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MASTER CATALOG





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STEEL1-169**37 Degree JIC Adapters1-32****SAE O-Ring Adapters33-38****Pipe Adapters39-56****Pipe Swivel Adapters57-66****O-Ring Face Seal Adapters67-82****Beaded Hose Fittings83-86****Flange Components87-96****No Braze Flange Adapters97-98****O-Ring Face Seal Flange99-100****Metric General Information101-102****BSPP Adapters103-120****BSPT Adapters121-124****Metric Adapters125-129****Metric Compression130-136****30 Degree Seat Adapters137-140****ERMETO®141-148****3000 PSI Live Swivels149-153****Flare-O Adapters154-169****ACCESSORIES170-181****BRASS182-236****CROSS REFERENCE237-239****INDEX240-241**

Reference Information

THREAD SIZE, TUBE AND FLANGE HEAD O.D. CHART

DASH SIZE	TUBE OD	PIPE THREAD	SAE O-RING & 37° JIC FLARE	45° SAE FLARE	FLAT FACE THREAD	INVERTED FLARE	BRASS COMPRESSION	CODE 61 FLANGE	CODE 62 FLANGE
-02	1/8	1/8-27	5/16-24	5/16-24	-	5/16-28	5/16-24	-	-
-03	3/16	N/A	3/8-24	3/8-24	-	3/8-24	3/8-24	-	-
-04	1/4	1/4-18	7/16-20	7/16-20	9/16-18	7/16-24	7/16-24	-	-
-05	5/16	N/A	1/2-20	1/2-20	-	1/2-24	1/2-24	-	-
-06	3/8	3/8-18	9/16-18	5/8-18	11/16-16	9/16-24	9/16-24	-	-
-07	7/16	N/A	-	11/16-16	-	5/8-24	5/8-24	-	-
-08	1/2	1/2-14	3/4-16	3/4-16	13/16-16	11/16-20	11/16-20	1.19	1.25
-10	5/8	N/A	7/8-14	7/8-14	1-14	13/16-18	13/16-18	-	-
-12	3/4	3/4-14	1 1/16-12	1 1/16-14	1 3/16-12	1-18	1-18	1.50	1.62
-14	7/8	N/A	1 3/16-12	-	-	-	-	-	-
-16	1	1-11 1/2	1 5/16-12	-	1 7/16-12	-	-	1.75	1.88
-20	1 1/4	1 1/4-11 1/2	1 5/8-12	-	1 11/16-12	-	-	2.00	2.12
-24	1 1/2	1 1/2-11 1/2	1 7/8-12	-	2-12	-	-	2.38	2.50
-32	2	2-11 1/2	2 1/2-12	-	-	-	-	2.81	3.12

NOTE : Metric and BSPT/BSPP Thread Size Information can be found on pages 101-102.

CONFORMANCE

- SAE J514
- MS51500 –MS51534

MATERIALS

- Steel – Carbon steel zinc plated with yellow Dichromate per ASTM B633-98 (Type II SC-2)
- Stainless – Type 316
- Brass

ORDERING

When ordering, include the appropriate prefix to part number if material or style required is other than steel barstock.

MATERIAL/STYLE	PREFIX
Forging	FG
Brass	BR
Stainless	SS

WORKING PRESSURES

The following table lists the recommended working pressures for steel 37-deg flare hydraulic tube fittings made in accordance with SAE standard J514. Many factors such as impulsing, vibration, mechanical shock and overtightening may affect the integrity of fitting connections. Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using fittings with different size or type thread, use the lower pressure pressure rating of the two threads.



CAUTION: 37-deg flared fittings are not designed to provide structural support for other components.

SAE J514 37-DEG FLARED FITTINGS PRESSURE RATINGS

Dash Size	Flared Thread Size	4 to 1 Minimum Burst PSI
-02	5/16-24	5000
-03	3/8-24	5000
-04	7/16-20	5000
-05	1/2-20	5000
-06	9/16-18	5000
-08	3/4-16	4500
-10	7/8-14	3500
-12	1 1/16-12	3500
-14	1 3/16-12	3000
-16	1 5/16-12	3000
-20	1 5/8-12	2500
-24	1 7/8-12	2000
-32	2 1/2-12	1500

See SAE STRAIGHT THREAD O-RING SECTION for assembly instructions and torque values for installation of 37° FLARED FITTINGS with O-ring straight threads.

See NPTF PIPE SECTION for assembly instructions and proper thread engagement for 37° FLARED FITTINGS with pipe threads.

RECOMMENDED 37° FLARED FITTING ASSEMBLY INSTRUCTIONS

STEP 1. Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth. Annular tool marks of (100uin) concentric with thread permissible.

STEP 2. Lubricate the threads and the entire surface of the cone with hydraulic fluid or a light lubricant.

STEP 3. Align mating components for hand connection and turn flare nut until sealing surfaces make full contact.

STEP 4. Torque nut to the values shown on the following table. If a wrench pad is provided next to nut, place a second wrench on pad to prevent flare from rotating while being torqued.

STEP 5. When torquing nut onto a straight flared fitting, it may be necessary to also place a wrench on the flared fitting wrench pad to prevent it from turning during assembly.

WHY WET TORQUE?

Due to difference in plating types and thickness, materials, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Over tightening causes threads to yield, deform and lose their ability maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which promotes possibility of leaks. Improper installation is the greatest cause for leaks in hydraulic connections. It is our firm position, that to not wet torque is to compromise consistency and quality for convenience.

TORQUE VALUES: The minimum torque values provided by Tompkins Industries are to provide a benchmark that we believe give optimum results for leak free connections. Actual torque values should be based on individual application.

Dash Size	Flared Thread Size	Torque Foot/Lbs.
-02	5/16-24	6-7
-03	3/8-24	6-9
-04	7/16-20	9-12
-05	1/2-20	14-15
-06	9/16-18	18-20
-08	3/4-16	27-39
-10	7/8-14	36-63
-12	1 1/16-12	65-88
-14	1 3/16-12	75-103
-16	1 5/16-12	85-113
-20	1 5/8-12	115-133
-24	1 7/8-12	125-167
-32	2 1/2-12	190-258

ALTERNATE ASSEMBLY METHOD

STEP 1. If torque method not possible, follow steps 1-3 above, then proceed to the steps below.

STEP 2. Lightly wrench tighten the nut until there is firm resistance.

STEP 3. Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

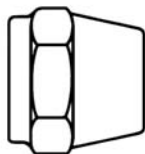
STEP 4. Place second wrench on nut as near the 3 o'clock position as possible

STEP 5. Turn nut clockwise to no less than the 4 o'clock position and no more than the 6 o'clock position. Required rotation generally decreases as size increases.

Steel 37° JIC Adapters

303

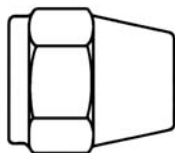
JIC Short Tube Nut



Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)
03	\$	3/16	3/8-24
04	\$	1/4	7/16-20
06	\$	3/8	9/16-18
08	\$	1/2	3/4-16
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
16	\$	1	1 5/16-12
20	\$	1 1/4	1 5/8-12
24	\$	1 1/2	1 7/8-12

304

JIC Long Tube Nut



SAE 070111

Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)
03	\$	3/16	3/8-24
04	\$	1/4	7/16-20
05	\$	5/16	1/2-20
06	\$	3/8	9/16-18
08	\$	1/2	3/4-16
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
14	\$	7/8	1 3/16-12
16	\$	1	1 5/16-12
20	\$	1 1/4	1 5/8-12
24	\$	1 1/2	1 7/8-12
32	\$	2	2 1/2-12

304-C

JIC Cap

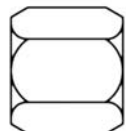


MS 51532
SAE 070112

Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)
02	\$	1/8	5/16-24
03	\$	3/16	3/8-24
04	\$	1/4	7/16-20
05	\$	5/16	1/2-20
06	\$	3/8	9/16-18
08	\$	1/2	3/4-16
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
14	\$	7/8	1 3/16-12
16	\$	1	1 5/16-12
20	\$	1 1/4	1 5/8-12
24	\$	1 1/2	1 7/8-12
32	\$	2	2 1/2-12

318

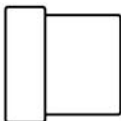
JIC Tube Nut (Sleeve Required)

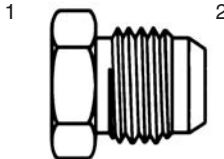


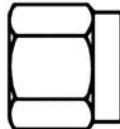
MS 51531
SAE 070110

Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)
02	\$	1/8	5/16-24
03	\$	3/16	3/8-24
04	\$	1/4	7/16-20
05	\$	5/16	1/2-20
06	\$	3/8	9/16-18
08	\$	1/2	3/4-16
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
14	\$	7/8	1 3/16-12
16	\$	1	1 5/16-12
20	\$	1 1/4	1 5/8-12
24	\$	1 1/2	1 7/8-12
32	\$	2	2 1/2-12

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	Tube Size	319 JIC Tube Sleeve
02		1/8	 MS 51532 SAE 070115
03		3/16	
04		1/4	
05		5/16	
06		3/8	
08		1/2	
10		5/8	
12		3/4	
14		7/8	
16		1	
20		1 1/4	
24		1 1/2	
32		2	

Dash Size	Stock Materials S FG SS BR	Braze Port	T2 (UNF)	403 Braze-On to JIC
04		1/4	7/16-20	
05		5/16	1/2-20	
06		3/8	9/16-18	
08		3/8	3/4-16	
08-06		1/2	9/16-18	
08		1/2	3/4-16	
10-08		5/8	3/4-16	
10		5/8	7/8-14	
10-12		5/8	1 1/16-12	
12-08		3/4	3/4-16	
12-10		3/4	7/8-14	
12		3/4	1 1/16-12	
12-16		3/4	1 5/16-12	
14		7/8	1 3/16-12	
16-12		1	1 1/16-12	
16		1	1 5/16-12	
20-16		1 1/4	1 5/16-12	
20		1 1/4	1 5/8-12	
24		1 1/2	1 7/8-12	
32		2	2 1/2-12	

Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)	418 Flareless JIC Tube Nut (Sleeve Required)
03		3/16	3/8-24	
04		1/4	7/16-20	
05		5/16	1/2-20	
06		3/8	9/16-18	
08		1/2	3/4-16	
10		5/8	7/8-14	
12		3/4	1 1/16-12	
16		1	1 5/16-12	
20		1 1/4	1 5/8-12	
24		1 1/2	1 7/8-12	
32		2	2 1/2-12	

S= Steel

FG=Forging

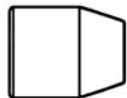
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

419

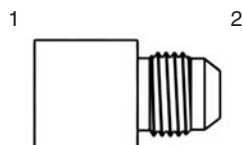
Flareless JIC Tube Sleeve



Dash Size	Stock Materials S FG SS BR	Tube Size
03	\$	3/16
04	\$	1/4
05	\$	5/16
06	\$	3/8
08	\$	1/2
10	\$	5/8
12	\$	3/4
16	\$	1
20	\$	1 1/4
24	\$	1 1/2
32	\$	2

500

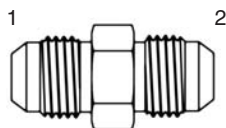
Braze Port to JIC Elbow 90°



Dash Size	Stock Materials S FG SS BR	Braze Port	T2 (UNF)
04-04	\$	1/4	7/16-20
06-06	\$	3/8	9/16-18
08-08	\$	1/2	3/4-16
10-10	\$	5/8	7/8-14
12-12	\$	3/4	1 1/16-12
16-16	\$	1	1 5/16-12
20-20	\$	1 1/4	1 5/8-12
24-24	\$	1 1/2	1 7/8-12

2403

JIC Union



**MS 51501
SAE 070101**

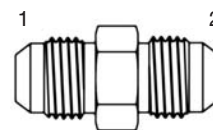
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
02	\$ SS	5/16-24	5/16-24
03	\$ SS	3/8-24	3/8-24
04-02	\$	7/16-20	5/16-24
04-03	\$ SS	7/16-20	3/8-24
04	\$ SS BR	7/16-20	7/16-20
05-04	\$ SS	1/2-20	7/16-20
05	\$ SS	1/2-20	1/2-20
06-04	\$ SS	9/16-18	7/16-20
06-05	\$ SS	9/16-18	1/2-20
06	\$ SS BR	9/16-18	9/16-18
08-04	\$ SS	3/4-16	7/16-20
08-06	\$ SS	3/4-16	9/16-18
08	\$ SS BR	3/4-16	3/4-16
10-04	\$ SS	7/8-14	7/16-20
10-06	\$ SS	7/8-14	9/16-18
10-08	\$ SS	7/8-14	3/4-16
10	\$ SS BR	7/8-14	7/8-14
12-04	\$ SS	1 1/16-12	7/16-20
12-06	\$ SS	1 1/16-12	9/16-18
12-08	\$ SS	1 1/16-12	3/4-16
12-10	\$ SS	1 1/16-12	7/8-14
12	\$ SS BR	1 1/16-12	1 1/16-12
14-12	\$	1 3/16-12	1 1/16-12
14	\$ SS	1 3/16-12	1 3/16-12
16-10	\$ SS	1 5/16-12	7/8-14
16-12	\$ SS	1 5/16-12	1 1/16-12
16-14	\$	1 5/16-12	1 3/16-12

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
16	S SS BR	1 5/16-12	1 5/16-12
20-12	S	1 5/8-12	1 1/16-12
20-16	S SS	1 5/8-12	1 5/16-12
20	S SS	1 5/8-12	1 5/8-12
24-16	S SS	1 7/8-12	1 5/16-12
24-20	S SS	1 7/8-12	1 5/8-12
24	S SS	1 7/8-12	1 7/8-12
32	S SS	2 1/2-12	2 1/2-12

2403

JIC Union (Cont'd.)

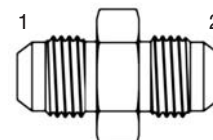


MS 51501
SAE 070101

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	S SS	7/16-20	7/16-20
06	S SS	9/16-18	9/16-18
08	S SS	3/4-16	3/4-16
10	S SS	7/8-14	7/8-14
12	S SS	1 1/16-12	1 1/16-12
16	S SS	1 5/16-12	1 5/16-12

2403-LH

JIC Large Hex Union

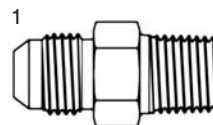


MS 51519
SAE 070119

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	S SS	5/16-24	1/8-27
02-04	S SS	5/16-24	1/4-18
03-02	S SS	3/8-24	1/8-27
03-04	S SS	3/8-24	1/4-18
04-02	S SS BR	7/16-20	1/8-27
04-04	S SS BR	7/16-20	1/4-18
04-06	S SS BR	7/16-20	3/8-18
04-08	S SS	7/16-20	1/2-14
04-12	S	7/16-20	3/4-14
05-02	S SS BR	1/2-20	1/8-27
05-04	S SS BR	1/2-20	1/4-18
05-06	S SS	1/2-20	3/8-18
05-08	S	1/2-20	1/2-14
06-02	S SS BR	9/16-18	1/8-27
06-04	S SS BR	9/16-18	1/4-18
06-06	S SS BR	9/16-18	3/8-18
06-08	S SS BR	9/16-18	1/2-14
06-12	S SS	9/16-18	3/4-14
06-16	S	9/16-18	1-11 1/2
08-02	S SS	3/4-16	1/8-27
08-04	S SS BR	3/4-16	1/4-18
08-06	S SS BR	3/4-16	3/8-18
08-08	S SS BR	3/4-16	1/2-14
08-12	S SS BR	3/4-16	3/4-14
08-16	S SS	3/4-16	1-11 1/2
10-04	S SS	7/8-14	1/4-18
10-06	S SS BR	7/8-14	3/8-18
10-08	S SS BR	7/8-14	1/2-14
10-12	S SS BR	7/8-14	3/4-14

2404

JIC to Pipe



Cont'd...

MS 51500
SAE 070102

S= Steel

FG=Forging

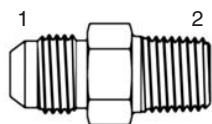
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2404

JIC to Pipe (Cont'd.)

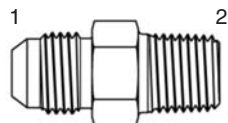


MS 51500
SAE 070102

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)
10-16	S		SS		7/8-14	1-11 1/2
12-06	S		SS		1 1/16-12	3/8-18
12-08	S		SS	BR	1 1/16-12	1/2-14
12-12	S		SS	BR	1 1/16-12	3/4-14
12-16	S		SS	BR	1 1/16-12	1-11 1/2
12-20	S		SS		1 1/16-12	1 1/4-11 1/2
12-24	S				1 1/16-12	1 1/2-11 1/2
14-12	S		SS		1 3/16-12	3/4-14
14-16	S				1 3/16-12	1-11 1/2
16-08	S		SS		1 5/16-12	1/2-14
16-12	S		SS	BR	1 5/16-12	3/4-14
16-16	S		SS	BR	1 5/16-12	1-11 1/2
16-20	S		SS		1 5/16-12	1 1/4-11 1/2
16-24	S		SS		1 5/16-12	1 1/2-11 1/2
16-32	S		SS		1 5/16-12	2-11 1/2
20-12	S		SS		1 5/8-12	3/4-14
20-16	S		SS		1 5/8-12	1-11 1/2
20-20	S		SS		1 5/8-12	1 1/4-11 1/2
20-24	S		SS		1 5/8-12	1 1/2-11 1/2
20-32	S		SS		1 5/8-12	2-11 1/2
24-16	S		SS		1 7/8-12	1-11 1/2
24-20	S		SS		1 7/8-12	1 1/4-11 1/2
24-24	S		SS		1 7/8-12	1 1/2-11 1/2
24-32	S		SS		1 7/8-12	2-11 1/2
32-16	S				2 1/2-12	1-11 1/2
32-20	S				2 1/2-12	1 1/4-11 1/2
32-24	S		SS		2 1/2-12	1 1/2-11 1/2
32-32	S		SS		2 1/2-12	2-11 1/2
40-40	S		SS		3-12	2 1/2-11 1/2

RST2404

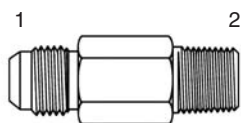
Restricted JIC to Pipe



Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)	Restriction
06-06-R.000	S				9/16-18	3/8-18	.000
06-06-R.062	S				9/16-18	3/8-18	.062
06-08-R.031	S				9/16-18	1/2-14	.031
06-08-R.062	S				9/16-18	1/2-14	.062

2404-L

JIC to Pipe Long



Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)	Length*
04-02	S				7/16-20	1/8-27	1.81"
04-04	S		SS		7/16-20	1/4-18	2.25"
05-02	S				1/2-20	1/8-27	2.25"
06-04	S		SS		9/16-18	1/4-18	2.25"
06-06	S		SS		9/16-18	3/8-18	2.50"0
08-06	S		SS		3/4-16	3/8-18	2.75"
08-08	S		SS		3/4-16	1/2-14	3.00"
10-08	S				7/8-14	1/2-14	3.13"
12-12	S		SS		1 1/16-12	3/4-14	3.50"
16-16	S		SS		1 5/16-12	1-11 1/2	4.00"
20-20	S		SS		1 5/8-12	1 1/4-11 1/2	4.50"
24-24	S		SS		1 7/8-12	1 1/2-11 1/2	5.00"

*Length = Overall Length of Fitting

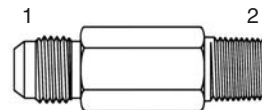
Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	Length*
04-02	S	7/16-20	1/8-27	2.56"
04-04	S SS	7/16-20	1/4-18	3.25"
06-04	S	9/16-18	1/4-18	3.25"
06-06	S	9/16-18	3/8-18	4.00"
08-06	S	3/4-16	3/8-18	4.00"
08-08	S SS	3/4-16	1/2-14	4.25"
10-08	S	7/8-14	1/2-14	4.37"
12-12	S SS	1 1/16-12	3/4-14	5.00"
16-16	S SS	1 5/16-12	1-11 1/2	5.75"

*Length = Overall Length of Fitting

2404-LL

JIC to Pipe Extra Long

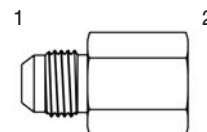


MS 51503

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	S SS	5/16-24	1/8-27
02-04	S	5/16-24	1/4-18
03-02	S SS	3/8-24	1/8-27
03-04	S SS	3/8-24	1/4-18
04-02	S SS	7/16-20	1/8-27
04-04	S SS	7/16-20	1/4-18
04-06	S SS	7/16-20	3/8-18
04-08	S SS	7/16-20	1/2-14
05-02	S SS	1/2-20	1/8-27
05-04	S SS	1/2-20	1/4-18
06-02	S SS	9/16-18	1/8-27
06-04	S SS	9/16-18	1/4-18
06-06	S SS	9/16-18	3/8-18
06-08	S SS	9/16-18	1/2-14
06-12	S	9/16-18	3/4-14
08-04	S SS	3/4-16	1/4-18
08-06	S SS	3/4-16	3/8-18
08-08	S SS	3/4-16	1/2-14
08-12	S SS	3/4-16	3/4-14
10-06	S	7/8-14	3/8-18
10-08	S SS	7/8-14	1/2-14
10-12	S SS	7/8-14	3/4-14
12-08	S SS	1 1/16-12	1/2-14
12-12	S SS	1 1/16-12	3/4-14
12-16	S SS	1 1/16-12	1-11 1/2
14-12	S SS	1 3/16-12	3/4-14
14-16	S SS	1 3/16-12	1-11 1/2
16-12	S SS	1 5/16-12	3/4-14
16-16	S SS	1 5/16-12	1-11 1/2
16-20	S SS	1 5/16-12	1 1/4-11 1/2
20-16	S SS	1 5/8-12	1-11 1/2
20-20	S SS	1 5/8-12	1 1/4-11 1/2
20-24	S SS	1 5/8-12	1 1/2-11 1/2
24-24	S SS	1 7/8-12	1 1/2-11 1/2
32-32	S SS	2 1/2-12	2-11 1/2

2405

JIC to Pipe



SAE 070103

S= Steel

FG=Forging

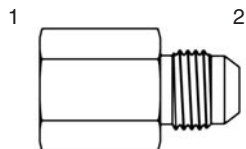
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2406

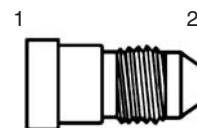
JIC Reducer/ Expander

[illegible]

MS 51534
SAE 070123

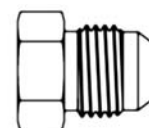
Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	2407 JIC Reducer (Requires 318* For Assembly)
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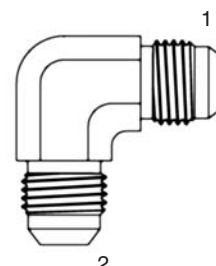
*See page 2 for 318

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	2408 JIC Plug
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MS 51518
SAE 070109

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	2500 JIC Union Elbow 90°
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MS 51505
SAE 070201

S= Steel

FG=Forging

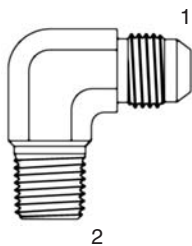
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2501

JIC to Pipe Elbow 90°

[illegible]

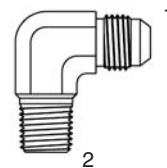
MS 51504
SAE 070202

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	Restriction
04-04 .062	S	7/16-20	1/4-18	.062
04-06 .000	S	7/16-20	3/8-18	.000
04-06 .031	S	7/16-20	3/8-18	.031
04-06 .062	S	7/16-20	3/8-18	.062
06-06 .031	S	9/16-18	3/8-18	.031
06-06 .062	S	9/16-18	3/8-18	.062
06-08 .031	S	9/16-18	1/2-14	.031
06-08 .062	S	9/16-18	1/2-14	.062

RST2501

**Restricted JIC
to Pipe
Elbow 90°**

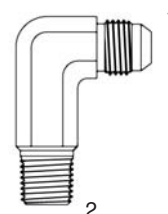


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	Length*
04-02	S FG SS	7/16-20	1/8-27	1.17"
04-04	S FG SS	7/16-20	1/4-18	1.58"
05-02	S FG	1/2-20	1/8-27	1.20"
05-04	S FG	1/2-20	1/4-18	1.55"
06-04	S FG SS	9/16-18	1/4-18	1.58"
06-06	S FG SS	9/16-18	3/8-18	1.83"
06-08	S FG	9/16-18	1/2-14	2.17"
08-04	S	3/4-16	1/4-18	1.67"
08-06	S FG	3/4-16	3/8-18	1.83"
08-08	S FG SS	3/4-16	1/2-14	2.17"
08-12	S FG	3/4-16	3/4-14	2.44"
10-08	S FG SS	7/8-14	1/2-14	2.17"
12-08	S FG	1 1/16-12	1/2-14	2.24"
12-12	S FG SS	1 1/16-12	3/4-14	2.44"
14-12	S FG	1 3/16-12	3/4-14	2.50"
16-12	S FG	1 5/16-12	3/4-14	2.56"
16-16	S FG SS	1 5/16-12	1-11 1/2	3.02"
20-20	S FG SS	1 5/8-12	1 1/4-11 1/2	3.69"
24-24	S FG	1 7/8-12	1 1/2-11 1/2	4.10"

*Length = Middle of JIC to End of Threads

2501-L

**JIC to Pipe
Long Elbow 90°**



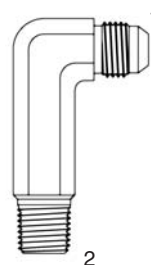
SAE 071502

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	Length*
04-02	S FG	7/16-20	1/8-27	1.56"
04-04	S FG	7/16-20	1/4-18	2.07"
05-02	S FG	1/2-20	1/8-27	1.59"
05-04	S FG	1/2-20	1/4-18	2.04"
06-04	S FG	9/16-18	1/4-18	2.07"
06-06	S FG	9/16-18	3/8-18	2.42"
06-08	S FG	9/16-18	1/2-14	2.92"
08-06	S FG	3/4-16	3/8-18	2.42"
08-08	S FG	3/4-16	1/2-14	2.88"
10-08	S FG	7/8-14	1/2-14	2.87"
12-08	S FG	1 1/16-12	1/2-14	2.98"
12-12	S FG	1 1/16-12	3/4-14	3.28"
14-12	S FG	1 3/16-12	3/4-14	3.39"
16-16	S FG	1 5/16-12	1-11 1/2	4.05"
20-20	S FG	1 5/8-12	1 1/4-11 1/2	5.00"

*Length = Middle of JIC to End of Threads

2501-LL

**JIC to Pipe
Extra Long
Elbow 90°**



SAE 071602

S= Steel

FG=Forging

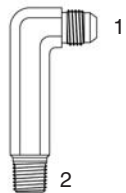
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2501-LLL

**JIC to Pipe
Extra Extra Long
Elbow 90°**

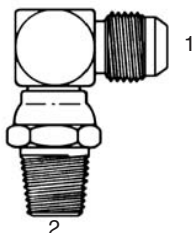


Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (NPTF)	Length*
04-02	S	FG		7/16-20	1/8-27	2.31"
04-04	S	FG		7/16-20	1/4-18	3.06"
05-02	S	FG		1/2-20	1/8-27	2.34"
06-04	S	FG		9/16-18	1/4-18	3.06"
06-06	S	FG		9/16-18	3/8-18	3.25"
08-06	S	FG		3/4-16	3/8-18	3.75"
08-08	S	FG		3/4-16	1/2-14	4.51"
10-08	S	FG		7/8-14	1/2-14	4.50"
12-12	S	FG		1 1/16-12	3/4-14	5.03"
16-16	S	FG		1 5/16-12	1-11 1/2	6.34"
20-20	S	FG		1 5/8-12	1 1/4-11 1/2	7.34"

*Length = Middle of JIC to End of Threads

2501-S

**JIC to Pipe
Swivel Elbow 90°**

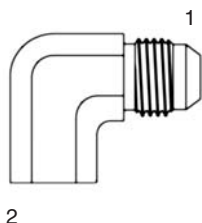


Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (NPTF)
04-04		FG		7/16-20	1/4-18
06-04		FG		9/16-18	1/4-18
06-06		FG		9/16-18	3/8-18
08-06		FG		3/4-16	3/8-18
08-08		FG		3/4-16	1/2-14
10-08		FG		7/8-14	1/2-14
12-12		FG		1 1/16-12	3/4-14

*Swivel for installation only.

2502

**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (NPTF)
02-02	S	FG		1/8-27	1/8-27
03-02	S	FG		3/8-24	1/8-27
04-02	S	FG	SS	7/16-20	1/8-27
04-04	S	FG	SS	7/16-20	1/4-18
04-06	S	FG		7/16-20	3/8-18
04-08	S			7/16-20	1/2-14
05-02	S	FG		1/2-20	1/8-27
05-04	S	FG	SS	1/2-20	1/4-18
06-02	S	FG		9/16-18	1/8-27
06-04	S	FG	SS	9/16-18	1/4-18
06-06	S	FG	SS	9/16-18	3/8-18
06-08	S	FG		9/16-18	1/2-14
08-04	S	FG	SS	3/4-16	1/4-18
08-06	S	FG	SS	3/4-16	3/8-18
08-08	S	FG	SS	3/4-16	1/2-14
08-12	S			3/4-16	3/4-14
10-06	S			7/8-14	3/8-18
10-08	S	FG	SS	7/8-14	1/2-14
12-08	S	FG	SS	1 1/16-12	1/2-14
12-12	S	FG	SS	1 1/16-12	3/4-14
14-12	S	FG		1 3/16-12	3/4-14
16-12	S	FG		1 5/16-12	3/4-14
16-16	S	FG	SS	1 5/16-12	1-11 1/2
20-20	S	FG	SS	1 5/8-12	1 1/4-11 1/2
24-24	S	FG	SS	1 7/8-12	1 1/2-11 1/2
32-32	S	FG		2 1/2-12	2-11 1/2

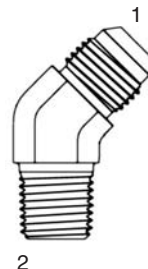
**MS 51506
SAE 070203**

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	S FG	5/16-24	1/8-27
03-02	S FG BR	3/8-24	1/8-27
04-02	S FG SS BR	7/16-20	1/8-27
04-04	S FG SS BR	7/16-20	1/4-18
04-06	S FG	7/16-20	3/8-18
04-08	S FG	7/16-20	1/2-14
05-02	S FG SS	1/2-20	1/8-27
05-04	S FG SS BR	1/2-20	1/4-18
06-02	S FG SS BR	9/16-18	1/8-27
06-04	S FG SS BR	9/16-18	1/4-18
06-06	S FG SS BR	9/16-18	3/8-18
06-08	S FG SS BR	9/16-18	1/2-14
06-12	S FG	9/16-18	3/4-14
08-04	S FG SS	3/4-16	1/4-18
08-06	S FG SS BR	3/4-16	3/8-18
08-08	S FG SS BR	3/4-16	1/2-14
08-12	S FG SS	3/4-16	3/4-14
10-06	S FG SS	7/8-14	3/8-18
10-08	S FG SS BR	7/8-14	1/2-14
10-12	S FG	7/8-14	3/4-14
12-08	S FG SS BR	1 1/16-12	1/2-14
12-12	S FG SS BR	1 1/16-12	3/4-14
12-16	S FG	1 1/16-12	1-11 1/2
14-12	S FG	1 3/16-12	3/4-14
16-12	S FG SS	1 5/16-12	3/4-14
16-16	S FG SS	1 5/16-12	1-11 1/2
16-20	S FG	1 5/16-12	1 1/4-11 1/2
20-16	S FG	1 5/8-12	1-11 1/2
20-20	S FG SS	1 5/8-12	1 1/4-11 1/2
20-24	S FG	1 5/8-12	1 1/2-11 1/2
24-24	S FG SS	1 7/8-12	1 1/2-11 1/2
32-32	S FG	2 1/2-12	2-11 1/2

2503

**JIC to Pipe
Elbow 45°**

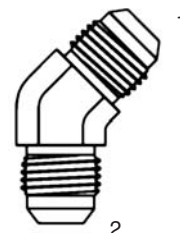


MS 51508
SAE 070302

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	S FG	7/16-20	7/16-20
06-04	S FG	9/16-18	7/16-20
06-06	S FG	9/16-18	9/16-18
08-08	S FG SS	3/4-16	3/4-16
10-10	S FG	7/8-14	7/8-14
12-12	S FG SS	1 1/16-12	1 1/16-12
16-16	S FG	1 5/16-12	1 5/16-12

2504

**JIC Union
Elbow 45°**



S= Steel

FG=Forging

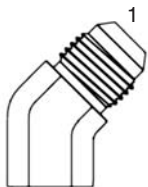
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2505

JIC to Pipe Elbow 45°

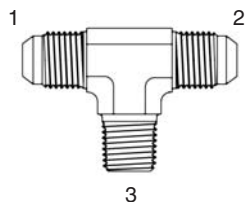


2

[illegible]

2601

JIC to Pipe Branch Tee



MS 51512
SAE 070425

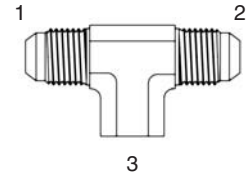
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (NPTF)
	S	FG	SS BR			
02-03-02	S	FG	SS	3/8-24	3/8-24	1/8-27
04-04-02	S	FG	SS	7/16-20	7/16-20	1/8-27
04-04-04	S	FG	SS	7/16-20	7/16-20	1/4-18
04-04-06	S			7/16-20	7/16-20	3/8-18
05-05-02	S	FG	SS	1/2-20	1/2-20	1/8-27
05-05-04	S	FG	SS	1/2-20	1/2-20	1/4-18
06-06-04	S	FG	SS	9/16-18	9/16-18	1/4-18
06-06-06	S	FG	SS	9/16-18	9/16-18	3/8-18
06-06-08	S	FG		9/16-18	9/16-18	1/2-14
08-08-04	S			3/4-16	3/4-16	1/4-18
08-08-06	S	FG	SS	3/4-16	3/4-16	3/8-18
08-08-08	S	FG	SS	3/4-16	3/4-16	1/2-14
08-08-12	S			3/4-16	3/4-16	3/4-14
10-10-08	S	FG	SS	7/8-14	7/8-14	1/2-14
10-10-12	S			7/8-14	7/8-14	3/4-14
12-12-08	S	FG		1 1/16-12	1 1/16-12	1/2-14
12-12-12	S	FG	SS	1 1/16-12	1 1/16-12	3/4-14
14-14-12	S	FG		1 3/16-12	1 3/16-12	3/4-14
16-16-12	S	FG		1 5/16-12	1 5/16-12	3/4-14
16-16-16	S	FG	SS	1 5/16-12	1 5/16-12	1-11 1/2
20-20-20	S	FG	SS	1 5/8-12	1 5/8-12	1 1/4-11 1/2
24-24-24	S	FG	SS	1 7/8-12	1 7/8-12	1 1/2-11 1/2
32-32-32	S	FG		2 1/2-12	2 1/2-12	2-11 1/2

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (NPTF)
03-03-02	S	3/8-24	3/8-24	1/8-27
04-04-02	S FG SS	7/16-20	7/16-20	1/8-27
04-04-04	S FG SS	7/16-20	7/16-20	1/4-18
05-05-02	S FG	1/2-20	1/2-20	1/8-27
06-06-04	S FG SS	9/16-18	9/16-18	1/4-18
06-06-06	S FG SS	9/16-18	9/16-18	3/8-18
08-08-04	S FG SS	3/4-16	3/4-16	1/4-18
08-08-06	S FG SS	3/4-16	3/4-16	3/8-18
08-08-08	S FG SS	3/4-16	3/4-16	1/2-14
10-10-08	S FG SS	7/8-14	7/8-14	1/2-14
12-12-08	S	1 1/16-12	1 1/16-12	1/2-14
12-12-12	S FG SS	1 1/16-12	1 1/16-12	3/4-14
16-16-16	S FG	1 5/16-12	1 5/16-12	1-11 1/2
20-20-20	S FG	1 5/8-12	1 5/8-12	1 1/4-11 1/2
24-24-24	S FG	1 7/8-12	1 7/8-12	1 1/2-11 1/2
32-32-32	S FG	2 1/2-12	2 1/2-12	2-11 1/2

2602

JIC to Pipe Branch Tee

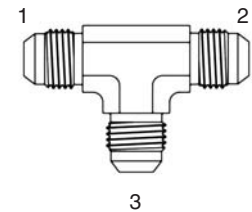


MS 51513
SAE 070427

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
02	S FG SS	5/16-24	5/16-24	5/16-24
03	S FG SS	3/8-24	3/8-24	3/8-24
04	S FG SS	7/16-20	7/16-20	7/16-20
05	S FG SS	1/2-20	1/2-20	1/2-20
06	S FG SS	9/16-18	9/16-18	9/16-18
06-06-08	S FG	9/16-18	9/16-18	3/4-16
08-08-06	S	3/4-16	3/4-16	9/16-18
08-08-10	S FG	3/4-16	3/4-16	7/8-14
08	S FG SS	3/4-16	3/4-16	3/4-16
10-10-08	S FG	7/8-14	7/8-14	3/4-16
10	S FG SS	7/8-14	7/8-14	7/8-14
10-10-12	S	7/8-14	7/8-14	1 1/16-12
12-12-08	S FG SS	1 1/16-12	1 1/16-12	3/4-16
12	S FG SS	1 1/16-12	1 1/16-12	1 1/16-12
12-12-16	S	1 1/16-12	1 1/16-12	1 5/16-12
14	S FG	1 3/16-12	1 3/16-12	1 3/16-12
16	S FG SS	1 5/16-12	1 5/16-12	1 5/16-12
16-16-20	S FG	1 5/16-12	1 5/16-12	1 5/8-12
20	S FG SS	1 5/8-12	1 5/8-12	1 5/8-12
24	S FG SS	1 7/8-12	1 7/8-12	1 7/8-12
32	S FG SS	2 1/2-12	2 1/2-12	2 1/2-12

2603

JIC Union Tee



MS 51510
SAE 070401

S= Steel

FG=Forging

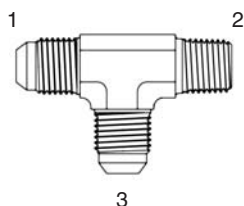
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2605

JIC to Pipe Run Tee

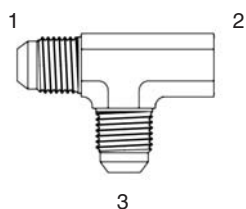


MS 51511
SAE 070424

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
03-02-03	S	FG	SS		3/8-24	1/8-27	3/8-24
04-02-04	S	FG	SS		7/16-20	1/8-27	7/16-20
04-04-04	S	FG	SS		7/16-20	1/4-18	7/16-20
05-02-05	S	FG	SS		1/2-20	1/8-27	1/2-20
05-04-05	S		SS		1/2-20	1/4-18	1/2-20
06-02-06	S	FG			9/16-18	1/8-27	9/16-18
06-04-06	S	FG	SS		9/16-18	1/4-18	9/16-18
06-06-06	S	FG	SS		9/16-18	3/8-18	9/16-18
08-04-08	S	FG			3/4-16	1/4-18	3/4-16
08-06-08	S	FG	SS		3/4-16	3/8-18	3/4-16
08-08-08	S	FG	SS		3/4-16	1/2-14	3/4-16
08-12-08	S				3/4-16	3/4-14	3/4-16
10-08-10	S	FG	SS		7/8-14	1/2-14	7/8-14
12-08-12	S	FG	SS		1 1/16-12	1/2-14	1 1/16-12
12-12-12	S	FG	SS		1 1/16-12	3/4-14	1 1/16-12
12-16-12	S				1 1/16-12	1-11 1/2	1 1/16-12
14-12-14	S	FG			1 3/16-12	3/4-14	1 3/16-12
16-16-16	S	FG	SS		1 5/16-12	1-11 1/2	1 5/16-12
20-20-20	S	FG	SS		1 5/8-12	1 1/4-11 1/2	1 5/8-12
24-24-24	S	FG	SS		1 7/8-12	1 1/2-11 1/2	1 7/8-12
32-32-32	S	FG			2 1/2-12	2-11 1/2	2 1/2-12

2606

JIC to Pipe Run Tee



MS 51514
SAE 070426

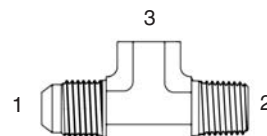
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
03-02-03	S	FG			3/8-24	1/8-27	3/8-24
04-02-04	S	FG	SS		7/16-20	1/8-27	7/16-20
04-04-04	S	FG	SS		7/16-20	1/4-18	7/16-20
06-04-06	S	FG	SS		9/16-18	1/4-18	9/16-18
06-06-06	S	FG			9/16-18	3/8-18	9/16-18
08-06-08	S	FG	SS		3/4-16	3/8-18	3/4-16
08-08-08	S	FG	SS		3/4-16	1/2-14	3/4-16
10-08-10	S	FG	SS		7/8-14	1/2-14	7/8-14
12-12-12	S	FG	SS		1 1/16-12	3/4-14	1 1/16-12
16-16-16	S	FG			1 5/16-12	1-11 1/2	1 5/16-12
20-20-20	S	FG			1 5/8-12	1 1/4-11 1/2	1 5/8-12
24-24-24	S				1 7/8-12	1 1/2-11 1/2	1 7/8-12

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	T3 (NPTF)
06-06	S	9/16-18	3/8-18	3/8-18
08-06	S	3/4-16	3/8-18	3/8-18
08-08	S FG	3/4-16	1/2-14	1/2-14

2611

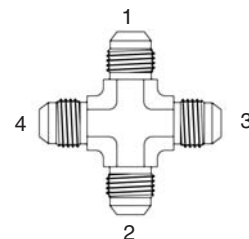
JIC to Pipe Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
02	S FG	5/16-24	5/16-24	5/16-24
04	S FG SS	7/16-20	7/16-20	7/16-20
05	S FG	1/2-20	1/2-20	1/2-20
06	S FG SS	9/16-18	9/16-18	9/16-18
08	S FG SS	3/4-16	3/4-16	3/4-16
10	S FG	7/8-14	7/8-14	7/8-14
12	S FG	1 1/16-12	1 1/16-12	1 1/16-12
14	S FG	1 3/16-12	1 3/16-12	1 3/16-12
16	S FG	1 5/16-12	1 5/16-12	1 5/16-12
20	S FG	1 5/8-12	1 5/8-12	1 5/8-12

2650

JIC Union Cross

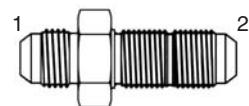


MS 51517
SAE 070501

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
03	S	3/8-24	3/8-24
04	S SS	7/16-20	7/16-20
05	S	1/2-20	1/2-20
06	S SS	9/16-18	9/16-18
08	S SS	3/4-16	3/4-16
10	S SS	7/8-14	7/8-14
12	S SS	1 1/16-12	1 1/16-12
14	S	1 3/16-12	1 3/16-12
16	S SS	1 5/16-12	1 5/16-12
20	S SS	1 5/8-12	1 5/8-12
24	S SS	1 7/8-12	1 7/8-12
32	S SS	2 1/2-12	2 1/2-12

2700

JIC Bulkhead Union

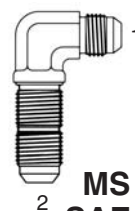


MS 51520
SAE 070601

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
03	S FG SS	3/8-24	3/8-24
04	S FG SS	7/16-20	7/16-20
05	S	1/2-20	1/2-20
06	S FG SS	9/16-18	9/16-18
08	S FG SS	3/4-16	3/4-16
10	S FG SS	7/8-14	7/8-14
12	S FG SS	1 1/16-12	1 1/16-12
14	S	1 3/16-12	1 3/16-12
16	S FG SS	1 5/16-12	1 5/16-12
20	S FG SS	1 5/8-12	1 5/8-12
24	S FG	1 7/8-12	1 7/8-12
32	S	2 1/2-12	2 1/2-12

2701

JIC Bulkhead Union Elbow 90°



MS 51507
SAE 070701

S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2702

JIC Bulkhead Union Elbow 45°

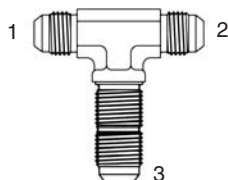


MS 51509
SAE 070801

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)
04		FG	SS		7/16-20	7/16-20
05	S	FG			1/2-20	1/2-20
06	S	FG	SS		9/16-18	9/16-18
08	S	FG	SS		3/4-16	3/4-16
10	S	FG			7/8-14	7/8-14
12	S	FG	SS		1 1/16-12	1 1/16-12
14	S	FG			1 3/16-12	1 3/16-12
16	S	FG	SS		1 5/16-12	1 5/16-12
20	S	FG			1 5/8-12	1 5/8-12
24	S	FG			1 7/8-12	1 7/8-12

2703

JIC Bulkhead Union Branch Tee

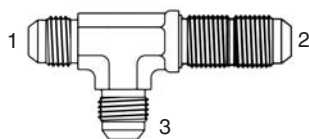


MS 51515
SAE 070959

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3 (UNF)
03	S	FG			3/8-24	3/8-24	3/8-24
04	S	FG	SS		7/16-20	7/16-20	7/16-20
05	S				1/2-20	1/2-20	1/2-20
06	S	FG	SS		9/16-18	9/16-18	9/16-18
08	S	FG	SS		3/4-16	3/4-16	3/4-16
10	S	FG			7/8-14	7/8-14	7/8-14
12	S	FG	SS		1 1/16-12	1 1/16-12	1 1/16-12
16	S	FG			1 5/16-12	1 5/16-12	1 5/16-12
20	S	FG			1 5/8-12	1 5/8-12	1 5/8-12
24	S	FG			1 7/8-12	1 7/8-12	1 7/8-12
32	S				2 1/2-12	2 1/2-12	2 1/2-12

2704

JIC Bulkhead Union Run Tee

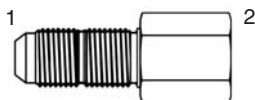


MS 51516
SAE 070958

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3 (UNF)
03	S	FG			3/8-24	3/8-24	3/8-24
04	S	FG	SS		7/16-20	7/16-20	7/16-20
05	S				1/2-20	1/2-20	1/2-20
06	S	FG	SS		9/16-18	9/16-18	9/16-18
08	S	FG	SS		3/4-16	3/4-16	3/4-16
10	S	FG			7/8-14	7/8-14	7/8-14
12	S	FG	SS		1 1/16-12	1 1/16-12	1 1/16-12
16	S	FG			1 5/16-12	1 5/16-12	1 5/16-12
20	S	FG			1 5/8-12	1 5/8-12	1 5/8-12
24	S	FG			1 7/8-12	1 7/8-12	1 7/8-12

2705

JIC to Pipe Bulkhead



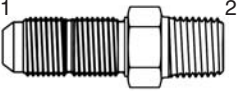
Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)
04-02	S		SS		7/16-20	1/8-27
04-04	S		SS		7/16-20	1/4-18
05-02	S				1/2-20	1/8-27
06-04	S		SS		9/16-18	1/4-18
06-06	S		SS		9/16-18	3/8-18
08-06	S		SS		3/4-16	3/8-18
08-08	S		SS		3/4-16	1/2-14
10-08	S		SS		7/8-14	1/2-14
12-12	S		SS		1 1/16-12	3/4-14
16-16	S				1 5/16-12	1-11 1/2
20-20	S				1 5/8-12	1 1/4-11 1/2

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02		7/16-20	1/8-27
04-04		7/16-20	1/4-18
06-04		9/16-18	1/4-18
06-06		9/16-18	3/8-18
08-06		3/4-16	3/8-18
08-08		3/4-16	1/2-14
10-08		7/8-14	1/2-14
12-12		1 1/16-12	3/4-14
16-16		1 5/16-12	1-11 1/2
20-20		1 5/8-12	1 1/4-11 1/2
24-24		1 7/8-12	1 1/2-11 1/2
32-32		2 1/2-12	2-11 1/2

2706

JIC to Pipe Bulkhead



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	\$	1/4-18	1/4-18
06-06	\$	3/8-18	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14

2708

Pipe Bulkhead

The diagram shows two views of the Pipe Bulkhead fitting. View 1 is a side profile showing the threaded section on the left and the bulkhead flange on the right. View 2 is a front-on view of the bulkhead flange, showing its hexagonal shape and central opening.

To include locknut with bulkhead fitting; insert “LN” between base part number and dash size. (example: 2700-LN-4)

Dash Size	Stock Materials S FG SS BR	T1 (UNF)
02		1/8-27
03		3/8-24
04		7/16-24
05		1/2-20
06		9/16-18
08		3/4-16
10		7/8-14
12		1 1/16-12
14		1 3/16-12
16		1 5/16-12
20		1 5/8-12
24		1 7/8-12
32		2 1/2-12

306

Bulkhead Locknut

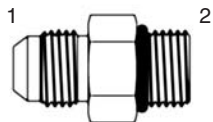


MS 51860
SAE 070118

Steel 37° JIC Adapters

6400

JIC to O-Ring



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
02	\$		SS	5/16-24	5/16-24
03	\$		SS	3/8-24	3/8-24
04-02	\$			7/16-20	5/16-24
04-03	\$		SS	7/16-20	3/8-24
04	\$		SS	7/16-20	7/16-20
04-05	\$		SS	7/16-20	1/2-20
04-06	\$		SS	7/16-20	9/16-18
04-08	\$		SS	7/16-20	3/4-16
04-10	\$			7/16-20	7/8-14
05-04	\$			1/2-20	7/16-20
05	\$		SS	1/2-20	1/2-20
05-06	\$			1/2-20	9/16-18
05-08	\$			1/2-20	3/4-16
06-04	\$		SS	9/16-18	7/16-20
06-05	\$			9/16-18	1/2-20
06	\$		SS	9/16-18	9/16-18
06-08	\$		SS	9/16-18	3/4-16
06-10	\$		SS	9/16-18	7/8-14
06-12	\$		SS	9/16-18	1 1/16-12
06-16	\$			9/16-18	1 5/16-12
08-04	\$		SS	3/4-16	7/16-20
08-06	\$		SS	3/4-16	9/16-18
08	\$		SS	3/4-16	3/4-16
08-10	\$		SS	3/4-16	7/8-14
08-12	\$		SS	3/4-16	1 1/16-12
08-16	\$		SS	3/4-16	1 5/16-12
10-04	\$			7/8-14	7/16-20
10-06	\$		SS	7/8-14	9/16-18
10-08	\$		SS	7/8-14	3/4-16
10	\$		SS	7/8-14	7/8-14
10-12	\$		SS	7/8-14	1 1/16-12
10-16	\$		SS	7/8-14	1 5/16-12
12-06	\$			1 1/16-12	9/16-18
12-08	\$		SS	1 1/16-12	3/4-16
12-10	\$		SS	1 1/16-12	7/8-14
12	\$		SS	1 1/16-12	1 1/16-12
12-14	\$			1 1/16-12	1 3/16-12
12-16	\$			1 1/16-12	1 5/16-12
12-20	\$			1 1/16-12	1 5/8-12
12-24	\$			1 1/16-12	1 7/8-12
14-10	\$			1 3/16-12	7/8-14
14-12	\$			1 3/16-12	1 1/16-12
14	\$			1 3/16-12	1 3/16-12
14-16	\$			1 3/16-12	1 5/16-12
16-10	\$		SS	1 5/16-12	7/8-14
16-12	\$		SS	1 5/16-12	1 1/16-12
16-14	\$			1 5/16-12	1 3/16-12
16	\$		SS	1 5/16-12	1 5/16-12
16-20	\$		SS	1 5/16-12	1 5/8-12
16-24	\$			1 5/16-12	1 7/8-12
20-12	\$		SS	1 5/8-12	1 1/16-12
20-16	\$		SS	1 5/8-12	1 5/16-12
20	\$		SS	1 5/8-12	1 5/8-12
20-24	\$		SS	1 5/8-12	1 7/8-12
24-16	\$			1 7/8-12	1 5/16-12
24-20	\$		SS	1 7/8-12	1 5/8-12
24	\$		SS	1 7/8-12	1 7/8-12
24-32	\$			1 7/8-12	2 1/2-12
32-24	\$			2 1/2-12	1 7/8-12
32	\$			2 1/2-12	2 1/2-12

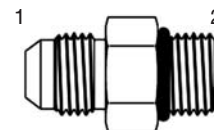
MS 51525
SAE 070120

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Restriction
04-04-R.000		7/16-20	7/16-20	.000
04-04-R.031		7/16-20	7/16-20	.031
04-04-R.062		7/16-20	7/16-20	.062
04-06-R.031		7/16-20	9/16-18	.031
04-06-R.062		7/16-20	9/16-18	.062
06-06-R.000		9/16-18	9/16-18	.000
06-06-R.031		9/16-18	9/16-18	.031
06-06-R.062		9/16-18	9/16-18	.062
06-08-R.000		9/16-18	3/4-16	.000
06-08-R.031		9/16-18	3/4-16	.031
06-08-R.062		9/16-18	3/4-16	.062

RST6400

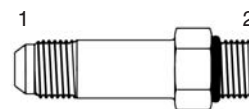
**JIC to O-Ring
with Restrictor**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Length*
04		7/16-20	7/16-20	2.08"
06		9/16-18	9/16-18	2.31"
06-08		9/16-18	3/4-16	2.38"
08		3/4-16	3/4-16	2.70"
10		7/8-14	7/8-14	3.04"
12		1 1/16-12	1 1/16-12	3.61"
16		1 5/16-12	1 5/16-12	3.98"
20		1 5/8-12	1 5/8-12	4.69"
24		1 7/8-12	1 7/8-12	5.17"

6400-L

**JIC to
O-Ring Long**



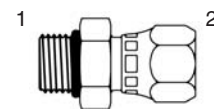
*Length = Overall Length of Fitting

MS 51526
SAE 070122

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04		7/16-20	7/16-20
06-06		9/16-18	9/16-18
06-08		9/16-18	3/4-16
08-06		3/4-16	9/16-18
08-08		3/4-16	3/4-16
08-10		3/4-16	7/8-14
10-08		7/8-14	3/4-16
10-10		7/8-14	7/8-14
10-12		7/8-14	1 1/16-12
12-12		1 1/16-12	1 1/16-12
12-16		1 1/16-12	1 5/16-12
16-12		1 5/16-12	1 1/16-12
16-16		1 5/16-12	1 5/16-12
16-20		1 5/16-12	1 5/8-12
20-20		1 5/8-12	1 5/8-12
24-24		1 7/8-12	1 7/8-12

6402

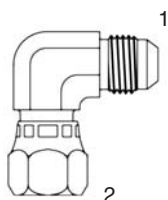
**O-Ring to
JIC Swivel**



Steel 37° JIC Adapters

6500

JIC Swivel Elbow 90°

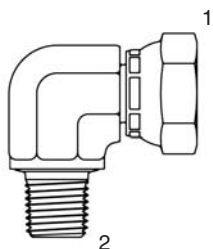


MS 51521
SAE 070221

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
03	\$	FG	SS		3/8-24	3/8-24
04	\$	FG	SS		7/16-20	7/16-20
04-06	\$	FG			7/16-20	9/16-18
05	\$	FG	SS		1/2-20	1/2-20
06-04	\$	FG			9/16-18	7/16-20
06	\$	FG	SS		9/16-18	9/16-18
06-08	\$	FG			9/16-18	3/4-16
08-06	\$	FG			3/4-16	9/16-18
08	\$	FG	SS		3/4-16	3/4-16
08-10	\$	FG			3/4-16	7/8-14
08-12	\$	FG			3/4-16	1 1/16-12
10-08	\$	FG	SS		7/8-14	3/4-16
10	\$	FG			7/8-14	7/8-14
10-12	\$	FG			7/8-14	1 1/16-12
12-10	\$	FG	SS		1 1/16-12	7/8-14
12	\$	FG			1 1/16-12	1 1/16-12
12-16	\$	FG			1 1/16-12	1 5/16-12
14	\$	FG	SS		1 3/16-12	1 3/16-12
16	\$	FG	SS		1 5/16-12	1 5/16-12
20	\$	FG	SS		1 5/8-12	1 5/8-12
24	\$	FG	SS		1 7/8-12	1 7/8-12

6501

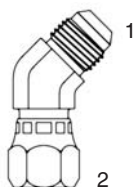
JIC Swivel to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
04-02	\$	FG	SS		7/16-20	1/8-27
04-04	\$	FG	SS		7/16-20	1/4-18
04-06	\$				7/16-20	3/8-18
05-04	\$				1/2-20	1/4-18
06-04	\$	FG	SS		9/16-18	1/4-18
06-06	\$	FG	SS		9/16-18	3/8-18
06-08	\$	FG			9/16-18	1/2-14
08-06	\$	FG	SS		3/4-16	3/8-18
08-08	\$	FG	SS		3/4-16	1/2-14
08-12	\$	FG			3/4-16	3/4-14
10-08	\$	FG			7/8-14	1/2-14
12-08	\$				1 1/16-12	1/2-14
12-12	\$	FG	SS		1 1/16-12	3/4-14
16-16	\$	FG	SS		1 5/16-12	1-11 1/2
20-20	\$	FG			1 5/8-12	1 1/4-11 1/2
24-24	\$	FG	SS		1 7/8-12	1 1/2-11 1/2
32-32	\$	FG			2 1/2-12	2-11 1/2

6502

JIC Swivel Elbow 45°



MS 51522
SAE 070321

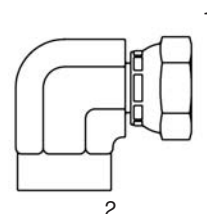
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04	\$	FG	SS		7/16-20	7/16-20
05	\$	FG			1/2-20	1/2-20
06	\$	FG	SS		9/16-18	9/16-18
08	\$	FG	SS		3/4-16	3/4-16
10	\$	FG	SS		7/8-14	7/8-14
12	\$	FG	SS		1 1/16-12	1 1/16-12
14	\$				1 3/16-12	1 3/16-12
16	\$	FG	SS		1 5/16-12	1 5/16-12
20	\$	FG	SS		1 5/8-12	1 5/8-12
24	\$	FG			1 7/8-12	1 7/8-12
32	\$	FG	SS		2 1/2-12	2 1/2-12

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-04	\$ FG	7/16-20	1/4-18
06-04	\$ FG	9/16-18	1/4-18
06-06	\$	9/16-18	3/8-18
08-06	\$	3/4-16	3/8-18
08-08	\$ FG	3/4-16	1/2-14
10-08	\$	7/8-14	1/2-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11 1/2

6503

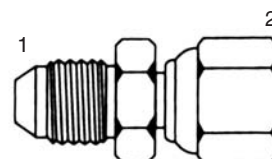
JIC Swivel to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	\$	7/16-20	7/16-20
06-04	\$	9/16-18	7/16-20
06-06	\$	9/16-18	9/16-18
08-08	\$	3/4-16	3/4-16
10-10	\$	7/8-14	7/8-14
12-12	\$	1 1/16-12	1 1/16-12
16-16	\$	1 5/16-12	1 5/16-12
20-20	\$	1 5/8-12	1 5/8-12
24-24	\$	1 7/8-12	1 7/8-12
32-32	\$	2 1/2-12	2 1/2-12

6504

JIC Swivel Extender

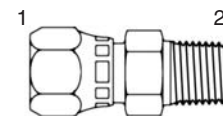


*Length = Overall Length of Fitting

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	\$ SS	7/16-20	1/8-27
04-04	\$ SS	7/16-20	1/4-18
05-04	\$	1/2-20	1/4-18
06-04	\$ SS	9/16-18	1/4-18
06-06	\$ SS	9/16-18	3/8-18
08-06	\$ SS	3/4-16	3/8-18
08-08	\$ SS	3/4-16	1/2-14
10-06	\$	7/8-14	3/8-18
10-08	\$ SS	7/8-14	1/2-14
10-12	\$	7/8-14	3/4-14
12-08	\$ SS	1 1/16-12	1/2-14
12-12	\$ SS	1 1/16-12	3/4-14
16-12	\$	1 5/16-12	3/4-14
16-16	\$ SS	1 5/16-12	1-11 1/2
20-20	\$ SS	1 5/8-12	1 1/4-11 1/2
24-24	\$ SS	1 7/8-12	1 1/2-11 1/2
32-32	\$ SS	2 1/2-12	2-11 1/2

6505

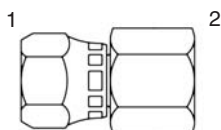
JIC Swivel to Pipe



Steel 37° JIC Adapters

6506

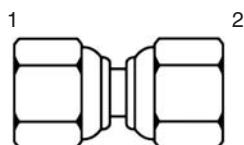
JIC Swivel to Pipe



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
04-02	\$		SS		7/16-20	1/8-27
04-04	\$		SS		7/16-20	1/4-18
06-04	\$		SS		9/16-18	1/4-18
06-06	\$		SS		9/16-18	3/8-18
06-08	\$		SS		9/16-18	1/2-14
08-06	\$		SS		3/4-16	3/8-18
08-08	\$		SS		3/4-16	1/2-14
10-06	\$				7/8-14	3/8-18
10-08	\$		SS		7/8-14	1/2-14
10-12	\$				7/8-14	3/4-14
12-08	\$		SS		1 1/16-12	1/2-14
12-12	\$		SS		1 1/16-12	3/4-14
14-12	\$				1 3/16-12	3/4-14
16-16	\$		SS		1 5/16-12	1-11 1/2
20-20	\$		SS		1 5/8-12	1 1/4-11 1/2
24-24	\$		SS		1 7/8-12	1 1/2-11 1/2
32-32	\$		SS		2 1/2-12	2-11 1/2

6510

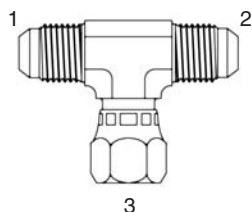
JIC Swivel Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04	\$				7/16-20	7/16-20
06-06	\$				9/16-18	9/16-18
08-08	\$				3/4-16	3/4-16
10-10	\$				7/8-14	7/8-14
12-12	\$				1 1/16-12	1 1/16-12
16-16	\$				1 5/16-12	1 5/16-12
20-20	\$				1 5/8-12	1 5/8-12

6600

JIC Swivel Branch Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
03	\$	FG			3/8-24	3/8-24	3/8-24
04	\$	FG	SS		7/16-20	7/16-20	7/16-20
05	\$	FG	SS		1/2-20	1/2-20	1/2-20
06	\$	FG	SS		9/16-18	9/16-18	9/16-18
08	\$	FG	SS		3/4-16	3/4-16	3/4-16
10	\$	FG	SS		7/8-14	7/8-14	7/8-14
12	\$	FG	SS		1 1/16-12	1 1/16-12	1 1/16-12
14	\$	FG			1 3/16-12	1 3/16-12	1 3/16-12
16	\$	FG	SS		1 5/16-12	1 5/16-12	1 5/16-12
20	\$	FG	SS		1 5/8-12	1 5/8-12	1 5/8-12
24	\$	FG	SS		1 7/8-12	1 7/8-12	1 7/8-12
32	\$		SS		2 1/2-12	2 1/2-12	2 1/2-12

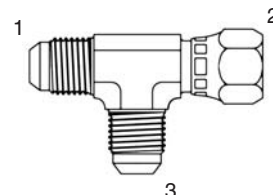
MS 51524
SAE 070433

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
03	S FG	3/8-24	3/8-24	3/8-24
04	S FG SS	7/16-20	7/16-20	7/16-20
05	S FG SS	1/2-20	1/2-20	1/2-20
06	S FG SS	9/16-18	9/16-18	9/16-18
08	S FG SS	3/4-16	3/4-16	3/4-16
10	S FG SS	7/8-14	7/8-14	7/8-14
12	S FG SS	1 1/16-12	1 1/16-12	1 1/16-12
14	S FG	1 3/16-12	1 3/16-12	1 3/16-12
16	S FG SS	1 5/16-12	1 5/16-12	1 5/16-12
20	S FG SS	1 5/8-12	1 5/8-12	1 5/8-12
24	S FG SS	1 7/8-12	1 7/8-12	1 7/8-12
32	S FG	2 1/2-12	2 1/2-12	2 1/2-12

6602

JIC Swivel Run Tee

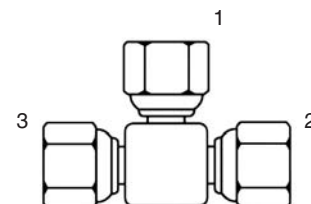


MS 51523
SAE 070432

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04	S	7/16-20	7/16-20	7/16-20
06	S	9/16-18	9/16-18	9/16-18
08	S	3/4-16	3/4-16	3/4-16
10	S	7/8-14	7/8-14	7/8-14
12	S	1 1/16-12	1 1/16-12	1 1/16-12
16	S	1 5/16-12	1 5/16-12	1 5/16-12

6606

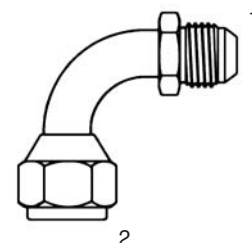
JIC Swivel Union Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	S	7/16-20	7/16-20
05	S	1/2-20	1/2-20
06	S	9/16-18	9/16-18
08	S	3/4-16	3/4-16
10	S	7/8-14	7/8-14
12	S	1 1/16-12	1 1/16-12
16	S	1 5/16-12	1 5/16-12
20	S	1 5/8-12	1 5/8-12
24	S	1 7/8-12	1 7/8-12

6701

JIC Swivel Bent Tube Elbow 90°



S= Steel

FG=Forging

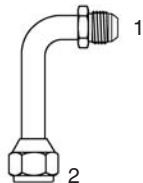
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

6701-L

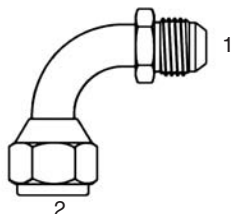
**JIC Swivel
Bent Tube Long
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
06	\$	9/16-18	9/16-18
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12

6701-XH

**JIC Swivel High
Pressure* Bent
Tube Elbow 90°**

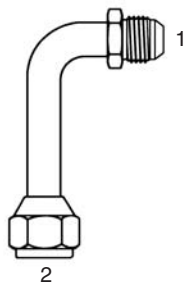


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
08	\$	3/4-16	3/4-16
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12

* Meets SAE 100R10 Pressures.

6701-LXH

**JIC Swivel High
Pressure*
Bent
Tube
Long
Elbow
90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
08	\$	3/4-16	3/4-16
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12

* Meets SAE 100R10 Pressures.

