16-12	1.76	1.10	1.25	.53
2424S	1.50	2-12	1.92	1.25	1.50	.52



ORS/Braze/ORS Port Adapter
Part No. FF2115T(Size)*
(Ref. SAE 520472)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C	D
0404S	.25	9/16-18	9/16-18	.38	.85	.85	.25
0606S	.38	1 1/16-16	1 1/16-16	.41	.98	.98	.25
0808S	.50	1 3/16-16	1 3/16-16	.59	1.10	1.10	.38
1010S	.63	1-14	1-14	.66	1.31	1.31	.38
1212S	.75	1 3/16-12	1 3/16-12	.72	1.47	1.47	.38
1616S	1.00	1 7/16-12	1 7/16-12	.94	1.64	1.64	.53
2020S	1.25	1 11/16-12	1 11/16-12	1.13	1.76	1.76	.53
2424S	1.50	2-12	2-12	1.25	1.92	1.92	.52

All dimensions in inches.

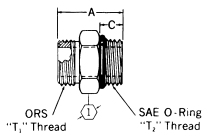


ORS-BR Nut
Part No. FC2326-(Size)
(Ref. SAE 520110)

Dash Size	Tube O.D.	Thread T1	A	E	①
04S	.25	9/16-18	.58	.41	.69
06S	.38	11/16-16	.67	.53	.81
08S	.50	13/16-16	.83	.65	.94
10S	.63	1-14	.92	.83	1.12
12S	.75	1 1/16-12	1.02	.95	1.38
14S	.88	1 3/16-12	1.22	.99	1.38
16S	1.00	1 7/16-12	1.10	1.14	1.62
20S	1.25	1 11/16-12	1.10	1.42	1.88
24S	1.50	2-12	1.10	1.73	2.25

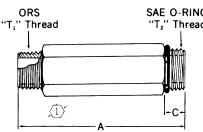
CAUTION: In applications exceeding +480°F (such as during brazing) order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F toxic gases are given off.

ORS/O-RING BOSS



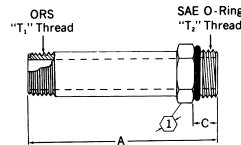
ORS/SAE O-Ring Boss Adapter
Part No. FF1852T(Size)
(Ref. SAE 520120)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	C	①
0403S	.25	9/16-18	3/8-24	1.07	.37	.62
0404S	.25	9/16-18	7/16-20	1.13	.43	.62
0405S	.25	9/16-18	1/2-20	1.13	.43	.62
0406S	.25	9/16-18	9/16-18	1.20	.47	.69
0408S	.25	9/16-18	3/4-16	1.32	.55	.88
0603S	.38	11/16-16	3/8-24	1.28	.37	.75
0604S	.38	11/16-16	7/16-20	1.34	.43	.75
0605S	.38	11/16-16	1/2-20	1.22	.43	.75
0606S	.38	11/16-16	9/16-18	1.26	.47	.75
0608S	.38	11/16-16	3/4-16	1.38	.55	.88
0610S	.38	11/16-16	7/8-14	1.53	.63	1.00
0612S	.38	11/16-16	1 1/16-12	1.69	.73	1.25
0616S	.38	11/16-16	1 5/16-12	1.73	.73	1.50
0806S	.50	13/16-16	9/16-18	1.48	.47	.88
0808S	.50	13/16-16	3/4-16	1.44	.55	.88
0810S	.50	13/16-16	7/8-14	1.59	.63	1.00
0812S	.50	13/16-16	1 1/16-12	1.75	.73	1.25
0814S	.50	13/16-16	1 3/16-12	1.75	.73	1.38
0816S	.50	13/16-16	1 5/16-12	1.79	.73	1.50
1008S	.63	1-14	3/4-16	1.78	.55	1.06
1010S	.63	1-14	7/8-14	1.70	.63	1.06
1012S	.63	1-14	1 1/16-12	1.86	.73	1.25
1014S	.63	1-14	1 3/16-12	1.86	.73	1.38
1206S	.75	1 3/16-12	9/16-18	1.77	.47	1.25
1208S	.75	1 3/16-12	3/4-16	1.91	.55	1.25
1210S	.75	1 3/16-12	7/8-14	1.99	.63	1.25
1212S	.75	1 3/16-12	1 1/16-12	1.92	.73	1.25
1214S	.75	1 3/16-12	1 3/16-12	1.92	.73	1.38
1216S	.75	1 3/16-12	1 5/16-12	1.96	.73	1.50
1608S	1.00	1 7/16-12	3/4-16	1.96	.55	1.50
1610S	1.00	1 7/16-12	7/8-14	2.04	.63	1.50
1612S	1.00	1 7/16-12	1 1/16-12	2.14	.73	1.50
1614S	1.00	1 7/16-12	1 3/16-12	1.98	.73	1.50
1616S	1.00	1 7/16-12	1 5/16-12	1.98	.73	1.50
1620S	1.00	1 7/16-12	1 5/8-12	2.06	.73	1.88
2016S	1.25	1 11/16-12	1 5/16-12	2.28	.73	1.75
2020S	1.25	1 11/16-12	1 5/8-12	2.06	.73	1.88
2024S	1.25	1 11/16-12	1 7/8-12	2.13	.73	2.12
2420S	1.50	2-12	1 5/8-12	2.35	.73	2.12
2424S	1.50	2-12	1 7/8-12	2.13	.73	2.12



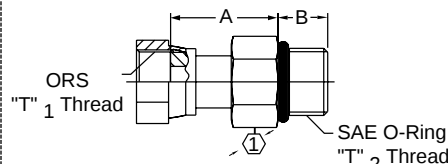
ORS/SAE O-Ring Boss Adapter
Part No. FF2211T(Size)
(Ref. SAE 520122)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	C	①
0606S	.38	11/16-16	9/16-18	1.97	.47	.75
0608S	.38	11/16-16	3/4-16	2.13	.55	.88
0808S	.50	13/16-16	3/4-16	2.68	.55	.88
1010S	.63	1-14	7/8-14	2.99	.63	1.06
1212S	.75	1 3/16-12	1 1/16-12	2.87	.73	1.25



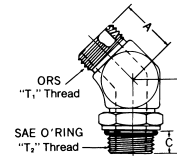
ORS/SAE O-Ring Boss Long Adapter
Part No. FF1854T(Size)
(Ref. SAE 520122)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	C	①
0404S	.25	9/16-18	7/16-20	2.07	.43	.62
0606S	.38	11/16-16	9/16-18	2.27	.47	.75
0608S	.38	11/16-16	3/4-16	2.61	.55	.88
0808S	.50	13/16-16	3/4-16	2.67	.55	.88
1010S	.63	1-14	7/8-14	3.13	.63	1.06
1212S	.75	1 3/16-12	1 1/16-12	3.75	.73	1.25
1214S	.75	1 3/16-12	1 3/16-12	3.75	.73	1.38
1616S	1.00	1 7/16-12	1 5/16-12	4.13	.73	1.50
2020S	1.25	1 11/16-12	1 5/8-12	4.75	.73	1.88
2424S	1.50	2-12	1 7/8-12	5.26	.73	2.12



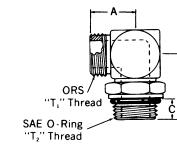
ORS Female Swivel/SAE O-Ring Boss Adapter
Part No. FF2130T(Size)
(Ref. SAE 520181)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	①
0606S	.38	11/16-16	9/16-18	1.11	.47	.69
0808S	.50	13/16-16	3/4-16	1.39	.55	.88
1212S	.75	1 3/16-12	1 1/16-12	1.62	.73	1.25
1616S	1.00	1 7/16-12	1 5/16-12	1.93	.73	1.50
2020S	1.25	1 11/16-12	1 5/8-12	1.86	.73	1.88



45° ORS/SAE O-Ring Boss (adj.) Adapter
Part No. FF2068T(Size)
(Ref. SAE 520320)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0404S	.25	9/16-18	7/16-20	.63	1.18	.37
0406S	.25	9/16-18	9/16-18	.68	1.30	.47
0408S	.25	9/16-18	3/4-16	.67	1.43	.55
0604S	.38	11/16-16	7/16-20	.74	1.22	.43
0606S	.38	11/16-16	9/16-18	.74	1.30	.47
0608S	.38	11/16-16	3/4-16	.74	1.43	.55
0806S	.50	13/16-16	9/16-18	.80	1.29	.47
0808S	.50	13/16-16	3/4-16	.80	1.43	.55
0810S	.50	13/16-16	7/8-14	.82	1.76	.63
0816S	.50	13/16-16	1 1/16-12	1.01	2.06	.73
1008S	.63	1-14	3/4-16	.92	1.59	.55
1010S	.63	1-14	7/8-14	.92	1.76	.63
1012S	.63	1-14	1 1/16-12	.96	1.97	.73
1210S	.75	1 3/16-12	7/8-14	1.02	1.81	.63
1212S	.75	1 3/16-12	1 1/16-12	1.02	1.97	.73
1216S	.75	1 3/16-12	1 5/16-12	1.16	2.06	.73
1612S	1.00	1 7/16-12	1 1/16-12	1.18	2.03	.73
1616S	1.00	1 7/16-12	1 5/16-12	1.18	2.06	.73
1620S	1.00	1 7/16-12	1 5/8-12	1.26	2.11	.73
2020S	1.25	1 11/16-12	1 5/8-12	1.26	2.11	.73
2424S	1.50	2-12	1 7/8-12	1.45	2.11	.73



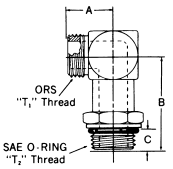
90° ORS/SAE O-Ring Boss (adj.) Adapter
Part No. FF1868T(Size)
(Ref. SAE 520220)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0403S	.25	9/16-18	3/8-24	.85	1.19	.37
0404S	.25	9/16-18	7/16-20	.85	1.29	.43
0405S	.25	9/16-18	1/2-20	.92	1.37	.43
0406S	.25	9/16-18	9/16-18	.92	1.45	.47
0408S	.25	9/16-18	3/4-16	.97	1.60	.55
0604S	.38	11/16-16	7/16-20	.98	1.37	.43
0605S	.38	11/16-16	1/2-20	.98	1.37	.43
0606S	.38	11/16-16	9/16-18	.98	1.45	.47
0608S	.38	11/16-16	3/4-16	1.04	1.60	.55
0610S	.38	11/16-16	7/8-14	1.15	1.97	.63
0612S	.38	11/16-16	1 1/16-12	1.25	2.17	.73
0806S	.50	13/16-16	9/16-18	1.10	1.44	.47
0808S	.50	13/16-16	3/4-16	1.10	1.60	.55
0810S	.50	13/16-16	7/8-14	1.21	1.97	.63
0812S	.50	13/16-16	1 1/16-12	1.32	2.17	.73
1008S	.63	1-14	3/4-16	1.31	1.80	.55
1010S	.63	1-14	7/8-14	1.31	1.97	.63
1012S	.63	1-14	1 1/16-12	1.41	2.17	.73
1208S	.75	1 3/16-12	3/4-16	1.47	1.84	.55
1210S	.75	1 3/16-12	7/8-14	1.47	2.01	.63
1212S	.75	1 3/16-12	1 1/16-12	1.47	2.17	.73
1214S	.75	1 3/16-12	1 3/16-12	1.47	2.17	.71
1216S	.75	1 3/16-12	1 5/16-12	1.62	2.35	.73
1612S	1.00	1 7/16-12	1 1/16-12	1.64	2.32	.73
1614S	1.00	1 7/16-12	1 3/16-12	1.64	2.32	.71
1616S	1.00	1 7/16-12	1 5/16-12	1.64	2.35	.73
1620S	1.00	1 7/16-12	1 5/8-12	1.76	2.45	.73
2012S	1.25	1 11/16-12	1 1/16-12	1.76	2.42	.73
2016S	1.25	1 11/16-12	1 5/16-12	1.76	2.42	.73
2020S	1.25	1 11/16-12	1 5/8-12	1.76	2.45	.73
2420S	1.50	2-12	1 5/8-12	1.92	2.56	.73
2424S	1.50	2-12	1 7/8-12	1.92	2.59	.73

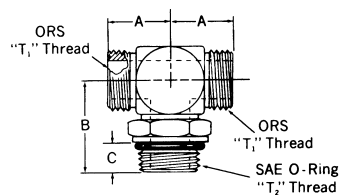
All dimensions in inches.

ORS/O-RING BOSS Cont.

90° ORS/SAE O-Ring Boss
(adj.) Long Adapter
Part No. FF2227T(Size)
(Ref. SAE 521520)

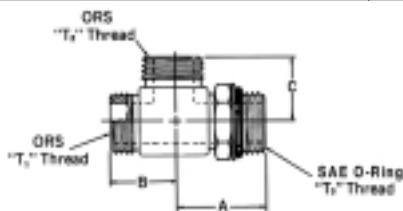


Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0404S	.25	9/16-18	7/16-20	.85	2.23	.43
0606S	.38	11/16-16	9/16-18	.98	2.61	.47
0808S	.50	13/16-16	3/4-16	1.10	2.95	.55
1010S	.63	1-14	7/8-14	1.31	3.51	.63
1212S	.75	1 1/16-12	1 1/16-12	1.47	3.97	.73
1616S	1.00	1 7/16-12	1 5/8-12	1.64	4.51	.73
2020S	1.25	1 11/16-12	1 5/8-12	1.76	4.98	.73



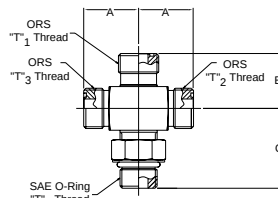
ORS/ORS/SAE O-Ring Boss (Adj) Adapter
Part No. FF1861T(Size)
(Ref. SAE 520429)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0403S	.25	9/16-18	3/8-24	.85	1.19	.37
0404S	.25	9/16-18	7/16-20	.85	1.29	.43
0606S	.38	11/16-16	9/16-18	.98	1.45	.47
0608S	.38	11/16-16	3/4-16	1.04	1.60	.55
0808S	.50	13/16-16	3/4-16	1.31	1.97	.55
1010S	.63	1-14	7/8-14	1.31	1.97	.63
1210S	.75	1 3/16-12	7/8-14	1.47	2.17	.63
1212S	.75	1 3/16-12	1 5/16-12	1.62	2.35	.73
1216S	.75	1 3/16-12	1 5/16-12	1.64	2.35	.73
1616S	1.00	1 7/16-12	1 5/8-12	1.64	2.35	.73
2020S	1.25	1 11/16-12	1 5/8-12	1.76	2.45	.73
2424S	1.50	2-12	1 7/8-12	1.92	2.59	.73



ORS/ORS/SAE O-Ring Boss (Adj.) Adapter
Part No. FF1865T(Size)
(Ref. SAE 520428)

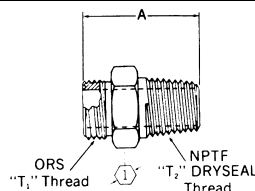
Dash Size	Tube O.D.	Thread T1	Thread T2	Thread T3	A	B	C
0404S	.25	9/16-18	9/16-18	7/16-20	1.29	.85	.85
0406S	.25	9/16-18	9/16-18	9/16-18	1.45	.92	.92
0604S	.38	11/16-16	11/16-16	7/16-20	1.37	1.17	.98
0606S	.38	11/16-16	11/16-16	9/16-18	1.45	.98	.98
0806S	.50	13/16-16	13/16-16	9/16-18	1.44	1.10	1.10
0808S	.50	13/16-16	13/16-16	3/4-16	1.60	1.10	1.10
0812S	.50	13/16-16	13/16-16	1 1/16-12	2.17	1.32	1.32
1010S	.63	1-14	1-14	7/8-14	1.97	1.31	1.31
1012S	.63	1-14	1-14	1 1/16-12	2.17	1.41	1.41
1212S	.75	1 3/16-12	1 3/16-12	1 1/16-12	2.17	1.47	1.47
1220S	.75	1 3/16-12	1 3/16-12	1 5/8-12	2.45	1.74	1.74
1616S	1.00	1 7/16-12	1 7/16-12	1 5/8-12	2.35	1.64	1.64
2020S	1.25	1 11/16-12	1 11/16-12	1 5/8-12	2.45	1.76	1.76
2424S	1.50	2-12	2-12	1 7/8-12	2.59	1.92	1.92
0005S	—	1 7/16-12	1 3/16-12	1 1/16-12	2.32	1.64	1.62
0001S	—	1 7/16-12	1 3/16-12	1 5/8-12	2.35	1.64	1.62
0012S	—	1 3/16-16	1 1/16-12	1 5/8-12	2.42	1.59	1.76
0003S	—	1-14	1 1/16-16	1 1/16-12	2.17	1.41	1.32



ORS - SAE O-Ring Branch Cross (6000 psi)
Part No. FF2127T(Size)
(Ref. SAE 520520)

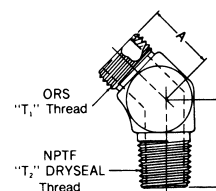
Dash Size	Tube O.D.	Thread T1	Thread T2	Thread T3	Thread T4	A	B	C
0606S	.38	11/16-16	11/16-16	11/16-16	9/16-18	.98	.97	1.44
0808S	.50	13/16-16	13/16-16	13/16-16	3/4-16	1.10	1.09	1.59

ORS/NPTF



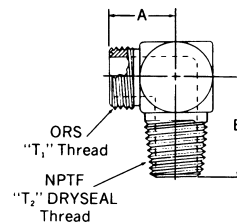
ORS/Male NPTF Adapter
Part No. FF2031T(Size)
(Ref. SAE 520102)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0402S	.25	9/16-18	1/8-27	1.03	.62
0404S	.25	9/16-18	1/4-18	1.24	.62
0406S	.25	9/16-18	3/8-18	1.24	.75
0408S	.25	9/16-18	1/2-14	1.49	.88
0602S	.38	11/16-16	1/8-27	1.12	.75
0604S	.38	11/16-16	1/4-18	1.30	.75
0606S	.38	11/16-16	3/8-18	1.30	.75
0608S	.38	11/16-16	1/2-14	1.55	.88
0804S	.50	13/16-16	1/4-18	1.36	.88
0806S	.50	13/16-16	3/8-18	1.36	.88
0808S	.50	13/16-16	1/2-14	1.61	.88
0812S	.50	13/16-16	3/4-14	1.68	1.06
1008S	.63	1-14	1/2-14	1.72	1.06
1012S	.63	1-14	3/4-14	1.78	1.06
1016S	.63	1-14	1-11 1/2	1.97	1.38
1208S	.75	1 3/16-12	1/2-14	1.84	1.25
1212S	.75	1 3/16-12	3/4-14	1.84	1.25
1216S	.75	1 3/16-12	1-11 1/2	2.03	1.38
1612S	1.00	1 7/16-12	3/4-14	1.86	1.50
1616S	1.00	1 7/16-12	1-11 1/2	2.05	1.50
1620S	1.00	1 7/16-12	1 1/4-11 1/2	2.16	1.69
2016S	1.25	1 11/16-12	1-11 1/2	2.13	1.75
2020S	1.25	1 11/16-12	1 1/4-11 1/2	2.16	1.75
2424S	1.50	2-12	1 1/2-11 1/2	2.26	2.12



45° ORS/Male NPTF Adapter
Part No. FF2093T(Size)
(Ref. SAE 520302)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0402S	.25	9/16-18	1/8-27	.63	.68
0404S	.25	9/16-18	1/4-18	.68	.93
0406S	.25	9/16-18	3/8-18	.67	1.04
0604S	.38	11/16-16	1/4-18	.74	.93
0606S	.38	11/16-16	3/8-18	.74	1.04
0608S	.38	11/16-16	1/2-14	.76	1.21
0804S	.50	13/16-16	1/4-18	.80	.92
0806S	.50	13/16-16	3/8-18	.80	1.04
0808S	.50	13/16-16	1/2-14	.82	1.20
1008S	.63	1-14	1/2-14	.92	1.20
1212S	.75	1 3/16-12	3/4-14	1.02	1.23
1616S	1.00	1 7/16-12	1-11 1/2	1.18	1.51
2020S	1.25	1 11/16-12	1 1/4-11 1/2	1.26	1.69
2424S	1.50	2-12	1 1/2-11 1/2	1.45	1.80

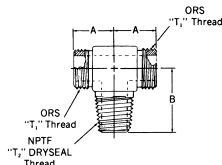


90° ORS/Male NPTF Adapter
Part No. FF2032T(Size)
(Ref. SAE 520202)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0402S	.25	9/16-18	1/8-27	.85	.78
0404S	.25	9/16-18	1/4-18	.92	1.08
0602S	.38	11/16-16	1/8-27	.98	.86
0604S	.38	11/16-16	1/4-18	.98	1.08
0606S	.38	11/16-16	3/8-18	1.04	1.21
0608S	.38	11/16-16	1/2-14	1.15	1.53
0802S	.50	13/16-16	1/8-27	1.10	1.06
0806S	.50	13/16-16	3/8-18	1.10	1.21
0808S	.50	13/16-16	1/2-14	1.21	1.53
0812S	.50	13/16-16	3/4-14	1.32	1.65
1008S	.63	1-14	1/2-14	1.31	1.53
1012S	.63	1-14	3/4-14	1.41	1.65
1208S	.75	1 3/16-12	1/2-14	1.47	1.65
1212S	.75	1 3/16-12	3/4-14	1.47	1.65
1216S	.75	1 3/16-12	1-11 1/2	1.62	2.03
1612S	1.00	1 7/16-12	3/4-14	1.64	1.84
1616S	1.00	1 7/16-12	1-11 1/2	1.64	2.03
2016S	1.25	1 11/16-12	1-11 1/2	1.76	2.38
2020S	1.25	1 11/16-12	1 1/4-11 1/2	1.76	2.41
2424S	1.50	2-12	1 1/2-11 1/2	1.92	2.70

All dimensions in inches.

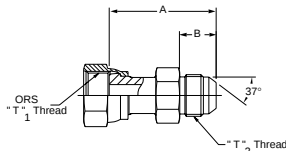
ORS/NPTF Cont.



ORS/ORS/Male NPTF Adapter
Part No. FF2001T(Size)
(Ref. SAE 520425)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0402S	.25	9/16-18	1/8-27	.85	.78
0404S	.25	9/16-18	1/4-18	.92	1.08
0604S	.38	11/16-16	1/4-18	.98	1.08
0606S	.38	11/16-16	3/8-18	1.04	1.21
0806S	.50	13/16-16	3/8-18	1.10	1.21
0808S	.50	13/16-16	1/2-14	1.21	1.53
1008S	.63	1-14	1/2-14	1.31	1.53
1206S	.75	1 1/16-12	3/8-18	1.47	1.46
1212S	.75	1 1/16-12	3/4-14	1.47	1.65
1216S	.75	1 1/16-12	1-11 1/2	1.63	2.03
1616S	1.00	1 7/16-12	1-11 1/2	1.64	2.03
2020S	1.25	1 11/16-12	1 1/4-11 1/2	1.76	2.41
2424S	1.50	2-12	1 1/2-11 1/2	1.92	2.70

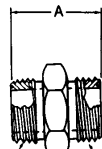
ORS TO SAE 37° FLARE



ORS Female Swivel/SAE 37° Male Flare
Part No. FF2209T(Size)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0412S	.25	9/16-18	1 1/16-12	1.99	.86
0612S	.38	1 1/16-16	1 1/16-12	2.07	.86
0808S	.50	13/16-16	3/4-16	2.03	.66
0812S	.50	13/16-16	1 1/16-12	2.25	.86
1212S	.75	1 3/16-12	1 1/16-12	2.44	.86
1616S	1.00	1 7/16-12	1 3/16-12	2.82	.91
2016S	1.25	1 11/16-12	1 5/16-12	2.88	.91

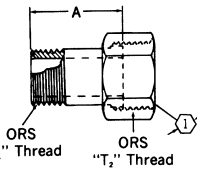
ORS/ORS



ORS/ORS Adapter
Part No. FF2000T(Size)
(Ref. SAE 520101)

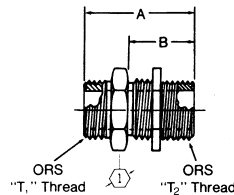
Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	1.08	.62
0604S	.38	1 1/16-16	9/16-18	1.17	.75
0606S	.38	1 1/16-16	1 1/16-16	1.22	.75
0806S	.50	13/16-16	1 1/16-16	1.33	.88
0808S	.50	13/16-16	13/16-16	1.39	.88
1008S	.63	1-14	13/16-16	1.57	1.06
1010S	.63	1-14	1-14	1.68	1.06
1208S	.75	1 3/16-12	13/16-16	1.69	1.25
1210S	.75	1 3/16-12	1-14	1.80	1.25
1212S	.75	1 3/16-12	1 3/16-12	1.86	1.25
1612S	1.00	1 7/16-12	1 3/16-12	1.92	1.50
1616S	1.00	1 7/16-12	1 7/16-12	1.94	1.50
2020S	1.25	1 11/16-12	1 11/16-12	2.02	1.75
2424S	1.50	2-12	2-12	2.09	2.12

ORS/ORS Reducer Adapter
Part No. FF2281T(Size)
(Ref. SAE 520123)



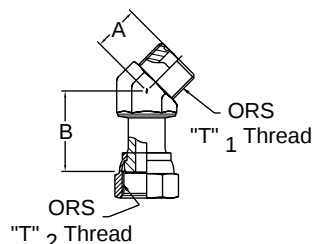
Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0406S	.38	9/16-18	1 1/16-16	.77	.81
0408S	.50	9/16-18	13/16-16	.86	.94
0410S	.63	9/16-18	1-14	.90	1.12
0412S	.75	9/16-18	1 3/16-12	.98	1.38
0608S	.50	11/16-16	13/16-16	.88	.94
0610S	.63	11/16-16	1-14	.95	1.12
0612S	.75	11/16-16	1 3/16-12	1.03	1.38
0810S	.63	13/16-16	1-14	1.02	1.12
0812S	.75	13/16-16	1 3/16-12	1.10	1.38
0816S	1.00	13/16-16	1 7/16-12	1.15	1.62
1224S	1.50	1 3/16-12	2-12	1.32	2.25
1620S	1.25	1 7/16-12	1 11/16-12	1.47	1.88
1624S	1.50	1 7/16-12	2-12	1.34	2.25

Available without nut, order by Part No. FF2151T(Size).



