



ISO 9001
2000
CERTIFIED
COMPANY



RD 269 REV 3 02.28.06



Tompkins[®]

MASTER CATALOG





DISTRIBUTION CENTERS

800.255.1008
Toll Free Fax: 800.959.3333

Calling the Tompkins Toll-Free number will automatically route you to the Tompkins Distribution Center in your region.

OLATHE, KS • KANSAS CITY, MO • CHARLOTTE, NC • ONTARIO, CA

913.764.8088
Fax: 913.764.8340

816.483.1004
Fax: 816.483.1015

704.347.0490
Fax: 704.347.2501

909.390.5200
Fax: 909.390.5201

TWINSBURG, OH • DES MOINES, IA • NEW CASTLE, DE • PORTLAND, OR

330.425.4060
Fax: 330.425.4066

800.422.3495
Fax: 888.266.1028

302.326.1002
Fax: 302.326.1004

503.255.7995
Fax: 503.255.7785



Discover, Visa, MasterCard, American Express

stockmeup.com

SHIPPING GUARANTEE

All orders placed by 8:30 pm Eastern Time will ship same day. If your order should fail to ship same day, Tompkins will pre-pay your order UPS Red up to 100 lbs., UPS blue up to 200 lbs. and Best Way over 200 lbs.

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 pulsing, 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.

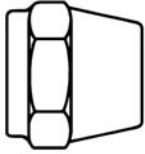
STEP 4. Place second wrench on nut as near the 3 o'clock position as possible

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

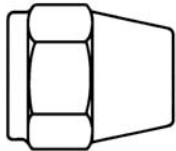
**JIC Short
Tube Nut**



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

304

**JIC Long
Tube Nut**

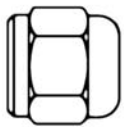


SAE 070111

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

304-C

JIC Cap

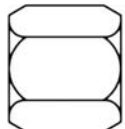


MS 51532
SAE 070112

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

318

**JIC Tube Nut
(Sleeve Required)**



MS 51531
SAE 070110

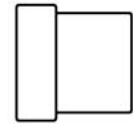
Dash Size	Stock Materials S FG SS BR	Tube Size	T1 (UNF)
02	S SS	1/8	5/16-24
03	S SS	3/16	3/8-24
04	S SS	1/4	7/16-20
05	S SS	5/16	1/2-20
06	S SS	3/8	9/16-18
08	S SS	1/2	3/4-16
10	S SS	5/8	7/8-14
12	S SS	3/4	1 1/16-12
14	S SS	7/8	1 3/16-12
16	S SS	1	1 5/16-12
20	S SS	1 1/4	1 5/8-12
24	S SS	1 1/2	1 7/8-12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

Steel 37° JIC Adapters

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

319

JIC Tube Sleeve

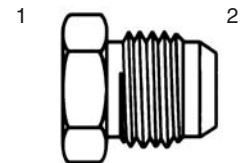


MS 51532
SAE 070115

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

403

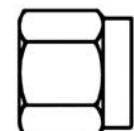
Braze-On to JIC



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

418

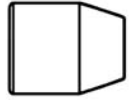
Flareless JIC Tube Nut (Sleeve Required)



Steel 37° JIC Adapters

419

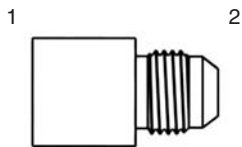
Flareless JIC Tube Sleeve



Dash Size	Stock Materials			Tube Size
	S	FG	SS BR	
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

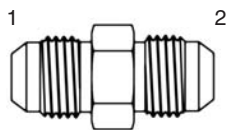
Braze Port to JIC Elbow 90°



Dash Size	Stock Materials			Braze Port	T2 (UNF)
	S	FG	SS BR		
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

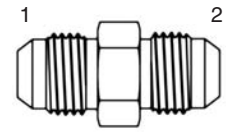
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
02	\$		SS	5/16-24	5/16-24
03	\$		SS	3/8-24	3/8-24
04-02	\$			7/16-20	5/16-24
04-03	\$		SS	7/16-20	3/8-24
04	\$		SS BR	7/16-20	7/16-20
05-04	\$		SS	1/2-20	7/16-20
05	\$		SS	1/2-20	1/2-20
06-04	\$		SS	9/16-18	7/16-20
06-05	\$		SS	9/16-18	1/2-20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

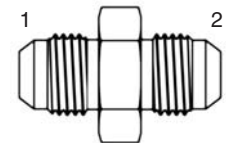


MS 51501
SAE 070101

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

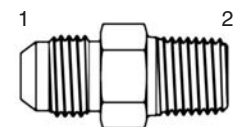


MS 51519
SAE 070119

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

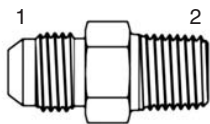
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2404

JIC to Pipe (Cont'd.)

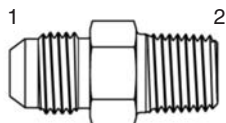


MS 51500
SAE 070102

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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		SS		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

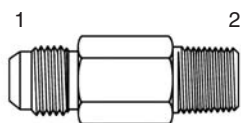
Restricted JIC to Pipe



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	Restriction
	S	FG	SS	BR			
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				T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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

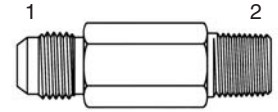
Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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**

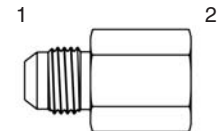


MS 51503

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

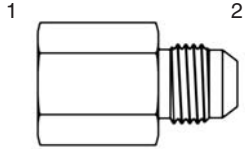
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2406