6702

**JIC Swivel Bent
Tube Elbow 45°**

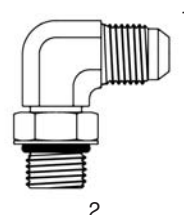


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
06	\$	9/16-18	9/16-18
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12

Steel 37° JIC Adapters

6801

JIC to O-Ring Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
02	S FG SS	5/16-24	5/16-24
03	S FG SS	3/8-24	3/8-24
04-02	S FG	7/16-20	5/16-24
04-03	S	7/16-20	3/8-24
04	S FG SS	7/16-20	7/16-20
04-05	S FG	7/16-20	1/2-20
04-06	S FG SS	7/16-20	9/16-18
04-08	S FG	7/16-20	3/4-16
04-10	S	7/16-20	7/8-14
05-04	S FG	1/2-20	7/16-20
05	S FG SS	1/2-20	1/2-20
05-06	S FG	1/2-20	9/16-18
05-08	S FG	1/2-20	3/4-16
06-04	S FG SS	9/16-18	7/16-20
06-05	S FG	9/16-18	1/2-20
06	S FG SS	9/16-18	9/16-18
06-08	S FG SS	9/16-18	3/4-16
06-10	S FG	9/16-18	7/8-14
06-12	S FG	9/16-18	1 1/16-12
08-04	S FG SS	3/4-16	7/16-20
08-06	S FG SS	3/4-16	9/16-18
08	S FG SS	3/4-16	3/4-16
08-10	S FG SS	3/4-16	7/8-14
08-12	S FG SS	3/4-16	1 1/16-12
08-16	S FG SS	3/4-16	1 5/16-12
10-06	S FG	7/8-14	9/16-18
10-08	S FG SS	7/8-14	3/4-16
10	S FG SS	7/8-14	7/8-14
10-12	S FG	7/8-14	1 1/16-12
10-16	S FG	7/8-14	1 5/16-12
12-06	S	1 1/16-12	9/16-18
12-08	S FG SS	1 1/16-12	3/4-16
12-10	S FG SS	1 1/16-12	7/8-14
12	S FG SS	1 1/16-12	1 1/16-12
12-14	S FG	1 1/16-12	1 3/16-12
12-16	S FG SS	1 1/16-12	1 5/16-12
12-20	S FG	1 1/16-12	1 5/8-12
14-12	S	1 3/16-12	1 1/16-12
14	S FG	1 3/16-12	1 3/16-12
14-16	S	1 3/16-12	1 5/16-12
16-08	S FG	1 5/16-12	3/4-16
16-10	S	1 5/16-12	7/8-14
16-12	S FG SS	1 5/16-12	1 1/16-12
16-14	S FG	1 5/16-12	1 3/16-12
16	S FG SS	1 5/16-12	1 5/16-12
16-20	S FG SS	1 5/16-12	1 5/8-12
16-24	S	1 5/16-12	1 7/8-12
20-12	S FG SS	1 5/8-12	1 1/16-12
20-16	S FG SS	1 5/8-12	1 5/16-12
20	S FG	1 5/8-12	1 5/8-12
20-24	S FG SS	1 5/8-12	1 7/8-12
24-20	S FG SS	1 7/8-12	1 5/8-12
24	S FG	1 7/8-12	1 7/8-12
32-24	S FG	2 1/2-12	1 7/8-12

MS 51527
SAE 070220

S= Steel

FG=Forging

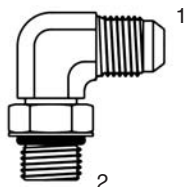
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

RST6801

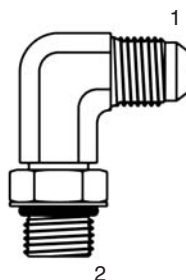
**Restricted JIC
to O-Ring
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Restriction
04-04-R.031	☒ S	7/16-20	7/16-20	.031
04-04-R.045	☒ S	7/16-20	7/16-20	.045
04-04-R.062	☒ S	7/16-20	7/16-20	.062
04-06-R.031	☒ S	7/16-20	9/16-18	.031
04-06-R.062	☒ S	7/16-20	9/16-18	.062
06-06-R.000	☒ S	9/16-18	9/16-18	.000
06-06-R.031	☒ S	9/16-18	9/16-18	.031
06-06-R.062	☒ S	9/16-18	9/16-18	.062
06-08-R.000	☒ S	9/16-18	3/4-16	.000
06-08-R.031	☒ S	9/16-18	3/4-16	.031
06-08-R.062	☒ S	9/16-18	3/4-16	.062
08-08-R.000	☒ S	3/4-16	3/4-16	.000
08-08-R.031	☒ S	3/4-16	3/4-16	.031
08-08-R.045	☒ S	3/4-16	3/4-16	.045
08-08-R.062	☒ S	3/4-16	3/4-16	.062

6801-L

**JIC to O-Ring
Long Elbow 90°**

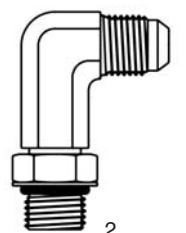


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Length*
04	☒ S ☒ FG	7/16-20	7/16-20	1.19"
04-06	☒ S	7/16-20	9/16-18	1.66"
06	☒ S ☒ FG	9/16-18	9/16-18	1.66"
06-08	☒ S	9/16-18	3/4-16	1.81"
08	☒ S ☒ FG	3/4-16	3/4-16	1.81"
08-10	☒ S ☒ FG	3/4-16	7/8-14	2.16"
10-08	☒ S ☒ FG	7/8-14	3/4-16	1.88"
10	☒ S	7/8-14	7/8-14	2.16"
12	☒ S ☒ FG	1 1/16-12	1 1/16-12	2.47"
16	☒ S ☒ FG	1 5/16-12	1 5/16-12	3.06"
20	☒ S	1 5/8-12	1 5/8-12	3.48"

*Length = Middle of JIC to End of Threads

6801-LL

**JIC to O-Ring
Extra Long
Elbow 90°**



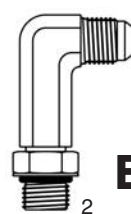
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Length*
04	☒ S ☒ FG	7/16-20	7/16-20	1.73"
04-06	☒ S	7/16-20	9/16-18	2.08"
06	☒ S ☒ FG	9/16-18	9/16-18	2.08"
06-08	☒ S ☒ FG	9/16-18	3/4-16	2.50"
08-06	☒ S	3/4-16	9/16-18	2.17"
08	☒ S ☒ FG	3/4-16	3/4-16	2.50"
08-10	☒ S ☒ FG	3/4-16	7/8-14	3.25"
10-08	☒ S ☒ FG	7/8-14	3/4-16	2.56"
10	☒ S ☒ FG	7/8-14	7/8-14	3.25"
12	☒ S ☒ FG	1 1/16-12	1 1/16-12	3.34"
16-12	☒ S ☒ FG	1 5/16-12	1 1/16-12	3.47"
16	☒ S ☒ FG	1 5/16-12	1 5/16-12	3.72"
20	☒ S ☒ FG	1 5/8-12	1 5/8-12	4.41"

*Length = Middle of JIC to End of Threads

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Length*
06	S	9/16-18	9/16-18	3.06"
08	S FG	3/4-16	3/4-16	3.53"
10	S	7/8-14	7/8-14	3.69"
*Length = Middle of JIC to End of Threads				

6801-LLL

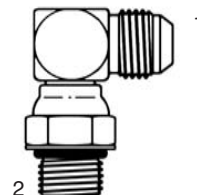


**JIC to O-Ring
XX-Long
Elbow 90°**

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
06	FG	9/16-18	9/16-18
08	FG	3/4-16	3/4-16
10	FG	7/8-14	7/8-14
*Swivel for installation only.			

6801-S

**JIC to O-Ring
Swivel* Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	S FG SS	7/16-20	7/16-20
04-05	S FG	7/16-20	1/2-20
04-06	S FG	7/16-20	9/16-18
04-08	S	7/16-20	3/4-16
05-04	S FG	1/2-20	7/16-20
05	S FG	1/2-20	1/2-20
06-04	S FG	9/16-18	7/16-20
06-05	S FG	9/16-18	1/2-20
06	S FG SS	9/16-18	9/16-18
06-08	S FG	9/16-18	3/4-16
06-10	S FG	9/16-18	7/8-14
08-06	S FG SS	3/4-16	9/16-18
08	S FG SS	3/4-16	3/4-16
08-10	S FG SS	3/4-16	7/8-14
08-12	S FG	3/4-16	1 1/16-12
10-08	S FG	7/8-14	3/4-16
10	S FG SS	7/8-14	7/8-14
10-12	S FG	7/8-14	1 1/16-12
12-08	S FG	1 1/16-12	3/4-16
12-10	S FG SS	1 1/16-12	7/8-14
12	S FG SS	1 1/16-12	1 1/16-12
12-16	S FG	1 1/16-12	1 5/16-12
14	S FG	1 3/16-12	1 3/16-12
16-12	S FG	1 5/16-12	1 1/16-12
16	S FG SS	1 5/16-12	1 5/16-12
16-20	S FG	1 5/16-12	1 5/8-12
20-16	S FG	1 5/8-12	1 5/16-12
20	S FG SS	1 5/8-12	1 5/8-12
20-24	S FG	1 5/8-12	1 7/8-12
24	S FG	1 7/8-12	1 7/8-12
32	S FG	2 1/2-12	2 1/2-12

6802

**JIC to O-Ring
Elbow 45°**



MS 51528
SAE 070320

S= Steel

FG=Forging

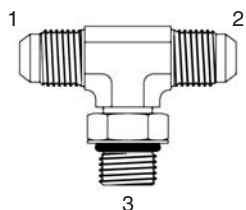
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

6803

JIC to O-Ring Branch Tee

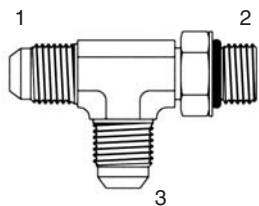


MS 51529
SAE 070429

Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
04	S	FG	SS	7/16-20	7/16-20	7/16-20
05	S	FG		1/2-20	1/2-20	1/2-20
06	S	FG	SS	9/16-18	9/16-18	9/16-18
06-06-08	S	FG		9/16-18	9/16-18	3/4-16
08	S	FG	SS	3/4-16	3/4-16	3/4-16
08-08-10	S	FG		3/4-16	3/4-16	7/8-14
10-10-08	S			7/8-14	7/8-14	3/4-16
10	S	FG	SS	7/8-14	7/8-14	7/8-14
12-12-10	S	FG		1 1/16-12	1 1/16-12	7/8-14
12	S	FG	SS	1 1/16-12	1 1/16-12	1 1/16-12
12-12-16	S	FG		1 1/16-12	1 1/16-12	1 5/16-12
14	S			1 3/16-12	1 3/16-12	1 3/16-12
16-16-12	S	FG		1 5/16-12	1 5/16-12	1 1/16-12
16	S	FG	SS	1 5/16-12	1 5/16-12	1 5/16-12
20	S	FG		1 5/8-12	1 5/8-12	1 5/8-12
24	S			1 7/8-12	1 7/8-12	1 7/8-12
32	S			2 1/2-12	2 1/2-12	2 1/2-12

6804

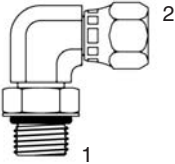
JIC to O-Ring Run Tee

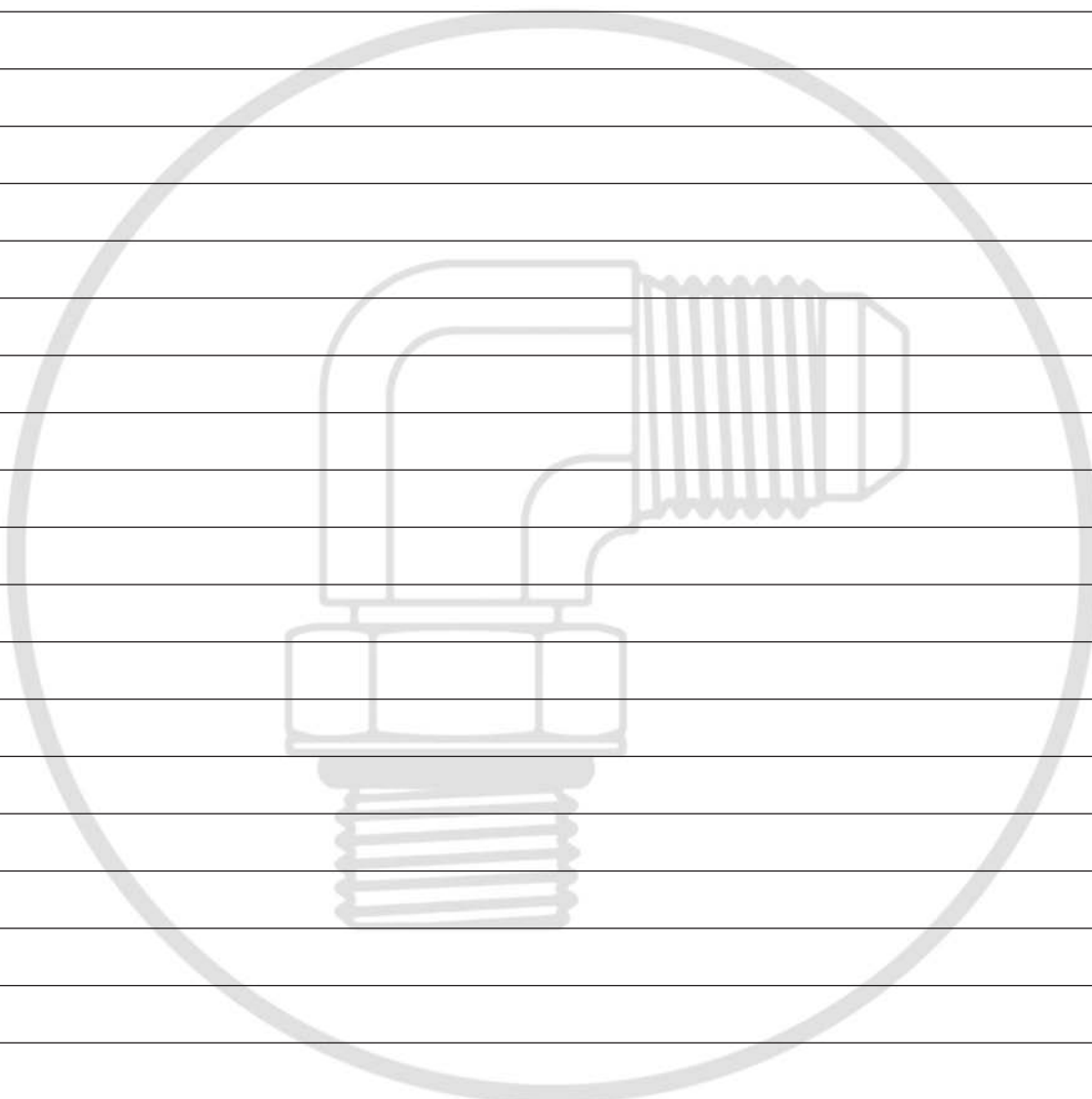


MS 51530
SAE 070428

Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
04	S	FG	SS	7/16-20	7/16-20	7/16-20
04-06-04	S	FG		7/16-20	9/16-18	7/16-20
05	S	FG		1/2-20	1/2-20	1/2-20
06-04-06	S	FG		9/16-18	7/16-20	9/16-18
06	S	FG	SS	9/16-18	9/16-18	9/16-18
06-08-06	S	FG		9/16-18	3/4-16	9/16-18
08-06-08	S	FG		3/4-16	9/16-18	3/4-16
08	S	FG	SS	3/4-16	3/4-16	3/4-16
08-10-08	S	FG		3/4-16	7/8-14	3/4-16
10-08-10	S	FG		7/8-14	3/4-16	7/8-14
10	S	FG	SS	7/8-14	7/8-14	7/8-14
10-12-10	S	FG		7/8-14	1 1/16-12	7/8-14
12-10-12	S	FG		1 1/16-12	7/8-14	1 1/16-12
12	S	FG	SS	1 1/16-12	1 1/16-12	1 1/16-12
12-16-12	S			1 1/16-12	1 5/16-12	1 1/16-12
14	S	FG		1 3/16-12	1 3/16-12	1 3/16-12
16-12-16	S	FG		1 5/16-12	1 1/16-12	1 5/16-12
16	S	FG	SS	1 5/16-12	1 5/16-12	1 5/16-12
20	S	FG		1 5/8-12	1 5/8-12	1 5/8-12
24	S	FG		1 7/8-12	1 7/8-12	1 7/8-12
32	S	FG		2 1/2-12	2 1/2-12	2 1/2-12

Steel 37° JIC Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	6809 O-Ring to JIC Swivel Elbow 90° 
04-04	FG	7/16-20	7/16-20	
06-04	FG	9/16-18	7/16-20	
06-06	FG	9/16-18	9/16-18	
08-08	FG	3/4-16	3/4-16	
10-10	FG	7/8-14	7/8-14	
12-08	FG	1 1/16-12	3/4-16	
12-12	FG	1 1/16-12	1 1/16-12	
16-16	FG	1 5/16-12	1 5/16-12	
20-20	FG	1 5/8-12	1 5/8-12	



Steel SAE O-Ring Adapters

CONFORMANCE

- SAE J514
- SAE J1926/1, SAE J1926/3
- ISO 11926-1, ISO 11926-3

MATERIALS

- Steel – Carbon steel zinc plated with yellow Dichromate per ASTM B33-98 (Type II SC-2).
- Stainless – Type 316 (Use SS prefix when ordering).

WORKING PRESSURES

The following table lists the recommended working pressures for steel O-ring Straight Thread fittings made in accordance with SAE standard J514. Many factors such as surging, vibration, mechanical shock and over tightening may affect the integrity of fitting connections. Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using fittings with different size or thread type, use the lower pressure rating of the two threads.



CAUTION: Although most O-ring Straight Thread Fittings have sufficient structural integrity to support the weight of many components, Tompkins recommends consulting with our technical support department for guidance in selection of parts for this purpose.

SAE J514 O-RING STRAIGHT THREAD FITTINGS PRESSURE RATINGS FOR STRAIGHT AND ADJUSTABLE THREAD PORT STUDS

DASH SIZE	STRAIGHT THREAD SIZE	4 TO 1 MINIMUM BURST PSI STRAIGHT BOSS O-RING STUDS	4 TO 1 MINIMUM BURST PSI ADJUSTABLE BOSS O-RING STUDS
-02	5/16-24	5000	5000
-03	3/8-24	5000	5000
-04	7/16-20	5000	4500
-05	1/2-20	5000	4000
-06	9/16-16	5000	4000
-08	3/4-16	4500	4000
-10	7/8-14	3500	3000
-12	1 1/16-12	3500	3000
-14	1 3/16-12	3000	2500
-16	1 5/16-12	3000	2500
-20	1 5/8-12	2500	2000
-24	1 7/8-12	2000	1500
-32	2 1/2-12	1500	1125

TORQUE VALUES: The minimum torque values provided by Tompkins Industries are to provide benchmarks that give optimum results for leak free connections. Actual torque values should be based on individual applications.

RECOMMENDED STRAIGHT THREAD O-RING NON-ADJUSTABLE STUD ASSEMBLY INSTRUCTIONS

- STEP 1.** Inspect all components for damage or contamination.
STEP 2. Lubricate o-ring and threads on fitting.
STEP 3. Turn fitting into port until finger tight, then torque to the value shown in the following tables.

RECOMMENDED STRAIGHT THREAD O-RING ADJUSTABLE STUD ASSEMBLY INSTRUCTIONS

- STEP 1.** Follow steps 1 and 2 from the foregoing instructions, then proceed to the following steps below.
STEP 2. Looking at fitting from end with nut/washer/o-ring assembly, turn nut clockwise as far as possible.
STEP 3. Using wrench, turn fitting into port until the washer touches the port spot face. Continue turning fitting until washer touches thread nearest wrench pad.
STEP 4. Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position.
STEP 5. Place wrench on the wrench pad of fitting to prevent fitting from turning, and torque nut to the value shown in the following table.

J514 & J1926/3 TORQUE VALUES

DASH SIZE	STRAIGHT THREAD SIZE	STRAIGHT STUD TORQUE FOOT/LBS	ADJUSTABLE STUD TORQUE FOOT/LBS
-02	5/16-24	6-7	6-8
-03	3/8-24	6-9	6-8
-04	7/16-20	9-15	8-10
-05	1/2-20	14-19	9-12
-06	9/16-18	18-24	12-16
-08	3/4-16	27-43	20-30
-10	7/8-14	36-48	30-36
-12	1 1/16-12	65-75	44-54
-14	1 3/16-12	75-99	53-70
-16	1 5/16-12	85-123	59-80
-20	1 5/8-12	115-161	75-100
-24	1 7/8-12	125-170	105-125
-32	2 1/2-12	180-240	140-180

J1453 & J1926/2 TORQUE VALUES

DASH SIZE	STRAIGHT THREAD SIZE	STRAIGHT STUD TORQUE FOOT/LBS	ADJUSTABLE STUD TORQUE FOOT/LBS
-02	5/16-24	NA	NA
-03	3/8-24	8-10	NA
-04	7/16-20	14-16	11-13
-05	1/2-20	18-20	14-16
-06	9/16-18	24-26	18-21
-08	3/4-16	40-60	28-38
-10	7/8-14	55-80	44-60
-12	1 1/16-12	95-135	65-95
-14	1 3/16-12	105-190	75-125
-16	1 5/16-12	120-220	85-150
-20	1 5/8-12	160-280	115-170
-24	1 7/8-12	175-360	125-225

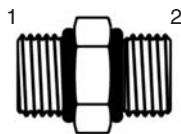
WHY WET TORQUE?

Due to differences in materials, plating types and thickness, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Over tightening causes threads to yield, deform, and therefore lose their ability to maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks. **It is our firm position that to not wet torque is to compromise consistency and quality for convenience.**

Steel SAE O-Ring Adapters

6403

O-Ring Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	☒ S	7/16-20	7/16-20
06-04	☒ S	9/16-18	7/16-20
06	☒ S	9/16-18	9/16-18
08	☒ S	3/4-16	3/4-16
10-08	☒ S	7/8-14	3/4-16
10	☒ S	7/8-14	7/8-14
12-08	☒ S	1 1/16-12	3/4-16
12-10	☒ S	1 1/16-12	7/8-14
12	☒ S	1 1/16-12	1 1/16-12
16-12	☒ S	1 5/16-12	1 1/16-12
16	☒ S	1 5/16-12	1 5/16-12
20-16	☒ S	1 5/8-12	1 5/16-12
20	☒ S	1 5/8-12	1 5/8-12

6403-NWO

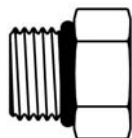
O-Ring Adjustable Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	☒ S ☒ SS	7/16-20	7/16-20
06	☒ S ☒ SS	9/16-18	9/16-18
08-06	☒ S	3/4-16	9/16-18
08	☒ S ☒ SS	3/4-16	3/4-16
10-08	☒ S	7/8-14	3/4-16
10	☒ S ☒ SS	7/8-14	7/8-14
12-08	☒ S	1 1/16-12	3/4-16
12-10	☒ S	1 1/16-12	7/8-14
12	☒ S ☒ SS	1 1/16-12	1 1/16-12
16-12	☒ S	1 5/16-12	1 1/16-12
16	☒ S ☒ SS	1 5/16-12	1 5/16-12
20	☒ S ☒ SS	1 5/8-12	1 5/8-12
24	☒ S ☒ SS	1 7/8-12	1 7/8-12
32	☒ S ☒ SS	2 1/2-12	2 1/2-12

6408

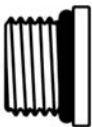
O-Ring Hex Plug

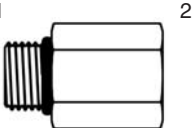


Dash Size	Stock Materials S FG SS BR	T1 (UNF)
02	☒ S ☒ SS	5/16-24
03	☒ S ☒ SS	3/8-24
04	☒ S ☒ SS	7/16-20
05	☒ S ☒ SS	1/2-20
06	☒ S ☒ SS	9/16-18
08	☒ S ☒ SS	3/4-16
10	☒ S ☒ SS	7/8-14
12	☒ S ☒ SS	1 1/16-12
14	☒ S	1 3/16-12
16	☒ S ☒ SS	1 5/16-12
20	☒ S ☒ SS	1 5/8-12
24	☒ S ☒ SS	1 7/8-12
32	☒ S ☒ SS	2 1/2-12

SAE 090109A

Steel SAE O-Ring Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	6408-HHP
02		5/16-24	O-Ring Hollow Hex Plug  SAE 090109B
03		3/8-24	
04		7/16-20	
05		1/2-20	
06		9/16-18	
08		3/4-16	
10		7/8-14	
12		1 1/16-12	
14		1 3/16-12	
16		1 5/16-12	
20		1 5/8-12	
24		1 7/8-12	
32		2 1/2-12	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	6410
02-04		5/16-24	7/16-20	O-Ring Reducer/Expander 
04-06		7/16-20	9/16-18	
05-06		1/2-20	9/16-18	
06-04		9/16-18	7/16-20	
06-06		9/16-18	9/16-18	
06-08		9/16-18	3/4-16	
08-04		3/4-16	7/16-20	
08-06		3/4-16	9/16-18	
08-10		3/4-16	7/8-14	
08-12		3/4-16	1 1/16-12	
10-04		7/8-14	7/16-20	
10-06		7/8-14	9/16-18	
10-08		7/8-14	3/4-16	
10-12		7/8-14	1 1/16-12	
12-04		1 1/16-12	7/16-20	
12-06		1 1/16-12	9/16-18	
12-08		1 1/16-12	3/4-16	
12-10		1 1/16-12	7/8-14	
12-12		1 1/16-12	1 1/16-12	
12-14		1 1/16-12	1 3/16-12	
12-16		1 1/16-12	1 5/16-12	
14-08		1 3/16-12	3/4-16	
14-12		1 3/16-12	1 1/16-12	
16-04		1 5/16-12	7/16-20	
16-06		1 5/16-12	9/16-18	
16-08		1 5/16-12	3/4-16	
16-10		1 5/16-12	7/8-14	
16-12		1 5/16-12	1 1/16-12	
16-14		1 5/16-12	1 3/16-12	
16-20		1 5/16-12	1 5/8-12	
20-10		1 5/8-12	7/8-14	
20-12		1 5/8-12	1 1/16-12	
20-16		1 5/8-12	1 5/16-12	
20-24		1 5/8-12	1 7/8-12	
24-12		1 7/8-12	1 1/16-12	
24-16		1 7/8-12	1 5/16-12	
24-20		1 7/8-12	1 5/8-12	
32-16		2 1/2-12	1 5/16-12	
32-20		2 1/2-12	1 5/8-12	
32-24		2 1/2-12	1 7/8-12	

S= Steel

FG=Forging

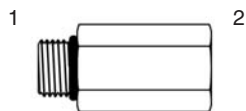
SS=Stainless Steel

BR=Brass

Steel SAE O-Ring Adapters

6410-L

O-Ring Extender

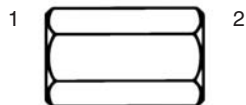


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	Length*
04-04	☐	7/16-20	7/16-20	1.25"
06-06	☐	9/16-18	9/16-18	1.50"
08-08	☐	3/4-16	3/4-16	1.75"
10-10	☐	7/8-14	7/8-14	2.00"
12-12	☐	1 1/16-12	1 1/16-12	2.38"

*Length = Overall Length of Fitting

6425

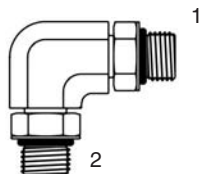
O-Ring Coupling



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	☐	7/16-20	7/16-20
06-06	☐	9/16-18	9/16-18
08-08	☐	3/4-16	3/4-16
10-10	☐	7/8-14	7/8-14
12-12	☐	1 1/16-12	1 1/16-12

6807

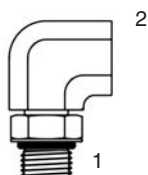
O-Ring Adjustable Union Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	☐ ☐	7/16-20	7/16-20
06-06	☐ ☐	9/16-18	9/16-18
08-06	☐ ☐	3/4-16	9/16-18
08-08	☐ ☐	3/4-16	3/4-16
10-08	☐ ☐	7/8-14	3/4-16
10-10	☐ ☐	7/8-14	7/8-14
12-12	☐ ☐	1 1/16-12	1 1/16-12
16-16	☐ ☐	1 5/16-12	1 5/16-12
20-20	☐ ☐	1 5/8-12	1 5/8-12
24-24	☐ ☐	1 7/8-12	1 7/8-12

6815

O-Ring Adjustable Street Elbow 90°

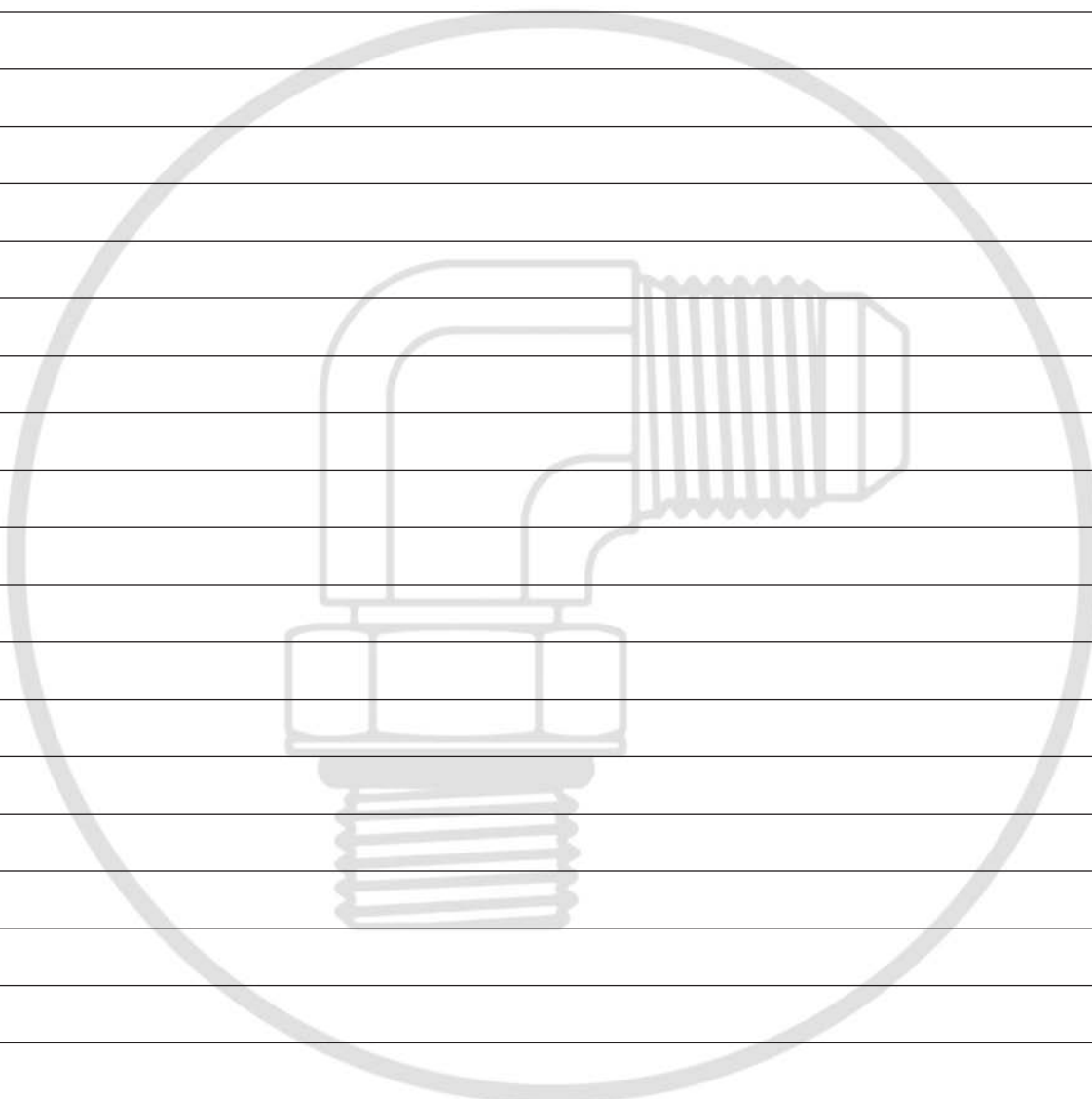


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	☐ ☐	7/16-20	7/16-20
04-06	☐ ☐	7/16-20	9/16-18
06-04	☐	9/16-18	7/16-20
06-06	☐ ☐	9/16-18	9/16-18
06-08	☐ ☐	9/16-18	3/4-16
08-08	☐ ☐	3/4-16	3/4-16
10-10	☐ ☐	7/8-14	7/8-14
12-12	☐ ☐	1 1/16-12	1 1/16-12
16-16	☐ ☐	1 5/16-12	1 5/16-12

Steel SAE O-Ring Adapters

Dash Size	T1 (UNF)	I.D.	90 DB
02	5/16-24	.239"	Nitrile 90 Durometer SAE Boss O-Ring 
03	3/8-24	.301"	
04	7/16-20	.351"	
05	1/2-20	.414"	
06	9/16-18	.468"	
08	3/4-16	.644"	
10	7/8-14	.755"	
12	1 1/16-12	.924"	
14	1 3/16-12	1.048"	
16	1 5/16-12	1.171"	
20	1 5/8-12	1.475"	
24	1 7/8-12	1.720"	
32	2 1/2-12	2.337"	

Dash Size	T1 (UNF)	I.D.	90DB-Viton
02	5/16-24	.239"	Viton 90 Durometer SAE Boss O-Ring 
03	3/8-24	.301"	
04	7/16-20	.351"	
05	9/16-18	.468"	
08	3/4-16	.644"	
10	7/8-14	.755"	
12	1 1/16-12	.924"	
14	1 3/16-12	1.048"	
16	1 5/16-12	1.171"	
20	1 5/8-12	1.475"	
24	1 7/8-12	1.720"	
32	2 1/2-12	2.337"	



CONFORMANCE

- SAE J514 for hex nipples, expanders, elbows, tees and crosses.
- SAE J514, J530 and J531 for bushing and plugs.

MATERIALS

- Steel – Carbon steel zinc plated with yellow Dichromate per ASTM B33-98 (Type II SC-2)
- Stainless – Type 316 for all except 5400-N and 5400-CL which are Type 304 or 316.

STYLES

- Barstock
- Forging
- Chamfered – male ends have an internal 30-degree chamfer to mate with NPSM female swivel union connections. Many pipe fittings do not have this chamfer, as it is not required per SAE J514 standard.

ORDERING

When ordering, include the appropriate prefix to part number if material required is other than steel barstock without a chamfer.

MATERIAL/STYLE	PREFIX
Forging	FG
Chamfered	CH
Stainless	SS

WORKING PRESSURES

The following table lists the recommended working pressures for steel NPTF hydraulic pipe fittings manufactured in accordance with SAE standard J514. Many factors such as number of threads engaged, impulsing, vibration, mechanical shock, removal and reassembly, thermal expansion and contraction may affect the integrity of the fitting, or fitting connection.

Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory on all NPTF pipe fittings, especially if installed in systems operating at elevated pressures or in severe conditions.



CAUTION: Although most pipe fittings have sufficient structural integrity to support the weight of many components, Tompkins recommends consulting with our technical support department for guidance in selection of parts used in this type of application.

SAE J514 NPTF PIPE WORKING PRESSURES

DASH SIZE	NPTF THREAD SIZE	4 TO 1 MINIMUM BURST PSI
-01	1/16-27	5000
-02	1/8-27	5000
-04	1/4-18	5000
-06	3/8-18	4000
-08	1/2-14	3000
-12	3/4-14	2500
-16	1-11 1/2	2000
-20	1 1/4-11 1/2	1150
-24	1 1/2-11 1/2	1000
-32	2-11 1/2	1000

NPTF DRY SEAL PIPE ASSEMBLY INSTRUCTIONS

STEP 1. Inspect port and fitting to ensure that both are free of contaminants and excessive burrs and nicks.

STEP 2. Apply a stripe of an anaerobic liquid pipe sealant around the male threads leaving the first two threads uncovered. If no liquid sealant is available, wrap Teflon tape 1 1/2 to 2 turns in a clockwise direction, viewed from the pipe end, leaving the first two threads uncovered.

CAUTION: Teflon tape and some pipe sealants are destructive to hydraulic components. Always use extreme caution and follow manufacturer's recommendations for proper application of any sealant in order to prevent contamination.

STEP 3. Screw finger tight into the port.

STEP 4. Wrench tighten the fitting to the correct Turns Past Finger Tight position. (See following table.) When installing elbows or tees, consider final orientation position as to not exceed the recommended TPFT. A properly assembled fittings total thread engagement should be 3.5-6 turns.

CAUTION: Never back off an installed pipe fitting to achieve proper alignment. Loosening installed pipe fittings will corrupt the seal and contribute to leakage and failure.

DASH SIZE	NPSM THREAD SIZE	TURNS PAST FINGER TIGHT
-01	1/16-27	1.5 – 3.0
-02	1/8-27	1.5 – 3.0
-04	1/4-18	1.5 – 3.0
-06	3/8-18	1.5 – 3.0
-08	1/2-14	1.5 – 3.0
-12	3/4-14	1.5 – 3.0
-16	1-11 1/2	1 – 2.5
-20	1 1/4-11 1/2	1 – 2.5
-24	1 1/2-11 1/2	1 – 2.5
-32	2-11 1/2	1 – 2.5

Torque installation of pipe fittings is not a recommended practice. Thread taper and quality, different port and fitting materials, plating thickness and types, varying thread sealants, orientation, and other factors reduce the reliability of a torqued connection. If torque installation is required, refer to the following table for suggested torque values.

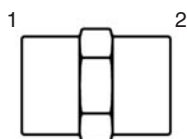
DASH SIZE	NPSM THREAD SIZE	TORQUE FOOT/LBS
-02	1/8-27	12
-04	1/4-18	25
-06	3/8-18	40
-08	1/2-14	54
-12	3/4-14	78
-16	1-11 1/2	112
-20	1 1/4-11 1/2	154
-24	1 1/2-11 1/2	211
-32	2-11 1/2	300

See **STRAIGHT THREAD O-RING FITTING SECTION** for assembly instructions and torque values for pipe fittings with o-ring straight threads.

Steel Pipe Adapters

5000

Pipe Coupling



SAE 140138

Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)
	S	FG	SS BR		
02	\$		SS	1/8-27	1/8-27
04-02	\$		SS	1/4-18	1/8-27
04	\$		SS	1/4-18	1/4-18
06-02	\$		SS	3/8-18	1/8-27
06-04	\$		SS	3/8-18	1/4-18
06	\$		SS	3/8-18	3/8-18
08-04	\$		SS	1/2-14	1/4-18
08-06	\$		SS	1/2-14	3/8-18
08	\$		SS	1/2-14	1/2-14
12-04	\$		SS	3/4-14	1/4-18
12-06	\$			3/4-14	3/8-18
12-08	\$		SS	3/4-14	1/2-14
12	\$		SS	3/4-14	3/4-14
16-08	\$		SS	1-11 1/2	1/2-14
16-12	\$		SS	1-11 1/2	3/4-14
16	\$		SS	1-11 1/2	1-11 1/2
20-12	\$			1 1/4-11 1/2	3/4-14
20-16	\$		SS	1 1/4-11 1/2	1-11 1/2
20	\$		SS	1 1/4-11 1/2	1 1/4-11 1/2
24-20	\$		SS	1 1/2-11 1/2	1 1/4-11 1/2
24	\$		SS	1 1/2-11 1/2	1 1/2-11 1/2
32	\$		SS	2-11 1/2	2-11 1/2

5400-CL

Close Nipple



3000 psi

Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)	Length*
	S	FG	SS BR			
02	\$		SS	1/8-27	1/8-27	.81"
04	\$		SS	1/4-18	1/4-18	.94"
06	\$		SS	3/8-18	3/8-18	1.00"
08	\$		SS	1/2-14	1/2-14	1.19"
12	\$		SS	3/4-14	3/4-14	1.50"
16	\$		SS	1-11 1/2	1-11 1/2	1.63"
20	\$		SS	1 1/4-11 1/2	1 1/4-11 1/2	1.63"
24	\$		SS	1 1/2-11 1/2	1 1/2-11 1/2	1.81"
32	\$		SS	2-11 1/2	2-11 1/2	2.00"

*Length = Overall Length of Fitting

Steel Pipe Adapters

Dash Size	Stock Materials		T1 (NPTF)	T2 (NPTF)	Length*
	S	FG SS BR			
02-1.5"			1/8-27	1/8-27	1.50"
02-2.0"			1/8-27	1/8-27	2.00"
02-2.5"			1/8-27	1/8-27	2.50"
02-3.0"			1/8-27	1/8-27	3.00"
02-3.5"			1/8-27	1/8-27	3.50"
02-4.0"			1/8-27	1/8-27	4.00"
02-5.0"			1/8-27	1/8-27	5.00"
02-6.0"			1/8-27	1/8-27	6.00"
04-2.0"			1/4-18	1/4-18	2.00"
04-2.5"			1/4-18	1/4-18	2.50"
04-3.0"			1/4-18	1/4-18	3.00"
04-3.5"			1/4-18	1/4-18	3.50"
04-4.0"			1/4-18	1/4-18	4.00"
04-5.0"			1/4-18	1/4-18	5.00"
04-6.0"			1/4-18	1/4-18	6.00"
06-2.0"			3/8-18	3/8-18	2.00"
06-2.5"			3/8-18	3/8-18	2.50"
06-3.0"			3/8-18	3/8-18	3.00"
06-3.5"			3/8-18	3/8-18	3.50"
06-4.0"			3/8-18	3/8-18	4.00"
06-5.0"			3/8-18	3/8-18	5.00"
06-5.5"			3/8-18	3/8-18	5.50"
06-6.0"			3/8-18	3/8-18	6.00"
06-7.0"			3/8-18	3/8-18	7.00"
06-8.0"			3/8-18	3/8-18	8.00"
08-2.0"			1/2-14	1/2-14	2.00"
08-2.5"			1/2-14	1/2-14	2.50"
08-3.0"			1/2-14	1/2-14	3.00"
08-4.0"			1/2-14	1/2-14	4.00"
08-4.5"			1/2-14	1/2-14	4.50"
08-5.0"			1/2-14	1/2-14	5.00"
08-6.0"			1/2-14	1/2-14	6.00"
08-8.0"			1/2-14	1/2-14	8.00"
12-2.0"			3/4-14	3/4-14	2.00"
12-2.5"			3/4-14	3/4-14	2.50"
12-3.0"			3/4-14	3/4-14	3.00"
12-3.5"			3/4-14	3/4-14	3.50"
12-4.0"			3/4-14	3/4-14	4.00"
12-5.0"			3/4-14	3/4-14	5.

***Length = Overall Length of Fitting**

5400-N

Long Pipe Nipple



3000 psi

S= Steel

FG=Forging

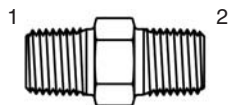
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5404

Hex Pipe Nipple



SAE 140137

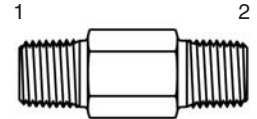
Dash Size	Stock Materials		T1 (NPTF)	T2 (NPTF)
	S	FG SS BR		
02-01	S		1/8-27	1/16-27
02	S	SS	1/8-27	1/8-27
04-02	S	SS	1/4-18	1/8-27
04	S	SS	1/4-18	1/4-18
06-02	S	SS	3/8-18	1/8-27
06-04	S	SS	3/8-18	1/4-18
06	S	SS	3/8-18	3/8-18
08-04	S	SS	1/2-14	1/4-18
08-06	S	SS	1/2-14	3/8-18
08	S	SS	1/2-14	1/2-14
12-04	S	SS	3/4-14	1/4-18
12-06	S	SS	3/4-14	3/8-18
12-08	S	SS	3/4-14	1/2-14
12	S	SS	3/4-14	3/4-14
16-06	S	SS	1-11 1/2	3/8-18
16-08	S	SS	1-11 1/2	1/2-14
16-12	S	SS	1-11 1/2	3/4-14
16	S	SS	1-11 1/2	1-11 1/2
20-12	S		1 1/4-11 1/2	3/4-14
20-16	S	SS	1 1/4-11 1/2	1-11 1/2
20	S	SS	1 1/4-11 1/2	1 1/4-11 1/2
24-12	S		1 1/2-11 1/2	3/4-14
24-16	S		1 1/2-11 1/2	1-11 1/2
24-20	S		1 1/2-11 1/2	1 1/4-11 1/2
24	S	SS	1 1/2-11 1/2	1 1/2-11 1/2
32-20	S		2-11 1/2	1 1/4-11 1/2
32-24	S	SS	2-11 1/2	1 1/2-11 1/2
32	S	SS	2-11 1/2	2-11 1/2

Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	Length*
02-1.5"	S SS	1/8-27	1/8-27	1.50"
02-2.0"	S SS	1/8-27	1/8-27	2.00"
02-2.5"	S SS	1/8-27	1/8-27	2.50"
02-3.0"	S SS	1/8-27	1/8-27	3.00"
02-3.5"	S	1/8-27	1/8-27	3.50"
04-2.0"	S SS	1/4-18	1/4-18	2.00"
04-2.5"	S SS	1/4-18	1/4-18	2.50"
04-3.0"	S SS	1/4-18	1/4-18	3.00"
04-4.0"	S SS	1/4-18	1/4-18	4.00"
04-6.0"	S	1/4-18	1/4-18	6.00"
06-2.0"	S SS	3/8-18	3/8-18	2.00"
06-2.5"	S	3/8-18	3/8-18	2.50"
06-3.0"	S SS	3/8-18	3/8-18	3.00"
06-4.0"	S	3/8-18	3/8-18	4.00"
06-6.0"	S	3/8-18	3/8-18	6.00"
06-7.0"	S	3/8-18	3/8-18	7.00"
08-2.5"	S SS	1/2-14	1/2-14	2.50"
08-3.0"	S SS	1/2-14	1/2-14	3.00"
08-4.0"	S SS	1/2-14	1/2-14	4.00"
08-6.0"	S SS	1/2-14	1/2-14	6.00"
12-3.0"	S SS	3/4-14	3/4-14	3.00"
12-4.0"	S	3/4-14	3/4-14	4.00"
12-6.0"	S	3/4-14	3/4-14	6.00"
16-3.0"	S SS	1-11 1/2	1-11 1/2	3.00"
16-6.0"	S	1-11 1/2	1-11 1/2	6.00"
20-4.0"	S	1 1/4-11 1/2	1 1/4-11 1/2	4.00"
20-6.0"	S	1 1/4-11 1/2	1 1/4-11 1/2	6.00"
24-4.0"	S	1 1/2-11 1/2	1 1/2-11 1/2	4.00"
24-6.0"	S	1 1/2-11 1/2	1 1/2-11 1/2	6.00"
32-4.0"	S	2-11 1/2	2-11 1/2	4.00"
32-6.0"	S	2-11 1/2	2-11 1/2	6.00"
*Length = Overall Length of Fitting				

5404-L

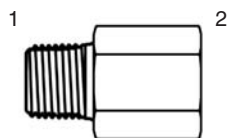
Long Hex Pipe Nipple



Steel Pipe Adapters

5405

Expanding Pipe Adapter

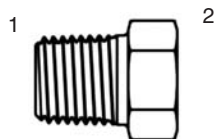


SAE 140139

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
01-02	S	1/16-27	1/8-27
02-02	S	1/8-27	1/8-27
02-04	S	1/8-27	1/4-18
02-06	S	1/8-27	3/8-18
02-08	S	1/8-27	1/2-14
4/28-02	S	1/4-28	1/8-27
04-04	S	1/4-18	1/4-18
04-06	S	1/4-18	3/8-18
04-08	S	1/4-18	1/2-14
04-12	S	1/4-18	3/4-14
06-06	S	3/8-18	3/8-18
06-08	S	3/8-18	1/2-14
06-12	S	3/8-18	3/4-14
08-08	S	1/2-14	1/2-14
08-12	S	1/2-14	3/4-14
08-16	S	1/2-14	1-11 1/2
12-08	S	3/4-14	1/2-14
12-12	S	3/4-14	3/4-14
12-16	S	3/4-14	1-11 1/2
12-20	S	3/4-14	1 1/4-11 1/2
16-16	S	1-11 1/2	1-11 1/2
16-20	S	1-11 1/2	1 1/4-11 1/2
16-24	S	1-11 1/2	1 1/2-11 1/2
20-20	S	1 1/4-11 1/2	1 1/4-11 1/2
20-24	S	1 1/4-11 1/2	1 1/2-11 1/2
24-32	S	1 1/2-11 1/2	2-11 1/2

5406-E

Short Hex Reducer Bushing



AUTOMOTIVE PIPE

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	Length*
04-02	S	1/4-18	1/8-27	.63"
06-02	S	3/8-18	1/8-27	.67"
06-04	S	3/8-18	1/4-18	.67"
08-02	S	1/2-14	1/8-27	.88"
08-04	S	1/2-14	1/4-18	.88"
08-06	S	1/2-14	3/8-18	.88"
12-02	S	3/4-14	1/8-27	.98"
12-04	S	3/4-14	1/4-18	.98"
12-06	S	3/4-14	3/8-18	.98"
12-08	S	3/4-14	1/2-14	.98"
16-02	S	1-11 1/2	1/8-27	1.12"
16-04	S	1-11 1/2	1/4-18	1.12"
16-06	S	1-11 1/2	3/8-18	1.12"
16-08	S	1-11 1/2	1/2-14	1.12"
16-12	S	1-11 1/2	3/4-14	1.18"
20-04	S	1 1/4-11 1/2	1/4-18	1.18"
20-06	S	1 1/4-11 1/2	3/8-18	1.18"
20-08	S	1 1/4-11 1/2	1/2-14	1.18"
20-12	S	1 1/4-11 1/2	3/4-14	1.18"
20-16	S	1 1/4-11 1/2	1-11 1/2	1.18"

*Length = Length of Hex

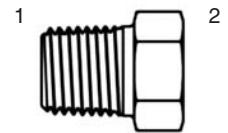
Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	Length*
02-01	S	1/8-27	1/16-27	
04-02	S	1/4-18	1/8-27	.85"
06-02	S	3/8-18	1/8-27	.85"
06-04	S	3/8-18	1/4-18	.85"
08-02	S	1/2-14	1/8-27	.85"
08-04	S	1/2-14	1/4-18	.85"
08-06	S	1/2-14	3/8-18	.85"
12-02	S	3/4-14	1/8-27	1.17"
12-04	S	3/4-14	1/4-18	1.17"
12-06	S	3/4-14	3/8-18	1.17"
12-08	S	3/4-14	1/2-14	1.17"
16-02	S	1-11 1/2	1/8-27	1.36"
16-04	S	1-11 1/2	1/4-18	1.36"
16-06	S	1-11 1/2	3/8-18	1.36"
16-08	S	1-11 1/2	1/2-14	1.36"
16-12	S	1-11 1/2	3/4-14	1.36"
20-04	S	1 1/4-11 1/2	1/4-18	1.47"
20-06	S	1 1/4-11 1/2	3/8-18	1.47"
20-08	S	1 1/4-11 1/2	1/2-14	1.47"
20-12	S	1 1/4-11 1/2	3/4-14	1.47"
20-16	S	1 1/4-11 1/2	1-11 1/2	1.47"
24-04	S	1 1/2-11 1/2	1/4-18	1.57"
24-06	S	1 1/2-11 1/2	3/8-18	1.57"
24-08	S	1 1/2-11 1/2	1/2-14	1.57"
24-12	S	1 1/2-11 1/2	3/4-14	1.57"
24-16	S	1 1/2-11 1/2	1-11 1/2	1.57"
24-20	S	1 1/2-11 1/2	1 1/4-11 1/2	1.57"
32-08	S	2-11 1/2	1/2-14	1.75"
32-12	S	2-11 1/2	3/4-14	1.75"
32-16	S	2-11 1/2	1-11 1/2	1.75"
32-20	S	2-11 1/2	1 1/4-11 1/2	1.75"
32-24	S	2-11 1/2	1 1/2-11 1/2	1.75"
40-32	S	2 1/2-11 1/2	2-11 1/2	2.35"
48-32	S	3-11 1/2	2-11 1/2	2.50"

*Length = Length of Hex

5406

Hex Reducer Bushing

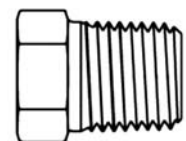


HYDRAULIC PIPE
SAE 140140

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	S	1/8-27
04	S	1/4-18
06	S	3/8-18
08	S	1/2-14
12	S	3/4-14
16	S	1-11 1/2
20	S	1 1/4-11 1/2
24	S	1 1/2-11 1/2
32	S	2-11 1/2

5406-P

Hex Head Plug



SAE 130109E

S= Steel

FG=Forging

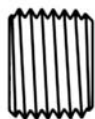
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5406-HHP

Hollow Hex Plug



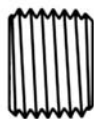
SAE 130109

Dash Size	Stock Materials*				T1 (NPTF)
	S	FG	SS	BR	
01	\$				1/16-27
02	\$		\$S		1/8-27
04	\$		\$S		1/4-18
06	\$		\$S		3/8-18
08	\$		\$S		1/2-14
12	\$		\$S		3/4-14
16	\$		\$S		1-11 1/2
20	\$				1 1/4-11 1/2
24	\$				1 1/2-11 1/2
32	\$				2-11 1/2

*Also available in aluminum and magnetic styles. Call for availability.

5406-FLP

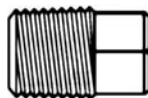
Flush Hollow Hex Plug 7/8 Taper



Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
01	\$				1/16-27
02	\$				1/8-27
04	\$				1/4-18
06	\$				3/8-18
08	\$				1/2-14
12	\$				3/4-14

5406-SHP

Square Head Plug

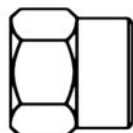


SAE 130109A

Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
01	\$				1/16-27
02	\$				1/8-27
04	\$				1/4-18
06	\$				3/8-18
08	\$				1/2-14
12	\$				3/4-14
16	\$				1-11 1/2
20	\$				1 1/4-11 1/2
24	\$				1 1/2-11 1/2
32	\$				2-11 1/2

5406-CAP

Pipe Cap



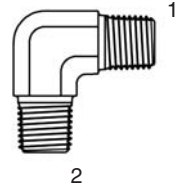
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02	\$		\$S		1/8-27
04	\$		\$S		1/4-18
06	\$		\$S		3/8-18
08	\$		\$S		1/2-14
12	\$		\$S		3/4-14
16	\$		\$S		1-11 1/2

Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	S FG SS	1/8-27	1/8-27
04-02	S FG	1/4-18	1/8-27
04	S FG SS	1/4-18	1/4-18
06-04	S FG SS	3/8-18	1/4-18
06	S FG SS	3/8-18	3/8-18
08-04	S FG	1/2-14	1/4-18
08-06	S FG SS	1/2-14	3/8-18
08	S FG SS	1/2-14	1/2-14
12-08	S FG	3/4-14	1/2-14
12	S FG SS	3/4-14	3/4-14
16-12	S FG	1-11 1/2	3/4-14
16	S FG SS	1-11 1/2	1-11 1/2
20-16	S	1 1/4-11 1/2	1-11 1/2
20	S FG SS	1 1/4-11 1/2	1 1/4-11 1/2
24-20	S	1 1/2-11 1/2	1 1/4-11 1/2
24	S FG	1 1/2-11 1/2	1 1/2-11 1/2
32	S	2-11 1/2	2-11 1/2

5500

Pipe Elbow 90°

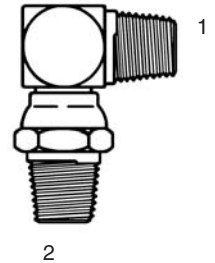


SAE 140237

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	FG	1/4-18	1/4-18
06-06	FG	3/8-18	3/8-18
08-08	FG	1/2-14	1/2-14
12-12	FG	3/4-14	3/4-14

5500-S

Pipe Swivel* Elbow 90°

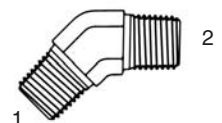


*Swivel For Installation Only

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02-02	S FG	1/8-27	1/8-27
04-04	S FG	1/4-18	1/4-18
06-06	S FG	3/8-18	3/8-18
08-08	S FG	1/2-14	1/2-14
12-12	S FG	3/4-14	3/4-14
16-16	S FG	1-11 1/2	1-11 1/2
20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2

5501

Pipe Elbow 45°



S= Steel

FG=Forging

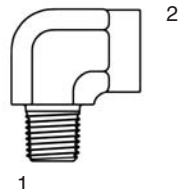
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5502

Street Elbow 90°

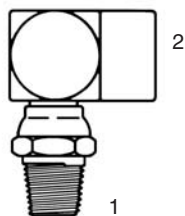


SAE 140239

Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)
	S	FG	SS BR		
02	S	FG	SS	1/8-27	1/8-27
02-04	S	FG	SS	1/8-27	1/4-18
4/28-02	S			1/4-28	1/8-27
04-02	S	FG	SS	1/4-18	1/8-27
04	S	FG	SS	1/4-18	1/4-18
04-06	S	FG	SS	1/4-18	3/8-18
04-08	S		SS	1/4-18	1/2-14
06-02	S	FG	SS	3/8-18	1/8-27
06-04	S	FG	SS	3/8-18	1/4-18
06	S	FG	SS	3/8-18	3/8-18
06-08	S	FG	SS	3/8-18	1/2-14
08-04	S	FG		1/2-14	1/4-18
08-06	S	FG	SS	1/2-14	3/8-18
08	S	FG	SS	1/2-14	1/2-14
08-12	S	FG		1/2-14	3/4-14
12-08	S	FG	SS	3/4-14	1/2-14
12	S	FG	SS	3/4-14	3/4-14
12-16	S			3/4-14	1-11 1/2
16-08	S			1-11 1/2	1/2-14
16-12	S	FG		1-11 1/2	3/4-14
16	S	FG	SS	1-11 1/2	1-11 1/2
16-20	S			1-11 1/2	1 1/4-11 1/2
20-16	S	FG		1 1/4-11 1/2	1-11 1/2
20	S	FG	SS	1 1/4-11 1/2	1 1/4-11 1/2
20-24	S			1 1/4-11 1/2	1 1/2-11 1/2
24-20	S	FG		1 1/2-11 1/2	1 1/4-11 1/2
24	S	FG	SS	1 1/2-11 1/2	1 1/2-11 1/2
32	S	FG		2-11 1/2	2-11 1/2

5502-S

Street Elbow Pipe Swivel* 90°



Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)
	S	FG	SS BR		
04-04		FG		1/4-18	1/4-18
06-06		FG		3/8-18	3/8-18
08-08		FG		1/2-14	1/2-14
12-12		FG		3/4-14	3/4-14

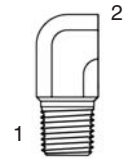
*Swivel For Installation Only

Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	S	1/8-27	1/8-27
04	S	1/4-18	1/4-18
06	S	3/8-18	3/8-18
08	S	1/2-14	1/2-14

5502-X

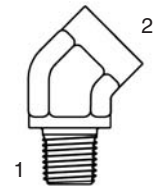
Short Body Street Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	S FG SS	1/8-27	1/8-27
4/28-02	S	1/4-28	1/8-27
04	S FG SS	1/4-18	1/4-18
06	S FG SS	3/8-18	3/8-18
08	S FG SS	1/2-14	1/2-14
12	S FG SS	3/4-14	3/4-14
16	S FG SS	1-11 1/2	1-11 1/2
20	S FG SS	1 1/4-11 1/2	1 1/4-11 1/2
24	S FG	1 1/2-11 1/2	1 1/2-11 1/2
32	S	2-11 1/2	2-11 1/2

5503

Street Elbow 45°

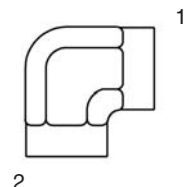


SAE 140339

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	S FG SS	1/8-27	1/8-27
04-02	S FG SS	1/4-18	1/8-27
04	S FG SS	1/4-18	1/4-18
06-04	S FG	3/8-18	1/4-18
06	S FG SS	3/8-18	3/8-18
08-04	S FG SS	1/2-14	1/4-18
08-06	S FG SS	1/2-14	3/8-18
08	S FG SS	1/2-14	1/2-14
12-08	S FG SS	3/4-14	1/2-14
12	S FG SS	3/4-14	3/4-14
16-12	S FG SS	1-11 1/2	3/4-14
16	S FG SS	1-11 1/2	1-11 1/2
20	S FG SS	1 1/4-11 1/2	1 1/4-11 1/2
24	S FG SS	1 1/2-11 1/2	1 1/2-11 1/2
32	S	2-11 1/2	2-11 1/2

5504

Pipe Elbow 90°

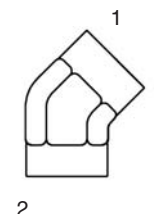


SAE 140238

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	S FG	1/8-27	1/8-27
04	S FG	1/4-18	1/4-18
06	S FG	3/8-18	3/8-18
08	S FG	1/2-14	1/2-14
12	S FG	3/4-14	3/4-14
16	S FG	1-11 1/2	1-11 1/2
20	S FG	1 1/4-11 1/2	1 1/4-11 1/2

5505

Pipe Elbow 45°



SAE 140338

S= Steel

FG=Forging

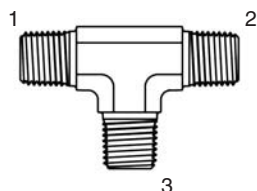
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5600

Pipe Tee

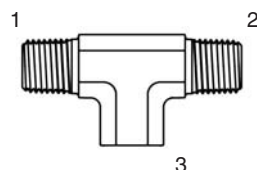


SAE 140437

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	\$	FG	SS		1/8-27	1/8-27	1/8-27
04	\$	FG	SS		1/4-18	1/4-18	1/4-18
06	\$	FG	SS		3/8-18	3/8-18	3/8-18
08	\$	FG	SS		1/2-14	1/2-14	1/2-14
12	\$	FG	SS		3/4-14	3/4-14	3/4-14
16	\$	FG			1-11 1/2	1-11 1/2	1-11 1/2
20	\$				1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	\$				1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

5601

Pipe Tee

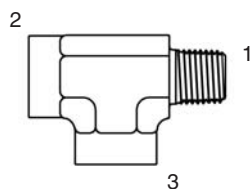


SAE 140427

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	\$	FG			1/8-27	1/8-27	1/8-27
04	\$	FG	SS		1/4-18	1/4-18	1/4-18
06	\$	FG			3/8-18	3/8-18	3/8-18
08	\$	FG	SS		1/2-14	1/2-14	1/2-14
12	\$	FG	SS		3/4-14	3/4-14	3/4-14
16	\$	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	\$	FG			1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	\$	FG			1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

5602

Street Tee

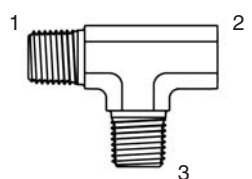


SAE 140424

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	\$	FG	SS		1/8-27	1/8-27	1/8-27
04	\$	FG	SS		1/4-18	1/4-18	1/4-18
06	\$	FG	SS		3/8-18	3/8-18	3/8-18
08	\$	FG	SS		1/2-14	1/2-14	1/2-14
12	\$	FG	SS		3/4-14	3/4-14	3/4-14
16	\$	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	\$	FG	SS		1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	\$	FG	SS		1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
32	\$				2-11 1/2	2-11 1/2	2-11 1/2

5603

Pipe Tee



SAE 140426

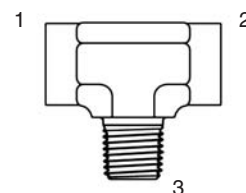
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	\$	FG			1/8-27	1/8-27	1/8-27
04	\$	FG	SS		1/4-18	1/4-18	1/4-18
06	\$	FG			3/8-18	3/8-18	3/8-18
08	\$	FG	SS		1/2-14	1/2-14	1/2-14
12	\$	FG	SS		3/4-14	3/4-14	3/4-14
16	\$	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	\$	FG			1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	\$	FG			1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
32	\$				2-11 1/2	2-11 1/2	2-11 1/2

Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	S	FG	SS		1/8-27	1/8-27	1/8-27
04	S	FG	SS		1/4-18	1/4-18	1/4-18
06	S	FG	SS		3/8-18	3/8-18	3/8-18
08	S	FG	SS		1/2-14	1/2-14	1/2-14
12	S	FG	SS		3/4-14	3/4-14	3/4-14
16	S	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	S	FG			1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	S	FG			1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
32	S				2-11 1/2	2-11 1/2	2-11 1/2

5604

Branch Tee

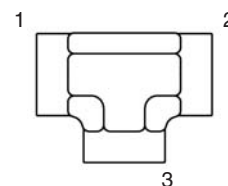


SAE 14042S

Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	S	FG	SS		1/8-27	1/8-27	1/8-27
04	S	FG	SS		1/4-18	1/4-18	1/4-18
06	S	FG	SS		3/8-18	3/8-18	3/8-18
08	S	FG	SS		1/2-14	1/2-14	1/2-14
12	S	FG	SS		3/4-14	3/4-14	3/4-14
16	S	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	S	FG	SS		1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	S	FG	SS		1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
32	S	FG			2-11 1/2	2-11 1/2	2-11 1/2

5605

Pipe Tee

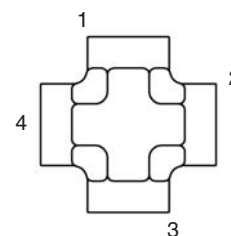


SAE 140438

Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
02	S	FG	SS		1/8-27	1/8-27	1/8-27
04	S	FG	SS		1/4-18	1/4-18	1/4-18
06	S	FG	SS		3/8-18	3/8-18	3/8-18
08	S	FG	SS		1/2-14	1/2-14	1/2-14
12	S	FG			3/4-14	3/4-14	3/4-14
16	S	FG			1-11 1/2	1-11 1/2	1-11 1/2
20	S	FG			1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	S	FG			1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
32	S	FG			2-11 1/2	2-11 1/2	2-11 1/2

5652

Pipe Cross

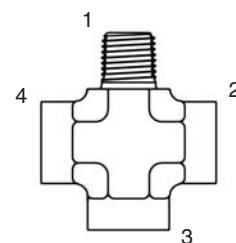


SAE 140538

Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
04	S	FG			1/4-18	1/4-18	1/4-18
06	S	FG			3/8-18	3/8-18	3/8-18
08	S	FG			1/2-14	1/2-14	1/2-14
12	S	FG			3/4-14	3/4-14	3/4-14