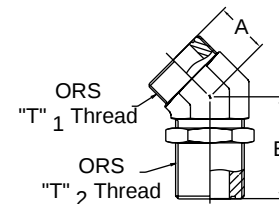
ORS/ORS Bulkhead Adapter
Part No. FF1994T(Size)
(Ref. SAE 520601)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	1.90	1.24
0606S	.38	1 1/16-16	1 1/16-16	2.09	1.34
0608S	.38	1 1/16-16	13/16-16	2.24	1.44
0808S	.50	13/16-16	13/16-16	2.30	1.44
1008S	.63	1-14	13/16-16	2.46	1.44
1010S	.63	1-14	1-14	2.62	1.60
1212S	.75	1 3/16-12	1 3/16-12	2.72	1.64
1616S	1.00	1 7/16-12	1 7/16-12	2.76	1.66
2016S	1.25	1 11/16-12	1 7/16-12	2.76	1.66
2020S	1.25	1 11/16-12	1 11/16-12	2.76	1.66
2424S	1.50	2-12	2-12	2.76	1.66



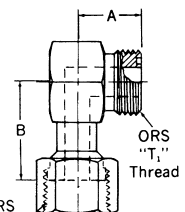
45° ORS/ORS Female Adapter
Part No. FF2133T(Size)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0606S	.38	1 1/16-16	1 1/16-16	.74	1.06
0808S	.50	13/16-16	13/16-16	.80	1.40
1010S	.63	1-14	1-14	.92	1.52
1212S	.75	1 3/16-12	1 3/16-12	1.02	1.67



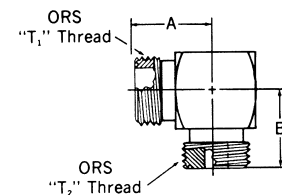
45° ORS/ORS Bulkhead Adapter
Part No. FF2144T(Size)
(Ref. SAE 520801)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	.63	1.73
0606S	.38	1 1/16-16	1 1/16-16	.74	1.91
0808S	.50	13/16-16	13/16-16	.80	2.01
1010S	.63	1-14	1-14	.92	2.23
1212S	.75	1 3/16-12	1 3/16-12	1.02	2.39
1616S	1.00	1 7/16-12	1 7/16-12	1.18	2.57
2020S	1.25	1 11/16-12	1 11/16-12	1.26	2.64
2424S	1.50	2-12	2-12	1.45	2.64



90° ORS/ORS Female Adapter
Part No. FF2098T(Size)
(Ref. SAE 520221)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	.85	1.04
0606S	.38	1 1/16-16	1 1/16-16	.98	1.15
0808S	.50	13/16-16	13/16-16	1.10	1.49
1010S	.63	1-14	1-14	1.31	1.62
1212S	.75	1 3/16-12	1 3/16-12	1.47	1.82
1616S	1.00	1 7/16-12	1 7/16-12	1.64	2.10
2020S	1.25	1 11/16-12	1 11/16-12	1.76	2.29
2424S	1.50	2-12	2-12	1.92	2.41

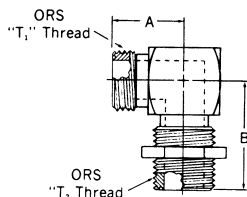


90° ORS/ORS Adapter
Part No. FF2035T(Size)
(Ref. SAE 520201)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	.85	.85
0604S	.38	1 1/16-16	9/16-18	.98	.92
0606S	.38	1 1/16-16	1 1/16-16	.98	.98
0804S	.50	13/16-16	9/16-18	1.10	.97
0806S	.50	13/16-16	1 1/16-16	1.10	1.04
0808S	.50	13/16-16	13/16-16	1.10	1.10
1010S	.63	1-14	1-14	1.31	1.31
1208S	.75	1 3/16-12	13/16-16	1.47	1.34
1212S	.75	1 3/16-12	1 3/16-12	1.47	1.47
1616S	1.00	1 7/16-12	1 7/16-12	1.64	1.64
2020S	1.25	1 11/16-12	1 11/16-12	1.76	1.76
2424S	1.50	2-12	2-12	1.92	1.92

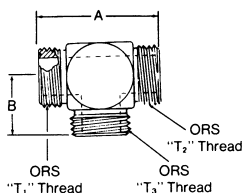
All dimensions in inches.

ORS/ORS Cont.



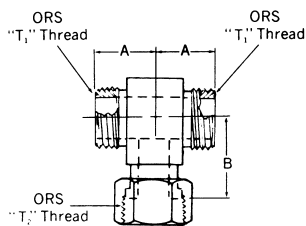
90° ORS/ORS Bulkhead Adapter
Part No. FF2030T(Size)
(Ref. SAE 520701)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	E
0404S	.25	9/16-18	9/16-18	.89	1.85	.17
0606S	.38	11/16-16	11/16-16	1.02	2.05	.26
0806S	.50	13/16-16	13/16-16	1.14	2.12	.26
0808S	.50	13/16-16	13/16-16	1.14	2.18	.38
1010S	.63	1-14	1-14	1.36	2.48	.48
1212S	.75	1 3/16-12	1 3/16-12	1.52	2.65	.61
1616S	1.00	1 7/16-12	1 7/16-12	1.67	2.80	.81
2020S	1.25	1 11/16-12	1 11/16-12	1.79	2.97	1.03
2424S	1.50	2-12	2-12	1.95	3.13	1.26



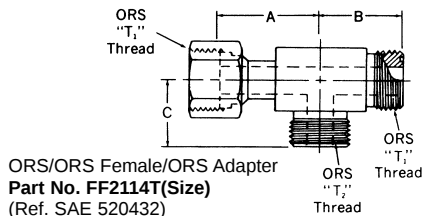
ORS/ORS/ORS Bulkhead Adapter
Part No. FF1898T(Size)
(Ref. SAE 520401)

Dash Size	Tube O.D.	Thread T1	Thread T2	Thread T3	A	B
0404S	.25	9/16-18	9/16-18	9/16-18	1.70	.85
0606S	.38	11/16-16	11/16-16	11/16-16	1.96	.98
0608S	.38	11/16-16	11/16-16	13/16-16	2.08	1.10
0808S	.50	13/16-16	13/16-16	13/16-16	2.20	1.10
1010S	.63	1-14	1-14	1-14	2.62	1.31
0004S	.25	1 3/16-12	1 3/16-16	13/16-16	2.79	1.32
1212S	.75	1 3/16-12	1 3/16-12	1 3/16-12	2.94	1.47
1216S	.75	1 3/16-12	1 3/16-12	1 7/16-12	3.24	1.76
1616S	1.00	1 7/16-12	1 7/16-12	1 7/16-12	3.28	1.64
0003S	.25	1 11/16-12	1 7/16-12	1 3/16-12	3.52	1.74
2016S	1.25	1 11/16-12	1 11/16-12	1 7/16-12	3.52	1.76
2020S	1.25	1 11/16-12	1 11/16-12	1 11/16-12	3.52	1.76
2424S	1.50	2-12	2-12	2-12	3.84	1.92



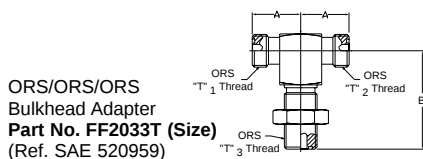
ORS/ORS/ORS Female Adapter
Part No. FF1857T(Size)
(Ref. SAE 520433)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B
0404S	.25	9/16-18	9/16-18	.85	1.04
0606S	.38	11/16-16	11/16-16	.98	1.15
0808S	.50	13/16-16	13/16-16	1.10	1.49
1010S	.63	1-14	1-14	1.31	1.62
1212S	.75	1 3/16-12	1 3/16-12	1.47	1.82
1616S	1.00	1 7/16-12	1 7/16-12	1.64	2.10
2020S	1.25	1 11/16-12	1 11/16-12	1.76	2.29
2424S	1.50	2-12	2-12	1.92	2.41



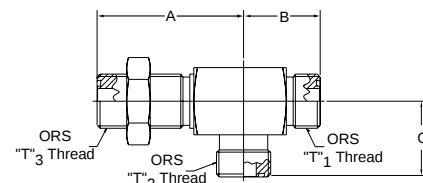
ORS/ORS Female/ORS Adapter
Part No. FF2114T(Size)
(Ref. SAE 520432)

Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0404S	.25	9/16-18	9/16-18	1.04	.85	.85
0606S	.38	11/16-16	11/16-16	1.15	.98	.98
0808S	.50	13/16-16	13/16-16	1.49	1.10	1.10
1010S	.63	1-14	1-14	1.62	1.31	1.31
0001S	.25	1 3/16-12	9/16-18	1.82	1.47	1.19
1212S	.75	1 3/16-12	1 3/16-12	1.82	1.47	1.47
1616S	1.00	1 7/16-12	1 7/16-12	2.10	1.64	1.64
2020S	1.25	1 11/16-12	1 11/16-12	2.29	1.76	1.76
2424S	1.50	2-12	2-12	2.41	1.92	1.92



ORS/ORS/ORS Bulkhead Adapter
Part No. FF2033T (Size)
(Ref. SAE 520959)

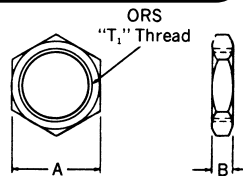
Dash Size	Tube O.D.	Thread T1	Thread T2	Thread T3	A	B
0404S	.25	9/16-18	9/16-18	9/16-18	.88	1.85
0606S	.38	11/16-16	11/16-16	11/16-16	1.01	2.05
0808S	.50	13/16-16	13/16-16	13/16-16	1.13	2.18
1010S	.63	1-14	1-14	1-14	1.36	2.48
1212S	.75	1 3/16-12	1 3/16-12	1 3/16-12	1.60	2.65
1616S	1.00	1 7/16-12	1 7/16-12	1 7/16-12	1.67	2.80



ORS - Bulkhead Run Tee
Part No. FF2174T(Size)
(Ref. SAE 520958)

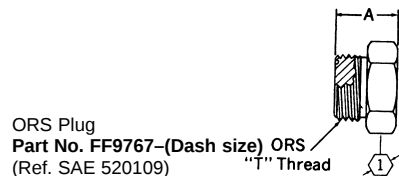
Dash Size	Tube O.D.	Thread T1	Thread T2	Thread T3	A	B	C
0404S	.25	9/16-18	9/16-18	9/16-18	1.85	.89	.89
0606S	.38	11/16-16	11/16-16	11/16-16	2.05	1.02	1.01
0808S	.50	13/16-16	13/16-16	13/16-16	2.18	1.14	1.13
1212S	.75	1 3/16-12	1 3/16-12	1 3/16-12	2.16	1.60	1.60
1616S	1.00	1 7/16-12	1 7/16-12	1 7/16-12	2.80	1.67	1.67

ORS ACCESSORIES



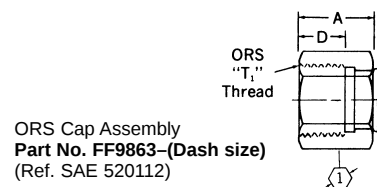
ORS Bulkhead Nut
Part No. FF9768-(Dash size)
(Ref. SAE 520118)

Dash Size	Tube O.D.	Thread T1	A	B
04S	.25	9/16-18	.81	.27
06S	.38	11/16-16	1.00	.31
08S	.50	13/16-16	1.12	.35
10S	.63	1-14	1.31	.41
12S	.75	1 3/16-12	1.50	.41
16S	1.00	1 7/16-12	1.75	.41
20S	1.25	1 11/16-12	2.00	.41
24S	1.50	2-12	2.38	.41



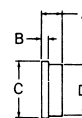
ORS Plug
Part No. FF9767-(Dash size) ORS
(Ref. SAE 520109)

Dash Size	Tube O.D.	Thread T1	A	B
04S	.25	9/16-18	.66	.62
06S	.38	11/16-16	.75	.75
08S	.50	13/16-16	.87	.88
10S	.63	1-14	1.02	1.06
12S	.75	1 3/16-12	1.08	1.25
16S	1.00	1 7/16-12	1.10	1.50
20S	1.25	1 11/16-12	1.10	1.75
24S	1.50	2-12	1.10	2.12



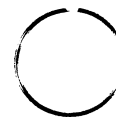
ORS Cap Assembly
Part No. FF9863-(Dash size)
(Ref. SAE 520112)

Dash Size	Tube O.D.	Thread T1	A	D	B
04S	.25	9/16-18	.66	.32	.69
06S	.38	11/16-16	.75	.38	.81
08S	.50	13/16-16	.90	.43	.94
10S	.63	1-14	1.00	.53	1.12
12S	.75	1 3/16-12	1.10	.57	1.38
16S	1.00	1 7/16-12	1.17	.58	1.62
20S	1.25	1 11/16-12	1.17	.58	1.88
24S	1.50	2-12	1.17	.58	2.25



ORS Cap (use with FC2326 Nut)
Part No. FF9766-(Dash size)

Dash Size	Tube O.D.	A	B	C	D
04S	.25	.34	.16	.50	.40
06S	.38	.37	.18	.62	.52
08S	.50	.47	.20	.74	.64
10S	.63	.47	.24	.92	.82
12S	.75	.53	.26	1.09	.94
14S	.88	.71	.45	1.09	.97
16S	1.00	.59	.28	1.34	1.13
20S	1.25	.59	.28	1.59	1.40
24S	1.50	.59	.28	1.91	1.71

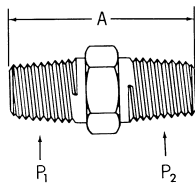


ORS Silver Braze Ring FF9075-(Size)

Part Number	Tube Size O.D. (inches)
FF9075-19	.25
FF9075-06	.38
FF9075-74	.50
FF9075-08	.63
FF9075-09	.75
FF9075-86	1.00
FF9075-87	1.25
FF9075-88	1.50

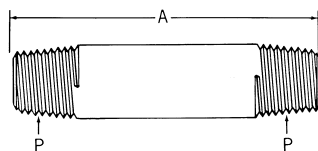
All dimensions in inches.

PIPE TO PIPE



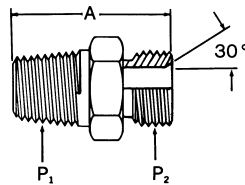
Nipple-External pipe/External pipe
Part No. 2083-(Dash size)
(Ref. SAE 140137)

Dash Size	Thread P ₁	Thread P ₂	A
2-2S	1/8-27	1/8-27	1.06
4-2S	1/4-18	1/8-27	1.26
4-4S	1/4-18	1/4-18	1.45
6-4S	3/8-18	1/4-18	1.45
6-6S	3/8-18	3/8-18	1.45
8-4S	1/2-14	1/4-18	1.70
8-6S	1/2-14	3/8-18	1.70
8-8S	1/2-14	1/2-14	1.89
12-6S	3/4-14	3/8-18	1.77
12-8S	3/4-14	1/2-14	1.96
12-12S	3/4-14	3/4-14	1.96
16-12S	1-11 1/2	3/4-14	2.15
16-16S	1-11 1/2	1-11 1/2	2.34
20-16S	1 1/4-11 1/2	1-11 1/2	2.45
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	2.48
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.61
32-32S	2-11 1/2	2-11 1/2	2.82



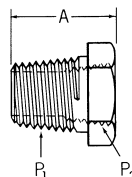
Nipple-External pipe/External pipe
Part No. 2084-(Dash size)

Dash Size	Thread P	A
2S-3/4	1/8-27	.75
2S-2	1/8-27	2.00
4S-7/8	1/4-18	.88
6S-1	3/8-18	1.00
6S-2	3/8-18	2.00
6S-3	3/8-18	3.00
6S-4	3/8-18	4.00
6S-6	3/8-18	6.00
8S-1 1/8	1/2-14	1.12
8S-2 1/2	1/2-14	2.50
12S-3 1/8	3/4-14	1.38
16S-1 1/2	1-11 1/2	1.50
20S-1 5/8	1 1/4-11 1/2	1.62
24S-1 3/4	1 1/2-11 1/2	1.75



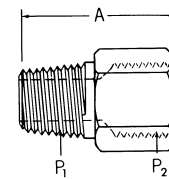
External pipe/External pipe (NPSM)
Part No. 2015-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A
8-8S	1/2-14	1/2-14	1.50
12-12S	3/4-14	3/4-14	1.62
16-16S	1-11 1/2	1-11 1/2	1.91
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.14



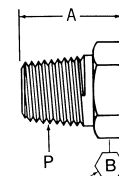
Reducer-External pipe/Internal pipe
Part No. 2081-(Dash size)
(Ref. SAE 140140)

Dash Size	Thread P ₁	Thread P ₂	A
4-2S	1/4-18	1/8-27	.85
6-2S	3/8-18	1/8-27	1.00
6-4S	3/8-18	1/4-18	.85
8-2S	1/2-14	1/8-27	1.10
8-4S	1/2-14	1/4-18	1.10
8-6S	1/2-14	3/8-18	1.12
12-4S	3/4-14	1/4-18	1.17
12-6S	3/4-14	3/8-18	1.17
12-8S	3/4-14	1/2-14	1.36
16-6S	1-11 1/2	3/8-18	1.36
16-8S	1-11 1/2	1/2-14	1.36
16-12S	1-11 1/2	3/4-14	1.49
20-12S	1 1/4-11 1/2	3/4-14	1.47
20-16S	1 1/4-11 1/2	1-11 1/2	1.61
24-12S	1 1/2-11 1/2	3/4-14	1.57
24-16S	1 1/2-11 1/2	1-11 1/2	1.57
24-20S	1 1/2-11 1/2	1 1/4-11 1/2	1.71
32-16S	2-11 1/2	1-11 1/2	1.75
32-20S	2-11 1/2	1 1/4-11 1/2	1.75
32-24S	2-11 1/2	1 1/2-11 1/2	1.75



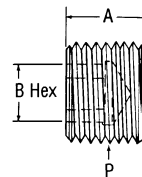
External pipe/Internal pipe
Part No. 2040-(Dash size)
(Ref. SAE 140139)

Dash Size	Thread P ₁	Thread P ₂	A
2-2S	1/8-27	1/8-27	1.04
2-4S	1/8-27	1/4-18	1.21
4-4S	1/4-18	1/4-18	1.39
4-6S	1/4-18	3/8-18	1.44
4-8S	1/4-18	1/2-14	1.68
6-6S	3/8-18	3/8-18	1.44
6-8S	3/8-18	1/2-14	1.68
8-8S	1/2-14	1/2-14	1.87
8-12S	1/2-14	3/4-14	1.93
12-12S	3/4-14	3/4-14	1.93
12-16S	3/4-14	1-11 1/2	2.18
16-16S	1-11 1/2	1-11 1/2	2.37
16-20S	1-11 1/2	1 1/4-11 1/2	2.46
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	2.49
20-24S	1 1/4-11 1/2	1 1/2-11 1/2	2.50
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.53
32-32S	2-11 1/2	2-11 1/2	2.66



External pipe/Plug
Part No. 2082-(Dash size)
(Ref. SAE 140109E)

Dash Size	Thread P ₁	A	B
2S	1/8-27	.58	.44
4S	1/4-18	.76	.56
6S	3/8-18	.79	.69
8S	1/2-14	.98	.88
12S	3/4-14	1.08	1.06
16S	1-11 1/2	1.27	1.31
20S	1 1/4-11 1/2	1.30	1.75
24S	1 1/2-11 1/2	1.33	2.00

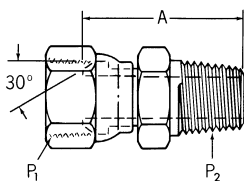


External pipe/Plug countersunk hex
Part No. 2222-(Dash size)
(Ref. SAE 140109N)

Dash Size	Thread P ₁	A	B
2S	1/8-27	.30	.19
4S	1/4-18	.46	.25
6S	3/8-18	.46	.31
8S	1/2-14	.61	.38

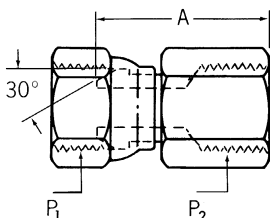
All dimensions in inches.

PIPE TO PIPE Cont.



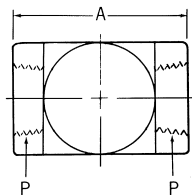
Internal pipe swivel (NPSM)/External pipe
Part No. 2045-(Dash size)
(Ref. SAE 140130)

Dash Size	Thread P ₁	Thread P ₂	A	
2-2S	1/8-27	1/8-27	.96	
2-4S	1/8-27	1/4-18	1.14	
4-4S	1/4-18	1/4-18	1.26	
4-6S	1/4-18	3/8-18	1.26	
6-4S	3/8-18	1/4-18	1.26	
6-6S	3/8-18	3/8-18	1.32	
6-8S	3/8-18	1/2-14	1.58	
8-6S	1/2-14	3/8-18	1.37	
8-8S	1/2-14	1/2-14	1.62	
8-12S	1/2-14	3/4-14	1.62	
12-12S	3/4-14	3/4-14	1.75	
12-16S	3/4-14	1-11 1/2	2.00	
16-12S	1-11 1/2	3/4-14	1.76	
16-16S	1-11 1/2	1-11 1/2	2.02	
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	2.08	
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.20	
32-32S	2-11 1/2	2-11 1/2	2.39	



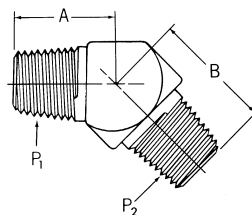
Internal pipe swivel (NPSM)/Internal pipe
Part No. 2046-(Dash size)
(Ref. SAE 140131)

Dash Size	Thread P ₁	Thread P ₂	A	
2-2S	1/8-27	1/8-27	.84	
2-4S	1/8-27	1/4-18	1.06	
4-4S	1/4-18	1/4-18	1.30	
4-6S	1/4-18	3/8-18	1.31	
6-6S	3/8-18	3/8-18	1.33	
6-8S	3/8-18	1/2-14	1.45	
8-8S	1/2-14	1/2-14	1.56	
12-12S	3/4-14	3/4-14	1.77	
16-16S	1-11 1/2	1-11 1/2	2.06	
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	2.06	
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.18	
32-32S	2-11 1/2	2-11 1/2	2.30	



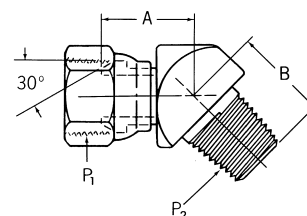
Coupling - Internal pipe/Internal pipe
Part No. 2096-(Dash size)
(Ref. SAE 140138)

Dash Size	Thread P	A	
2S	1/8-27	.75	
4S	1/4-18	1.13	
6S	3/8-18	1.13	
8S	1/2-14	1.50	
12S	3/4-14	1.53	
16S	1-11 1/2	1.89	
20S	1 1/4-11 1/2	1.93	
24S	1 1/2-11 1/2	1.93	



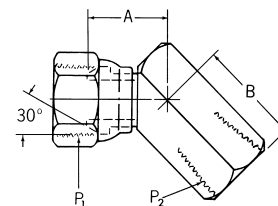
External pipe/External pipe
Part No. 2247-(Dash size)
(Ref. SAE 140337)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.52	.52
4-4S	1/4-18	1/4-18	.86	.86
6-4S	3/8-18	1/4-18	.95	.95
6-6S	3/8-18	3/8-18	.95	.95
8-8S	1/2-14	1/2-14	1.13	1.17
12-12S	3/4-14	3/4-14	1.17	1.20
16-16S	1-11 1/2	1-11 1/2	1.20	1.48
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	1.88	1.54



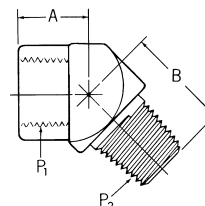
Internal pipe swivel (NPSM)/External pipe
Part No. 2049-(Dash size)
(Ref. SAE 140330)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.67	.70
4-4S	1/4-18	1/4-18	.79	.79
6-6S	3/8-18	3/8-18	.92	1.09
6-8S	3/8-18	1/2-14	.92	1.41
8-6S	1/2-14	3/8-18	.91	1.09
8-8S	1/2-14	1/2-14	.91	1.33
12-12S	3/4-14	3/4-14	1.10	1.53
16-16S	1-11 1/2	1-11 1/2	1.26	1.53
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	1.25	1.75
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	1.41	2.00
32-32S	2-11 1/2	2-11 1/2	1.50	2.00



Internal pipe swivel (NPSM)/Internal pipe
Part No. 2050-(Dash size)
(Ref. SAE 140331)

Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	1/4-18	1/4-18	.79	.97
6-6S	3/8-18	3/8-18	.92	1.18
8-8S	1/2-14	1/2-14	.91	1.41
12-12S	3/4-14	3/4-14	1.10	1.53
16-16S	1-11 1/2	1-11 1/2	1.26	1.53
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	1.45	1.81

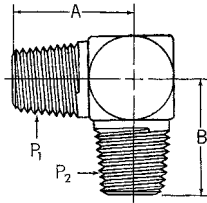


External pipe/Internal pipe
Part No. 2088-(Dash size)
(Ref. SAE 140339)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.47	.72
4-4S	1/4-18	1/4-18	.62	1.05
6-6S	3/8-18	3/8-18	.72	1.06
8-8S	1/2-14	1/2-14	.91	1.34
12-12S	3/4-14	3/4-14	.97	1.38
16-16S	1-11 1/2	1-11 1/2	1.12	1.72

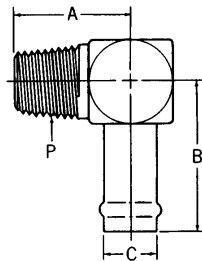
All dimensions in inches.

PIPE TO PIPE Cont.



External pipe/External pipe
Part No. 2085-(Dash size)
(Ref. SAE 140237)

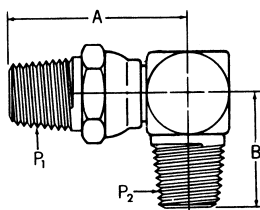
Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.78	.78
4-4S	1/4-18	1/4-18	1.09	1.09
6-4S	3/8-18	1/4-18	1.22	1.22
6-6S	3/8-18	3/8-18	1.22	1.22
8-6S	1/2-14	3/8-18	1.47	1.28
8-8S	1/2-14	1/2-14	1.47	1.47
12-8S	3/4-14	1/2-14	1.59	1.59
12-12S	3/4-14	3/4-14	1.59	1.59
16-12S	1-11 1/2	3/4-14	1.97	1.78
16-16S	1-11 1/2	1-11 1/2	1.97	1.97



External pipe/Hose connector
Part No. FF1162-(Dash size)
(Ref. SAE 430260)

Dash Size	Tube O.D.	Thread P	A	B	C
0406S	.38	1/4-18	.96	1.54	.38
1212S	.75	3/4-14	1.41	1.83	.75
1616S	1.00	1-11 1/2	1.71	1.94	1.00
2020S	1.25	1 1/4-11 1/2	1.96	2.15	1.25

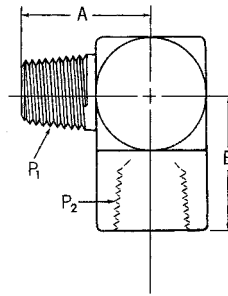
Clamp required.



External pipe swivel/External pipe
Part No. 2251-(Dash size)

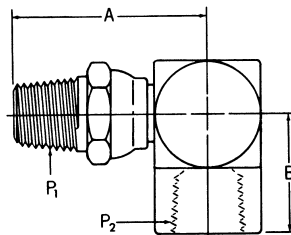
Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	1/4-18	1/4-18	1.72	1.09
6-6S	3/8-18	3/8-18	1.78	1.22
8-8S	1/2-14	1/2-14	2.14	1.47
12-12S	3/4-14	3/4-14	2.33	1.47

NOTE: The above adapter is not a rotating union or swivel joint. Care must be exercised to avoid misuse. To be used with petroleum or water glycol fluids.



External pipe/Internal pipe
Part No. 2089-(Dash size)
(Ref. SAE 140239)

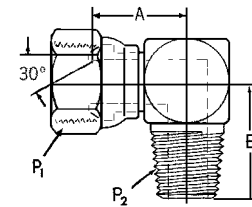
Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.78	.66
2-4S	1/8-27	1/4-18	.90	.88
4-2S	1/4-18	1/8-27	1.09	.67
4-4S	1/4-18	1/4-18	1.09	.88
4-6S	1/4-18	3/8-18	1.22	1.02
6-4S	3/8-18	1/4-18	1.22	1.01
6-6S	3/8-18	3/8-18	1.22	1.02
6-8S	3/8-18	1/2-14	1.28	1.23
8-6S	1/2-14	3/8-18	1.47	1.01
8-8S	1/2-14	1/2-14	1.47	1.23
8-12S	3/4-14	3/4-14	1.59	1.36
12-8S	3/4-14	1/2-14	1.59	1.35
12-12S	3/4-14	3/4-14	1.59	1.36
16-16S	1-11 1/2	1-11 1/2	1.97	1.62
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	2.38	1.70
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.64	2.08



External pipe swivel/Internal pipe
Part No. 2252-(Dash size)

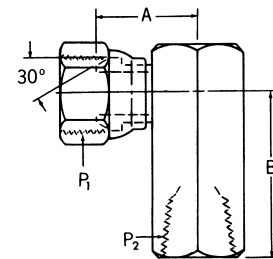
Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	1/4-18	1/4-18	1.72	.88
6-6S	3/8-18	3/8-18	1.69	1.02
8-8S	1/2-14	1/2-14	2.14	1.23
12-12S	3/4-14	3/4-14	2.25	1.36

NOTE: The above adapter is not a rotating swivel joint. Care must be exercised to avoid misuse. To be used with petroleum or water glycol fluids.



Internal pipe swivel (NPSM)/External pipe
Part No. 2047-(Dash size)
(Ref. SAE 140230)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	1/8-27	1/8-27	.71	1.03
4-4S	1/4-18	1/4-18	.91	1.28
4-6S	1/4-18	3/8-18	1.09	1.53
6-6S	3/8-18	3/8-18	1.09	1.53
6-8S	3/8-18	1/2-14	1.03	1.84
8-6S	1/2-14	3/8-18	1.08	1.65
8-8S	1/2-14	1/2-14	1.08	1.84
8-12S	1/2-14	3/4-14	1.24	2.03
12-8S	3/4-14	1/2-14	1.36	2.03
12-12S	3/4-14	3/4-14	1.36	2.03
12-16S	3/4-14	1-11 1/2	1.51	2.41
16-12S	1-11 1/2	3/4-14	1.53	2.22
16-16S	1-11 1/2	1-11 1/2	1.53	2.41
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	1.82	2.65
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.02	2.84
32-32S	2-11 1/2	2-11 1/2	2.37	3.34

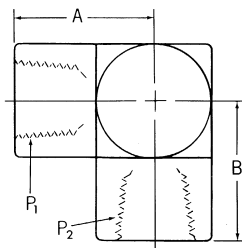


Internal pipe swivel (NPSM)/Internal pipe
Part No. 2048-(Dash size)
(Ref. SAE 140231)

Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	1/4-18	1/4-18	.91	.97
6-6S	3/8-18	3/8-18	1.09	1.09
8-8S	1/2-14	1/2-14	1.08	1.34
12-12S	3/4-14	3/4-14	1.36	1.53
16-16S	1-11 1/2	1-11 1/2	1.53	1.78
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	1.82	2.03
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	2.02	2.28

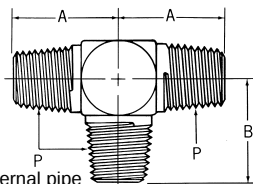
All dimensions in inches.

PIPE TO PIPE Cont.



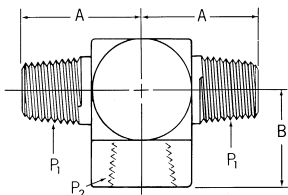
Internal pipe/Internal pipe
Part No. 2087-(Dash size)
(Ref. SAE 140238)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.66	.66
4-2S	$\frac{1}{4}$ -18	$\frac{1}{8}$ -27	.88	.67
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	.88	.88
6-4S	$\frac{3}{8}$ -18	$\frac{1}{4}$ -18	1.02	1.01
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.02	1.02
8-6S	$\frac{1}{2}$ -14	$\frac{3}{8}$ -18	1.23	1.01
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.23	1.23
12-8S	$\frac{3}{4}$ -14	$\frac{1}{2}$ -14	1.36	1.35
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.36	1.36
16-12S	1-11 $\frac{1}{2}$	$\frac{3}{4}$ -14	1.62	1.39
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.62	1.62
20-20S	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1.70	1.70
24-24S	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	2.08	2.08



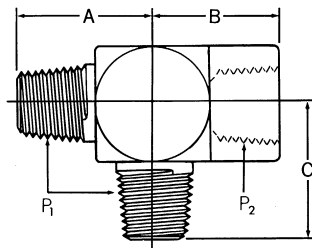
External pipe/External pipe
Part No. 2257-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.78	.78
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.09	1.09
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.22	1.22
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.47	1.47
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.59
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.97	1.97



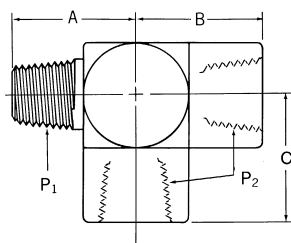
External pipe/Internal pipe
Part No. 2256-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.78	.66
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.09	.88
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.22	1.02
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.47	1.23
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.36
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	2.11	1.62



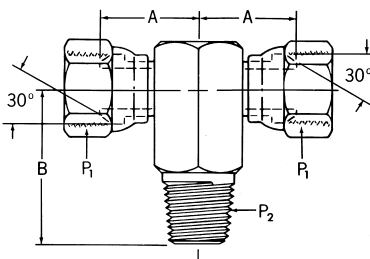
External pipe/Internal pipe
Part No. 2093-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B	C
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.78	.66	.78
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.09	.88	1.09
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.22	1.02	1.22
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.47	1.23	1.47
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.36	1.59
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.97	1.62	1.97



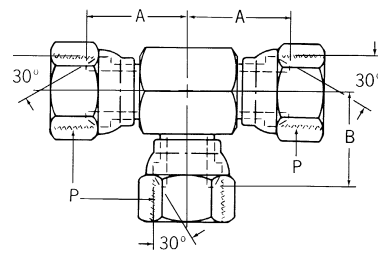
External pipe/Internal pipe
Part No. 2092-(Dash size)
(Ref. SAE 140424)

Dash Size	Thread P ₁	Thread P ₂	A	B	C
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.78	.66	.66
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.09	.88	.88
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.22	1.02	1.02
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.47	1.23	1.23
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.36	1.36
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.97	1.62	1.62
20-20S	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	2.83	1.95	1.76



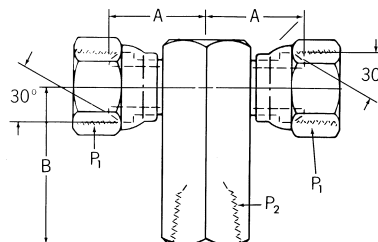
Internal pipe swivel (NPSM)/External pipe
Part No. 2254-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.71	.92
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	.91	1.23
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.09	1.53
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.00	1.81
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.36	2.03
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.34	2.38
20-20S	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1.50	2.56



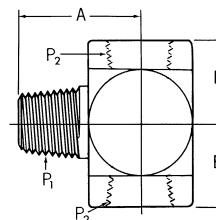
Internal pipe swivel (NPSM)
Part No. 2255-(Dash size)

Dash Size	Thread P	A	B
2-2S	$\frac{1}{8}$ -27	.71	.71
4-4S	$\frac{1}{4}$ -18	.91	.91
6-6S	$\frac{3}{8}$ -18	1.09	1.09
8-8S	$\frac{1}{2}$ -14	1.08	1.08
12-12S	$\frac{3}{4}$ -14	1.36	1.36
16-16S	1-11 $\frac{1}{2}$	1.53	1.53



Internal pipe swivel (NPSM)/Internal pipe
Part No. 2253-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.08	.97
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.26	1.09
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.27	1.34
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.53
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.82	1.78

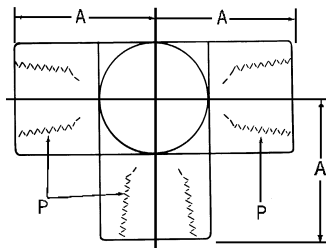


External pipe/Internal pipe
Part No. 2091-(Dash size)
(Ref. SAE 140425)

Dash Size	Thread P ₁	Thread P ₂	A	B
2-2S	$\frac{1}{8}$ -27	$\frac{1}{8}$ -27	.78	.66
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.09	.88
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.22	1.02
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.47	1.23
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.59	1.36
16-16S	1-11 $\frac{1}{2}$	1-11 $\frac{1}{2}$	1.97	1.62

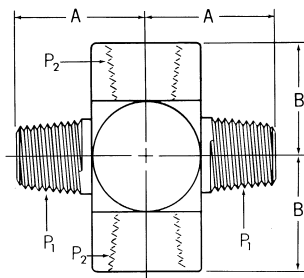
All dimensions in inches.

PIPE TO PIPE Cont.



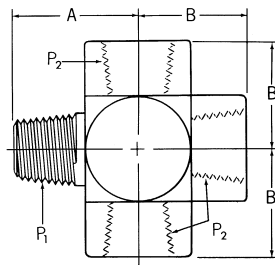
Internal pipe/Internal pipe
Part No. 2090-(Dash size)
(Ref. SAE 140438)

Dash Size	Thread P	A
2-2S	$\frac{1}{8}$ -27	.66
4-4S	$\frac{1}{4}$ -18	.88
6-6S	$\frac{3}{8}$ -18	1.02
8-8S	$\frac{1}{2}$ -14	1.23
12-12S	$\frac{3}{4}$ -14	1.36
16-16S	1-11 $\frac{1}{2}$	1.62
20-20S	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1.70
24-24S	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	2.08



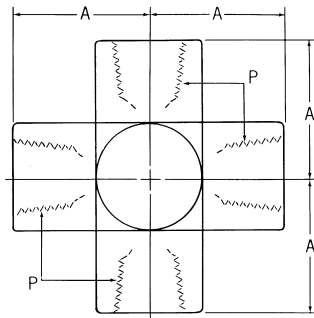
External pipe/Internal pipe
Part No. 208006-(Dash size)

Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.16	.88
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.30	1.02
20-20S	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	2.65	1.70



External pipe/Internal pipe
Part No. 208007-(Dash size)

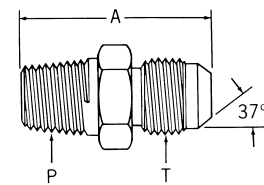
Dash Size	Thread P ₁	Thread P ₂	A	B
4-4S	$\frac{1}{4}$ -18	$\frac{1}{4}$ -18	1.16	.88
6-6S	$\frac{3}{8}$ -18	$\frac{3}{8}$ -18	1.30	1.02
8-8S	$\frac{1}{2}$ -14	$\frac{1}{2}$ -14	1.63	1.23
12-12S	$\frac{3}{4}$ -14	$\frac{3}{4}$ -14	1.73	1.36



Internal pipe/Internal pipe
Part No. 2080-(Dash size)

Dash Size	Thread P	A
2-2S	$\frac{1}{8}$ -27	.66
4-4S	$\frac{1}{4}$ -18	.88
6-6S	$\frac{3}{8}$ -18	1.02
8-8S	$\frac{1}{2}$ -14	1.23
12-12S	$\frac{3}{4}$ -14	1.36
16-16S	1-11 $\frac{1}{2}$	1.62

PIPE TO 37° FLARE

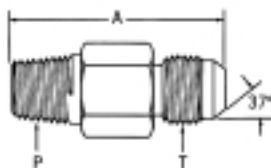


External pipe/37° flare
Part No. 2021-(Dash size)
(Ref. SAE 070102)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-3S	.19	$\frac{1}{8}$ -27	$\frac{3}{8}$ -24	1.14
2-4S	.25	$\frac{1}{8}$ -27	$\frac{7}{16}$ -20	1.22
2-5S	.31	$\frac{1}{8}$ -27	$\frac{1}{2}$ -20	1.22
2-6S	.38	$\frac{1}{8}$ -27	$\frac{9}{16}$ -18	1.24
2-8S	.50	$\frac{1}{8}$ -27	$\frac{3}{4}$ -16	1.34
4-4S	.25	$\frac{1}{4}$ -18	$\frac{7}{16}$ -20	1.42
4-5S	.31	$\frac{1}{4}$ -18	$\frac{1}{2}$ -20	1.42
4-6S	.38	$\frac{1}{4}$ -18	$\frac{9}{16}$ -18	1.43
4-8S	.50	$\frac{1}{4}$ -18	$\frac{3}{4}$ -16	1.53
6-4S	.25	$\frac{3}{8}$ -18	$\frac{7}{16}$ -20	1.42
6-5S	.31	$\frac{3}{8}$ -18	$\frac{1}{2}$ -20	1.42
6-6S	.38	$\frac{3}{8}$ -18	$\frac{9}{16}$ -18	1.43
6-8S	.50	$\frac{3}{8}$ -18	$\frac{3}{4}$ -16	1.53
6-10S	.63	$\frac{3}{8}$ -18	$\frac{7}{8}$ -14	1.70
8-4S	.25	$\frac{1}{2}$ -14	$\frac{7}{16}$ -20	1.68
8-6S	.38	$\frac{1}{2}$ -14	$\frac{9}{16}$ -18	1.69
8-8S	.50	$\frac{1}{2}$ -14	$\frac{3}{4}$ -16	1.79
8-10S	.63	$\frac{1}{2}$ -14	$\frac{7}{8}$ -14	1.89
8-12S	.75	$\frac{1}{2}$ -14	1 $\frac{1}{16}$ -12	2.06
12-6S	.38	$\frac{3}{4}$ -14	$\frac{9}{16}$ -18	1.75
12-8S	.50	$\frac{3}{4}$ -14	$\frac{3}{4}$ -16	1.85
12-10S	.63	$\frac{3}{4}$ -14	$\frac{7}{8}$ -14	1.95
12-12S	.75	$\frac{3}{4}$ -14	1 $\frac{1}{16}$ -12	2.06
12-16S	1.00	$\frac{3}{4}$ -14	1 $\frac{5}{16}$ -12	2.11
16-12S	.75	1-11 $\frac{1}{2}$	1 $\frac{1}{16}$ -12	2.25
16-16S	1.00	1-11 $\frac{1}{2}$	1 $\frac{5}{16}$ -12	2.30
16-20S	1.25	1-11 $\frac{1}{2}$	1 $\frac{5}{8}$ -12	2.42
16-24S	1.50	1-11 $\frac{1}{2}$	1 $\frac{7}{8}$ -12	2.62
16-32S	2.00	1-11 $\frac{1}{2}$	2 $\frac{1}{2}$ -12	3.02
20-12S	.75	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{1}{16}$ -12	2.36
20-16S	1.00	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{5}{16}$ -12	2.40
20-20S	1.25	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{5}{8}$ -12	2.45
20-24S	1.50	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	1 $\frac{7}{8}$ -12	2.65
20-32S	2.00	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	2 $\frac{1}{2}$ -12	3.05
24-12S	.75	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	1 $\frac{1}{16}$ -12	2.46
24-16S	1.00	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	1 $\frac{5}{16}$ -12	2.51
24-20S	1.25	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	1 $\frac{5}{8}$ -12	2.55
24-24S	1.50	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	1 $\frac{7}{8}$ -12	2.68
24-32S	2.00	1 $\frac{1}{2}$ -11 $\frac{1}{2}$	2 $\frac{1}{2}$ -12	3.08
32-32S	2.00	2-11 $\frac{1}{2}$	2 $\frac{1}{2}$ -12	3.11

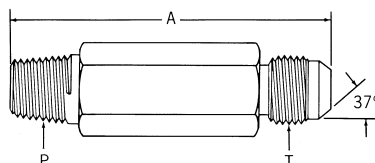
All dimensions in inches.

PIPE TO 37° FLARE Cont.



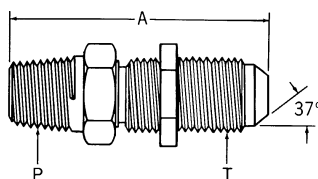
External pipe/37° flare
Part No. 202113-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	1.81
2-5S	.31	1/8-27	1/2-20	1.94
4-4S	.25	1/4-18	7/16-20	2.25
4-5S	.31	1/4-18	1/2-20	2.25
4-6S	.38	1/4-18	9/16-18	2.25
6-6S	.38	3/8-18	9/16-18	2.50
6-8S	.50	3/8-18	3/4-16	2.75
8-10S	.63	1/2-14	7/8-14	3.12
8-12S	.75	1/2-14	1 1/16-12	3.28
12-12S	.75	3/4-14	1 1/16-12	3.50
16-16S	1.00	1-11 1/2	1 5/16-12	4.00
20-20S	1.50	1 1/4-11 1/2	1 5/8-12	4.50
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	4.88
32-32S	2.00	2-11 1/2	2 1/2-12	5.62



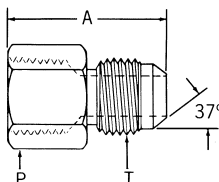
External pipe/37° flare
Part No. 202114-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	2.56
2-5S	.31	1/8-27	1/2-20	2.81
4-4S	.25	1/4-18	7/16-20	3.25
4-5S	.31	1/4-18	1/2-20	3.25
4-6S	.38	1/4-18	9/16-18	3.25
6-6S	.50	3/8-18	3/4-16	4.00
8-6S	.38	1/2-14	9/16-18	4.17
8-10S	.63	1/2-14	7/8-14	4.38
12-12S	.75	3/4-14	1 1/16-12	5.00
12-16S	1.00	3/4-14	1 5/16-12	5.56
16-16S	1.00	1-11 1/2	1 5/16-12	5.75



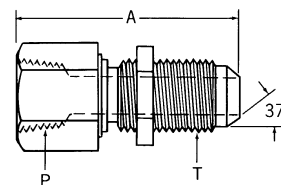
External pipe/37° flare bulkhead
Part No. 2240-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	1.84
4-4S	.25	1/4-18	7/16-20	2.03
4-6S	.38	1/4-18	9/16-18	2.12
6-8S	.50	3/8-18	3/4-16	2.36
8-10S	.63	1/2-14	7/8-14	2.71
12-12S	.75	3/4-14	1 1/16-12	2.92
16-16S	1.00	1-11 1/2	1 5/16-12	3.11



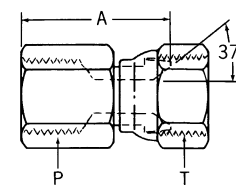
Internal pipe/37° flare
Part No. 2022-(Dash size)
(Ref. SAE 070103)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-3S	.19	1/8-27	3/8-24	1.13
2-4S	.25	1/8-27	7/16-20	1.19
2-5S	.31	1/8-27	1/2-20	1.17
4-3S	.19	1/4-18	3/8-24	1.32
4-4S	.25	1/4-18	7/16-20	1.39
4-5S	.31	1/4-18	1/2-20	1.39
4-6S	.38	1/4-18	9/16-18	1.40
4-8S	.50	1/4-18	3/4-16	1.55
6-6S	.38	3/8-18	9/16-18	1.46
6-8S	.50	3/8-18	3/4-16	1.56
8-6S	.38	1/2-14	9/16-18	1.69
8-8S	.50	1/2-14	3/4-16	1.79
8-10S	.63	1/2-14	7/8-14	1.89
8-12S	.75	1/2-14	1 1/16-12	2.05
12-8S	.50	3/4-14	3/4-16	1.85
12-10S	.63	3/4-14	7/8-14	1.95
12-12S	.75	3/4-14	1 1/16-12	2.06
16-16S	1.00	1-11 1/2	1 5/16-12	2.35
20-16S	1.00	1 1/4-11 1/2	1 5/16-12	2.44
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.49
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.62
32-32S	2.00	2-11 1/2	2 1/2-12	2.97
40-40B	2.50	2 1/2-8	3-12	3.25



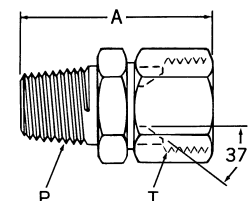
Internal pipe/37° flare bulkhead
Part No. 2239-(Dash size)
(Ref. SAE 070603)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	2.08
6-8S	.50	3/8-18	3/4-16	2.48
8-10S	.63	1/2-14	7/8-14	2.84
12-12S	.75	3/4-14	1 1/16-12	3.05
16-16S	1.00	1-11 1/2	1 5/16-12	3.25



Internal pipe/37° flare swivel
Part No. 2242-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	.85
2-5S	.31	1/8-27	1/2-20	.87
4-4S	.25	1/4-18	7/16-20	1.11
4-5S	.31	1/4-18	1/2-20	1.10
6-6S	.38	3/8-18	9/16-18	1.16
6-8S	.50	3/8-18	3/4-16	1.20
8-6S	.38	1/2-14	9/16-18	1.42
8-8S	.50	1/2-14	3/4-16	1.48
8-10S	.63	1/2-14	7/8-14	1.47
12-12S	.75	3/4-14	1 1/16-12	1.49
12-14S	.88	3/4-14	1 3/16-12	1.55
16-16S	1.00	1-11 1/2	1 5/16-12	1.85
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.02

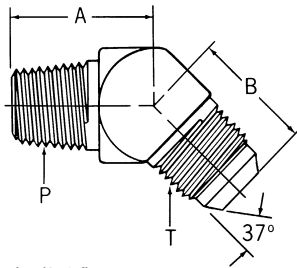


External pipe/37° flare swivel
Part No. 2018-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4S	.25	1/8-27	7/16-20	1.32
4-6S	.38	1/4-18	9/16-18	1.59
6-8S	.50	3/8-18	3/4-16	1.74
12-12S	.75	3/4-14	1 1/16-12	2.15
16-16S	1.00	1-11 1/2	1 5/16-12	2.54
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.78

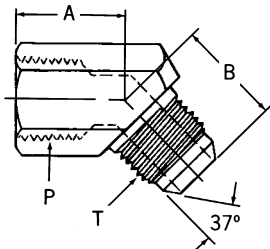
All dimensions in inches.

PIPE TO 37° FLARE Cont.



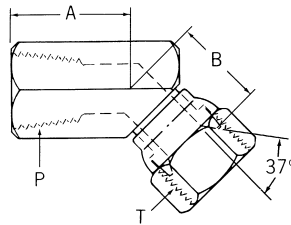
External pipe/37° flare
Part No. 2023-(Dash size)
(Ref. SAE 070302)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-3S	.19	1/8-27	3/8-24	.58	.76
2-4S	.25	1/8-27	7/16-20	.58	.78
2-5S	.31	1/8-27	1/2-20	.64	.80
2-6S	.38	1/8-27	9/16-18	.72	.83
4-4S	.25	1/4-18	7/16-20	.86	.82
4-5S	.31	1/4-18	1/2-20	.86	.80
4-6S	.38	1/4-18	9/16-18	.86	.83
4-8S	.50	1/4-18	3/4-16	.95	1.04
6-4S	.25	3/8-18	7/16-20	.95	.79
6-6S	.38	3/8-18	9/16-18	.95	.88
6-8S	.50	3/8-18	3/4-16	.95	.98
6-10S	.63	3/8-18	7/8-14	.96	1.14
8-6S	.38	1/2-14	9/16-18	1.17	.91
8-8S	.50	1/2-14	3/4-16	1.17	1.00
8-10S	.63	1/2-14	7/8-14	1.17	1.11
8-12S	.75	1/2-14	1 1/16-12	1.20	1.39
12-8S	.50	3/4-14	3/4-16	1.20	1.10
12-10S	.63	3/4-14	7/8-14	1.20	1.22
12-12S	.75	3/4-14	1 1/16-12	1.20	1.28
12-16S	1.00	3/4-14	1 5/16-12	1.29	1.47
16-12S	.75	1-11 1/2	1 1/16-12	1.48	1.52
16-16S	1.00	1-11 1/2	1 5/16-12	1.48	1.47
16-20S	1.25	1-11 1/2	1 5/8-12	1.54	1.62
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	1.54	1.69
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	1.77	1.78
32-32S	2.00	2-11 1/2	2 1/2-12	2.11	2.22
40-40	2.50	2 1/2-8	3-12	2.78	1.89
48-48	3.00	3-8	3 1/2-12	2.94	2.05



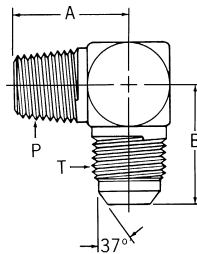
Internal pipe/37° flare
Part No. 2044-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
4-6S	.38	1/4-18	9/16-18	.62	.83
6-8S	.50	3/8-18	3/4-16	.72	.98
8-10S	.63	1/2-14	7/8-14	.91	1.11
12-12S	.75	3/4-14	1 1/16-12	.97	1.28



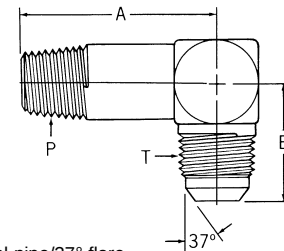
Internal pipe/37° flare swivel
Part No. 2243-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
8-6S	.38	1/2-14	9/16-18	.91	.84
8-10S	.63	1/2-14	7/8-14	.91	.94



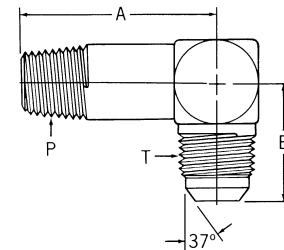
External pipe/37° flare
Part No. 2024-(Dash size)
(Ref. SAE 070202)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-3S	.19	1/8-27	3/8-24	.72	.83
2-4S	.25	1/8-27	7/16-20	.78	.89
2-5S	.31	1/8-27	1/2-20	.78	.95
2-6S	.38	1/8-27	9/16-18	.90	1.06
4-4S	.25	1/4-18	7/16-20	1.09	1.05
4-5S	.31	1/4-18	1/2-20	1.09	1.05
4-6S	.38	1/4-18	9/16-18	1.09	1.06
4-8S	.50	1/4-18	3/4-16	1.22	1.25
6-4S	.25	3/8-18	7/16-20	1.22	1.12
6-5S	.31	3/8-18	1/2-20	1.22	1.12
6-6S	.38	3/8-18	9/16-18	1.22	1.14
6-8S	.50	3/8-18	3/4-16	1.22	1.25
6-10S	.63	3/8-18	7/8-14	1.28	1.45
6-12S	.75	3/8-18	1 1/16-12	1.40	1.66
8-4S	.25	1/2-14	7/16-20	1.47	1.21
8-6S	.38	1/2-14	9/16-18	1.47	1.22
8-8S	.50	1/2-14	3/4-16	1.47	1.33
8-10S	.63	1/2-14	7/8-14	1.47	1.45
8-12S	.75	1/2-14	1 1/16-12	1.59	1.66
8-16S	1.00	1/2-14	1 5/16-12	1.78	1.81
12-6S	.38	3/4-14	9/16-18	1.59	1.31
12-8S	.50	3/4-14	3/4-16	1.59	1.42
12-10S	.63	3/4-14	7/8-14	1.59	1.54
12-12S	.75	3/4-14	1 1/16-12	1.59	1.66
12-16S	1.00	3/4-14	1 5/16-12	1.78	1.81
16-8S	.50	1-11 1/2	3/4-16	1.97	1.52
16-12S	.75	1-11 1/2	1 1/16-12	1.97	1.76
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.81
16-20S	1.25	1-11 1/2	1 5/8-12	2.35	2.06
20-16S	1.00	1 1/4-11 1/2	1 5/16-12	2.38	2.01
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.38	2.06
20-24S	1.50	1 1/4-11 1/2	1 7/8-12	2.61	2.33
24-20S	1.25	1 1/2-11 1/2	1 5/8-12	2.64	2.20
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.64	2.33
24-32S	2.00	1 1/2-11 1/2	2 1/2-12	2.97	3.06
32-32S	2.00	2-11 1/2	2 1/2-12	3.00	3.06
40-40S	2.50	2 1/2-8	3-12	3.39	2.98



External pipe/37° flare
Part No. 202411-(Dash size)
(Ref. SAE 071502)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	1.17	.89
2-5S	.31	1/8-27	1/2-20	1.17	.95
4-4S	.25	1/4-18	7/16-20	1.58	1.05
4-6S	.38	1/4-18	9/16-18	1.58	1.06
6-8S	.50	3/8-18	3/4-16	1.82	1.25
8-8S	.50	1/2-14	3/4-16	2.17	1.33
8-10S	.63	1/2-14	7/8-14	2.17	1.45
12-10S	.63	3/4-14	7/8-14	2.44	1.54
12-12S	.75	3/4-14	1 1/16-12	2.44	1.66
12-16S	1.00	3/4-14	1 5/16-12	2.82	1.81
16-16S	1.00	1-11 1/2	1 5/16-12	3.01	1.81
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	3.59	2.06

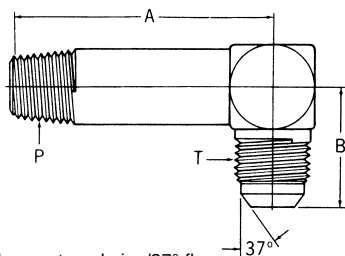


Long external pipe/37° flare
Part No. 202413-(Dash size)
(Ref. SAE 071602)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	1.56	.89
2-5S	.31	1/8-27	1/2-20	1.63	.95
4-4S	.25	1/4-18	7/16-20	2.07	1.05
4-5S	.31	1/4-18	1/2-20	2.07	1.05
4-6S	.38	1/4-18	9/16-18	2.07	1.06
6-6S	.38	3/8-18	9/16-18	2.46	1.06
6-8S	.50	3/8-18	3/4-16	2.42	1.25
8-8S	.50	1/2-14	3/4-16	2.87	1.33
8-10S	.63	1/2-14	7/8-14	2.87	1.45
8-12S	.75	1/2-14	1 1/16-12	3.28	1.66
12-12S	.75	3/4-14	1 1/16-12	3.28	1.66
12-16S	1.00	3/4-14	1 5/16-12	3.86	1.81
12-20S	1.25	3/4-14	1 5/8-12	3.61	2.06
16-16S	1.00	1-11 1/2	1 5/16-12	4.05	1.81
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	4.84	2.06

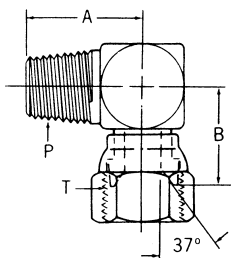
All dimensions in inches.