5655

Pipe Cross



S= Steel

FG=Forging

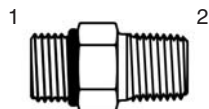
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

6401

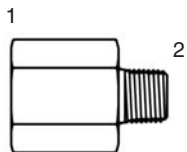
O-Ring to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
03-02	S	3/8-27	1/8-27
04-02	S SS	7/16-20	1/8-27
04-04	S SS	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
05-02	S	1/2-20	1/8-27
06-04	S SS	9/16-18	1/4-18
06-06	S SS	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
08-04	S	3/4-16	1/4-18
08-06	S SS	3/4-16	3/8-18
08-08	S SS	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-06	S	7/8-14	3/8-18
10-08	S SS	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-08	S	1 1/16-12	1/2-14
12-12	S SS	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
16-12	S SS	1 5/16-12	3/4-14
16-16	S SS	1 5/16-12	1-11 1/2
16-20	S	1 5/16-12	1 1/4-11 1/2
20-20	S SS	1 5/8-12	1 1/4-11 1/2
24-16	S	1 7/8-12	1-11 1/2
24-20	S	1 7/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2
32-32	S	2 1/2-12	2-11 1/2

6404

O-Ring to Pipe



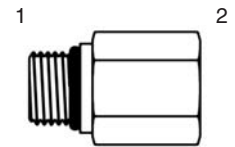
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
05-02	S	1/2-20	1/8-27
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
08-04	S	3/4-16	1/4-18
08-06	S	3/4-16	3/8-18
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-06	S	7/8-14	3/8-18
10-08	S	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-12	S	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
16-16	S	1 5/16-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2

Steel Pipe Adapters

Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
02-02				5/16-24	1/8-27
02-04				5/16-24	1/4-18
03-04				3/8-24	1/4-18
04-02				7/16-20	1/8-27
04-04				7/16-20	1/4-18
04-06				7/16-20	3/8-18
05-02				1/2-20	1/8-27
05-04				1/2-20	1/4-18
06-02				9/16-18	1/8-27
06-04				9/16-18	1/4-18
06-06				9/16-18	3/8-18
06-08				9/16-18	1/2-14
06-12				9/16-18	3/4-14
08-02				3/4-16	1/8-27
08-04				3/4-16	1/4-18
08-06				3/4-16	3/8-18
08-08				3/4-16	1/2-14
08-12				3/4-16	3/4-14
10-04				7/8-14	1/4-18
10-06				7/8-14	3/8-18
10-08				7/8-14	1/2-14
10-12				7/8-14	3/4-14
12-04				1 1/16-12	1/4-18
12-06				1 1/16-12	3/8-18
12-08				1 1/16-12	1/2-14
12-12				1 1/16-12	3/4-14
12-16				1 1/16-12	1-11 1/2
12-20				1 1/16-12	1 1/4-11 1/2
12-24				1 1/16-12	1 1/2-11 1/2
14-12				1 3/16-12	3/4-14
14-16				1 3/16-12	1-11 1/2
16-06				1 5/16-12	3/8-18
16-08				1 5/16-12	1/2-14
16-12				1 5/16-12	3/4-14
16-16				1 5/16-12	1-11 1/2
16-20				1 5/16-12	1 1/4-11 1/2
20-08				1 5/8-12	1/2-14
20-12				1 5/8-12	3/4-14
20-16				1 5/8-12	1-11 1/2
20-20				1 5/8-12	1 1/4-11 1/2
20-24				1 5/8-12	1 1/2-11 1/2
24-12				1 7/8-12	3/4-14
24-16				1 7/8-12	1-11 1/2
24-20				1 7/8-12	1 1/4-11 1/2
24-24				1 7/8-12	1 1/2-11 1/2

6405

O-Ring to Pipe



S= Steel

FG=Forging

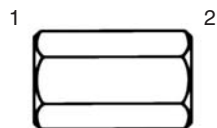
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

6420

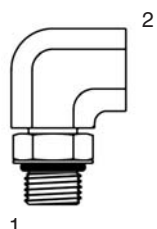
O-Ring to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
06-06	☒ S	9/16-18	3/8-18
08-08	☒ S	3/4-16	1/2-14
10-08	☒ S	7/8-14	1/2-14

6805

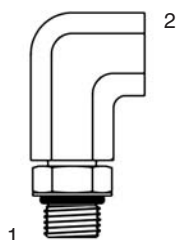
O-Ring to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	☒ S ☒ FG	7/16-20	1/8-27
04-04	☒ S ☒ FG	7/16-20	1/4-18
05-02	☒ S	1/2-20	1/8-27
06-04	☒ S ☒ FG	9/16-18	1/4-18
06-06	☒ S ☒ FG	9/16-18	3/8-18
08-06	☒ S ☒ FG	3/4-16	3/8-18
08-08	☒ S ☒ FG	3/4-16	1/2-14
10-06	☒ S ☒ FG	7/8-14	3/8-18
10-08	☒ S ☒ FG	7/8-14	1/2-14
12-08	☒ S ☒ FG	1 1/16-12	1/2-14
12-12	☒ S ☒ FG	1 1/16-12	3/4-14
14-12	☒ S ☒ FG	1 3/16-12	3/4-14
16-12	☒ S ☒ FG	1 5/16-12	3/4-14
16-16	☒ S ☒ FG	1 5/16-12	1-11 1/2
20-20	☒ S ☒ FG	1 5/8-12	1 1/4-11 1/2
24-24	☒ S ☒ FG	1 7/8-12	1 1/2-11 1/2
32-32	☒ S	2 1/2-12	2-11 1/2

6805-LL

Extra Long O-Ring to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	Length*
08-06	☒ S ☒ FG	3/4-16	3/8-18	2.94"
10-08	☒ S ☒ FG	7/8-14	1/2-14	3.56"
12-12	☒ S ☒ FG	1 1/16-12	3/4-14	4.13"
16-16	☒ S ☒ FG	1 5/16-12	1-11 1/2	4.63"

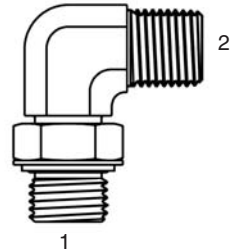
*Length = Middle of NPTF to End of Threads

Steel Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S FG	7/16-20	1/8-27
04-04	S FG	7/16-20	1/4-18
06-04	S FG	9/16-18	1/4-18
06-06	S FG	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
08-06	S FG	3/4-16	3/8-18
08-08	S FG	3/4-16	1/2-14
10-08	S FG	7/8-14	1/2-14
12-12	S FG	1 1/16-12	3/4-14
16-12	S FG	1 5/16-12	3/4-14
16-16	S FG	1 5/16-12	1-11 1/2
20-20	S FG	1 5/8-12	1 1/4-11 1/2
24-24	S FG	1 7/8-12	1 1/2-11 1/2
32-32	S FG	2 1/2-12	2-11 1/2

6806

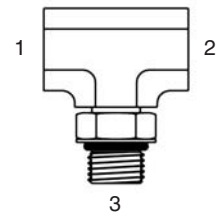
**O-Ring to
Pipe Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 (UNF)
04-04-06	S	1/4-18	1/4-18	9/16-18
06-06-06	S	3/8-18	3/8-18	9/16-18
06-08-08	S	3/8-18	1/2-14	3/4-16

6855

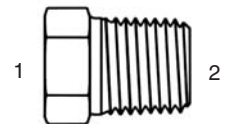
**Pipe to O-Ring
Branch Tee**

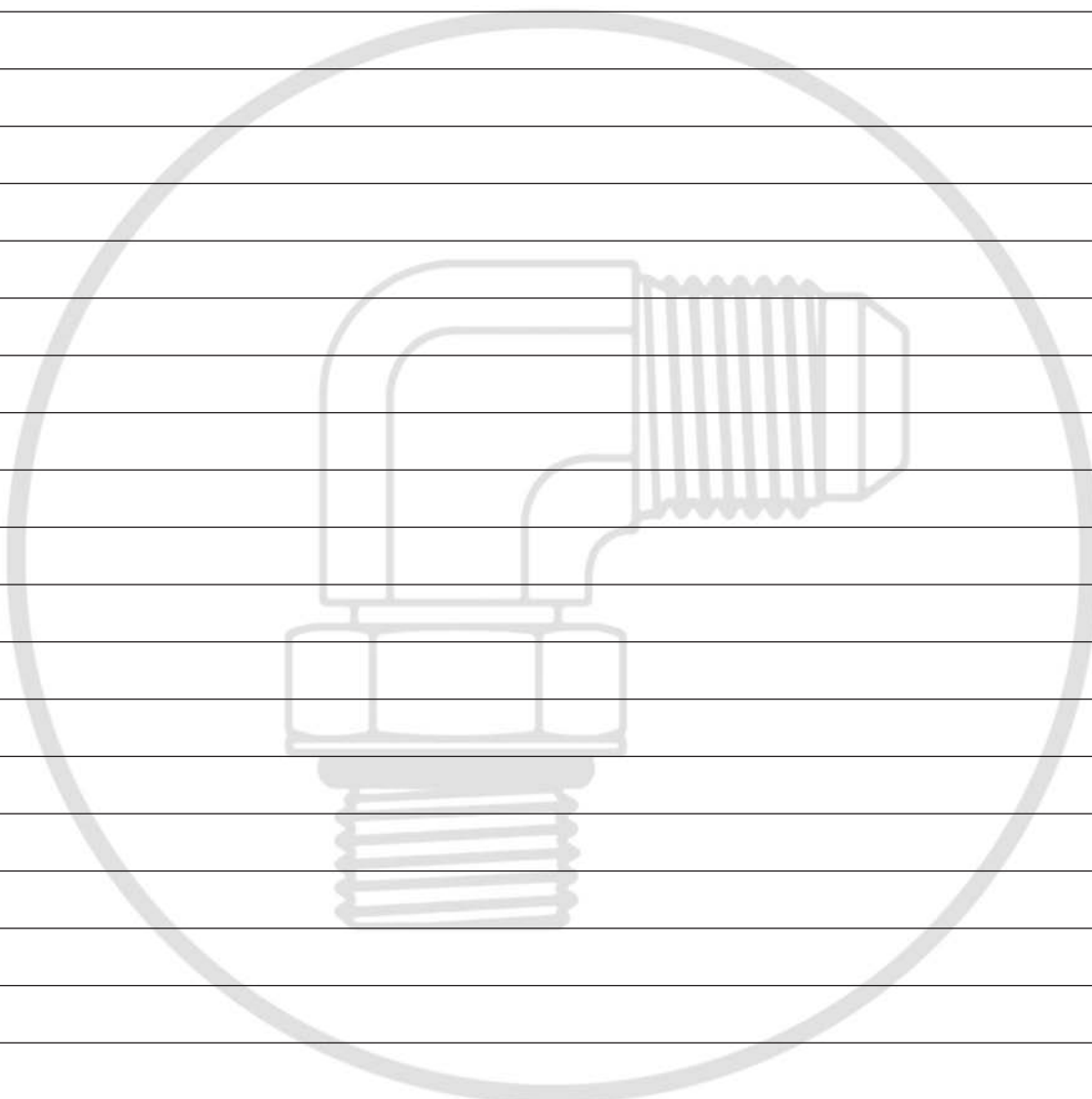


Dash Size	Stock Materials S FG SS BR	Braze Port	T2 (NPTF)
06-04	S	3/8	1/4-18
08-06	S	1/2	3/8-18
10-08	S	5/8	1/2-14
12-08	S	3/4	1/2-14
12-12	S	3/4	3/4-14
16-16	S	1	1-11 1/2
20-16	S	1 1/4	1-11 1/2
20-20	S	1 1/4	1 1/4-11 1/2
24-24	S	1 1/2	1 1/2-11 1/2

404

**Braze Port
to Pipe**





Steel Pipe Swivel Adapters

CONFORMANCE

- SAE J514
- 30-Degree Chamfers – Most of Tompkins NPSM pipe swivel union fittings have 30-degree chamfers on NPTF male end of fittings. This chamfer is optional per SAE J514. If chamfer is mandatory, consult with our customer service department to verify chamfer exists on item you are requesting.

MATERIALS

- Steel – Carbon steel Zinc plated with yellow Dichromate per ASTM B633-98 (Type II SC-2).
- Stainless – Type 316 (When ordering stainless, include the prefix SS at the beginning of the part number).

WORKING PRESSURES

The following table lists the recommended working pressures for steel NPSM pipe swivel union hydraulic fittings made in accordance with SAE standard J514. Many factors such as impulsing, vibration, mechanical shock and overtightening may affect the integrity of the fitting and swivel union connection. Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using fittings with different size or thread type, use the lower pressure rating of the two threads.



CAUTION: NPSM pipe swivel unions are not designed to provide structural support for other components.

SAE J514 NPSM PRESSURE RATINGS

DASH SIZE	NPSM THREAD SIZE	4 TO 1 MINIMUM BURST PSI
-02	1/8-27	5000
-04	1/4-18	5000
-06	3/8-18	4000
-08	1/2-14	3500
-12	3/4-14	2250
-16	1-11 1/2	2000
-20	1 1/4-11 1/2	1625
-24	1 1/2-11 1/2	1250
-32	2-11 1/2	1125

See **SAE STRAIGHT THREAD O-RING SECTION** for assembly instructions and torque values for installation of **NPSM SWIVEL UNIONS** with O-ring straight threads.

See **NPTF PIPE SECTION** for assembly instructions and proper thread engagement for **NPSM SWIVEL UNIONS** with pipe threads.

TORQUE VALUES: The torque values provided by Tompkins Industries are to provide benchmarks that we believe give optimum results for leak free connections. Actual torque values should be based on individual applications.

RECOMMENDED NPSM SWIVEL UNION ASSEMBLY INSTRUCTIONS

STEP 1. Inspect male pipe fitting connecting to swivel and confirm that it has an internal 30-degree chamfer. Do not install into union if chamfer is missing.

STEP 2. Lubricate the threads and the entire chamfered area of male fitting with hydraulic fluid or other light weight lubricant.

STEP 3. Install lubricated pipe fitting into swivel nut and turn nut until finger tight.

STEP 4. Place wrench on hex of male fitting to prevent male fitting from turning, and torque swivel nut to the values in the following table.

CAUTION: When torquing swivel nut on straight swivel union fittings, it may be necessary to also place a third wrench on the fitting wrench pad to prevent the fitting from backing out of its port while torquing the swivel nut.

DASH SIZE	NPSM THREAD SIZE	TORQUE FOOT/LBS
-02	1/8-27	13
-04	1/4-18	20
-06	3/8-18	25
-08	1/2-14	47
-12	3/4-14	84
-16	1-11 1/2	129
-20	1 1/4-11 1/2	152
-24	1 1/2-11 1/2	152
-32	2-11 1/2	300

ALTERNATE ASSEMBLY METHOD

STEP 1. If torque method not possible, follow steps 1-3 above, then proceed to the steps below.

STEP 2. Place wrench on hex of male pipe fitting and consider this wrench in the 12 o'clock position.

STEP 3. Lightly wrench tighten the swivel union nut until there is firm resistance.

STEP 4. Place second wrench on swivel union nut so that the wrench is as near the 3 o'clock position as possible.

STEP 5. Rotate wrench in 3 o'clock position counter-clockwise to no less than the 1 o'clock position, but no more than the 12 o'clock position.

WHY WET TORQUE?

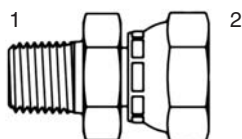
Due to differences in materials, plating types and thickness, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Over tightening causes threads to yield, deform, and therefore lose their ability to maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks.

It is our firm position that to not wet torque is to compromise consistency and quality for convenience.

Steel Pipe Swivel Adapters

1404

Pipe Swivel Union

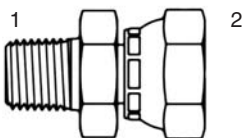


SAE 140130

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
02-02	\$		SS		1/8-27	1/8-27
02-04	\$		SS		1/8-27	1/4-18
04-02	\$		SS		1/4-18	1/8-27
04-04	\$		SS		1/4-18	1/4-18
04-06	\$		SS		1/4-18	3/8-18
04-08	\$		SS		1/4-18	1/2-14
06-04	\$		SS		3/8-18	1/4-18
06-06	\$		SS		3/8-18	3/8-18
06-08	\$		SS		3/8-18	1/2-14
08-04	\$		SS		1/2-14	1/4-18
08-06	\$		SS		1/2-14	3/8-18
08-08	\$		SS		1/2-14	1/2-14
08-12	\$				1/2-14	3/4-14
12-06	\$				3/4-14	3/8-18
12-08	\$		SS		3/4-14	1/2-14
12-12	\$		SS		3/4-14	3/4-14
12-16	\$		SS		3/4-14	1-11 1/2
16-06	\$				1-11 1/2	3/8-18
16-12	\$		SS		1-11 1/2	3/4-14
16-16	\$		SS		1-11 1/2	1-11 1/2
16-20	\$				1-11 1/2	1 1/4-11 1/2
16-24	\$				1-11 1/2	1 1/2-11 1/2
20-16	\$				1 1/4-11 1/2	1-11 1/2
20-20	\$		SS		1 1/4-11 1/2	1 1/4-11 1/2
20-24	\$		SS		1 1/4-11 1/2	1 1/2-11 1/2
24-20	\$				1 1/2-11 1/2	1 1/4-11 1/2
24-24	\$		SS		1 1/2-11 1/2	1 1/2-11 1/2
32-32	\$		SS		2-11 1/2	2-11 1/2

RST1404

Restricted Pipe Swivel Union



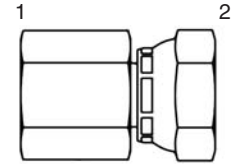
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	Restriction
	S	FG	SS	BR			
04-04-R.000	\$				1/4-18	1/4-18	.000
04-04-R.031	\$				1/4-18	1/4-18	.031
04-04-R.062	\$				1/4-18	1/4-18	.062
06-04-R.000	\$				3/8-18	1/4-18	.000
06-04-R.031	\$				3/8-18	1/4-18	.031
06-04-R.062	\$				3/8-18	1/4-18	.062
06-06-R.000	\$				3/8-18	3/8-18	.000
06-06-R.031	\$				3/8-18	3/8-18	.031
06-06-R.047	\$				3/8-18	3/8-18	.047
06-06-R.062	\$				3/8-18	3/8-18	.062
08-06-R.000	\$				1/2-14	3/8-18	.000
08-06-R.062	\$				1/2-14	3/8-18	.062
08-08-R.000	\$				1/2-14	1/2-14	.000
08-08-R.031	\$				1/2-14	1/2-14	.031
08-08-R.045	\$				1/2-14	1/2-14	.045
08-08-R.062	\$				1/2-14	1/2-14	.062
08-08-R.094	\$				1/2-14	1/2-14	.094
08-08-R.109	\$				1/2-14	1/2-14	.109

Steel Pipe Swivel Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
02-02	S SS	1/8-27	1/8-27
02-04	S	1/8-27	1/4-18
04-02	S	1/4-18	1/8-27
04-04	S SS	1/4-18	1/4-18
04-06	S SS	1/4-18	3/8-18
04-08	S	1/4-18	1/2-14
06-04	S SS	3/8-18	1/4-18
06-06	S SS	3/8-18	3/8-18
06-08	S SS	3/8-18	1/2-14
08-04	S	1/2-14	1/4-18
08-06	S	1/2-14	3/8-18
08-08	S SS	1/2-14	1/2-14
08-12	S	1/2-14	3/4-14
12-06	S	3/4-14	3/8-18
12-08	S	3/4-14	1/2-14
12-12	S SS	3/4-14	3/4-14
12-16	S	3/4-14	1-11 1/2
16-12	S	1-11 1/2	3/4-14
16-16	S SS	1-11 1/2	1-11 1/2
20-20	S SS	1 1/4-11 1/2	1 1/4-11 1/2
24-24	S SS	1 1/2-11 1/2	1 1/2-11 1/2
32-32	S SS	2-11 1/2	2-11 1/2

1405

Pipe Swivel Union

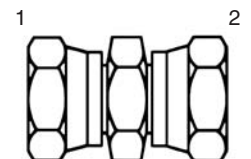


SAE 140131

Dash Size	Stock Materials S FG SS BR	T1 (NPSM)	T2 (NPSM)
04-04	S	1/4-18	1/4-18
06-06	S	3/8-18	3/8-18
08-08	S	1/2-14	1/2-14
12-12	S	3/4-14	3/4-14
16-16	S	1-11 1/2	1-11 1/2
20-20	S	1 1/4-11 1/2	1 1/4-11 1/2

1406

Pipe Dual Swivel Union



S= Steel

FG=Forging

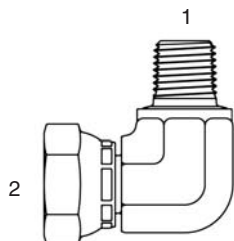
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

1501

Pipe Swivel Elbow 90°

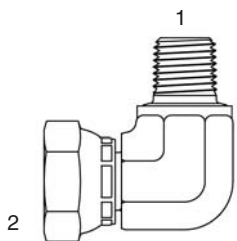


SAE 140230

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
02-02	S	FG	SS		1/8-27	1/8-27
02-04	S	FG			1/8-27	1/4-18
04-02	S	FG			1/4-18	1/8-27
04-04	S	FG	SS		1/4-18	1/4-18
04-06	S	FG	SS		1/4-18	3/8-18
04-08	S	FG			1/4-18	1/2-14
06-04	S		SS		3/8-18	1/4-18
06-06	S	FG	SS		3/8-18	3/8-18
06-08	S	FG			3/8-18	1/2-14
06-12	S				3/8-18	3/4-14
08-04	S	FG			1/2-14	1/4-18
08-06	S	FG	SS		1/2-14	3/8-18
08-08	S	FG	SS		1/2-14	1/2-14
08-12	S	FG			1/2-14	3/4-14
12-04	S				3/4-14	1/4-18
12-06	S	FG			3/4-14	3/8-18
12-08	S	FG			3/4-14	1/2-14
12-12	S	FG	SS		3/4-14	3/4-14
12-16	S	FG			3/4-14	1-11 1/2
16-08	S				1-11 1/2	1/2-14
16-12	S	FG			1-11 1/2	3/4-14
16-16	S	FG	SS		1-11 1/2	1-11 1/2
16-20	S	FG			1-11 1/2	1 1/4-11 1/2
20-12	S	FG			1 1/4-11 1/2	3/4-14
20-16	S	FG			1 1/4-11 1/2	1-11 1/2
20-20	S	FG	SS		1 1/4-11 1/2	1 1/4-11 1/2
20-24	S				1 1/4-11 1/2	1 1/2-11 1/2
24-20	S	FG			1 1/2-11 1/2	1 1/4-11 1/2
24-24	S	FG	SS		1 1/2-11 1/2	1 1/2-11 1/2
32-32	S	FG	SS		2-11 1/2	2-11 1/2

RST1501

Restricted Pipe Swivel Elbow 90°



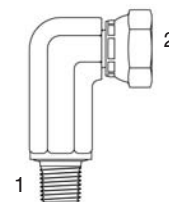
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	Restriction
	S	FG	SS	BR			
04-04-R.000	S				1/4-18	1/4-18	.000
04-04-R.031	S				1/4-18	1/4-18	.031
04-04-R.062	S				1/4-18	1/4-18	.062
06-04-R.000	S				3/8-18	1/4-18	.000
06-04-R.031	S				3/8-18	1/4-18	.031
06-04-R.062	S				3/8-18	1/4-18	.062
06-06-R.000	S				3/8-18	3/8-18	.000
06-06-R.031	S				3/8-18	3/8-18	.031
06-06-R.047	S				3/8-18	3/8-18	.047
06-06-R.062	S				3/8-18	3/8-18	.062
06-08-R.031	S				3/8-18	1/2-14	.031
08-06-R.000	S				1/2-14	3/8-18	.000
08-06-R.031	S				1/2-14	3/8-18	.031
08-06-R.062	S				1/2-14	3/8-18	.062
08-08-R.000	S				1/2-14	1/2-14	.000
08-08-R.031	S				1/2-14	1/2-14	.031
08-08-R.062	S				1/2-14	1/2-14	.062

Steel Pipe Swivel Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)	Length*
02-02	S	1/8-27	1/8-27	1.68"
04-04	S	1/4-18	1/4-18	2.37"
06-06	S	3/8-18	3/8-18	2.81"
08-08	S	1/2-14	1/2-14	3.25"
12-12	S	3/4-14	3/4-14	3.60"
16-16	S	1-11 1/2	1-11 1/2	4.25"
*Length = Middle of NPSM to End of Threads				

1501-LL

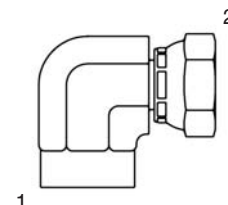
Pipe Swivel Elbow Long 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
02-02	S FG	1/8-27	1/8-27
04-02	S	1/4-18	1/8-27
04-04	S FG SS	1/4-18	1/4-18
04-06	S	1/4-18	3/8-18
06-04	S	3/8-18	1/4-18
06-06	S FG SS	3/8-18	3/8-18
06-08	S	3/8-18	1/2-14
08-04	S	1/2-14	1/4-18
08-06	S	1/2-14	3/8-18
08-08	S FG SS	1/2-14	1/2-14
08-12	S	1/2-14	3/4-14
12-08	S	3/4-14	1/2-14
12-12	S FG SS	3/4-14	3/4-14
12-16	S	3/4-14	1-11 1/2
16-12	S	1-11 1/2	3/4-14
16-16	S FG	1-11 1/2	1-11 1/2
20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2
24-24	S FG	1 1/2-11 1/2	1 1/2-11 1/2
32-32	S FG	2-11 1/2	2-11 1/2

1502

Pipe Swivel Elbow 90°

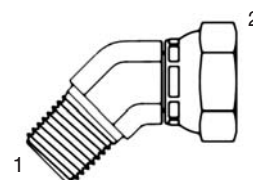


SAE 140231

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
02-02	S FG	1/8-27	1/8-27
02-04	S	1/8-27	1/4-18
04-02	S	1/4-18	1/8-27
04-04	S FG SS	1/4-18	1/4-18
04-06	S	1/4-18	3/8-18
06-04	S FG	3/8-18	1/4-18
06-06	S FG SS	3/8-18	3/8-18
06-08	S FG	3/8-18	1/2-14
08-04	S	1/2-14	1/4-18
08-06	S FG	1/2-14	3/8-18
08-08	S FG SS	1/2-14	1/2-14
08-12	S FG	1/2-14	3/4-14
12-06	S	3/4-14	3/8-18
12-08	S FG	3/4-14	1/2-14
12-12	S FG SS	3/4-14	3/4-14
12-16	S FG	3/4-14	1-11 1/2
16-12	S FG	1-11 1/2	3/4-14
16-16	S FG SS	1-11 1/2	1-11 1/2
16-20	S FG	1-11 1/2	1 1/4-11 1/2
20-16	S FG	1 1/4-11 1/2	1-11 1/2
20-20	S FG SS	1 1/4-11 1/2	1 1/4-11 1/2
24-24	S FG SS	1 1/2-11 1/2	1 1/2-11 1/2
32-32	S FG	2-11 1/2	2-11 1/2

1503

Pipe Swivel Elbow 45°



SAE 140330

S= Steel

FG=Forging

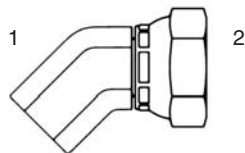
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

1504

Pipe Swivel Elbow 45°

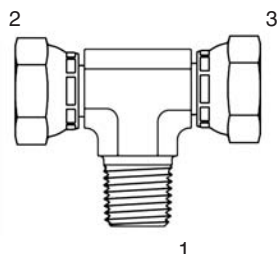


SAE 140331

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
02-02	S	1/8-27	1/8-27
04-02	S	1/4-18	1/8-27
04-04	S FG SS	1/4-18	1/4-18
06-04	S FG	3/8-18	1/4-18
06-06	S FG SS	3/8-18	3/8-18
08-06	S	1/2-14	3/8-18
08-08	S FG SS	1/2-14	1/2-14
12-08	S	3/4-14	1/2-14
12-12	S FG SS	3/4-14	3/4-14
16-16	S FG SS	1-11 1/2	1-11 1/2
20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2
24-24	S	1 1/2-11 1/2	1 1/2-11 1/2

1601

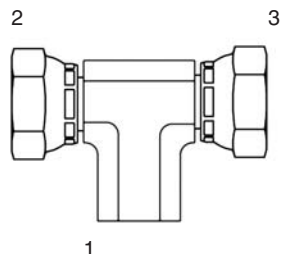
Pipe Branch Tee Swivel Union



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)	T3 (NPSM)
02-02-02	S FG	1/8-27	1/8-27	1/8-27
04-04-04	S FG	1/4-18	1/4-18	1/4-18
04-06-06	S FG	1/4-18	3/8-18	3/8-18
06-04-04	S FG	3/8-18	1/4-18	1/4-18
06-08-08	S FG	3/8-18	1/2-14	1/2-14
08-04-04	S FG	1/2-14	1/4-18	1/4-18
08-06-06	S FG	1/2-14	3/8-18	3/8-18
08-08-08	S FG	1/2-14	1/2-14	1/2-14
12-08-08	S FG	3/4-14	1/2-14	1/2-14
12-12-12	S	3/4-14	3/4-14	3/4-14
16-12-12	S	1-11 1/2	3/4-14	3/4-14
16-16-12	S FG	1-11 1/2	1-11 1/2	3/4-14
16-16-16	S FG	1-11 1/2	1-11 1/2	1-11 1/2
20-20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24-24-24	S	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

1602

Pipe Branch Tee Swivel Union



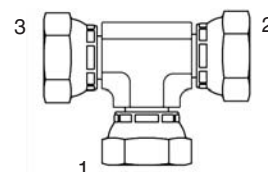
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)	T3 (NPSM)
02-02-02	S FG	1/8-27	1/8-27	1/8-27
04-04-04	S FG	1/4-18	1/4-18	1/4-18
06-04-04	S	3/8-18	1/4-18	1/4-18
06-06-06	S FG	3/8-18	3/8-18	3/8-18
06-08-08	S	3/8-18	1/2-14	1/2-14
08-06-06	S FG	1/2-14	3/8-18	3/8-18
08-08-08	S FG	1/2-14	1/2-14	1/2-14
12-08-08	S FG	3/4-14	1/2-14	1/2-14
12-12-12	S FG	3/4-14	3/4-14	3/4-14
16-12-12	S	1-11 1/2	3/4-14	3/4-14
16-16-16	S FG	1-11 1/2	1-11 1/2	1-11 1/2
20-20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24-24-24	S	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

Steel Pipe Swivel Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPSM)	T2 (NPSM)	T3 (NPSM)
02-02-02	S FG	1/8-27	1/8-27	1/8-27
04-04-04	S FG	1/4-18	1/4-18	1/4-18
06-06-06	S FG	3/8-18	3/8-18	3/8-18
08-08-08	S FG	1/2-14	1/2-14	1/2-14
12-12-12	S	3/4-14	3/4-14	3/4-14
16-16-16	S FG	1-11 1/2	1-11 1/2	1-11 1/2
20-20-20	S FG	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2

1603

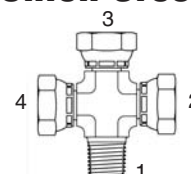
Pipe Swivel Union Tee



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)	T3 & T4 (NPSM)
06-06	S	3/8-18	3/8-18	3/8-18
08-08	S	1/2-14	1/2-14	1/2-14

1604

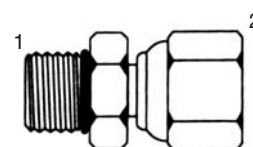
Pipe Swivel Union Cross



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPSM)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
04-08	S	7/16-20	1/2-14
05-04	S	1/2-20	1/4-18
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
08-04	S	3/4-16	1/4-18
08-06	S	3/4-16	3/8-18
08-08	S SS	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-06	S	7/8-14	3/8-18
10-08	S	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-06	S	1 1/16-12	3/8-18
12-08	S	1 1/16-12	1/2-14
12-12	S SS	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
14-12	S	1 3/16-12	3/4-14
16-12	S	1 5/16-12	3/4-14
16-16	S	1 5/16-12	1-11 1/2
16-20	S	1 5/16-12	1 1/4-11 1/2
20-12	S	1 5/8-12	3/4-14
20-16	S	1 5/8-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
24-20	S	1 7/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2
32-32	S	2 1/2-12	2-11 1/2

6900

O-Ring to Pipe Swivel Union



SAE 140157

S= Steel

FG=Forging

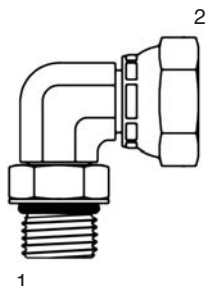
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

6901

O-Ring to Pipe Swivel Elbow 90°

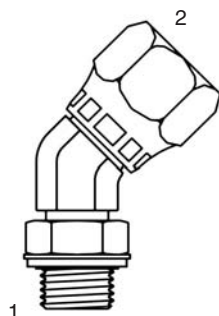


SAE 140257

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPSM)
04-02	S	7/16-20	1/8-27
04-04	S FG	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
06-04	S FG	9/16-18	1/4-18
06-06	S FG	9/16-18	3/8-18
06-08	S FG	9/16-18	1/2-14
08-04	S	3/4-16	1/4-18
08-06	S FG	3/4-16	3/8-18
08-08	S FG	3/4-16	1/2-14
08-12	S FG	3/4-16	3/4-14
10-06	S FG	7/8-14	3/8-18
10-08	S FG	7/8-14	1/2-14
10-12	S FG	7/8-14	3/4-14
12-06	S	1 1/16-12	3/8-18
12-08	S FG	1 1/16-12	1/2-14
12-12	S FG	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
14-12	S	1 3/16-12	3/4-14
16-12	S	1 5/16-12	3/4-14
16-16	S FG	1 5/16-12	1-11 1/2
16-20	S	1 5/16-12	1 1/4-11 1/2
20-12	S	1 5/8-12	3/4-14
20-16	S FG	1 5/8-12	1-11 1/2
20-20	S FG	1 5/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2

6902

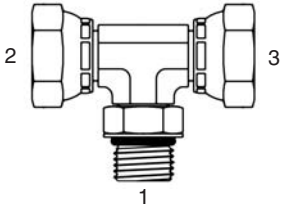
O-Ring to Pipe Swivel Elbow 45°

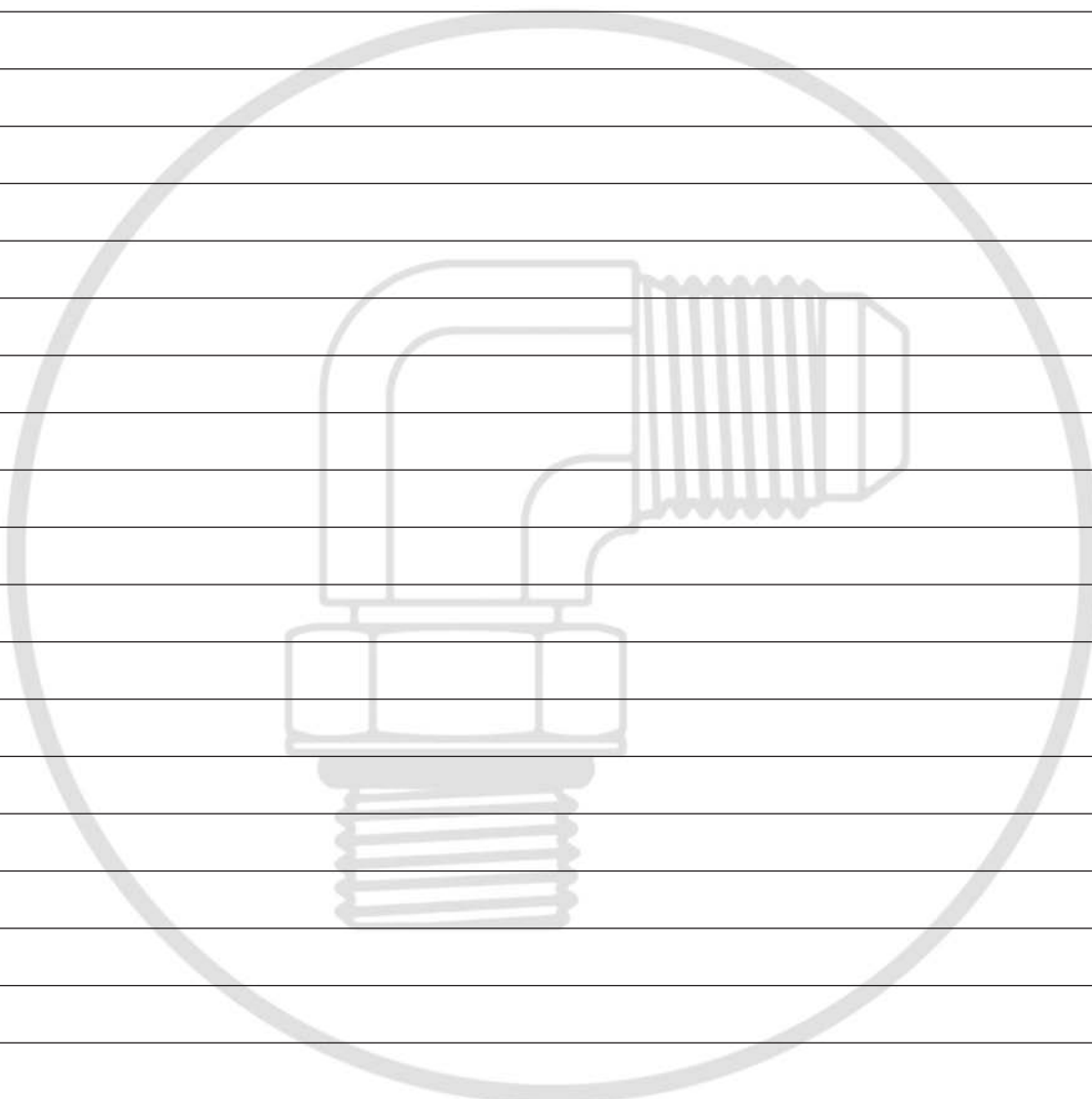


SAE 140357

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPSM)
04-04	S FG	7/16-20	1/4-18
06-04	S	9/16-18	1/4-18
06-06	S FG	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
08-06	S FG	3/4-16	3/8-18
08-08	S FG	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-06	S	7/8-14	3/8-18
10-08	S FG	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-08	S	1 1/16-12	1/2-14
12-12	S FG	1 1/16-12	3/4-14
16-12	S	1 5/16-12	3/4-14
16-16	S FG	1 5/16-12	1-11 1/2
20-20	S FG	1 5/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2

Steel Pipe Swivel Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPSM)	T3 (NPSM)	6911 O-Ring Branch Tee Swivel Union 
04-04-04		7/16-20	1/4-18	1/4-18	
06-06-06		9/16-18	3/8-18	3/8-18	
08-06-06		3/4-16	3/8-18	3/8-18	
08-08-08		3/4-16	1/2-14	1/2-14	



Steel O-Ring Face Seal Adapters

CONFORMANCE

- SAE J1453

MATERIALS

- Steel – Carbon steel zinc plated with yellow Dichromate per ASTM B6533-98 (Type II SC-2)
- Stainless – Type 316

ORDERING

When ordering, include the appropriate prefix to part number if material or style required is other than steel barstock.

MATERIAL/STYLE	PREFIX
Forging	FG
Stainless	SS

WORKING PRESSURES

The following table lists the recommended working pressures for steel O-ring Face Seal tube fittings made in accordance with SAE standard J1943. Many factors such as impulsing, vibration, mechanical shock and overtightening may affect the integrity of fitting connections. Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using fittings with different size or thread type, use the lower pressure rating of the two threads.



CAUTION: O-ring Face Seal fittings are not designed to provide structural support for other components.

SAE J1453 O-RING FACE SEAL FITTINGS PRESSURE RATINGS

Dash Size	Flared Thread Size	4 to 1 Minimum Burst PSI
-04	9/16-18	6000
-06	11/16-16	6000
-08	13/16-16	6000
-10	1-14	6000
-12	1 3/16-12	6000
-16	1 7/16-12	6000
-20	1 11/16-12	4000
-24	2-12	4000

SAE J1453 O-RING FACE SEAL PRESSURE RATINGS FOR STRAIGHT THREAD PORT STUDS

Dash Size	Face Seal Thread Size	4 to 1 Minimum Burst PSI Straight	4 to 1 Minimum Burst PSI Adjustable
-04	9/16-18	6000	6000
-06	11/16-16	6000	6000
-08	13/16-16	6000	6000
-10	1-14	6000	6000
-12	1 3/16-12	6000	6000
-16	1 7/16-12	6000	5000
-20	1 11/16-12	4000	4000
-24	2-12	4000	3000

RECOMMENDED O-RING FACE SEAL ASSEMBLY INSTRUCTIONS

STEP 1. Inspect for contamination or damage. Confirm face seal o-ring is properly installed.

STEP 2. Lubricate the threads and the o-ring.

STEP 3. Align mating face seal flange against o-ring and finger tighten face seal flange nut.

STEP 4. Torque flange nut to the value in the following table.

WHY WET TORQUE?

Due to difference in plating types and thickness, materials, and the thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Over tightening causes threads to yield, deform and lose their ability maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which promotes possibility of leaks. Improper installation is the greatest cause for leaks in hydraulic connections. **It is our firm position that to not wet torque is to compromise consistency and quality for convenience.**

TORQUE VALUES: The torque values provided by Tompkins Industries are to provide benchmarks that we believe give optimum results for leak free connections. Actual torque values should be based on individual applications.

Dash Size	Face Seal Thread Size	Torque Foot/Lbs.
-04	9/16-20	10-12
-06	11/16-16	18-20
-08	13/16-16	32-35
-10	1-14	45-50
-12	1 3/16-12	65-70
-16	1 7/16-12	92-100
-20	1 7/8-12	125-140
-24	2-12	150-165

ALTERNATE ASSEMBLY METHOD

STEP 1. If torque method not possible, follow steps 1-3 above, then proceed to the steps below.

STEP 2. Lightly wrench tighten the nut until there is firm resistance.

STEP 3. Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

STEP 4. Place second wrench on nut as near the 3 o'clock position as possible.

STEP 5. Turn nut clockwise to no less than half way to the 4 o'clock position, but no more than the 4 o'clock position.

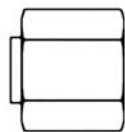
See **SAE STRAIGHT THREAD O-RING SECTION** for assembly instructions for installation of **O-RING FACE SEAL FITTINGS** with O-ring straight thread port studs.

See **NPTF SECTION** for assembly instructions and proper thread engagement for **O-RING FACE SEAL FITTINGS** with pipe threads.

Steel O-Ring Face Seal Adapters

FF304-C

ORFS Cap



SAE 520112

Dash Size	Stock Materials S FG SS BR				Tube O.D.	T1 (UNF)
04	\$				1/4	9/16-18
06	\$				3/8	11/16-16
08	\$				1/2	13/16-16
10	\$				5/8	1-14
12	\$				3/4	1 3/16-12
16	\$				1	1 7/16-12
20	\$				1 1/4	1 11/16-12
24	\$				1 1/2	2-12

FF306

ORFS Bulkhead Locknut



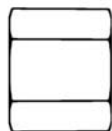
SAE 520118

Dash Size	Stock Materials S FG SS BR				T1 (UNF)
04	\$		SS		9/16-18
06	\$		SS		11/16-16
08	\$		SS		13/16-16
10	\$		SS		1-14
12	\$		SS		1 3/16-12
16	\$		SS		1 7/16-12
20	\$		SS		1 11/16-12
24	\$		SS		2-12

***To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-4**

FF318

ORFS Tube Nut



SAE 520110

Dash Size	Stock Materials S FG SS BR				Tube O.D.	T1 (UNF)
04	\$		SS		.25	9/16-18
06	\$		SS		.38	11/16-16
08	\$		SS		.50	13/16-16
10	\$		SS		.62	1-14
12	\$		SS		.75	1 3/16-12
16	\$		SS		1.00	1 7/16-12
20	\$		SS		1.25	1 11/16-12
24	\$		SS		1.50	2-12

FF319

ORFS Braze-On Sleeve



SAE 520115

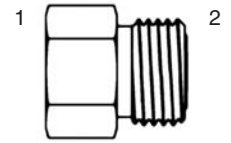
Dash Size	Stock Materials S FG SS BR				Tube O.D.
04	\$		SS		.25
06	\$		SS		.38
08	\$		SS		.50
10	\$		SS		.62
12	\$		SS		.75
16	\$		SS		1.00
20	\$		SS		1.25
24	\$		SS		1.50

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	Braze Port	T2 (UNF)
04		1/4	9/16-18
06-04		3/8	9/16-18
06		3/8	11/16-16
08-06		1/2	11/16-16
08-08		1/2	13/16-16
10-08		5/8	13/16-16
10		5/8	1-14
12-08		3/4	13/16-16
12		3/4	1 3/16-12
16-12		1	1 3/16-12
16		1	1 7/16-12
20-16		1 1/4	1 7/16-12
20		1 1/4	1 11/16-12
24-20		1 1/2	1 11/16-12
24		1 1/2	2-12

FF403

Braze-On ORFS Connector

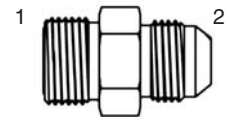


SAE 520104

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04		9/16-18	7/16-20
06-06		11/16-16	9/16-18
08-08		13/16-16	3/4-16
10-10		1-14	7/8-14
12-12		1 3/16-12	1 1/16-12
16-16		1 7/16-12	1 5/16-12
20-20		1 11/16-12	1 5/8-12
24-24		2-12	1 7/8-12

FF2402

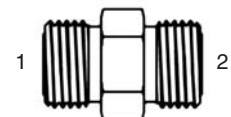
ORFS to JIC



Dash Size	Stock Materials		T1 (UNF)	T2 (UNF)
	S	FG SS BR		
04			9/16-18	9/16-18
06-04			11/16-16	9/16-18
06			11/16-16	11/16-16
08-06			13/16-16	11/16-16
08			13/16-16	13/16-16
10-08			1-14	13/16-16
10			1-14	1-14
12-08			1 3/16-12	13/16-16
12-10			1 3/16-12	1-14
12			1 3/16-12	1 3/16-12
16-12			1 7/16-12	1 3/16-12
16			1 7/16-12	1 7/16-12
20-16			1 11/16-12	1 7/16-12
20			1 11/16-12	1 11/16-12
24-20			2-12	1 11/16-12
24			2-12	2-12

FF2403

ORFS Union



SAE 520101

S= Steel

FG=Forging

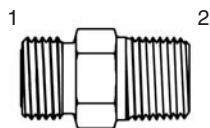
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF2404

ORFS to Pipe

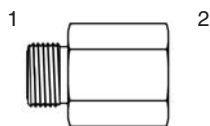


SAE 520102

Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-02	\$		SS	9/16-18	1/8-27
04-04	\$		SS	9/16-18	1/4-18
04-06	\$		SS	9/16-18	3/8-18
04-08	\$			9/16-18	1/2-14
06-02	\$			11/16-16	1/8-27
06-04	\$		SS	11/16-16	1/4-18
06-06	\$		SS	11/16-16	3/8-18
06-08	\$		SS	11/16-16	1/2-14
08-04	\$			13/16-16	1/4-18
08-06	\$		SS	13/16-16	3/8-18
08-08	\$		SS	13/16-16	1/2-14
08-12	\$		SS	13/16-16	3/4-14
08-16	\$			13/16-16	1-11 1/2
10-08	\$		SS	1-14	1/2-14
10-12	\$			1-14	3/4-14
10-16	\$			1-14	1-11 1/2
12-08	\$			1 3/16-12	1/2-14
12-12	\$		SS	1 3/16-12	3/4-14
12-16	\$			1 3/16-12	1-11 1/2
16-12	\$			1 7/16-12	3/4-14
16-16	\$		SS	1 7/16-12	1-11 1/2
16-20	\$			1 7/16-12	1 1/4-11 1/2
20-16	\$			1 11/16-12	1-11 1/2
20-20	\$			1 11/16-12	1 1/4-11 1/2
24-24	\$			2-12	1 1/2-11 1/2

FF2405

ORFS to Pipe



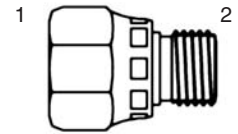
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-04	\$			9/18-18	1/4-18
06-04	\$			11/16-16	1/4-18
06-06	\$			11/16-16	3/8-18
06-08	\$			11/16-16	1/2-14
08-06	\$			13/16-16	3/8-18
08-08	\$			13/16-16	1/2-14
12-12	\$			1 3/16-12	3/4-14
16-16	\$			1 7/16-12	1-11 1/2
20-20	\$			1 11/16-12	1 1/4-11 1/2

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
06-04	S	11/16-16	9/16-18
08-04	S	13/16-16	9/16-18
08-06	S	13/16-16	11/16-16
10-06	S	1-14	11/16-16
10-08	S	1-14	13/16-16
12-06	S	1 3/16-12	11/16-16
12-08	S	1 3/16-12	13/16-16
12-10	S	1 3/16-12	1-14
16-08	S	1 7/16-12	13/16-16
16-12	S	1 7/16-12	1 3/16-12
20-12	S	1 11/16-12	1 3/16-12
20-16	S	1 11/16-12	1 7/16-12
24-20	S	2-12	1 11/16-12

FF2406

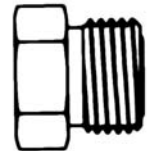
ORFS Reducer



Dash Size	Stock Materials S FG SS BR	T1 (UNF)
04	S	9/16-18
06	S	11/16-16
08	S	13/16-16
10	S	1-14
12	S	1 3/16-12
16	S	1 7/16-12
20	S	1 11/16-12
24	S	2-12

FF2408

ORFS Plug

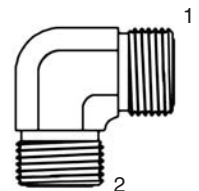


SAE 520109

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	FG SS	9/16-18	9/16-18
06	FG SS	11/16-16	11/16-16
08	FG SS	13/16-16	13/16-16
10	FG	1-14	1-14
12	FG SS	1 3/16-12	1 3/16-12
16	FG	1 7/16-12	1 7/16-12
20	FG	1 11/16-12	1 11/16-12
24	FG SS	2-12	2-12

FF2500

ORFS Union Elbow 90°



SAE 520201

S= Steel

FG=Forging

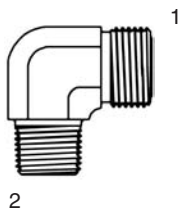
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF2501

**ORFS to Pipe
Elbow 90°**

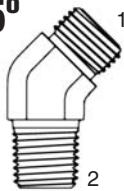


SAE 520202

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)
04-02	S	FG	SS		9/16-18	1/8-27
04-04	S	FG	SS		9/16-18	1/4-18
04-06	S	FG			9/16-18	3/8-18
04-08	S	FG			9/16-18	1/2-14
06-04	S	FG	SS		11/16-16	1/4-18
06-06	S	FG	SS		11/16-16	3/8-18
06-08	S	FG	SS		11/16-16	1/2-14
08-04	S	FG			13/16-16	1/4-18
08-06	S	FG	SS		13/16-16	3/8-18
08-08	S	FG	SS		13/16-16	1/2-14
08-12	S	FG			13/16-16	3/4-14
10-08	S	FG	SS		1-14	1/2-14
10-12	S	FG			1-14	3/4-14
10-16	S	FG			1-14	1-11 1/2
12-08	S	FG			1 3/16-12	1/2-14
12-12	S	FG	SS		1 3/16-12	3/4-14
12-16	S	FG			1 3/16-12	1-11 1/2
16-12	S	FG			1 7/16-12	3/4-14
16-16	S	FG	SS		1 7/16-12	1-11 1/2
20-16	S	FG			1 11/16-12	1-11 1/2
20-20	S	FG			1 11/16-12	1 1/4-11 1/2
24-24	S				2-12	1 1/2-11 1/2

FF2503

**ORFS to Pipe
Elbow 45°**

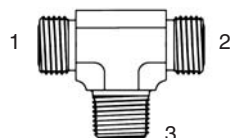


SAE 520302

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (NPTF)
04-02		FG			9/16-18	1/8-27
04-04		FG			9/16-18	1/4-18
06-04		FG			11/16-16	1/4-18
06-06		FG			11/16-16	3/8-18
08-06					13/16-16	3/8-18
08-08		FG			13/16-16	1/2-14
10-08		FG			1-14	1/2-14
12-12		FG			1 3/16-12	3/4-14
16-12		FG			1 7/16-12	3/4-14
16-16		FG			1 7/16-12	1-11 1/2

FF2601

**ORFS to Pipe
Branch Tee**

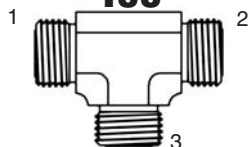


SAE 520425

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3(NPTF)
04-04		FG			9/16-18	9/16-18	1/4-18
06-04		FG			11/16-16	11/16-16	1/4-18
06-06		FG			11/16-16	11/16-16	3/8-18
08-06		FG			13/16-16	13/16-16	3/8-18
08-08		FG			13/16-16	13/16-16	1/2-14
12-12		FG			1 3/16-12	1 3/16-12	3/4-14
16-16		FG			1 7/16-12	1 7/16-12	1-11 1/2
20-20					1 11/16-12	1 11/16-12	1 1/4-11 1/2

FF2603

**ORFS Union
Tee**



SAE 520401

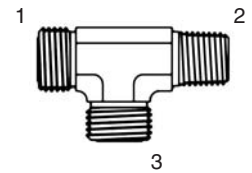
Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3(UNF)
04		FG	SS		9/16-18	9/16-18	9/16-18
06		FG	SS		11/16-16	11/16-16	11/16-16
08		FG	SS		13/16-16	13/16-16	13/16-16
10		FG	SS		1-14	1-14	1-14
12		FG	SS		1 3/16-12	1 3/16-12	1 3/16-12
16		FG	SS		1 7/16-12	1 7/16-12	1 7/16-12
20		FG	SS		1 11/16-12	1 11/16-12	1 11/16-12
24		FG	SS		2-12	2-12	2-12

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	T3 (UNF)
04-04	S FG	9/16-18	1/4-18	9/16-18
06-06	S FG	11/16-16	3/8-18	3/8-18
08-08	S FG	13/16-16	1/2-14	13/16-16

FF2605

ORFS Run Tee

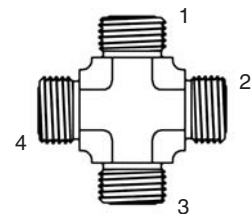


SAE 520424

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
04	S FG	9/16-18	9/16-18	9/16-18
06	S FG	11/16-16	11/16-16	11/16-16
08	S FG	13/16-16	13/16-16	13/16-16
10	S FG	1-14	1-14	1-14
12	S FG	1 3/16-12	1 3/16-12	1 3/16-12
16	S FG	1 7/16-12	1 7/16-12	1 7/16-12
20	S FG	1 11/16-12	1 11/16-12	1 11/16-12
24	S FG	2-12	2-12	2-12

FF2650

ORFS Union Cross

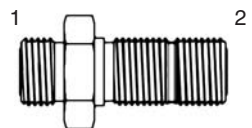


SAE 520501

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	S	9/16-18	9/16-18
06	S	11/16-16	11/16-16
08	S	13/16-16	13/16-16
10	S	1-14	1-14
12	S	1 3/16-12	1 3/16-12
16	S	1 7/16-12	1 7/16-12
20	S	1 11/16-12	1 11/16-12
24	S	2-12	2-12

FF2700

ORFS Bulkhead Union



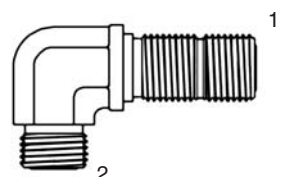
SAE 520601

*To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	FG	9/16-18	9/16-18
06	FG	11/16-16	11/16-16
08	FG	13/16-16	13/16-16
10	FG	1-14	1-14
12	FG	1 3/16-12	1 3/16-12
16	FG	1 7/16-12	1 7/16-12
20	FG	1 11/16-12	1 11/16-12
24	FG	2-12	2-12

FF2701

ORFS Bulkhead Union 90°



SAE 520701

*To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04

S= Steel

FG=Forging

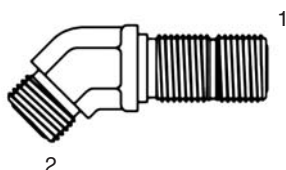
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF2702

ORFS Bulkhead Union 45°



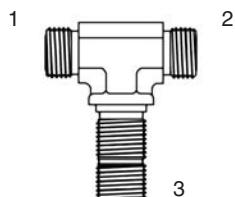
SAE 520801

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	FG	9/16-18	9/16-18
06	FG	11/16-16	11/16-16
08	FG	13/16-16	13/16-16
10	FG	1-14	1-14
12	FG	1 3/16-12	1 3/16-12
16	FG	1 7/16-12	1 7/16-12
20	FG	1 11/16-12	1 11/16-12
24	FG	2-12	2-12

***To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04**

FF2703

ORFS Bulkhead Union Branch Tee

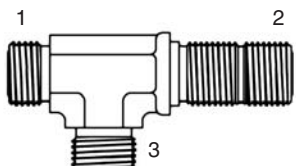


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3(UNF)
04	FG	9/16-18	9/16-18	9/16-18
06	FG	11/16-16	11/16-16	11/16-16
08	FG	13/16-16	13/16-16	13/16-16
10	FG	1-14	1-14	1-14
12	FG	1 3/16-12	1 3/16-12	1 3/16-12
16	FG	1 7/16-12	1 7/16-12	1 7/16-12
20	FG	1 11/16-12	1 11/16-12	1 11/16-12
24	FG	2-12	2-12	2-12

***To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04**

FF2704

ORFS Bulkhead Union Run Tee



SAE 520958

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3(UNF)
04	FG	9/16-18	9/16-18	9/16-18
06	FG	11/16-16	11/16-16	11/16-16
08	FG	13/16-16	13/16-16	13/16-16
10	FG	1-14	1-14	1-14
12	FG	1 3/16-12	1 3/16-12	1 3/16-12
16	FG	1 7/16-12	1 7/16-12	1 7/16-12
20	FG	1 11/16-12	1 11/16-12	1 11/16-12
24	FG	2-12	2-12	2-12

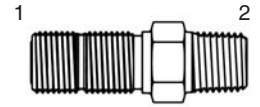
***To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04**

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04-04	S	9/16-18	1/4-18
06-06	S	11/16-16	3/8-18
08-08	S	13/16-16	1/2-14
12-12	S	1 3/16-12	3/4-14
16-16	S	1 7/16-12	1-11 1/2
To include lock nut with bulkhead fitting add "LN" after base part number. Example: FF2700-LN-04			

FF2706

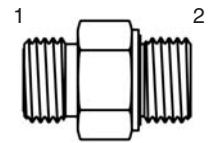
ORFS to Pipe Bulkhead



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-02	S	9/16-18	1/8-28
04-04	S	9/16-18	1/4-19
04-06	S	9/16-18	3/8-19
06-04	S	11/16-16	1/4-19
06-06	S	11/16-16	3/8-19
06-08	S	11/16-16	1/2-14
08-04	S	13/16-16	1/4-19
08-06	S	13/16-16	3/8-19
08-08	S	13/16-16	1/2-14
10-06	S	1-14	3/8-19
10-08	S	1-14	1/2-14
10-12	S	1-14	3/4-14
12-08	S	1 3/16-12	1/2-14
12-12	S	1 3/16-12	3/4-14
12-16	S	1 3/16-12	1-11
16-12	S	1 7/16-12	3/4-14
16-16	S	1 7/16-12	1-11
16-20	S	1 7/16-12	1 1/4-11
20-16	S	1 11/16-12	1-11
20-20	S	1 11/16-12	1 1/4-11
20-24	S	1 11/16-12	1 1/2-11
24-24	S	2-12	1 1/2-11

FF3800

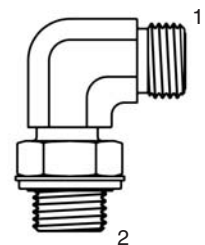
ORFS to BSPP



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-02	FG	9/16-18	1/8-28
04-04	FG	9/16-18	1/4-19
04-06	FG	9/16-18	3/8-19
06-04	FG	11/16-16	1/4-19
06-06	FG	11/16-16	3/8-19
06-08	FG	11/16-16	1/2-14
08-04	FG	13/16-16	1/4-19
08-06	FG	13/16-16	3/8-19
08-08	FG	13/16-16	1/2-14
10-06	FG	1-14	3/8-19
10-08	FG	1-14	1/2-14
10-12	FG	1-14	3/4-14
12-08	FG	1 3/16-12	1/2-14
12-12	FG	1 3/16-12	3/4-14
12-16	FG	1 3/16-12	1-11
16-12	FG	1 7/16-12	3/4-14
16-16	FG	1 7/16-12	1-11
16-20	FG	1 7/16-12	1 1/4-11
20-16	FG	1 11/16-12	1-11
20-20	FG	1 11/16-12	1 1/4-11
20-24	FG	1 11/16-16	1 1/2-11
24-24	FG	2-12	1 1/2-11

FF3801

ORFS to BSPP Elbow 90°



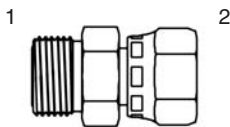
S= Steel

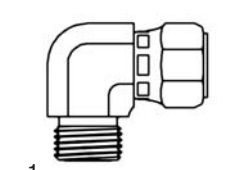
FG=Forging

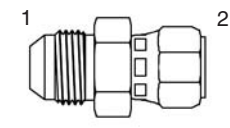
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6402
04-04	S	9/16-18	7/16-20	ORFS to JIC Swivel 
06-06	S	11/16-16	9/16-18	
08-08	S	13/16-16	3/4-16	
10-10	S	1-14	7/8-14	
12-12	S	1 3/16-12	1 1/16-12	
16-16	S	1 7/16-12	1 5/16-12	
20-20	S	1 11/16-12	1 5/8-12	
24-24	S	2-12	1 7/8-12	
				SAE 520181

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6500
04	FG SS	9/16-18	9/16-18	ORFS to ORFS Swivel Nut Elbow 90° 
04-06	FG	9/16-18	11/16-16	
06	FG SS	11/16-16	11/16-16	
08-06	FG	13/16-16	11/16-16	
08	FG SS	13/16-16	13/16-16	
08-12	FG	13/16-16	1 1/16-12	
10	FG SS	1-14	1-14	
12	FG SS	1 3/16-12	1 3/16-12	
16	FG SS	1 7/16-12	1 7/16-12	
20	FG	1 11/16-12	1 11/16-12	
24	FG	2-12	2-12	SAE 520221

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6504
04-04	S	7/16-20	9/16-18	JIC to ORFS Swivel 
06-06	S	9/16-18	11/16-16	
08-08	S	3/4-16	13/16-16	
10-10	S	7/8-14	1-14	
12-12	S	1 1/16-12	1 3/16-12	
16-16	S	1 5/16-12	1 7/16-12	
20-20	S	1 5/8-12	1 11/16-12	
24-24	S	1 7/8-12	2-12	
				SAE 520801

S= Steel

FG=Forging

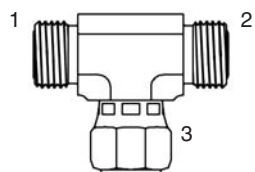
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF6600

ORFS to Swivel Branch Tee

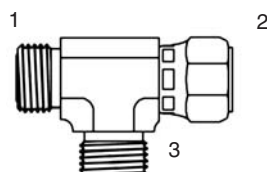


SAE 520433

Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (UNF)	T3 (UNF)
04	FG	SS		9/16-18	9/16-18	9/16-18
06	FG	SS		11/16-16	11/16-16	11/16-16
08	FG	SS		13/16-16	13/16-16	13/16-16
10	FG	SS		1-14	1-14	1-14
12	FG	SS		1 3/16-12	1 3/16-12	1 3/16-12
16	FG			1 7/16-12	1 7/16-12	1 7/16-12
20	FG			1 11/16-12	1 11/16-12	1 11/16-12
24	FG			2-12	2-12	2-12

FF6602

ORFS to Swivel Run Tee

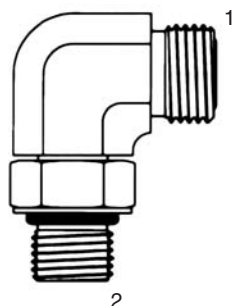


SAE 520432

Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (UNF)	T3 (UNF)
04	FG			9/16-18	9/16-18	9/16-18
06	FG			11/16-16	11/16-16	11/16-16
08	FG			13/16-16	13/16-16	13/16-16
10	FG			1-14	1-14	1-14
12	FG			1 3/16-12	1 3/16-12	1 3/16-12
16	FG			1 7/16-12	1 7/16-12	1 7/16-12
20	FG			1 11/16-12	1 11/16-12	1 11/16-12
24	FG			2-12	2-12	2-12

FF6801

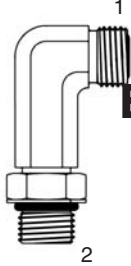
ORFS to O-Ring Elbow 90°

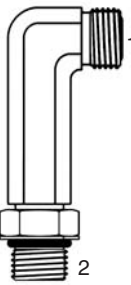


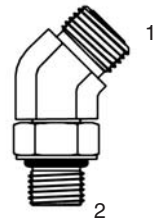
SAE 520220

Dash Size	Stock Materials S FG SS BR			T1 (UNF)	T2 (UNF)
04	FG	SS		9/16-18	7/16-20
04-06	FG	SS		9/16-18	9/16-18
04-08	FG			9/16-18	3/4-16
06-04	FG	SS		11/16-16	7/16-20
06-05	FG			11/16-16	1/2-20
06	FG	SS		11/16-16	9/16-18
06-08	FG	SS		11/16-16	3/4-16
06-10	FG			11/16-16	7/8-14
06-12	FG			11/16-16	1 1/16-12
06-16	FG			11/16-16	1 5/16-12
08-06	FG	SS		13/16-16	9/16-18
08	FG	SS		13/16-16	3/4-16
08-10	FG			13/16-16	7/8-14
08-12	FG			13/16-16	1 1/16-12
10-08	FG			1-14	3/4-16
10	FG	SS		1-14	7/8-14
10-12	FG			1-14	1 1/16-12
12-08	FG			1 3/16-12	3/4-16
12-10	FG			1 3/16-12	7/8-14
12	FG	SS		1 3/16-12	1 1/16-12
12-16	FG			1 3/16-12	1 5/16-12
16-12	FG			1 7/16-12	1 1/16-12
16-14	FG			1 7/16-12	1 3/16-12
16	FG	SS		1 7/16-12	1 5/16-12
16-20	FG			1 7/16-12	1 5/8-12
20-12	FG			1 11/16-12	1 1/16-12
20-16	FG			1 11/16-12	1 5/16-12
20	FG	SS		1 11/16-12	1 5/8-12
20-24	FG			1 11/16-12	1 7/8-12
24-20	FG			2-12	1 5/8-12
24	FG	SS		2-12	1 7/8-12