PIPE TO 37° FLARE Cont.



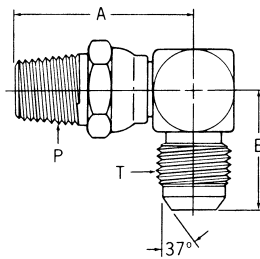
Extra long external pipe/37° flare
Part No. 202414-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	2.31	.89
2-5S	.31	1/8-27	1/2-20	2.33	.95
4-4S	.25	1/4-18	7/16-20	2.99	.97
4-6S	.38	1/4-18	9/16-18	3.06	1.06
6-8S	.50	3/8-18	3/4-16	3.75	1.25
8-8S	.50	1/2-14	3/4-16	4.51	1.25
8-10S	.63	1/2-14	7/8-14	4.51	1.45
12-12S	.75	3/4-14	1 1/16-12	5.03	1.66
16-16S	1.00	1-11 1/2	1 5/16-12	6.37	1.81
20-20S	1.25	1 1/4-11 1/2	1 7/8-12	7.34	2.06



External pipe/37° flare swivel
Part No. 2250-(Dash size)

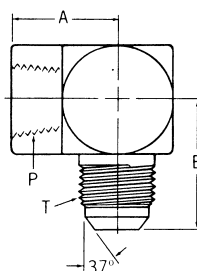
Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	.78	.66
2-5S	.31	1/8-27	1/2-20	.78	.68
4-6S	.38	1/4-18	9/16-18	1.09	.88
6-6S	.38	3/8-18	9/16-18	1.22	.85
6-8S	.50	3/8-18	3/4-16	1.22	.96
8-8S	.50	1/2-14	3/4-16	1.47	1.00
8-10S	.63	1/2-14	7/8-14	1.47	1.12
12-8S	.50	3/4-14	3/4-16	1.59	1.17
12-12S	.75	3/4-14	1 1/16-12	1.59	1.19
12-14S	.88	3/4-14	1 3/16-12	1.69	1.20
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.41
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.38	1.68
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.64	1.86



External pipe swivel/37° flare
Part No. 2249-(Dash size)

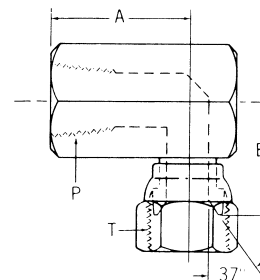
Dash Size	Tube O.D.	Thread P	Thread T	A	B
4-6S	.38	1/4-18	9/16-18	1.60	1.06
6-8S	.50	3/8-18	3/4-16	1.71	1.22
8-10S	.63	1/2-14	7/8-14	2.00	1.45
12-12S	.75	3/4-14	1 1/16-12	2.14	1.66

NOTE: The above adapter is not a rotating union or swivel joint. Care must be exercised to avoid misuse. To be used with petroleum or water glycol fluids.



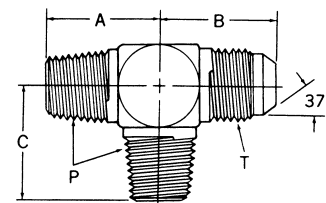
Internal pipe/37° flare
Part No. 2025-(Dash size)
(Ref. SAE 070203)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	.66	1.08
2-5S	.31	1/8-27	1/2-20	.66	1.08
2-6S	.38	1/8-27	9/16-18	.67	1.23
4-4S	.25	1/4-18	7/16-20	.88	1.22
4-5S	.31	1/4-18	1/2-20	.88	1.22
4-6S	.38	1/4-18	9/16-18	.88	1.23
4-8S	.50	1/4-18	3/4-16	1.01	1.42
6-4S	.25	3/8-18	7/16-20	1.02	1.29
6-5S	.31	3/8-18	1/2-20	1.02	1.29
6-6S	.38	3/8-18	9/16-18	1.02	1.31
6-8S	.50	3/8-18	3/4-16	1.02	1.42
8-4S	.25	1/2-14	7/16-20	1.23	1.40
8-5S	.31	1/2-14	1/2-20	1.23	1.40
8-8S	.50	1/2-14	3/4-16	1.23	1.52
8-10S	.63	1/2-14	7/8-14	1.23	1.64
8-12S	.75	1/2-14	1 1/16-12	1.35	1.89
12-12S	.75	3/4-14	1 1/16-12	1.36	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.62	2.17
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	1.70	2.33
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.08	2.89
32-32S	2.00	2-11 1/2	2 1/2-12	2.39	3.30



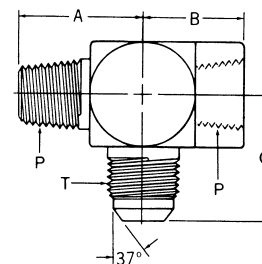
Internal pipe/37° flare swivel
Part No. 2244-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
6-6S	.38	3/8-18	9/16-18	1.02	.92
8-6S	.38	1/2-14	9/16-18	1.23	1.03
8-8S	.50	1/2-14	3/4-16	1.23	1.08
8-10S	.63	1/2-14	7/8-14	1.23	1.12



External pipe/37° flare
Part No. 203007-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-4S	.25	1/8-27	7/16-20	.78	.89	.78
4-6S	.38	1/4-18	9/16-18	1.09	1.06	1.09
6-8S	.50	3/8-18	3/4-16	1.22	1.25	1.22
8-10S	.63	1/2-14	7/8-14	1.47	1.45	1.47
12-12S	.75	3/4-14	1 1/16-12	1.59	1.66	1.59
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.81	1.97
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.40	2.20	2.38
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.66	2.42	2.64

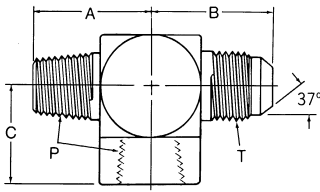


External pipe/Internal pipe/37° flare
Part No. 203301-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-4S	.25	1/8-27	7/16-20	.78	.66	1.08
4-6S	.38	1/4-18	9/16-18	1.09	.88	1.23
6-8S	.50	3/8-18	3/4-16	1.22	1.02	1.42
8-10S	.63	1/2-14	7/8-14	1.47	1.23	1.64
12-12S	.75	3/4-14	1 1/16-12	1.59	1.36	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.62	2.17

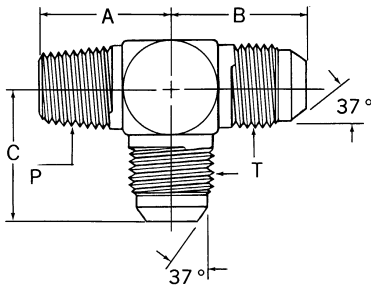
All dimensions in inches.

PIPE TO 37° FLARE Cont.



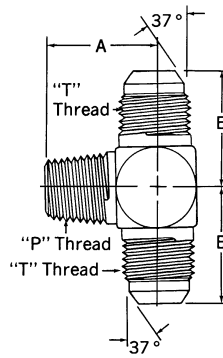
External pipe/37° flare/Internal pipe
Part No. 203103-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-4S	.25	1/8-27	7/16-20	.78	1.08	.66
4-6S	.38	1/4-18	9/16-18	1.09	1.23	.88
6-6S	.38	3/8-18	9/16-18	1.22	1.31	1.02
6-8S	.50	3/8-18	3/4-16	1.22	1.42	1.02
8-10S	.63	1/2-14	7/8-14	1.47	1.64	1.23
12-12S	.75	3/4-14	1 1/16-12	1.59	1.89	1.36
16-16S	1.00	1-11 1/2	1 5/16-12	2.09	2.09	1.62
20-20S	1.25	1 1/4-11 1/2	1 7/8-12	2.57	2.38	1.70
32-32S	2.00	2-11 1/2	2 1/2-12	3.14	3.30	2.39



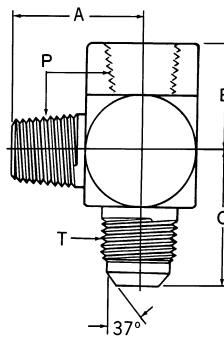
External pipe/37° flare
Part No. 2028-(Dash size)
(Ref. SAE 070424)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-3S	.19	1/8-27	3/8-24	.72	.83	.83
2-4S	.25	1/8-27	7/16-20	.78	.89	.89
2-5S	.31	1/8-27	1/2-20	.82	.96	.95
4-4S	.25	1/4-18	7/16-20	1.09	1.05	1.05
4-5S	.31	1/4-18	1/2-20	1.09	1.05	1.05
4-6S	.38	1/4-18	9/16-18	1.09	1.06	1.06
6-6S	.38	3/8-18	9/16-18	1.22	1.14	1.14
6-8S	.50	3/8-18	3/4-16	1.22	1.25	1.25
8-8S	.50	1/2-14	3/4-16	1.47	1.33	1.33
8-10S	.63	1/2-14	7/8-14	1.47	1.45	1.45
8-12S	.75	1/2-14	1 1/16-12	1.59	1.66	1.66
12-10S	.63	3/4-14	7/8-14	1.59	1.54	1.54
12-12S	.75	3/4-14	1 1/16-12	1.59	1.66	1.66
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.81	1.81
20-20S	1.25	1 1/4-11 1/2	1 7/8-12	2.38	2.19	2.06
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.64	2.40	2.33
32-32S	2.00	2-11 1/2	2 1/2-12	3.00	3.15	3.06



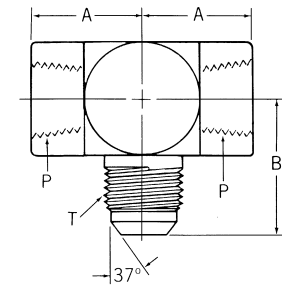
External pipe/37° flare
Part No. 2030-(Dash size)
(Ref. SAE 070425)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-3S	.19	1/8-27	3/8-24	.72	.83
2-4S	.25	1/8-27	7/16-20	.78	.89
2-5S	.31	1/8-27	1/2-20	.80	.95
4-4S	.25	1/4-18	7/16-20	1.09	1.05
4-5S	.31	1/4-18	1/2-20	1.09	1.05
4-6S	.38	1/4-18	9/16-18	1.09	1.06
6-6S	.38	3/8-18	9/16-18	1.22	1.06
6-8S	.50	3/8-18	3/4-16	1.22	1.25
6-10S	.63	3/8-18	7/8-14	1.25	1.45
8-6S	.38	1/2-14	9/16-18	1.47	1.13
8-8S	.50	1/2-14	3/4-16	1.47	1.33
8-10S	.63	1/2-14	7/8-14	1.47	1.45
12-12S	.75	3/4-14	1 1/16-12	1.59	1.66
12-16S	1.00	3/4-14	1 5/16-12	1.78	1.81
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.81
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.38	2.20



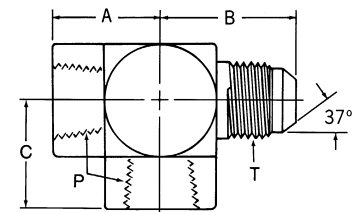
External pipe/Internal pipe/37° flare
Part No. 203006-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-4S	.25	1/8-27	7/16-20	.78	.66	1.08
4-6S	.38	1/4-18	9/16-18	1.09	.88	1.23
6-8S	.50	3/8-18	3/4-16	1.22	1.02	1.42
8-10S	.63	1/2-14	7/8-14	1.47	1.23	1.64
12-12S	.75	3/4-14	1 1/16-12	1.59	1.36	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.97	1.62	2.17
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	2.38	1.70	2.33



Internal pipe/37° flare
Part No. 202901-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4S	.25	1/8-27	7/16-20	.66	1.08
4-6S	.38	1/4-18	9/16-18	.88	1.23
12-12S	.75	3/4-14	1 1/16-12	1.36	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.62	2.17

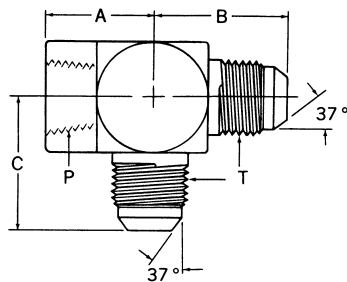


Internal pipe/37° flare
Part No. 203104-(Dash size)
(Ref. SAE 070427)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-2S	.13	1/8-27	5/16-24	.66	1.00	.65
2-4S	.25	1/8-27	7/16-20	.66	1.08	.66
4-6S	.38	1/4-18	9/16-18	.88	1.23	.88
8-10S	.63	1/2-14	7/8-14	1.23	1.64	1.23
16-16S	1.00	1-11 1/2	1 5/16-12	1.62	2.17	1.62
20-20S	1.25	1 1/4-11 1/2	1 7/8-12	1.70	2.33	1.70
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.08	2.89	2.08

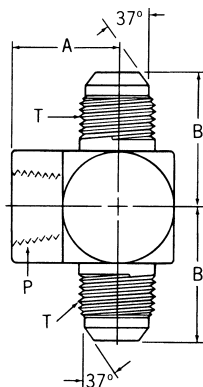
All dimensions in inches.

PIPE TO 37° FLARE Cont.



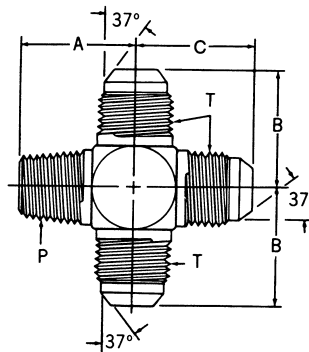
Internal pipe/37° flare
Part No. 2029-(Dash size)
(Ref. SAE 070426)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
2-4S	.25	1/8-27	7/16-20	.66	1.08	.95
2-5S	.31	1/8-27	1/2-20	.66	1.08	.98
4-4S	.25	1/4-18	7/16-20	.88	1.00	1.00
4-6S	.38	1/4-18	9/16-18	.89	1.23	1.11
6-8S	.50	3/8-18	3/4-16	1.02	1.42	1.32
8-8S	.50	1/2-14	3/4-16	1.23	1.42	1.40
8-10S	.63	1/2-14	7/8-14	1.23	1.64	1.64
12-12S	.75	3/4-14	1 1/16-12	1.36	1.89	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.62	2.17	2.09
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	1.70	2.33	2.39
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.08	2.89	2.61



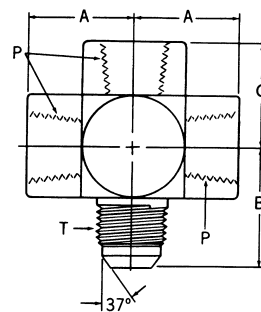
Internal pipe/37° flare swivel
Part No. 2031-(Dash size)
(Ref. SAE 070427)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-3S	.19	1/8-27	3/8-24	.66	1.03
2-4S	.25	1/8-27	7/16-20	.66	1.08
2-5S	.31	1/8-27	1/2-20	.66	1.08
4-4S	.25	1/4-18	7/16-20	.88	1.22
4-6S	.38	1/4-18	9/16-18	.88	1.23
6-8S	.50	3/8-18	3/4-16	1.02	1.42
8-10S	.63	1/2-14	7/8-14	1.23	1.64
12-12S	.75	3/4-14	1 1/16-12	1.36	1.89
16-16S	1.00	1-11 1/2	1 5/16-12	1.62	2.09
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	1.70	2.38
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.08	2.58
32-32S	2.00	2-11 1/2	2 1/2-12	2.39	3.30



External pipe/37° flare
Part No. 202003-(Dash size)

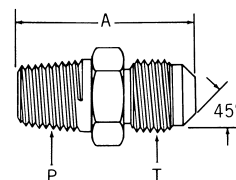
Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
6-6S	.38	3/8-18	9/16-18	1.06	1.06	1.06
12-12S	.75	3/4-14	1 1/16-12	1.59	1.66	1.74



Internal pipe/37° flare
Part No. 202006-(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A	B	C
8-10S	.63	1/2-14	7/8-14	1.17	1.64	1.23
12-12S	.75	3/4-14	1 1/16-12	1.36	1.89	1.36
20-20S	1.25	1 1/4-11 1/2	1 5/8-12	1.70	2.33	1.70
24-24S	1.50	1 1/2-11 1/2	1 7/8-12	2.08	2.89	2.08

PIPE TO 45° FLARE

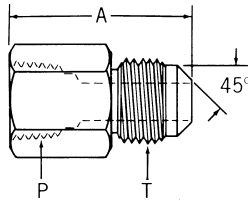


External pipe/45° flare
Part No. 2000-(Dash size)
(Ref. SAE 010102)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4B	.25	1/8-27	7/16-20	1.06
2-5B	.31	1/8-27	1/2-20	1.16
2-6B	.38	1/8-27	5/8-18	1.25
4-4B	.25	1/4-18	7/16-20	1.25
4-5B	.31	1/4-18	1/2-20	1.34
4-6B	.38	1/4-18	5/8-18	1.44
4-8B	.50	1/4-18	3/4-16	1.62
4-10B	.63	1/4-18	7/8-14	1.81
6-4B	.25	3/8-18	7/16-20	1.31
6-5B	.31	3/8-18	1/2-20	1.38
6-6B	.38	3/8-18	5/8-18	1.44
6-8B	.50	3/8-18	3/4-16	1.62
6-10B	.63	3/8-18	7/8-14	1.81
8-4B	.25	1/2-14	7/16-20	1.56
8-6B	.38	1/2-14	5/8-18	1.69
8-8B	.50	1/2-14	3/4-16	1.81
8-10B	.63	1/2-14	7/8-14	2.00
8-12B	.75	1/2-14	1 1/16-14	2.19
12-8B	.50	3/4-14	3/4-16	1.94
12-10B	.63	3/4-14	7/8-14	2.06
12-12B	.75	3/4-14	1 1/16-14	2.19

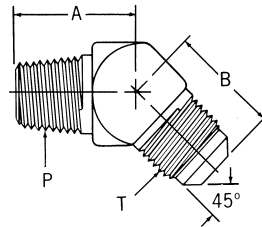
All dimensions in inches.

PIPE TO 45° FLARE Cont.



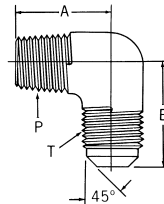
Internal pipe/45° flare
Part No. 2001-(Dash size)
(Ref. SAE 010103)

Dash Size	Tube O.D.	Thread P	Thread T	A
2-4B	.25	1/8-27	7/16-20	1.06
2-5B	.31	1/8-27	1/2-20	1.16
4-4B	.25	1/4-18	7/16-20	1.19
4-5B	.31	1/4-18	1/2-20	1.25
4-6B	.38	1/4-18	5/8-18	1.31
4-8B	.50	1/4-18	3/4-16	1.44
6-4B	.25	3/8-18	7/16-20	1.19
6-6B	.38	3/8-18	5/8-18	1.31
6-8B	.50	3/8-18	3/4-16	1.56
6-10B	.63	3/8-18	7/8-14	1.56
8-6B	.38	1/2-14	5/8-18	1.50
8-8B	.50	1/2-14	3/4-16	1.62
8-10B	.63	1/2-14	7/8-14	1.81
8-12B	.75	1/2-14	1 1/16-12	2.00
12-10B	.63	3/4-14	7/8-14	1.81
12-12B	.75	3/4-14	1 1/16-14	1.94



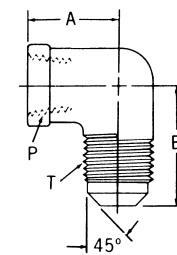
External pipe/45° flare
Part No. 2007-(Dash size)
(Ref. SAE 010302)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4B	.25	1/8-27	7/16-20	.64	.68
4-4B	.25	1/4-18	7/16-20	.86	.75
4-6B	.38	1/4-18	5/8-18	.86	.91
6-6B	.38	3/8-18	5/8-18	.94	.93
6-8B	.50	3/8-18	3/4-16	.88	1.07
8-6B	.38	1/2-14	5/8-18	1.17	.99
8-8B	.50	1/2-14	3/4-16	1.18	1.12
8-10B	.63	1/2-14	7/8-14	1.17	1.12



External pipe/45° flare
Part No. 2003-(Dash size)
(Ref. SAE 010202)

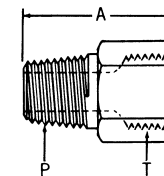
Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4B	.25	1/8-27	7/16-20	.79	.84
2-5B	.31	1/8-27	1/2-20	.78	.91
2-6B	.38	1/8-27	5/8-18	.88	1.00
4-4B	.25	1/4-18	7/16-20	.88	.81
4-5B	.31	1/4-18	1/2-20	.96	.98
4-6B	.38	1/4-18	5/8-18	.88	1.00
4-8B	.50	1/4-18	3/4-16	1.00	1.19
6-4B	.25	3/8-18	7/16-20	.91	.91
6-5B	.31	3/8-18	1/2-20	.91	1.00
6-6B	.38	3/8-18	5/8-18	.91	1.02
6-8B	.50	3/8-18	3/4-16	1.00	1.19
6-10B	.63	3/8-18	7/8-14	1.22	1.36
8-6B	.38	1/2-14	5/8-18	1.09	1.10
8-8B	.50	1/2-14	3/4-16	1.14	1.16
8-10B	.63	1/2-14	7/8-14	1.22	1.35
8-12B	.75	1/2-14	1 1/16-14	1.50	1.69
12-6B	.38	3/4-14	5/8-18	1.19	1.31
12-8B	.50	3/4-14	3/4-16	1.25	1.42
12-10B	.63	3/4-14	7/8-14	1.31	1.43
12-12B	.75	3/4-14	1 1/16-14	1.63	1.67



Internal pipe/45° flare
Part No. 2002-(Dash size)
(Ref. SAE 010203)

Dash Size	Tube O.D.	Thread P	Thread T	A	B
2-4B	.25	1/8-27	7/16-20	.46	.90
2-5B	.31	1/8-27	1/2-20	.59	1.00
4-4B	.25	1/4-18	7/16-20	.66	.97
4-5B	.31	1/4-18	1/2-20	1.06	1.06
4-6B	.38	1/4-18	5/8-18	.59	1.06
6-4B	.25	3/8-18	7/16-20	.57	1.03
6-6B	.38	3/8-18	5/8-18	1.09	1.06
6-8B	.50	3/8-18	3/4-16	1.14	1.16
6-10B	.63	3/8-18	7/8-14	1.22	1.35
8-8B	.50	1/2-14	3/4-16	.94	1.38
8-10B	.63	1/2-14	7/8-14	1.00	1.62
8-12B	.75	1/2-14	1 1/16-14	1.06	1.63
12-12B	.75	3/4-14	1 1/16-14	1.06	1.78

PIPE TO SAE O-RING

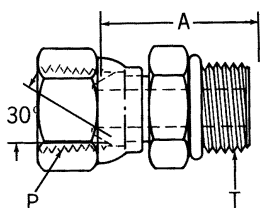


External pipe/SAE O-Ring boss (internal)
Part No. 2246-(Dash size)

Dash Size	Thread P	Thread T	A
2-4S	1/8-27	7/16-20	1.09
2-5S	1/8-27	1/2-20	1.09
4-6S	1/4-18	9/16-18	1.36
6-8S	3/8-18	3/4-16	1.45
8-10S	1/2-14	7/8-14	1.78
12-12S	3/4-14	1 1/16-12	1.92
12-14S	3/4-14	1 3/16-12	1.92
16-16S	1-11 1/2	1 5/16-12	2.13

All dimensions in inches.

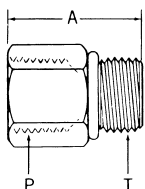
PIPE TO SAE O-RING



Internal pipe swivel (NPSM)/SAE O-Ring boss
Part No. 2066-(Dash size)

Dash Size	Thread P	Thread T	A	B
4-4S	1/4-18	7/16-20	1.05	
4-6S	1/4-18	9/16-18	1.14	
6-6S	3/8-18	9/16-18	1.14	
6-8S	3/8-18	3/4-16	1.19	
8-8S	1/2-14	3/4-16	1.23	
8-10S	1/2-14	7/8-14	1.30	
12-8S	3/4-14	3/4-16	1.49	
12-10S	3/4-14	7/8-14	1.55	
12-12S	3/4-14	1 1/16-12	1.58	
12-14S	3/4-14	1 3/16-12	1.58	
16-16S	1-11 1/2	1 5/16-12	1.59	
16-20S	1-11 1/2	1 5/8-12	1.59	

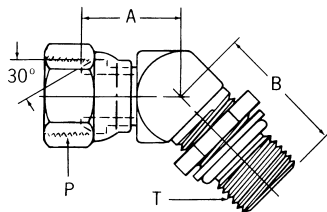
NOTE: Available without O-Ring. Order by Part No. 206604-(Dash size).



Internal pipe/SAE O-Ring boss
Part No. 2216-(Dash size)

Dash Size	Thread P	Thread T	A	B
2-4S	1/8-27	7/16-20	.92	
4-5S	1/4-18	1/2-20	1.20	
4-6S	1/4-18	9/16-18	1.24	
6-8S	3/8-18	3/4-16	1.25	
6-12S	3/8-18	1 1/16-12	1.34	
8-8S	1/2-14	3/4-16	1.65	
8-10S	1/2-14	7/8-14	1.54	
8-12S	1/2-14	1 1/16-12	1.72	
12-12S	3/4-14	1 1/16-12	1.67	
12-14S	3/4-14	1 3/16-12	1.68	
12-16S	3/4-14	1 5/16-12	1.00	
16-16S	1-11 1/2	1 5/16-12	1.91	
16-20S	1-11 1/2	1 5/8-12	1.00	
20-20S	1 1/4-11 1/2	1 5/8-12	2.00	
24-24S	1 1/2-11 1/2	1 7/8-12	2.00	
32-32S	2-11 1/2	2 1/2-12	2.10	

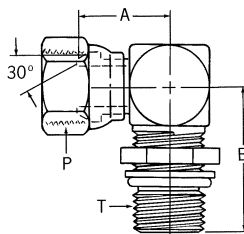
NOTE: Available without O-Ring. Order by Part no. 2216-1-(Dash size).