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6801-L
08-08	S	13/16-16	13/16-16	
12	S FG	1 3/16-12	1 1/16-12	 ORFS to O-Ring Long Elbow 90°

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6801-LL
04	FG	9/16-18	7/16-20	
06	FG	11/16-16	9/16-18	 ORFS to O-Ring Extra Long Elbow 90°
08	FG	13/16-16	3/4-16	
10	FG	1-14	7/8-14	
12	FG	1 3/16-12	1 1/16-12	
16	FG	1 7/16-12	1 5/16-12	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	FF6802
04	FG SS	9/16-18	7/16-20	
04-06	FG	9/16-18	9/16-18	ORFS to O-Ring Elbow 45°  SAE 520320
06-04	FG	11/16-16	7/16-20	
06	FG SS	11/16-16	9/16-18	
06-08	FG	11/16-16	3/4-16	
08-06	FG	13/16-16	9/16-18	
08	FG	13/16-16	3/4-16	
08-10	FG SS	13/16-16	7/8-14	
08-12	FG	13/16-16	1 1/16-12	
10-08	FG	1-14	3/4-16	
10	FG SS	1-14	7/8-14	
10-12	FG	1-14	1 1/16-12	
12-08	FG	1 3/16-12	3/4-16	
12-10	FG	1 3/16-12	7/8-14	
12	FG SS	1 3/16-12	1 1/16-12	
12-16	FG	1 3/16-12	1 5/16-12	
16-12	FG	1 7/16-12	1 1/16-12	
16	FG	1 7/16-12	1 5/16-12	
16-20	FG	1 7/16-12	1 5/8-12	
20	FG	1 11/16-12	1 5/8-12	
24	FG	2-12	1 7/8-12	

S= Steel

FG=Forging

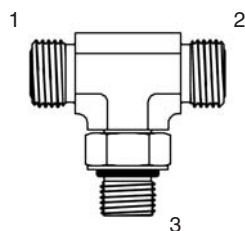
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF6803

ORFS to O-Ring Branch Tee

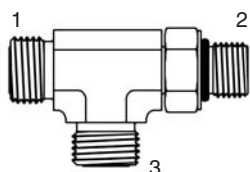


SAE 520429

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3(UNF)
04	FG	SS			9/16-18	9/16-18	7/16-20
06	FG	SS			11/16-16	11/16-16	9/16-18
06-08	FG				11/16-16	11/16-16	3/4-16
08-06	FG				13/16-16	13/16-16	9/16-18
08	FG	SS			13/16-16	13/16-16	3/4-16
10	FG				1-14	1-14	7/8-14
12	FG	SS			1 3/16-12	1 3/16-12	1 1/16-12
16	FG	SS			1 7/16-12	1 7/16-12	1 5/16-12 16
20	FG				1 11/16-12	1 11/16-12	1 5/8-12
24	FG				2-12	2-12	1 7/8-12

FF6804

ORFS to O-Ring Run Tee

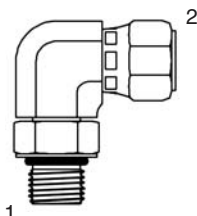


SAE 520428

Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)	T3(UNF)
04	FG	SS			9/16-18	7/16-20	9/16-18
06-04-06	FG				11/16-16	7/16-20	11/16-16
06	FG	SS			11/16-16	9/16-18	11/16-16
08-06-08	FG				13/16-16	9/16-18	13/16-16
08	FG	SS			13/16-16	3/4-16	13/16-16
08-10-08	FG				13/16-16	7/8-14	13/16-16
08-12-08	FG				13/16-16	1 1/16-12	13/16-16
10	FG	SS			1-14	7/8-14	1-14
10-12-10	FG				1-14	1 1/16-12	1-14
12	FG	SS			1 3/16-12	1 1/16-12	1 3/16-12
12-16-12	FG				1 3/16-12	1 5/16-12	1 3/16-12
16	FG	SS			1 7/16-12	1 5/16-12	1 7/16-12
20	FG				1 11/16-12	1 5/8-12	1 11/16-12
24	FG				2-12	1 7/8-12	2-12

FF6809

O-Ring to ORFS Swivel Elbow 90°



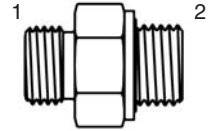
Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (UNF)
04-04	FG				7/16-20	9/16-18
06-06	FG				9/16-18	11/16-16
08-08	FG				3/4-16	13/16-16
10-10	FG				7/8-14	1-14
12-12	FG				1 1/16-12	1 3/16-12
16-16	FG				1 5/16-12	1 7/16-12
20-20	FG				1 5/8-12	1 11/16-12
24-24	FG				1 7/8-12	2-12

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-10	S	9/16-18	10X1.0
04-12	S	9/16-18	12X1.5
06-14	S	11/16-16	14X1.5
06-16	S	11/16-16	16X1.5
08-18	S	13/16-16	18X1.5
08-22	S	13/16-16	22X1.5
10-22	S	1-14	22X1.5
12-33	S	1 3/16-12	33X2.0
16-27	S	1 7/16-12	27X2.0
16-33	S	1 7/16-12	33X2.0
16-42	S	1 7/16-12	42X2.0
20-42	S	1 11/16-12	42X2.0
20-48	S	1 11/16-12	48X2.0
24-48	S	2-12	48X2.0

FF7400

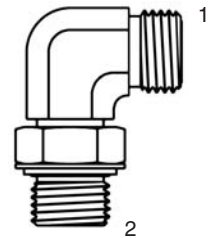
ORFS to Metric



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-10	FG	9/16-18	10X1.0
04-12	FG	9/16-18	12X1.5
06-14	FG	11/16-16	14X1.5
06-16	FG	11/16-16	16X1.5
08-18	FG	13/16-16	18X1.5
10-22	FG	1-14	22X1.5
10-27	FG	1-14	27X2.0
12-27	FG	1 3/16-12	27X2.0
12-33	FG	1 3/16-12	33X2.0
16-33	FG	1 7/16-12	33X2.0
16-42	FG	1 7/16-12	42X2.0
20-42	FG	1 11/16-12	42X2.0
20-48	FG	1 11/16-12	48X2.0
24-48	FG	2-12	48X2.0

FF7801

**ORFS to Metric
Elbow 90°**



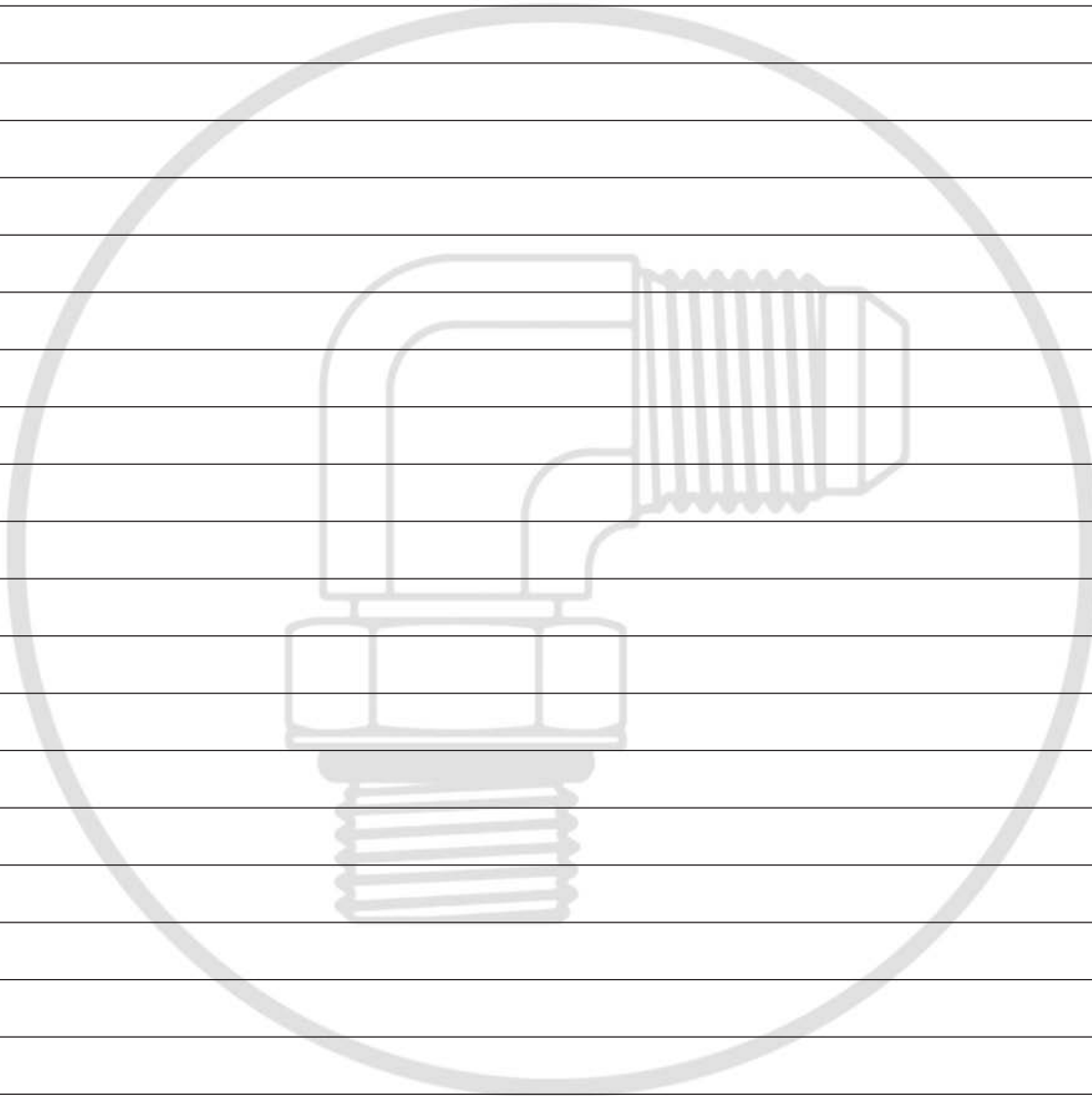
Dash Size	ORFS Size
04	1/4
06	3/8
08	1/2
10	5/8
12	3/4
16	1
20	1 1/4
24	1 1/2

90DFF

**Buna-N
Durometer ORFS
O-Ring**



*** Viton available upon request.**

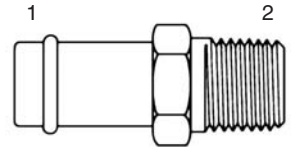


Steel Beaded Hose Fittings

Dash Size	Stock Materials S FG SS BR	Hose I.D.	T2 (NPTF)
04-02	S	1/4	1/8-27
04-04	S	1/4	1/4-18
05-02	S	5/16	1/8-27
06-04	S	3/8	1/4-18
06-06	S	3/8	3/8-18
08-06	S	1/2	3/8-18
08-08	S	1/2	1/2-14
08-12	S	1/2	3/4-14
10-06	S	5/8	3/8-18
10-08	S	5/8	1/2-14
12-08	S	3/4	1/2-14
12-12	S	3/4	3/4-14
12-16	S	3/4	1-11 1/2
16-12	S	1	3/4-14
16-16	S	1	1-11 1/2
20-16	S	1 1/4	1-11 1/2
20-20	S	1 1/4	1 1/4-11 1/2
24-20	S	1 1/2	1 1/4-11 1/2
24-24	S	1 1/2	1 1/2-11 1/2
32-32	S	2	2-11 1/2

4404

Beaded Hose to Pipe

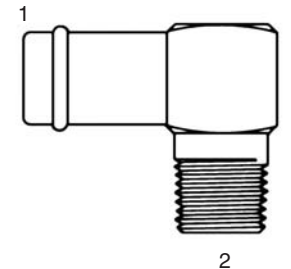


SAE 430160

Dash Size	Stock Materials S FG SS BR	Hose I.D.	T2 (NPTF)
04-02	S	1/4	1/8-27
04-04	S	1/4	1/4-18
05-02	S	5/16	1/8-27
05-04	S	5/16	1/4-18
06-04	S	3/8	1/4-18
06-06	S FG	3/8	3/8-18
08-06	S FG	1/2	3/8-18
08-08	S FG	1/2	1/2-14
08-12	S	1/2	3/4-14
10-06	S	5/8	3/8-18
10-08	S	5/8	1/2-14
12-08	S	3/4	1/2-14
12-12	S FG	3/4	3/4-14
12-16	S FG	3/4	1-11 1/2
16-12	S FG	1	3/4-14
16-16	S FG	1	1-11 1/2
20-16	S	1 1/4	1-11 1/2
20-20	S FG	1 1/4	1 1/4-11 1/2
24-24	S	1 1/2	1 1/2-11 1/2
32-32	S	2	2-11 1/2

4501

Beaded Hose to Pipe Elbow 90°

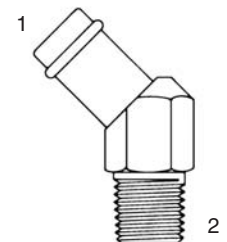


SAE 430260

Dash Size	Stock Materials S FG SS BR	Hose I.D.	T2 (NPTF)
04-02	S	1/4	1/8-27
04-04	S	1/4	1/4-18
06-04	S	3/8	1/4-18
06-06	S	3/8	3/8-18
08-06	S	1/2	3/8-18
08-08	S	1/2	1/2-14
10-08	S	5/8	1/2-14
12-08	S	3/4	1/2-14
12-12	S	3/4	3/4-14
16-12	S	1	3/4-14
16-16	S	1	1-11 1/2
16-20	S	1	1 1/4-11 1/2
20-20	S	1 1/4	1 1/4-11 1/2
24-24	S	1 1/2	1 1/2-11 1/2

4503

Beaded Hose to Pipe Elbow 45°



SAE 430360

S= Steel

FG=Forging

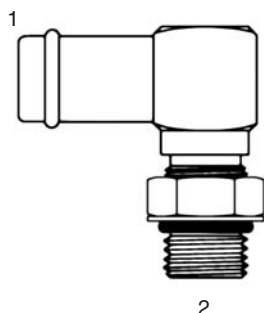
SS=Stainless Steel

BR=Brass

Steel Beaded Hose Fittings

4601

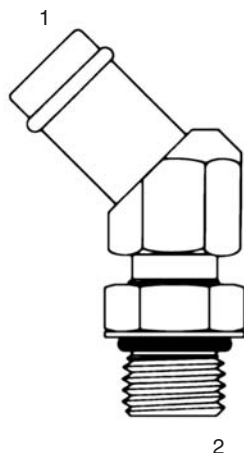
Beaded Hose to O-Ring Elbow 90°



Dash Size	Stock Materials S FG SS BR				Hose I.D.	T2 (UNF)
04	S	FG			1/4	7/16-20
05-04	S				5/16	7/16-20
05	S				5/16	1/2-20
06	S	FG			3/8	9/16-18
06-08	S				3/8	3/4-16
08	S	FG			1/2	3/4-16
08-10	S				1/2	7/8-14
10-08	S	FG			5/8	3/4-16
10	S	FG			5/8	7/8-14
10-12	S				5/8	1 1/16-12
12-08	S	FG			3/4	3/4-16
12-10	S	FG			3/4	7/8-14
12	S	FG			3/4	1 1/16-12
12-16	S	FG			3/4	1 5/16-12
16-12	S	FG			1	1 1/16-12
16	S	FG			1	1 5/16-12
16-20	S	FG			1	1 5/8-12
20-12	S	FG			1 1/4	1 1/16-12
20-16	S	FG			1 1/4	1 5/16-12
20	S	FG			1 1/4	1 5/8-12
20-24	S				1 1/4	1 7/8-12
24-20	S				1 1/2	1 5/8-12
24	S	FG			1 1/2	1 7/8-12
32-20	S				2	1 5/8-12
32-24	S				2	1 7/8-12
32	S				2	2 1/2-12

4603

Beaded Hose to O-Ring Elbow 45°



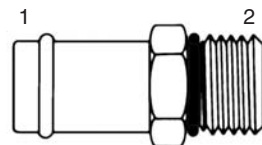
Dash Size	Stock Materials S FG SS BR				Hose I.D.	T2 (UNF)
04	S	FG			1/4	7/16-20
04-06	S	FG			1/4	9/16-18
06	S	FG			3/8	9/16-18
08-06	S	FG			1/2	9/16-18
08	S	FG			1/2	3/4-16
10-08	S				5/8	3/4-16
10	S	FG			5/8	7/8-14
10-12	S				5/8	1 1/16-12
12-08	S				3/4	3/4-16
12-10	S				3/4	7/8-14
12	S	FG			3/4	1 1/16-12
12-16	S				3/4	1 5/16-12
16-12	S	FG			1	1 1/16-12
16	S	FG			1	1 5/16-12
20-16	S	FG			1 1/4	1 5/16-12
20	S	FG			1 1/4	1 5/8-12
20-24	S				1 1/4	1 7/8-12
24-16	S	FG			1 1/2	1 5/16-12
24-20	S	FG			1 1/2	1 5/8-12
24	S	FG			1 1/2	1 7/8-12

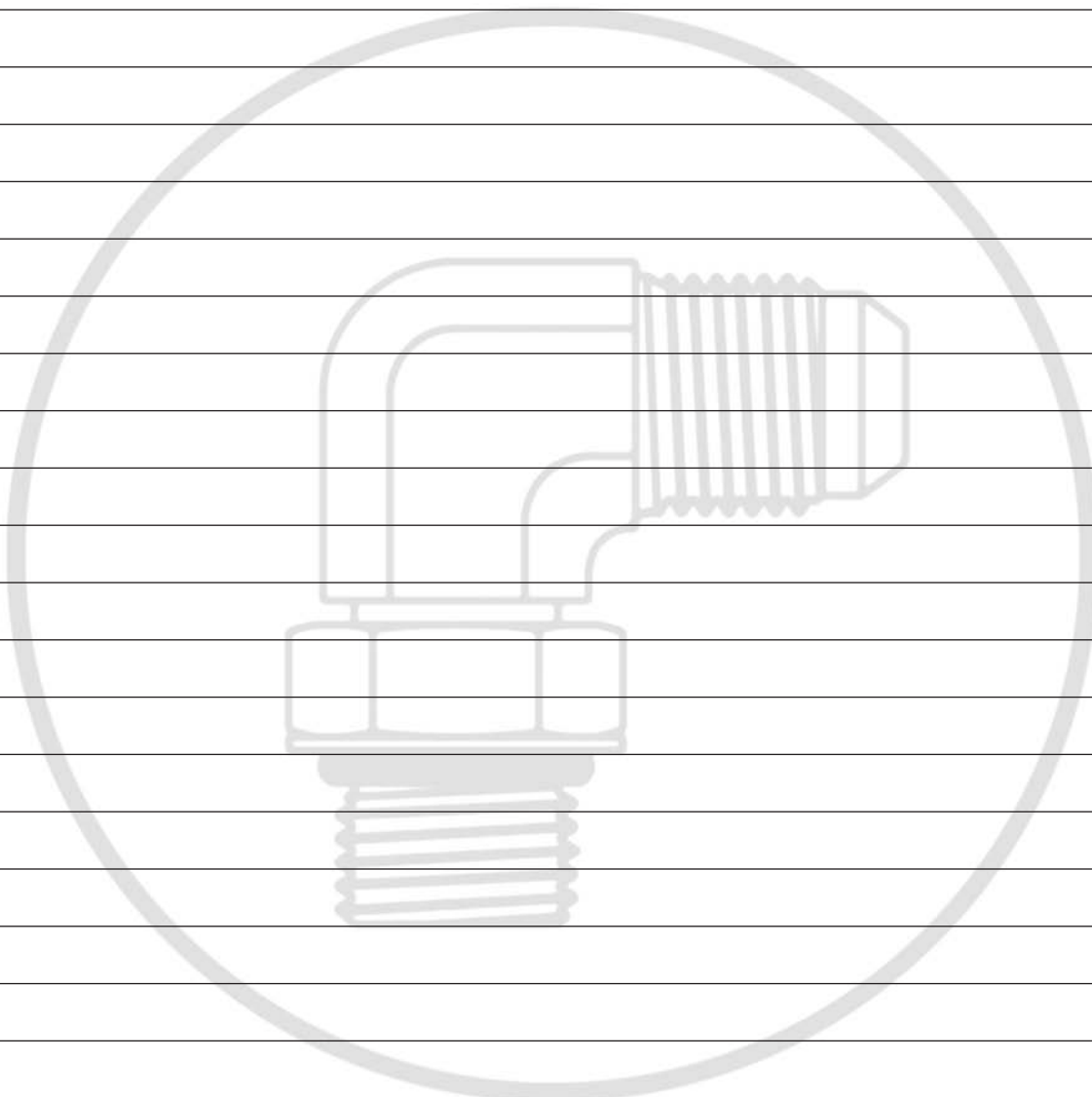
Steel Beaded Hose Fittings

Dash Size	Stock Materials S FG SS BR	Hose I.D.	T2 (UNF)
04	S	1/4	7/16-20
05	S	5/16	1/2-20
06	S	3/8	9/16-18
06-08	S	3/8	3/4-16
06-10	S	3/8	7/8-14
08	S	1/2	3/4-16
08-10	S	1/2	7/8-14
10-08	S	5/8	3/4-16
10	S	5/8	7/8-14
12-08	S	3/4	3/4-16
12	S	3/4	1 1/16-12
16-12	S	1	1 1/16-12
16	S	1	1 5/16-12
16-20	S	1	1 5/8-12
20-16	S	1 1/4	1 5/16-12
20	S	1 1/4	1 5/8-12
20-24	S	1 1/4	1 7/8-12
24-20	S	1 1/2	1 5/8-12
24	S	1 1/2	1 7/8-12
32-24	S	2	1 7/8-12
32	S	2	2 1/2-12

4604

**Beaded Hose
to O-Ring**





Steel Flange Components

CONFORMANCE

- SAE J518

MATERIALS

- Steel per SAE J518 with either black phosphate finish, or plated zinc with yellow dichromate or iridite dip. Stainless available on request.

WORKING PRESSURES

The following table lists the recommended working pressures for steel Four-bolt Solid and Split Flange Fittings and Hose Ends made in accordance with SAE standard J518 and J517. Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using Flanged Fittings that have a threaded connection on one end, use the lower pressure rating of the two.



CAUTION: Although many Four-bolt Flanged Fittings have sufficient structural integrity to support the weight of other components, Tompkins recommends consulting with our technical support department for guidance in selection of parts for this purpose.

SAE J518 FOUR-BOLT CODE 61 FLANGE PRESSURE RATINGS

DASH SIZE	FLANGE HEAD OD INCHES	4 TO 1 MINIMUM BURST PSI
-08	1 3/16 – 1.188	5000
-12	1 1/2 – 1.500	5000
-16	1 3/4 – 1.750	5000
-20	2 – 2.000	4000
-24	2 3/8 – 2.375	3000
-32	2 13/16 – 2.812	3000
-40	3 5/16 – 3.312	2500
-48	4 – 4.000	2000
-56	4 1/2 – 4.500	500
-64	5 – 5.000	500
-80	6 – 6.000	500

SAE J518 FOUR-BOLT CODE 62 FLANGE PRESSURE RATINGS

DASH SIZE	FLANGE HEAD OD INCHES	4 TO 1 MINIMUM BURST PSI
-08	1 1/4 – 1.250	6000
-12	1 5/8 – 1.625	6000
-16	1 7/8 – 1.875	6000
-20	2 1/8 – 2.125	6000
-24	2 1/2 – 2.500	6000
-32	3 1/8 – 3.125	6000

TORQUE VALUES

The minimum torque values provided by Tompkins Industries are to provide benchmarks that give optimum results for leak free connections. Actual torque values should be based on individual applications.

RECOMMENDED SOLID FOUR-BOLT FLANGE ASSEMBLY INSTRUCTIONS

- STEP 1.** Inspect port area to be smooth and free of nicks, burrs, scratches, or contaminants.
- STEP 2.** Lubricate the o-ring and place in flange head groove.
- STEP 3.** Lubricate screw threads, slip lock washers onto screws, and insert screws into flange.
- STEP 4.** Position flange on port and finger tighten all screws.
- STEP 5.** Torque the screws in a figure eight sequence, incrementally until the appropriate torque value in the following table is achieved.

RECOMMENDED FOUR-BOLT SPLIT FLANGE ASSEMBLY INSTRUCTIONS

- STEP 1.** Follow steps 1 through 3 above, then proceed to the following steps.
- STEP 2.** Position both flange halves on port and turn one screw in each flange half about three turns.
- STEP 3.** Rotate each flange half away from port for sufficient clearance to position hose or fitting flange head on port.
- STEP 4.** Close each flange half until it properly captures flange head. Insert remaining screws and finger tighten.
- STEP 5.** Torque the screws in a figure eight sequence incrementally until the appropriate torque value in the following table is achieved.

J518 CODE 61 AND CODE 62 FLANGE MINIMUM TORQUE VALUES

DASH SIZE	PORT SIZE	CODE 61 TORQUE FOOT/LBS	CODE 62 TORQUE FOOT/LBS
-08	1/2"	15-19	15-19
-12	3/4"	20-29	25-33
-16	1"	27-35	41-50
-20	1 1/4"	35-46	62-75
-24	1 1/2"	46-58	116-133
-32	2"	53-67	200-217
-40	2 1/2"	79	NA
-48	3"	137	NA
-56	3 1/2"	116	NA
-64	4"	116	NA
-80	5"	116	NA

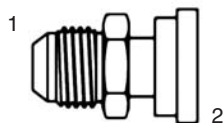
WHY WET TORQUE?

Due to difference in plating types and thickness, materials, and thread tolerances of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Over tightening causes threads to yield, deform and lose their ability maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks. **It is our firm position that to not wet torque is to compromise consistency and quality for convenience.**

Steel Flange Components CODE 61

6840

JIC to Flange

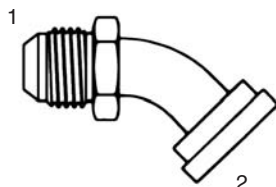


CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
08-08	S	3/4-16	1/2	1.18"
08-12	S FG	3/4-16	3/4	1.50"
10-10 Komatsu	S	7/8-14	16MM	34MM
10-16	S	7/8-14	1	1.75"
12-12	S FG	1 1/16-12	3/4	1.50"
12-16	S FG	1 1/16-12	1	1.75"
14-12	S	1 3/16-12	3/4	1.50"
16-12	S FG	1 5/16-12	3/4	1.50"
16-16	S FG	1 5/16-12	1	1.75"
16-20	S FG	1 5/16-12	1 1/4	2.00"
16-24	S	1 5/16-12	1 1/2	2.37"
20-16	S FG	1 5/8-12	1	1.75"
20-20	S FG	1 5/8-12	1 1/4	2.00"
20-24	S FG	1 5/8-12	1 1/2	2.37"
20-32	S	1 5/8-12	2	2.81"
24-20	S FG	1 7/8-12	1 1/4	2.00"
24-24	S FG	1 7/8-12	1 1/2	2.37"
24-32	S FG	1 7/8-12	2	2.81"
32-24	S FG	2 1/2-12	1 1/2	2.37"
32-32	S FG	2 1/2-12	2	2.81"
32-40	S	2 1/2-12	2 1/2	3.31"
40-40	S	3-12	2 1/2	3.31"

6845

JIC to Flange Elbow 45°



CODE 61

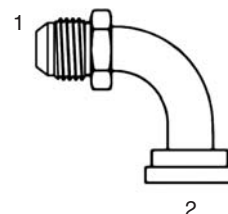
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
08-08	S	3/4-16	1/2	1.18"
08-12	S	3/4-16	3/4	1.50"
10-10 Komatsu	S	7/8-14	16mm	34mm
12-12	S	1 1/16-12	3/4	1.50"
12-16	S	1 1/16-12	1	1.75"
12-20	S	1 1/16-12	1 1/4	2.00"
16-12	S	1 5/16-12	3/4	1.50"
16-16	S	1 5/16-12	1	1.75"
16-20	S	1 5/16-12	1 1/4	2.00"
16-24	S	1 5/16-12	1 1/2	2.37"
20-12	S	1 5/8-12	3/4	1.50"
20-16	S	1 5/8-12	1	1.75"
20-20	S	1 5/8-12	1 1/4	2.00"
20-24	S	1 5/8-12	1 1/2	2.37"
24-20	S	1 7/8-12	1 1/4	2.00"
24-24	S	1 7/8-12	1 1/2	2.37"
24-32	S	1 7/8-12	2	2.81"
24-40	S	1 7/8-12	2 1/2	3.31"
32-24	S	2 1/2-12	1 1/2	2.37"
32-32	S	2 1/2-12	2	2.81"

Steel Flange Components CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
08-08	☐ S	3/4-16	1/2	1.18"
08-12	☐ S ☐ FG	3/4-16	3/4	1.50"
10-10 Komatsu	☐ S	7/8-14	16MM	34MM
10-16	☐ S	7/8-14	1	1.75"
12-12	☐ S ☐ FG	1 1/16-12	3/4	1.50"
12-16	☐ S ☐ FG	1 1/16-12	1	1.75"
12-20	☐ S	1 1/16-12	1 1/4	2.00"
12-24	☐ S	1 1/16-12	1 1/2	2.37"
16-12	☐ S ☐ FG	1 5/16-12	3/4	1.50"
16-16	☐ S ☐ FG	1 5/16-12	1	1.75"
16-20	☐ S ☐ FG	1 5/16-12	1 1/4	2.00"
16-24	☐ S	1 5/16-12	1 1/2	2.37"
20-12	☐ S	1 5/8-12	3/4	1.50"
20-16	☐ S ☐ FG	1 5/8-12	1	1.75"
20-20	☐ S ☐ FG	1 5/8-12	1 1/4	2.00"
20-24	☐ S ☐ FG	1 5/8-12	1 1/2	2.37"
24-16	☐ S	1 7/8-12	1	1.75"
24-20	☐ S ☐ FG	1 7/8-12	1 1/4	2.00"
24-24	☐ S ☐ FG	1 7/8-12	1 1/2	2.37"
24-32	☐ S ☐ FG	1 7/8-12	2	2.81"
24-40	☐ S	1 7/8-12	2 1/2	3.31"
32-24	☐ S ☐ FG	2 1/2-12	1 1/2	2.37"
32-32	☐ S ☐ FG	2 1/2-12	2	2.81"
32-40	☐ S	2 1/2-12	2 1/2	3.31"

6890

JIC to Flange Elbow 90°

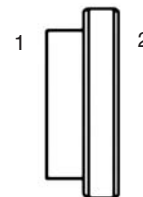


CODE 61

Dash Size	Stock Materials S FG SS BR	Tube Size	Flange Size
08-08	☐ S	1/2	1/2
12-12	☐ S	3/4	3/4
16-16	☐ S	1	1
20-20	☐ S	1 1/4	1 1/4
24-24	☐ S	1 1/2	1 1/2
32-32	☐ S	2	2
32-40	☐ S	2	2 1/2
40-40	☐ S	2 1/2	2 1/2
48-48	☐ S	3	3

6861

Braze to Split Flange

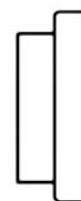


CODE 61

Dash Size	Stock Materials S FG SS BR	Flange Size
08	☐ S	1/2
12	☐ S	3/4
16	☐ S	1
20	☐ S	1 1/4
24	☐ S	1 1/2
32	☐ S	2
40	☐ S	2 1/2

6861-P

Split Flange Plug



CODE 61

S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 61

CP

Flange Connector Plate



CODE 61

Dash Size	Stock Materials S FG SS BR	Flange Size
08	\$	1/2
12	\$	3/4
16	\$	1
20	\$	1 1/4
24	\$	1 1/2
32	\$	2
40	\$	2 1/2

90 DF

Nitrile 90 Durometer Flange O-Ring



CODE 61

Dash Size	Split Flange Size	O-Ring Number
08	1/2	210
12	3/4	214
16	1	219
20	1 1/4	222
24	1 1/2	225
32	2	228
40	2 1/2	232
48	3	237

SF

Split Flange Half

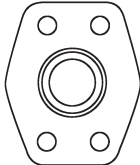


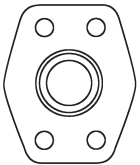
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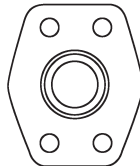
Dash Size	Stock Materials S FG SS BR	Flange Size	Flange Head Diameter
08	\$	1/2	1.18"
12	\$	3/4	1.50"
16	\$	1	1.75"
20	\$	1 1/4	2.00"
24	\$	1 1/2	2.37"
32	\$	2	2.81"
40	\$	2 1/2	3.31"
48	\$	3	4.00"

To order flanges as a kit that includes two flange halves, four grade 5 hex head cap screws, four spring lock washers, and one nitrile o-ring, add the suffix "K" to the base component part number. (Example: SFK-12)

Steel Flange Components CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	W4 Pipe Weld Flange Pad  CODE 61
08-08	\$	1/2-14	1/2	
12-12	\$	3/4-14	3/4	
16-16	\$	1-11 1/2	1	
20-20	\$	1 1/4-11 1/2	1 1/4	
24-24	\$	1 1/2-11 1/2	1 1/2	
32-32	\$	2-11 1/2	2	
40-40	\$	2 1/2-11 1/2	2 1/2	
48-48	\$	3-11 1/2	3	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	W43 Pipe Thread Flange Pad  CODE 61
08-08	\$	1/2-14	1/2	
12-12	\$	3/4-14	3/4	
16-16	\$	1-11 1/2	1	
20-20	\$	1 1/4-11 1/2	1 1/4	
24-24	\$	1 1/2-11 1/2	1 1/2	
32-32	\$	2-11 1/2	2	
40-40	\$	2 1/2-11 1/2	2 1/2	
48-48	\$	3-11 1/2	3	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Pad Size	W46 O-Ring Flange Pad  CODE 61
08-08	\$	3/4-16	1/2	
12-12	\$	1 1/16-12	3/4	
16-16	\$	1 5/16-12	1	
20-20	\$	1 5/8-12	1 1/4	
24-24	\$	1 7/8-12	1 1/2	
32-32	\$	2 1/2-12	2	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	WC4 Pipe Weld Companion Flange Pad  CODE 61
08-08	\$	1/2-14	1/2	
12-12	\$	3/4-14	3/4	
16-16	\$	1-11 1/2	1	
20-20	\$	1 1/4-11 1/2	1 1/4	
24-24	\$	1 1/2-11 1/2	1 1/2	
32-32	\$	2-11 1/2	2	
40-40	\$	2 1/2-11 1/2	2 1/2	
48-48	\$	3-11 1/2	3	

S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 61

WC43

Pipe Companion Flange Pad



CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size
08-08	\$	1/2-14	1/2
12-12	\$	3/4-14	3/4
16-16	\$	1-11 1/2	1
20-20	\$	1 1/4-11 1/2	1 1/4
24-24	\$	1 1/2-11 1/2	1 1/2
32-32	\$	2-11 1/2	2
40-40	\$	2 1/2-11 1/2	2 1/2
48-48	\$	3-11 1/2	3

WC46

O-Ring Companion Flange Pad



CODE 61

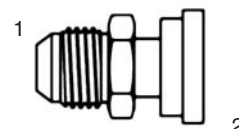
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Pad Size
08-08	\$	3/4-16	1/2
12-12	\$	1 1/16-12	3/4
16-16	\$	1 5/16-12	1
20-20	\$	1 5/8-12	1 1/4
24-24	\$	1 7/8-12	1 1/2
32-32	\$	2 1/2-12	2

Steel Flange Components CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
08-08	S	3/4-16	1/2	1.25"
12-12	S FG	1 1/16-12	3/4	1.62"
12-16	S FG	1 1/16-12	1	1.88"
16-12	S FG	1 5/16-12	3/4	1.62"
16-16	S FG	1 5/16-12	1	1.88"
16-20	S FG	1 5/16-12	1 1/4	2.12"
16-24	S	1 5/16-12	1 1/2	2.50"
20-16	S FG	1 5/8-12	1	1.88"
20-20	S FG	1 5/8-12	1 1/4	2.12"
20-24	S FG	1 5/8-12	1 1/2	2.50"
24-20	S	1 7/8-12	1 1/4	2.12"
24-24	S FG	1 7/8-12	1 1/2	2.50"
24-32	S FG	1 7/8-12	2	3.12"
32-24	S FG	2 1/2-12	1 1/2	2.50"
32-32	S FG	2 1/2-12	2	3.12"

6842

JIC to Flange

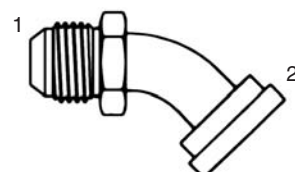


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	S	1 1/16-12	3/4	1.62"
12-16	S	1 1/16-12	1	1.88"
12-20	S	1 1/16-12	1 1/4	2.12"
16-12	S	1 5/16-12	3/4	1.62"
16-16	S	1 5/16-12	1	1.88"
16-20	S	1 5/16-12	1 1/4	2.12"
16-24	S	1 5/16-12	1 1/2	2.50"
20-12	S	1 5/8-12	3/4	1.62"
20-16	S	1 5/8-12	1	1.88"
20-20	S	1 5/8-12	1 1/4	2.12"
20-24	S	1 5/8-12	1 1/2	2.50"
24-20	S	1 7/8-12	1 1/4	2.12"
24-24	S	1 7/8-12	1 1/2	2.50"
32-32	S	2 1/2-12	2	3.12"

6847

JIC to Flange Elbow 45°

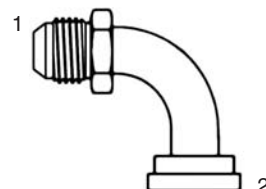


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
08-08	S	3/4-16	1/2	1.25"
12-08	S	1 1/16-12	1/2	1.25"
12-12	S FG	1 1/16-12	3/4	1.62"
12-16	S FG	1 1/16-12	1	1.88"
12-20	S	1 1/16-12	1 1/4	2.12"
16-12	S FG	1 5/16-12	3/4	1.62"
16-16	S FG	1 5/16-12	1	1.88"
16-20	S FG	1 5/16-12	1 1/4	2.12"
16-24	S	1 5/16-12	1 1/2	2.50"
20-16	S FG	1 5/8-12	1	1.88"
20-20	S FG	1 5/8-12	1 1/4	2.12"
20-24	S FG	1 5/8-12	1 1/2	2.50"
24-16	S	1 7/8-12	1	1.88"
24-20	S	1 7/8-12	1 1/4	2.12"
24-24	S FG	1 7/8-12	1 1/2	2.50"
24-32	S FG	1 7/8-12	2	3.12"
32-32	S FG	2 1/2-12	2	3.12"

6892

JIC to Flange Elbow 90°



CODE 62

S= Steel

FG=Forging

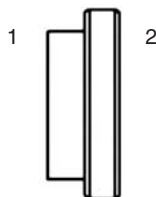
SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 62

6862

**Braze to
Split Flange**



CODE 62

Dash Size	Stock Materials S FG SS BR	Tube Size	Flange Size
08-08	\$	1/2	1/2
12-12	\$	3/4	3/4
16-16	\$	1	1
20-20	\$	1 1/4	1 1/4
24-24	\$	1 1/2	1 1/2
32-32	\$	2	2

6862-P

Split Flange Plug



CODE 62

Dash Size	Stock Materials S FG SS BR	Tube Size
08	\$	1/2
12	\$	3/4
16	\$	1
20	\$	1 1/4
24	\$	1 1/2
32	\$	2

90 DF

**Nitrile 90
Durometer
Flange O-Ring**



CODE 62

Dash Size	Split Flange Size	O-Ring Number
08	1/2	210
12	3/4	214
16	1	219
20	1 1/4	222
24	1 1/2	225
32	2	228
40	2 1/2	232
48	3	237

SFX

Split Flange Half

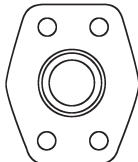


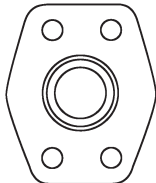
CODE 62

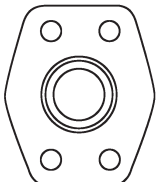
Dash Size	Stock Materials S FG SS BR	Flange Size	Flange Head Diameter
08	\$	1/2	1.25"
12	\$	3/4	1.62"
16	\$	1	1.88"
20	\$	1 1/4	2.12"
24	\$	1 1/2	2.50"
32	\$	2	3.12"

To order flanges as a kit that includes two flange halves, four grade 5 hex head cap screws, four spring lock washers, and one nitrile o-ring, add the suffix "K" to the base component part number. (Example: SFXK-12)

Steel Flange Components CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	W42
08-08		1/2-14	1/2	Pipe Weld Flange Pad  CODE 62
12-12		3/4-14	3/4	
16-16		1-11 1/2	1	
20-20		1 1/4-11 1/2	1 1/4	
24-24		1 1/2-11 1/2	1 1/2	
32-32		2-11 1/2	2	
40-40		2 1/2-1 1/2	2 1/2	
48-48		3-1 1/2	3	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	W44
08-08		1/2-14	1/2	Female Pipe Flange Pad  CODE 62
12-12		3/4-14	3/4	
16-16		1-11 1/2	1	
20-20		1 1/4-11 1/2	1 1/4	
24-24		1 1/2-11 1/2	1 1/2	
32-32		2-11 1/2	2	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Pad Size	W48
08-08		3/4-16	1/2	O-Ring Flange Pad  CODE 62
12-12		1 1/16-12	3/4	
16-16		1 5/16-12	1	
20-20		1 5/8-12	1 1/4	
24-24		1 7/8-12	1 1/2	
32-32		2 1/2-12	2	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size	WC42
08-08		1/2-14	1/2	Pipe Weld Companion Flange Pad  CODE 62
12-12		3/4-14	3/4	
16-16		1-11 1/2	1	
20-20		1 1/4-11 1/2	1 1/4	
24-24		1 1/2-11 1/2	1 1/2	
32-32		2-11 1/2	2	

S= Steel

FG=Forging

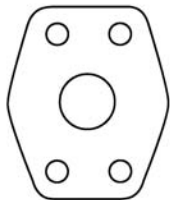
SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 62

WC44

Pipe Companion Flange Pad



CODE 62

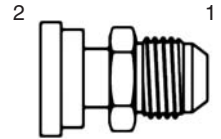
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	Pad Size
08-08	\$	1/2-14	1/2
12-12	\$	3/4-14	3/4
16-16	\$	1-11 1/2	1
20-20	\$	1 1/4-11 1/2	1 1/4
24-24	\$	1 1/2-11 1/2	1 1/2
32-32	\$	2-11 1/2	2
To order companion flange, (mating flange with flat surface and threaded screw holes), add the suffix "C" after the base component part number. (Example W43C-12-12)			

No Braze Flange Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒ S	1 1/16-12	3/4	1.62"
16-12	☒ S	1 5/16-12	3/4	1.62"

NB6842

JIC to No Braze Flange

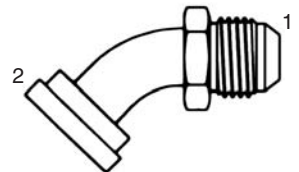


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒ S	1 1/16-12	3/4	1.62"
16-12	☒ S	1 5/16-12	3/4	1.62"

NB6847

JIC to No Braze Flange Elbow 45°

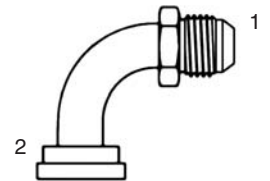


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒ S	1 1/16-12	3/4	1.62"
16-12	☒ S	1 5/16-12	3/4	1.62"

NB6892

JIC to No Braze Flange Elbow 90°

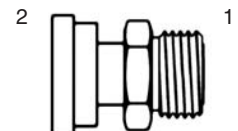


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒ S	1 3/16-12	3/4	1.62"
16-12	☒ S	1 7/16-12	3/4	1.62"

NBFF6842

ORFS to No Braze Flange



CODE 62

S= Steel

FG=Forging

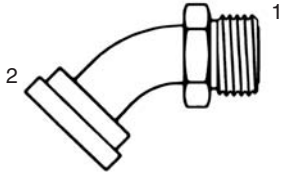
SS=Stainless Steel

BR=Brass

No Braze Flange Adapters

NBFF6847

**ORFS to No
Braze Flange
Elbow 45°**



CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒ S	1 3/16-12	3/4	1.62"
16-12	☒ S	1 7/16-12	3/4	1.62"

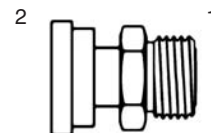
Note: The no braze flange adapters are designed with a larger through hole than standard flange adapters and manufactured as a one-piece design. This is designed to reduce pressure drop and heat.

O-Ring Face Seal Flange Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒	1 3/16-12	3/4	1.50"
12-16	☒	1 3/16-12	1	1.75"
16-12	☒	1 7/16-12	3/4	1.50"
16-16	☒	1 7/16-12	1	1.75"
16-20	☒	1 7/16-12	1 1/4	2.00"
20-16	☒	1 11/16-12	1	1.75"
20-20	☒	1 11/16-12	1 1/4	2.00"
20-24	☒	1 11/16-12	1 1/2	2.38"
24-20	☒	2-12	1 1/4	2.00"
24-24	☒	2-12	1 1/2	2.38"

FF6840

ORFS to Flange

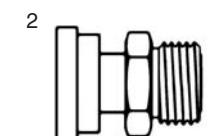


CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒	1 3/16-12	3/4	1.62"
12-16	☒	1 3/16-12	1	1.88"
16-12	☒	1 7/16-12	3/4	1.62"
16-16	☒	1 7/16-12	1	1.88"
16-20	☒	1 7/16-12	1 1/4	2.12"
20-16	☒	1 11/16-12	1	1.88"
20-20	☒	1 11/16-12	1 1/4	2.12"
20-24	☒	1 11/16-12	1 1/2	2.50"
24-20	☒	2-12	1 1/4	2.12"
24-24	☒	2-12	1 1/2	2.50"
24-32	☒	2-12	2	3.12"

FF6842

ORFS to Flange

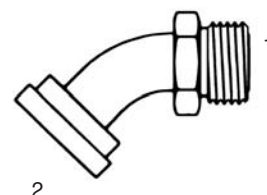


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	☒	1 3/16-12	3/4	1.50"
12-16	☒	1 3/16-12	1	1.75"
16-16	☒	1 7/16-12	1	1.75"
16-20	☒	1 7/16-12	1 1/4	2.00"
20-24	☒	1 11/16-12	1 1/2	2.37"

FF6845

ORFS to Flange Elbow 45°



CODE 61

S= Steel

FG=Forging

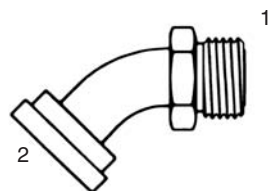
SS=Stainless Steel

BR=Brass

O-Ring Face Seal Flange Adapters

FF6847

ORFS to Flange Elbow 45°

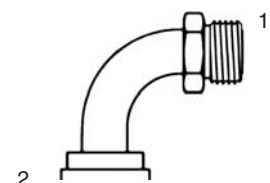


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	\$	1 3/16-12	3/4	1.62"
16-16	\$	1 7/16-12	1	1.88"
20-20	\$	1 11/16-12	1 1/4	2.12"

FF6890

ORFS to Flange Elbow 90°

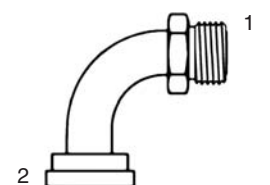


CODE 61

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	\$	1 3/16-12	3/4	1.50"
12-16	\$	1 3/16-12	1	1.75"
16-12	\$	1 7/16-12	3/4	1.50"
16-16	\$	1 7/16-12	1	1.75"
16-20	\$	1 7/16-12	1 1/4	2.00"
20-16	\$	1 11/16-12	1	1.75"
20-20	\$	1 11/16-12	1 1/4	2.00"
20-24	\$	1 11/16-12	1 1/2	2.37"
24-20	\$	2-12	1 1/4	2.00"
24-24	\$	2-12	1 1/2	2.37"

FF6892

ORFS to Flange Elbow 90°



CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	\$	1 3/16-12	3/4	1.62"
12-16	\$	1 3/16-12	1	1.88"
16-12	\$	1 7/16-12	3/4	1.62"
16-16	\$	1 7/16-12	1	1.88"
16-20	\$	1 7/16-12	1 1/4	2.12"
20-16	\$	1 11/16-12	1	1.88"
20-20	\$	1 11/16-12	1 1/4	2.12"
20-24	\$	1 11/16-12	1 1/2	3.12"
24-20	\$	2-12	1 1/4	2.12"
24-24	\$	2-12	1 1/2	3.12"

Metric General Information

Dash Size	BSPP/BSPT	BSPP/BSPT Thread Identification Chart
02	1/8-28	
03	—	
04	1/4-19	
05	—	
06	3/8-19	
08	1/2-14	
10	—	
12	3/4-14	
14	—	
16	1-11	
20	1 1/4-11	
24	1 1/2-11	
32	2-11	

Dash Size	Metric Port Threads	Metric Thread Identification Chart
10	10X1.0	
12	12X1.5	
14	14X1.5	
16	16X1.5	
18	18X1.5	
20	20X1.5	
22	22X1.5	
24	24X1.5	
26	26X1.5	
27	27X2.0	
30	30X2.0	
33	33X2.0	
34	34X1.5	
36	36X1.5	
40	40X1.5	
42	42X2.0	
45	45X1.5	
48	48X2.0	
52	52X2.0	

Tube O.D.	Metric Thread	LL Extra Light Series for Metric Compression
4MM	8MM X 1.0	
6MM	10MM X 1.0	
8MM	12MM X 1.0	
10MM	14MM X 1.0	
12MM	16MM X 1.0	

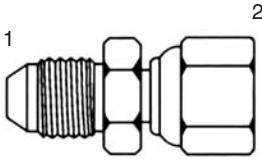
Metric General Information

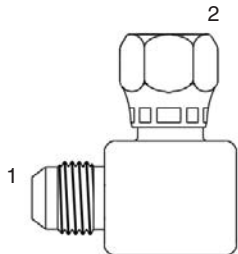
L Light Series for Metric Compression	Tube O.D.	Metric Thread
	6 MM	12 MM X 1.5
	8 MM	14 MM X 1.5
	10 MM	16 MM X 1.5
	12 MM	18 MM X 1.5
	15 MM	22 MM X 1.5
	18 MM	26 MM X 1.5
	22 MM	30 MM X 2.0
	28 MM	36 MM X 2.0
	35 MM	45 MM X 2.0
	42 MM	52 MM X 2.0

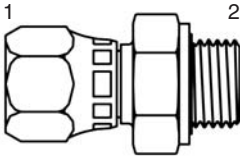
S Heavy Series for Metric Compression	Tube O.D.	Metric Thread
	6 MM	14 MM X 1.5
	8 MM	16 MM X 1.5
	10 MM	18 MM X 1.5
	12 MM	20 MM X 1.5
	14 MM	22 MM X 1.5
	16 MM	24 MM X 1.5
	20 MM	30 MM X 2.0
	25 MM	36 MM X 2.0
	30 MM	42 MM X 2.0
	38 MM	52 MM X 2.0

Metric compression fittings are available in other sizes and configurations in steel and stainless steel. Please call customer service for additional information.

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)	3240 JIC to BSPP Swivel
04-02		7/16-20	1/8-28	
04-04		7/16-20	1/4-19	
04-06		7/16-20	3/8-19	
06-04		9/16-18	1/4-19	
06-06		9/16-18	3/8-19	
06-08		9/16-18	1/2-14	
08-06		3/4-16	3/8-19	
08-08		3/4-16	1/2-14	
08-10		3/4-16	5/8-14	
08-12		3/4-16	3/4-14	
10-08		7/8-14	1/2-14	
10-10		7/8-14	5/8-14	
10-12		7/8-14	3/4-14	
12-12		1 1/16-12	3/4-14	
12-16		1 1/16-12	1-11	
16-16		1 5/16-12	1-11	
20-20		1 5/8-12	1 1/4-11	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)	3401 JIC to BSPP Swivel Elbow 90°
06-06		9/16-18	3/8-19	
08-08		3/4-16	1/2-14	
12-12		1 1/16-12	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)	3402 JIC to BSPP
04-02		7/16-20	1/8-28	
04-04		7/16-20	1/4-19	
06-04		9/16-18	1/4-19	
06-06		9/16-18	3/8-19	
08-06		3/4-16	3/8-19	
08-08		3/4-16	1/2-14	
10-08		7/8-14	1/2-14	
12-12		1 1/16-12	3/4-14	
16-12		1 5/16-12	3/4-14	
16-16		1 5/16-12	1-11	
20-20		1 5/8-12	1 1/4-11	
24-24		1 7/8-12	1 1/2-11	

S= Steel

FG=Forging

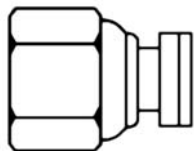
SS=Stainless Steel

BR=Brass

BSPP Adapters

3406

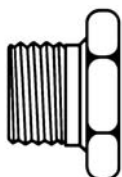
Swivel BSPP Cap



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
10	\$	5/8-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11
32	\$	2-11

3408

BSPP Plug



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11

3408-HHP

Hollow Hex BSPP Plug



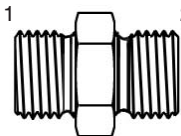
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11

BSPP Adapters

[illegible]

3420

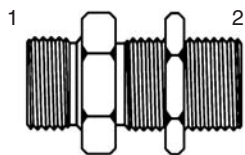
BSPP Nipple



BSPP Adapters

3421

BSPP Bulkhead Union



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
04-04	\$	1/4-19	1/4-19
04-06	\$	1/4-19	3/8-19
06-06	\$	3/8-19	3/8-19
06-08	\$	3/8-19	1/2-14
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
08-12	\$	1/2-14	3/4-14
10-10	\$	5/8-14	5/8-14
12-08	\$	3/4-14	1/2-14
12-12	\$	3/4-14	3/4-14
12-16	\$	3/4-14	1-11
16-16	\$	1-11	1-11
20-20	\$	1 1/4-11	1 1/4-11
24-24	\$	1 1/2-11	1 1/2-11
32-32	\$	2-11	2-11

3422

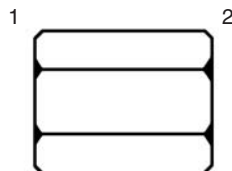
BSPP Bulkhead Locknut



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
10	\$	5/8-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11
32	\$	2-11

3425

BSPP Coupling



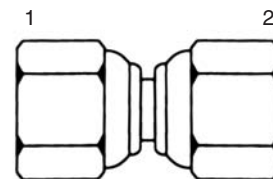
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-02	\$	1/8-28	1/8-28
04-02	\$	1/4-19	1/8-28
04-04	\$	1/4-19	1/4-19
06-02	\$	3/8-19	1/8-28
06-04	\$	3/8-19	1/4-19
06-06	\$	3/8-19	3/8-19
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
10-08	\$	5/8-14	1/2-14
10-10	\$	5/8-14	5/8-14
12-08	\$	3/4-14	1/2-14
12-10	\$	3/4-14	5/8-14
12-12	\$	3/4-14	3/4-14
16-12	\$	1-11	3/4-14
16-16	\$	1-11	1-11
20-20	\$	1 1/4-11	1 1/4-11
24-24	\$	1 1/2-11	1 1/2-11
32-32	\$	2-11	2-11

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-02		1/8-28	1/8-28
04-04		1/4-19	1/4-19
06-04		3/8-19	1/4-19
06-06		3/8-19	3/8-19
08-04		1/2-14	1/4-19
08-06		1/2-14	3/8-19
08-08		1/2-14	1/2-14
10-08		5/8-14	1/2-14
10-10		5/8-14	5/8-14
12-08		3/4-14	1/2-14
12-10		3/4-14	5/8-14
12-12		3/4-14	3/4-14
16-08		1-11	1/2-14
16-10		1-11	5/8-14
16-12		1-11	3/4-14
16-16		1-11	1-11
20-20		1 1/4-11	1 1/4-11
24-24		1 1/2-11	1 1/2-11
32-32		2-11	2-11

3426

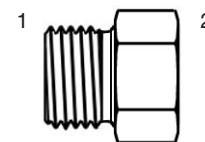
BSPP Swivel Union



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
06-02		3/8-19	1/8-28
08-04		1/2-14	1/4-19
12-04		3/4-14	1/4-19
12-06		3/4-14	3/8-19
16-06		1-11	3/8-19
16-08		1-11	1/2-14
20-08		1 1/4-11	1/2-14
20-12		1 1/4-11	3/4-14
20-16		1 1/4-11	1-11
24-08		1 1/2-11	1/2-14
24-12		1 1/2-11	3/4-14
24-16		1 1/2-11	1-11
32-12		2-11	3/4-14
32-16		2-11	1-11
32-20		2-11	1 1/4-11
32-24		2-11	1 1/2-11

3430

BSPP Reducer Bushing



S= Steel

FG=Forging

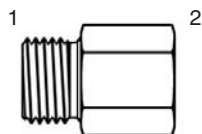
SS=Stainless Steel

BR=Brass

BSPP Adapters

3435

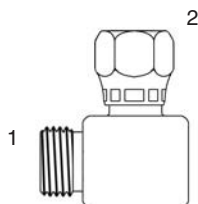
BSPP to BSPP Extended Bushing



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-04	\$	1/8-28	1/4-19
04-02	\$	1/4-19	1/8-28
04-04	\$	1/4-19	1/4-19
04-06	\$	1/4-19	3/8-19
06-04	\$	3/8-19	1/4-19
06-06	\$	3/8-19	3/8-19
06-08	\$	3/8-19	1/2-14
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
08-12	\$	1/2-14	3/4-14
10-08	\$	5/8-14	1/2-14
12-08	\$	3/4-14	1/2-14
12-12	\$	3/4-14	3/4-14
12-16	\$	3/4-14	1-11
16-12	\$	1-11	3/4-14
16-16	\$	1-11	1-11
20-20	\$	1 1/4-11	1 1/4-11
24-20	\$	1 1/2-11	1 1/4-11
24-24	\$	1 1/2-11	1 1/2-11
32-32	\$	2-11	2-11

3436

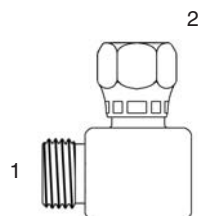
BSPP to BSPP Swivel Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-02	\$	1/8-28	1/8-28
04-04	\$	1/4-19	1/4-19
04-06	\$	1/4-19	3/8-19
06-04	\$	3/8-19	1/4-19
06-06	\$	3/8-19	3/8-19
06-08	\$	3/8-19	1/2-14
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
08-10	\$	1/2-14	5/8-14
10-10	\$	5/8-14	5/8-14
12-12	\$	3/4-14	3/4-14
16-12	\$	1-11	3/4-14
16-16	\$	1-11	1-11
20-20	\$	1 1/4-11	1 1/4-11
24-24	\$	1 1/2-11	1 1/2-11
32-32	\$	2-11	2-11

3437

BSPP to JIC Swivel Elbow 90°



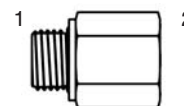
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (UNF)
04-04	\$	1/4-19	7/16-20
06-06	\$	3/8-19	9/16-18
06-08	\$	3/8-19	3/4-16
08-06	\$	1/2-14	9/16-18
08-08	\$	1/2-14	3/4-16
08-10	\$	1/2-14	7/8-14
12-12	\$	3/4-14	1 1/16-12

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (NPTF)
02-02	S	1/8-28	1/8-27
02-04	S	1/8-28	1/4-18
04-02	S	1/4-19	1/8-27
04-04	S	1/4-19	1/4-18
06-02	S	3/8-18	1/8-27
06-04	S	3/8-18	1/4-18
06-06	S	3/8-19	3/8-18
08-02	S	1/2-14	1/8-27
08-04	S	1/2-14	1/4-18
08-06	S	1/2-14	3/8-18
08-08	S	1/2-14	1/2-14
12-04	S	3/4-14	1/4-18
12-06	S	3/4-14	3/8-18
12-08	S	3/4-14	1/2-14
12-12	S	3/4-14	3/4-14
16-16	S	1-11	1-11 1/2
20-20	S	1 1/4-11	1 1/4-11 1/2
24-24	S	1 1/2-11	1 1/2-11 1/2

3455

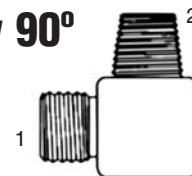
BSPP to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPT)
02-02	S	1/8-28	1/8-28
04-04	S	1/4-19	1/4-19
06-04	S	3/8-19	1/4-19
06-06	S	3/8-19	3/8-19
08-06	S	1/2-14	3/8-19
08-08	S	1/2-14	1/2-14
12-12	S	3/4-14	3/4-14
16-16	S	1-11	1-11

3540

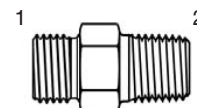
BSPP to BSPT Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPT)
02-02	S	1/8-28	1/8-28
02-04	S	1/8-28	1/4-19
02-06	S	1/8-28	3/8-19
04-02	S	1/4-19	1/8-28
04-04	S	1/4-19	1/4-19
04-06	S	1/4-19	3/8-19
04-08	S	1/4-19	1/2-14
06-02	S	3/8-19	1/8-28
06-04	S	3/8-19	1/4-19
06-06	S	3/8-19	3/8-19
06-08	S	3/8-19	1/2-14
06-12	S	3/8-19	3/4-14
06-16	S	3/8-19	1-11
08-04	S	1/2-14	1/4-19
08-06	S	1/2-14	3/8-19
08-08	S	1/2-14	1/2-14
10-08	S	5/8-14	1/2-14
10-10	S	5/8-14	5/8-14
12-08	S	3/4-14	1/2-14
12-12	S	3/4-14	3/4-14
16-12	S	1-11	3/4-14
16-16	S	1-11	1-11
20-16	S	1 1/4-11	1-11
20-20	S	1 1/4-11	1 1/4-11
20-24	S	1 1/4-11	1 1/2-11
24-20	S	1 1/2-11	1 1/4-11
24-24	S	1 1/2-11	1 1/2-11
32-32	S	2-11	2-11

3544

BSPP to BSPT



S= Steel

FG=Forging

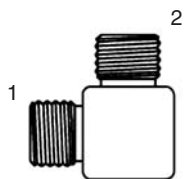
SS=Stainless Steel

BR=Brass

BSPP Adapters

3601

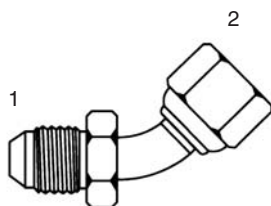
**BSPP to BSPP
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
04-04	\$	1/4-19	1/4-19
06-04	\$	3/8-19	1/4-19
06-06	\$	3/8-19	3/8-19
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14

3602

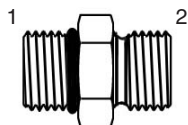
**JIC to BSPP bent
Tube Swivel
Elbow 45°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-04	\$	7/16-20	1/4-19
06-06	\$	9/16-18	3/8-19
08-08	\$	3/4-16	1/2-14
10-10	\$	7/8-14	5/8-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11

3620

**SAE O-Ring
to BSPP**



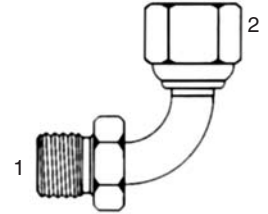
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-04	\$	7/16-20	1/4-19
04-06	\$	7/16-20	3/8-19
06-04	\$	9/16-18	1/4-19
06-06	\$	9/16-18	3/8-19
06-08	\$	9/16-18	1/2-14
08-06	\$	3/4-16	3/8-19
08-08	\$	3/4-16	1/2-14
10-06	\$	7/8-14	3/8-19
10-08	\$	7/8-14	1/2-14
12-08	\$	1 1/16-12	1/2-14
12-12	\$	1 1/16-12	3/4-14
12-16	\$	1 1/16-12	1-11
16-12	\$	1 5/16-12	3/4-14
16-16	\$	1 5/16-12	1-11
16-20	\$	1 5/16-12	1 1/4-11
20-16	\$	1 5/8-12	1-11
20-20	\$	1 5/8-12	1 1/4-11
24-24	\$	1 7/8-12	1 1/2-11

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
04-04		1/4-19	1/4-19
06-06		3/8-19	3/8-19
08-08		1/2-14	1/2-14
10-10		5/8-14	5/8-14
12-12		3/4-14	3/4-14
16-16		1-11	1-11
20-20		1 1/4-11	1 1/4-11
24-24		1 1/2-11	1 1/2-11
32-32		2-11	2-11

3701

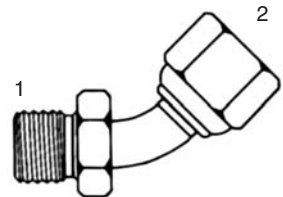
**BSPP to BSPP
Bent Tube Swivel
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
04-04		1/4-19	1/4-19
06-06		3/8-19	3/8-19
08-08		1/2-14	1/2-14
10-10		5/8-14	5/8-14
12-12		3/4-14	3/4-14
16-16		1-11	1-11
20-20		1 1/4-11	1 1/4-11

3702

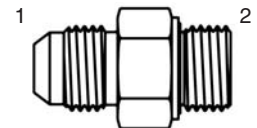
**BSPP to BSPP
Bent Tube Swivel
Elbow 45°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-02		7/16-20	1/8-28
04-04		7/16-20	1/4-19
04-06		7/16-20	3/8-19
04-08		7/16-20	1/2-14
05-02		1/2-20	1/8-28
05-04		1/2-20	1/4-19
05-06		1/2-20	3/8-19
06-04		9/16-18	1/4-19
06-06		9/16-18	3/8-19
06-08		9/16-18	1/2-14
08-04		3/4-16	1/4-19
08-06		3/4-16	3/8-19
08-08		3/4-16	1/2-14
08-12		3/4-16	3/4-14
10-06		7/8-14	3/8-19
10-08		7/8-14	1/2-14
10-12		7/8-14	3/4-14
12-08		1 1/16-12	1/2-14
12-12		1 1/16-12	3/4-14
12-16		1 1/16-12	1-11
16-12		1 5/16-12	3/4-14
16-16		1 5/16-12	1-11
16-20		1 5/16-12	1 1/4-11
20-16		1 5/8-12	1-11
20-20		1 5/8-12	1 1/4-11
20-24		1 5/8-12	1 1/2-11
24-20		1 7/8-12	1 1/4-11
24-24		1 7/8-12	1 1/2-11

3800

JIC to BSPP



Port Seal-Crush Washer And O-Ring Included

S= Steel

FG=Forging

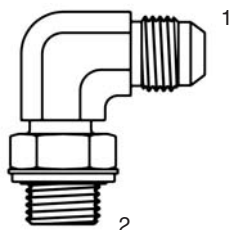
SS=Stainless Steel

BR=Brass

BSPP Adapters

3801

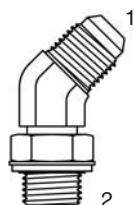
**JIC to BSPP
Elbow 90°**



Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (BSPP)
04-02	\$	FG			7/16-20	1/8-28
04-04	\$	FG			7/16-20	1/4-19
05-02	\$	FG			1/2-20	1/8-28
06-04	\$	FG			9/16-18	1/4-19
06-06	\$	FG			9/16-18	3/8-19
06-08	\$	FG			9/16-18	1/2-14
08-04	\$	FG			3/4-16	1/4-19
08-06	\$	FG			3/4-16	3/8-19
08-08	\$	FG			3/4-16	1/2-14
08-12	\$	FG			3/4-16	3/4-14
10-06	\$	FG			7/8-14	3/8-19
10-08	\$	FG			7/8-14	1/2-14
10-12	\$	FG			7/8-14	3/4-14
12-08	\$	FG			1 1/16-12	1/2-14
12-12	\$	FG			1 1/16-12	3/4-14
12-16	\$	FG			1 1/16-12	1-11
16-12	\$	FG			1 5/16-12	3/4-14
16-16	\$	FG			1 5/16-12	1-11
16-20	\$	FG			1 5/16-12	1 1/4-11
20-16	\$	FG			1 5/8-12	1-11
20-20	\$	FG			1 5/8-12	1 1/4-11
24-20	\$	FG			1 7/8-12	1 1/4-11
24-24	\$	FG			1 7/8-12	1 1/2-11
Port Seal-Crush Washer And O-Ring Included						

3802

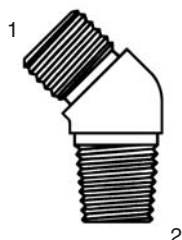
**JIC to BSPP
Elbow 45°**



Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (BSPP)
04-02	\$	FG			7/16-20	1/8-28
04-04	\$	FG			7/16-20	1/4-19
06-04	\$	FG			9/16-18	1/4-19
06-06	\$	FG			9/16-18	3/8-19
08-06	\$	FG			3/4-16	3/8-19
08-08	\$	FG			3/4-16	1/2-14
12-12	\$	FG			1 1/16-12	3/4-14
16-16	\$	FG			1 5/16-12	1-11

3807

**BSPP to BSPT
Elbow 45°**



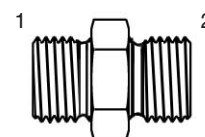
Dash Size	Stock Materials S FG SS BR				T1 (BSPP)	T2 (BSPT)
04-02	\$				1/4-19	1/8-28
04-04	\$				1/4-19	1/4-19
04-06	\$				1/4-19	3/8-19
06-04	\$				3/8-19	1/4-19
06-06	\$				3/8-19	3/8-19
08-06	\$				1/2-14	3/8-19
08-08	\$				1/2-14	1/2-14
12-12	\$				3/4-14	3/4-14

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (MM)
02-12	S	1/8-28	12X1.5
02-14	S	1/8-28	14X1.5
04-10	S	1/4-19	10X1.5
04-12	S	1/4-19	12X1.5
04-14	S	1/4-19	14X1.5
04-16	S	1/4-19	16X1.5
04-18	S	1/4-19	18X1.5
04-22	S	1/4-19	22X1.5
06-12	S	3/8-19	12X1.5
06-14	S	3/8-19	14X1.5
06-16	S	3/8-19	16X1.5
06-18	S	3/8-19	18X1.5
06-20	S	3/8-19	20X1.5
08-12	S	1/2-14	12X1.5
08-14	S	1/2-14	14X1.5
08-16	S	1/2-14	16X1.5
08-18	S	1/2-14	18X1.5
08-20	S	1/2-14	20X1.5
08-22	S	1/2-14	22X1.5
08-24	S	1/2-14	24X1.5
08-26	S	1/2-14	26X1.5
10-22	S	5/8-14	22X1.5
10-26	S	5/8-14	26X1.5
12-16	S	3/4-14	16X1.5
12-18	S	3/4-14	18X1.5
12-20	S	3/4-14	20X1.5
12-22	S	3/4-14	22X1.5
12-24	S	3/4-14	24X1.5
12-26	S	3/4-14	26X1.5
12-30	S	3/4-14	30X2.0
16-18	S	1-11	18X1.5
16-22	S	1-11	22X1.5

3810

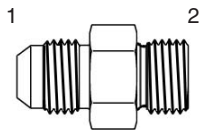
BSPP to Metric (1.5 MM Pitch)



BSPP Adapters

3820

JIC to BSPP Dual Port*



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-02	S	7/16-20	1/8-28
04-04	S	7/16-20	1/4-19
04-06	S	7/16-20	3/8-19
04-08	S	7/16-20	1/2-14
04-12	S	7/16-20	3/4-14
05-02	S	1/2-20	1/8-28
05-04	S	1/2-20	1/4-19
05-06	S	1/2-20	3/8-19
05-08	S	1/2-20	1/2-14
06-02	S	9/16-18	1/8-28
06-04	S	9/16-18	1/4-19
06-06	S	9/16-18	3/8-19
06-08	S	9/16-18	1/2-14
06-10	S	9/16-18	5/8-14
06-12	S	9/16-18	3/4-14
08-04	S	3/4-16	1/4-19
08-06	S	3/4-16	3/8-19
08-08	S	3/4-16	1/2-14
08-10	S	3/4-16	5/8-14
08-12	S	3/4-16	3/4-14
08-16	S	3/4-16	1-11
10-04	S	7/8-14	1/4-19
10-06	S	7/8-14	3/8-19
10-08	S	7/8-14	1/2-14
10-10	S	7/8-14	5/8-14
10-12	S	7/8-14	3/4-14
10-16	S	7/8-14	1-11
12-06	S	1 1/16-12	3/8-19
12-08	S	1 1/16-12	1/2-14
12-10	S	1 1/16-12	5/8-14
12-12	S	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11
12-20	S	1 1/16-12	1 1/4-11
14-12	S	1 3/16-12	3/4-14
14-16	S	1 3/16-12	1-11
16-08	S	1 5/16-12	1/2-14
16-12	S	1 5/16-12	3/4-14
16-16	S	1 5/16-12	1-11
16-20	S	1 5/16-12	1 1/4-11
16-24	S	1 5/16-12	1 1/2-11
20-12	S	1 5/8-12	3/4-14
20-20	S	1 5/8-12	1 1/4-11
20-24	S	1 5/8-12	1 1/2-11
24-16	S	1 7/8-12	1-11
24-24	S	1 7/8-12	1 1/2-11
24-32	S	1 7/8-12	2-11
32-16	S	2 1/2-12	1-11
32-20	S	2 1/2-12	1 1/4-11
32-24	S	2 1/2-12	1 1/2-11
32-32	S	2 1/2-12	2-11

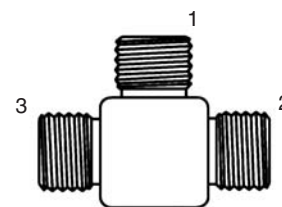
* For Port Seal Applications a DS-BSP Is Required.