Internal pipe swivel (NPSM)/SAE O-Ring boss (adj.)
Part No. 2067-(Dash size)

Dash Size	Thread P	Thread T	A	B
6-6S	3/8-18	9/16-18	.92	1.20
6-8S	3/8-18	3/4-16	.92	1.33
8-8S	1/2-14	3/4-16	.91	1.39
8-10S	1/2-14	7/8-14	.91	1.55
12-8S	3/4-14	3/4-16	1.10	1.44
12-12S	3/4-14	1 1/16-12	1.10	1.76
12-16S	3/4-14	1 5/16-12	1.10	1.89
16-12S	1-11 1/2	1 1/16-12	1.26	1.89
16-16S	1-11 1/2	1 5/16-12	1.26	1.89

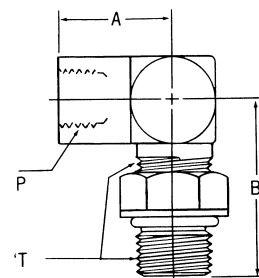
NOTE: Available without O-Ring. Order by Part No. 2067-1-(Dash size).



Internal pipe swivel (NPSM)/SAE O-Ring boss (adj.)
Part No. 2068-(Dash size)

Dash Size	Thread P	Thread T	A	B
4-4S	1/4-18	7/16-20	.91	1.16
4-6S	1/4-18	9/16-18	.73	1.25
6-6S	3/8-18	9/16-18	1.09	1.35
6-8S	3/8-18	3/4-16	1.09	1.48
8-8S	1/2-14	3/4-16	1.08	1.51
8-10S	1/2-14	7/8-14	1.08	1.67
12-8S	3/4-14	3/4-16	1.03	1.50
12-10S	3/4-14	7/8-14	1.09	1.70
12-12S	3/4-14	1 1/16-12	1.36	1.97
16-16S	1-11 1/2	1 5/16-12	1.53	2.12
20-16S	1 1/4-11 1/2	1 5/16-12	1.70	2.14
20-20S	1 1/4-11 1/2	1 5/8-12	1.62	2.39

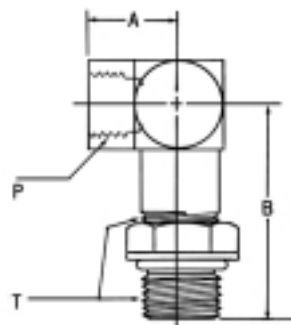
NOTE: Available without O-Ring. Order by Part No. 2068-1-(Dash size).



Internal pipe/SAE O-Ring boss (adj.)
Part No. 206801-(Dash size)

Dash Size	Thread P	Thread T	A	B
6-8S	3/8-18	3/4-16	1.02	1.62
8-8S	1/2-14	3/4-16	1.23	1.73
12-12S	3/4-14	1 1/16-12	1.36	2.17
16-16S	1-11 1/2	1 5/16-12	1.62	2.41

NOTE: Available without O-Ring. Order by Part No. 206801-1-(Dash size).



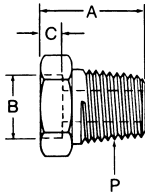
Internal pipe/SAE O-Ring boss (adj.)
Part No. 206804-(Dash size)

Dash Size	Thread P	Thread T	A	B
6-8S	3/8-18	3/4-16	1.02	2.97
8-10S	1/2-14	7/8-14	1.23	3.56
12-12S	3/4-14	1 1/16-12	1.36	4.12
16-16S	1-11 1/2	1 5/16-12	1.62	4.64

NOTE: Available without O-Ring. Order by Part No. 206804-1-(Dash size).

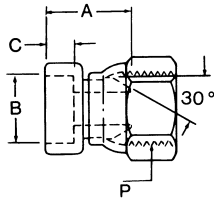
All dimensions in inches.

PIPE TO BRAZE & WELD



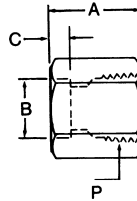
Braze port/External pipe
Part No. 73056-(Dash size)

Dash Size	Tube O.D.	Thread P	A	B	C
12-16S	1.00	3/4-14	1.13	1.00	.25
16S	1.00	1-11 1/2	1.32	1.00	.25
20-24S	1.50	1 1/4-11 1/2	1.35	1.50	.25
32S	2.00	2-11 1/2	1.53	2.00	.25



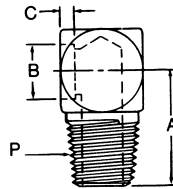
Braze port/Internal pipe swivel (NPSM)
Part No. 2261-(Dash size)

Dash Size	Tube O.D.	Thread P	A	B	C
6-8S	.50	3/8-18	.81	.50	.16
8-10S	.63	1/2-14	.89	.63	.25
8-12S	.75	1/2-14	.90	.75	.25
12-12S	.75	3/4-14	1.02	.75	.25
16-20S	1.25	1-11 1/2	1.03	1.25	.25
20-20S	1.25	1 1/4-11 1/2	1.06	1.25	.25



Braze port/Internal pipe
Part No. FF1026-(Dash size)

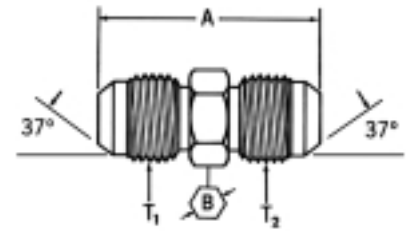
Dash Size	Tube O.D.	Thread P	A	B	C
0608S	.50	3/8-18	.95	.50	.16
1212S	.75	3/8-14	1.30	.75	.25
1216S	1.00	3/4-14	1.19	1.00	.25
1616S	1.50	1-11 1/2	1.53	1.00	.25
2424S	1.25	1 1/2-11 1/2	1.59	1.50	.25



Braze port/External pipe
Part No. FF1159-(Dash size)

Dash Size	Tube O.D.	Thread P	A	B	C
0406S	.38	1/4-18	.90	.38	.16
1212S	.75	3/4-14	1.51	.75	.25
1616S	1.00	1-11 1/2	1.94	1.00	.25
2020S	1.25	1 1/4-11 1/2	2.35	1.25	.25

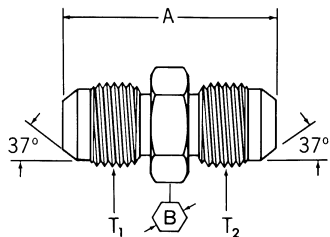
SAE 37°(JIC) FLARE UNION



Union 37° flare/37° flare
Part No. 2027-(Dash size)
(Ref. SAE 070101)

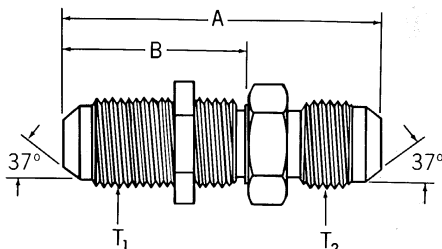
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
3-3S	.19	3/8-24	3/8-24	1.23	.44
4-4S	.25	7/16-20	7/16-20	1.37	.50
5-4S		1/2-20	7/16-20	1.37	.56
5-5S	.31	1/2-20	1/2-20	1.37	.56
6-4S		9/16-18	7/16-20	1.40	.62
6-5S		9/16-18	1/2-20	1.40	.62
6-6S	.38	9/16-18	9/16-18	1.41	.62
8-4S		3/4-16	7/16-20	1.51	.81
8-6S		3/4-16	9/16-18	1.52	.81
8-8S	.50	3/4-16	3/4-16	1.62	.81
10-5S		7/8-14	1/2-20	1.67	.94
10-6S		7/8-14	9/16-18	1.68	.94
10-8S		7/8-14	3/4-16	1.78	.94
10-10S	.63	7/8-14	7/8-14	1.88	.94
12-8S		1 1/16-12	3/4-16	1.95	1.12
12-10S		1 1/16-12	7/8-14	2.05	1.12
12-12S	.75	1 1/16-12	1 1/16-12	2.16	1.12
14-14S	.83	1 3/16-12	1 3/16-12	2.21	1.25
16-12S		1 5/16-12	1 1/16-12	2.20	1.38
16-16S	1.00	1 5/16-12	1 5/16-12	2.25	1.38
20-20S	1.25	1 5/8-12	1 5/8-12	2.43	1.69
24-24S	1.50	1 7/8-12	1 7/8-12	2.75	2.00
32-32S	2.00	2 1/2-12	2 1/2-12	3.40	2.62

All dimensions in inches.

SAE 37°(JIC) FLARE UNION
Cont.

37° flare/37° flare (large hex)
Part No. 202712-(Dash size)
(Ref. SAE 070119)

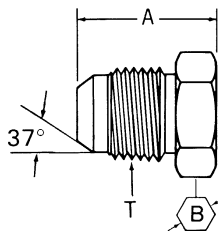
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
5-5S	.31	1/2-20	1/2-20	1.37	.75
6-4S		9/16-18	7/16-20	1.40	.81
6-5S		9/16-18	1/2-20	1.40	.81
8-8S	.50	3/4-16	3/4-16	1.62	1.00
10-8S		7/8-14	3/4-16	1.78	1.12
10-10S	.63	7/8-14	7/8-14	1.88	1.12
12-10S		1 1/16-12	7/8-14	2.05	1.38
12-12S	.75	1 1/16-12	1 1/16-12	2.16	1.38
16-12S		1 5/16-12	1 1/16-12	2.20	1.62
16-16S	1.00	1 5/16-12	1 5/16-12	2.25	1.62
24-24S	1.50	1 7/8-12	1 7/8-12	2.75	2.12



37° flare bulkhead/37° flare
Part No. 2041-(Dash size)
(Ref. SAE 070601)

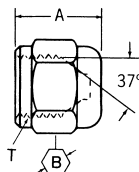
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	2.07	1.23
4-6S		7/16-20	9/16-18	2.10	1.23
5-5S	.31	1/2-20	1/2-20	2.07	1.23
6-6S	.38	9/16-18	9/16-18	2.18	1.31
8-8S	.50	3/4-16	3/4-16	2.44	1.47
10-10S	.63	7/8-14	7/8-14	2.74	1.61
12-12S		1 1/16-12	1 1/16-12	3.09	1.78
12-16S	1.00	1 1/16-12	1 5/16-12	3.14	1.78
16-16S	1.00	1 5/16-12	1 5/16-12	3.14	1.78
20-20S	1.25	1 5/8-12	1 5/8-12	3.31	1.83
24-24S	1.50	1 7/8-12	1 7/8-12	3.52	1.84

NOTE: Available without nut. Order by Part No. 2041-1-(Dash size).



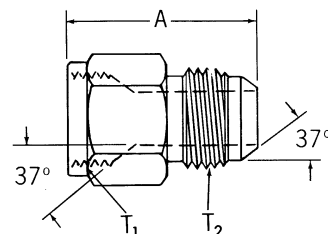
37° flare plug
Part No. 900599-(Dash size)
(Ref. SAE 070109)

Dash Size	Tube O.D.	Thread T	A	B
3S	.19	3/8-24	.73	.44
4S	.25	7/16-20	.80	.50
5S	.31	1/2-20	.80	.56
6S	.38	9/16-18	.84	.62
8S	.50	3/4-16	.94	.81
10S	.63	7/8-14	1.10	.94
12S	.75	1 1/16-12	1.28	1.12
16S	1.00	1 5/16-12	1.33	1.38
20S	1.25	1 5/8-12	1.45	1.69
24S	1.50	1 7/8-12	1.65	2.00
32S	2.00	2 1/2-12	2.05	2.62



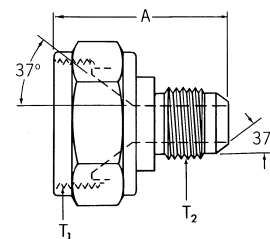
Cap nut
Part No. 210292-(Dash size)
(Ref. SAE 070112)

Dash Size	Tube O.D.	Thread T	A	B
3S	.19	3/8-24	.56	.44
4S	.25	7/16-20	.59	.56
5S	.31	1/2-20	.61	.62
6S	.38	9/16-18	.62	.69
8S	.50	3/4-16	.75	.88
10S	.63	7/8-14	.84	1.00
12S	.75	1 1/16-12	.91	1.25
16S	1.00	1 5/16-12	1.02	1.50
20S	1.25	1 5/8-12	1.06	2.00
24S	1.50	1 7/8-12	1.19	2.25
32S	2.00	2 1/2-12	1.44	2.88



37° flare (internal)/37° flare
Part No. 2215-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
6-5S	.31	9/16-18	1/2-20	1.18
10-8S	.50	7/8-14	3/4-16	1.53
10-12S	.75	7/8-14	1/16-12	1.74
12-10S	.63	1 1/16-12	7/8-14	1.73
12-16S	1.00	1 1/16-12	1 5/16-12	2.00
16-20S	1.25	1 5/16-12	1 5/8-12	2.30
24-20S	1.25	1 7/8-12	1 5/8-12	2.30

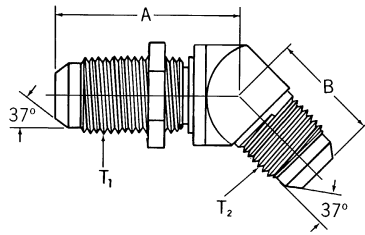


37° flare swivel (reducer)/37° flare
Part No. 221501-(Dash size)
(Ref. SAE 070123)

Dash Size	Male Tube O.D.	Thread T ₁	Thread T ₂	A
6-4S	.25	9/16-18	7/16-20	1.40
8-4S	.25	3/4-16	7/16-20	1.50
8-6S	.38	3/4-16	9/16-18	1.50
10-6S	.38	7/8-14	9/16-18	1.62
12-6S	.38	1 1/16-12	9/16-18	1.69
12-8S	.50	1 1/16-12	3/4-16	1.79
16-6S	.38	1 5/16-12	9/16-18	1.84
16-8S	.50	1 5/16-12	3/4-16	1.94
16-10S	.63	1 5/16-12	7/8-14	2.04
16-12S	.75	1 5/16-12	1 1/16-12	2.15
20-16S	1.00	1 5/8-12	1 5/16-12	2.23

NOTE: Available without nut. Order by Part No. FF1066-(Dash size).

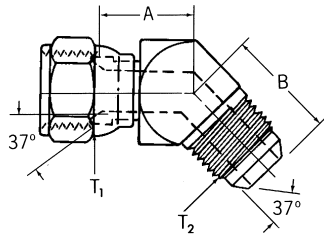
All dimensions in inches.

SAE 37°(JIC) FLARE UNION
Cont.

37° flare bulkhead/37° flare
Part No. 2042-(Dash size)
(Ref. SAE 070801)

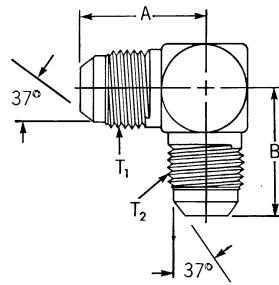
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
3-3S	.19	3/8-24	3/8-24	1.38	.72
4-4S	.25	7/16-20	7/16-20	1.53	.77
5-5S	.31	1/2-20	1/2-20	1.66	.75
6-6S	.38	9/16-18	9/16-18	1.67	.83
8-8S	.50	3/4-16	3/4-16	1.94	.98
10-10S	.63	7/8-14	7/8-14	2.17	1.11
12-12S	.75	1 1/16-12	1 1/16-12	2.36	1.41
16-16S	1.00	1 5/16-12	1 5/16-12	2.58	1.47
20-20S	1.25	1 7/8-12	1 7/8-12	2.53	1.69

NOTE: Available without nut. Order by Part No. 2042-1-(Dash size).



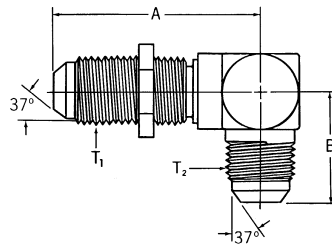
37° flare swivel/37° flare
Part No. 2070-(Dash size)
(Ref. SAE 070321)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	.60	.72
5-5S	.31	1/2-20	1/2-20	.62	.77
6-6S	.38	9/16-18	9/16-18	.74	.83
8-8S	.50	3/4-16	3/4-16	.86	.98
10-10S	.63	7/8-14	7/8-14	.94	1.11
12-12S	.75	1 1/16-12	1 1/16-12	.94	1.28
16-16S	1.00	1 5/16-12	1 5/16-12	1.16	1.47



37° flare bulkhead/37° flare
Part No. 2039-(Dash size)
(Ref. SAE 070201)

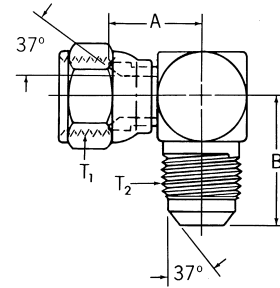
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	.89	.89
5-5S	.31	1/2-20	1/2-20	.95	.95
6-6S	.38	9/16-18	9/16-18	1.06	1.06
8-8S	.50	3/4-16	3/4-16	1.25	1.14
10-10S	.63	7/8-14	7/8-14	1.45	1.45
12-12S	.75	1 1/16-12	1 1/16-12	1.66	1.66
16-16S	1.00	1 5/16-12	1 5/16-12	1.81	1.76
20-20S	1.25	1 7/8-12	1 7/8-12	2.06	2.06
24-24S	1.50	1 7/8-12	1 7/8-12	2.33	2.33
32-32S	2.00	2 1/2-12	2 1/2-12	3.06	3.06



37° flare bulkhead/37° flare
Part No. 2043-(Dash size)
(Ref. SAE 070701)

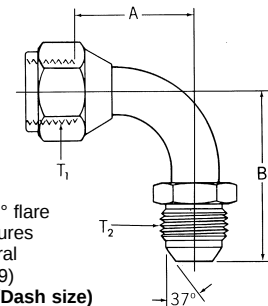
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.59	.97
5-5S	.31	1/2-20	1/2-20	1.72	1.06
6-6S	.38	9/16-18	9/16-18	1.81	1.09
8-8S	.50	3/4-16	3/4-16	2.11	1.36
10-10S	.63	7/8-14	7/8-14	2.39	1.56
12-12S	.75	1 1/16-12	1 1/16-12	2.67	1.78
16-16S	1.00	1 5/16-12	1 5/16-12	2.80	1.94
20-20S	1.25	1 7/8-12	1 7/8-12	3.12	2.20

NOTE: Available without nut. Order by Part No. 2043-1-(Dash size).



37° flare swivel/37° flare
Part No. 2071-(Dash size)
(Ref. SAE 070221)

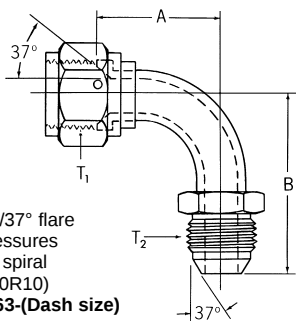
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	.66	.89
4-6S	.38	7/16-20	9/16-18	.82	1.06
5-5S	.31	1/2-20	1/2-20	.68	.95
6-6S	.38	9/16-18	9/16-18	.88	1.06
8-8S	.50	3/4-16	3/4-16	.96	1.25
10-8S	.50	7/8-14	3/4-16	1.12	1.33
10-10S	.63	7/8-14	7/8-14	1.12	1.45
12-12S	.75	1 1/16-12	1 1/16-12	1.19	1.66
14-14S	.88	1 1/16-12	1 3/16-12	1.20	1.80
16-16S	1.00	1 5/16-12	1 5/16-12	1.41	1.81
20-20S	1.25	1 7/8-12	1 7/8-12	1.68	2.06
24-24S	1.50	1 7/8-12	1 7/8-12	1.86	2.33



37° flare swivel/37° flare
(suitable for pressures
through 4 light spiral
hose - SAE 100R9)
Part No. 500454-(Dash size)

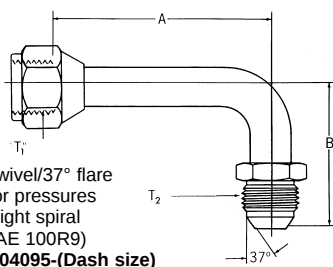
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4S	.25	7/16-20	7/16-20	.68	1.12
5S	.31	1/2-20	1/2-20	.77	1.24
6S	.38	9/16-18	9/16-18	.85	1.31
8S	.50	3/4-16	3/4-16	1.09	1.66
10S	.63	7/8-14	7/8-14	1.23	1.82
12S	.75	1 1/16-12	1 1/16-12	1.82	2.49
16S	1.00	1 5/16-12	1 5/16-12	2.39	2.79
20S	1.25	1 7/8-12	1 7/8-12	2.75	3.14

All dimensions in inches.

SAE 37°(JIC) FLARE UNION
Cont.

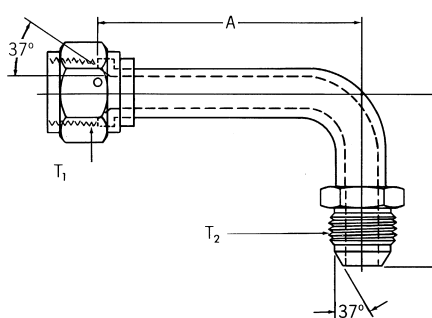
37° flare swivel/37° flare
(suitable for pressures
through heavy spiral
hose – SAE 100R10)
Part No. FF5163-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
0808S	.50	3/4-16	3/4-16	1.87	2.16
1212S	.75	1 1/16-12	1 1/16-12	2.35	2.81
1616S	1.00	1 5/16-12	1 5/16-12	3.04	3.41
2020S	1.25	1 5/8-12	1 5/8-12	3.40	3.71
2424S	1.50	1 7/8-12	1 7/8-12	3.95	4.33



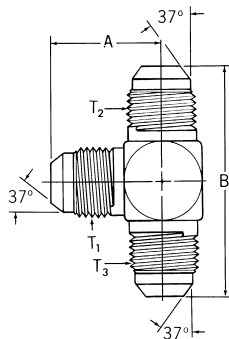
37° flare swivel/37° flare
(suitable for pressures
through 4 light spiral
hoses – SAE 100R9)
Part No. 504095-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4S	.25	7/16-20	7/16-20	1.80	1.12
5S	.31	1/2-20	1/2-20	1.77	1.24
6S	.38	9/16-18	9/16-18	2.18	1.31
8S	.50	3/4-16	3/4-16	2.43	1.78
10S	.63	7/8-14	7/8-14	2.57	2.07
12S	.75	1 1/16-12	1 1/16-12	3.73	2.49
16S	1.00	1 5/16-12	1 5/16-12	4.58	2.79
20S	1.25	1 5/8-12	1 5/8-12	5.53	3.14



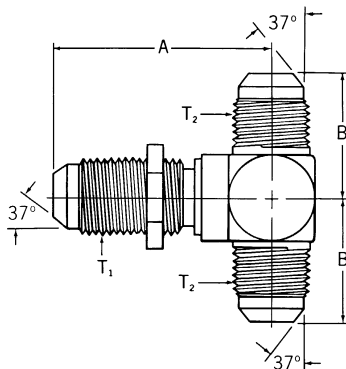
37° flare swivel/37° flare (suitable for pressures
through 4 heavy spiral hose – SAE 100R10)
Part No. FF5164-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
0808S	.50	3/4-16	3/4-16	3.34	2.16
1212S	.75	1 1/16-12	1 1/16-12	4.41	2.81
1616S	1.00	1 5/16-12	1 5/16-12	5.24	3.41
2020S	1.25	1 5/8-12	1 5/8-12	6.48	3.71



37° flare/37° flare/37° flare
Part No. 2033-(Dash size)
(Ref. SAE 070401)

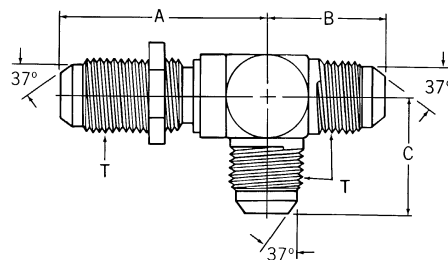
Dash Size	Thread T ₁	Thread T ₂	Thread T ₃	A	B
4-4S	7/16-20	7/16-20	7/16-20	.89	1.78
5-5S	1/2-20	1/2-20	1/2-20	.95	1.90
6-6S	9/16-18	9/16-18	9/16-18	1.06	2.10
8-6-6S	3/4-16	9/16-18	9/16-18	1.25	2.28
8-8S	3/4-16	3/4-16	3/4-16	1.25	2.50
8-12-12S	3/4-16	1 1/16-12	1 1/16-12	1.42	3.32
10-10S	7/8-14	7/8-14	7/8-14	1.45	2.90
12-12S	1 1/16-12	1 1/16-12	1 1/16-12	1.66	3.32
12-12-16S	1 1/16-12	1 1/16-12	1 5/16-12	1.84	3.65
16-16S	1 5/16-12	1 5/16-12	1 5/16-12	1.81	3.62
16-16-20S	1 5/16-12	1 5/16-12	1 5/8-12	2.08	4.06
20-12-16S	1 5/8-12	1 1/16-12	1 5/16-12	2.06	4.09
20-16-16S	1 5/8-12	1 5/16-12	1 5/16-12	2.06	4.22
20-20S	1 5/8-12	1 5/8-12	1 5/8-12	2.06	4.38



37° flare bulkhead/37° flare
Part No. 203002-(Dash size)
(Ref. SAE 070959)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.59	.92
5-5S	.31	1/2-20	1/2-20	1.62	.95
6-6S	.38	9/16-18	9/16-18	1.81	1.06
8-8S	.50	3/4-16	3/4-16	2.11	1.24
10-10S	.63	7/8-14	7/8-14	2.39	1.44
12-12S	.75	1 1/16-12	1 1/16-12	2.67	1.72
16-16S	1.00	1 5/16-12	1 5/16-12	2.80	1.94

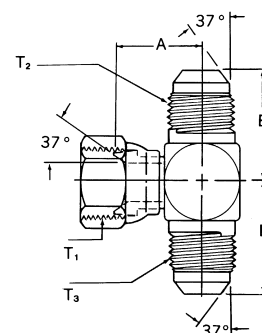
NOTE: Available without nut. Order by Part No.
203002-1-(Dash size).



37° flare bulkhead/37° flare
Part No. 203008-(Dash size)
(Ref. SAE 070958)

Dash Size	Tube O.D.	Thread T	A	B	C
6-6S	.38	9/16-18	1.81	1.09	1.09
8-8S	.50	3/4-16	2.11	1.36	1.36
12-12S	.75	1 1/16-12	2.67	1.66	1.66
16-16S	1.00	1 5/16-12	2.80	1.94	1.94
20-20S	1.25	1 5/8-12	3.12	2.19	2.06

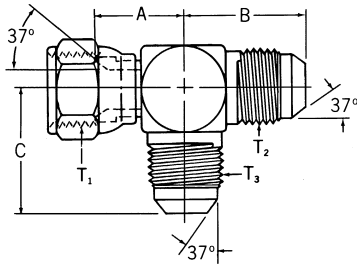
NOTE: Available without nut. Order by Part No.
FF1065-(Dash size).



37° flare swivel/37° flare/37° flare
Part No. 203101-(Dash size)
(Ref. SAE 070433)

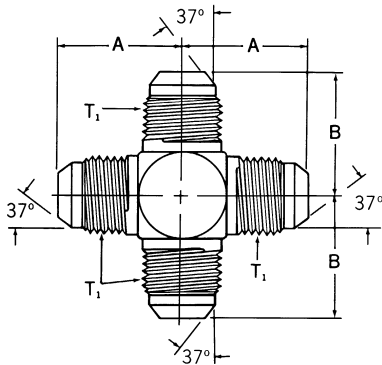
Dash Size	Thread T ₁	Thread T ₂	Thread T ₃	A	B
4-4S	7/16-20	7/16-20	7/16-20	.66	.89
6-6S	9/16-18	9/16-18	9/16-18	.88	1.05
8-8S	3/4-16	3/4-16	3/4-16	.96	1.25
10-10S	7/8-14	7/8-14	7/8-14	1.12	1.45
12-12S	1 1/16-12	1 1/16-12	1 1/16-12	1.19	1.66
16-16S	1 5/16-12	1 5/16-12	1 5/16-12	1.41	1.81
20-20S	1 5/8-12	1 5/8-12	1 5/8-12	1.55	2.06

All dimensions in inches.

SAE 37°(JIC) FLARE UNION
Cont.

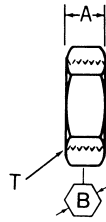
37° flare bulkhead/37° flare/37° flare
Part No. 203102-(Dash size)
(Ref. SAE 070432)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	Thread T ₃	A	B	C
4-4S	.25	7/16-20	7/16-20	7/16-20	.66	.89	.89
5-5S	.31	1/2-20	1/2-20	1/2-20	.68	.95	.95
6-6S	.38	9/16-18	9/16-18	9/16-18	.88	1.06	1.06
8-8S	.50	3/4-16	3/4-16	3/4-16	.96	1.25	1.25
10-10S	.63	7/8-14	7/8-14	7/8-14	1.12	1.45	1.45
10-10-12S	7/8-14	7/8-14	1 1/16-12	1 1/16-12	1.13	1.54	1.66
12-12S	.75	1 1/16-12	1 1/16-12	1 1/16-12	1.19	1.66	1.66
16-16S	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.41	1.81	1.81
20-20S	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1.68	2.06	2.06



37° flare
Part No. 2020-(Dash size)
(Ref. SAE 070501)

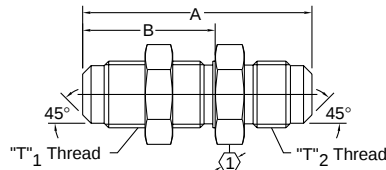
Dash Size	Tube O.D.	Thread T ₁		A	B
4-4S	.25	7/16-20		.89	.89
5-5S	.31	1/2-20		.95	.95
6-6S	.38	9/16-18		1.06	1.06
8-8S	.50	3/4-16		1.25	1.25
10-10S	.63	7/8-14		1.45	1.45
12-12S	.75	1 1/16-12		1.66	1.74
16-16S	1.00	1 5/16-12		1.81	1.96



Bulkhead Lock Nut
Part No. 210212-(Dash size)
(Ref. SAE 070118)

Dash Size	Tube O.D.	Thread T	A	B
4S	.25	7/16-20	.25	.69
5S	.31	1/2-20	.25	.75
6S	.38	9/16-18	.27	.81
8S	.50	3/4-16	.31	1.00
10S	.63	7/8-14	.36	1.12
12S	.75	1 1/16-12	.41	1.38
16S	1.00	1 5/16-12	.41	1.62
20S	1.25	1 5/8-12	.41	1.88
24S	1.50	1 7/8-12	.41	2.12

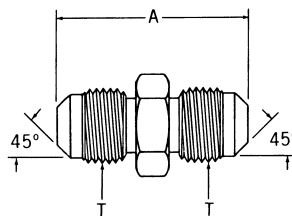
SAE 45° FLARE UNION



SAE 45° Flare Bulkhead/45° Flare
Part No. 2056-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B	C
10-10S	.63	7/8-14	7/8-14	2.99	1.73	1.12

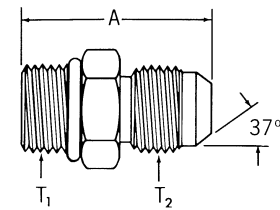
Note: Available without nut. Order by Part No. 2056-1-(Dash size)



45° flare/45° flare
Part No. 2060-(Dash size)
(Ref. SAE 010101)

Dash Size	Tube O.D.	Thread T	A
2-2B	.13	5/16-24	.92
3-3B	.19	3/8-24	1.06
4-4B	.25	7/16-20	1.19
5-5B	.31	1/2-20	1.34
6-6B	.38	5/8-18	1.50
8-8B	.50	3/4-16	1.81
10-10B	.63	7/8-14	2.12
12-12B	.75	1 1/16-14	2.44

SAE O-RING TO 37° FLARE

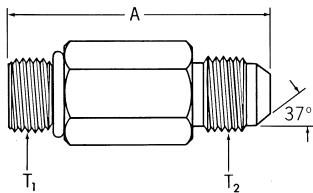


SAE O-ring boss/37° flare
Part No. 202702-(Dash size)
(Ref. SAE 070120)

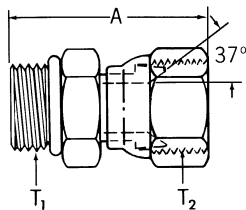
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.23	
4-6S	.38	7/16-20	9/16-18	1.27	
4-8S	.50	7/16-20	3/4-16	1.49	
5-5S	.31	1/2-20	1/2-20	1.23	
5-6S	.38	1/2-20	9/16-18	1.27	
6-4S	.25	9/16-18	7/16-20	1.29	
6-6S	.38	9/16-18	9/16-18	1.30	
6-8S	.50	9/16-18	3/4-16	1.44	
6-10S	.63	9/16-18	7/8-14	1.71	
8-4S	.25	3/4-16	7/16-20	1.37	
8-5S	.31	3/4-16	1/2-20	1.37	
8-6S	.38	3/4-16	9/16-18	1.38	
8-8S	.50	3/4-16	3/4-16	1.48	
8-10S	.63	3/4-16	7/8-14	1.64	
8-12S	.75	3/4-16	1 1/16-12	1.94	
10-4S	.25	7/8-14	7/16-20	1.49	
10-6S	.38	7/8-14	9/16-18	1.50	
10-8S	.50	7/8-14	3/4-16	1.60	
10-10S	.63	7/8-14	7/8-14	1.70	
10-12S	.75	7/8-14	1 1/16-12	1.88	
10-16S	1.00	7/8-14	1 5/16-12	2.07	
12-6S	.38	1 1/16-12	9/16-18	1.66	
12-8S	.50	1 1/16-12	3/4-16	1.76	
12-10S	.63	1 1/16-12	7/8-14	1.86	
12-12S	.75	1 1/16-12	1 1/16-12	1.97	
12-14S	.88	1 1/16-12	1 3/16-12	1.99	
12-16S	1.00	1 1/16-12	1 5/16-12	2.04	
12-20S	1.25	1 1/16-12	1 5/8-12	2.30	
14-10S	.63	1 3/16-12	7/8-14	1.86	
14-12S	.75	1 3/16-12	1 1/16-12	1.96	
14-16S	1.00	1 3/16-12	1 5/16-12	2.04	
16-8S	.50	1 5/16-12	3/4-16	1.79	
16-10S	.63	1 5/16-12	7/8-14	1.89	
16-12S	.75	1 5/16-12	1 1/16-12	1.99	
16-16S	1.00	1 5/16-12	1 5/16-12	2.04	
16-20S	1.25	1 5/16-12	1 5/8-12	2.33	
20-12S	.75	1 5/8-12	1 1/16-12	2.08	
20-16S	1.00	1 5/8-12	1 5/16-12	2.12	
20-20S	1.25	1 5/8-12	1 5/8-12	2.17	
20-24S	1.50	1 5/8-12	1 7/8-12	2.53	
24-16S	1.00	1 7/8-12	1 5/16-12	2.20	
24-20S	1.25	1 7/8-12	1 5/8-12	2.24	
24-24S	1.50	1 7/8-12	1 7/8-12	2.37	
32-32S	2.00	2 1/2-12	2 1/2-12	2.78	

NOTE: O-Ring 22617 is standard. Available without O-Ring. Order by Part No. 202701-(Dash size).

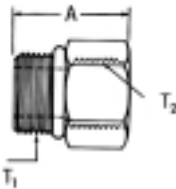
All dimensions in inches.

SAE O-RING TO 37° FLARE
Cont.SAE O-Ring boss/37° flare
Part No. 202713-(Dash size)

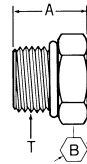
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
6-6S	.38	9/16-18	9/16-18	2.31
8-8S	.50	3/4-16	3/4-16	2.70
10-10S	.63	7/8-14	7/8-14	3.04
12-12S	.75	1 1/16-12	1 1/16-12	3.61
16-16S	1.00	1 5/16-12	1 5/16-12	3.98

NOTE: Available without O-Ring.
Order by Part No. 202703-(Dash size).SAE O-Ring boss/37° flare swivel
Part No. 2266-(Dash size)

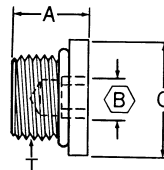
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
6-8S	.50	9/16-18	3/4-16	1.63
8-8S	.50	3/4-16	3/4-16	1.55
10-10S	.63	7/8-14	7/8-14	1.72
12-12S	.75	1 1/16-12	1 1/16-12	1.90
16-16S	1.00	1 5/16-12	1 5/16-12	2.11

NOTE: Available without O-Ring.
Order by Part No. 226601-(Dash size).SAE O-Ring boss reducer
Part No. FF1010-(Dash size)

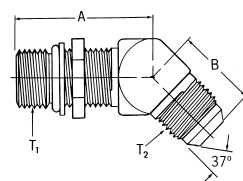
Dash Size	Thread T ₁	Thread T ₂	A
0408S	7/16-20	3/4-16	1.26
0806S	3/4-16	9/16-18	1.06
1006S	7/8-14	9/16-18	.81
1008S	7/8-14	3/4-16	1.25
1206S	1 1/16-12	9/16-18	1.00
1208S	1 1/16-12	3/4-16	1.00
1210S	1 1/16-12	7/8-14	1.44
1216S	1 1/16-12	1 5/16-12	1.79
1608S	1 5/16-12	3/4-16	1.00
1610S	1 5/16-12	7/8-14	1.44
1612S	1 5/16-12	1 1/16-12	1.59
2012S	1 5/8-12	1 1/16-12	1.00
2016S	1 5/8-12	1 5/16-12	1.00

O-Ring boss plug
Part No. 900598-(Dash size)
(Ref. SAE 090109)

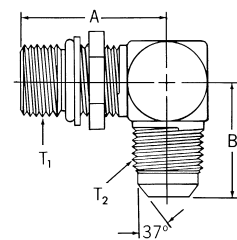
Dash Size	Thread T	A	B
4S	7/16-20	.67	.56
5S	1/2-20	.67	.62
6S	9/16-18	.73	.69
8S	3/4-16	.80	.88
10S	7/8-14	.93	1.00
12S	1 1/16-12	1.09	1.25
14S	1 3/16-12	1.09	1.38
16S	1 5/16-12	1.12	1.50
20S	1 7/8-12	1.20	1.88
24S	1 7/8-12	1.27	2.12
32S	2 1/2-12	1.43	2.75

NOTE: Available without O-Ring.
Order Part No. 900598-1-(Dash size).SAE male O-Ring boss (Hex Socket)
Part No. FF2138-(Dash size)
(Ref. SAE 090191B)

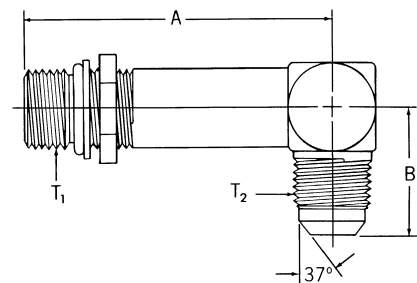
Dash Size	Tube O.D.	Thread T	A	C (Round)	B (Hex)
-02S	.13	5/16-24	.38	.44	.13
-03S	.19	3/8-24	.38	.50	.13
-04S	.25	7/16-20	.45	.56	.19
-05S	.31	1/2-20	.45	.62	.19
-06S	.38	9/16-18	.48	.69	.25
-08S	.50	3/4-16	.56	.88	.31
-10S	.63	7/8-14	.63	1.00	.38
-12S	.75	1 1/16-12	.75	1.25	.56
-16S	1.00	1 5/16-12	.77	1.50	.63

NOTE: Available without O-Ring.
Order Part No. FF2137-(Dash size).SAE O-Ring boss (adj.)/37° flare
Part No. 2061-(Dash size)
(Ref. SAE 070320)

Dash Size	Thread T ₁	Thread T ₂	A	B
4-4S	7/16-20	7/16-20	1.05	.72
5-5S	1/2-20	1/2-20	1.05	.77
6-6S	9/16-18	9/16-18	1.14	.83
8-8S	3/4-16	3/4-16	1.30	.98
8-10S	3/4-16	7/8-14	1.36	1.11
10-8S	7/8-14	3/4-16	1.52	.99
10-10S	7/8-14	7/8-14	1.52	1.11
12-12S	1 1/16-12	1 1/16-12	1.73	1.28
12-16S	1 1/16-12	1 5/16-12	1.86	1.47
16-12S	1 5/16-12	1 1/16-12	1.86	1.42
16-16S	1 5/16-12	1 5/16-12	1.86	1.47
20-16S	1 5/8-12	1 5/16-12	1.94	1.52
20-20S	1 5/8-12	1 5/8-12	1.94	1.63

NOTE: Available without O-Ring.
Order by Part No. 2061-1-(Dash size).SAE O-Ring boss (adj.)/37° flare
Part No. 2062-(Dash size)
(Ref. SAE 070220)

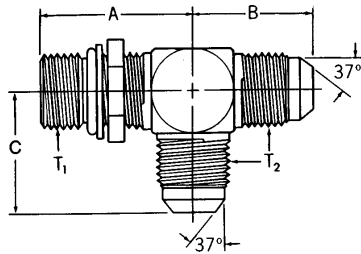
Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.03	.89
4-6S	.38	7/16-20	9/16-18	1.19	1.06
5-5S	.31	1/2-20	1/2-20	1.13	.95
5-6S	.38	1/2-20	9/16-18	1.19	1.06
6-4S	.25	9/16-18	7/16-20	1.25	1.05
6-6S	.38	9/16-18	9/16-18	1.25	1.06
6-8S	.50	9/16-18	3/4-16	1.32	1.25
8-5S	.31	3/4-16	1/2-20	1.45	1.04
8-6S	.38	3/4-16	9/16-18	1.45	1.14
8-8S	.50	3/4-16	3/4-16	1.45	1.25
8-10S	.63	3/4-16	7/8-14	1.54	1.45
10-6S	.38	7/8-14	9/16-18	1.70	1.14
10-8S	.50	7/8-14	3/4-16	1.70	1.33
10-10S	.63	7/8-14	7/8-14	1.70	1.45
10-12S	.75	7/8-14	1 1/16-12	1.78	1.66
12-8S	.50	1 1/16-12	3/4-16	1.94	1.42
12-10S	.63	1 1/16-12	7/8-14	1.94	1.54
12-12S	.75	1 1/16-12	1 1/16-12	1.94	1.66
12-16S	1.00	1 5/16-12	1 5/16-12	2.05	1.81
12-20S	1.25	1 5/16-12	1 5/8-12	2.21	2.06
14-16S	1.00	1 3/16-12	1 5/16-12	2.06	1.81
16-8S	.50	1 5/16-12	3/4-16	2.05	1.52
16-12S	.75	1 5/16-12	1 1/16-12	2.05	1.76
16-16S	1.00	1 5/16-12	1 5/16-12	2.05	1.81
16-20S	1.25	1 5/16-12	1 5/8-12	2.21	2.06
20-16S	1.00	1 5/8-12	1 5/16-12	2.20	2.09
20-20S	1.25	1 5/8-12	1 5/8-12	2.25	2.06
20-24S	1.50	1 5/8-12	1 7/8-12	2.39	2.33
24-20S	1.25	1 7/8-12	1 5/8-12	2.39	2.20
24-24S	1.50	1 7/8-12	1 7/8-12	2.39	2.33

Note: Available without O-Ring.
Order by Part No. 2062-1-(Dash size).SAE O-Ring boss (adj.)/37° flare
Part No. 206209-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.73	.89
6-6S	.38	9/16-18	9/16-18	2.08	1.06
8-8S	.50	3/4-16	3/4-16	2.48	1.25
8-10S	.63	3/4-16	7/8-14	2.52	1.45
10-10S	.63	7/8-14	7/8-14	2.89	1.45
12-12S	.75	1 1/16-12	1 1/16-12	3.34	1.66
16-16S	1.00	1 5/16-12	1 5/16-12	3.72	1.81
20-20S	1.25	1 5/8-12	1 5/8-12	4.41	2.06

NOTE: Available without O-Ring.
Order by Part No. 206209-1-(Dash size).

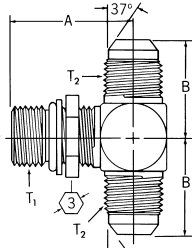
All dimensions in inches.

SAE O-RING TO 37°
FLARE Cont.

SAE O-Ring boss (adj.)/37° flare
Part No. 203005-(Dash size)
(Ref. SAE 070428)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B	C
4-4S	.25	7/16-20	7/16-20	1.03	.89	.89
5-5S	.31	1/2-20	1/2-20	1.09	.96	.95
6-4-4S		9/16-18	7/16-20	1.25	1.05	.97
6-6S	.38	9/16-18	9/16-18	1.25	1.06	1.06
8-8S	.50	3/4-16	3/4-16	1.45	1.25	1.25
10-10S	.63	7/8-14	7/8-14	1.70	1.45	1.45
12-12S	.75	1 1/16-12	1 1/16-12	1.94	1.66	1.66
12-16-16S		1 1/16-12	1 5/16-12	2.05	1.81	1.81
16-16S	1.00	1 5/8-12	1 5/8-12	2.05	1.81	1.81
20-20S		1 5/8-12	1 5/8-12	2.25	2.19	2.06

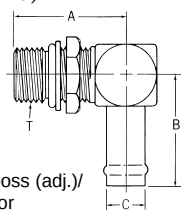
NOTE: Available without O-Ring.
Order by Part No. 203005-1-(Dash size).



SAE O-Ring boss (adj.)/37° flare
Part No. 203003-(Dash size)
(Ref. SAE 070429)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
4-4S	.25	7/16-20	7/16-20	1.03	.89
5-5S	.31	1/2-20	1/2-20	1.08	.95
6-6S	.38	9/16-18	9/16-18	1.25	1.06
8-8S	.50	3/4-16	3/4-16	1.45	1.25
10-10S	.63	7/8-14	7/8-14	1.71	1.45
10-12-12S		7/8-14	1 1/16-12	1.80	1.66
12-12S	.75	1 1/16-12	1 1/16-12	1.94	1.66
16-10-10S		1 5/16-12	7/8-14	2.05	1.64
16-16S	1.00	1 5/8-12	1 5/8-12	2.05	1.81
20-20S	1.25	1 5/8-12	1 5/8-12	2.27	2.06

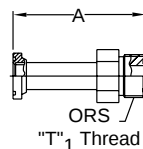
NOTE: Available without O-Ring. Order by Part No. 203003-1-(Dash no.)



SAE O-Ring boss (adj.)/
Hose connector
Part No. FF1167-(Dash size)

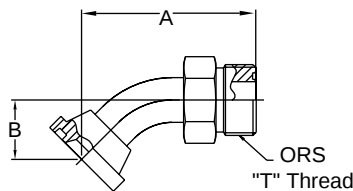
Dash Size	Tube O.D.	Thread T ₁	A	B	C
1010S	.63	7/8-14	1.71	2.06	.62
1212S	.75	1 1/16-12	1.94	2.09	.75
1220S	1.25	1 1/16-12	2.02	2.19	1.25
2020S	1.25	1 5/8-12	2.20	2.38	1.25

NOTE: Available without O-Ring. Order by Part No. FF1161-(Dash size). Clamp required.

SAE SPLIT FLANGE
TO ORS

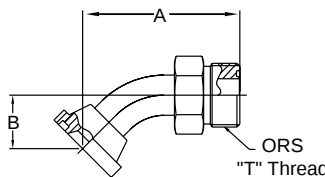
ORS/Split Flange (Code 62)
Part No. FF5943T(Size)

Dash Size	Tube O.D.	Thread T ₁	A
1612S	1.00	1.4375-12	2.75
1616S	1.00	1.4375-12	3.57
1620S	1.00	1.4375-12	3.57



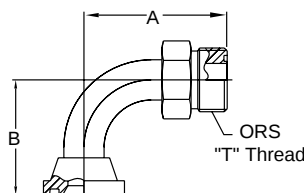
45° ORS/Split Flange (Code 61)
Part No. FF6001T(Size)

Dash Size	Tube O.D.	Thread T	A	B
1216S	.75	1 3/16-12	2.94	1.00
1616S	1.00	1 7/16-12	3.41	1.06
2020S	1.25	1 11/16-12	3.62	1.15
2424S	1.50	2-12	2.25	1.41



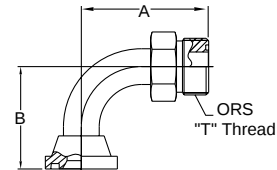
45° ORS/Split Flange (Code 62)
Part No. FF6002T(Size)

Dash Size	Tube O.D.	Thread T	A	B
1212S	.75	1 3/16-12	2.94	1.00
1612S	1.00	1 7/16-12	2.94	1.00
1616S	1.00	1 7/16-12	3.41	1.06
2020S	1.25	1 11/16-12	3.62	1.15
2424S	1.50	2-12	4.25	1.41



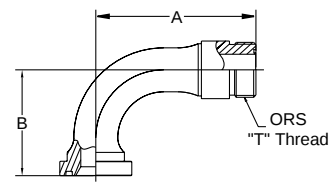
90° ORS/Split Flange (Code 61)
Part No. FF5946T(Size)

Dash Size	Tube O.D.	Thread T	A Ref	B Ref
1212S	.75	1 3/16-12	2.65	2.13
1216S	.75	1 3/16-12	2.65	2.13
1616S	1.00	1 7/16-12	3.22	2.37
2020S	1.25	1 11/16-12	3.47	2.62
2424S	1.50	2-12	3.97	3.12



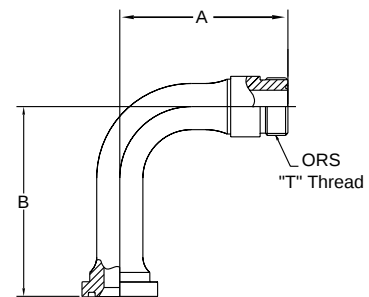
90° ORS/Split Flange (Code 62)
Part No. FF5945T(Size)

Dash Size	Tube O.D.	Thread T	A	B
1212S	.75	1 3/16-12	2.65	2.13
1612S	1.00	1 7/16-12	2.65	2.13
1616S	1.00	1 7/16-12	3.22	2.37
1620S	1.00	1 7/16-12	3.47	2.62
2020S	1.25	1 11/16-12	3.47	2.62
2424S	1.50	2-12	3.97	3.12



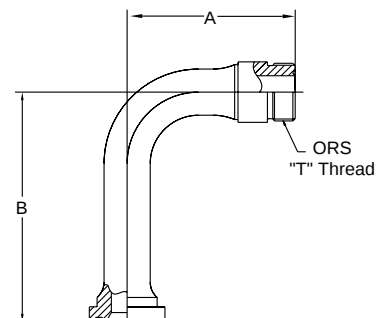
90° ORS/Split Flange (Code 62)
Part No. FF6062T(Size)

Dash Size	Tube O.D.	Thread T	A Ref	B Ref
1616S	1.00	1 7/16-12	4.17	2.76



90° ORS/Split Flange (Code 62)
Part No. FF6063T(Size)

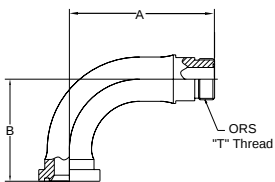
Dash Size	Tube O.D.	Thread T	A Ref	B Ref
1616S	1.00	1 7/16-12	4.17	4.72



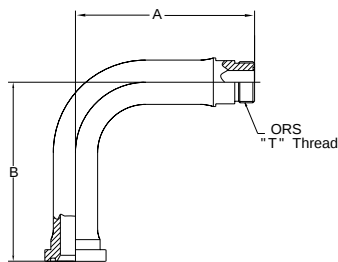
90° ORS/Split Flange (Code 62)
Part No. FF6064T(Size)

Dash Size	Tube O.D.	Thread T	A	B
1616S	1.00	1 7/16-12	4.17	5.70

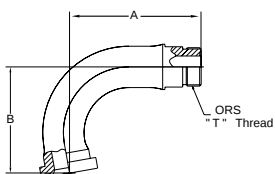
All dimensions in inches.