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
02		1/8-28	1/8-28	1/8-28
04		1/4-19	1/4-19	1/4-19
06		3/8-19	3/8-19	3/8-19
08		1/2-14	1/2-14	1/2-14
10		5/8-14	5/8-14	5/8-14
12		3/4-14	3/4-14	3/4-14
16		1-11	1-11	1-11
20		1 1/4-11	1 1/4-11	1 1/4-11
24		1 1/2-11	1 1/2-11	1 1/2-11
32		2-11	2-11	2-11

3823

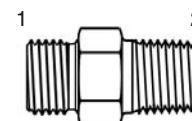
BSPP Tee



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (NPTF)
02-02		1/8-28	1/8-27
02-04		1/8-28	1/4-18
04-02		1/4-19	1/8-27
04-04		1/4-19	1/4-18
04-06		1/4-19	3/8-18
04-08		1/4-19	1/2-14
06-02		3/8-19	1/8-27
06-04		3/8-19	1/4-18
06-06		3/8-19	3/8-18
06-08		3/8-19	1/2-14
06-12		3/8-19	3/4-14
06-16		3/8-19	1-11 1/2
08-04		1/2-14	1/4-18
08-06		1/2-14	3/8-18
08-08		1/2-14	1/2-14
08-12		1/2-14	3/4-14
08-16		1/2-14	1-11 1/2
10-08		5/8-14	1/2-14
10-12		5/8-14	3/4-14
12-04		3/4-14	1/4-18
12-06		3/4-14	3/8-18
12-08		3/4-14	1/2-14
12-12		3/4-14	3/4-14
12-16		3/4-14	1-11 1/2
12-20		3/4-14	1 1/4-11 1/2
16-08		1-11	1/2-14
16-12		1-11	3/4-14
16-16		1-11	1-11 1/2
16-20		1-11	1 1/4-11 1/2
16-24		1-11	1 1/2-11 1/2
20-16		1 1/4-11	1-11 1/2
20-20		1 1/4-11	1 1/4-11 1/2
20-24		1 1/4-11	1 1/2-11 1/2
24-12		1 1/2-11	3/4-14
24-16		1 1/2-11	1-11 1/2
24-20		1 1/2-11	1 1/4-11 1/2
24-24		1 1/2-11	1 1/2-11 1/2
24-32		1 1/2-11	2-11 1/2
32-20		2-11	1 1/4-11 1/2
32-24		2-11	1 1/2-11 1/2
32-32		2-11	2-11 1/2
40-32		2 1/2-11	2-11 1/2
40-40		2 1/2-11	2 1/2-11 1/2
48-48		3-11	3-11 1/2

3825

BSPP to Pipe



* For Port Seal Applications a DS-BSP is Required

S= Steel

FG=Forging

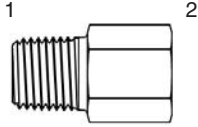
SS=Stainless Steel

BR=Brass

BSPP Adapters

3826

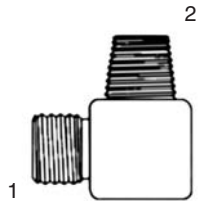
Pipe to BSPP



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (BSPP)
04-04	\$	1/4-18	1/4-19
06-04	\$	3/8-18	1/4-19
06-06	\$	3/8-18	3/8-19
08-04	\$	1/2-14	1/4-19
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
12-08	\$	3/4-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-12	\$	1-11 1/2	3/4-14
16-16	\$	1-11 1/2	1-11
20-20	\$	1 1/4-11 1/2	1 1/4-11
24-24	\$	1 1/2-11 1/2	1 1/2-11
32-32	\$	2-11 1/2	2-11

3828

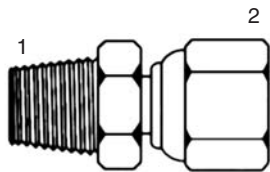
BSPP to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (NPTF)
02-02	\$	1/8-28	1/8-27
04-04	\$	1/4-19	1/4-18
06-06	\$	3/8-19	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11	1-11 1/2

3832

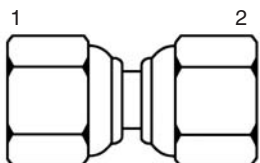
Pipe to BSPP Swivel



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (BSPP)
02-02	\$	1/8-27	1/8-28
02-04	\$	1/8-27	1/4-19
04-04	\$	1/4-18	1/4-19
06-04	\$	3/8-18	1/4-19
06-06	\$	3/8-18	3/8-19
06-08	\$	3/8-18	1/2-14
08-06	\$	1/2-14	3/8-19
08-08	\$	1/2-14	1/2-14
12-08	\$	3/4-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-12	\$	1-11 1/2	3/4-14
16-16	\$	1-11 1/2	1-11

3835

BSPP to JIC Swivel



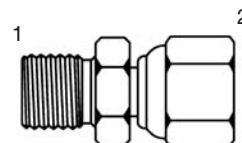
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (UNF)
04-04	\$	1/4-19	7/16-20
06-06	\$	3/8-19	9/16-18
06-08	\$	3/8-19	3/4-16
08-06	\$	1/2-14	9/16-18
08-08	\$	1/2-14	3/4-16
10-10	\$	5/8-14	7/8-14
12-12	\$	3/4-14	1 1/16-12
16-16	\$	1-11	1 5/16-12
20-20	\$	1 1/4-11	1 5/8-12

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-02		1/8-28	1/8-28
02-04		1/8-28	1/4-19
04-02		1/4-19	1/8-28
04-04		1/4-19	1/4-19
04-06		1/4-19	3/8-19
04-08		1/4-19	1/2-14
06-04		3/8-19	1/4-19
06-06		3/8-19	3/8-19
06-08		3/8-19	1/2-14
06-12		3/8-19	3/4-14
08-04		1/2-14	1/4-19
08-06		1/2-14	3/8-19
08-08		1/2-14	1/2-14
08-10		1/2-14	5/8-14
08-12		1/2-14	3/4-14
08-16		1/2-14	1-11
10-08		5/8-14	1/2-14
10-10		5/8-14	5/8-14
10-12		5/8-14	3/4-14
12-06		3/4-14	3/8-19
12-08		3/4-14	1/2-14
12-10		3/4-14	5/8-14
12-12		3/4-14	3/4-14
12-16		3/4-14	1-11
12-20		3/4-14	1 1/4-11
16-08		1-11	1/2-14
16-10		1-11	5/8-14
16-12		1-11	3/4-14
16-16		1-11	1-11
16-20		1-11	1 1/4-11
20-12		1 1/4-11	3/4-14
20-16		1 1/4-11	1-11
20-20		1 1/4-11	1 1/4-11
24-16		1 1/2-11	1-11
24-20		1 1/2-11	1 1/4-11
24-24		1 1/2-11	1 1/2-11
32-32		2-11	2-11

3840

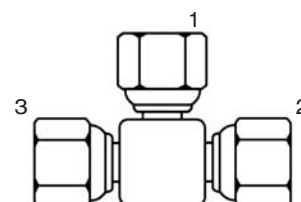
BSPP to BSPP Swivel



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
02		1/8-28	1/8-28	1/8-28
04		1/4-19	1/4-19	1/4-19
06		3/8-19	3/8-19	3/8-19
08		1/2-14	1/2-14	1/2-14
10		5/8-14	5/8-14	5/8-14
12		3/4-14	3/4-14	3/4-14
16		1-11	1-11	1-11
20		1 1/4-11	1 1/4-11	1 1/4-11
24		1 1/2-11	1 1/2-11	1 1/2-11
32		2-11	2-11	2-11

3853

BSPP Swivel Union Tee



S= Steel

FG=Forging

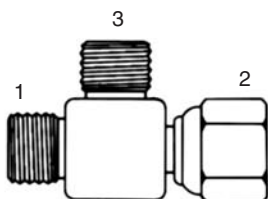
SS=Stainless Steel

BR=Brass

BSPP Adapters

3854

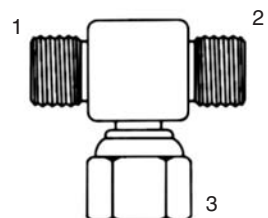
BSPP Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
02	\$	1/8-28	1/8-28	1/8-28
04	\$	1/4-19	1/4-19	1/4-19
06	\$	3/8-19	3/8-19	3/8-19
08	\$	1/2-14	1/2-14	1/2-14
10	\$	5/8-14	5/8-14	5/8-14
12	\$	3/4-14	3/4-14	3/4-14
16	\$	1-11	1-11	1-11

3855

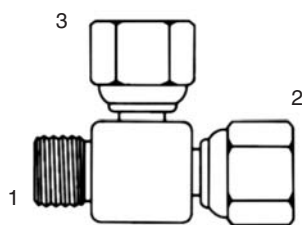
BSPP Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
02	\$	1/8-28	1/8-28	1/8-28
04	\$	1/4-19	1/4-19	1/4-19
06	\$	3/8-19	3/8-19	3/8-19
08	\$	1/2-14	1/2-14	1/2-14
10	\$	5/8-14	5/8-14	5/8-14
12	\$	3/4-14	3/4-14	3/4-14
16	\$	1-11	1-11	1-11
20	\$	1 1/4-11	1 1/4-11	1 1/4-11

3856

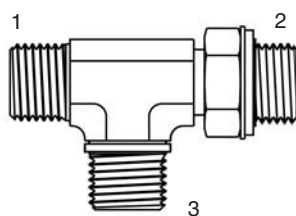
BSPP Swivel Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
02	\$	1/8-28	1/8-28	1/8-28
04	\$	1/4-19	1/4-19	1/4-19
06	\$	3/8-19	3/8-19	3/8-19
08	\$	1/2-14	1/2-14	1/2-14
10	\$	5/8-14	5/8-14	5/8-14
12	\$	3/4-14	3/4-14	3/4-14
16	\$	1-11	1-11	1-11

3857

BSPP Adjustable Run Tee



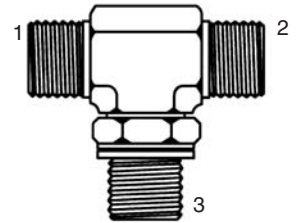
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
04	\$ FG	1/4-19	1/4-19	1/4-19
06-04	\$ FG	3/8-19	3/8-19	1/4-19
06	\$ FG	3/8-19	3/8-19	3/8-19
08-06	\$ FG	1/2-14	1/2-14	3/8-19
08	\$ FG	1/2-14	1/2-14	1/2-14
12	\$ FG	3/4-14	3/4-14	3/4-14

BSPP Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
04	S FG	1/4-19	1/4-19	1/4-19
06-06-04	S FG	3/8-19	3/8-19	1/4-19
06	S FG	3/8-19	3/8-19	3/8-19
08-08-06	S FG	1/2-14	1/2-14	3/8-19
08	S FG	1/2-14	1/2-14	1/2-14
12	S FG	3/4-14	3/4-14	3/4-14

3858

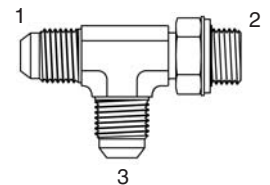
BSPP Adjustable Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (BSPP)
04	S FG	7/16-20	7/16-20	1/4-19
06-06-04	S FG	9/16-18	9/16-18	1/4-19
06	S FG	9/16-18	9/16-18	3/8-19
08-08-06	S FG	3/4-16	3/4-16	3/8-19
08	S FG	3/4-16	3/4-16	1/2-14
12	S FG	1 1/16-12	1 1/16-12	3/4-14
16	S FG	1 5/16-12	1 5/16-12	1-11

3859

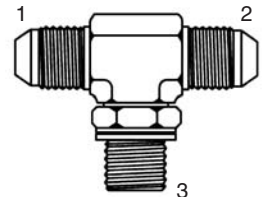
JIC to BSPP Adjustable Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (BSPP)
04	S FG	7/16-20	7/16-20	1/4-19
06-04	S FG	9/16-18	9/16-18	1/4-19
06	S FG	9/16-18	9/16-18	3/8-19
08-06	S FG	3/4-16	3/4-16	3/8-19
08	S FG	3/4-16	3/4-16	1/2-14
12	S FG	1 1/16-12	1 1/16-12	3/4-14
16	S FG	1 5/16-12	1 5/16-12	1-11

3860

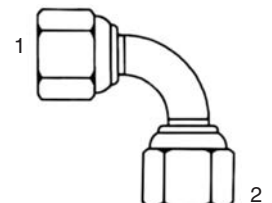
JIC to BSPP Adjustable Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
04-04	S	1/4-19	1/4-19
06-06	S	3/8-19	3/8-19
08-08	S	1/2-14	1/2-14
10-10	S	5/8-14	5/8-14
12-12	S	3/4-14	3/4-14
16-16	S	1-11	1-11
20-20	S	1 1/4-11	1 1/4-11

3901

BSPP to BSPP Bent Tube Swivel Elbow 90°



S= Steel

FG=Forging

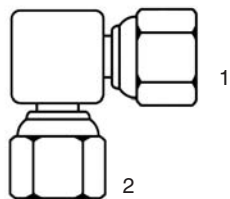
SS=Stainless Steel

BR=Brass

BSPP Adapters

3904

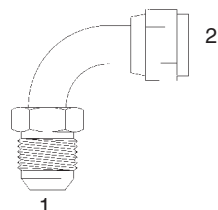
BSPP Swivel Union Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)
02-02	\$	1/8-28	1/8-28
04-04	\$	1/4-19	1/4-19
06-06	\$	3/8-19	3/8-19
08-08	\$	1/2-14	1/2-14
10-10	\$	5/8-14	5/8-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11	1-11
20-20	\$	1 1/4-11	1 1/4-11
24-24	\$	1 1/2-11	1 1/2-11
32-32	\$	2-11	2-11

3905

JIC to BSPP Swivel Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-04	\$	7/16-20	1/4-19
06-06	\$	9/16-18	3/8-19
08-08	\$	3/4-16	1/2-14
10-10	\$	7/8-14	5/8-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11

DS-BSP

Bonded Seal For British Pipe



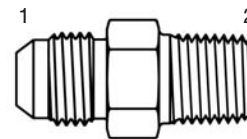
Dash Size	Stock Materials S FG SS BR	BSPP Size
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
10	\$	5/8-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11
32	\$	2-11
40	\$	2 1/2-11
48	\$	3-11

BSPT Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPT)
04-02	S	7/16-20	1/8-28
04-04	S	7/16-20	1/4-19
04-06	S	7/16-20	3/8-19
05-02	S	1/2-20	1/8-28
05-04	S	1/2-20	1/4-19
06-02	S	9/16-18	1/8-28
06-04	S	9/16-18	1/4-19
06-06	S	9/16-18	3/8-19
06-08	S	9/16-18	1/2-14
08-04	S	3/4-16	1/4-19
08-06	S	3/4-16	3/8-19
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-06	S	7/8-14	3/8-19
10-08	S	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-08	S	1 1/16-12	1/2-14
12-12	S	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11
16-12	S	1 5/16-12	3/4-14
16-16	S	1 5/16-12	1-11
16-20	S	1 5/16-12	1 1/4-11
20-16	S	1 5/8-12	1-11
20-20	S	1 5/8-12	1 1/4-11
24-24	S	1 7/8-12	1 1/2-11

3404

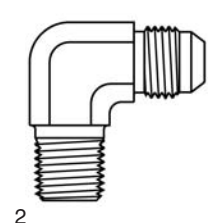
JIC to BSPT



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPT)
04-02	S FG	7/16-20	1/8-28
04-04	S FG	7/16-20	1/4-19
05-02	S FG	1/2-20	1/8-28
05-04	S FG	1/2-20	1/4-19
06-04	S FG	9/16-18	1/4-19
06-06	S FG	9/16-18	3/8-19
06-08	S FG	9/16-18	1/2-14
08-04	S FG	3/4-16	1/4-19
08-06	S FG	3/4-16	3/8-19
08-08	S FG	3/4-16	1/2-14
08-12	S FG	3/4-16	3/4-14
10-06	S FG	7/8-14	3/8-19
10-08	S FG	7/8-14	1/2-14
10-12	S FG	7/8-14	3/4-14
12-08	S FG	1 1/16-12	1/2-14
12-12	S FG	1 1/16-12	3/4-14
16-12	S FG	1 5/16-12	3/4-14
16-16	S FG	1 5/16-12	1-11
20-16	S FG	1 5/8-12	1-11
20-20	S FG	1 5/8-12	1 1/4-11
24-24	S FG	1 7/8-12	1 1/2-11

3501

JIC to BSPT Elbow 90°



S= Steel

FG=Forging

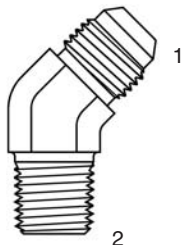
SS=Stainless Steel

BR=Brass

BSPT Adapters

3503

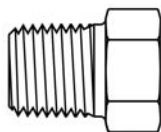
**JIC to BSPT
Elbow 45°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPT)
04-04	\$ FG	7/16-20	1/4-19
05-04	\$ FG	1/2-20	1/4-19
06-04	\$ FG	9/16-18	1/4-19
06-06	\$ FG	9/16-18	3/8-19
06-08	\$ FG	9/16-18	1/2-14
08-06	\$ FG	3/4-16	3/8-19
08-08	\$ FG	3/4-16	1/2-14
10-06	\$ FG	7/8-14	3/8-19
10-08	\$ FG	7/8-14	1/2-14
10-12	\$ FG	7/8-14	3/4-14
12-08	\$ FG	1 1/16-12	1/2-14
12-12	\$ FG	1 1/16-12	3/4-14
12-16	\$ FG	1 1/16-12	1-11
16-12	\$ FG	1 5/16-12	3/4-14
16-16	\$ FG	1 5/16-12	1-11
20-20	\$ FG	1 5/8-12	1 1/4-11
24-24	\$ FG	1 7/8-12	1 1/2-11

3508

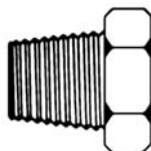
BSPT Plug



Dash Size	Stock Materials S FG SS BR	T1 (BSPT)
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
10	\$	5/8-14
12	\$	3/4-14
16	\$	1-11
20	\$	1 1/4-11
24	\$	1 1/2-11
32	\$	2-11

3508-HHP

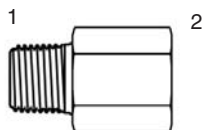
**BSPT
Countersunk Plug**



Dash Size	Stock Materials S FG SS BR	T1 (BSPT)
02	\$	1/8-28
04	\$	1/4-19
06	\$	3/8-19
08	\$	1/2-14
12	\$	3/4-14
16	\$	1-11

3506

**BSPT Hex
Reducer Bushing**



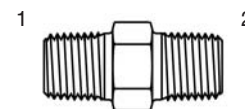
Dash Size	Stock Materials S FG SS BR	T1 (BSPT)	T2 (BSPT)
04-02	\$	1/4-19	1/8-28
06-02	\$	3/8-19	1/8-28
06-04	\$	3/8-19	1/4-19
08-04	\$	1/2-14	1/4-19
08-06	\$	1/2-14	3/8-19
12-06	\$	3/4-14	3/8-19
12-08	\$	3/4-14	1/2-14
16-08	\$	1-11	1/2-14
16-12	\$	1-11	3/4-14

BSPT Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPT)	T2 (BSPT)
02-02		1/8-28	1/8-28
04-02		1/4-19	1/8-28
04-04		1/4-19	1/4-19
06-02		3/8-19	1/8-28
06-04		3/8-19	1/4-19
06-06		3/8-19	3/8-19
08-04		1/2-14	1/4-19
08-06		1/2-14	3/8-19
08-08		1/2-14	1/2-14
10-10		5/8-14	5/8-14
12-08		3/4-14	1/2-14
12-12		3/4-14	3/4-14
16-12		1-11	3/4-14
16-16		1-11	1-11
20-20		1 1/4-11	1 1/4-11
24-24		1 1/2-11	1 1/2-11
32-32		2-11	2-11
48-48		3-11	3-11

3520

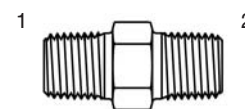
BSPT Hex Nipple



Dash Size	Stock Materials S FG SS BR	T1 (BSPT)	T2 (NPTF)
04-04		1/4-19	1/4-18
04-06		1/4-19	3/8-18
06-04		3/8-19	1/4-18
06-06		3/8-19	3/8-18
08-08		1/2-14	1/2-14
12-12		3/4-14	3/4-14
16-16		1-11	1-11 1/2
20-20		1 1/4-11	1 1/4-11 1/2
24-24		1 1/2-11	1 1/2-11 1/2
32-32		2-11	2-11 1/2

3524

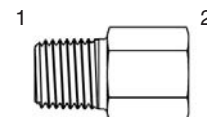
BSPT to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (BSPT)	T2 (BSPP)
04-04		1/4-19	1/4-19
06-02		3/8-19	1/8-28
06-04		3/8-19	1/4-19
12-04		3/4-14	1/4-19
12-06		3/4-14	3/8-19

3545

BSPT to BSPP



S= Steel

FG=Forging

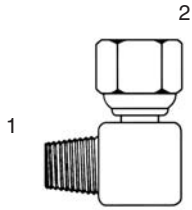
SS=Stainless Steel

BR=Brass

BSPT Adapters

3827

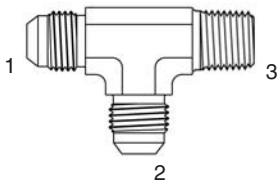
**BSPT to BSPP
Swivel Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (BSPT)	T2 (BSPP)
04-04	\$	1/4-19	1/4-19
06-06	\$	3/8-19	3/8-19
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11	1-11

3656

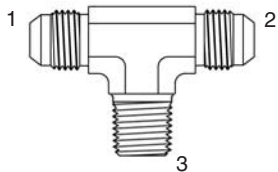
**JIC to BSPT
Run Tee**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (BSPT)
04-04	\$ FG	7/16-20	7/16-20	1/4-19
06-04	\$ FG	9/16-18	9/16-18	1/4-19
08-06	\$ FG	3/4-16	3/4-16	3/8-19
10-08	\$ FG	7/8-14	7/8-14	1/2-14
12-12	\$ FG	1 1/16-12	1 1/16-12	3/4-14

3657

**JIC to BSPT
Branch Tee**



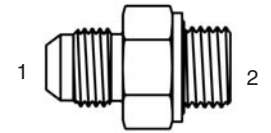
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (BSPT)
04-04	\$ FG	7/16-20	7/16-20	1/4-19
06-04	\$ FG	9/16-18	9/16-18	1/4-19
08-06	\$ FG	3/4-16	3/4-16	3/8-19
10-08	\$ FG	7/8-14	7/8-14	1/2-14
12-12	\$ FG	1 1/16-12	1 1/16-12	3/4-14

Metric Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-10		7/16-20	10X1.0
04-12		7/16-20	12X1.5
04-14		7/16-20	14X1.5
04-18		7/16-20	18X1.5
05-12		1/2-20	12X1.5
05-14		1/2-20	14X1.5
06-12		9/16-18	12X1.5
06-14		9/16-18	14X1.5
06-16		9/16-18	16X1.5
06-18		9/16-18	18X1.5
08-16		3/4-16	16X1.5
08-18		3/4-16	18X1.5
08-22		3/4-16	22X1.5
10-16		7/8-14	16X1.5
10-18		7/8-14	18X1.5
10-20		7/8-14	20X1.5
10-22		7/8-14	22X1.5
12-22		1 1/16-12	22X1.5
12-27x1.5		1 1/16-12	27X1.5
12-27x2.0		1 1/16-12	27X2.0
14-26		1 3/16-12	26X1.5
16-27		1 5/16-12	27X2.0
16-33		1 5/16-12	33X2.0
20-42		1 5/8-12	42X2.0
24-48		1 7/8-12	48X2.0
*Port seal-crush washer and O-ring included.			

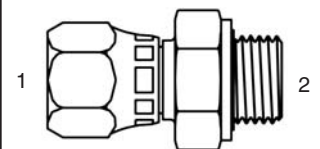
7400

JIC to Metric

[illegible]

7402

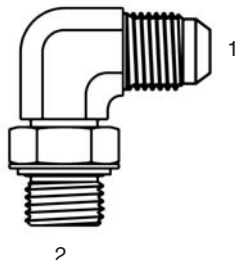
JIC to Metric



Metric Adapters

7801

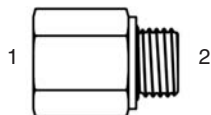
JIC to Metric Elbow 90°



Dash Size	Stock Materials S FG SS BR				T1 (UNF)	T2 (MM)
04-10	\$	FG			7/16-20	10X1.0
04-12	\$	FG			7/16-20	12X1.5
04-14	\$	FG			7/16-20	14X1.5
05-10	\$	FG			1/2-20	10X1.0
05-12	\$	FG			1/2-20	12X1.5
05-14	\$	FG			1/2-20	14X1.5
06-12	\$	FG			9/16-18	12X1.5
06-14	\$	FG			9/16-18	14X1.5
06-16	\$	FG			9/16-18	16X1.5
08-16	\$	FG			3/4-16	16X1.5
08-18	\$	FG			3/4-16	18X1.5
08-22	\$	FG			3/4-16	22X1.5
10-18	\$	FG			7/8-14	18X1.5
10-20	\$	FG			7/8-14	20X1.5
10-22	\$	FG			7/8-14	22X1.5
12-22	\$	FG			1 1/16-12	22X1.5
12-27	\$	FG			1 1/16-12	27X2.0
14-26	\$	FG			1 3/16-12	26X1.5
16-27	\$	FG			1 5/16-12	27X2.0
16-33	\$	FG			1 5/16-12	33X2.0
20-42	\$	FG			1 5/8-12	42X2.0
*Port seal-crush washer and O-ring included.						

7455

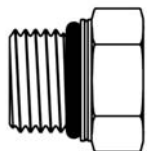
Pipe to Metric



Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (MM)
02-10	\$				1/8-27	10X1.0
02-14	\$				1/8-27	14X1.5
04-12	\$				1/4-18	12X1.5
04-14	\$				1/4-18	14X1.5
04-20	\$				1/4-18	20X1.5
06-16	\$				3/8-18	16X1.5
06-18	\$				3/8-18	18X1.5
08-16	\$				1/2-14	16X1.5
08-18	\$				1/2-14	18X1.5
12-27	\$				3/4-14	27X2.0
16-33	\$				1-11 1/2	33X2.0
20-42	\$				1 1/4-11 1/2	42X2.0

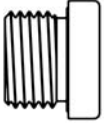
7408

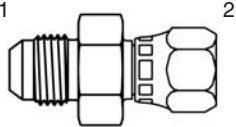
Metric Hex Head Plug



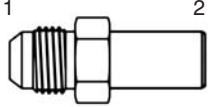
Dash Size	Stock Materials S FG SS BR				T1 (MM)
08	\$				8X1.0
10	\$				10X1.0
10-1.5	\$				10X1.5
12-1.0	\$				12X1.0
12	\$				12X1.5
14	\$				14X1.5
16	\$				16X1.5
18	\$				18X1.5
20	\$				20X1.5
22	\$				22X1.5
24	\$				24X1.5
26	\$				26X1.5
30	\$				30X1.5

Metric Adapters

Dash Size	Stock Materials S FG SS BR	T1 (MM)	7408-HHP
10		10X1.0	Metric Hollow Hex Plug 
12		12X1.5	
14		14X1.5	
16		16X1.5	
18		18X1.5	
20		20X1.5	
22		22X1.5	
24		24X1.5	
26		26X1.5	
27		27X2.0	
30		30X1.5	
33		33X2.0	
42		42X2.0	
48		48X2.0	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (THREAD)	7430
05-L06-12		1/2-20	12X1.5	JIC to Metric (Light & Heavy Series) 
06-L08-14		9/16-18	14X1.5	
06-L10-16		9/16-18	16X1.5	
06-L12-18		9/16-18	18X1.5	
06-S12-20		9/16-18	20X1.5	
06-L15-22		9/16-18	22X1.5	
08-L10-16		3/4-16	16X1.5	
08-L12-18		3/4-16	18X1.5	
08-S12-20		3/4-16	20X1.5	
08-L15-22		3/4-16	22X1.5	
10-L12-18		7/8-14	18X1.5	
10-S12-20		7/8-14	20X1.5	
10-L15-22		7/8-14	22X1.5	

L=LIGHT S=HEAVY

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (DIAMETER)	7625
04-06		7/16-20	6	JIC to Metric Standpipe 
04-08		7/16-20	8	
04-10		7/16-20	10	
06-08		9/16-18	8	
06-10		9/16-18	10	
06-12		9/16-18	12	
06-14		9/16-18	14	
08-10		3/4-16	10	
08-12		3/4-16	12	
08-14		3/4-16	14	
08-15		3/4-16	15	
08-16		3/4-16	16	
10-18		7/8-14	18	
10-20		7/8-14	20	
12-18		1 1/16-12	18	
12-20		1 1/16-12	20	
12-22		1 1/16-12	22	
12-25		1 1/16-12	25	
16-25		1 5/16-12	25	
16-28		1 5/16-12	28	
16-30		1 5/16-12	30	
20-28		1 5/8-12	28	
20-35		1 5/8-12	35	
20-38		1 5/8-12	38	
24-42		1 7/8-12	42	

S= Steel

FG=Forging

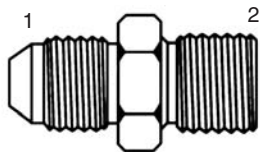
SS=Stainless Steel

BR=Brass

Metric Adapters

7420-L

JIC to Metric Dual Purpose*



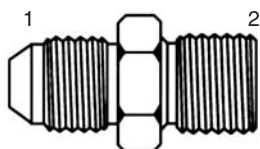
LIGHT SERIES

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-L06-12	\$	7/16-20	12X1.5
04-L08-14	\$	7/16-20	14X1.5
06-L08-14	\$	9/16-18	14X1.5
06-L10-16	\$	9/16-18	16X1.5
06-L12-18	\$	3/4-16	18X1.5
08-L10-16	\$	3/4-16	16X1.5
08-L12-18	\$	3/4-16	18X1.5
08-L15-22	\$	7/8-14	22X1.5
10-L15-22	\$	1 1/16-12	22X1.5
10-L18-26	\$	1 1/16-12	26X1.5
12-L15-22	\$	1 1/16-12	22X2.0
12-L18-26	\$	1 5/16-12	26X2.0
12-L22-30	\$	1 5/8-12	45X2.0
16-L28-36	\$	1 5/8-12	36X2.0
20-L35-45	\$	1 5/8-12	45X2.0

*For port seal applications a DS-MM is required.

7420-S

JIC to Metric Dual Purpose*



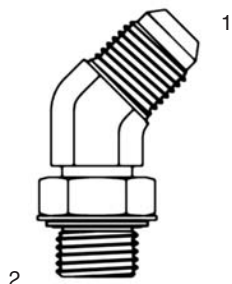
HEAVY SERIES

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-S-06-14	\$	7/16-20	14X1.5
04-S-08-16	\$	7/16-20	16X1.5
06-S-08-16	\$	9/16-18	16X1.5
06-S-10-18	\$	9/16-18	18X1.5
06-S-12-20	\$	9/16-18	20X1.5
08-S-10-18	\$	3/4-16	18X1.5
08-S-12-20	\$	3/4-16	20X1.5
08-S-14-22	\$	3/4-16	22X1.5
10-S-12-20	\$	7/8-14	20X1.5
10-S-16-24	\$	7/8-14	24X1.5
12-S-20-30	\$	1 1/16-12	30X2.0
12-S-25-36	\$	1 1/16-12	36X2.0
16-S-30-42	\$	1 5/16-12	42X2.0
20-S-38-52	\$	1 5/8-12	52X2.0
24-S-38-52	\$	1 7/8-12	52X2.0

*For port seal applications a DS-MM is required.

7802

JIC to Metric Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-10	\$	7/16-20	10X1.0
05-12	\$	1/2-20	12X1.5
06-16	\$	9/16-18	16X1.5
08-18	\$	3/4-16	18X1.5
10-18	\$	7/8-14	18X1.5
10-22	\$	7/8-14	22X1.5
12-22	\$	1 1/16-12	22X1.5
12-27	\$	1 1/16-12	27X2.0
16-27	\$	1 5/16-12	27X2.0
16-33	\$	1 5/16-12	33X2.0

Metric Adapters

Dash Size	Stock Materials S FG SS BR	Metric Dash Size	DS-MM Bonded Seal for Metric Parallel Thread 
06		6	
08		8	
10		10	
12		12	
14		14	
16		16	
18		18	
20		20	
22		22	
26		26	
27		27	
30		30	
33		33	
36		36	
42		42	
52		52	

Metric Compression

7105-L

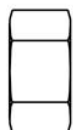
Metric Light Series Tube Nut



Dash Size	Stock Materials S FG SS BR	T1 (MM)
06		12X1.5
08		14X1.5
10		16X1.5
12		18X1.5
15		22X1.5
18		26X1.5
22		30X2.0
28		36X2.0
35		45X2.0
42		52X2.0

7105-LL

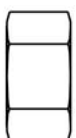
Metric Extra Light Series Tube Nut



Dash Size	Stock Materials S FG SS BR	T1 (MM)
04		8X1.0
06		10X1.0
08		12X1.0
10		14X1.0
12		16X1.0

7105-S

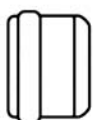
Metric Heavy Series Tube Nut



Dash Size	Stock Materials S FG SS BR	T1 (MM)
06		14X1.5
08		16X1.5
10		18X1.5
12		20X1.5
14		22X1.5
16		24X1.5
20		30X2.0
25		36X2.0
30		42X2.0
38		52X2.0

7195

Metric Series Cutting Ring



Dash Size	Stock Materials S FG SS BR	TUBE O.D.
06		6
08		8
10		10
12		12
14		14
15		15
16		16
18		18
20		20
22		22
25		25
28		28
30		30
35		35
38		38
42		42

7195 Series is compatible with both of the 7105-L and 7105-S series.

Metric Compression

Dash Size	Stock Materials S FG SS BR	T1 (MM)
04		4
06		6
08		8
10		10
12		12
7195-LL Series is compatible with the 7105-LL series only.		

7195-LL

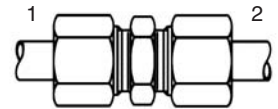
**Metric Extra
Light Series
Cutting Ring**



Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)
06-06		6	6
08-06		8	6
08-08		8	8
10-06		10	6
10-08		10	8
10-10		10	10
12-06		12	6
12-08		12	8
12-10		12	10
12-12		12	12
15-10		15	10
15-12		15	12
15-15		15	15
18-10		18	10
18-12		18	12
18-15		18	15
18-18		18	18
22-12		22	12
22-15		22	15
22-18		22	18
22-22		22	22
28-18		28	18
28-22		28	22
28-28		28	28
35-22		35	22
35-28		35	28
35-35		35	35
42-42		42	42

8000-L

**Light Series
Straight Coupling**



* For metric thread sizes refer to chart on pages 101-102.

EO SERIES - G & GR

S= Steel

FG=Forging

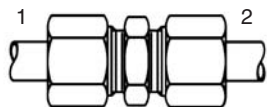
SS=Stainless Steel

BR=Brass

Metric Compression

8000-S

Heavy Series Straight Coupling

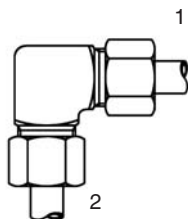


EO SERIES - G & GR

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)
06-06	\$	6	6
08-06	\$	8	6
08-08	\$	8	8
10-06	\$	10	6
10-08	\$	10	8
10-10	\$	10	10
12-06	\$	12	6
12-08	\$	12	8
12-10	\$	12	10
12-12	\$	12	12
14-10	\$	14	10
14-12	\$	14	12
14-14	\$	14	14
16-12	\$	16	12
16-14	\$	16	14
16-16	\$	16	16
20-10	\$	20	10
20-12	\$	20	12
20-16	\$	20	16
20-20	\$	20	20
25-16	\$	25	16
25-20	\$	25	20
25-25	\$	25	25
30-20	\$	30	20
30-25	\$	30	25
30-30	\$	30	30
38-30	\$	38	30
38-38	\$	38	38

8500-L

Light Series Equal Elbows 90°

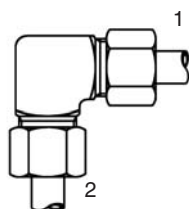


EO SERIES - W

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6
08	\$	8	8
10	\$	10	10
12	\$	12	12
15	\$	15	15
18	\$	18	18
22	\$	22	22
28	\$	28	28
35	\$	35	35
42	\$	42	42

8500-S

Heavy Series Equal Elbows 90°



EO SERIES - W

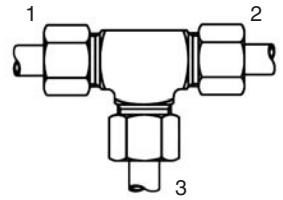
Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6
08	\$	8	8
10	\$	10	10
12	\$	12	12
14	\$	14	14
16	\$	16	16
20	\$	20	20
25	\$	25	25
30	\$	30	30
38	\$	38	38

Metric Compression

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6	6
08	\$	8	8	8
10	\$	10	10	10
12	\$	12	12	12
15	\$	15	15	15
18	\$	18	18	18
22	\$	22	22	22
28	\$	28	28	28
35	\$	35	35	35
42	\$	42	42	42

8603-L

Light Series Equal Tee

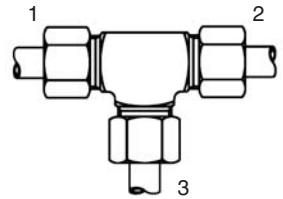


EO SERIES - T

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6	6
08	\$	8	8	8
10	\$	10	10	10
12	\$	12	12	12
14	\$	14	14	14
16	\$	16	16	16
20	\$	20	20	20
25	\$	25	25	25
30	\$	30	30	30
38	\$	38	38	38

8603-S

Heavy Series Equal Tee

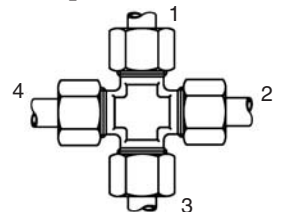


EO SERIES - T

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6	6
08	\$	8	8	8
10	\$	10	10	10
12	\$	12	12	12
15	\$	15	15	15
18	\$	18	18	18
22	\$	22	22	22
28	\$	28	28	28
35	\$	35	35	35
42	\$	42	42	42

8650-L

Light Series Equal Cross

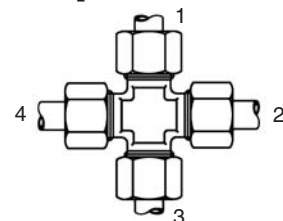


EO SERIES - K

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	Tube O.D. (MM)	Tube O.D. (MM)
06	\$	6	6	6
08	\$	8	8	8
10	\$	10	10	10
12	\$	12	12	12
14	\$	14	14	14
16	\$	16	16	16
20	\$	20	20	20
25	\$	25	25	25
30	\$	30	30	30
38	\$	38	38	38

8650-S

Heavy Series Equal Cross



EO SERIES - K

S= Steel

FG=Forging

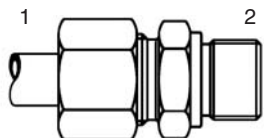
SS=Stainless Steel

BR=Brass

Metric Compression

8100-L

Light Series Stud Coupling (BSPP)

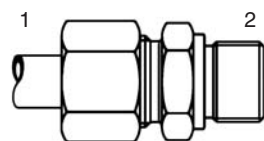


EO SERIES - GE-LR

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (BSPP)
06-02	\$	6	1/8-28
08-04	\$	8	1/4-19
10-04	\$	10	1/4-19
12-06	\$	12	3/8-19
15-08	\$	15	1/2-14
18-08	\$	18	1/2-14
22-12	\$	22	3/4-14
28-16	\$	28	1-11
35-20	\$	35	1 1/4-11
42-24	\$	42	1 1/2-11

8100-S

Heavy Series Stud Coupling (BSPP)

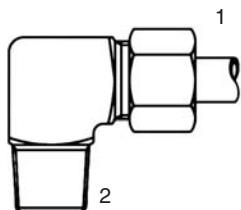


EO SERIES - GE-SR

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (BSPP)
06-04	\$	6	1/4-19
08-04	\$	8	1/4-19
10-06	\$	10	3/8-19
12-06	\$	12	3/8-19
14-08	\$	14	1/2-14
16-08	\$	16	1/2-14
20-12	\$	20	3/4-14
25-16	\$	25	1-11
30-20	\$	30	1 1/4-11
38-24	\$	38	1 1/2-11

8101-L

Light Series Stud Elbow 90° (BSPT)

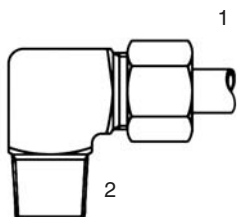


EO SERIES - WE-R/M

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (BSPP)
06-02	\$	6	1/8-28
08-04	\$	8	1/4-19
10-04	\$	10	1/4-19
12-06	\$	12	3/8-19
15-08	\$	15	1/2-14
18-08	\$	18	1/2-14

8101-S

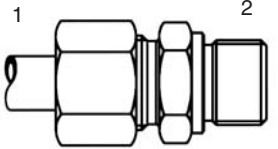
Heavy Series Stud Elbow 90° (BSPT)

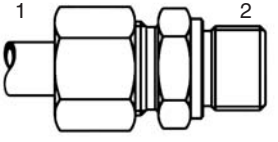


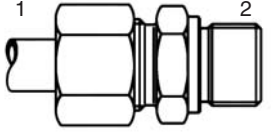
EO SERIES - WE-R/M

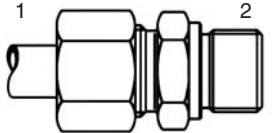
Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (BSPP)
06-04	\$	6	1/4-19
08-04	\$	8	1/4-19
10-06	\$	10	3/8-19
12-06	\$	12	3/8-19
14-08	\$	14	1/2-14
16-08	\$	16	1/2-14

Metric Compression

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (MM)	8200-L Light Series Stud Coupling (Metric Parallel)  EO SERIES - GE-LM
06-10	\$	6	10X1.0	
08-12	\$	8	12X1.5	
10-14	\$	10	14X1.5	
12-16	\$	12	16X1.5	
15-18	\$	15	18X1.5	
18-22	\$	18	22X1.5	
22-26	\$	22	26X1.5	
28-33	\$	28	33X2.0	
35-42	\$	35	42X2.0	
42-48	\$	42	48X2.0	

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T1 (MM)	8200-S Heavy Series Stud Coupling (Metric Parallel)  EO SERIES - GE-SM
06-12	\$	6	12X1.5	
08-14	\$	8	14X1.5	
10-16	\$	10	16X1.5	
12-18	\$	12	18X1.5	
14-20	\$	14	20X1.5	
16-22	\$	16	22X1.5	
20-27	\$	20	27X2.0	
25-33	\$	25	33X2.0	
30-42	\$	30	42X2.0	
38-42	\$	38	42X2.0	

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T1 (MM)	8201-L Light Series Stud Coupling (Metric Taper)  EO SERIES - GE-LM
06-10	\$	6	10X1.0	
08-12	\$	8	12X1.5	
10-14	\$	10	14X1.5	
12-16	\$	12	16X1.5	
15-18	\$	15	18X1.5	
18-22	\$	18	22X1.5	
22-12	\$	22	12X1.5	
28-16	\$	28	16X1.5	
35-20	\$	35	20X1.5	
42-24	\$	42	24X1.5	

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T1 (MM)	8201-S Heavy Series Stud Coupling (Metric Taper)  EO SERIES - GE-SM
06-12	\$	6	12X1.5	
08-14	\$	8	14X1.5	
10-16	\$	10	16X1.5	
14-20	\$	14	20X1.5	
16-22	\$	16	22X1.5	
20-12	\$	20	12X1.5	
25-16	\$	25	16X1.5	
30-20	\$	30	20X1.5	
38-24	\$	38	24X1.5	

S= Steel

FG=Forging

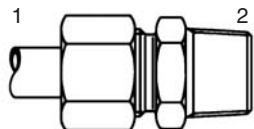
SS=Stainless Steel

BR=Brass

Metric Compression

8300-L

Light Series Stud Coupling (NPTF)

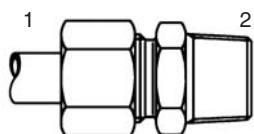


EO SERIES - GE-NPT

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (NPTF)
06-02	\$	6	1/8-27
08-04	\$	8	1/4-18
10-04	\$	10	1/4-18
10-06	\$	10	3/8-18
12-04	\$	12	1/4-18
12-06	\$	12	3/8-18
12-08	\$	12	1/2-14
15-08	\$	15	1/2-14
18-08	\$	18	1/2-14
22-12	\$	22	3/4-14
28-16	\$	28	1-11 1/2
35-20	\$	35	1 1/4-11 1/2
42-24	\$	42	1 1/2-11 1/2

8300-S

Heavy Series Stud Coupling (NPTF)

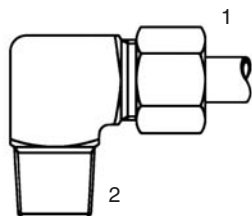


EO SERIES - GE-NPT

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (NPTF)
06-04	\$	6	1/4-18
08-04	\$	8	1/4-18
10-04	\$	10	1/4-18
10-06	\$	10	3/8-18
12-04	\$	12	1/4-18
12-06	\$	12	3/8-18
12-08	\$	12	1/2-14
14-08	\$	14	1/2-14
16-08	\$	16	1/2-14
20-12	\$	20	3/4-14
25-16	\$	25	1-11 1/2
30-20	\$	30	1 1/4-11 1/2
38-24	\$	38	1 1/2-11 1/2

8301-L

Light Series Stud Elbow 90° (NPTF)

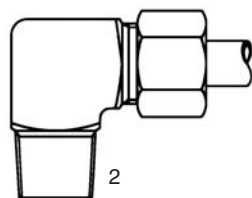


EO SERIES - WE-NPT

Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (NPTF)
06-02	\$	6	1/8-27
08-04	\$	8	1/4-18
10-04	\$	10	1/4-18
12-06	\$	12	3/8-18
15-08	\$	15	1/2-14
18-08	\$	18	1/2-14
22-12	\$	22	3/4-14
28-16	\$	28	1-11 1/2
35-20	\$	35	1 1/4-11 1/2
42-24	\$	42	1 1/2-11 1/2

8301-S

Heavy Series Stud Elbow 90° (NPTF)

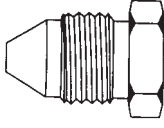


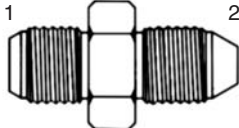
EO SERIES - WE-NPT

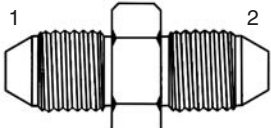
Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (NPTF)
06-04	\$	6	1/4-18
08-04	\$	8	1/4-18
10-06	\$	10	3/8-18
12-06	\$	12	3/8-18
14-08	\$	14	1/2-14
16-08	\$	16	1/2-14
20-12	\$	20	3/4-14
25-16	\$	25	1-11 1/2
30-20	\$	30	1 1/4-11 1/2
38-24	\$	38	1 1/2-11 1/2

30° Seat Adapters

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	3861
04		1/4-19	JIS Cap (30° Seat BSPP Thread) 
06		3/8-19	
08		1/2-14	
12		3/4-14	
16		1-11	

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	3862
04		1/4-19	JIS Plug (30° Seat BSPP Thread) 
06		3/8-19	
08		1/2-14	
12		3/4-14	
16		1-11	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)	3864
04-04		7/16-20	1/4-19	JIC - JIS Union (30° Seat BSPP Thread) 
06-06		9/16-18	3/8-19	
08-08		3/4-16	1/2-14	

Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	3866
04-04		1/4-19	1/4-19	JIS Union (30° Seat BSPP Thread) 
06-06		3/8-19	3/8-19	
08-08		1/2-14	1/2-14	
12-12		3/4-14	3/4-14	

S= Steel

FG=Forging

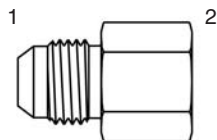
SS=Stainless Steel

BR=Brass

30° Seat Adapters

3871

JIC - JIS Solid (30° Seat BSPP Thread)



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (BSPP)
04-04	\$	7/16-20	1/4-19
06-04	\$	9/16-18	1/4-19
06-06	\$	9/16-18	3/8-19
08-06	\$	3/4-16	3/8-19
08-08	\$	3/4-16	1/2-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11

7861

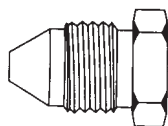
Komatsu Cap (30° Seat Metric Thread)



Dash Size	Stock Materials S FG SS BR	T1 (MM)
14	\$	14x1.5
18	\$	18x1.5
22	\$	22x1.5
24	\$	24x1.5
30	\$	30x1.5
33	\$	33x1.5

7862

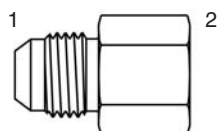
Komatsu Plug (30° Seat Metric Thread)



Dash Size	Stock Materials S FG SS BR	T1 (MM)
14	\$	14x1.5
18	\$	18x1.5
22	\$	22x1.5
24	\$	24x1.5
30	\$	30x1.5
33	\$	33x1.5

7865

JIC - Komatsu (30° Seat Metric Thread)



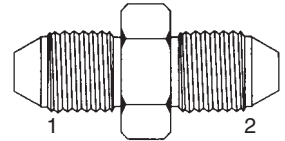
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (MM)
04-14	\$	7/16-20	14x1.5
06-18	\$	9/16-18	18x1.5
08-22	\$	3/4-16	22x1.5
10-24	\$	7/8-14	24x1.5
12-30	\$	1 1/16-12	30x1.5

30° Seat Adapters

Dash Size	Stock Materials S FG SS BR	T1 (MM)	T2 (MM)
14	☒	14x1.5	14x1.5
18	☒	18x1.5	18x1.5
22	☒	22x1.5	22x1.5
24	☒	24x1.5	24x1.5
30	☒	30x2.0	30x1.5
33	☒	33x2.0	33x1.5

7868

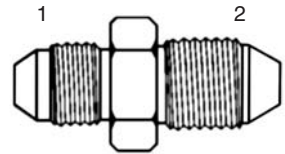
**Komatsu Union
(30° Seat
Metric Thread)**

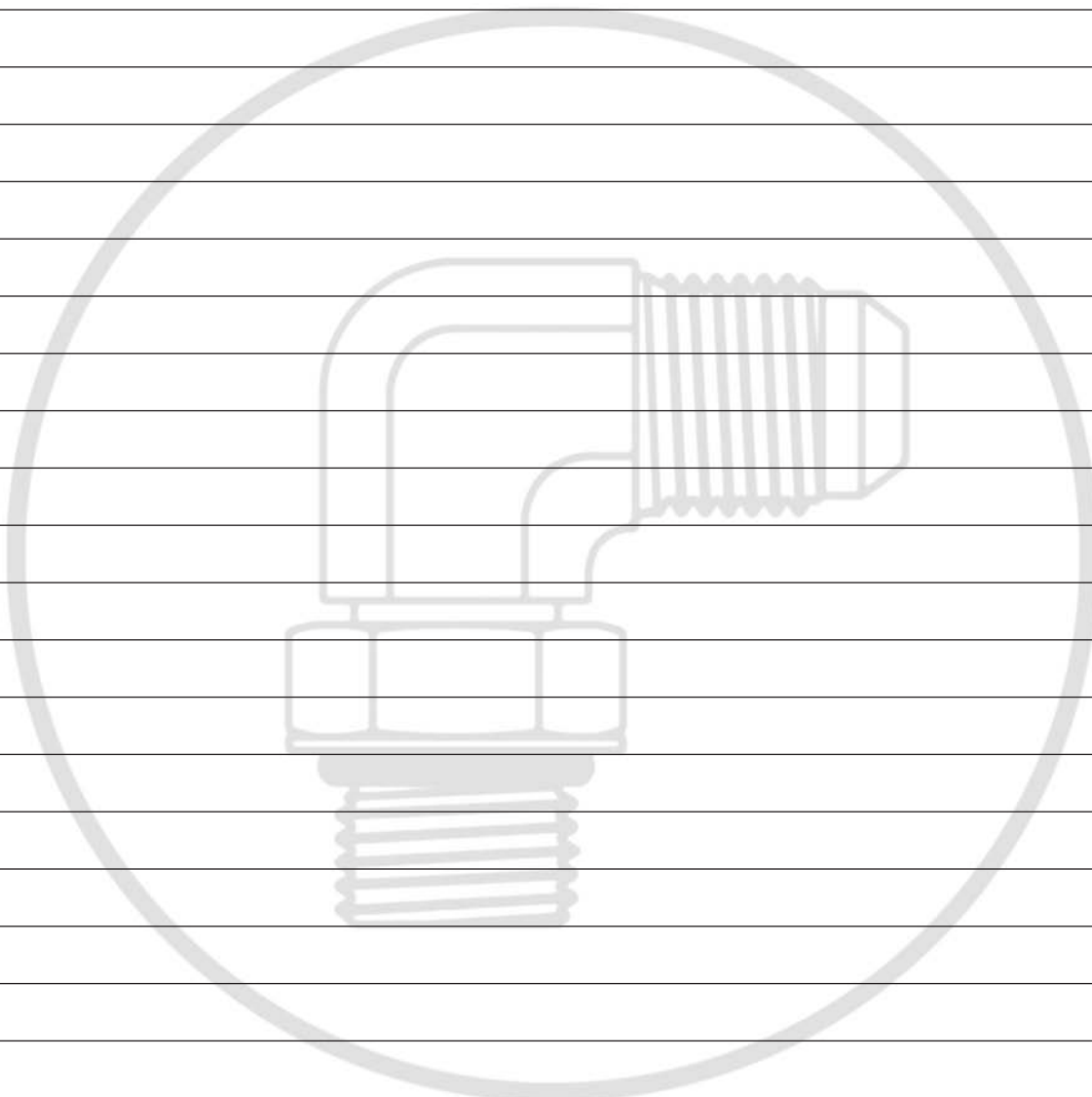


Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2(MM)
04-14	☒	7/16-20	14x1.5
06-18	☒	9/16-18	18x1.5
08-22	☒	3/4-16	22x1.5
10-24	☒	7/8-14	24x1.5
12-30	☒	1 1/16-12	30x1.5
16-33	☒	1 5/16-12	33x1.5

7869

**JIC - Komatsu
Union (30° Seat
Metric Thread)**





CONFORMANCE

- SAE J514
- MS 51811-MS51843

MATERIALS

- Steel – Carbon steel with black phosphate finish or plated zinc with yellow Dichromate per ASTM B633-98 (Type II SC-2). Sleeves are heat-treated carbon steel to sufficient hardness to insure proper bite in stainless as well as carbon steel tubing.
- Stainless – Type 316, sleeves are 17-4PH stainless.

TEMPERATURE

- Carbon steel - 800°
- Stainless steel - 1000°

WORKING PRESSURES

The following table lists the recommended maximum working pressures for steel flareless tube fittings manufactured in accordance with SAE J514. Other factors such as thickness of tube, tube material, and port thread type and size must also be considered to determine the maximum pressure for the fitting. **Use the pressure rating of the lowest rated material or component thread.** Tompkins and SAE recommend sufficient testing be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions.

MAXIMUM WORKING PRESSURE FOR FLARELESS TUBE CONNECTIONS

Dash Size	Flared Thread Size	4 to 1 Minimum Burst PSI
-02	5/16-24	6000
-03	3/8-24	6000
-04	7/16-20	6000
-05	1/2-20	6000
-06	9/16-16	6000
-08	3/4-16	5000
-10	7/8-14	5000
-12	1 1/16-12	4500
-14	1 3/16-12	4000
-16	1 5/16-12	4000
-20	1 5/8-12	3000
-24	1 7/8-12	2000
-32	2 1/2-12	1500

RECOMMENDED J514 FLARELESS TUBE ASSEMBLY INSTRUCTIONS

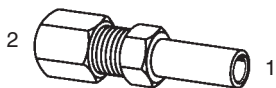
- STEP 1.** Cut tube square and debur inside and outside. Flush away any contaminants.
- STEP 2.** Inspect components for damage or contamination.
- STEP 3.** Lubricate the inside of nut and all surfaces of the sleeve, slide nut onto tube with smaller opening first. Slide sleeve onto tube with the largest end first.
- STEP 4.** Insert tube into fitting pilot and finger tighten nut and sleeve onto fitting.
- STEP 5.** Wrench tighten nut until sleeve just begins to grip the tube. A significant increase in resistance will occur.
- STEP 6.** Tighten one full revolution.

RECOMMENDED NO-FLARE JIC TUBE ASSEMBLY INSTRUCTIONS

- STEP 1.** Cut tube square and debur inside and outside. Flush away any contaminants.
- STEP 2.** Inspect all components for damage or contamination.
- STEP 3.** Lubricate nut, sleeve and fitting threads.
- STEP 4.** Slide nut and sleeve onto tube with the small side of sleeve inside the nut.
- STEP 5.** Place end of tube against JIC cone of fitting.
- STEP 6.** Finger tighten nut, then wrench tighten nut 1 1/4 revolutions beyond finger tight for sizes -3 through -10, and 1 1/2 turns beyond fingertight sizes -12 through -32.