SAE SPLIT FLANGE
TO ORS Cont.90° ORS/Split Flange (Code 62)
Part No. FF6071T(Size)

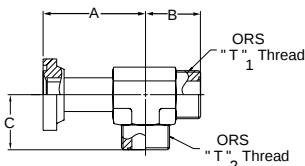
Dash Size	Tube O.D.	Thread T	A	B
1620S	1.00	1 ¹ / ₁₆ -12	5.04	3.54

90° ORS/Split Flange (Code 62)
Part No. FF6072T(Size)

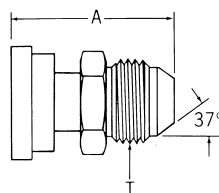
Dash Size	Tube O.D.	Thread T	A	B
1620S	1.00	1 ¹ / ₁₆ -12	6.22	6.22

100° ORS/Split Flange (Code 62)
Part No. FF6073T(Size)

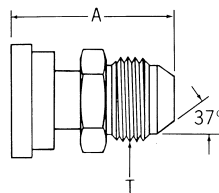
Dash Size	Tube O.D.	Thread T	A	B
1620S	1.00	1 ¹ / ₁₆ -12	4.90	3.95

ORS/Split Flange (Code 62)
Part No. FF2522T(Size)

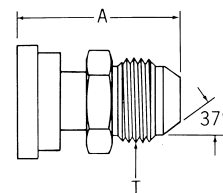
Dash Size	Tube O.D.	Thread T1	Thread T2	A	B	C
0812S	.50	1 ¹ / ₁₆ -16	1 ¹ / ₁₆ -16	2.14	1.10	1.10
1616S	1.00	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	3.10	1.64	1.64
1620S	1.00	1 ¹ / ₁₆ -12	1 ¹ / ₁₆ -12	3.05	1.64	1.64

SAE SPLIT FLANGE
TO 37° FLARESplit flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-74446 flanges suitable for pressures thru 4 light spiral hose – SAE 100R9)
Part No. 500025-(Dash size)

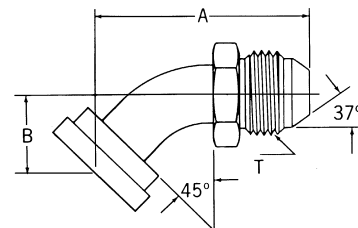
Dash Size	Split Flange Size	Tube O.D.	Thread T	A
8S	1/2	.50	3/4-16	1.66
12S	3/4	.75	1 1/16-12	1.91
12-8S	3/4	.50	3/4-16	2.03
16-10S	1	.63	7/8-14	1.86
16-12S	1	.75	1 1/16-12	2.30
16S	1	1.00	1 5/16-12	2.01
20-16S	1 1/4	1.00	1 5/16-12	2.35
20-24S	1 1/4	1.50	1 7/8-12	2.64
20S	1 1/4	1.25	1 5/8-12	2.46
24S	1 1/2	1.50	1 7/8-12	2.71
24-16S	1 1/2	1.00	1 5/16-12	2.41
24-20S	1 1/2	1.25	1 5/8-12	2.46
32-16S	2	1.00	1 5/16-12	2.32
32-20S	2	1.25	1 5/8-12	2.52
32-24S	2	1.50	1 7/8-12	2.71
32S	2	2.00	2 1/2-12	3.08

Split flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-74446 flanges suitable for pressures thru 4 heavy spiral hose – SAE 100R10)
Part No. FF5239-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A
1212S	3/4	.75	1 1/16-12	3.17
1616S	1	1.00	1 5/16-12	3.76
2020S	1 1/4	1.25	1 5/8-12	3.84
2424S	1 1/2	1.50	1 7/8-12	4.67
3232S	2	2.00	2 1/2-12	5.63

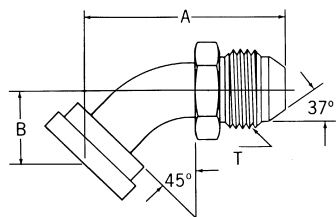
Split flange/37° flare
SAE standard pressure series (Code 62)
(mates with FC3425– size-449 flanges suitable for pressures thru 6 spiral hose – SAE 100R13)
Part No. FF5541-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A
1212S	3/4	.75	1 1/16-12	3.17
1616S	1	1.00	1 5/16-12	3.76
2016S	1 1/4	1.00	1 5/16-12	3.76
2020S	1 1/4	1.25	1 5/8-12	3.84
2416S	1 1/2	1.00	1 5/16-12	3.76
2420S	1 1/2	1.25	1 5/8-12	3.84
2424S	1 1/2	1.50	1 7/8-12	4.67

Split flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-7446 flanges suitable for pressures thru 4 light spiral hose – SAE 100R9)
Part No. 500023-(Dash size)

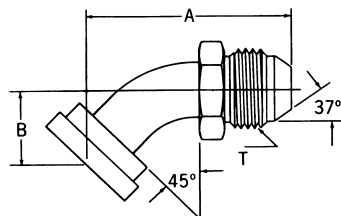
Dash Size	Split Flange Size	Tube O.D.	Thread T	A
8S	1/2	.50	3/4-16	2.34
12-8S	3/4	.50	3/4-16	2.34
12S	3/4	.75	1 1/16-12	2.77
16-10S	1	.63	7/8-14	2.58
16-12S	1	.75	1 1/16-12	2.77
16S	1	1.00	1 5/16-12	3.04
20-12S	1 1/4	.75	1 1/16-12	2.77
20-16S	1 1/4	1.00	1 5/16-12	3.04
20S	1 1/4	1.25	1 5/8-12	3.24
24-16S	1 1/2	1.00	1 5/16-12	3.08
24-20S	1 1/2	1.25	1 5/8-12	3.24
24S	1 1/2	1.50	1 7/8-12	3.54
24-32S	1 1/2	2.00	2 1/2-12	3.91
32S	2	2.00	2 1/2-12	4.24
40-24S	2 1/2	1.50	1 7/8-12	3.58
40S	2 1/2	2.50	3-12	5.18

All dimensions in inches.

SAE SPLIT FLANGE TO
37° FLARE Cont.

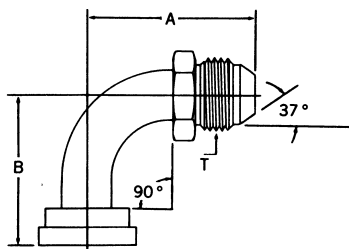
Split flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-7446 flanges suitable for pressures
thru 4 heavy spiral hose – SAE 100R10)
Part No. FF5238-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A	B
1212S	3/4	.75	1 1/16-12	3.09	1.00
1616S	1	1.00	1 5/16-12	3.60	1.06
1620S	1	1.25	1 5/8-12	3.64	1.06
2020S	1 1/4	1.25	1 5/8-12	3.86	1.15
2420S	1 1/2	1.25	1 5/8-12	3.86	1.41
2424S	1 1/2	1.50	1 7/8-12	4.61	1.41
3232S	2	2.00	2 1/2-12	6.04	2.00



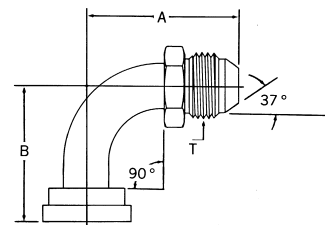
Split flange/37° flare
SAE standard pressure series (Code 62)
(mates with FC3425–size–449 flanges suitable for
pressures thru 6 spiral hose – SAE 100R11)
Part No. FF5539-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A	B
1612S	1	.75	1 1/16-12	3.09	1.00
1616S	1	1.00	1 5/16-12	3.60	1.06
2020S	1 1/4	1.25	1 5/8-12	3.86	1.15
2416S	1 1/2	1.00	1 5/16-12	4.06	1.25
2420S	1 1/2	1.25	1 5/8-12	3.86	1.15
2424S	1 1/2	1.50	1 7/8-12	4.61	1.41



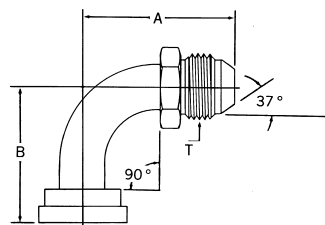
Split flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-7446 flanges suitable for pres-
sures thru 4 high spiral hose – SAE 100R9)
Part No. 500024-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A	B
8S	1/2	.50	3/4-16	1.78	1.62
12S	3/4	.75	1 1/16-12	2.49	2.15
16-10S	1	.63	7/8-14	2.16	2.12
16-12S	1	.75	1 1/16-12	2.49	2.15
16S	1	1.00	1 5/16-12	2.79	2.37
12-8S	3/4	.50	3/4-16	1.78	1.62
12-10S	3/4	.63	7/8-14	2.38	2.15
20-12S	1 1/4	.75	1 1/16-12	2.49	2.15
20-16S	1 1/4	1.00	1 5/16-12	2.79	2.37
20S	1 1/4	1.25	1 5/8-12	3.14	2.50
20-24S	1 1/4	1.50	1 7/8-12	3.58	2.69
24-16S	1 1/2	1.00	1 5/16-12	2.79	2.44
24-20S	1 1/2	1.25	1 5/8-12	3.14	2.50
24S	1 1/2	1.50	1 7/8-12	3.58	2.75
32-24S	2	1.50	1 7/8-12	3.58	2.75
32S	2	2.00	2 1/2-12	4.46	3.25
40-24S	2 1/2	1.50	1 7/8-12	3.58	2.81
40-40S	2 1/2	2.50	3-12	5.86	5.19



Split flange/37° flare
SAE standard pressure series (Code 61)
(mates with 449-7446 flanges suitable for
pressures thru 4 heavy spiral hose – SAE 100R10)
Part No. FF5162-(Dash size)

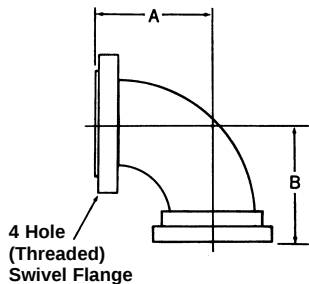
Dash Size	Split Flange Size	Tube O.D.	Thread T	A	B
0808S	1/2	.50	3/4-16	2.16	1.62
1212S	3/4	.75	1 1/16-12	2.81	2.13
1612S	1	.75	1 1/16-12	2.81	2.13
1616S	1	1.00	1 5/16-12	3.41	2.38
1620S	1	1.25	1 5/8-12	3.46	2.38
2016S	1 1/4	1.00	1 5/16-12	3.41	2.38
2020S	1 1/4	1.25	1 5/8-12	3.71	2.62
2420S	1 1/2	1.25	1 5/8-12	3.71	2.62
2424S	1 1/2	1.50	1 7/8-12	4.33	3.12
3232S	2	2.00	2 1/2-12	5.71	4.50



Split flange/37° flare
SAE high pressure series (Code 62)
(mates with FC3425 – size–449 flanges suitable for
pressures thru 6 spiral hose – SAE 100R11)
Part No. FF5540-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	Thread T	A	B
1612S	1	.75	1 1/16-12	2.81	2.13
1616S	1	1.00	1 5/16-12	3.41	2.38
2016S	1 1/4	1.00	1 5/8-12	3.41	2.38
2020S	1 1/4	1.25	1 5/8-12	3.71	2.62
2416S	1 1/2	1.00	1 5/16-12	3.41	2.75
2420S	1 1/2	1.25	1 5/8-12	3.71	2.62
2424S	1 1/2	1.50	1 7/8-12	4.33	3.12

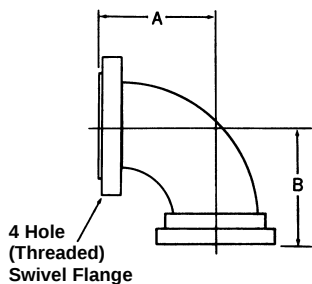
All dimensions in inches.

SAE SPLIT FLANGE TO
SAE SPLIT FLANGE

SAE swivel flange/Split flange
SAE standard pressure series (Code 61)
(suitable for pressures thru 4 light spiral hose –
SAE 100R9)

Part No. 504089-(Dash size)

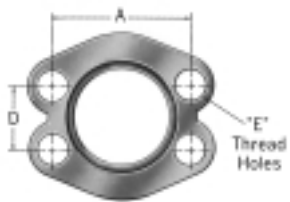
Dash Size	Flange Size	Shoulder Size	A	B
16S	1	1	2.06	2.37
20S	1 $\frac{1}{4}$	1 $\frac{1}{4}$	2.31	2.50
24S	1 $\frac{1}{2}$	1 $\frac{1}{2}$	2.62	2.75
32S	2	2	3.12	3.25
40S	2 $\frac{1}{2}$	2 $\frac{1}{2}$	4.69	5.19



SAE swivel flange/Split flange (welded)
SAE standard pressure series (Code 61)
(suitable for pressures thru 4 heavy spiral hose –
SAE 100R10)

Part No. FF5321-(Dash size)

Dash Size	Flange Size	Shoulder Size	A	B
1616S	1	1	2.38	2.38
2020S	1 $\frac{1}{4}$	1 $\frac{1}{4}$	2.62	2.62
2424S	1 $\frac{1}{2}$	1 $\frac{1}{2}$	3.12	3.12
3232S	2	2	4.50	4.50

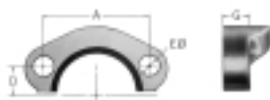


4-Hole Flange* – SAE J518 Code 61 standard
series

Part No. FC2119-(Dash size)-449

Dash Size	Flange Size	Flange Head Dia.	A	D	E
12-449	$\frac{3}{4}$	1.50	1.88	.88	$\frac{3}{8}$ –16
16-449	1	1.75	2.06	1.03	$\frac{3}{8}$ –16
20-449	1 $\frac{1}{4}$	2.00	2.31	1.19	$\frac{7}{16}$ –14
24-449	1 $\frac{1}{2}$	2.38	2.75	1.41	$\frac{1}{2}$ –13
32-449	2	2.00	3.06	1.69	$\frac{1}{2}$ –13
40-449	2 $\frac{1}{2}$	2.50	3.50	2.00	$\frac{1}{2}$ –13

*Available without threaded holes, Part No.
FC3459–size–449.



Split Flange Half – SAE J518 Code 61 standard
series – 2 required

Part No. 449-74446-(Dash size)

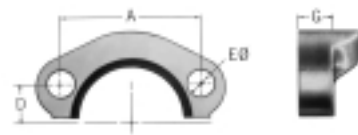
Dash Size	Flange Size	Flange Head Dia.	A	D	E	G
-8	$\frac{1}{2}$	1.19	1.50	.34	.34	.50
-12	$\frac{3}{4}$	1.50	1.88	.44	.41	.56
-16	1	1.75	2.06	.52	.41	.62
-20	1 $\frac{1}{4}$	2.00	2.31	.59	.47	.56
-24	1 $\frac{1}{2}$	2.38	2.75	.70	.53	.62
-32	2	2.81	3.06	.84	.53	.62
-40	2 $\frac{1}{2}$	3.31	3.50	.96	.53	.75



Split Flange Half – Equivalent performance to SAE
J518 Code 61. Powdered metal, 2 required

Part No. FC2713-(Dash size)

Dash Size	Flange Size	Flange Head Dia.	A	D	E	G
-16	1	1.75	2.06	.52	.41	.70
-20	1 $\frac{1}{4}$	2.00	2.31	.59	.47	.70
-24	1 $\frac{1}{2}$	2.38	2.75	.70	.53	.76

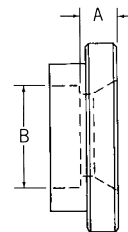


Split Flange Half – SAE J518 Code 62

High pressure 6000 psi series – 2 required

Part No. FC3425-(Dash size)-449

Dash Size	Flange Size	Flange Head Dia.	A	D	E	G
12-449	$\frac{3}{4}$	1.62	2.00	.47	.42	.75
16-449	1	1.88	2.25	.55	.50	.94
20-449	1 $\frac{1}{4}$	2.12	2.62	.62	.60	1.06
24-449	1 $\frac{1}{2}$	2.50	3.12	.72	.66	1.19
32-449	2	3.12	3.81	.88	.78	1.44

BRAZE & WELD TO
SPLIT FLANGE

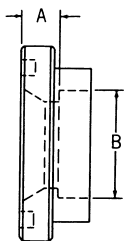
Braze/Solid Flanged Head
SAE standard pressure series (Code 61). Used with
FC2119 flange

Part No. 71418-(Dash size)

Dash Size	Tube O.D.	Split Flange Size	A	B
12-12S	.75	$\frac{3}{4}$	.31	.75
16-12S	1.00	$\frac{3}{4}$	.31	1.00
16-16S	1.00	1	.31	1.00
16-20S	1.00	1 $\frac{1}{4}$	.31	1.00
20-16S	1.25	1	.31	1.25
20-20S	1.25	1 $\frac{1}{4}$	.31	1.25
20-24S	1.25	1 $\frac{1}{2}$	.31	1.25
24-20S	1.50	1 $\frac{1}{4}$	.38	1.50
24-24S	1.50	1 $\frac{1}{2}$	.38	1.50
32-32S	2.00	2	.38	2.00
40-40S	2.50	2 $\frac{1}{2}$	.44	2.50

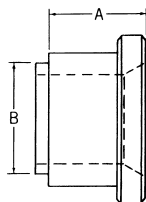
All dimensions in inches.

BRAZE & WELD TO SPLIT FLANGE Cont.



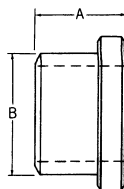
Braze/(Flanged head)
SAE standard pressures series (Code 61)
Used with FC2119-flange
Part No. 4624-(Dash size)

Dash Size	Split Flange Size	Tube O.D.	A	B
8-6S	1/2	.38	.25	.38
8S	1/2	.50	.25	.50
12-8S	3/4	.50	.25	.50
12-10S	3/4	.63	.31	.62
12-16S	3/4	1.00	.31	1.00
12S	3/4	.75	.31	.75
16-10S	1	.63	.41	.62
16-12S	1	.75	.31	.75
16-20S	1	1.25	.31	1.25
16S	1	1.00	.31	1.00
20-12S	1 1/4	.75	.31	.75
20-16S	1 1/4	1.00	.31	1.00
20-24S	1 1/4	1.50	.31	1.50
20S	1 1/4	1.25	.31	1.25
24-12S	1 1/2	.75	.38	.75
24-16S	1 1/2	1.00	.38	1.00
24-20S	1 1/2	1.25	.31	1.25
24S	1 1/2	1.50	.38	1.50
32-16S	2	1.00	.28	1.00
32-20S	2	1.25	.38	1.25
32-24S	2	1.50	.38	1.50
32S	2	2.00	.38	2.00
40-32S	2 1/2	2.00	.44	2.00



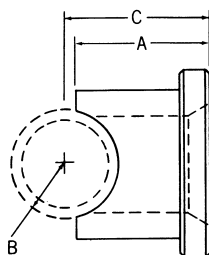
Weld (tank pilot) Solid flanged head
SAE standard pressure series (Code 61)
Used with FC2119 flange
Part No. 71423-(Dash size)

Dash Size	Flange Size	A	B
12S	.75	1.08	1.06
16S	1.00	1.08	1.31
20S	1.25	1.08	1.44
24S	1.50	1.14	1.69
32S	2.00	1.14	2.19



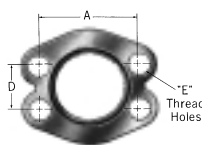
Butt weld (pipe)/Solid flanged head
SAE standard pressure series (Code 61)
Used with FC2119 flange
Part No. 71416-(Dash size)

Dash Size	Flange Size	A	B
16S	1.00	1.08	1.32
20S	1.25	1.08	1.66
24S	1.50	1.14	1.90
32S	2.00	1.14	2.38
40S	2.50	1.27	2.88



Saddle weld (pipe)/Solid flanged head
SAE standard pressure series (Code 61)
Used with FC2119 flange
Part No. 71422-(Dash size)

Dash Size	Flange Size	A	B	C
16-16S	1.00	1.21	.66	1.52
20-20S	1.25	1.27	.83	1.77
24-24S	1.50	1.42	.95	1.96
24-32S	2.00	1.56	.95	1.86

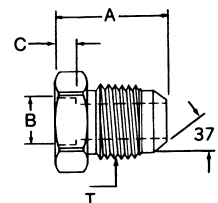


4-Hole Flange* - SAE J518 Code 61 Standard series
Part No. FC2119-(Dash size)-449

Dash Size	Flange Size	A	D	E
12-449	.75	1.88	.88	3/8-16
16-449	1.00	2.06	1.03	3/8-16
20-449	1.25	2.31	1.19	7/16-14
24-449	1.50	2.75	1.41	1/2-13
32-449	2.00	3.06	1.69	1/2-13
40-449	2.50	3.50	2.00	1/2-13

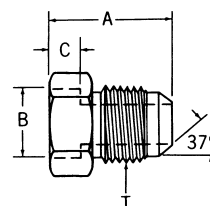
*Available without threaded holes Part No. FC3459-size-449

BRAZE & WELD TO 37° FLARE



Braze port/37° flare
Part No. 73014-(Dash size)

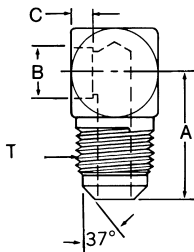
Dash Size	Tube O.D.	Thread T	A	B	C
4S	.25	7/16-20	.74	.25	.16
5S	.31	1/2-20	.80	.31	.16
6S	.38	9/16-18	.81	.38	.16
8-6S	.50	9/16-18	.84	.50	.16
8S	.50	3/4-16	.94	.50	.16
10S	.63	7/8-14	1.07	.62	.16
10-16S	.63	1 1/16-12	1.29	.62	.16
12-10S	.75	7/8-14	1.13	.75	.25
12S	.75	1 1/16-12	1.24	.75	.25
14S	.88	1 3/16-12	1.26	.88	.25
16S	1.00	1 3/16-12	1.29	1.00	.25
16-12S	1.00	1 1/16-12	1.24	1.00	.25
16-20S	1.00	1 3/8-12	1.40	1.00	.25
20S	1.25	1 3/8-12	1.40	1.25	.25
20-16S	1.25	1 3/16-12	1.29	1.25	.25
24-16S	1.50	1 3/16-12	1.41	1.50	.25
24S	1.50	1 7/8-12	1.58	1.50	.25
24-20S	1.50	1 3/8-12	1.46	1.50	.25
24-32S	1.50	2 1/2-12	1.95	1.50	.25
32S	2.00	2 1/2-12	1.96	2.00	.25
40S	2.50	3-12	1.86	2.50	.25



Weld port/37° flare
Part No. 202232-(Dash size)

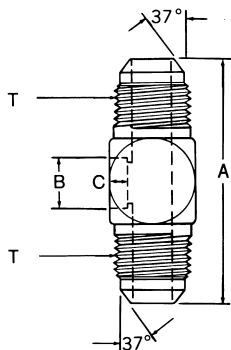
Dash Size	IPS Size	Thread T	A	B	C
1/4-8S	.25	3/4-16	1.20	.56	.38
1/2-12S	.50	1 1/16-12	1.54	.86	.50
1-20S	1.00	1 3/8-12	1.81	1.34	.63

All dimensions in inches.

BRAZE & WELD TO
37° FLARE Cont.

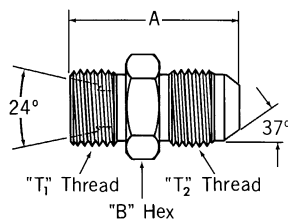
Braze port/37° flare
Part No. FF1131-(Dash size)

Dash Size	Tube O.D.	Thread T	A	B	C
0404S	.25	7/16-20	.89	.25	.16
0808S	.50	3/4-16	1.25	.50	.16
1010S	.63	7/8-14	1.45	.62	.23
1212S	.75	1 1/16-12	1.66	.75	.23
1616S	1.00	1 5/16-12	1.81	1.00	.25
2020S	1.25	1 5/8-12	2.06	1.25	.25
2424S	1.50	1 7/8-12	2.33	1.50	.25



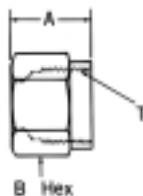
Braze port/37° flare
Part No. FF1307-(Dash size)

Dash Size	Tube O.D.	Thread T	A	B	C
101010S	.63	7/8-14	2.90	.62	.16

SAE FLARELESS TO
37° UNION

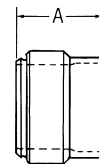
Male SAE flareless/37° flare
Part No. FF1315-(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A	B
0404S	.25	7/16-20	7/16-20	1.22	.50
0604S	.38	9/16-18	7/16-20	1.27	.62
0606S	.38	9/16-18	9/16-18	1.28	.62
0806S	.50	3/4-16	9/16-18	1.37	.81
0808S	.50	3/4-16	3/4-16	1.47	.81
1008S	.63	7/8-14	3/4-16	1.59	.94
1010S	.63	7/8-14	7/8-14	1.69	.94
1212S	.75	1 1/16-12	1 1/16-12	1.93	1.12
1412S	.88	1 3/16-12	1 1/16-12	1.93	1.25
1616S	1.00	1 5/16-12	1 5/16-12	1.98	1.38



Flareless tube nut
Part No. 210294-(Dash size)
Use with FF1315-(Dash size) Body Only
(Ref. SAE 080110)

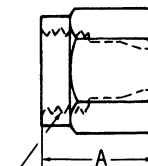
Dash Size	Tube O.D.	Thread T	A	B
4S	.25	7/16-20	.70	.56
6S	.38	9/16-18	.75	.69
8S	.50	3/4-16	.84	.88
10S	.63	7/8-14	.92	1.00
12S	.75	1 1/16-12	.97	1.25
14S	.88	1 3/16-12	1.00	1.38
16S	1.00	1 5/16-12	1.05	1.50



Ferrule-Style A* (for flareless tube fittings)
Part No. FF9173-(Dash size)
Use with FF1315-(Dash size) Body Only
(Ref. SAE 080115A)

Dash Size	Tube O.D.	A
04S	.25	.36
06S	.38	.39
08S	.50	.43
10S	.63	.44
12S	.75	.47
14S	.88	.48
16S	1.00	.48

*NOTE: All three components (adapter FF1315, tube nut 210294 and ferrule FF9173) required for assembly. Order by Part Number FF1316-(Dash size) for complete assembly.

Versil·Flare™
FLARE AND FLARELESS

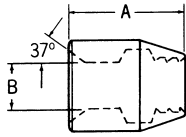
"T" Thread

Versil·Flare™ Flareless Tube Nut
Part No. FC2875-(Dash size)
Use with FF9605-(Dash size) Ferrule Only

Dash Size	Tube O.D.	Thread T	A
03S	.19	3/8-24	.79
04S	.25	7/16-20	.82
05S	.31	1/2-20	.82
06S	.38	9/16-18	.86
08S	.50	3/4-16	1.08
10S	.63	7/8-14	1.12
12S	.75	1 1/16-12	1.36
16S	1.00	1 5/16-12	1.40
20S	1.25	1 5/8-12	1.80
24S	1.50	1 7/8-12	1.84
32S	2.00	2 1/2-12	2.20

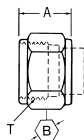
All dimensions in inches.