7015

Reducer

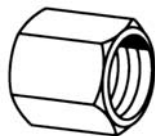


SAE 080123

Dash Size	Stock Materials S FG SS BR	Body	Tube
06X04	\$	3/8	1/4
08X04	\$	1/2	1/4
08X06	\$	1/2	3/8
10X08	\$	5/8	1/2
12X06	\$	3/4	3/8
12X08	\$	3/4	1/2
16X12	\$	1	3/4
20X16	\$	1-1/4	1

7105

Nut

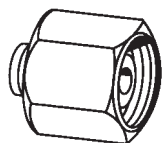


MS51823
SAE 080110

Dash Size	Stock Materials S FG SS BR	Tube O.D.
02	\$	1/8
03	\$	3/16
04	\$	1/4
05	\$	5/16
06	\$	3/8
08	\$	1/2
10	\$	5/8
12	\$	3/4
16	\$	1
20	\$	1 1/4
24	\$	1 1/2
32	\$	2

7129

Cap



MS51890
SAE 080112

Dash Size	Stock Materials S FG SS BR	Tube O.D.
04	\$	1/4
06	\$	3/8
08	\$	1/2
10	\$	5/8
12	\$	3/4
16	\$	1
20	\$	1-1/4

7165

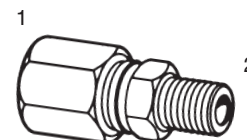
Sleeve



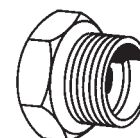
MS51825
SAE 080115A

Dash Size	Stock Materials S FG SS BR	Tube O.D.
02	\$	1/8
03	\$	3/16
04	\$	1/4
05	\$	5/16
06	\$	3/8
08	\$	1/2
10	\$	5/8
12	\$	3/4
14	\$	7/8
16	\$	1
20	\$	1 1/4
24	\$	1 1/2
32	\$	2

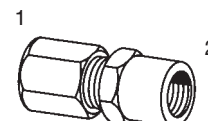
Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)
02		1/8	1/8-27
02X04		1/8	1/4-18
03		3/16	1/8-27
04		1/4	1/8-27
04X04		1/4	1/4-18
04X06		1/4	3/8-18
04X08		1/4	1/2-14
05		5/16	1/8-27
05X04		5/16	1/4-18
06X02		3/8	1/8-27
06		3/8	1/4-18
06X06		3/8	3/8-18
06X08		3/8	1/2-14
08X04		1/2	1/4-18
08		1/2	3/8-18
08X08		1/2	1/2-14
08X12		1/2	3/4-14
10X06		5/8	3/8-18
10		5/8	1/2-14
12X08		3/4	1/2-14
12		3/4	3/4-14
14		7/8	3/4-14
16X12		1	3/4-14
16		1	1-11 1/2
20		1-1/4	1-1/4
24		1-1/2	1-1/2
32		2	2-11 1/2

7205
Pipe Connector

 MS51819
SAE 080102

Dash Size	Stock Materials S FG SS BR	Tube O.D.
02		1/8
04		1/4
05		5/16
06		3/8
08		1/2
10		5/8
12		3/4
16		1

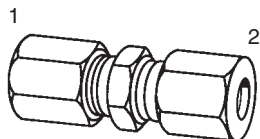
7229
Plug

 MS51891
SAE 080109

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)
03		3/16	1/8-27
04		1/4	1/8-27
04X04		1/4	1/4-18
05		5/16	1/8-27
06		3/8	1/4-18
06X06		3/8	3/8-18
08X04		1/2	1/4-18
08		1/2	3/8-18
08X08		1/2	1/2-14
10		5/8	1/2-14
12		3/4	3/4-14
14		7/8	3/4-14
16		1	1-11 1/2
20		1-1/4	1 1/4-11 1/2

7255
Pipe Connector

 MS51816
SAE 080103

7305

Small Hex Union

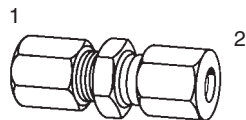


MS51814
SAE 080101

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)
02	\$	1/8	1/8
03	\$	3/16	3/16
04	\$	1/4	1/4
05	\$	5/16	5/16
06X04	\$	3/8	1/4
06	\$	3/8	3/8
08X06	\$	1/2	3/8
08	\$	1/2	1/2
10	\$	5/8	5/8
12	\$	3/4	3/4
14	\$	7/8	7/8
16	\$	1	1
20	\$	1-1/4	1-1/4
24	\$	1-1/2	1-1/2
32	\$	2	2

7306

Large Hex Union

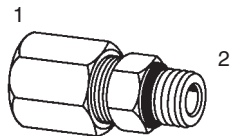


MS518156
SAE 080119

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)
04	\$	1/4	1/4
06	\$	3/8	3/8
08X06	\$	1/2	3/8
08	\$	1/2	1/2
12	\$	3/4	3/4
16	\$	1	1

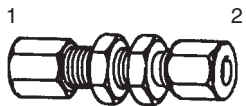
7315

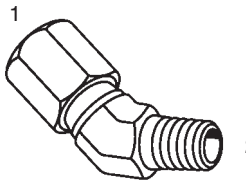
O-Ring Connector

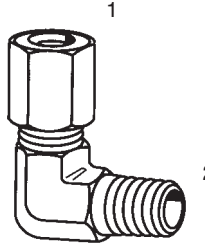


MS51843
SAE 080120

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (UNF)
03	\$	3/16	5/16-24
04	\$	1/4	7/16-20
04X05	\$	1/4	1/2-20
04X06	\$	1/4	9/16-18
05	\$	5/16	1/2-20
06	\$	3/8	9/16-18
06X08	\$	3/8	3/4-16
08	\$	1/2	3/4-16
08X10	\$	1/2	7/8-14
08X12	\$	1/2	1 1/16-12
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
12X16	\$	3/4	1 5/16-12
14	\$	7/8	1 3/16-12
16X12	\$	1	1 1/16-12
16	\$	1	1 5/16-12
20	\$	1-1/4	1 5/8-12
24	\$	1-1/2	1 7/8-12
32	\$	2	2 1/2-12

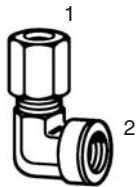
Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	7325 Bulkhead Union
04		1/4	1/4	 MS51812 SAE 080601
06		3/8	3/8	
08		1/2	1/2	
12		3/4	3/4	
16		1	1	

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)	7355 Pipe Elbow 45°
04		1/4	1/8-27	 MS51817 SAE 080302
04X04		1/4	1/4-18	
05		5/16	1/8-27	
06		3/8	1/4-18	
08		1/2	3/8-18	
10		5/8	1/2-14	
12		3/4	3/4-14	
16		1	1-11 1/2	

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)	7405 Pipe Elbow 90°
02		1/8	1/8-27	 MS51815 SAE 080202
03		3/16	1/8-27	
04		1/4	1/8-27	
04X04		1/4	1/4-18	
05		5/16	1/8-27	
05X04		5/16	1/4-18	
06X02		3/8	1/8-27	
06		3/8	1/4-18	
06X06		3/8	3/8-18	
06X08		3/8	1/2-14	
08X04		1/2	1/4-18	
08		1/2	3/8-18	
08X08		1/2	1/2-14	
10X06		5/8	3/8-18	
10		5/8	1/2-14	
12X8		3/4	1/2-14	
12		3/4	3/4-14	
14		7/8	3/4-14	
16X12		1	3/4-14	
16		1	1-11 1/2	
20		1-1/4	1 1/4-11 1/2	
24		1-1/2	1 1/2-11 1/2	
32		2	2-11 1/2	

7455-E

Pipe Elbow 90°

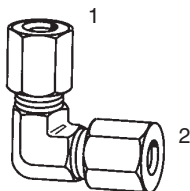


MS51813
SAE 080203

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)
04	\$	1/4	1/8-27
04-04	\$	1/4	1/4-18
06	\$	3/8	1/4-18
06-06	\$	3/8	3/8-18
08	\$	1/2	3/8-18
08-08	\$	1/2	1/2-14
10	\$	5/8	1/2-14
12	\$	3/4	3/4-14
14	\$	7/8	3/4-14
16	\$	1	1-11 1/2

7505

Union Elbow 90°

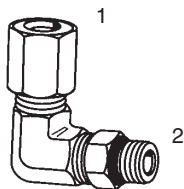


MS51820
SAE 080201

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)
04	\$	1/4	1/4
05	\$	5/16	5/16
06	\$	3/8	3/8
08	\$	1/2	1/2
10	\$	5/8	5/8
12	\$	3/4	3/4
14	\$	7/8	7/8
16	\$	1	1
20	\$	1-1/4	1-1/4
24	\$	1-1/2	1-1/2

7515

O-Ring Elbow 90°

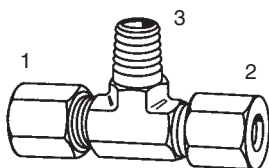


MS51839
SAE 080220

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (UNF)
04	\$	1/4	7/16-20
05	\$	5/16	1/2-20
06	\$	3/8	9/16-18
08	\$	1/2	3/4-16
10	\$	5/8	7/8-14
12	\$	3/4	1 1/16-12
16	\$	1	1 5/16-12
16X12	\$	1	1 1/16-12
20	\$	1-1/4	1 5/8-12

7605

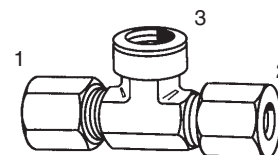
Pipe Branch Tee



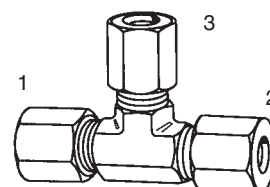
MS51818
SAE 080425

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (NPTF)
04	\$	1/4	1/4	1/8-27
04X04X04	\$	1/4	1/4	1/4-18
05	\$	5/16	5/16	1/8-27
06	\$	3/8	3/8	1/4-18
08	\$	1/2	1/2	3/8-18
08X08X08	\$	1/2	1/2	1/2-14
10	\$	5/8	5/8	1/2-14
12	\$	3/4	3/4	3/4-14
16	\$	1	1	1-11 1/2

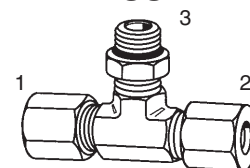
Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (NPTF)
04		1/4	1/4	1/8-27
04X04X04		1/4	1/4	1/4-18
06		3/8	3/8	1/4-18
08		1/2	1/2	3/8-18
10		5/8	5/8	1/2-14
12		3/4	3/4	3/4-14
14		7/8	7/8	3/4-14
16		1	1	1-11 1/2
20		1-1/4	1-1/4	1 1/4-11 1/2

7655
Pipe Branch Tee

 MS51821
SAE 080427

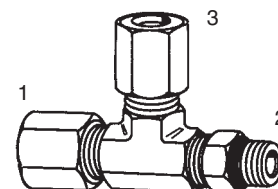
Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (Tube O.D.)
03		3/16	3/16	3/16
04		1/4	1/4	1/4
05		5/16	5/16	5/16
06		3/8	3/8	3/8
08		1/2	1/2	1/2
10		5/8	5/8	5/8
12		3/4	3/4	3/4
14		7/8	7/8	7/8
16		1	1	1

7705
Union Tee

 MS51811
SAE 080401

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (UNF)
04		1/4	1/4	7/16-20
06		3/8	3/8	9/16-12
08		1/2	1/2	3/4-16

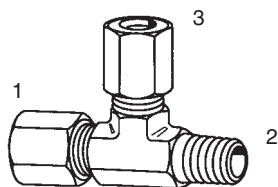
7715
O-Ring Branch Tee

 MS51841
SAE 080429

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (UNF)	T3 (Tube O.D.)
04		1/4	7/16-20	1/4
06		3/8	9/16-12	3/8
08		1/2	3/4-16	1/2

7716
O-Ring Run Tee

 MS51892
SAE 080428

7755

Pipe Run Tee



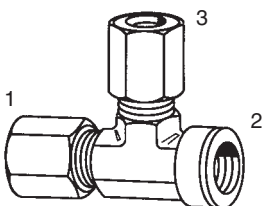
MS51824

SAE 080424

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)	T3 (Tube O.D.)
04		1/4	1/8-27	1/4
04X04X04		1/4	1/4-18	1/4
06		3/8	1/4-18	3/8
08		1/2	3/8-18	1/2
08X08X08		1/2	1/2-14	1/2
10		5/8	1/2-14	5/8
12		3/4	3/4-14	3/4
16		1	1-11 1/2	1

7805

Pipe Run Tee



MS51822

SAE 080426

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (NPTF)	T3 (Tube O.D.)
04		1/4	1/8-27	1/4
04-04X04		1/4	1/4-18	1/4
06		3/8	1/4-18	3/8
08		1/2	3/8-18	1/2
10		5/8	1/2-14	5/8
12		3/4	3/4-14	3/4

7924

Bulkhead Nut



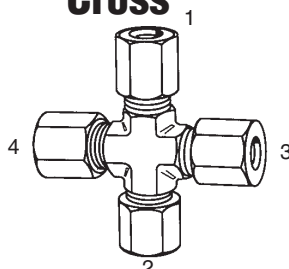
MS51860

SAE 080118

Dash Size	Stock Materials S FG SS BR	Tube O.D.
04		1/4
06		3/8
08		1/2
10		5/8
12		3/4
14		7/8
16		1
18		1 1/4

7955

Cross



MS51894

SAE 080501

Dash Size	Stock Materials S FG SS BR	T1 (Tube O.D.)	T2 (Tube O.D.)	T3 & T4 (Tube O.D.)
04		1/4	1/4	1/4
06		3/8	3/8	3/8
08		1/2	1/2	1/2

3000 PSI Live Swivels

- **MATERIAL** – Zinc Plated Steel, 316 Stainless
- **SEALS** – Nitrile; Viton available on request
- **TEMPERATURE** – -40F to +200F

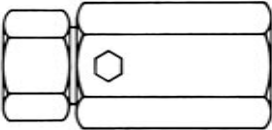
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	☒	1/4-18	1/4-18
06-06	☒	3/8-18	3/8-18
08-08	☒	1/2-14	1/2-14
12-12	☒	3/4-14	3/4-14
16-16	☒	1-11 1/2	1-11 1/2
20-20	☒	1 1/4-11 1/2	1 1/4-11 1/2
24-24	☒	1 1/2-11 1/2	1 1/2-11 1/2
32-32	☒	2-11 1/2	2-11 1/2

LS 5000

Pipe Coupling

1

2



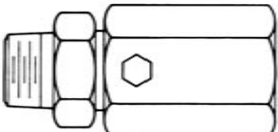
Dash Size	Stock Materials	T1 (NPTF)	T2 (NPTF)
	S FG SS BR		
04-04	☒ ☐ ☐ ☒	1/4-18	1/4-18
06-06	☒ ☐ ☐ ☒	3/8-18	3/8-18
08-08	☒ ☐ ☐ ☐	1/2-14	1/2-14
12-12	☒ ☐ ☐ ☐	3/4-14	3/4-14
16-16	☒ ☐ ☐ ☐	1-11 1/2	1-11 1/2
20-20	☒ ☐ ☐ ☐	1 1/4-11 1/2	1 1/4-11 1/2
24-24	☒ ☐ ☐ ☐	1 1/2-11 1/2	1 1/2-11 1/2
32-32	☒ ☐ ☐ ☐	2-11 1/2	2-11 1/2

LS 5405

Pipe to Pipe

1

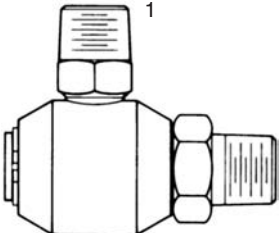
2



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	☒	1/4-18	1/4-18
06-06	☒	3/8-18	3/8-18
08-08	☒	1/2-14	1/2-14
12-12	☒	3/4-14	3/4-14
16-16	☒	1-11 1/2	1-11 1/2
20-20	☒	1 1/4-11 1/2	1 1/4-11 1/2
24-24	☒	1 1/2-11 1/2	1 1/2-11 1/2
32-32	☒	2-11 1/2	2-11 1/2

LS 5500

Pipe to Pipe Elbow 90°



S= Steel

FG=Forging

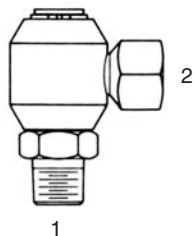
SS=Stainless Steel

BR=Brass

3000 PSI Live Swivels

LS 5502

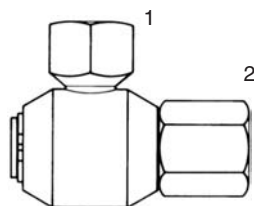
Pipe to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	\$	1/4-18	1/4-18
04-06	\$	1/4-18	3/8-18
06-04	\$	3/8-18	1/4-18
06-06	\$	3/8-18	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11 1/2	1-11 1/2
20-20	\$	1 1/4-11 1/2	1 1/4-11 1/2
24-24	\$	1 1/2-11 1/2	1 1/2-11 1/2
32-32	\$	2-11 1/2	2-11 1/2

LS 5504

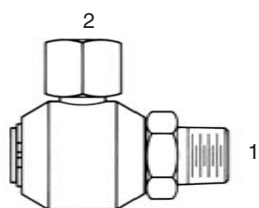
Pipe to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
04-04	\$	1/4-18	1/4-18
06-06	\$	3/8-18	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11 1/2	1-11 1/2
20-20	\$	1 1/4-11 1/2	1 1/4-11 1/2
24-24	\$	1 1/2-11 1/2	1 1/2-11 1/2
32-32	\$	2-11 1/2	2-11 1/2

LS 1501

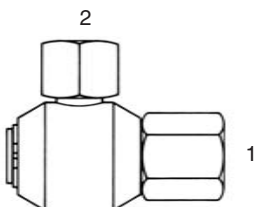
Pipe to NPSM Swivel Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
04-04	\$	1/4-18	1/4-18
04-06	\$	1/4-18	3/8-18
06-04	\$	3/8-18	1/4-18
06-06	\$	3/8-18	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11 1/2	1-11 1/2
20-20	\$	1 1/4-11 1/2	1 1/4-11 1/2
24-24	\$	1 1/2-11 1/2	1 1/2-11 1/2
32-32	\$	2-11 1/2	2-11 1/2

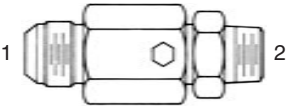
LS 1502

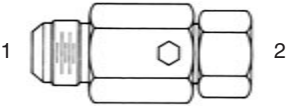
Pipe to NPSM Swivel Elbow 90°

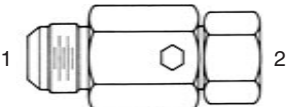


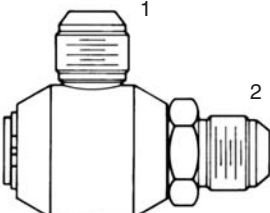
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPSM)
04-04	\$	1/4-18	1/4-18
06-04	\$	3/8-18	1/4-18
06-06	\$	3/8-18	3/8-18
08-08	\$	1/2-14	1/2-14
12-12	\$	3/4-14	3/4-14
16-16	\$	1-11 1/2	1-11 1/2
20-20	\$	1 1/4-11 1/2	1 1/4-11 1/2
24-24	\$	1 1/2-11 1/2	1 1/2-11 1/2
32-32	\$	2-11 1/2	2-11 1/2

3000 PSI Live Swivels

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	LS 2404 JIC to Pipe 
06-04	\$	9/16-18	1/4-18	
06-06	\$	9/16-18	3/8-18	
08-06	\$	3/4-16	3/8-18	
08-08	\$	3/4-16	1/2-14	
10-08	\$	7/8-14	1/2-14	
12-12	\$	1 1/16-12	3/4-14	
16-16	\$	1 5/16-12	1-11 1/2	
20-20	\$	1 5/8-12	1 1/4-11 1/2	
24-24	\$	1 7/8-12	1 1/2-11 1/2	
32-32	\$	2 1/2-12	2-11 1/2	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	LS 2405 JIC to Pipe 
06-04	\$	9/16-18	1/4-18	
08-06	\$	3/4-16	3/8-18	
10-08	\$	7/8-14	1/2-14	
12-12	\$	1 1/16-12	3/4-14	
16-16	\$	1 5/16-12	1-11 1/2	
20-20	\$	1 5/8-12	1 1/4-11 1/2	
24-24	\$	1 7/8-12	1 1/2-11 1/2	
32-32	\$	2 1/2-12	2-11 1/2	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	LS 2406 JIC to JIC 
06-06	\$	9/16-18	9/16-18	
08-08	\$	3/4-16	3/4-16	
10-10	\$	7/8-14	7/8-14	
12-12	\$	1 1/16-12	1 1/16-12	
14-14	\$	1 3/16-12	1 3/16-12	
16-16	\$	1 5/16-12	1 5/16-12	
20-20	\$	1 5/8-12	1 5/8-12	
24-24	\$	1 7/8-12	1 7/8-12	
32-32	\$	2 1/2-12	2 1/2-12	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	LS 2500 JIC to JIC Elbow 90° 
06-06	\$	9/16-18	9/16-18	
08-08	\$	3/4-16	3/4-16	
10-10	\$	7/8-14	7/8-14	
12-12	\$	1 1/16-12	1 1/16-12	
16-16	\$	1 5/16-12	1 5/16-12	
20-20	\$	1 5/8-12	1 5/8-12	
24-24	\$	1 7/8-12	1 7/8-12	
32-32	\$	2 1/2-12	2 1/2-12	

S= Steel

FG=Forging

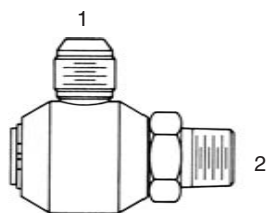
SS=Stainless Steel

BR=Brass

3000 PSI Live Swivels

LS 2501

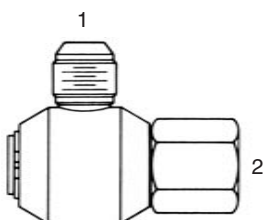
**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
06-04	\$	9/16-18	1/4-18
06-06	\$	9/16-18	3/8-18
08-06	\$	3/4-16	3/8-18
08-08	\$	3/4-16	1/2-14
10-08	\$	7/8-14	1/2-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11 1/2
20-20	\$	1 5/8-12	1 1/4-11 1/2
24-24	\$	1 7/8-12	1 1/2-11 1/2
32-32	\$	2 1/2-12	2-11 1/2

LS 2502

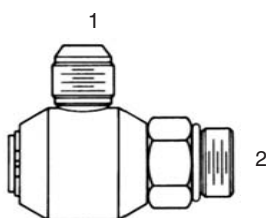
**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
06-04	\$	9/16-18	1/4-18
06-06	\$	9/16-18	3/8-18
08-06	\$	3/4-16	3/8-18
08-08	\$	3/4-16	1/2-14
10-08	\$	7/8-14	1/2-14
12-12	\$	1 1/16-12	3/4-14
16-16	\$	1 5/16-12	1-11 1/2
20-20	\$	1 5/8-12	1 1/4-11 1/2
24-24	\$	1 7/8-12	1 1/2-11 1/2
32-32	\$	2 1/2-12	2-11 1/2

LS 6801

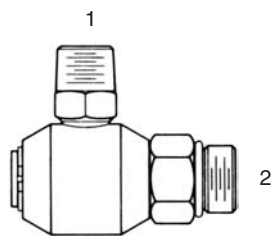
**JIC to O-Ring
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
06-06	\$	9/16-18	9/16-18
06-08	\$	9/16-18	3/4-16
08-08	\$	3/4-16	3/4-16
10-10	\$	7/8-14	7/8-14
12-12	\$	1 1/16-12	1 1/16-12
16-16	\$	1 5/16-12	1 5/16-12
20-20	\$	1 5/8-12	1 5/8-12
24-24	\$	1 7/8-12	1 7/8-12
32-32	\$	2 1/2-12	2 1/2-12

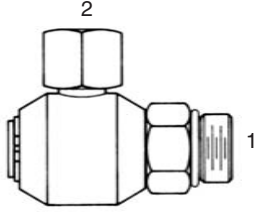
LS 6806

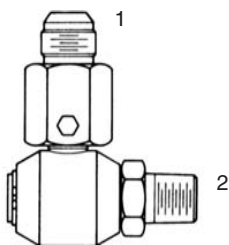
**Pipe to O-Ring
Elbow 90°**

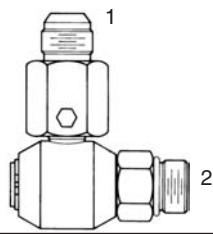


Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (UNF)
04-06	\$	1/4-18	9/16-18
06-06	\$	3/8-18	9/16-18
08-10	\$	1/2-14	7/8-14
12-12	\$	3/4-14	1 1/16-12
16-16	\$	1-11 1/2	1 5/16-12
20-20	\$	1 1/4-11 1/2	1 5/8-12
24-24	\$	1 1/2-11 1/2	1 7/8-12

3000 PSI Live Swivels

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPSM)	LS 6901 O-Ring to Pipe Swivel Elbow 90° 
06-04		9/16-18	1/4-18	
06-06		9/16-18	3/8-18	
08-06		3/4-16	3/8-18	
10-08		7/8-14	1/2-14	
12-12		1 1/16-12	3/4-14	
16-16		1 5/16-12	1-11 1/2	
20-20		1 5/8-12	1 1/4-11 1/2	
24-24		1 7/8-12	1 1/2-11 1/2	
32-32		2 1/2-12	2-11 1/2	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	LSS 2501 JIC to Pipe Elbow 90°-Dual Plane Swivel 
06-04		9/16-18	1/4-18	
08-06		3/4-16	3/8-18	
10-08		7/8-14	1/2-14	
12-12		1 1/16-12	3/4-14	
16-16		1 5/16-12	1-11 1/2	
20-20		1 5/8-12	1 1/4-11 1/2	
24-24		1 7/8-12	1 7/8-12	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	LSS 6801 JIC to O-Ring Elbow 90°-Dual Plane Swivel 
06-06		9/16-18	9/16-18	
08-08		3/4-16	3/4-16	
10-10		7/8-14	7/8-14	
12-12		1 1/16-12	1 1/16-12	
16-16		1 5/16-12	1 5/16-12	
20-20		1 5/8-12	1 5/8-12	
24-24		1 7/8-12	1 7/8-12	

Other sizes and configurations are available upon request.

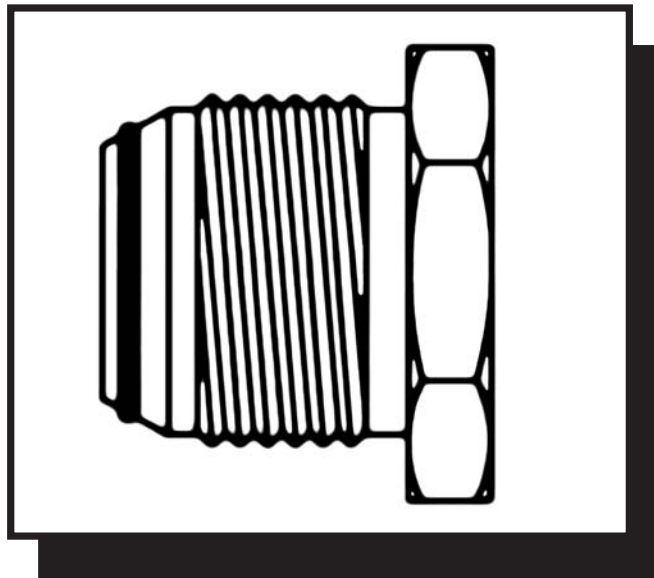
FLARE-O®

BENEFITS

- Twin seals for no-weep, no-leak protection
- Permits wide range of assembly torques to obtain a seal
- Design dampens effect of vibration
- Not affected by temperature change
- Ease of assembly using standard tooling and methods
- Utilizes standard machining surface finishes
- Increases variety of material selection for specific applications, since high torque is not a primary requirement
- Fittings can reassemble and reseal repeatedly
- Reduces scrap and overall system costs
- Interchangeable with existing standard fittings
- Reduces total mass of components

APPLICATIONS

- Tapered Fittings (SAE 37°, 45°, and All Others)
- Fittings for Standard Port Entries
- Adjustable/Indexable Fittings
- Tube-to-Port Connectors
- Flange Applications
- Low Torque Banjo Fittings (With Primary and Secondary Seals at Each Interface)
- Use in retrofit applications to eliminate leaks, weeps, and associated maintenance costs
- Interchangeable with existing tube and port fittings at the OEM level
- Reduce maintenance and warranty costs... increase profitability...enhance reliability...with FLARE-O®



DESIGN NOTES

Geometry of the taper results in unit loading of mating faces significantly higher than that of standard fitting designs. The design also minimizes any gap which may occur at the interface due to pressures in excess of design limits. Unit loading of the sealing surfaces is made even greater by the existence of the groove in the male surface. Even if no O-ring were present, the groove design alone permits assembly torques to be substantially reduced.

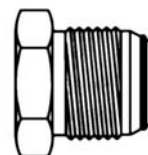
The cross-sectional area of the O-ring groove is larger than the cross-sectional area of the O-ring. This allows the O-ring to move in response to pressure differentials. The O-ring is not extruded during assembly into the area between the mating surfaces to behave like a gasket. Instead, the O-ring essentially behaves like a super-viscous fluid, which takes the shape of the cavity that holds it, enhancing the seal. The O-ring acts as the back-up seal should the metal-to-metal seals on both sides of the O-ring groove fail.

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	Bore	T1 (UNF)
04		1/4	7/16-20
06		3/8	9/16-18
08		1/2	3/4-16
10		5/8	7/8-14
12		3/4	1 1/16-12
14		7/8	1 3/16-12
16		1	1 5/16-12
20		1 1/4	1 5/8-12
24		1 1/2	1 7/8-12
32		2	2 1/2-12

F403

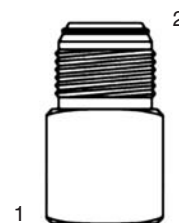
**Flare-O Braze
Tube Union**



Dash Size	Stock Materials S FG SS BR	T1 (Bore)	T2 (UNF)
04		1/4	7/16-20
05		5/16	1/2-20
06		3/8	9/16-18
08		1/2	3/4-16
10		5/8	7/8-14
12		3/4	1 1/16-12
14		7/8	1 3/16-12
16		1	1 5/16-12
20		1 1/4	1 5/8-12
24		1 1/2	1 7/8-12
32		2	2 1/2-12

F500

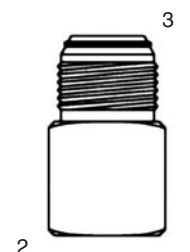
**Flare-O Braze
Tube Union
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 & T2 (Bore)	T3 (UNF)
04		1/4	7/16-20
05		5/16	1/2-20
06		3/8	9/16-18
08		5/8	7/8-14
12		3/4	1 1/16-12
14		7/8	1 3/16-12
16		1	1 5/16-12
20		1 1/4	1 5/8-12
24		1 1/2	1 7/8-12

F600

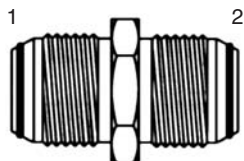
**Flare-O Braze
Tube Union Tee**



Flare-O® Adapters

F2403

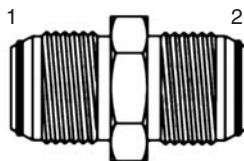
Flare-O Tube Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04		7/16-20	7/16-20
05		1/2-20	1/2-20
06-04		9/16-18	7/16-20
06-05		9/16-18	1/2-20
06		9/16-18	9/16-18
08-06		3/4-16	9/16-18
08		3/4-16	3/4-16
10-06		7/8-14	9/16-18
10-08		7/8-14	3/4-16
10		7/8-14	7/8-14
12-08		1 1/16-12	3/4-16
12-10		1 1/16-12	7/8-14
12		1 1/16-12	1 1/16-12
14		1 3/16-12	1 3/16-12
16-12		1 5/16-12	1 1/16-12
16		1 5/16-12	1 5/16-12
20-16		1 5/8-12	1 5/16-12
20		1 5/8-12	1 5/8-12
24-16		1 7/8-12	1 5/16-12
24		1 7/8-12	1 7/8-12
32		2 1/2-12	2 1/2-12

F2403-LH

Flare-O Large Hex Tube Union



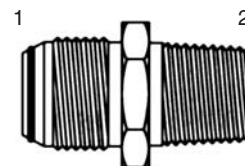
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04		7/16-20	7/16-20
06		9/16-18	9/16-18
08		3/4-16	3/4-16
10		7/8-14	7/8-14
12		1 1/16-12	1 1/16-12
16		1 5/16-12	1 5/16-12
20		1 5/8-12	1 5/8-12
24		1 7/8-12	1 7/8-12

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
04-08	S	7/16-20	1/2-14
05-02	S	1/2-20	1/8-27
05-04	S	1/2-20	1/4-18
05-06	S	1/2-20	3/8-18
06-02	S	9/16-18	1/8-27
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
06-12	S	9/16-18	3/4-14
08-04	S	3/4-16	1/4-18
08-06	S	3/4-16	3/8-18
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
08-16	S	3/4-16	1-11 1/2
10-06	S	7/8-14	3/8-18
10-08	S	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
12-08	S	1 1/16-12	1/2-14
12-12	S	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
14-12	S	1 3/16-12	3/4-14
16-12	S	1 5/16-12	1/2-14
16-16	S	1 5/16-12	1-11 1/2
16-20	S	1 5/16-12	1 1/4-11 1/2
20-16	S	1 5/8-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
20-24	S	1 5/8-12	1 1/2-11 1/2
24-20	S	1 7/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2
32-32	S	2 1/2-12	2- 11 1/2

F2404

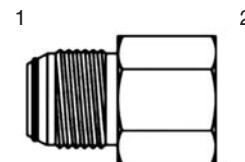
Flare-O to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
05-02	S	1/2-20	1/8-27
05-04	S	1/2-20	1/4-18
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-18
08-04	S	3/4-16	1/4-18
08-06	S	3/4-16	3/8-18
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-04	S	7/8-14	1/4-18
10-06	S	7/8-14	3/8-18
10-08	S	7/8-14	1/2-14
12-08	S	1 1/16-12	1/2-14
12-12	S	1 1/16-12	3/4-14
14-12	S	1 3/16-12	3/4-14
16-12	S	1 5/16-12	3/4-14
16-16	S	1 5/16-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2
32-32	S	2 1/2-12	2-11 1/2

F2405

Flare-O to Pipe



S= Steel

FG=Forging

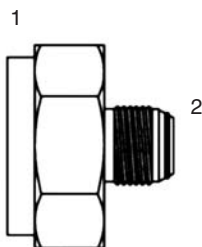
SS=Stainless Steel

BR=Brass

Flare-O® Adapters

F2406

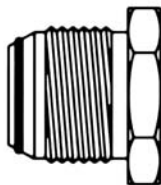
Flare-O Tube Reducer Expander



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
06-04	\$	9/16-18	7/16-20
08-04	\$	3/4-16	7/16-20
08-06	\$	3/4-16	9/16-18
10-04	\$	7/8-14	7/16-20
10-06	\$	7/8-14	9/16-18
10-08	\$	7/8-14	3/4-16
12-04	\$	1 1/16-12	7/16-20
12-06	\$	1 1/16-12	9/16-18
12-08	\$	1 1/16-12	3/4-16
12-10	\$	1 1/16-12	7/8-14
12-16	\$	1 1/16-12	1 5/16-12
14-06	\$	1 3/16-12	9/16-18
14-08	\$	1 3/16-12	3/4-16
14-10	\$	1 3/16-12	7/8-14
14-12	\$	1 3/16-12	1 1/16-12
16-04	\$	1 5/16-12	7/16-20
16-08	\$	1 5/16-12	3/4-16
16-10	\$	1 5/16-12	7/8-14
16-12	\$	1 5/16-12	1 1/16-12
16-14	\$	1 5/16-12	1 3/16-12
16-20	\$	1 5/16-12	1 5/8-12
20-12	\$	1 5/8-12	1 1/16-12
20-16	\$	1 5/8-12	1 5/16-12
20-24	\$	1 5/8-12	1 7/8-12
24-16	\$	1 7/8-12	1 5/16-12
24-20	\$	1 7/8-12	1 5/8-12
32-24	\$	2 1/2-12	1 7/8-12

F2408

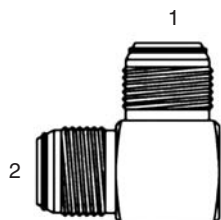
Flare-O Plug



Dash Size	Stock Materials S FG SS BR	T1 (UNF)
04	\$	7/16-20
05	\$	1/2-20
06	\$	9/16-18
08	\$	3/4-16
10	\$	7/8-14
12	\$	1 1/16-12
14	\$	1 3/16-12
16	\$	1 5/16-12
20	\$	1 5/8-12
24	\$	1 7/8-12
32	\$	2 1/2-12

F2500

Flare-O Tube Union Elbow 90°



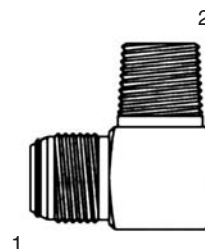
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
05	\$	1/2-20	1/2-20
06	\$	9/16-20	9/16-20
08-06	\$	3/4-16	9/16-18
08	\$	3/4-16	3/4-16
10-08	\$	7/8-14	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
04-06	S	7/16-20	3/8-18
04-08	S	7/16-20	1/2-14
04-12	S	7/16-20	3/4-14
05-02	S	1/2-20	1/8-27
05-04	S	1/2-20	1/4-18
05-06	S	1/2-20	3/8-18
06-02	S	9/16-18	1/8-27
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-18
06-08	S	9/16-18	1/2-14
06-12	S	9/16-18	3/4-14
08-04	S	3/4-16	1/4-18
08-06	S	3/4-16	3/8-18
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
08-16	S	3/4-16	1-11 1/2
10-06	S	7/8-14	3/8-18
10-08	S	7/8-14	1/2-14
10-12	S	7/8-14	3/4-14
10-16	S	7/8-14	1-11 1/2
12-08	S	1 1/16-12	1/2-14
12-12	S	1 1/16-12	3/4-14
12-16	S	1 1/16-12	1-11 1/2
14-12	S	1 3/16-12	3/4-14
16-12	S	1 5/16-12	3/4-14
16-16	S	1 5/16-12	1-11 1/2
16-20	S	1 5/16-12	1 1/4-11 1/2
20-16	S	1 5/8-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
20-24	S	1 5/8-12	1 1/2-11 1/2
24-20	S	1 7/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2
32-32	S	2 1/2-12	2-11 1/2

F2501

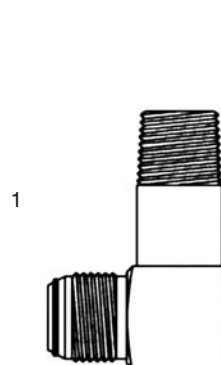
Flare-O to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	S	7/16-20	1/8-27
04-04	S	7/16-20	1/4-18
05-02	S	1/2-20	1/8-27
05-04	S	1/2-20	1/4-18
06-04	S	9/16-18	1/4-18
06-06	S	9/16-18	3/8-16
08-06	S	3/4-16	3/8-16
08-08	S	3/4-16	1/2-14
08-12	S	3/4-16	3/4-14
10-08	S	7/8-14	1/2-14
12-12	S	1 1/16-12	3/4-14
14-12	S	1 3/16-12	3/4-14
16-16	S	1 5/16-12	1-11 1/2
20-20	S	1 5/8-12	1 1/4-11 1/2
24-24	S	1 7/8-12	1 1/2-11 1/2

F2501-L

Flare-O to Pipe Long Elbow 90°



S= Steel

FG=Forging

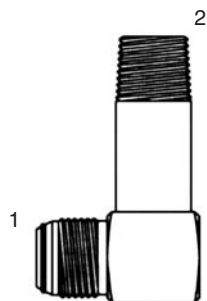
SS=Stainless Steel

BR=Brass

Flare-O® Adapters

F2501-LL

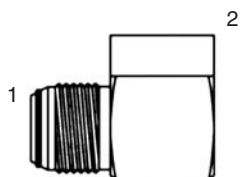
Flare-O to Pipe Extra Long Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02		7/16-20	1/8-27
04-04		7/16-20	1/4-18
05-02		1/2-20	1/8-27
05-04		1/2-20	1/4-18
06-04		9/16-18	1/4-18
06-06		9/16-18	3/8-18
08-06		3/4-16	3/8-18
08-08		3/4-16	1/2-14
10-08		7/8-14	1/2-14
12-12		1 1/16-12	3/4-14
14-12		1 3/16-12	3/4-14
16-16		1 5/16-12	1-11 1/2
20-20		1 5/8-12	1 1/4-11 1/2

F2502

Flare-O to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02		7/16-20	1/8-27
04-04		7/16-20	1/4-18
05-02		1/2-20	1/8-27
05-04		1/2-20	1/4-18
06-04		9/16-18	1/4-18
06-06		9/16-18	3/8-18
06-08		9/16-18	1/2-14
08-06		3/4-16	3/8-18
08-08		3/4-16	1/2-14
10-08		7/8-14	1/2-14
12-12		1 1/16-12	3/4-14
14-12		1 3/16-12	3/4-14
16-16		1 5/16-12	1-11 1/2
20-20		1 5/8-12	1 1/4-11 1/2
24-24		1 7/8-12	1 1/2-11 1/2
32-32		2 1/2-12	2-11 1/2

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	☒	7/16-20	1/8-27
04-04	☒	7/16-20	1/4-18
05-02	☒	1/2-20	1/8-27
05-04	☒	1/2-20	1/4-18
06-02	☒	9/16-18	1/8-27
06-04	☒	9/16-18	1/4-18
06-06	☒	9/16-18	3/8-18
06-08	☒	9/16-18	1/2-14
08-04	☒	3/4-16	1/4-18
08-06	☒	3/4-16	3/8-18
08-08	☒	3/4-16	1/2-14
08-12	☒	3/4-16	3/4-14
10-06	☒	7/8-14	3/8-18
10-08	☒	7/8-14	1/2-14
10-12	☒	7/8-14	3/4-14
12-08	☒	1 1/16-12	1/2-14
12-12	☒	1 1/16-12	3/4-14
12-16	☒	1 1/16-12	1-11 1/2
14-12	☒	1 3/16-12	3/4-14
16-12	☒	1 5/16-12	3/4-14
16-16	☒	1 5/16-12	1-11 1/2
20-20	☒	1 5/8-12	1 1/4-11 1/2
20-24	☒	1 5/8-12	1 1/2-11 1/2
24-24	☒	1 7/8-12	1 1/2-11 1/2
32-32	☒	2 1/2-12	2-11 1/2

F2503

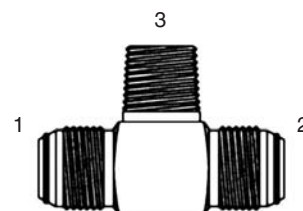
Flare-O to Pipe Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (NPTF)
04-02	☒	7/16-20	7/16-20	1/8-27
04-04	☒	7/16-20	7/16-20	1/4-18
05-02	☒	1/2-20	1/2-20	1/8-27
05-04	☒	1/2-20	1/2-20	1/4-18
06-04	☒	9/16-18	9/16-18	1/4-18
06-06	☒	9/16-18	9/16-18	3/8-18
08-06	☒	3/4-16	3/4-16	3/8-18
08-08	☒	3/4-16	3/4-16	1/2-14
10-08	☒	7/8-14	7/8-14	1/2-14
12-12	☒	1 1/16-12	1 1/16-12	3/4-14
14-12	☒	1 3/16-12	1 3/16-12	3/4-14
16-16	☒	1 5/16-12	1 5/16-12	1-11 1/2
20-20	☒	1 5/8-12	1 5/8-12	1 1/4-11 1/2
24-24	☒	1 7/8-12	1 7/8-12	1 1/2-11 1/2

F2601

Flare-O to Pipe Branch Tee



S= Steel

FG=Forging

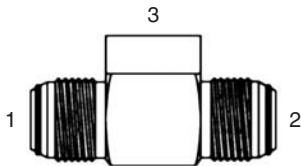
SS=Stainless Steel

BR=Brass

Flare-O® Adapters

F2602

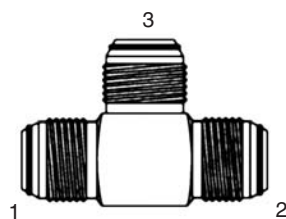
Flare-O to Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (NPTF)
04-02	\$	7/16-20	7/16-20	1/8-27
04-04	\$	7/16-20	7/16-20	1/4-18
05-02	\$	1/2-20	1/2-20	1/8-27
06-04	\$	9/16-18	9/16-18	1/4-18
06-06	\$	9/16-18	9/16-18	3/8-18
08-06	\$	3/4-16	3/4-16	3/8-18
08-08	\$	3/4-16	3/4-16	1/2-14
10-08	\$	7/8-14	7/8-14	1/2-14
12-12	\$	1 1/16-12	1 1/16-12	3/4-14
14-12	\$	1 3/16-12	1 3/16-12	3/4-14
16-16	\$	1 5/16-12	1 5/16-12	1-11 1/2
20-20	\$	1 5/8-12	1 5/8-12	1 1/4-11 1/2
24-24	\$	1 7/8-12	1 7/8-12	1 1/2-11 1/2
32-32	\$	2 1/2-12	2 1/2-12	2-11 1/2

F2603

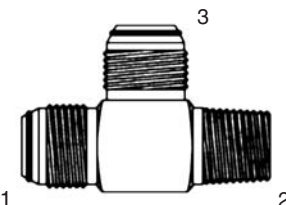
Flare-O Tube Union Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04	\$	7/16-20	7/16-20	7/16-20
05	\$	1/2-20	1/2-20	1/2-20
06	\$	9/16-18	9/16-18	9/16-18
08	\$	3/4-16	3/4-16	3/4-16
08-12	\$	3/4-16	3/4-16	1 1/16-12
10-08-08	\$	7/8-14	3/4-16	3/4-16
10-08	\$	7/8-14	7/8-14	3/4-16
10	\$	7/8-14	7/8-14	7/8-14
10-12	\$	7/8-14	7/8-14	1 1/16-12
12	\$	1 1/16-12	1 1/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12	1 5/16-12
20-16	\$	1 5/8-12	1 5/8-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12	2 1/2-12

F2605

Flare-O to Pipe Run Tee



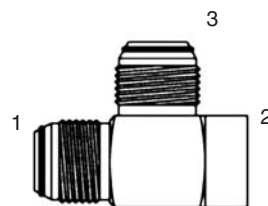
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	T3 (UNF)
04-02	\$	7/16-20	1/8-27	7/16-20
04-04	\$	7/16-20	1/4-18	7/16-20
05-02	\$	1/2-20	1/8-27	1/2-20
06-04	\$	9/16-18	1/4-18	9/16-18
06-06	\$	9/16-18	3/8-18	9/16-18
06-08	\$	9/16-18	1/2-14	9/16-18
08-06	\$	3/4-16	3/8-18	3/4-16
08-08	\$	3/4-16	1/2-14	3/4-16
10-08	\$	7/8-14	1/2-14	7/8-14
12-08	\$	1 1/16-12	1/2-14	1 1/16-12
12-12	\$	1 1/16-12	3/4-14	1 1/16-12
14-12	\$	1 3/16-12	3/4-14	1 3/16-12
16-16	\$	1 5/16-12	1-11 1/2	1 5/16-12
20-20	\$	1 5/8-12	1 1/4-11 1/2	1 5/8-12
24-24	\$	1 7/8-12	1 1/2-11 1/2	1 7/8-12
32-32	\$	2 1/2-12	2-11 1/2	2 1/2-12

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	T3 (UNF)
04-02		7/16-20	1/8-27	7/16-20
04-04		7/16-20	1/4-18	7/16-20
06-04		9/16-18	1/4-18	9/16-18
06-06		9/16-18	3/8-18	9/16-18
08-06		3/4-16	3/8-18	3/4-16
08-08		3/4-16	1/2-14	3/4-16
10-08		7/8-14	1/2-14	7/8-14
12-12		1 1/16-12	3/4-14	1 1/16-12
14-12		1 3/16-12	3/4-14	1 3/16-12
16-16		1 5/16-12	1-11 1/2	1 5/16-12
24-24		1 7/8-12	1 1/2-11 1/2	1 7/8-12

F2606

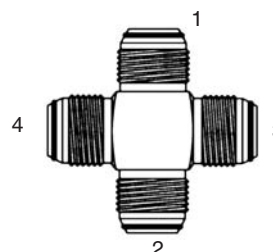
Flare-O to Pipe Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
04		7/16-20	7/16-20	7/16-20
05		1/2-20	1/2-20	1/2-20
06		9/16-18	9/16-18	9/16-18
08		3/4-16	3/4-16	3/4-16
10		7/8-14	7/8-14	7/8-14
12		1 1/16-12	1 1/16-12	1 1/16-12
14		1 3/16-12	1 3/16-12	1 3/16-12
16		1 5/16-12	1 5/16-12	1 5/16-12
20		1 5/8-12	1 5/8-12	1 5/8-12
24		1 7/8-12	1 7/8-12	1 7/8-12

F2650

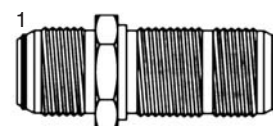
Flare-O Tube Union Cross



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04		7/16-20	7/16-20
05		1/2-20	1/2-20
06		9/16-18	9/16-18
08		3/4-16	3/4-16
10		7/8-14	7/8-14
12		1 1/16-12	1 1/16-12
16		1 5/16-12	1 5/16-12
20		1 5/8-12	1 5/8-12
24		1 7/8-12	1 7/8-12
32		2 1/2-12	2 1/2-12

F2700

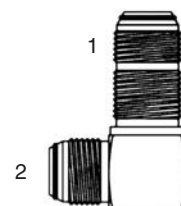
Flare-O Bulkhead Tube Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04		7/16-20	7/16-20
05		1/2-20	1/2-20
06		9/16-18	9/16-18
08		3/4-16	3/4-16
10		7/8-14	7/8-14
12		1 1/16-12	1 1/16-12
16		1 5/16-12	1 5/16-12

F2701

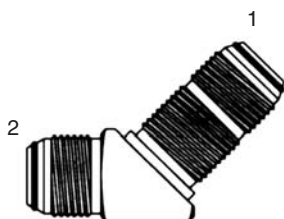
Flare-O Bulkhead Tube Union Elbow 90°



Flare-O® Adapters

F2702

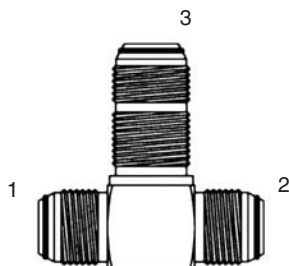
Flare-O Bulkhead Tube Union Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	☐ S	7/16-20	7/16-20
05	☐ S	1/2-20	1/2-20
06	☐ S	9/16-18	9/16-18
08	☐ S	3/4-16	3/4-16
10	☐ S	7/8-14	7/8-14
12	☐ S	1 1/16-12	1 1/16-12
16	☐ S	1 5/16-12	1 5/16-12

F2703

Flare-O Bulkhead Tube Union Branch Tee



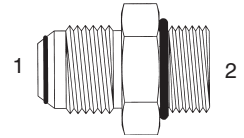
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04	☐ S	7/16-20	7/16-20	7/16-20
06	☐ S	9/16-18	9/16-18	9/16-18
08	☐ S	3/4-16	3/4-16	3/4-16
10	☐ S	7/8-14	7/8-14	7/8-14
12	☐ S	1 1/16-12	1 1/16-12	1 1/16-12
16	☐ S	1 5/16-12	1 5/16-12	1 5/16-12

Flare-O® Adapters

Dash Size	Stock Materials	T1 (UNF)	T2 (UNF)
	S FG SS BR		
04-02	\$	7/16-20	5/16-24
04	\$	7/16-20	7/16-20
04-05	\$	7/16-20	1/2-20
04-06	\$	7/16-20	9/16-18
04-08	\$	7/16-20	3/4-16
04-10	\$	7/16-20	7/8-14
04-12	\$	7/16-20	1 1/16-12
05-04	\$	1/2-20	7/16-20
05	\$	1/2-20	1/2-20
05-06	\$	1/2-20	9/16-18
06-04	\$	9/16-18	7/16-20
06-05	\$	9/16-18	1/2-20
06	\$	9/16-18	9/16-18
06-08	\$	9/16-18	3/4-16
06-10	\$	9/16-18	7/8-14
06-12	\$	9/16-18	1 1/16-12
08-04	\$	3/4-16	7/16-20
08-06	\$	3/4-16	9/16-18
08	\$	3/4-16	3/4-16
08-10	\$	3/4-16	7/8-14
08-12	\$	3/4-16	1 1/16-12
08-16	\$	3/4-16	1 5/16-12
10-06	\$	7/8-14	9/16-18
10-08	\$	7/8-14	3/4-16
10	\$	7/8-14	7/8-14
10-12	\$	7/8-14	1 1/16-12
10-16	\$	7/8-14	1 5/16-12
12-08	\$	1 1/16-12	3/4-16
12-10	\$	1 1/16-12	7/8-14
12	\$	1 1/16-12	1 1/16-12
12-14	\$	1 1/16-12	1 3/16-12
12-16	\$	1 1/16-12	1 5/16-12
12-20	\$	1 1/16-12	1 5/8-12
14-12	\$	1 3/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12
14-16	\$	1 3/16-12	1 5/16-12
16-10	\$	1 5/16-20	7/8-14
16-12	\$	1 5/16-20	1 1/16-12
16	\$	1 5/16-20	1 5/16-12
16-20	\$	1 5/16-20	1 5/8-12
16-24	\$	1 5/16-20	1 7/8-12
20-16	\$	1 5/8-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
20-24	\$	1 5/8-12	1 7/8-12
24-20	\$	1 7/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
24-32	\$	1 7/8-12	2 1/2-12
32-24	\$	2 1/2-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

F6400

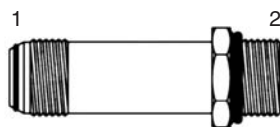
Flare-O to O-Ring



Flare-O® Adapters

F6400-L

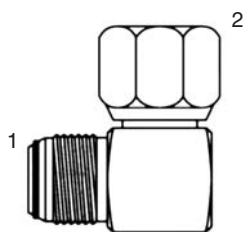
**Flare-O to
O-Ring Long**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12

F6500

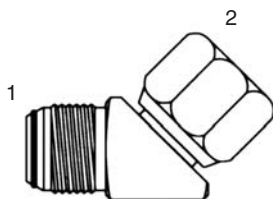
**Flare-O to
JIC Swivel
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
05	\$	1/2-20	1/2-20
06	\$	9/16-18	9/16-18
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

F6502

**Flare-O to
JIC Swivel
Elbow 45°**



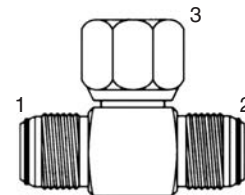
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
06	\$	9/16-18	9/16-18
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04		7/16-20	7/16-20	7/16-20
05		1/2-20	1/2-20	1/2-20
06		9/16-18	9/16-18	9/16-18
08		3/4-16	3/4-16	3/4-16
10		7/8-14	7/8-14	7/8-14
12		1 1/16-12	1 1/16-12	1 1/16-12
14		1 3/16-12	1 3/16-12	1 3/16-12
16		1 5/16-12	1 5/16-12	1 5/16-12
20		1 5/8-12	1 5/8-12	1 5/8-12
24		1 7/8-12	1 7/8-12	1 7/8-12
32		2 1/2-12	2 1/2-12	2 1/2-12

F6600

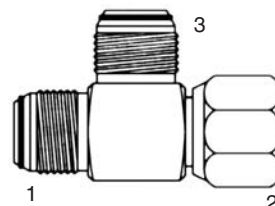
Flare-O to JIC Swivel Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04		7/16-20	7/16-20	7/16-20
05		1/2-20	1/2-20	1/2-20
06		9/16-18	9/16-18	9/16-18
08		3/4-16	3/4-16	3/4-16
10		7/8-14	7/8-14	7/8-14
12		1 1/16-12	1 1/16-12	1 1/16-12
14		1 3/16-12	1 3/16-12	1 3/16-12
16		1 5/16-12	1 5/16-12	1 5/16-12
20		1 5/8-12	1 5/8-12	1 5/8-12
24		1 7/8-12	1 7/8-12	1 7/8-12
32		2 1/2-12	2 1/2-12	2 1/2-12

F6602

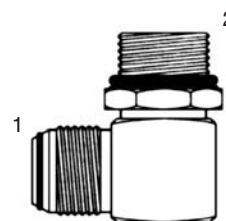
Flare-O to JIC Swivel Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04		7/16-20	7/16-20
04-05		7/16-20	1/2-20
04-06		7/16-20	9/16-18
04-08		7/16-20	3/4-16
05-04		1/2-20	7/16-20
05		1/2-20	1/2-20
05-06		1/2-20	9/16-18
05-08		1/2-20	3/4-16
06-04		9/16-18	7/16-20
06-05		9/16-18	1/2-20
06		9/16-18	9/16-18
06-08		9/16-18	3/4-16
06-10		9/16-18	7/8-14
08-04		3/4-16	7/16-20
08-06		3/4-16	9/16-18
08		3/4-16	3/4-16
08-10		3/4-16	7/8-14
08-12		3/4-16	1 1/16-12
10-06		7/8-14	9/16-18
10-08		7/8-14	3/4-16
10		7/8-14	7/8-14
10-12		7/8-14	1 1/16-12
12-08		1 1/16-12	3/4-16
12-10		1 1/16-12	7/8-14
12		1 1/16-12	1 1/16-12
12-14		1 1/16-12	1 3/16-12
12-16		1 1/16-12	1 5/16-12
12-20		1 1/16-12	1 5/8-12
14-12		1 3/16-12	1 1/16-12

F6801

Flare-O to O-Ring Elbow 90°

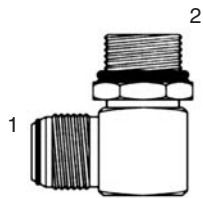


*Cont'd..

Flare-O® Adapters

F6801

**Flare-O to
O-Ring Elbow 90°
(Cont'd.)**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
14	\$	1 3/16-12	1 3/16-12
16-10	\$	1 5/16-12	7/8-14
16-12	\$	1 5/16-12	1 1/16-12
16-14	\$	1 5/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12
16-20	\$	1 5/16-12	1 5/8-12
20-14	\$	1 5/8-12	1 3/16-12
20-16	\$	1 5/8-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12
20-24	\$	1 5/8-12	1 7/8-12
24-20	\$	1 7/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

F6801-L

**Flare-O to
O-Ring
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
06	\$	9/16-18	9/16-18
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12

F6801-LL

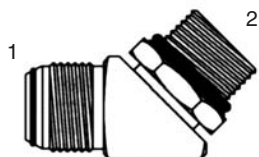
**Flare-O to
O-Ring
Extra Long
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
06	\$	9/16-18	9/16-18
06-08	\$	9/16-18	3/4-16
08	\$	3/4-16	3/4-16
10	\$	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12

F6802

**Flare-O to
O-Ring
Elbow 45°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	\$	7/16-20	7/16-20
05	\$	1/2-20	1/2-20
06	\$	9/16-18	9/16-18
06-08	\$	9/16-18	3/4-16
08-06	\$	3/4-16	9/16-18
08	\$	3/4-16	3/4-16
08-10	\$	3/4-16	7/8-14
10-08	\$	7/8-14	3/4-16
10	\$	7/8-14	7/8-14
12-10	\$	1 1/16-12	7/8-14
12	\$	1 1/16-12	1 1/16-12
12-16	\$	1 1/16-12	1 5/16-12
14	\$	1 3/16-12	1 3/16-12
16-12	\$	1 5/16-12	1 1/16-12
16	\$	1 5/16-12	1 5/16-12
16-20	\$	1 5/16-12	1 5/8-12
20	\$	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12
32	\$	2 1/2-12	2 1/2-12

Flare-O® Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04	\$	7/16-20	7/16-20	7/16-20
05	\$	1/2-20	1/2-20	1/2-20
06	\$	9/16-18	9/16-18	9/16-18
08	\$	3/4-16	3/4-16	3/4-16
10	\$	7/8-14	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12	1 7/8-12

F6803

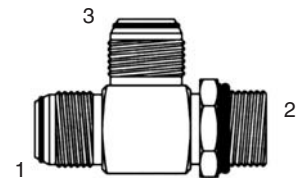
Flare-O to O-Ring Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
04	\$	7/16-20	7/16-20	7/16-20
05	\$	1/2-20	1/2-20	1/2-20
06	\$	9/16-18	9/16-18	9/16-18
08	\$	3/4-16	3/4-16	3/4-16
10	\$	7/8-14	7/8-14	7/8-14
12	\$	1 1/16-12	1 1/16-12	1 1/16-12
14	\$	1 3/16-12	1 3/16-12	1 3/16-12
16	\$	1 5/16-12	1 5/16-12	1 5/16-12
20	\$	1 5/8-12	1 5/8-12	1 5/8-12
24	\$	1 7/8-12	1 7/8-12	1 7/8-12

F6804

Flare-O to O-Ring Run Tee



Dash Size	Tube O.D.
04	1/4
05	5/16
06	3/8
08	1/2
10	5/8
12	3/4
14	7/8
16	1
20	1 1/4
24	1 1/2
32	2

F90DB

Flare-O Buna O-Ring



Dash Size	Tube O.D.
04	1/4
05	5/16
06	3/8
08	1/2
10	5/8
12	3/4
14	7/8
16	1
20	1 1/4
24	1 1/2
32	2

F90DB-VITON

Flare-O Viton O-Ring



Accessories

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Part Number	Stock Materials S FG SS BR	Clamping Diameter	Bolt Hole
HK0313	S	1/8"	1/4
HK0413	S	3/16"	1/4
HK0709	S	3/8"	9/32
HK0809	S	7/16"	9/32
HK0913	S	1/2"	13/32
HK1013	S	9/16"	13/32
HK1113	S	5/8"	13/32
HK1213	S	11/16"	13/32
HK1313	S	3/4"	13/32
HK1413	S	13/16"	13/32
HK1513	S	7/8"	13/32
HK1613	S	15/16"	13/32
HK1713	S	1"	13/32
HK1813	S	1 1/16"	13/32
HK1913	S	1 1/8"	13/32
HK2017	S	1 3/16"	17/32
HK2117	S	1 1/4"	17/32
HK2317	S	1 3/8"	17/32
HK2517	S	1 1/2"	17/32
HK2617	S	1 9/16"	17/32
HK2917	S	1 3/4"	17/32
HK3117	S	1 7/8"	17/32
HK3217	S	1 15/16"	17/32
HK3317	S	2"	17/32
HK3417	S	2 5/32"	17/32
HK3817	S	2 21/32"	17/32

*Used for support for long hose lengths. Also aids proper hose routing where abrasion or heat exists. Material: Steel with 1/32" thick black vinyl cushion

HK

Hose Clamp*



Part Number	Stock Materials S FG SS BR	Clamping Diameter
WGC-4	SS	7/32-5/8"
WGC-6	SS	5/16-7/8"
WGC-8	SS	7/16-1"
WGC-10	SS	7/16-1 1/16"
WGC-12	SS	9/16-1 1/4"
WGC-16	SS	11/16-1 1/2"
WGC-20	SS	13/16-1 3/4"
WGC-24	SS	1 1/16-2"
WGC-28	SS	1 5/16-2 1/4"
WGC-32	SS	1 9/16-2 1/2"
WGC-36	SS	1 13/16-2 3/4"
WGC-40	SS	2 1/16-3"
WGC-48	SS	2 9/16-3 1/2"
WGC-56	SS	3 1/16-4"
WGC-60	SS	3 5/16-4 1/4"
WGC-64	SS	3 9/16-4 1/2"
WGC-80	SS	2 1/2-5 1/2"

*Used in automotive, heavy-duty equipment and several industries.

WGC

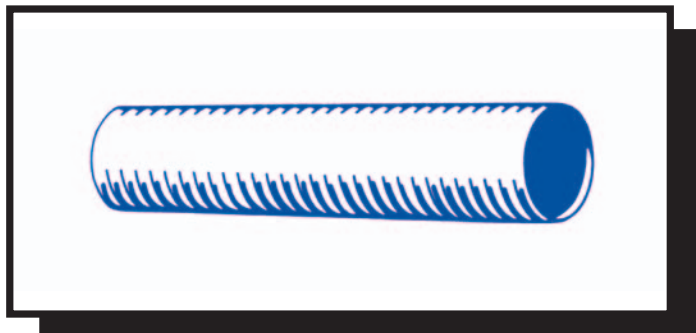
Worm Gear Clamp*



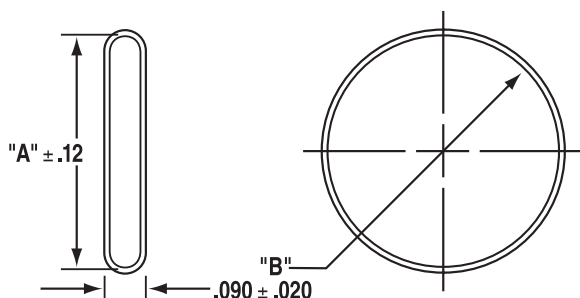
PROTEC

NYLON HOSE SLEEVE

PROTEC PHYSICAL DATA		
PROTEC Sleeve Product No.	Outside Flat "A" (In.)	Nom. I.D. "B" (In.)
NHS-071	1.19	.71
NHS-077	1.25	.77
NHS-090	1.50	.90
NHS-100	1.66	1.00
NHS-114	1.88	1.14
NHS-125	2.03	1.25
NHS-130	2.13	1.30
NHS-138	2.25	1.38
NHS-153	2.50	1.53
NHS-159	2.56	1.59
NHS-170	2.75	1.70
NHS-175	2.81	1.75
NHS-185	3.00	1.85
NHS-207	3.31	2.07
NHS-225	3.63	2.25
NHS-238	3.81	2.38
NHS-254	4.06	2.54
NHS-264	4.25	2.64
NHS-286	4.56	2.86
NHS-296	4.75	2.96
NHS-334	5.31	3.34
NHS-366	5.81	3.66



- Protec is woven from thousands of nylon filaments into a self-renewing, abrasion-resistant fabric sleeve. As it is scuffed and worn, its filaments friz forming an even thicker more protective shield. This smooth-bore sleeve is easily installed over hose, chains, cables, or springs and may be secured with nylon cable ties or band-clamps.
- As a hose cover, it provides outstanding personal injury protection to equipment operators by deflecting the spray of hot hydraulic fluids in the event of a hose failure.
- It also extends individual hose life in severe abrasive environments.
- It is an excellent product for holding two or more hoses in a single bundle.
- For hose groups that must follow the same flex pattern, bundling will provide identical flex memory to all hoses in group bundle.
- In some cases, it eliminates the need for bulkhead couplings by shielding hoses that must pass through metal openings.
- It protects painted finishes when used as a flexible cover for chains, cables, and springs.



PROTEC HOSE SLEEVE TECHNICAL DATA

MATERIAL

- Cordura or Anso-tex bulk nylon fiber yarn. Cordura is a registered trademark of Dupont. Anso-tex is a registered trademark of Allied Fibers.

THICKNESS

- .090" ± .020", DOUBLED FLAT

COLOR

- Black

FLAMMABILITY

- Passes FMVSS 302 horizontal flame test, MSHA accepted.

TEMPERATURE

- Maximum ambient temperature 250°F.

PACKAGING

- 100 and 300 foot rolls. Pieces cut to length with ends heat sealed are available on request.

TOMPKINS PROWRAP®

Extreme Duty Hose and Cable Protection

INSTALLATION

- Install without disconnecting any lines
- Tight grip prevents sliding or leap-frogging
- Complete coverage with proper installation
- Bundled hoses may exit at any point

AVAILABILITY

- Sizes to fit 1/4" hose to 11" bundles
- Thickness from .095" to .290"

MATERIAL

- UV Resistant 100% Polyethylene

TEMPERATURE

- -70°F to 180°F

FLAMMABILITY

- More resistant to fire hazard than woven sleeve protectors that retain oil and sawdust.



LIGHT DUTY

Part #	Recommended Hose Size (In.)	Maximum Bundle Diameter (In.)	Wall Thickness (In.)	Weight Per Foot (oz.)	Standard Package
PWLD-16	1	2	.110	.18	50'
PWLD-20	1.25	2.50	.135	.26	100'
PWLD-24	1.5	3	.145	.36	100'
PWLD-32	2	4	.175	.64	50'
PWLD-56	3.5	7	.190	.96	50'
PWLD-96	6	11	.185	1.75	20'

HEAVY DUTY

Part #	Recommended Hose Size (In.)	Maximum Bundle Diameter (In.)	Wall Thickness (In.)	Weight Per Foot (oz.)	Standard Package
PWHD-08	.50	1	.095	.11	100'
PWHD-12	.75	1.50	.125	.15	100'
PWHD-16	1	2	.170	.24	50'
PWHD-20	1.25	2.50	.200	.40	100'
PWHD-24	1.5	3	.230	.65	100'
PWHD-32	2	4	.260	.80	50'
PWHD-48	3	6	.240	1.24	50'
PWHD-64	4	8	.290	1.48	44'
PWHD-96	6	11	.270	2.20	20'

S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

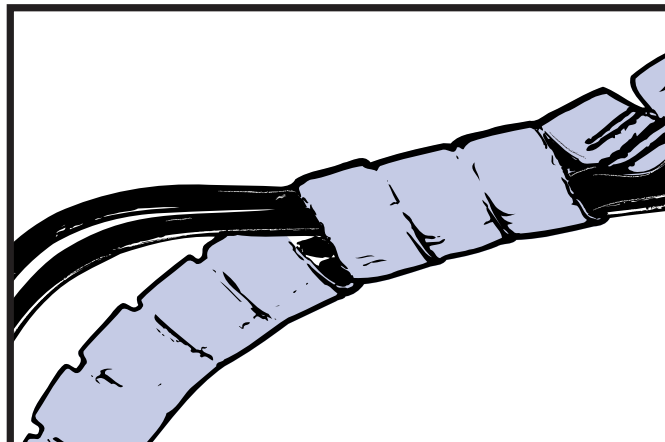
Accessories

TOMPKINS **PROWRAP PLUS[®]+**

Extreme Duty Hose and Cable Protection

INSTALLATION

- Install without disconnecting any lines
- Tight grip prevents sliding or leap-frogging
- Complete coverage with proper installation
- Bundled hoses may exit at any point
- Dual-beveled edges ease installation



AVAILABILITY

- Four colors to help match & identify
*Black, Yellow, Red, Blue
- Sizes to fit 1/4" hose to 8" bundles

MATERIAL

- UV Resistant 100% Polyethylene

TEMPERATURE

- Temperature range -40°F to 300°F

FLAMMABILITY

- Available in Flame Resistant/Anti-Static

PROWRAP PLUS

Part #	Recommended Hose Size (In.)	Wall Thickness (In.)	Weight Per Foot (oz.)	Colors* Available BK, Y, R, BL	Standard Package
PWP-12	3/8 – 7/16	.06	.4	BK	164'
PWP-16	7/16 – 5/8	.07	.8	BK,Y,R,BL	66'
PWP-20	5/8 – 7/8	.08	1.2	BK,Y,R,BL	66'
PWP-25	1 5/16 – 1 7/16	.08	2.0	BK,Y,R,BL	66'
PWP-32	1 1/8 – 1 3/8	.10	2.5	BK,Y,R,BL	66'
PWP-40	1 1/2 – 1 5/8	.12	3.3	BK	66'
PWP-50	1 3/4 – 2 1/8	.12	4.5	BK,Y,R,BL	66'
PWP-63	2 1/4 – 2 1/2	.16	6.8	BK	66'
PWP-75	2 5/8 – 2 7/8	.18	9.6	BK	66'
PWP-90	3 – 3 1/2	.22	12.8	BK	66'
PWP-110	3 1/2 – 4 1/4	.22	15.8	BK	40'

* BK=Black Y=Yellow R=Red BL=Blue

FIRE RESISTANT/ANTI-STATIC

Part #	Inner Diameter (In.)	Outer Diameter (In.)	Wall Thickness (In.)
FRAS-16	.49	.63	.069
FRAS-20	.63	.79	.0785
FRAS-32	1.06	1.26	.0985
FRAS-50	1.73	1.97	.1185
FRAS-75	2.59	2.97	.1775
FRAS-90	3.11	3.54	.2165

Pro Test

The PRO TEST System

The PRO TEST System consists of a test point with a spring-load check valve along with a microbore high pressure hose that connects to a pressure gauge. The purpose of the system is to allow pressure testing of equipment without the use of tools and enabling the system to be running during the time of testing. A single gauge can be used to check an unlimited number of test points on a system even in hard-to-reach areas because of the flexibility of the hose.

Applications for PRO TEST System

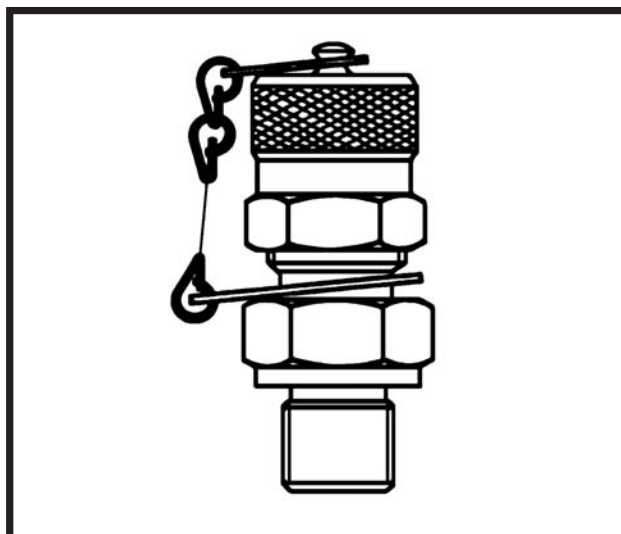
- Construction Equipment
- Agricultural Equipment
- Mining Equipment
- Test Stands
- Plant Maintenance
- Trouble-Shooting

PRO TEST Point Material Data

- All have M16x2.0 Threads
- Made of Carbon Steel and Zinc Plated
- Internal Seals are Viton / External Seals are Buna
- Available in Stainless Steel

Microbore Hose Assemblies Data

- Minimum Burst pressure of 27,000 PSI
- Hose cover and core made of polyamide with Kevlar fiber reinforcement
- Nominal hose bore is 2mm
- Bend radius is 20mm
- Temperature range is -75° to 212° F



Interchangeability

PRO TEST Points and Hoses interchange with other brands. Please contact a Tompkins customer service representative for more details.

Limited Warranty

All PRO TEST parts are warranted for dimensional accuracy only. Catalog dimensions are for reference purposes and are subject to change without notice.

Liability extends to repair or replacement of a defective part only. Replacement of the defective part shall be the buyer's sole remedy and Tompkins Industries, Inc. shall not be liable for any consequential damages.

Pro Test Cross-Over

Tompkins Part Number	PCI Part Number	Stauff Part Number	Thread
TPP-2	H900-20	TCM20-1/8NPT-V	1/8 NPT M
TPP-4	H900-21	TCM20-1/4NPT-V	1/4 NPT M
TPO-2	H900-10	TCM20-5/16UNF-V	5/16-24 UNF
TPO-4	H900-11	TCM20-7/16UNF-V	7/16-20 UNF
TPO-5		TCM20-1/2UNF-V	1/2-20 UNF
TPO-6	H900-12	TCM20-9/16UNF-V	9/16-18 UNF
TPBP-2	H900-30	TCM20-G1/8-VC	1/8 BSPP M
TPBP-4	H900-31	TCM20-G1/4-VB	1/4 BSPP M
TPBP-6	H900-32	TCM20-G3/8-VB	3/8 BSPP M
TPBT-2		TCM20-R1/8K-V	1/8 BSPT M
TPBT-4		TCM20-R1/4K-V	1/4 BSPT M
TPM-8	H900-15	TCM20-M08x1.0-V	M08 x 1.0
TPM-10	H900-25	TCM20-M10x1.0-V	M10 x 1.0
TPM-12	H900-26	TCM20-M12x1.5-V	M12 x 1.5
TPM-14	H900-27	TCM20-M14x1.5-V	M14 x 1.5
TPM-16	H900-28	TCM20-M16x1.5-V	M16 x 1.5
TPFJ-4		TCM20-1/4-JIC-V	7/16-20 UNF
TPFJ-5		TCM20-5/16-JIC-V	1/2-20 UNF
TPFJ-6		TCM20-3/8-JIC-V	9/16-18 UNF
TPFJ-8		TCM20-1/2-JIC-V	3/4-16 UNF
TPFJ-10		TCM20-5/8-JIC-V	7/8-14 UNF
TPFJ-12		TCM20-3/4-JIC-V	1 1/16-12 UNF
TPFJ-16		TCM20-1-JIC-V	1 5/16-12 UNF
TPFJ-20		TCM20-1 1/4-JIC-V	1 5/8-12 UNF
TPFJ-24		TCM20-1 1/2-JIC-V	1 7/8-12 UNF
HGCP-4	H900-82	GAH20-1/4 NPT-V	1/4 NPT
HGCBP-4	H900-80	GAH20-G1/4-V	1/4 BSPP
HGCBP-8	H900-81	GAH20-G1/2-V	1/2 BSPP
GCP-4	H900-86	DGA20-1/4 NPT	1/4 NPT
GCBP-4	H900-84	DGA20-G1/4	1/4 BSPP
GCBP-8	H900-85	DGA20-G1/2	1/2 BSPP
MBH-162-12	H900-92.12	HFF20-012	M16 x 2.0 (Both Ends)
MBH-162-18	H900-92.16	HFF20-016	M16 x 2.0 (Both Ends)
MBH-162-24	H900-92.24	HFF20-024	M16 x 2.0 (Both Ends)
MBH-162-32	H900-92.32	HFF20-032	M16 x 2.0 (Both Ends)
MBH-162-40	H900-92.40	HFF20-040	M16 x 2.0 (Both Ends)
MBH-162-60	H900-92.60	HFF20-060	M16 x 2.0 (Both Ends)
MBH-162-80	H900-92.80	HFF20-080	M16 x 2.0 (Both Ends)
MBH-162-144			M16 x 2.0 (Both Ends)
MBH-44-12	H900-94.12		7/16-20 UNF (Both Ends)
MBH-44-18	H900-94.18		7/16-20 UNF (Both Ends)
MBH-44-24	H900-94.24		7/16-20 UNF (Both Ends)
MBH-44-40	H900-94.40		7/16-20 UNF (Both Ends)
MBH-44-60	H900-94.60		7/16-20 UNF (Both Ends)
MBH-44-72			7/16-20 UNF (Both Ends)
MBH-44-96			7/16-20 UNF (Both Ends)

Part Number	Stock Materials S FG SS BR	Thread	Seal Type	PSI/Bar	Hex (MM)
TPP-2	\$	1/8-27 NPTF	Taper	5800/400	.67 (17)
TPP-4	\$	1/4-18 NPTF	Taper	9135/630	.67 (17)
TPO-2	\$	5/16-24 UNF	O-ring	4500/315	.67 (17)
TPO-4	\$	7/16-20 UNF	O-ring	9135/630	.67 (17)
TPO-5	\$	1/2-20 UNF	O-ring	9135/630	.67 (17)
TPO-6	\$	9/16-18 UNF	O-ring	9135/630	.67 (17)
TPBP-2	\$	1/8-28 BSPP	Soft	5800/400	.67 (17)
TPBP-4	\$	1/4-19 BSPP	Soft	9135/630	.75 (19)
TPBP-6	\$	3/8-19 BSPP	Soft	9135/630	.94 (24)
TPBT-2	\$	1/8-28 BSPT	Taper	5800/400	.67 (17)
TPBT-4	\$	1/4-19 BSPT	Taper	9135/630	.67 (17)
TPM-8	\$	8X1.0 Metric	O-ring	5800/400	.67 (17)
TPM-10	\$	10X1.0 Metric	O-ring	5800/400	.67 (17)
TPM-12	\$	12X1.5 Metric	Soft	9135/630	.67 (17)
TPM-14	\$	14X1.5 Metric	Soft	9135/630	.75 (19)
TPM-16	\$	16X1.5 Metric	Soft	9135/630	.87 (22)
TPBH	\$	7/16-20 UNF	37° Bulkhead	9135/630	.67 (17)

TP

**Pro Test Points
with Metal
Safety Cap
and Chain
(Male Threads)**



Part Number	Stock Materials S FG SS BR	Thread	Seal Type	PSI/Bar	Hex (MM)
TPFF-4	\$	9/16-18 UNF	ORFS Swivel	9135/630	.67 (17)
TPFF-6	\$	11/16-16 UNF	ORFS Swivel	9135/630	.67 (17)
TPFJ-4	\$	7/16-20 UNF	37° JIC		
TPFJ-4	\$	1/2-20 UNF	37° JIC		
TPFJ-6	\$	9/16-18 UNF	37° JIC		
TPFJ-8	\$	3/4-16 UNF	37° JIC		
TPFJ-10	\$	7/8-14 UNF	37° JIC		
TPFJ-12	\$	1 1/16-12 UNF	37° JIC		
TPFJ-16	\$	1 5/16-12 UNF	37° JIC		
TPFJ-20	\$	1 5/8-12 UNF	37° JIC		
TPFJ-24	\$	1 7/8-12 UNF	37° JIC		

TP

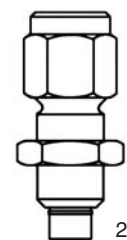
**Pro Test Points
With
Metal Cap and
Chain
(Female Threads)**



Part Number	Stock Materials S FG SS BR	T1	T2 (Male)	PSI/Bar	Hex (MM)
HGCP-4	\$	1/4-18 NPTF	16x20 Metric	5800/400	.75 (19)
HGCBP-4	\$	1/4-19 BSPP	16x20 Metric	5800/400	.75 (19)
HGCBP-8	\$	1/2-14 BSPP	16x20 Metric	5800/400	.75 (19)

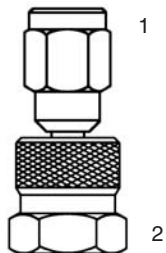
HGCP

**Hose Gauge
Connectors**



GCP

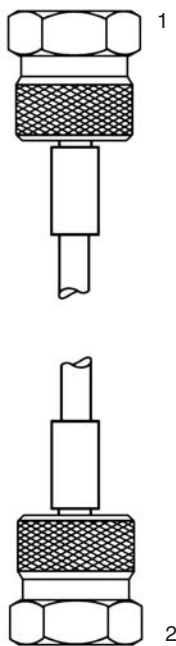
Gauge Connectors



Part Number	Stock Materials S FG SS BR	T1	T2 (Female)	PSI/Bar	Hex (MM)
GCP-4	\$	1/4-18 NPTF	16x20 Metric	5800/400	.75 (19)
GCBP-4	\$	1/4-19 BSPP	16x20 Metric	5800/400	.75 (19)
GCBP-8	\$	1/2-14 BSPP	16x20 Metric	5800/400	.75 (19)

MBH

Micro Bore Hose Assemblies



Part Number	Ends 1 & 2	Length (MM)	PSI/Bar
MBH-162-12	M16X2.0	12" (305)	9135/630
MBH-162-16	M16X2.0	16" (404)	9135/630
MBH-162-18	M16X2.0	18" (458)	9135/630
MBH-162-24	M16X2.0	24" (610)	9135/630
MBH-162-32	M16X2.0	32" (815)	9135/630
MBH-162-40	M16X2.0	40" (1020)	9135/630
MBH-162-60	M16X2.0	60" (1500)	9135/630
MBH-162-80	M16X2.0	80" (2033)	9135/630
MBH-162-144	M16X2.0	144" (3659)	9135/630
MBH-44-12	7/16-20 FJIC	12" (305)	9135/630
MBH-44-18	7/16-20 FJIC	18" (458)	9135/630
MBH-44-24	7/16-20 FJIC	24" (610)	9135/630
MBH-44-40	7/16-20 FJIC	40" (1020)	9135/630
MBH-44-60	7/16-20 FJIC	60" (1500)	9135/630
MBH-44-72	7/16-20 FJIC	72" (1830)	9135/630
MBH-44-96	7/16-20 FJIC	96" (2440)	9135/630
Other lengths of hoses and different crimped ends are available upon request.			
To order a custom length: MBH-162-48 EX: 48 denotes 48 inches. Call customer service for a quote on custom lengths.			

Tompkins Pro Test System can also be purchased as a kit with the following components enclosed in a black plastic suitcase with foam inlays.

The kits contain the following:

- 3 Pressure Gauges With Varying PSI Ratings
- 1 Gauge Adapter
- 1 Hose Gauge Adapter
- 3 Test Points
- 2 Hose Assemblies

Complete kit part # -- TP KIT

Kits can be customized with different components

PART

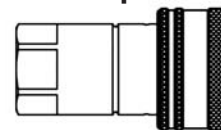
- GLS-1000
- GCP-4
- HGCP-4
- TPP-4,TPO-4,TPO-6
- MBH-162-60

Quick Disconnects

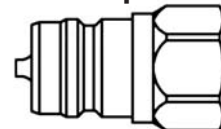
Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
ANV-14-F	1/4	1/4	TMA-14	5075
ANV-14-M	1/4	1/4	TFA-14	5075
ANV-38-F	3/8	3/8	TMA-38	4550
ANV-38-M	3/8	3/8	TFA-38	4550
ANV-34-F	3/4	3/4	TMA-34	3625
ANV-34-M	3/4	3/4	TFA-34	3625
ANV-1-F	1	1	TMA-1	3335
ANV-1-M	1	1	TFA-1	3335
Interchanges with: ISO 7241-A Parker 6600 Aeroquip 5600				

ANV Series

Coupler



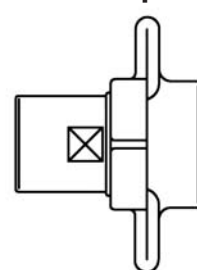
Tip



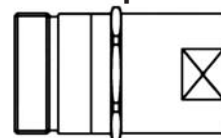
Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
FB-12-F	3/4	3/4	TMFB-12S	3625
FB-12-M	3/4	3/4	TFFB-12S	3625
FB-16-F	1	1	TMFB-16S	3335
FB-16-M	1	1	TFFB-16S	3335
FB-20-F	1 1/4	1 1/4	TMFB-20S	3045
FB-20-M	1 1/4	1 1/4	TFFB-20S	3045
Interchanges with: Parker 6100 Aeroquip 5100				

FB Series

Coupler



Tip

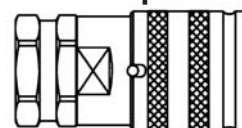


Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
FF-38-F*	3/8	3/8	TMF-38	4350
FF-38-M*	3/8	3/8	TFF-38	4350
FF-38-12-F*	3/8	1/2	TMF-38	4350
FF-38-12-M*	3/8	1/2	TFF-38	4350
FF-12-F	1/2	1/2		3650
FF-12-M	1/2	1/2		3650
FF-34-F	3/4	3/4		3650
FF-34-M	3/4	3/4		3650
*Complies with: HTMA Standards ISO 16028				

FF Series

Flush Face

Coupler



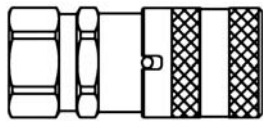
Tip



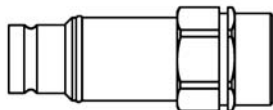
Quick Disconnects

FFI Series

Coupler



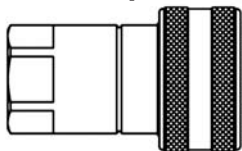
Tip



Dash Size	Body Size	Thread (NPT)	WP PSI
FFI-12-F	1/2	1/2	3625
FFI-12-M	1/2	1/2	3625
FFI-34-F	3/4	3/4	3625
FFI-34-M	3/4	3/4	3625
Interchanges with: ISO 16028			

HNV Series

Coupler



Tip



Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
HNV-18-F	1/8	1/8		5800
HNV-18-M	1/8	1/8		5800
HNV-14-F	1/4	1/4	TMH-14	5075
HNV-14-M	1/4	1/4	TFH-14	5075
HNV-38-F	3/8	3/8	TMH-38	4350
HNV-38-M	3/8	3/8	TFH-38	4350
HNV-12-F	1/2	1/2	TMH-12	4060
HNV-12-M	1/2	1/2	TFH-12	4060
HNV-34-F	3/4	3/4	TMH-34	2610
HNV-34-M	3/4	3/4	TFH-34	2610
HNV-1-F	1	1	TMH-1	2175
HNV-1-M	1	1	TFH-1	2175
Also available in brass and stainless on request. Interchanges with: ISO 7241-B Parker 60 Aeroquip FD45				

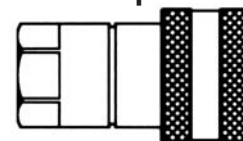
Quick Disconnects

Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
NV-14-F	1/4	1/4	TM-14	5075
NV-14-M	1/4	1/4	TF-14	5075
NV-38-F	3/8	3/8	TM-38	4550
NV-38-M	3/8	3/8	TF-38	4550
NV-12-F*	1/2	1/2	TM-12	3625
NV-12-M*	1/2	1/2	TF-12	3625
NV-34-UNF-F*	1/2	3/4-16 (UNF)	TM-12	3625
NV-34-UNF-M*	1/2	3/4-16 (UNF)	TF-12	3625
NV-34-F	1/2	3/4	TM-12	3625
NV-34-M	1/2	3/4	TF-12	3625
NV-34-F	3/4	3/4	TM-34	3625
NV-34-M	3/4	3/4	TF-34	3625
NV-1-F	1	1	TM-1	3335
NV-1-M	1	1	TF-1	3335
Interchanges with: Pioneer 4000 *ISO 7241-A				

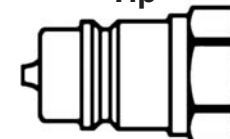
NV Series

AG

Coupler



Tip

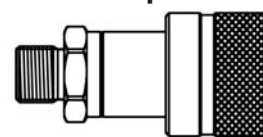


Dash Size	Body Size	T1 (NPT)	WP PSI
PVVM-1/14-F	1/4	1/4	10000
PVVM-14-M	1/4	1/4	10000
PVVM-1/38-F	3/8	3/8	10000
PVVM-38-M	3/8	3/8	10000
Screw to Connect - High Pressure Interchanges with: Parker 3000			

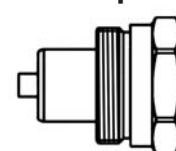
PVVM Series

NPT Thread

Coupler



Tip

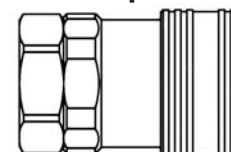


Dash Size	Body Size	T1 (NPT)	WP PSI
TNV-4-F	1/4	1/4	4000
TNV-4-M	1/4	1/4	4000
TNV-6-F	3/8	3/8	4350
TNV-6-M	3/8	3/8	4350
TNV-8-F	1/2	1/2	3200
TNV-8-M	1/2	1/2	3200
TNV-12-F	3/4	3/4	2750
TNV-12-M	3/4	3/4	2750
TNV-16-F	1	1	2175
TNV-16-M	1	1	2175
Interchanges with: Snaptite H Series			

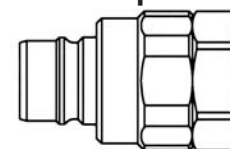
TNV Series

Quick Connect

Coupler



Tip



S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Brass

STEEL1-169

ACCESSORIES170-181

BRASS182-236

Hose Barb Fittings183-186

Push-On Hose Barb187-190

SAE 45° Adapters191-195

Compression Adapters196-201

Pipe Adapters202-208

Poly Push Fittings209-213

Poly Flow Fittings214-217

Push-In D.O.T.218-220

Air Brake Fittings221-224

Neddle Valves/Drain225-228

Inverted Flare Adapt229-232

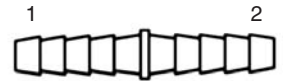
Garden Hose Fittings233-236

Brass Hose Barb Fittings

Dash Size	Stock Materials S FG SS BR			T1 (Hose I.D.)	T2 (Hose I.D.)
02			BR	1/8	1/8
03			BR	3/16	3/16
04			BR	1/4	1/4
05			BR	5/16	5/16
06			BR	3/8	3/8
08			BR	1/2	1/2
10			BR	5/8	5/8
12			BR	3/4	3/4
16			BR	1	1

4200

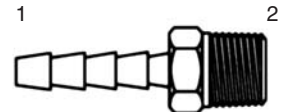
Hose Splicer



Dash Size	Stock Materials S FG SS BR			T1 (Hose I.D.)	T2 (NPTF)
02-01			BR	1/8	1/16-27
02-02			SS BR	1/8	1/8-27
02-04			SS BR	1/8	1/4-18
03-02			BR	3/16	1/8-27
03-04			BR	3/16	1/4-18
04-02			SS BR	1/4	1/8-27
04-04			SS BR	1/4	1/4-18
04-06			SS BR	1/4	3/8-18
04-08			SS BR	1/4	1/2-14
05-02			BR	5/16	1/8-27
05-04			BR	5/16	1/4-18
05-06			BR	5/16	3/8-18
06-02			BR	3/8	1/8-27
06-04			SS BR	3/8	1/4-18
06-06			SS BR	3/8	3/8-18
06-08			SS BR	3/8	1/2-14
06-12			BR	3/8	3/4-14
08-04			SS BR	1/2	1/4-18
08-06			SS BR	1/2	3/8-18
08-08			SS BR	1/2	1/2-14
08-12			SS BR	1/2	3/4-14
10-06			BR	5/8	3/8-18
10-08			SS BR	5/8	1/2-14
10-12			BR	5/8	3/4-14
12-06			BR	3/4	3/8-18
12-08			SS BR	3/4	1/2-14
12-12			SS BR	3/4	3/4-14
16-12			SS BR	1	3/4-14
16-16			SS BR	1	1-11 1/2
20-16			BR	1 1/4	1-11 1/2

4244

Hose Barb to Pipe



S= Steel

FG=Forging

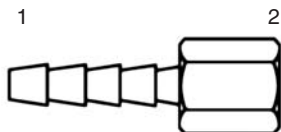
SS=Stainless Steel

BR=Brass

Brass Hose Barb Fittings

4245

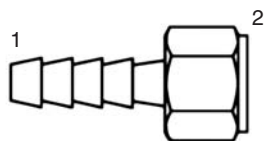
**Hose Barb
to Pipe (RIGID)**



Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (NPTF)
02-02				BR	1/8	1/8-27
02-04				BR	1/8	1/4-18
03-02				BR	3/16	1/8-27
03-04				BR	3/16	1/4-18
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
04-06				BR	1/4	3/8-18
05-02				BR	5/16	1/8-27
05-04				BR	5/16	1/4-18
05-06				BR	5/16	3/8-18
06-02				BR	3/8	1/8-27
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
06-08				BR	3/8	1/2-14
08-04				BR	1/2	1/4-18
08-06				BR	1/2	3/8-18
08-08				BR	1/2	1/2-14
12-12				BR	3/4	3/4-14
16-12				BR	1	3/4-14

4245-S

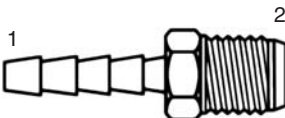
**Hose Barb
to Ball Seat
Pipe Swivel**



Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (NPTF)
04-04				BR	1/4	1/4-18
04-06				BR	1/4	3/8-18
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
08-06				BR	1/2	3/8-18
08-08				BR	1/2	1/2-14
12-12				BR	3/4	3/4-14

4250

**Hose Barb to
SAE 45° Flare**



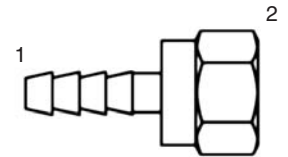
Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (UNF)
04-04				BR	1/4	7/16-20
04-06				BR	1/4	5/8-18
05-05				BR	5/16	1/2-20
06-06				BR	3/8	5/8-18
08-08				BR	1/2	3/4-16

Brass Hose Barb Fittings

Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (UNF)
04-04				BR	1/4	7/16-20
04-06				BR	1/4	9/16-18
04-06 SAE				BR	1/4	5/8-18
06-06				BR	3/8	9/16-18
06-06 SAE				BR	3/8	5/8-18
08-08				BR	1/2	3/4-16
10-10				BR	5/8	7/8-14
12-12				BR	3/4	1 1/16-12
12-12 SAE				BR	3/4	1 1/16-14

4255

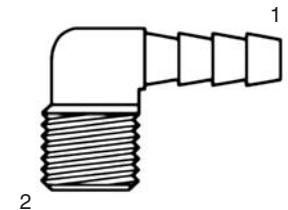
Hose Barb to JIC Swivel



Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (NPTF)
02-04		FG		BR	1/8	1/4-18
03-02		FG		BR	3/16	1/8-27
04-02		FG		BR	1/4	1/8-27
04-04		FG		BR	1/4	1/4-18
04-06		FG		BR	1/4	3/8-18
05-02		FG		BR	5/16	1/8-27
05-04		FG		BR	5/16	1/4-18
05-06		FG		BR	5/16	3/8-18
06-02		FG		BR	3/8	1/8-27
06-04		FG		BR	3/8	1/4-18
06-06		FG		BR	3/8	3/8-18
06-08		FG		BR	3/8	1/2-14
08-04		FG		BR	1/2	1/4-18
08-06		FG		BR	1/2	3/8-18
08-08		FG		BR	1/2	1/2-14
10-06		FG		BR	5/8	3/8-18
10-08		FG		BR	5/8	1/2-14
12-08		FG		BR	3/4	1/2-14
12-12		FG		BR	3/4	3/4-14
16-12		FG		BR	1	3/4-14

4290

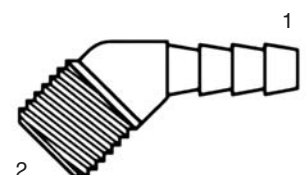
Hose Barb to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR				T1 (Hose I.D.)	T2 (NPTF)
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
06-02				BR	3/8	1/8-27
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
08-06				BR	1/2	3/8-18
10-06				BR	5/8	3/8-18

4295

Hose Barb to Pipe Elbow 45°



S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Brass Hose Barb Fittings

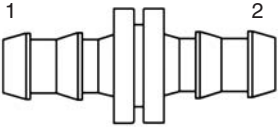
BFL

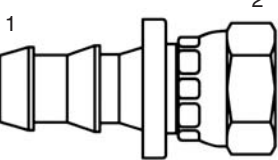
Brass Ferrule

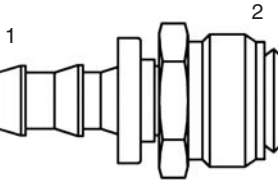


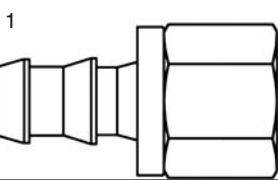
Dash Size	Stock Materials S FG SS BR	Ferrule I.D.
450	BR	.450
475	BR	.475
500	BR	.500
525	BR	.525
550	BR	.550
575	BR	.575
600	BR	.600
625	BR	.625
650	BR	.650
675	BR	.675
700	BR	.700
725	BR	.725
750	BR	.750
775	BR	.775
800	BR	.800
850	BR	.850
900	BR	.900
925	BR	.925
950	BR	.950
975	BR	.975
1000	BR	1.000
1025	BR	1.025
1100	BR	1.100
1225	BR	1.225
1350	BR	1.350

Brass Push-On Hose Barb Fittings

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (Hose I.D.)	4300 Hose Splicer
04	BR	1/4	1/4	
05	BR	5/16	5/16	
06	BR	3/8	3/8	
08	BR	1/2	1/2	
10	BR	5/8	5/8	
12	BR	3/4	3/4	

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (UNF)	4301 Hose Barb to SAE 45° Swivel
04-04	BR	1/4	7/16-20	
04-05	BR	1/4	1/2-20	
04-06	BR	1/4	5/8-18	
05-06	BR	5/16	5/8-18	
06-06	BR	3/8	5/8-18	
06-08	BR	3/8	3/4-16	
08-06	BR	1/2	5/8-18	
08-08	BR	1/2	3/4-16	
08-10	BR	1/2	7/8-14	
10-08	BR	5/8	3/4-16	
10-10	BR	5/8	7/8-14	
12-12	BR	3/4	1 1/16-14	

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (UNF)	4303 Hose Barb to SAE 45° Inverted Flare
04-03	BR	1/4	3/8-24	
04-04	BR	1/4	7/16-20	
04-05	BR	1/4	1/2-20	
05-04	BR	5/16	7/16-20	
05-05	BR	5/16	1/2-20	
05-06	BR	5/16	5/8-18	
06-05	BR	3/8	1/2-20	
06-06	BR	3/8	5/8-18	
06-08	BR	3/8	3/4-16	
08-08	BR	1/2	3/4-16	
10-10	BR	5/8	7/8-14	

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (UNF)	4305 Hose Barb to SAE 45° Inverted Flare Swivel
04-03	BR	1/4	3/8-24	
04-04	BR	1/4	7/16-20	
04-05	BR	1/4	1/2-20	
06-05	BR	3/8	1/2-20	
06-06	BR	3/8	5/8-18	
08-08	BR	1/2	3/4-16	

S= Steel

FG=Forging

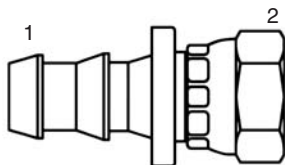
SS=Stainless Steel

BR=Brass

Brass Push-On Hose Barb Fittings

4311

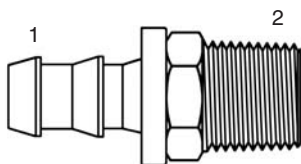
Hose Barb to JIC Swivel



Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (UNF)
04-04	BR	1/4	7/16-20
04-05	BR	1/4	1/2-20
04-06	BR	1/4	9/16-18
06-05	BR	3/8	1/2-20
06-06	BR	3/8	9/16-18
06-08	BR	3/8	3/4-16
08-08	BR	1/2	3/4-16
08-10	BR	1/2	7/8-14
10-08	BR	5/8	3/4-16
10-10	BR	5/8	7/8-14
12-10	BR	3/4	7/8-14
12-12	BR	3/4	1 1/16-12

4312

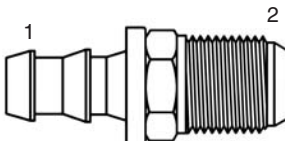
Hose Barb to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-04	BR	1/2	1/4-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
08-12	BR	1/2	3/4-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14
10-12	BR	5/8	3/4-14
12-08	BR	3/4	1/2-14
12-12	BR	3/4	3/4-14

4313

Hose Barb to JIC



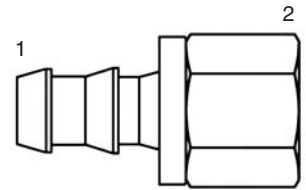
Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (UNF)
04-04	BR	1/4	7/16-20
04-06	BR	1/4	9/16-18
06-06 SAE	BR	3/8	5/8-18
06-06	BR	3/8	9/16-18
06-08	BR	3/8	3/4-16
08-08	BR	1/2	3/4-16

Brass Push-On Hose Barb Fittings

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
05-04	BR	5/16	1/4-18
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14

4315

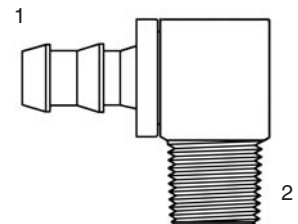
Hose Barb to Pipe



Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-08	BR	5/8	1/2-14
10-12	BR	5/8	3/4-14
12-12	BR	3/4	3/4-14

4390

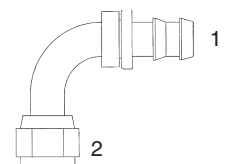
Hose Barb to Pipe Elbow 90°

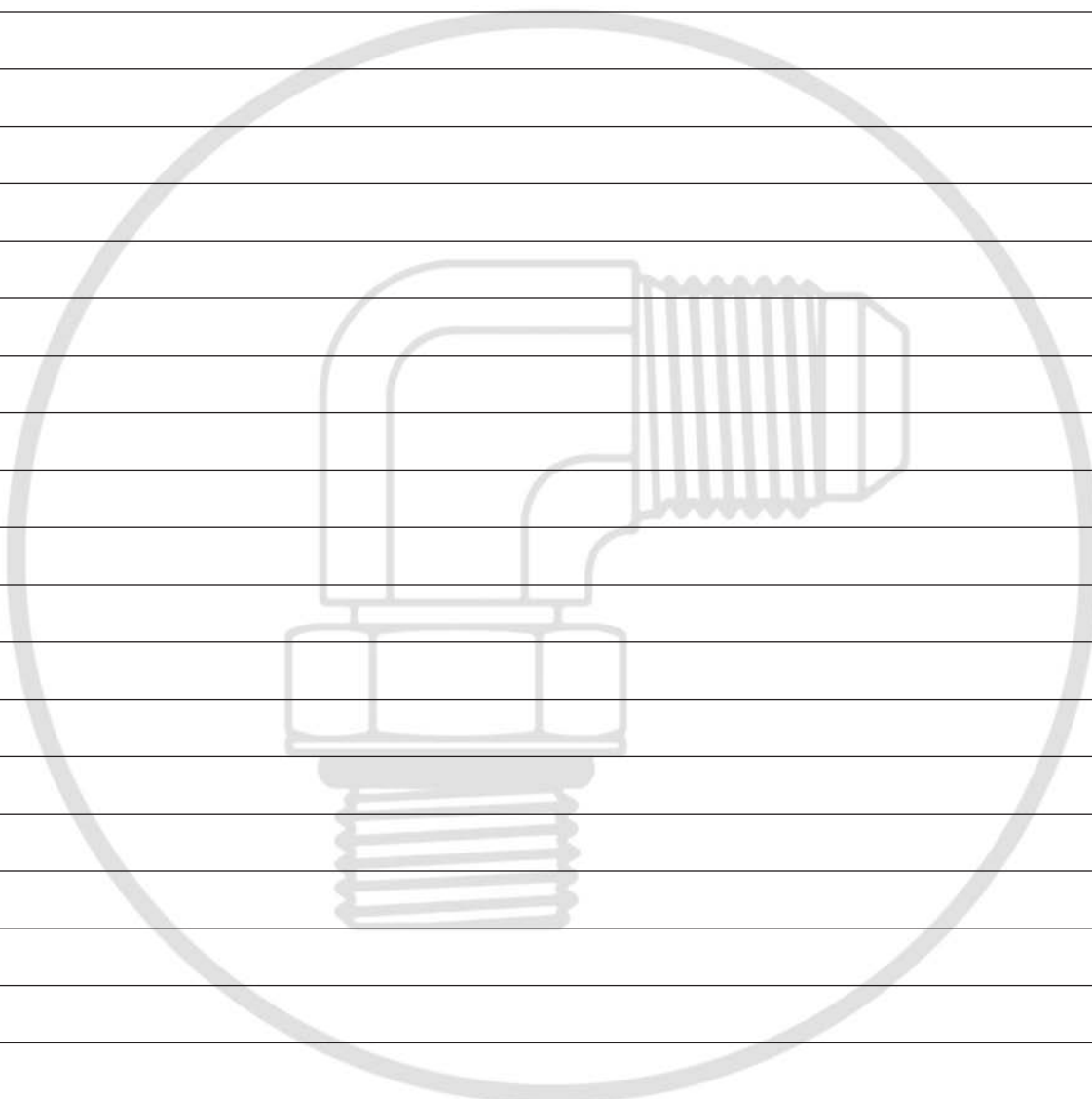


Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (NPTF)
04-04	S	1/4	1/8-27
06-06	S	3/8	3/8-18
08-08	S	1/2	1/2-14

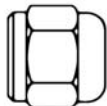
4330

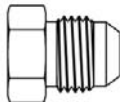
Hose Barb to JIC Swivel 90° Bent Tube

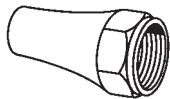


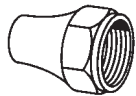


Brass SAE 45° Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	40C SAE Cap
03	BR	3/8-24	
04	BR	7/16-20	
05	BR	1/2-20	
06	BR	5/8-18	
08	BR	3/4-16	
10	BR	7/8-14	
12	BR	1 1/16-14	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	40P SAE Plug
03	BR	3/8-24	
04	BR	7/16-20	
05	BR	1/2-20	
06	BR	5/8-18	
08	BR	3/4-16	
10	BR	7/8-14	
12	BR	1 1/16-14	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	41 SAE Long Nut
02	BR	5/16-24	
03	BR	3/8-24	
04	BR	7/16-20	
05	BR	1/2-20	
06	BR	5/8-18	
08	BR	3/4-16	
10	BR	7/8-14	
12	BR	1 1/16-14	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	41S SAE Short Nut
02	BR	5/16-24	
03	BR	3/8-24	
04	BR	7/16-20	
05	BR	1/2-20	
06	BR	5/8-18	
07	BR	11/16-16	
08	BR	3/4-16	
10	BR	7/8-14	
12	BR	1 1/16-14	

Brass SAE 45° Adapters

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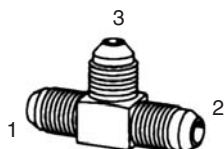
SAE Tube Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
02	BR	5/16-24	5/16-24
03	BR	3/8-24	3/8-24
04	BR	7/16-20	7/16-20
05-04	BR	1/2-20	7/16-20
05	BR	1/2-20	1/2-20
06-04	BR	5/8-18	7/16-20
06-05	BR	5/8-18	1/2-20
06	BR	5/8-18	5/8-18
08-06	BR	3/4-16	5/8-18
08	BR	3/4-16	3/4-16
10-06	BR	7/8-14	5/8-18
10-08	BR	7/8-14	3/4-16
10	BR	7/8-14	7/8-14
12-08	BR	1 1/16-14	3/4-16
12	BR	1 1/16-14	1 1/16-14

44

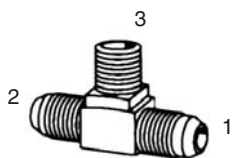
SAE Tube Union Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
02	BR	5/16-24	5/16-24	5/16-24
03	BR	3/8-24	3/8-24	3/8-24
04	BR	7/16-20	7/16-20	7/16-20
05	BR	1/2-20	1/2-20	1/2-20
06-06-04	BR	5/8-18	5/8-18	7/16-20
06	BR	5/8-18	5/8-18	5/8-18
06-06-08	BR	5/8-18	5/8-18	3/4-16
08-08-06	BR	3/4-16	3/4-16	5/8-18
08	BR	3/4-16	3/4-16	3/4-16
10-10-06	BR	7/8-14	7/8-14	5/8-18
10-10-08	BR	7/8-14	7/8-14	3/4-16
10	BR	7/8-14	7/8-14	7/8-14
12	BR	1 1/16-14	1 1/16-14	1 1/16-14

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SAE Tube to Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (NPTF)
02-02-02	BR	5/16-24	5/16-24	1/8-27
03-03-02	BR	3/8-24	3/8-24	1/8-27
04-04-02	BR	7/16-20	7/16-20	1/8-27
04-04-04	BR	7/16-20	7/16-20	1/4-18
04-04-06	BR	7/16-20	7/16-20	3/8-18
05-05-02	BR	1/2-20	1/2-20	1/8-27
05-05-04	BR	1/2-20	1/2-20	1/4-18
06-06-02	BR	5/8-18	5/8-18	1/8-27
06-06-04	BR	5/8-18	5/8-18	1/4-18
06-06-06	BR	5/8-18	5/8-18	3/8-18
06-06-08	BR	5/8-18	5/8-18	1/2-14
08-08-04	BR	3/4-16	3/4-16	1/4-18
08-08-06	BR	3/4-16	3/4-16	3/8-18
08-08-08	BR	3/4-16	3/4-16	1/2-14
10-10-06	BR	7/8-14	7/8-14	3/8-18
10-10-08	BR	7/8-14	7/8-14	1/2-14
12-12-08	BR	1 1/16-14	1 1/16-14	1/2-14
12-12-12	BR	1 1/16-14	1 1/16-14	3/4-14

Brass SAE 45° Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
03-04	BR	3/8-24	1/4-18
04-02	BR	7/16-20	1/8-27
04-04	BR	7/16-20	1/4-18
04-06	BR	7/16-20	3/8-18
04-08	BR	7/16-20	1/2-14
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
06-08	BR	5/8-18	1/2-14
06-12	BR	5/8-18	3/4-14
08-04	BR	3/4-16	1/4-18
08-06	BR	3/4-16	3/8-18
08-08	BR	3/4-16	1/2-14
08-12	BR	3/4-16	3/4-14
10-06	BR	7/8-14	3/8-18
10-08	BR	7/8-14	1/2-14
10-12	BR	7/8-14	3/4-14
12-08	BR	1 1/16-14	1/2-14
12-12	BR	1 1/16-14	3/4-14

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**SAE Tube
to Pipe**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
03-04	BR	3/8-24	1/4-18
04-02	BR	7/16-20	1/8-27
04-04	BR	7/16-20	1/4-18
04-06	BR	7/16-20	3/8-18
04-08	BR	7/16-20	1/2-14
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
05-06	BR	1/2-20	3/8-18
05-08	BR	1/2-20	1/2-14
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
06-08	BR	5/8-18	1/2-14
06-12	BR	5/8-18	3/4-14
08-04	BR	3/4-16	1/4-18
08-06	BR	3/4-16	3/8-18
08-08	BR	3/4-16	1/2-14
08-12	BR	3/4-16	3/4-14
10-04	BR	7/8-14	1/4-18
10-06	BR	7/8-14	3/8-18
10-08	BR	7/8-14	1/2-14
10-12	BR	7/8-14	3/4-14
12-08	BR	1 1/16-14	1/2-14
12-12	BR	1 1/16-14	3/4-14
14-12	BR	1 1/4-12	3/4-14
16-12	BR	1 3/8-12	3/4-14
16-16	BR	1 3/8-12	1-11 1/2

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**SAE Tube
to Pipe**



S= Steel

FG=Forging

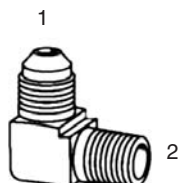
SS=Stainless Steel

BR=Brass

Brass SAE 45° Adapters

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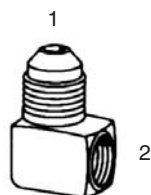
SAE Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
03-04	BR	3/8-24	1/4-18
04-02	BR	7/16-20	1/8-27
04-04	BR	7/16-20	1/4-18
04-06	BR	7/16-20	3/8-18
04-08	BR	7/16-20	1/2-14
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
05-06	BR	1/2-20	3/8-18
05-08	BR	1/2-20	1/2-14
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
06-08	BR	5/8-18	1/2-14
06-12	BR	5/8-18	3/4-14
08-04	BR	3/4-16	1/4-18
08-06	BR	3/4-16	3/8-18
08-08	BR	3/4-16	1/2-14
08-12	BR	3/4-16	3/4-14
10-04	BR	7/8-14	1/4-18
10-06	BR	7/8-14	3/8-18
10-08	BR	7/8-14	1/2-14
10-12	BR	7/8-14	3/4-14
12-08	BR	1 1/16-14	1/2-14
12-12	BR	1 1/16-14	3/4-14
14-12	BR	1 1/4-12	3/4-14

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SAE Tube to Pipe Elbow 90°



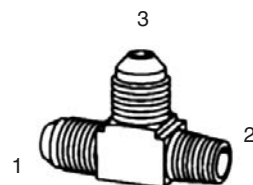
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-20	1/8-27
04-04	BR	7/16-20	1/4-18
04-06	BR	7/16-20	3/8-18
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
06-08	BR	5/8-18	1/2-14
06-12	BR	5/8-18	3/4-14
08-04	BR	3/4-16	1/4-18
08-06	BR	3/4-16	3/8-18
08-08	BR	3/4-16	1/2-14
08-12	BR	3/4-16	3/4-14
10-06	BR	7/8-14	3/8-18
10-08	BR	7/8-14	1/2-14
10-12	BR	7/8-14	3/4-14
12-08	BR	1 1/16-14	1/2-14
12-12	BR	1 1/16-14	3/4-14
14-12	BR	1 1/4-12	3/4-14

Brass SAE 45° Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	T3 (UNF)
03-02-03	BR	3/8-24	1/8-27	3/8-24
04-02-04	BR	7/16-20	1/8-27	7/16-20
04-04-04	BR	7/16-20	1/4-18	7/16-20
05-02-05	BR	1/2-20	1/8-27	1/2-20
05-04-05	BR	1/2-20	1/4-18	1/2-20
06-02-06	BR	5/8-18	1/8-27	5/8-18
06-04-06	BR	5/8-18	1/4-18	5/8-18
06-06-06	BR	5/8-18	3/8-18	5/8-18
06-08-06	BR	5/8-18	1/2-14	5/8-18
08-04-08	BR	3/4-16	1/4-18	3/4-16
08-06-08	BR	3/4-16	3/8-18	3/4-16
08-08-08	BR	3/4-16	1/2-14	3/4-16
10-06-10	BR	7/8-14	3/8-18	7/8-14
10-08-10	BR	7/8-14	1/2-14	7/8-14
10-12-12	BR	7/8-14	3/4-14	7/8-14
12-08-12	BR	1 1/16-14	1/2-14	1 1/16-14
12-12-12	BR	1 1/16-14	3/4-14	1 1/16-14

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SAE Tube to Pipe Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	BR	7/16-20	1/8-27
04-04	BR	7/16-20	1/4-18
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
06-08	BR	5/8-18	1/2-14
08-06	BR	3/4-16	3/8-18
08-08	BR	3/4-16	1/2-14
10-08	BR	7/8-14	1/2-14
12-08	BR	1 1/16-14	1/2-14
12-12	BR	1 1/16-14	3/4-14

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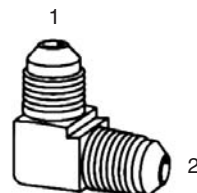
SAE Tube to Pipe Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
02	BR	5/16-24	5/16-24
03	BR	3/8-24	3/8-24
04	BR	7/16-20	7/16-20
05	BR	1/2-20	1/2-20
06-04	BR	5/8-18	7/16-20
06	BR	5/8-18	5/8-18
08-06	BR	3/4-16	5/8-18
08	BR	3/4-16	3/4-16
10-08	BR	7/8-14	3/4-16
10	BR	7/8-14	7/8-14
12-08	BR	1 1/16-14	3/4-16
12	BR	1 1/16-14	1 1/16-14
14	BR	1 1/4-12	1 1/4-12

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SAE Tube Union Elbow 90°



Brass Compression Adapters

60

Tube Sleeve



Dash Size	Stock Materials S FG SS BR	Tube Size
02	BR	1/8
03	BR	3/16
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2
10	BR	5/8
12	BR	3/4
14	BR	7/8

60-P

Delrin Tube Sleeve



Dash Size	Stock Materials S FG SS BR	Tube Size
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2
10	BR	5/8
12	BR	3/4

60-SA

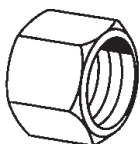
Self-Align Tube Sleeve



Dash Size	Stock Materials S FG SS BR	Tube Size
02	BR	1/8
03	BR	3/16
04	BR	1/4
06	BR	3/8
08	BR	1/2

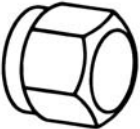
61

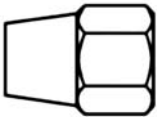
Tube Nut

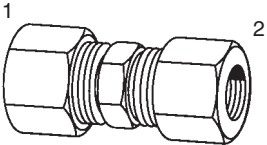


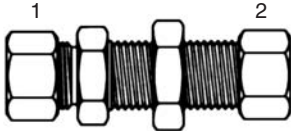
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)
02	BR	5/16-24
03	BR	3/8-24
04	BR	7/16-24
05	BR	1/2-24
06	BR	9/16-24
08	BR	11/16-20
10	BR	13/16-18
12	BR	1-18
14	BR	1 1/8-18

Brass Compression Adapters

Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	61-C
03	BR	3/16	Tube Cap 
04	BR	1/4	
06	BR	3/8	
08	BR	1/2	
10	BR	5/8	

Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	61-L
03	BR	3/8-24	Long Tube Nut 
04	BR	7/16-24	
05	BR	1/2-24	
06	BR	9/16-24	
08	BR	11/16-20	
10	BR	13/16-18	
12	BR	1-18	

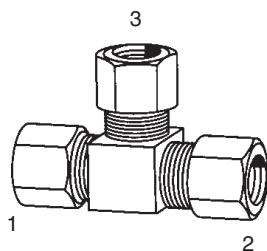
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (Tube Size)	62
02	BR	5/16-24	5/16-24	Tube Union 
03	BR	3/8-24	3/8-24	
04-02	BR	7/16-24	5/16-24	
04	BR	7/16-24	7/16-24	
05	BR	1/2-24	1/2-24	
06-04	BR	9/16-24	7/16-24	
06	BR	9/16-24	9/16-24	
08-06	BR	11/16-20	9/16-24	
08	BR	11/16-20	11/16-20	
10-08	BR	13/16-18	11/16-20	
10	BR	13/16-18	13/16-18	
12	BR	1-18	1-18	
14	BR	1 1/8-18	1 1/8-18	

Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (Tube Size)	62-BH
04	BR	7/16-24	7/16-24	Bulkhead Tube Union 
05	BR	1/2-24	1/2-24	
06	BR	9/16-24	9/16-24	
08	BR	11/16-20	11/16-20	

Brass Compression Adapters

64

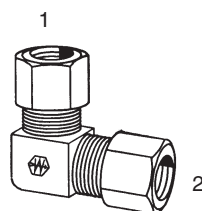
Tube Union Tee



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (Tube Size)	T3 (Tube Size)
02-02-02	BR	5/16-24	5/16-24	5/16-24
03-03-03	BR	3/8-24	3/8-24	3/8-24
04-04-04	BR	7/16-24	7/16-24	7/16-24
05-05-05	BR	1/2-24	1/2-24	1/2-24
06-06-04	BR	9/16-24	9/16-24	7/16-24
06-06-06	BR	9/16-24	9/16-24	9/16-24
08-08-06	BR	11/16-20	11/16-20	9/16-24
08-08-08	BR	11/16-20	11/16-20	9/16
10-10-10	BR	13/16-18	13/16-18	13/16-18
12-12-12	BR	1-18	1-18	1-18

65

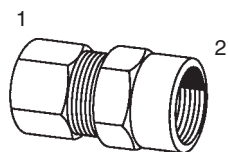
Tube Union Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (Tube Size)
02	BR	5/16-24	5/16-24
03	BR	3/8-24	3/8-24
04	BR	7/16-24	7/16-24
05	BR	1/2-24	1/2-24
06-04	BR	9/16-24	7/16-24
06	BR	9/16-24	9/16-24
08-06	BR	11/16-20	9/16-24
08	BR	11/16-20	11/16-20
10-08	BR	13/16-18	11/16-20
10	BR	13/16-18	13/16-18
12	BR	1-18	1-18

66

Tube to Pipe



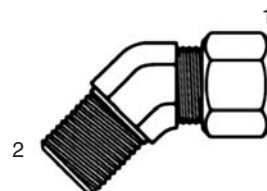
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
05-04	BR	1/2-24	1/4-18
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
06-08	BR	9/16-24	1/2-14
06-12	BR	9/16-24	3/4-14
08-04	BR	11/16-20	1/4-18
08-06	BR	11/16-20	3/8-18
08-08	BR	11/16-20	1/2-14
08-12	BR	11/16-20	3/4-14
10-06	BR	13/16-18	3/8-18
10-08	BR	13/16-18	1/2-14
10-12	BR	13/16-18	3/4-14
12-08	BR	1-18	1/2-14
12-12	BR	1-18	3/4-14

Brass Compression Adapters

Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
05-02	BR	1/2-24	1/8-27
05-04	BR	1/2-24	1/4-18
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
08-06	BR	11/16-20	3/8-18
08-08	BR	11/16-20	1/2-14
10-08	BR	13/16-18	1/2-14

67

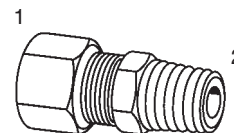
Tube to Pipe Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
03-04	BR	3/8-24	1/4-18
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
05-04	BR	1/2-24	1/4-18
05-06	BR	1/2-24	3/8-18
05-08	BR	1/2-24	1/2-14
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
06-08	BR	9/16-24	1/2-14
06-12	BR	9/16-24	3/4-14
08-04	BR	11/16-20	1/4-18
08-06	BR	11/16-20	3/8-18
08-08	BR	11/16-20	1/2-14
08-12	BR	11/16-20	3/4-14
10-06	BR	13/16-18	3/8-18
10-08	BR	13/16-18	1/2-14
10-12	BR	13/16-18	3/4-14
12-08	BR	1-18	1/2-14
12-12	BR	1-18	3/4-14
14-12	BR	1 1/8-18	3/4-14

68

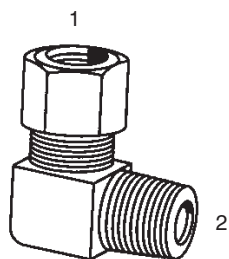
Tube to Pipe



Brass Compression Adapters

69

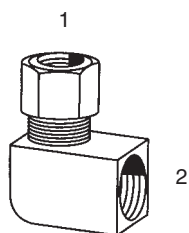
Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
03-04	BR	3/8-24	1/4-18
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
05-04	BR	1/2-24	1/4-18
05-06	BR	1/2-24	3/8-18
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
06-08	BR	9/16-24	1/2-14
06-12	BR	9/16-24	3/4-14
08-04	BR	11/16-20	1/4-18
08-06	BR	11/16-20	3/8-18
08-08	BR	11/16-20	1/2-14
08-12	BR	11/16-20	3/4-14
10-06	BR	13/16-18	3/8-18
10-08	BR	13/16-18	1/2-14
10-12	BR	13/16-18	3/4-14
12-08	BR	1-18	1/2-14
12-12	BR	1-18	3/4-14
14-12	BR	1 1/8-18	3/4-14

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Tube to Pipe Elbow 90°



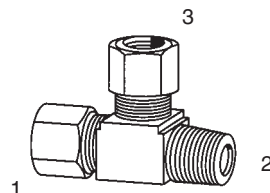
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
08-04	BR	11/16-20	1/4-18
08-06	BR	11/16-20	3/8-18
08-08	BR	11/16-20	1/2-14
10-06	BR	13/16-18	3/8-18
10-08	BR	13/16-18	1/2-14
10-12	BR	13/16-18	3/4-14
12-08	BR	1-18	1/2-14
12-12	BR	1-18	3/4-14

Brass Compression Adapters

Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)	T3 (Tube Size)
02-02-02	BR	5/16-24	1/8-27	5/16-24
03-02-03	BR	3/8-24	1/8-27	3/8-24
04-02-04	BR	7/16-24	1/8-27	7/16-24
04-04-04	BR	7/16-24	1/4-18	7/16-24
05-02-05	BR	1/2-24	1/8-27	1/2-24
05-04-05	BR	1/2-24	1/4-18	1/2-24
06-02-06	BR	9/16-24	1/8-27	9/16-24
06-04-06	BR	9/16-24	1/4-18	9/16-24
06-06-06	BR	9/16-24	3/8-18	9/16-24
08-06-08	BR	11/16-20	3/8-18	11/16-20
08-08-08	BR	11/16-20	1/2-14	11/16-20
10-08-10	BR	13/16-18	1/2-14	13/16-18
12-08-12	BR	1-18	1/2-14	1-18
12-12-12	BR	1-18	3/4-14	1-18

71

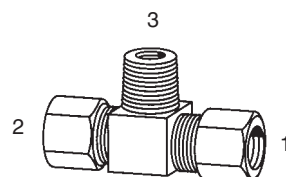
Tube to Pipe Run Tee



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (Tube Size)	T3 (NPTF)
02-02-02	BR	5/16-24	5/16-24	1/8-27
03-03-02	BR	3/8-24	3/8-24	1/8-27
04-04-02	BR	7/16-24	7/16-24	1/8-27
04-04-04	BR	7/16-24	7/16-24	1/4-18
05-05-02	BR	1/2-24	1/2-24	1/8-27
06-06-02	BR	9/16-24	9/16-24	1/8-27
06-06-04	BR	9/16-24	9/16-24	1/4-18
06-06-06	BR	9/16-24	9/16-24	3/8-18
08-08-04	BR	11/16-20	11/16-20	1/4-18
08-08-06	BR	11/16-20	11/16-20	3/8-18
08-08-08	BR	11/16-20	11/16-20	1/2-14
10-10-08	BR	13/16-18	13/16-18	1/2-14
12-12-08	BR	1-18	1-18	1/2-14
12-12-12	BR	1-18	1-18	3/4-14

72

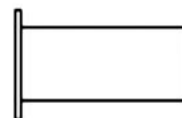
Tube to Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR	Tube Size	O.D.
02	BR	1/8	.08
03	BR	3/16	.135
04	BR	1/4	.163
05	BR	5/16	.215
06	BR	3/8	.250
08	BR	1/2	.372
10	BR	5/8	.483
12	BR	3/4	.563

73

Tube Insert

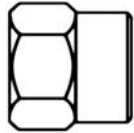


NOTE: All brass compression fittings are available with a self-align nut and sleeve. To order add "SA" after the base number. (Example 68-SA-2-2)

Brass Pipe Adapters

3129

Pipe Cap



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14
12	BR	3/4-14

3149

Hollow Hex Plug



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
01	BR	1/16-27
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14
12	BR	3/4-14

3150

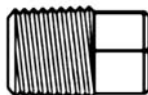
Slotted Plug



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18

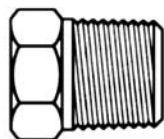
3151

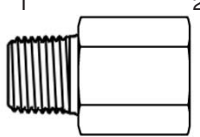
Square Head Plug

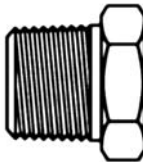


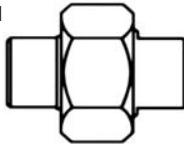
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14
12	BR	3/4-14
16	BR	1-11 1/2

Brass Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	3152	Hex Head Plug
01	BR	1/16-27		
02	BR	1/8-27		
04	BR	1/4-18		
06	BR	3/8-18		
08	BR	1/2-14		
12	BR	3/4-14		
16	BR	1-11 1/2		
				

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	3200 Pipe Expander/ Extender 
02-02	BR	1/8-27	1/8-27	
02-04	BR	1/8-27	1/4-18	
02-06	BR	1/8-27	3/8-18	
04-04	BR	1/4-18	1/4-18	
04-06	BR	1/4-18	3/8-18	
04-08	BR	1/4-18	1/2-14	
06-06	BR	3/8-18	3/8-18	
06-08	BR	3/8-18	1/2-14	
08-08	BR	1/2-14	1/2-14	
08-12	BR	1/2-14	3/4-14	
12-12	BR	3/4-14	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	3220 Hex Reducer Bushing 12
04-02	BR	1/4-18	1/8-27	
06-02	BR	3/8-18	1/8-27	
06-04	BR	3/8-18	1/4-18	
08-02	BR	1/2-14	1/8-27	
08-04	BR	1/2-14	1/4-18	
08-06	BR	1/2-14	3/8-18	
12-02	BR	3/4-14	1/8-27	
12-04	BR	3/4-14	1/4-18	
12-06	BR	3/4-14	3/8-18	
12-08	BR	3/4-14	1/2-14	
16-04	BR	1-11 1/2	1/4-18	
16-06	BR	1-11 1/2	3/8-18	
16-08	BR	1-11 1/2	1/2-14	
16-12	BR	1-11 1/2	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	3250 Pipe Swivel Union 1 2 
02-02	BR	1/8-27	1/8-27	
04-04	BR	1/4-18	1/4-18	
06-06	BR	3/8-18	3/8-18	
08-08	BR	1/2-14	1/2-14	
12-12	BR	3/4-14	3/4-14	

S= Steel

FG=Forging

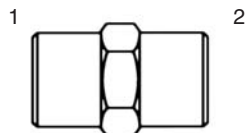
SS=Stainless Steel

BR=Brass

Brass Pipe Adapters

3300

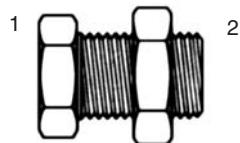
Pipe Coupling



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04-02	BR	1/4-18	1/8-27
04	BR	1/4-18	1/4-18
06-02	BR	3/8-18	1/8-27
06-04	BR	3/8-18	1/4-18
06	BR	3/8-18	3/8-18
08-04	BR	1/2-14	1/4-18
08-06	BR	1/2-14	3/8-18
08	BR	1/2-14	1/2-14
12-06	BR	3/4-14	3/8-18
12-08	BR	3/4-14	1/2-14
12	BR	3/4-14	3/4-14

3300-BH

Pipe Bulkhead Coupling

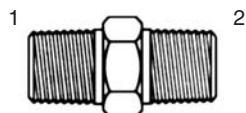


Dash Size	Stock Materials S FG SS BR	T1&T2 (NPTF)	BULKHEAD THREAD	Length*
02x1.5	BR	1/8-27	5/8-18	1.50"
04x.94	BR	1/4-18	3/4-16	.94"
04x1.5	BR	1/4-18	3/4-16	1.50"
06x1.3	BR	3/8-18	1-14	1.31"
08x1.5	BR	1/2-14	1-1/8-14	1.50"

*Length = Overall Length of Fitting

3325

Hex Nipple



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04-02	BR	1/4-18	1/8-27
04	BR	1/4-18	1/4-18
06-02	BR	3/8-18	1/8-27
06-04	BR	3/8-18	1/4-18
06	BR	3/8-18	3/8-18
08-04	BR	1/2-14	1/4-18
08-06	BR	1/2-14	3/8-18
08	BR	1/2-14	1/2-14
12-06	BR	3/4-14	3/8-18
12-08	BR	3/4-14	1/2-14
12	BR	3/4-14	3/4-14
16-12	BR	1-11 1/2	3/4-14
16	BR	1-11 1/2	1-11 1/2

3326

Close Nipple



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04	BR	1/4-18	1/4-18
06	BR	3/8-18	3/8-18
08	BR	1/2-14	1/2-14
12	BR	3/4-14	3/4-14
16	BR	1-11 1/2	1-11 1/2
20	BR	1 1/4-11 1/2	1 1/4-11 1/2