Versil-Flare™ FLARE AND FLARELESS



Versil-Flare™ Flareless Tube Ferrule
Part No. FF9605–(Dash size)
Use with FC2875–(Dash size) Nut Only

Dash Size	Tube O.D.	A	B
03S	.19	.40	.19
04S	.25	.42	.25
05S	.31	.42	.31
06S	.38	.46	.38
08S	.50	.57	.50
10S	.63	.58	.62
12S	.75	.70	.75
16S	1.00	.70	1.00
20S	1.25	1.00	1.25
24S	1.50	1.00	1.50
32S	2.00	1.17	2.00



Versil-Flare™ SAE 37° Flared Style "B" Nut
Part No. 1290–(Dash size)
(Ref. SAE 070110)
Use with 900605 tube sleeve only

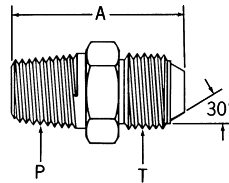
Dash Size	Tube O.D.	Thread T	A	B
3S	.19	3/8-24	.60	.44
4S	.25	7/16-20	.62	.56
5S	.31	1/2-20	.67	.62
6S	.38	9/16-18	.72	.69
8S	.50	3/4-16	.84	.88
10S	.63	7/8-14	.97	1.00
12S	.75	1 1/16-12	1.02	1.25
14S	.88	1 3/16-12	1.08	1.38
16S	1.00	1 5/16-12	1.12	1.50
20S	1.25	1 7/8-12	1.22	2.00
24S	1.50	2 1/8-12	1.41	2.25
32S	2.00	2 1/2-12	1.59	2.88



Versil-Flare™ SAE 37° Flared Sleeve
Part No. 900605–(Dash size)
(Ref. SAE 070115)
Use with 1290 short nut only

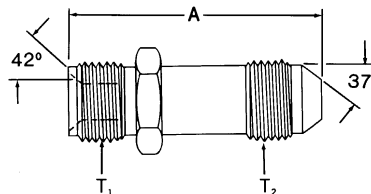
Dash Size	Tube O.D.	A
3S	.19	.34
4S	.25	.41
5S	.31	.44
6S	.38	.50
8S	.50	.56
10S	.63	.66
12S	.75	.69
14S	.88	.76
16S	1.00	.78
20S	1.25	.91
24S	1.50	1.12
32S	2.00	1.19

SPECIALS



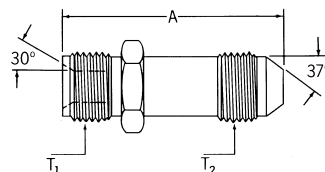
External pipe/30° flare
Part No. 2004–(Dash size)

Dash Size	Tube O.D.	Thread P	Thread T	A
12–16S	1.00	3/4-14	1 5/16-14	1.84
16–16S	1.00	1-11 1/2	1 5/16-14	2.03
20–20S	1.25	1 1/4-11 1/2	1 5/8-14	2.34



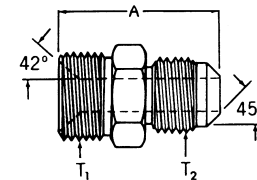
42° inverted flare/37° flare
Part No. 202124–(Dash size)
Part No. FF1327–(Dash size) Long

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
3–3S	.19	3/8-24	3/8-24	1.07
3–4S	.25	3/8-24	7/16-20	1.14
0304S*	.25	3/8-24	7/16-20	2.40
0305S*	.31	3/8-24	1/2-20	2.40
4–4S	.25	7/16-24	7/16-20	1.14
0404S*	.25	7/16-24	7/16-20	2.40
0405S*	.31	7/16-24	1/2-20	2.40
0404S*	.25	7/16-24	7/16-20	2.40
5–4S	.25	1/2-20	7/16-20	1.16



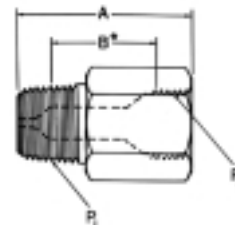
30° inverted flare/37° flare
Part No. FF1353–(Dash size)
Part No. FF1354–(Dash size) Long

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
0404S	.25	7/16-20	7/16-20	1.33
0404S†	.25	7/16-20	7/16-20	2.50



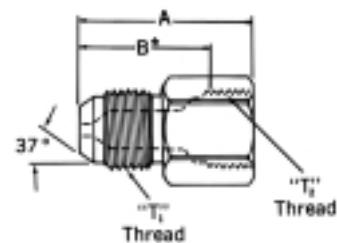
42° inverted flare/45° flare
Part No. 200001–(Dash size)

Dash Size	Tube O.D.	Thread T ₁	Thread T ₂	A
4–4B	.25	7/16-24	7/16-20	1.09
4–5B	.31	7/16-24	1/2-20	1.12
4–6B	.38	7/16-24	5/8-18	1.21
5–4B	.25	1/2-20	7/16-20	1.10
5–5B	.31	1/2-20	1/2-20	1.16
5–6B	.38	1/2-20	5/8-18	1.25
6–5B	.31	5/8-18	1/2-20	1.22
6–6B	.38	5/8-18	5/8-18	1.28
7–6B	.38	1 1/16-18	5/8-18	1.43
7–8B	.50	1 1/16-18	3/4-16	1.56
8–6B	.38	3/4-18	5/8-18	1.43
8–8B	.50	3/4-18	3/4-16	1.56
10–10B	.63	7/8-18	7/8-14	1.76
12–12B	.75	1 1/16-16	1 1/16-14	2.05



Restrictor†
Male pipe/female pipe
Part No. FF1980–(Dash size)

Dash Size	Tube O.D.	Thread P ₁	Thread P ₂	A	B*
0404	.25	1/4-18	1/4-18	1.39	.64
0606	.38	3/8-18	3/8-18	1.44	.69
0808	.50	1/2-14	1/2-14	1.87	.87



Restrictor†
37° male flare/37° female
Part No. FF1981–(Dash size)

Dash Size	Tube O.D.	Thread P ₁	Thread P ₂	A	B*
0404	.25	7/16-20	7/16-20	1.14	.69
0606	.38	9/16-18	9/16-18	1.19	.72
0808	.50	3/4-16	3/4-16	1.36	1.01

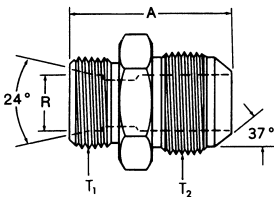
*Length required to insert adapter at installation.

†Ordering Information: Aeroquip Restrictor Adapters are available in orifice sizes from .06 to .25 inches. When ordering restrictor adapters, it is important to indicate the drill size required.

For example: For a .125 drill size in FF1980-0404 adapter, order as FF1980-125-0404. If you indicate the desired orifice size in inches, the appropriate 3 digit number will be assigned.

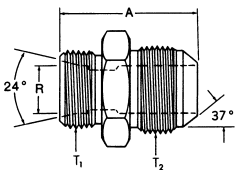
All dimensions in inches.

METRIC TO 37° FLARE



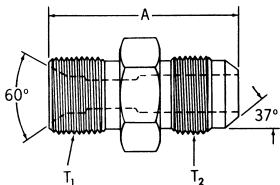
Metric 24° (DIN 3901/3902 I.Rh)/37° flare
Part No. 15.063–(Dash size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)	Rø (mm)
6–4	.25	M12 x 1.5	7/16-20	1.22	6
8–6	.38	M14 x 1.5	9/16-18	1.22	8
10–8	.50	M16 x 1.5	3/4-16	1.36	10
12–8	.50	M18 x 1.5	3/4-16	1.36	12
15–10	.63	M22 x 1.5	7/8-14	1.54	15
18–12	.75	M26 x 1.5	1 1/16-12	1.69	18
22–16	1.00	M30 x 2	1 5/16-12	1.81	22
28–20	1.25	M36 x 2	1 7/8-12	1.87	28
35–24	1.50	M45 x 2	1 7/8-12	2.07	35
42–32	2.00	M52 x 2	2 1/2-12	2.40	42



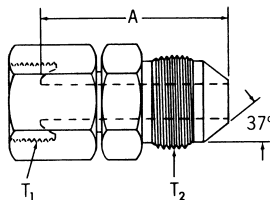
Metric 24° (DIN 3901/3902 s.Rh)/37° flare
Part No. 15.147–(Dash size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)	Rø (mm)
6–6	.38	M14 x 1.5	9/16-18	1.30	6
10–8	.50	M18 x 1.5	3/4-16	1.40	10
14–10	.63	M22 x 1.5	7/8-14	1.59	14
16–12	.75	M24 x 1.5	1 1/16-12	1.77	16
20–16	1.00	M30 x 2	1 5/16-12	1.89	20
25–20	1.25	M36 x 2	1 5/8-12	2.03	25
30–24	1.50	M42 x 2	1 7/8-12	2.22	30
38–32	2.00	M52 x 2	2 1/2-12	2.64	38



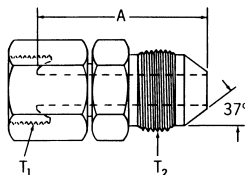
Metric 60° (DIN 7631)/37° flare
Part No. 15.117–(Dash size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)
4–4	.25	M12 x 1.5	7/16-20	1.22
6–6	.38	M14 x 1.5	9/16-18	1.22
8–6	.38	M16 x 1.5	9/16-18	1.26
8–8	.50	M16 x 1.5	3/4-16	1.36
10–8	.50	M18 x 1.5	3/4-16	1.36
13–10	.63	M22 x 1.5	7/8-14	1.52
16–12	.75	M26 x 1.5	1 1/16-12	1.69
20–16	1.00	M30 x 1.5	1 5/16-12	1.81
25–20	1.25	M38 x 1.5	1 5/8-12	1.87
32–24	1.50	M45 x 1.5	1 7/8-12	2.07
40–32	2.00	M52 x 1.5	2 1/2-12	2.40



Metric 24° (DIN 3901/3902 s.Rh)/37° flare
Part No. 15.164–(Dash size)

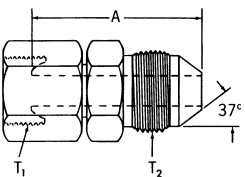
Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)
6–6	.38	M14 x 1.5	9/16-18	1.38
10–8	.50	M18 x 1.5	3/4-16	1.50
14–10	.63	M22 x 1.5	7/8-14	1.61
16–12	.75	M24 x 1.5	1 1/16-12	1.71
20–16	1.00	M30 x 2	1 5/16-12	1.85
25–20	1.25	M36 x 2	1 5/8-12	1.99
30–24	1.50	M42 x 2	1 7/8-12	2.12
38–32	2.00	M52 x 2	2 1/2-12	2.46



Metric 24° (DIN 3901/3902 I.Rh)/37° flare
Part No. 15.163–(Dash size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)
4–4†	.25	M12 x 1.5	7/16-20	1.36
6–6†	.38	M14 x 1.5	9/16-18	1.36
8–6†	.38	M16 x 1.5	9/16-18	1.40
8–8†	.50	M16 x 1.5	3/4-16	1.50
10–8†	.50	M18 x 1.5	3/4-16	1.50
13–10†	.63	M22 x 1.5	7/8-14	1.61
16–12†	.75	M26 x 1.5	1 1/16-12	1.87
22–16	1.00	M30 x 2	1 5/16-12	1.93
28–20	1.25	M36 x 2	1 5/8-12	2.03
35–24	1.50	M45 x 2	1 7/8-12	2.11
42–32	2.00	M52 x 2	2 1/2-12	2.46

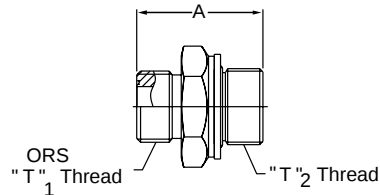
†Also 60° DIN 7631/7647.



Metric 60° (DIN 7631/7647)/37° flare
Part No. 15.165–(Dash size)

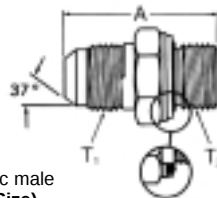
Dash Size	Tube O.D. (inches)	Thread T ₁ (mm)	Thread T ₂ (inches)	A (inches)
20–16	1.00	M30 x 1.5	1 5/16-12	1.81
25–20	1.25	M38 x 1.5	1 5/8-12	1.95
32–24	1.50	M45 x 1.5	1 7/8-12	2.07
40–32	2.00	M52 x 1.5	2 1/2-12	2.40

All dimensions in inches.



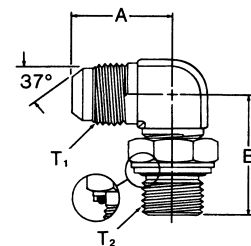
ORS – Special Metric Connector
(Mates with DIN 3852 large spotface)
Part No. FF2485T(Size)

Dash Size	Tube O.D.	Thread T ₁ (inches)	Thread T ₂ (mm)	A Ref
0410S	.25	9/16-18	M10 x 1	.98
0614S	.38	1 1/16-16	M14 x 1.5	1.22
0818S	.50	1 3/16-16	M18 x 1.5	1.32
0822S	.50	1 3/16-16	M22 x 1.5	1.43
1022S	.63	1-14	M22 x 1.5	1.54
1227S	.75	1 3/16-12	M27 x 2	1.75
1633S	1.00	1 7/16-12	M33 x 2	1.89
2042S	1.25	1 11/16-12	M42 x 2	2.03
2448S	1.50	2-12	M48 x 2	2.19



SAE 37° male/metric male
GG108-NP(Size)–(Size)

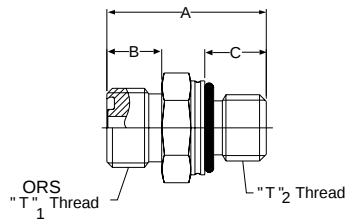
Dash Size	Tube O.D. (inches)	Thread T ₁ (inches)	Thread T ₂ (mm)	A (inches)
04–10	.25	7/16-20	M10 x 1	1.14
04–12	.25	7/16-20	M12 x 1.5	1.30
05–10	.31	1/2-20	M10 x 1	1.14
06–14	.38	9/16-18	M14 x 1.5	1.34
06–16	.38	9/16-18	M16 x 1.5	1.34
08–16	.50	3/4-16	M16 x 1.5	1.46
08–18	.50	3/4-16	M18 x 1.5	1.48
10–18	.63	7/8-14	M18 x 1.5	1.58
10–20	.63	7/8-14	M20 x 1.5	1.69
10–22	.63	7/8-14	M22 x 1.5	1.69
12–22	.75	1 1/16-12	M22 x 1.5	1.83
12–27	.75	1 1/16-12	M27 x 2	1.95
16–33	1.00	1 5/16-12	M33 x 2	2.11



90° adjustable elbow SAE 37° male/metric male
GG308-NP(Size)–(Size)

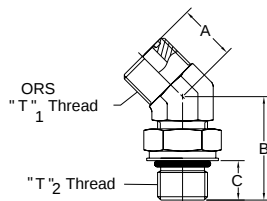
Dash Size	Tube O.D. (inches)	Thread T ₁ (inches)	Thread T ₂ (mm)	A (inches)	B (inches)
04–10	.25	7/16-20	M10 x 1	.89	1.02
04–12	.25	7/16-20	M12 x 1.5	1.06	1.24
06–16	.38	9/16-18	M16 x 1.5	1.12	1.44
08–16	.50	3/4-16	M16 x 1.5	1.24	1.44
08–18	.50	3/4-16	M18 x 1.5	1.24	1.44
10–18	.63	7/8-14	M18 x 1.5	1.44	1.56
10–20	.63	7/8-14	M20 x 1.5	1.44	1.69
10–22	.63	7/8-14	M22 x 1.5	1.44	1.69
12–22	.75	1 1/16-12	M22 x 1.5	1.65	1.79
12–27	.75	1 1/16-12	M27 x 2	1.65	1.93
16–33	1.00	1 5/16-12	M33 x 2	1.81	2.05

ORS TO ISO 6149



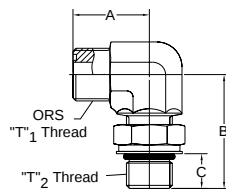
ORS/Male ISO 6149 Boss (S-Series)
Part No. FF2742T(Size)
(Ref. SAE 52M0187)

Dash Size	Tube O.D.	Thread T1 (inches)	Thread T2 (mm)	A	B	C
0410S	.25	9/16-18	M10 x 1	1.10	.39	.37
0412S	.25	9/16-18	M12 x 1.5	1.12	.39	.43
0612S	.38	1 1/16-16	M12 x 1.5	1.26	.44	.43
0614S	.38	1 1/16-16	M14 x 1.5	1.26	.44	.43
0616S	.38	9/16-18	M16 x 1.5	1.32	.44	.49
0818S	.50	1 3/16-16	M18 x 1.5	1.50	.50	.55
0822S	.50	1 3/16-16	M22 x 1.5	1.55	.50	.59
1022S	.63	1-14	M22 x 1.5	1.65	.61	.59
1222S	.75	1 1/16-12	M22 x 1.5	1.71	.67	.59
1227S	.75	1 1/16-12	M27 x 2	1.91	.67	.73
1633S	1.00	1 1/16-12	M33 x 2	2.05	.69	.75
2042S	1.25	1 1/16-12	M42 x 2	2.15	.69	.55
2448S	1.50	1 3/16-16	M48 x 2	2.24	.59	.85



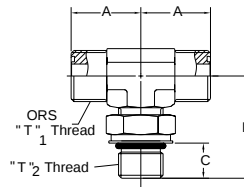
45° ORS/ISO 6149 Boss (S-Series)
Part No. FF2743T(Size)
(Ref. SAE 52M0287)

Dash Size	Tube O.D.	Thread T1 (inches)	Thread T2 (mm)	A	B	C
0818S	.50	1 3/16-16	M18 x 1.5	.80	1.46	.56
1022S	.63	1-14	M22 x 1.5	.92	1.73	.58
1227S	.75	1 3/16-12	M27 x 2	1.02	1.99	.72



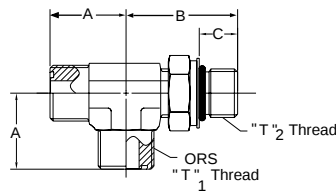
90° ORS/ISO 6149 Boss (S-Series)
Part No. FF2744T(Size)
(Ref. SAE 52M0287)

Dash Size	Tube O.D.	Thread T1 (inches)	Thread T2 (mm)	A	B	C
0818S	.50	1 3/16-16	M18 x 1.5	1.17	1.74	.56
1022S	.63	1-14	M22 x 1.5	1.31	1.93	.58
1227S	.75	1 3/16-12	M27 x 2	1.47	2.19	.72



ORS/ISO 6149 Boss (S-Series) Branch Tee
Part No. FF2745T(Size)
(Ref. SAE 52M0489)

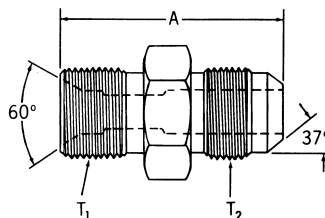
Dash Size	Tube O.D.	Thread T1 (inches)	Thread T2 (mm)	A	B	C
0818S	.50	1 3/16-16	M18 x 1.5	1.10	1.61	.56
1022S	.63	1-14	M22 x 1.5	1.31	1.93	.58
1227S	.75	1 3/16-12	M27 x 2	1.47	2.19	.72



ORS/ISO 6149 Boss (S-Series) Run Tee
Part No. FF2746T(Size)
(Ref. SAE 52M0488)

Dash Size	Tube O.D.	Thread T1 (inches)	Thread T2 (mm)	A	B	C
0818S	.50	1 3/16-16	M18 x 1.5	1.10	1.61	.56
1022S	.63	1-14	M22 x 1.5	1.31	1.93	.58
1227S	.75	1 3/16-12	M27 x 2	1.47	2.19	.72

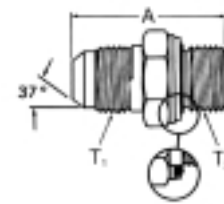
BSPP TO 37° FLARE



BSPP (parallel)/37° flare
Part No. 2063-(Dash size)

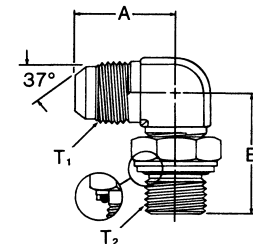
Dash Size	Tube O.D. (inches)	Thread T1 (inches)	Thread T2 (inches)	A (inches)
2-4S	.25	1/8-28	7/16-20	1.38
4-4S	.25	1/4-19	7/16-20	1.38
4-5S	.31	1/4-19	1/2-20	1.38
4-6S	.38	1/4-19	9/16-18	1.38
6-6S	.38	3/8-19	9/16-18	1.43
6-8S	.50	3/8-19	3/4-16	1.53
8-8S	.50	1/2-14	3/4-16	1.63
8-10S	.63	1/2-14	7/8-14	1.73
10-12S	.75	5/8-14	1 1/16-12	1.94
12-10S	.63	3/4-14	7/8-14	1.88
12-12S	.75	3/4-14	1 1/16-12	1.99
16-16S	1.00	1-11	1 5/16-12	2.09

Note: The BSPP male end mates with a BSPP female swivel nut. Use GG106 conversion adapters for port connections.



SAE 37° male/BSPP male
GG106-NP(Size)-(Size)

Dash Size	Tube O.D. (inches)	Thread T1 (inches)	Thread T2 (inches)	A (inches)
04-02	.25	7/16-20	G 3/8-28	1.14
04-04	.25	7/16-20	G 1/4-19	1.36
04-06	.25	7/16-20	G 3/8-19	1.36
04-08	.25	7/16-20	G 1/2-14	1.50
06-04	.38	9/16-18	G 1/4-19	1.36
06-06	.38	9/16-18	G 3/8-19	1.36
06-08	.38	9/16-18	G 1/2-14	1.50
08-04	.50	3/4-16	G 1/4-19	1.48
08-06	.50	3/4-16	G 3/8-19	1.48
08-08	.50	3/4-16	G 1/2-14	1.61
08-12	.50	3/4-16	G 3/4-14	1.77
10-06	.63	7/8-14	G 3/8-19	1.59
10-08	.63	7/8-14	G 1/2-14	1.71
12-08	.75	1 1/16-12	G 3/4-14	1.85
12-12	.75	1 1/16-12	G 3/4-14	1.97
12-16	.75	1 1/16-12	G 1-11	2.07
16-12	1.00	1 5/16-12	G 3/4-14	2.01
16-16	1.00	1 5/16-12	G 1-11	2.11
16-20	1.00	1 5/16-12	G 1 1/4-11	2.24
20-20	1.25	1 5/8-12	G 1 1/4-11	2.30

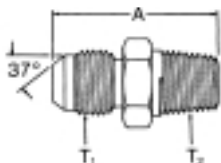


90° adjustable elbow SAE 37° male/BSPP male
GG306-NP(Size)-(Size)

Dash Size	Tube O.D. (inches)	Thread T1 (inches)	Thread T2 (inches)	A (inches)	B (inches)
04-02	.25	7/16-20	G 3/8-28	.89	1.04
04-04	.25	7/16-20	G 1/4-19	1.06	1.24
05-04	.31	1/2-20	G 1/4-19	1.06	1.24
06-04	.38	9/16-18	G 1/4-19	1.06	1.24
06-06	.38	9/16-18	G 3/8-19	1.12	1.44
06-08	.38	9/16-18	G 1/2-14	1.22	1.69
08-06	.50	3/4-16	G 3/8-19	1.24	1.44
08-08	.50	3/4-16	G 1/2-14	1.34	1.69
10-08	.63	7/8-14	G 1/2-14	1.44	1.69
12-12	.75	1 1/16-12	G 3/4-14	1.65	1.93
16-16	1.00	1 5/16-12	G 1-11	1.81	2.07
20-20	1.25	1 5/8-12	G 1 1/4-11	2.05	2.24

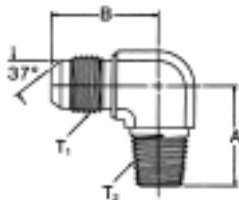
All dimensions in inches.

BSPT TO 37° FLARE



SAE 37° male/BSPT male
GG110-NP(Size)-(Size)

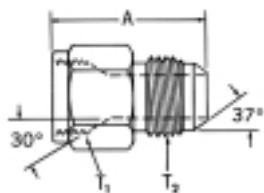
Dash Size	Tube O.D. (inches)	Thread T ₁ (inches)	Thread T ₂ (inches)	A (inches)
04-02	.25	7/16-20	R ¹ / ₈ -28	1.14
04-04	.25	7/16-20	R ¹ / ₄ -19	1.30
06-04	.38	9/16-18	R ¹ / ₄ -19	1.32
06-06	.38	9/16-18	R ³ / ₈ -19	1.32
08-06	.50	3/4-16	R ³ / ₈ -19	1.44
08-08	.50	3/4-16	R ¹ / ₂ -14	1.59
10-08	.63	7/8-14	R ¹ / ₂ -14	1.69
12-08	.75	1 1/16-12	R ¹ / ₂ -14	1.87
12-12	.75	1 1/16-12	R ³ / ₄ -14	1.95
12-16	.75	1 1/16-12	R1-11	2.03
16-12	1.00	1 5/16-12	R ³ / ₄ -14	1.99
16-16	1.00	1 5/16-12	R1-11	2.07



90° elbow, SAE 37° male/BSPT male
GG310-NP(Size)-(Size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (inches)	Thread T ₂ (inches)	A (inches)	B (inches)
04-02	.25	7/16-20	R ¹ / ₈ -28	.81	.92
04-04	.25	7/16-20	R ¹ / ₄ -19	1.08	1.06
06-04	.38	9/16-18	R ¹ / ₄ -19	1.08	1.06
06-06	.38	9/16-18	R ³ / ₈ -19	1.22	1.12
06-08	.38	9/16-18	R ¹ / ₂ -14	1.46	1.22
08-06	.50	3/4-16	R ³ / ₈ -19	1.22	1.24
08-08	.50	3/4-16	R ¹ / ₂ -14	1.46	1.34
12-12	.75	1 1/16-12	R ³ / ₄ -14	1.59	1.65
16-16	1.00	1 5/16-12	R1-11	1.97	1.81

JIS 30° TO 37° FLARE



Female cone seat
JIS 30° female cone seat/SAE 37° male
Part No. FF2593-(Size)

Dash Size	Tube O.D. (inches)	Thread T ₁ (inches)	Thread T ₂ (inches)	A (inches)
0404S	.25	G ¹ / ₄ -19	7/16-20	1.19
0606S	.38	G ³ / ₈ -19	9/16-18	1.21
0808S	.50	G ¹ / ₂ -14	3/4-16	1.41
1212S	.75	G ³ / ₄ -14	1 1/16-12	1.70

All dimensions in inches.

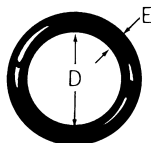
O-RINGS

Designating Separate ORS and Flange O-Rings

To order Aeroquip O-Rings separately without fittings specify the size and material by using the charted O-Ring base number and dash size.

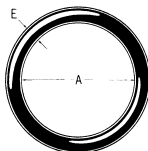
O-Ring			Material	Operating Temperature Range
SAE Base Number	ORS Base Number	Flange Base Number		
22617			90° Durometer Buna-N Nitrile Rubber	-30°F to +250°F (-34°C to +121°C)
	FF9446	FF9446		-40°F to +250°F (-40°C to +121°C)
22033			EPR Ethylene Propylene Rubber	-65°F to +212°F (-55°C to +100°C)
	FF9807	FF9016		-65°F to +300°F (-55°C to +150°C)
22068	22046	22046	Viton* Fluoroelastomer	-15°F to +400°F (-25°C to +200°C)
22012	FF9855		Buna-N, Low Temperature Nitrile Rubber	-65°F to +225°F (-55°C to +100°C)
	22546		Neoprene	-65°F to +300°F (-55°C to +150°C)

SAE O-Ring Boss



O-Ring Dash Size	Tube Size	D	E
-4	-4	.351	.072
-6	-6	.468	.078
-8	-8	.644	.087
-10	-10	.755	.097
-12	-12	.924	.116
-16	-16	1.171	.116
-20	-20	1.475	.118
-24	-24	1.720	.118

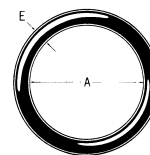
ORS O-Ring



O-Ring Size Designation	ORS Tube Size	A	E
-11	-4	.301	.07
-12	-6	.364	.07
-14	-8	.489	.07
-16	-10	.614	.07
-18	-12	.739	.07
-21	-16	.926	.07
-25	-20	1.176	.07
-29	-24	1.489	.07

*Viton is a trademark of DuPont

Flange O-Ring



O-Ring Size Designation	Flange Size	Flange Dash Size	A	Eφ
-210	.50	-8	.734	.139
-214	.75	-12	.984	.139
-219	1.00	-16	1.296	.139
-222	1.25	-20	1.484	.139
-225	1.50	-24	1.859	.139
-228	2.00	-32	2.234	.139
-232	2.50	-40	2.734	.139
-237	3.00	-48	3.359	.139

O-Ring Seal Kit
Part No. FF10280-01*

Includes metal box, O-Rings for ORS -04 through -24, O-Ring boss -04 through -32, Split flange -08 through -32, 24 packages with twelve 90 durometer nitrile O-Rings per package. Packages can be ordered individually by part number listed.

Connection Size		Individual Package Part Number (12 O-Rings Ea.)	Individual O-Ring Part Number
ORS*	-04	FF10266-01-11	FF9446-11
	-06	FF10266-01-12	FF9446-12
	-08	FF10266-01-14	FF9446-14
	-10	FF10266-01-16	FF9446-16
	-12	FF10266-01-18	FF9446-18
	-16	FF10266-01-21	FF9446-21
	-20	FF10266-01-25	FF9446-25
O-Ring Boss	-24	FF10266-01-29	FF9446-29
	-04	FF10273-01-04	22617-4
	-05	FF10273-01-05	22617-5
	-06	FF10273-01-06	22617-6
	-08	FF10273-01-08	22617-8
	-10	FF10273-01-10	22617-10
	-12	FF10273-01-12	22617-12
	-16	FF10273-01-16	22617-16
	-20	FF10273-01-20	22617-20
	-24	FF10273-01-24	22617-24
	-32	FF10273-01-32	22617-32
Split Flange	-08	FF10266-01-210	FF9446-210
	-12	FF10266-01-214	FF9446-214
	-16	FF10266-01-219	FF9446-219
	-20	FF10266-01-222	FF9446-222
	-24	FF10266-01-225	FF9446-225
	-32	FF10266-01-228	FF9446-228

*For ORS O-Ring Kit order part number: FF10265-01, only includes ORS O-Rings.

All dimensions in inches.