Brass Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	Length*
02-1.5"	BR	1/8-27	1/8-27	1.5"
02-2"	BR	1/8-27	1/8-27	2.0"
02-2.5"	BR	1/8-27	1/8-27	2.5"
02-3"	BR	1/8-27	1/8-27	3.0"
02-4"	BR	1/8-27	1/8-27	4.0"
02-6"	BR	1/8-27	1/8-27	6.0"
04-1.5"	BR	1/4-18	1/4-18	1.5"
04-2"	BR	1/4-18	1/4-18	2.0"
04-2.5"	BR	1/4-18	1/4-18	2.5"
04-3"	BR	1/4-18	1/4-18	3.0"
04-4"	BR	1/4-18	1/4-18	4.0"
04-6"	BR	1/4-18	1/4-18	6.0"
04-8"	BR	1/4-18	1/4-18	8.0"
06-1.5"	BR	3/8-18	3/8-18	1.5"
06-2"	BR	3/8-18	3/8-18	2.0"
06-2.5"	BR	3/8-18	3/8-18	2.5"
06-3"	BR	3/8-18	3/8-18	3.0"
06-4"	BR	3/8-18	3/8-18	4.0"
06-6"	BR	3/8-18	3/8-18	6.0"
08-1.5"	BR	1/2-14	1/2-14	1.5"
08-2"	BR	1/2-14	1/2-14	2.0"
08-2.5"	BR	1/2-14	1/2-14	2.5"
08-3"	BR	1/2-14	1/2-14	3.0"
08-4"	BR	1/2-14	1/2-14	4.0"
08-6"	BR	1/2-14	1/2-14	6.0"
12-2"	BR	3/4-14	3/4-14	2.0"
12-2.5"	BR	3/4-14	3/4-14	2.5"
12-3"	BR	3/4-14	3/4-14	3.0"
*Length = Overall Length of Fitting				

3327

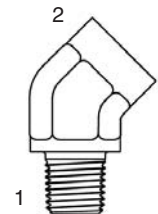
Long Nipple



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04	BR	1/4-18	1/4-18
06	BR	3/8-18	3/8-18
08	BR	1/2-14	1/2-14
12	BR	3/4-14	3/4-14
16	BR	1-11 1/2	1-11 1/2

3350

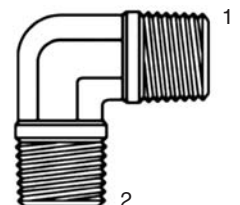
Street Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04	BR	1/4-18	1/4-18
06-04	BR	3/8-18	1/4-18
06	BR	3/8-18	3/8-18
08	BR	1/2-14	1/2-14

3390

Pipe Elbow 90°



S= Steel

FG=Forging

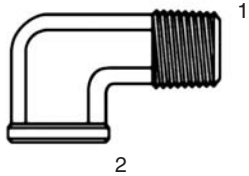
SS=Stainless Steel

BR=Brass

Brass Pipe Adapters

3400

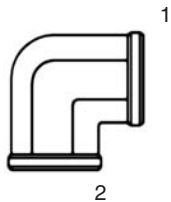
Street Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02W (Compact)	BR	1/8-27	1/8-27
04W (Compact)	BR	1/4-18	1/4-18
02	BR	1/8-27	1/8-27
02-04	BR	1/8-27	1/4-18
04-02	BR	1/4-18	1/8-27
04	BR	1/4-18	1/4-18
06-04	BR	3/8-18	1/4-18
06	BR	3/8-18	3/8-18
08	BR	1/2-14	1/2-14
12	BR	3/4-14	3/4-14

3500

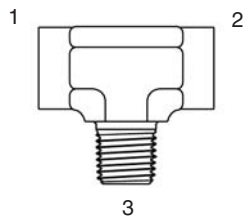
Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02	BR	1/8-27	1/8-27
04-02	BR	1/4-18	1/8-27
04	BR	1/4-18	1/4-18
06-04	BR	3/8-18	1/4-18
06	BR	3/8-18	3/8-18
08	BR	1/2-14	1/2-14
12	BR	3/4-14	3/4-14

3600

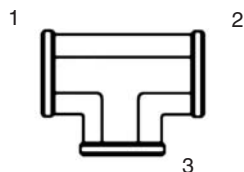
Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	BR	1/8-27	1/8-27	1/8-27
04	BR	1/4-18	1/4-18	1/4-18
06	BR	3/8-18	3/8-18	3/8-18
08	BR	1/2-14	1/2-14	1/2-14
12	BR	3/4-14	3/4-14	3/4-14

3700

Pipe Tee



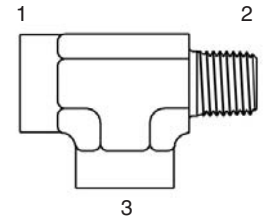
Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	BR	1/8-27	1/8-27	1/8-27
04	BR	1/4-18	1/4-18	1/4-18
06	BR	3/8-18	3/8-18	3/8-18
08	BR	1/2-14	1/2-14	1/2-14
12	BR	3/4-14	3/4-14	3/4-14

Brass Pipe Adapters

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	BR	1/8-27	1/8-27	1/8-27
04	BR	1/4-18	1/4-18	1/4-18
06	BR	3/8-18	3/8-18	3/8-18
08	BR	1/2-14	1/2-14	1/2-14
12	BR	3/4-14	3/4-14	3/4-14

3750

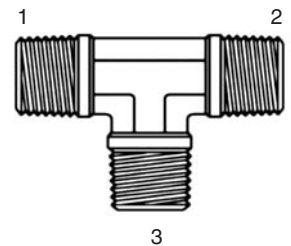
Street Tee



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
02	BR	1/8-27	1/8-27	1/8-27
04	BR	1/4-18	1/4-18	1/4-18
06	BR	3/8-18	3/8-18	3/8-18
08	BR	1/2-14	1/2-14	1/2-14
12	BR	3/4-14	3/4-14	3/4-14

3900

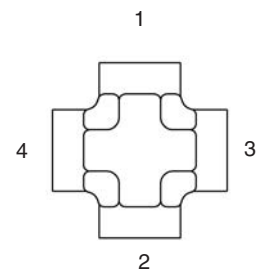
Pipe Tee



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
02	BR	1/8-27	1/8-27	1/8-27
04	BR	1/4-18	1/4-18	1/4-18
06	BR	3/8-18	3/8-18	3/8-18
08	BR	1/2-14	1/2-14	1/2-14
12	BR	3/4-14	3/4-14	3/4-14

3950

Pipe Cross

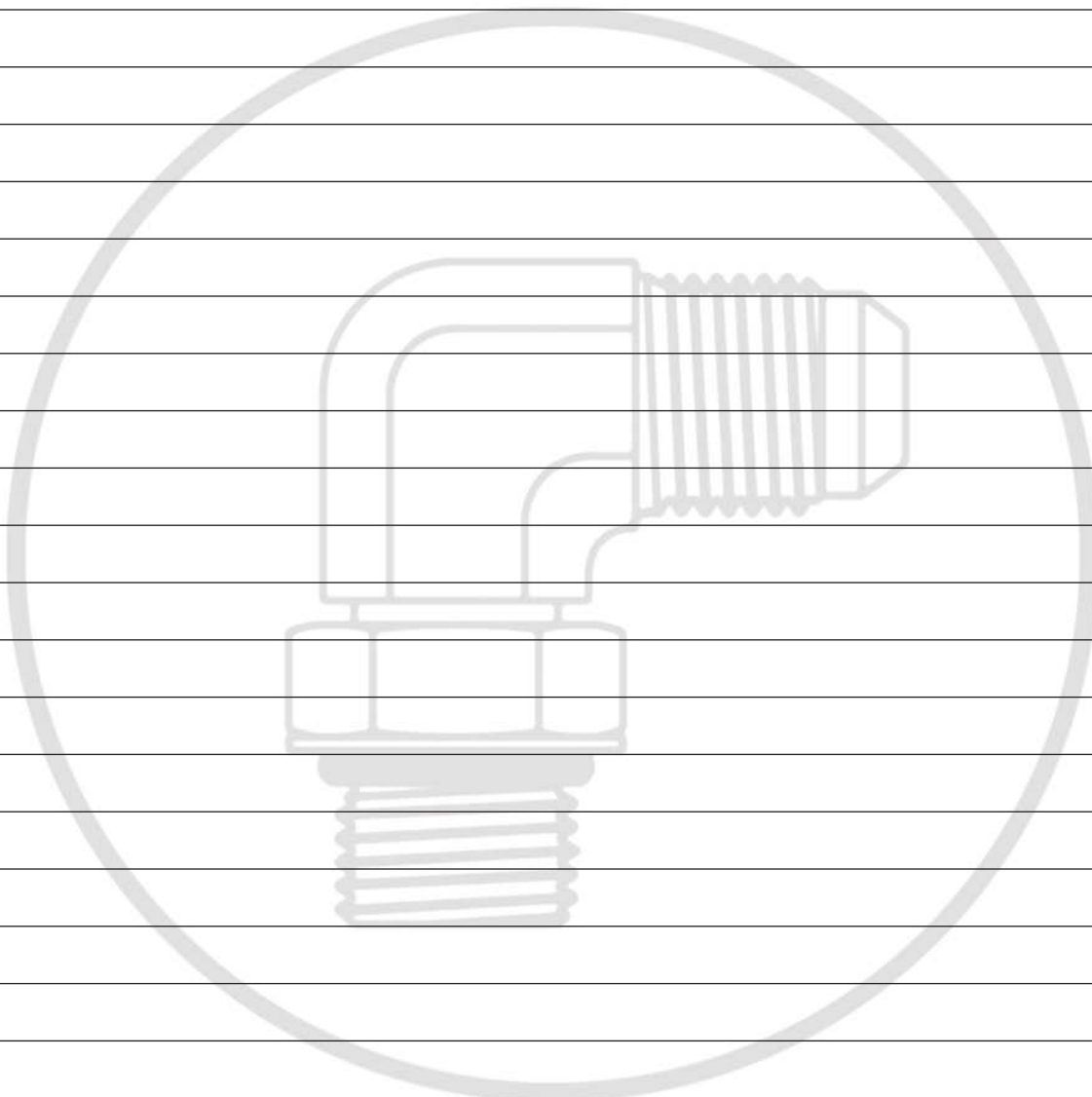


Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
01	BR	1/8-27
02	BR	1/4-18
03	BR	3/8-18
04	BR	1/2-14

BV

Breather Vent Plug



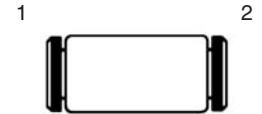


Brass Poly Push Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
02	BR	1/8	1/8
02.5	BR	5/32	5/32
04	BR	1/4	1/4
05	BR	5/16	5/16
06	BR	3/8	3/8
08	BR	1/2	1/2
Also available with nickel plating.			

262PP

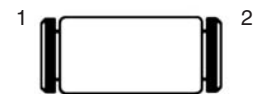
Tube Union



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
04-02	BR	1/4	1/8
04-02.5	BR	1/4	5/32
05-02.5	BR	5/16	5/32
05-04	BR	5/16	1/4
06-02	BR	3/8	1/8
06-02.5	BR	3/8	5/32
06-04	BR	3/8	1/4
06-05	BR	3/8	5/16
08-04	BR	1/2	1/4
08-06	BR	1/2	3/8
Also available with nickel plating.			

263PP

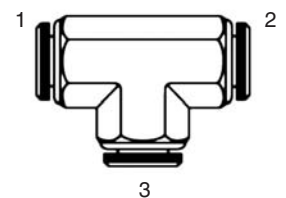
Tube Union Reducer



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	Tube Size
02	BR	1/8	1/8	1/8
02.5	BR	5/32	5/32	5/32
04	BR	1/4	1/4	1/4
05	BR	5/16	5/16	5/16
06	BR	3/8	3/8	3/8
08	BR	1/2	1/2	1/2
Also available with nickel plating.				

264PP

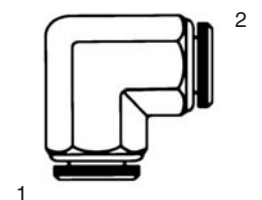
Tube Union Tee



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
02.5	BR	5/32	5/32
04	BR	1/4	1/4
05	BR	5/16	5/16
06	BR	3/8	3/8
08	BR	1/2	1/2
Also available with nickel plating.			

265PP

Tube Union Elbow 90°



Brass Poly Push Fittings

266PP

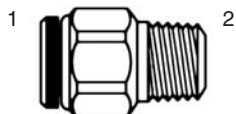
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-02	BR	1/8	1/8-27
02.5-02	BR	5/32	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
Also available with nickel plating.			

268PP

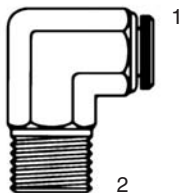
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-01	BR	1/8	1/16-27
02-02	BR	1/8	1/8-27
02.5-02	BR	5/32	1/8-27
02.5-04	BR	5/32	1/4-18
02.5-10/32	BR	5/32	10/32 UNF
03-02	BR	3/16	1/8-27
04-10/32	BR	1/4	10/32 UNF
04-01	BR	1/4	1/16-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
Also available with nickel plating.			

269PP

Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-01	BR	1/8	1/16-27
02-02	BR	1/8	1/8-27
02.5-02	BR	5/32	1/8-27
02.5-04	BR	5/32	1/4-18
03-02	BR	3/16	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
Also available with nickel plating.			

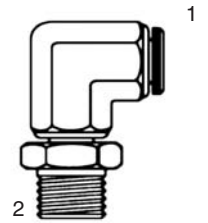
Brass Poly Push Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-02	BR	1/8	1/8-27
02-04	BR	1/8	1/4-18
02.5-02	BR	5/32	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14

Also available with nickel plating.

279PP

**Tube to Pipe
Swivel Elbow 90°**

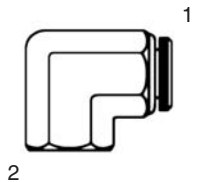


Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02.5-02	BR	5/32	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18

Also available with nickel plating.

270PP

**Tube to Pipe
Elbow 90°**

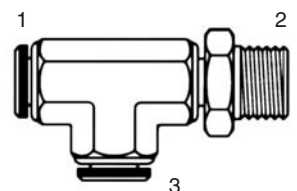


Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)	Tube Size
02.5-02-02.5	BR	5/32	1/8-27	5/32
04-02-04	BR	1/4	1/8-27	1/4
04-04-04	BR	1/4	1/4-18	1/4
05-02-05	BR	5/16	1/8-27	5/16
06-04-06	BR	3/8	1/4-18	3/8
08-06-08	BR	1/2	3/8-18	1/2
08-08-08	BR	1/2	1/2-14	1/2

Also available with nickel plating.

271PP

**Tube to Pipe
Swivel Run Tee**

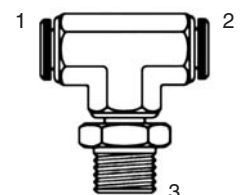


Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	T3 (NPTF)
02.5-02.5-02	BR	5/32	5/32	1/8-27
04-04-02	BR	1/4	1/4	1/8-27
04-04-04	BR	1/4	1/4	1/4-18
05-05-02	BR	5/16	5/16	1/8-27
06-06-04	BR	3/8	3/8	1/4-18
06-06-06	BR	3/8	3/8	3/8-18
08-08-06	BR	1/2	1/2	3/8-18
08-08-08	BR	1/2	1/2	1/2-14

Also available with nickel plating.

272PP

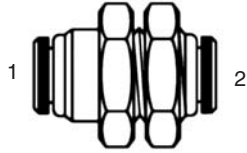
**Tube to
Pipe Swivel
Branch Tee**



Brass Poly Push Fittings

282PP

Tube Bulkhead Union



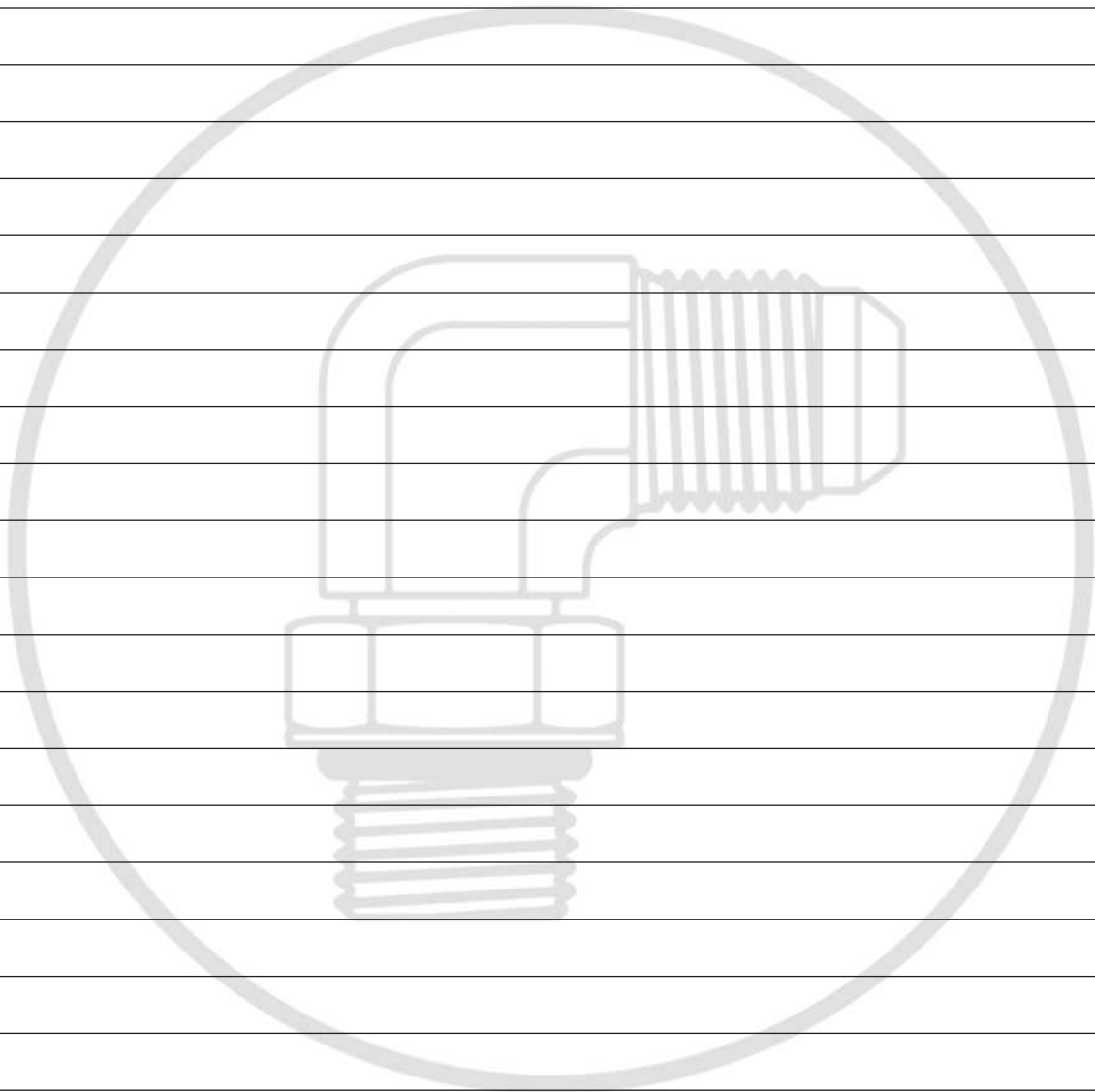
Dash Size	Stock Materials			Tube Size	Tube Size
	S	FG	SS BR		
02			BR	1/8	1/8
02.5			BR	5/32	5/32
04			BR	1/4	1/4
05			BR	5/16	5/16
06			BR	3/8	3/8
08			BR	1/2	1/2
Also available with nickel plating.					

284PP

Tube Plug



Dash Size	Stock Materials			Tube Size
	S	FG	SS BR	
02			BR	1/8
02.5			BR	5/32
04			BR	1/4
05			BR	5/16
06			BR	3/8
08			BR	1/2



Brass Poly Flow Fittings

260P

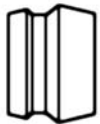
Nylon Sleeve



Dash Size	Tube Size
04	1/4
05	5/16
06	3/8
08	1/2

260PB

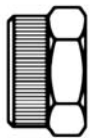
Brass Sleeve



Dash Size	Stock Materials S FG SS BR	Tube Size
02	BR	1/8
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2

261U

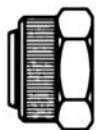
Brass Nut



Dash Size	Stock Materials S FG SS BR	Tube Size
02	BR	1/8
03	BR	3/16
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2

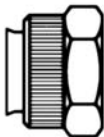
261P

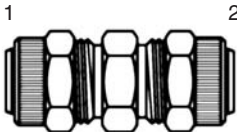
Brass Nut And Nylon Sleeve Assembly

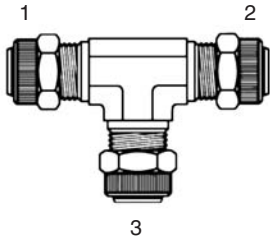


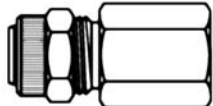
Dash Size	Stock Materials S FG SS BR	Tube Size
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2

Brass Poly Flow Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	261PB
02	BR	1/8	Brass Nut And Brass Sleeve 
04	BR	1/4	
06	BR	3/8	
08	BR	1/2	

Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	262P
02	BR	1/8	1/8	Tube Union 
03	BR	3/16	3/16	
04	BR	1/4	1/4	
05	BR	5/16	5/16	
06	BR	3/8	3/8	
08	BR	1/2	1/2	

Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	Tube Size	264P
02	BR	1/8	1/8	1/8	Tube Union Tee 
03	BR	3/16	3/16	3/16	
04	BR	1/4	1/4	1/4	
05	BR	5/16	5/16	5/16	
06	BR	3/8	3/8	3/8	
08	BR	1/2	1/2	1/2	

Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)	266P
02-02	BR	1/8	1/8-27	Tube to Pipe 
04-02	BR	1/4	1/8-27	
04-04	BR	1/4	1/4-18	
05-02	BR	5/16	1/8-27	
06-04	BR	3/8	1/4-18	
08-06	BR	1/2	3/8-18	

S= Steel

FG=Forging

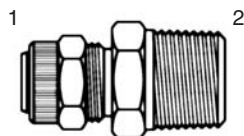
SS=Stainless Steel

BR=Brass

Brass Poly Flow Fittings

268P

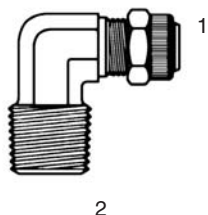
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-10/32	BR	1/8	10/32 UNF
02-01	BR	1/8	1/16-27
02-02	BR	1/8	1/8-27
03-02	BR	3/16	1/8-27
04-10/32	BR	1/4	10/32 UNF
04-01	BR	1/4	1/16-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14

269P

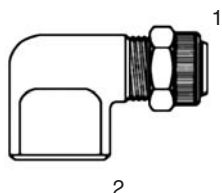
Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
02-02	BR	1/8	1/8-27
03-02	BR	3/16	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
05-02	BR	5/16	1/8-27
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18

270P

Tube to Pipe Elbow 90°



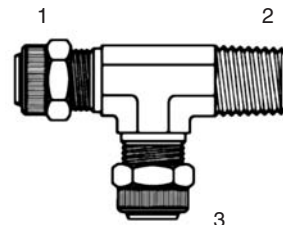
Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18
08-06	BR	1/2	3/8-18

Brass Poly Flow Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)	Tube Size
02-02-02	BR	1/8	1/8-27	1/8
04-02-04	BR	1/4	1/8-27	1/4
04-04-04	BR	1/4	1/4-18	1/4
05-02-05	BR	5/16	1/8-27	5/16
06-02-06	BR	3/8	1/8-27	3/8
06-04-06	BR	3/8	1/4-18	3/8
08-06-08	BR	1/2	3/8-18	1/2

271P

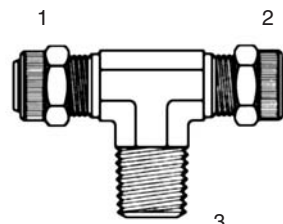
Tube to Pipe Run Tee



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	T3 (NPTF)
02-02-02	BR	1/8	1/8	1/8-27
04-04-02	BR	1/4	1/4	1/8-27
04-04-04	BR	1/4	1/4	1/4-18
05-05-02	BR	5/16	5/16	1/8-27
06-06-02	BR	3/8	3/8	1/8-27
06-06-04	BR	3/8	3/8	1/4-18
08-08-06	BR	1/2	1/2	3/8-18

272P

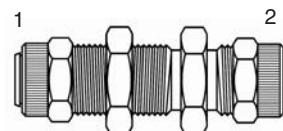
Tube to Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
04	BR	1/4	1/4
05	BR	5/16	5/16
06	BR	3/8	3/8
08	BR	1/2	1/2

282P

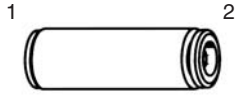
Tube Bulkhead Union



Brass Push-In D.O.T. Fittings

1562

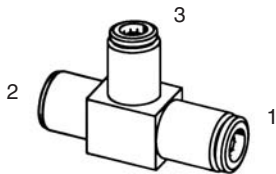
Tube Union



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size
04				BR	1/4	1/4
5/32				BR	5/32	5/32
06				BR	3/8	3/8
08				BR	1/2	1/2

1564

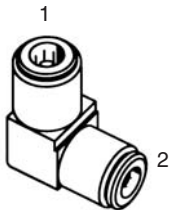
Tube Union Tee



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size	Tube Size
04				BR	1/4	1/4	1/4
06				BR	3/8	3/8	3/8
08				BR	1/2	1/2	1/2

1565

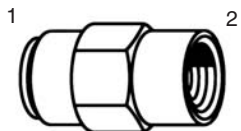
Tube Union Elbow 90°



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size
04				BR	1/4	1/4
06				BR	3/8	3/8
08				BR	1/2	1/2

1566

Tube to Pipe



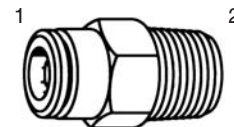
Dash Size	Stock Materials S FG SS BR				Tube Size	T2 (NPTF)
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
08-08				BR	1/2	1/2-14

Brass Push-In D.O.T. Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
5/32-01	BR	5/32	1/16-27
5/32-02	BR	5/32	1/8-27
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-04	BR	1/2	1/4-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14

1568

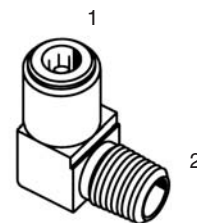
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
5/32-02	BR	5/32	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-04	BR	1/2	1/4-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14

1569

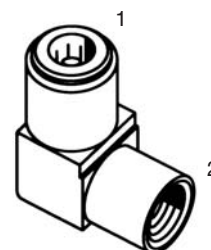
Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-08	BR	1/2	1/2-14

1570

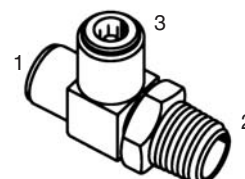
Tube to Pipe Elbow 90°



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)	Tube Size
04-02	BR	1/4	1/8-27	1/4
04-04	BR	1/4	1/4-18	1/4
06-04	BR	3/8	1/4-18	3/8
06-06	BR	3/8	3/8-18	3/8
08-06	BR	1/2	3/8-18	1/2

1571

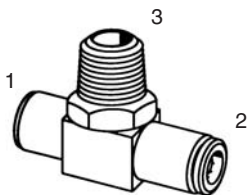
Tube to Pipe Swivel Run Tee



Brass Push-In D.O.T. Fittings

1572

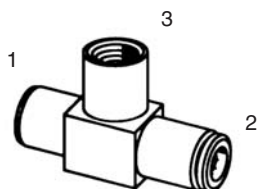
Tube to Pipe Swivel Branch Tee



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size	T3 (NPTF)
03-03-02				BR	3/16	3/16	1/8-27
04-04-02				BR	1/4	1/4	1/8-27
04-04-04				BR	1/4	1/4	1/4-18
06-06-04				BR	3/8	3/8	1/4-18
06-06-06				BR	3/8	3/8	3/8-18
08-08-04				BR	1/2	1/2	1/4-18
08-08-06				BR	1/2	1/2	3/8-18

1577

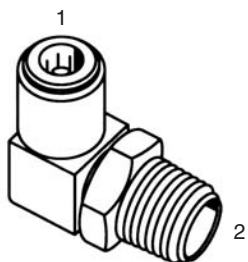
Tube to Pipe Branch Tee



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size	T3 (NPTF)
04-02				BR	1/4	1/4	1/8-27
04-04				BR	1/4	1/4	1/4-18
06-04				BR	3/8	3/8	1/4-18

1579

Tube to Pipe Swivel Elbow 90°



Dash Size	Stock Materials S FG SS BR				Tube Size	T2 (NPTF)
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
04-06				BR	1/4	3/8-18
06-02				BR	3/8	1/8-27
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
06-08				BR	3/8	1/2-14
08-06				BR	1/2	3/8-18
08-08				BR	1/2	1/2-14
10-06				BR	5/8	3/8-18
10-08				BR	5/8	1/2-14

1582

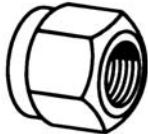
Tube Bulkhead Union

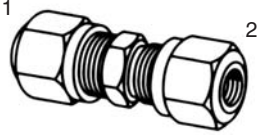


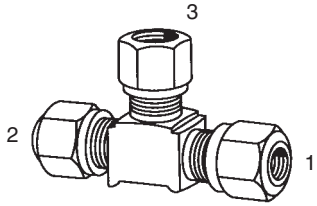
Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size
04				BR	1/4	1/4
06				BR	3/8	3/8
08				BR	1/2	1/2
10				BR	5/8	5/8

Brass Air Brake Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	1460 Tube Sleeve
04	BR	1/4	
06	BR	3/8	
08	BR	1/2	
10	BR	5/8	
12	BR	3/4	

Dash Size	Stock Materials S FG SS BR	Tube Size	1461 Tube Nut
04	BR	1/4	
06	BR	3/8	
08	BR	1/2	
10	BR	5/8	
12	BR	3/4	

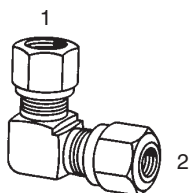
Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	1462 Tube Union
04	BR	1/4	1/4	
06	BR	3/8	3/8	
08-06	BR	1/2	3/8	
08	BR	1/2	1/2	
10	BR	5/8	5/8	
12	BR	3/4	3/4	

Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	Tube Size	1464 Tube Union Tee
04	BR	1/4	1/4	1/4	
06	BR	3/8	3/8	3/8	
08	BR	1/2	1/2	1/2	
10	BR	5/8	5/8	5/8	

Brass Air Brake Fittings

1465

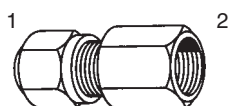
Tube Union Elbow 90°



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
04	BR	1/4	1/4
06	BR	3/8	3/8
08	BR	1/2	1/2
10	BR	5/8	5/8

1466

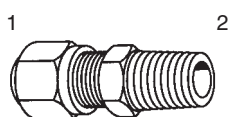
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14

1468

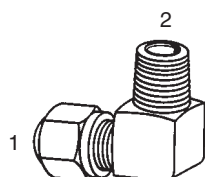
Tube to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-04	BR	1/2	1/4-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14
12-08	BR	3/4	1/2-14
12-12	BR	3/4	3/4-14

1469

Tube to Pipe Elbow 90°



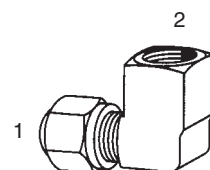
Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
04-06	BR	1/4	3/8-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
06-08	BR	3/8	1/2-14
08-04	BR	1/2	1/4-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-06	BR	5/8	3/8-18
10-08	BR	5/8	1/2-14
10-12	BR	5/8	3/4-14
12-08	BR	3/4	1/2-14

Brass Air Brake Fittings

Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-08	BR	5/8	1/2-14

1470

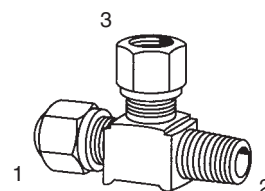
**Tube to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	T2 (NPTF)
04-02-04	BR	1/4	1/4	1/8-27
04-04-04	BR	1/4	1/4	1/4-18
06-04-06	BR	3/8	3/8	1/4-18
06-06-06	BR	3/8	3/8	3/8-18
08-06-08	BR	1/2	1/2	3/8-18
08-08-08	BR	1/2	1/2	1/2-14
10-08-10	BR	5/8	5/8	1/2-14

1471

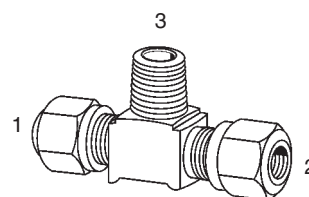
**Tube to Pipe
Run Tee**



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	T3 (NPTF)
04-02	BR	1/4	1/4	1/8-27
04-04	BR	1/4	1/4	1/4-18
06-02	BR	3/8	3/8	1/8-27
06-04	BR	3/8	3/8	1/4-18
06-06	BR	3/8	3/8	3/8-18
08-06	BR	1/2	1/2	3/8-18
08-08	BR	1/2	1/2	1/2-14
10-08	BR	5/8	5/8	1/2-14

1472

**Tube to Pipe
Branch Tee**



Dash Size	Stock Materials S FG SS BR	Tube Size
04	BR	1/4
06	BR	3/8
08	BR	1/2
10	BR	5/8
12	BR	3/4

1473

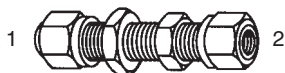
Tube Insert



Brass Air Brake Fittings

1474

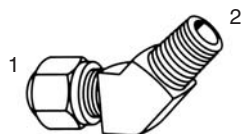
Tube Bulkhead Union



Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
04	BR	1/4	1/4
06	BR	3/8	3/8
08	BR	1/2	1/2

1480

Tube to Pipe Elbow 45°



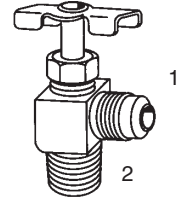
Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-02	BR	3/8	1/8-27
06-04	BR	3/8	1/4-18
06-06	BR	3/8	3/8-18
08-06	BR	1/2	3/8-18
08-08	BR	1/2	1/2-14
10-08	BR	5/8	1/2-14

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials S FG SS BR	Tube O.D.	T2 (NPTF)
04-02	BR	1/4	1/8-27
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-04	BR	3/8	1/4-18

NV101

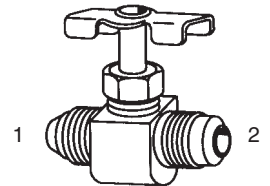
**SAE 45° to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	Tube O.D.	Tube O.D.
04-04	BR	1/4	1/4
06-06	BR	3/8	3/8

NV102

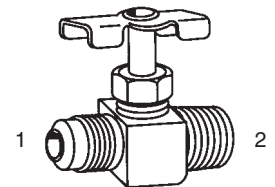
SAE 45° Union



Dash Size	Stock Materials S FG SS BR	Tube O.D.	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
05-02	BR	5/16	1/8-27
06-04	BR	3/8	1/4-18

NV103

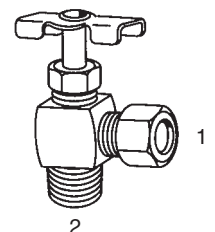
SAE 45° to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
03-02	BR	3/16	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18

NV104

**Compression to
Pipe Elbow 90°**



S= Steel

FG=Forging

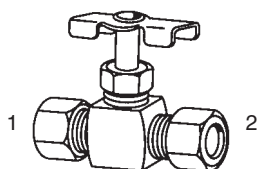
SS=Stainless Steel

BR=Brass

Brass Needle Valves and Drain Cocks

NV105

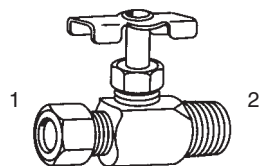
Compression Union



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size
03				BR	3/16	3/16
04				BR	1/4	1/4
05				BR	5/16	5/16
06				BR	3/8	3/8

NV106

Compression to Pipe



Dash Size	Stock Materials S FG SS BR				Tube Size	T2 (NPTF)
03-02				BR	3/16	1/8-27
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
05-02				BR	5/16	1/8-27
06-04				BR	3/8	1/4-18

NV107

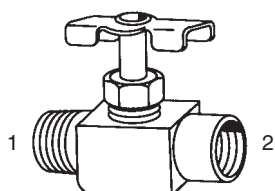
Pipe Union



Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

NV108

Pipe to Pipe



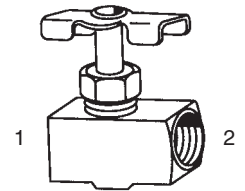
Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02-02	BR	1/8-27	1/8-27
04-04	BR	1/4-18	1/4-18

NV109

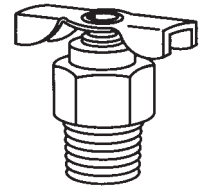
Pipe Union



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18

DC602

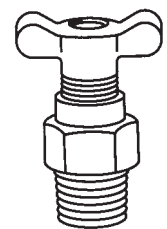
Internal Seat



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14

DC603

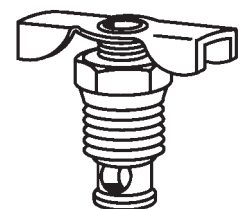
Tee Handle Internal Seat



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14

DC604

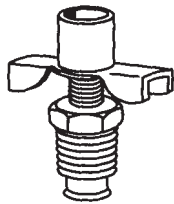
External Seat



Brass Needle Valves and Drain Cocks

DC606

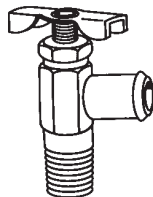
External Seat



Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
04				BR	1/4-18

DC607

Angle BIB Drain Cock



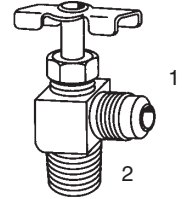
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02				BR	1/8-27
04				BR	1/4-18

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials S FG SS BR	Tube O.D.	T2 (NPTF)
04-02	BR	1/4	1/8-27
05-02	BR	5/16	1/8-27
05-04	BR	5/16	1/4-18
06-04	BR	3/8	1/4-18

NV101

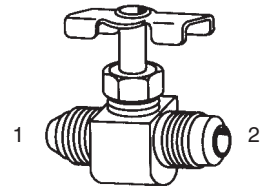
**SAE 45° to Pipe
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	Tube O.D.	Tube O.D.
04-04	BR	1/4	1/4
06-06	BR	3/8	3/8

NV102

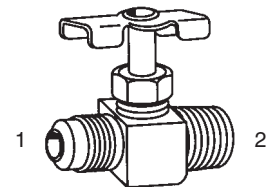
SAE 45° Union



Dash Size	Stock Materials S FG SS BR	Tube O.D.	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
05-02	BR	5/16	1/8-27
06-04	BR	3/8	1/4-18

NV103

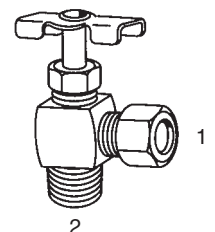
SAE 45° to Pipe



Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
03-02	BR	3/16	1/8-27
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18

NV104

**Compression to
Pipe Elbow 90°**



S= Steel

FG=Forging

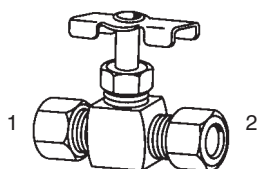
SS=Stainless Steel

BR=Brass

Brass Needle Valves and Drain Cocks

NV105

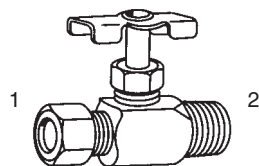
Compression Union



Dash Size	Stock Materials S FG SS BR				Tube Size	Tube Size
03				BR	3/16	3/16
04				BR	1/4	1/4
05				BR	5/16	5/16
06				BR	3/8	3/8

NV106

Compression to Pipe



Dash Size	Stock Materials S FG SS BR				Tube Size	T2 (NPTF)
03-02				BR	3/16	1/8-27
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
05-02				BR	5/16	1/8-27
06-04				BR	3/8	1/4-18

NV107

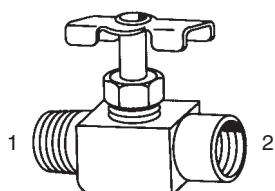
Pipe Union



Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

NV108

Pipe to Pipe



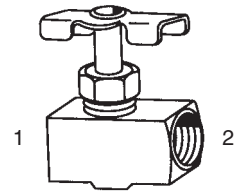
Dash Size	Stock Materials S FG SS BR				T1 (NPTF)	T2 (NPTF)
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials S FG SS BR	T1 (NPTF)	T2 (NPTF)
02-02	BR	1/8-27	1/8-27
04-04	BR	1/4-18	1/4-18

NV109

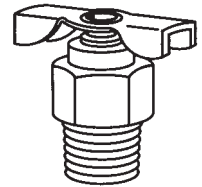
Pipe Union



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18

DC602

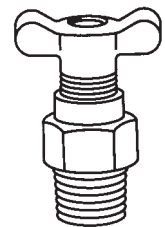
Internal Seat



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14

DC603

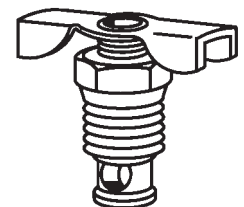
Tee Handle Internal Seat



Dash Size	Stock Materials S FG SS BR	T1 (NPTF)
02	BR	1/8-27
04	BR	1/4-18
06	BR	3/8-18
08	BR	1/2-14

DC604

External Seat



S= Steel

FG=Forging

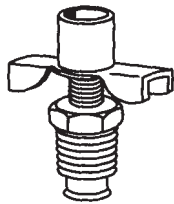
SS=Stainless Steel

BR=Brass

Brass Needle Valves and Drain Cocks

DC606

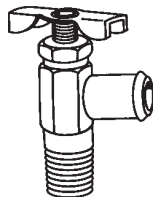
External Seat



Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
04				BR	1/4-18

DC607

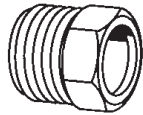
Angle BIB Drain Cock

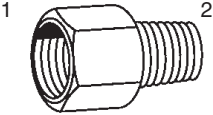


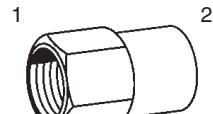
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02				BR	1/8-27
04				BR	1/4-18

Brass Inverted Flare Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	100
02	BR	5/16-24	Flare Nut 
03	BR	3/8-24	
04	BR	7/16-24	
05	BR	1/2-20	
06	BR	5/8-18	
08	BR	3/4-18	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	105
02	S	5/16-24	Steel Nut 
03	S	3/8-24	
04	S	7/16-24	
05	S	1/2-20	
06	S	5/8-18	
08	S	3/4-18	
10	S	7/8-18	
12	S	1 1/16-16	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	202
02-02	BR	5/16-24	1/8-27	Tube to Pipe 
03-02	BR	3/8-24	1/8-27	
04-02	BR	7/16-24	1/8-27	
04-04	BR	7/16-24	1/4-18	
05-02	BR	1/2-20	1/8-27	
05-04	BR	1/2-20	1/4-18	
06-02	BR	5/8-18	1/8-27	
06-04	BR	5/8-18	1/4-18	
06-06	BR	5/8-18	3/8-18	
08-04	BR	3/4-18	1/4-18	
08-06	BR	3/4-18	3/8-18	
08-08	BR	3/4-18	1/2-14	
10-08	BR	7/8-18	1/2-14	
12-12	BR	1 1/16-16	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)	252
03-02	BR	3/8-24	1/8-27	Tube to Pipe 
04-02	BR	7/16-24	1/8-27	
04-04	BR	7/16-24	1/4-18	
05-02	BR	1/2-20	1/8-27	
06-04	BR	5/8-18	1/4-18	
08-06	BR	3/4-18	3/8-18	
10-08	BR	7/8-18	1/2-14	
10-12	BR	7/8-18	3/4-14	

S= Steel

FG=Forging

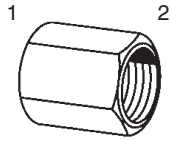
SS=Stainless Steel

BR=Brass

Brass Inverted Flare Adapters

302

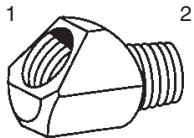
Tube Union



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
02	BR	5/16-24	5/16-24
03	BR	3/8-24	3/8-24
04	BR	7/16-24	7/16-24
05	BR	1/2-20	1/2-20
06	BR	5/8-18	5/8-18
08	BR	3/4-18	3/4-18
10	BR	7/8-18	7/8-18

352

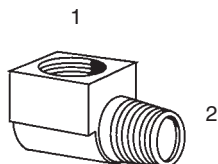
Tube to Pipe Elbow 45°



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
08-06	BR	3/4-18	3/8-18

402

Tube to Pipe Elbow 90°



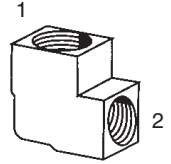
Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
05-02	BR	1/2-20	1/8-27
05-04	BR	1/2-20	1/4-18
06-02	BR	5/8-18	1/8-27
06-04	BR	5/8-18	1/4-18
06-06	BR	5/8-18	3/8-18
08-06	BR	3/4-18	3/8-18
08-08	BR	3/4-18	1/2-14
10-08	BR	7/8-18	1/2-14
12-12	BR	1 1/16-16	3/4-14

Brass Inverted Flare Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (NPTF)
04-02	BR	7/16-24	1/8-27
05-02	BR	1/2-20	1/8-27
06-04	BR	5/8-18	1/4-18
08-06	BR	3/4-18	3/8-18
10-08	BR	7/8-18	1/2-14

452

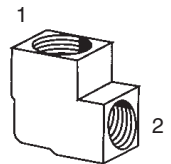
**Tube to
Pipe Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)
04	BR	7/16-24	7/16-24
05	BR	1/2-20	1/2-20
06	BR	5/8-18	5/8-18
08	BR	3/4-18	3/4-18

502

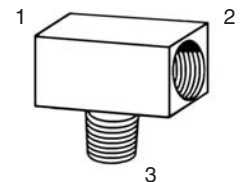
**Tube Union
Elbow 90°**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (NPTF)
03-02	BR	3/8-24	3/8-24	1/8-27
04-02	BR	7/16-20	7/16-20	1/8-27
05-02	BR	1/2-20	1/2-20	1/8-27
06-04	BR	5/8-18	5/8-18	1/4-18
08-06	BR	3/4-18	3/4-18	3/8-18

602

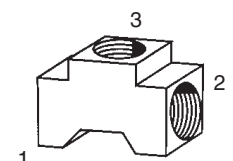
**Tube to Pipe
Branch Tee**



Dash Size	Stock Materials S FG SS BR	T1 (UNF)	T2 (UNF)	T3 (UNF)
03	BR	3/8-24	3/8-24	3/8-24
04	BR	7/16-24	7/16-24	7/16-24
05	BR	1/2-20	1/2-20	1/2-20
06	BR	5/8-18	5/8-18	5/8-18
08	BR	3/4-18	3/4-18	3/4-18

702

Tube Union Tee



S= Steel

FG=Forging

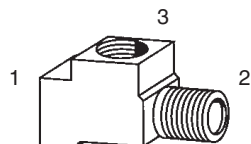
SS=Stainless Steel

BR=Brass

Brass Inverted Flare Adapters

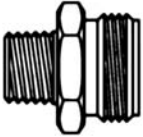
752

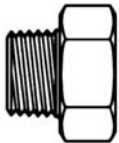
Tube to Pipe Run Tee



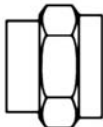
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
03-02				BR	3/8-24	1/8-27	3/8-24
04-02				BR	7/16-24	1/8-27	7/16-24
05-02				BR	1/2-20	1/8-27	1/2-20
06-04				BR	5/8-18	1/4-18	5/8-18
08-06				BR	3/4-18	3/8-18	3/4-18

Brass Garden Hose Fittings

Dash Size	Stock Materials S FG SS BR	T1 (GH) Thread	T2 (NPTF)	4024 Male GHT to Pipe  2 1
12-06	BR	3/4	3/8-18	
12-08	BR	3/4	1/2-14	
12-12	BR	3/4	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (GH) Thread	T2 (NPTF)	4025 Female GHT to Pipe  2 1
12-06	BR	3/4	3/8-18	
12-08	BR	3/4	1/2-14	
12-12	BR	3/4	3/4-14	

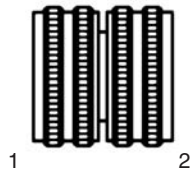
Dash Size	Stock Materials S FG SS BR	T1 (GH) Thread	T2 (NPTF)	4026 Male GHT to Pipe  1 2
12-04	BR	3/4	1/4-18	
12-06	BR	3/4	3/8-18	
12-08	BR	3/4	1/2-14	
12-12	BR	3/4	3/4-14	

Dash Size	Stock Materials S FG SS BR	T1 (GH) Thread	T2 (NPTF)	4030 Female GHT to Pipe  2 1
12-04	BR	3/4	1/4-18	
12-06	BR	3/4	3/8-18	
12-08	BR	3/4	1/2-14	
12-12	BR	3/4	3/4-14	

Brass Garden Hose Fittings

4040

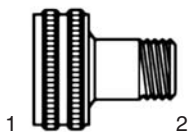
Female GHT Swivel Union



Dash Size	Stock Materials S FG SS BR				T1 (GH) Thread	T2 (GH) Thread
12-12				BR	3/4	3/4

4044

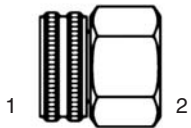
Female GHT Swivel to Pipe



Dash Size	Stock Materials S FG SS BR				T1 (GH) Thread	T2 (NPTF)
12-04				BR	3/4	1/4-18
12-06				BR	3/4	3/8-18
12-08				BR	3/4	1/2-14

4045

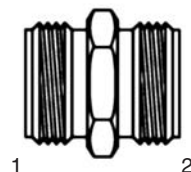
Female GHT Swivel to Pipe



Dash Size	Stock Materials S FG SS BR				T1 (GH) Thread	T2 (NPTF)
12-04				BR	3/4	1/4-18
12-08				BR	3/4	1/2-14
12-12				BR	3/4	3/4-14

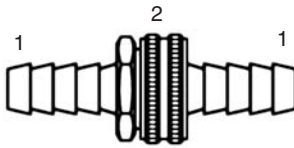
4050

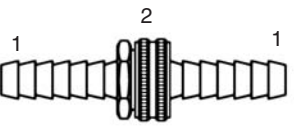
Male GHT Union

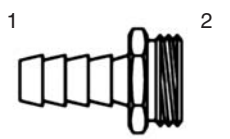


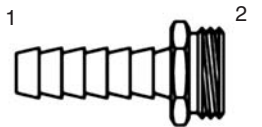
Dash Size	Stock Materials S FG SS BR				T1 (GH) Thread	T2 (GH) Thread
12-12				BR	3/4	3/4

Brass Garden Hose Fittings

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread	4100
06-12	BR	3/8	3/4	GHT Hose Barb Assembly 
08-12	BR	1/2	3/4	
10-12	BR	5/8	3/4	
12-12	BR	3/4	3/4	
16-16	BR	1	1	

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread	4100-L
10-12	BR	5/8	3/4	Long Shank GHT Hose Barb Assembly 
12-12	BR	3/4	3/4	

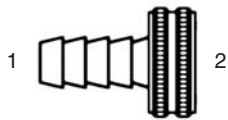
Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread	4144
06-12	BR	3/8	3/4	Hose Barb to Male GHT 
08-12	BR	1/2	3/4	
10-12	BR	5/8	3/4	
12-12	BR	3/4	3/4	
16-16	BR	1	1	

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread	4144-L
08-12	BR	1/2	3/4	Long Shank Hose Barb to Male GHT 
10-12	BR	5/8	3/4	
12-12	BR	3/4	3/4	

Brass Garden Hose Fittings

4145

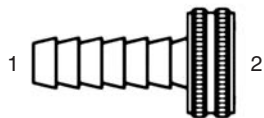
**Hose Barb to
Female GHT
Swivel**



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (GH) Thread
	S	FG	SS	BR		
06-12				BR	3/8	3/4
08-12				BR	1/2	3/4
10-12				BR	5/8	3/4
12-12				BR	3/4	3/4
16-16				BR	1	1

4145-L

**Long Shank Hose
Barb to Female
GHT Swivel**



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (GH) Thread
	S	FG	SS	BR		
10-12				BR	5/8	3/4
12-12				BR	3/4	3/4

GHW

**Garden Hose
Washer***



Dash Size	T1 (GH) Thread
10	5/8

*Available in black or red.

Cross Reference

TOMPKINS	AEROQUIP	DAYCO EASTMAN	PARKER TUBE	PARKER HOSE	TRIDENT	WEATHERHEAD	GATES
302					1326		
304	221000				1327	C5115	
304-C	210292	830-FS	FNTX	06CP	1329	C5129	
306	210212	711BH-FS	WLN	53N	1332	C5924	
306-N	210295	711-FSO			1330		
318	1290	841-FS	BTX	06B	1311	C5105	
319	900605	840-FS	TX	06S	1253	C5165	
403	73014				1403		
1404	2045 (R)	60SA	0107	0107	1210	9205 (R)	MP-FPX
1405	2046 (R)	60SG	0207	0207	1212	9255 (R)	FP-FPX
1406					1222		
1501	2047 (R)	60UA	2107	2107	1218	9405 (R)	MP-FPX-90
1502	2048 (R)	60UG	2207	2207	1216	9455 (R)	FP-FPX-90
1503	2049 (R)	60TA	3107	3107	1214	9355 (R)	MP-FPX-45
1504	2050 (R)	60TG			1249	9385 (R)	FP-FPX-45
1601	2254 (R)	60VC			1258	9406 (R)	MP-FPXT
1602	2253 (R)	60VH			1259	9456 (R)	
1603	2255	60VJ			1223		
2403	2027	842-FS	HTX	0303	1204	C5305	MJ-MJ
2403-LH	202712	842H-FS	LHTX	03L3	1204-LH	C5306	
2404	2021 (R)	848-FS	FTX	0103 (R)	1202	C5205	MJ-MP
2404-L	202113 (R)	848L-FS			1202LO (R)		
2404-LL	202114 (R)				1202LL (R)		
2405	2022 (R)	846-FS	GTX	0203 (R)	1230 (R)	C5255	MJ-FP
2406	2215	883-FS	TRTX	0603	1246	C5015	
2408	900599	839-FS	PNTX	03CP	1254	C5229	
2500	2039	855-FS	ETX	2303	1234	C5505	
2501	2024 (R)	849-FS	CTX	2103 (R)	1208 (R)	C5405	MJ-MP-90
2501-L	202411 (R)	849L-FS	CCTX	5603 (R)	1208-L (R)	C5425	
2501-LL	202413 (R)	849LL-FS	CCCTX	5703 (R)	1208-LL (R)	C5435	
2501-LLL	202414 (R)						
2502	2025 (R)	850-FS	DTX	2203 (R)	1242 (R)	C5455	
2503	2023 (R)	854-FS	VTX	3103 (R)	1206 (R)	C5355	MJ-MP-45
2504							
2505	2044 (R)						
2601	2030 (R)	845-FS	STX	213T (R)	1221 (R)	C5605	
2602	2031 (R)	858-FS	OTX	223T (R)	1228 (R)	C5655	
2603	2033	844-FS	JTX	033T	1220	C5705	
2605	2028 (R)	851-FS	RTX	013T (R)	1224	C5755	
2606	2029 (R)	857-FS	MTX	023T (R)	1226 (R)	TF5805	
2650	2020		KTX	033X	1229	TF5955	
2700	2041 (R)	832-FS	WTX	0353	1260	C5325	
2701	2043	855BH-FS	WETX	2353	1262	C5525	
2702	2042	854BH-FS	WNTX	3353	1261	TF5375	
2703	203002	870-FS	WJTX	543T	1283	TF5725	
2704	203008		WJJTX	533T	1284	C5726	
2705	2239 (R)		WGTX	0253		C5275	
2706	2240 (R)						
4404					1041 (R)		
4501	FF1162 (R)				1045 (R)		
4503					1043 (R)		
4601	FF1167 (R)				1046 (R)		
4603					1040 (R)		
4604					1044 (R)		
5000	2096	24SJ	GG	0202	1273	C3309	

Cross Reference

TOMPKINS	AEROQUIP	DAYCO EASTMAN	PARKER TUBE	PARKER HOSE	TRIDENT	WEATHERHEAD	GATES
5404	2083	24SA	FF	0101	1252	C3069	
5404-N	2084		FFF				
5405	2040	24SG	FG (R)	0201 (R)	1274	C3209 (R)	
5406	2081	24SB	PTR	0102	1250	C3109	
5406-HHP	2222	24SR	HHP	01HP		C3169	
5406-P	2082		HP	01CP	1251	C3159	
5500	2085	25UA	CR	2101	1275	C3529	
5501	2247						
5502	2089	25UG	CD	2102	1243	C3409	
5503	2088	25TG	CD45	3102	1244	C3359	
5504	2087	25UJ	DD	2202	1245	C3509	
5505			DD45	4202	1241	C3559	
5600	2257		RRS				
5601	2256						
5602	2092	25VK	MRO	012T	1276	C3759	
5603	2093				1277		
5604	2091	25VC		212T	1278	C3609	
5605	2090	25VJ	MMO	022T	1225	C3709	
5651							
5652	2080	25WJ	KMMOO	022X	1279	C3959	
5655	208007						
6400	202702 (R)	848-FSO	F50X	0503 (R)	1231	C5315	MB-MJ (R)
6400-L	202713 (R)	848L-FSO	FF50X	5E03	1231LO	C5316	
6401	FF1093 (R)		F5F		1264 (R)	C3249	
6402	2266		F65X		1213	C5216 (R)	
6403-NWO	2220		F5OHAO	0505	1286		
6404	2246 (R)		FHG5 (R)		1267 (R)	C3239	
6405	2216 (R)	720-FSO	F50G	0502	1268 (R)	C3269	
6408	900598	721-FSO	P50N	05CP	1255	7237	
6408-HHP	FF2138		HP50N	05HP	1256	7238	
6410	FF1010	719-FSO	F50G5	0510	1270	7033	
6500	2071 (R)	879-FS	C6X	3903	1236	C5506	
6501	2250 (R)				1247 (R)	TF5406	
6502	2070 (R)	889-FS	V6X	3703	1237	C5356	
6504					1205		
6505	2018 (R)	881-FS	F6X		1211	9100	
6506	2242 (R)	882-FS			1215		
6600	203101 (R)	872-FS	S6X	393T (R)	1227	C5707	
6602	203102 (R)	871-FS	R6X	063T	1248	C5706	
6801	2062 (R)	849-FS	C50X	2503 (R)	1238 (R)	C5515	MB-MJ-90
(R)							
6801-L	206209 (R)				1238LO (R)		
6801-LL	206209 (R)				1238LL (R)		
6802	2061 (R)	854-FSO	V50X	3503 (R)	1240 (R)	C5365	MB-MJ-45
(R)							
6803	203003 (R)	845-FSO	S50X	253T	1265 (R)	C5715	
6804	203005 (R)	851-FSO	R50X	053T	1266 (R)	C5716	
6805	206801 (R)		AOEG	2502	1269	C3459	
6805-LL	206804 (R)		AOE4G	5502		C3469	
6806					1263	TF3569	
6807							
6809							
6900	2066 (R)	60SB		0507	1235	9315	MB-FPX
6901	2068 (R)	60UB		2507	1271	9515	MB-FPX-90
6902	2067 (R)	60TB		3507	1272	9365	MB-FPX-45

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070102	2404
070103	2405
070109	2408
070110	318
070111	304
070112	304-C
070115	319
07118	306
070119	2403-LH
070120	6400
070122	6400-L
070123	2406
070201	2500
070202	2501
070203	2502
070220	6801
070221	6500
070302	2503
070320	6802
070321	6502
070401	2603
070424	2605
070425	2601
070426	2606
070427	2602
070428	6804
070429	6803
070432	6602
070501	2650
070601	2700
070701	2701
070801	2702
070958	2704
070959	2703
071502	2501-L
071602	2501-LL
090109A	6408
090109B	6408-HHP
140130	1404
140131	1405
140137	5404
140138	5000
140139	5405
140230	1501
140237	5500
140238	5504
140239	5502
140338	5505
140339	5503
140424	5602
140425	5604
140438	5605

MS	Tompkins No.
51500	2404
51501	2403
51503	2405
51504	2501
51505	2500
51506	2502
51507	2701
51508	2503
51509	2702
51510	2603
51511	2605
51512	2601
51513	2602
51514	2606
51515	2703
51516	2704
51517	2650
51518	2408
51519	2403-LH
51520	2700
51521	6500
51522	6502
51523	6602
51525	6400
51526	6400-L
51527	6801
51528	6802
51529	6803
51530	6804
51531	318
51532	304-C
51533	319
51534	2406
51860	306

B= CADMIUM PLATED STEEL FITTING ONLY

BZ= ZINC PLATED STEEL FITTING ONLY

BP= PHOSPHATE FINISHED STEEL FITTING ONLY

BS= STAINLESS STEEL FITTING ONLY

A=CADMIUM PLATED STEEL WITH NUTS AND SLEEVES

AZ= ZINC PLATED STEEL WITH NUTS AND SLEEVES

AP= PHOSPHATE FINISHED STEEL WITH NUTS AND SLEEVES

AS= STAINLESS STEEL WITH NUTS AND SLEEVES

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1405	.59	2605	.16	3350	.205	3859	.119	4603	.84
1406	.59	2606	.16	3390	.205	3860	.119	4604	.85
1460	.221	260P	.214	3400	.206	3861	.137	48	.193
1461	.221	260PB	.214	3401	.103	3862	.137	49	.194
1462	.221	2611	.17	3402	.103	3864	.137	50	.194
1464	.221	261P	.214	3404	.121	3866	.137	500	.4
1465	.222	261PB	.215	3406	.104	3871	.138	5000	.40
1466	.222	261U	.214	3408	.104	3900	.207	502	.231
1468	.222	262P	.215	3408-HHP	.104	3901	.119	51	.195
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1470	.223	263PP	.209	3421	.106	3905	.120	5400-CL	.40
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1472	.223	264PP	.209	3425	.106	402	.230	5404	.42
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1474	.224	265PP	.209	3430	.107	4026	.233	5405	.44
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1503	.61	269P	.216	3500	.206	4040	.234	5406-HHP	.46
1504	.62	269PP	.210	3501	.121	4044	.234	5406-P	.45
1562	.218	2700	.17	3503	.122	4045	.234	5406-SHP	.46
1564	.218	2701	.17	3506	.122	4050	.234	55	.195
1565	.218	2702	.18	3508	.122	40C	.191	5500	.47
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1568	.219	2704	.18	352	.230	41	.191	5501	.47
1569	.219	2705	.18	3520	.123	4100	.235	5502	.48
1570	.219	2706	.19	3524	.123	4100-L	.235	5502-S	.48
1571	.219	2708	.19	3540	.109	4144	.235	5502-X	.49
1572	.220	270P	.216	3544	.109	4144-L	.235	5503	.49
1577	.220	270PP	.211	3545	.123	4145	.236	5504	.49
1579	.220	271P	.217	3600	.206	4145-L	.236	5505	.49
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2503	.13	3240	.103	3840	.117	4404	.83	6403	.34
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7105	142	8301-S	136	FB Series	179	LS-2406	151		

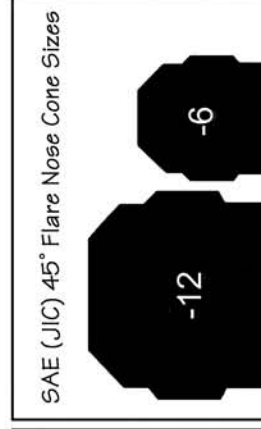
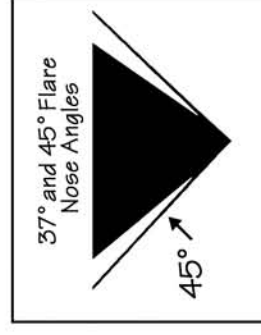
Thread Size Chart (Male)

NPT (MP) / BSPT / BSPP

-32	-24	-20	-16	-12	-8	-4	-2
-----	-----	-----	-----	-----	----	----	----

JIC 37° Flare (MJ) / SAE 45° Flare / SAE O-Ring (MOR)

-32	-24	-20	-16	-14
-----	-----	-----	-----	-----

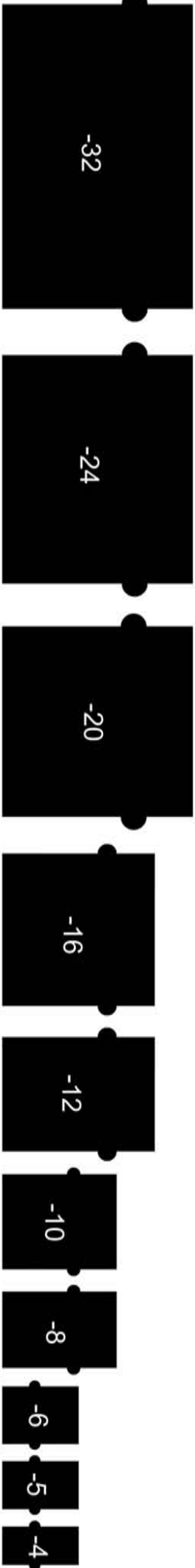


-12	-10	-8	-6	-5	-4
-----	-----	----	----	----	----

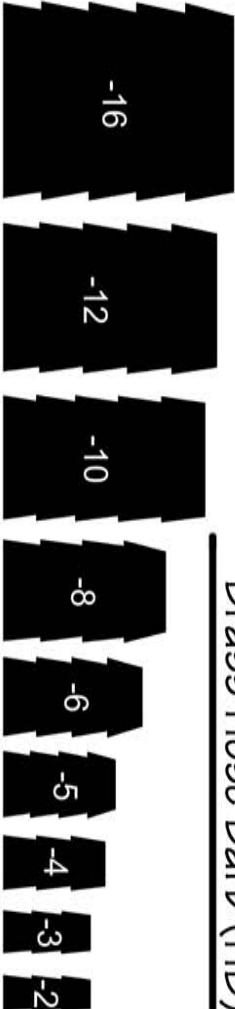
Flat Face O-Ring (MORFS)

-24	-20	-16	-12	-10	-8	-6	-4
-----	-----	-----	-----	-----	----	----	----

Beaded Hose



Brass Push On Hose (HB)



Brass Inverted Flare



Brass Compression



Metric Parallel (MM)

Brass
Garden Hose
(MGH)

A diagram of a brass garden hose with one segment. The dimension for the segment is: -12.





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