JIC Reducer/ Expander



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

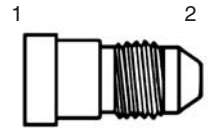
MS 51534
SAE 070123

Steel 37° JIC Adapters

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

2407

**JIC Reducer
(Requires 318*
For Assembly)**

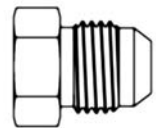


*See page 2 for 318

Dash Size	Stock Materials				T1 (UNF)
	S	FG	SS	BR	
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		SS		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

2408

JIC Plug

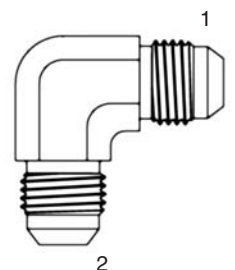


MS 51518
SAE 070109

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

2500

**JIC Union
Elbow 90°**



MS 51505
SAE 070201

S= Steel

FG=Forging

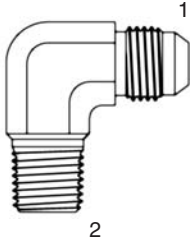
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2501

JIC to Pipe Elbow 90°



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

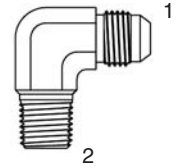
MS 51504
SAE 070202

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	Restriction
	S	FG	SS	BR			
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

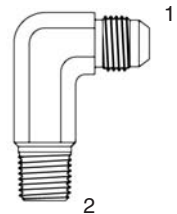
Restricted JIC to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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"

2501-L

JIC to Pipe Long Elbow 90°



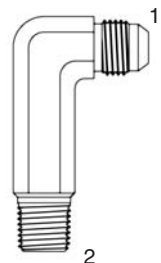
*Length = Middle of JIC to End of Threads

SAE 071502

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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"

2501-LL

JIC to Pipe Extra Long Elbow 90°



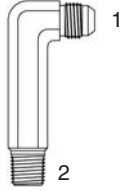
*Length = Middle of JIC to End of Threads

SAE 071602

Steel 37° JIC Adapters

2501-LLL

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

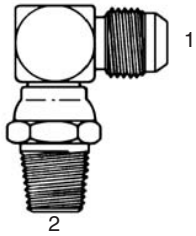


Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS BR			
04-02	S	FG		7/16-20	1/8-27	2.31"
04-04	S	FG		7/16-20	1/4-18	3.06"
05-02	S	FG		1/2-20	1/8-27	2.34"
06-04	S	FG		9/16-18	1/4-18	3.06"
06-06	S	FG		9/16-18	3/8-18	3.25"
08-06	S	FG		3/4-16	3/8-18	3.75"
08-08	S	FG		3/4-16	1/2-14	4.51"
10-08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

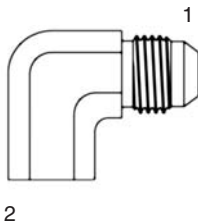


Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-04		FG		7/16-20	1/4-18
06-04		FG		9/16-18	1/4-18
06-06		FG		9/16-18	3/8-18
08-06		FG		3/4-16	3/8-18
08-08		FG		3/4-16	1/2-14
10-08		FG		7/8-14	1/2-14
12-12		FG		1 1/16-12	3/4-14

*Swivel for installation only.

2502

**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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

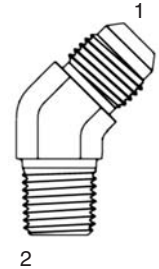
**MS 51506
SAE 070203**

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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°

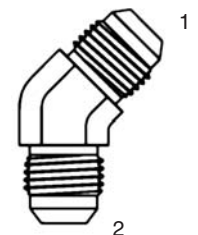


MS 51508
SAE 070302

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

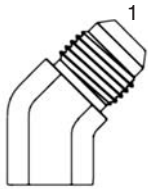
SS=Stainless Steel

BR=Brass

Steel 37° JIC Adapters

2505

JIC to Pipe Elbow 45°

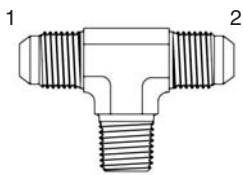


2

Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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
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
16-16	S	FG		1 5/16-12	1-11 1/2

2601

JIC to Pipe Branch Tee



3

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

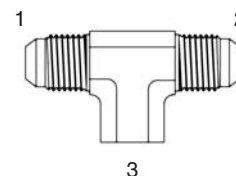
MS 51512
SAE 070425

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (NPTF)
	S	FG	SS	BR			
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

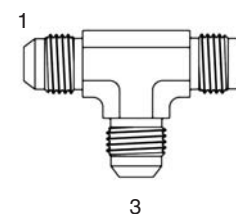


MS 51513
SAE 070427

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

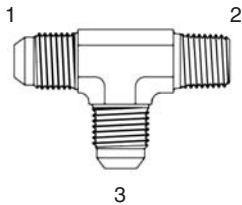


MS 51510
SAE 070401

Steel 37° JIC Adapters

2605

JIC to Pipe Run Tee

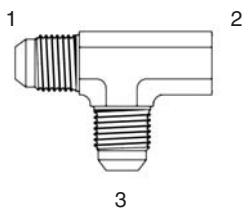


MS 51511
SAE 070424

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

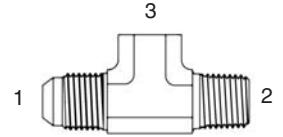
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS BR			
03-02-03	S	FG		3/8-24	1/8-27	3/8-24
04-02-04	S	FG	SS	7/16-20	1/8-27	7/16-20
04-04-04	S	FG	SS	7/16-20	1/4-18	7/16-20
06-04-06	S	FG	SS	9/16-18	1/4-18	9/16-18
06-06-06	S	FG		9/16-18	3/8-18	9/16-18
08-06-08	S	FG	SS	3/4-16	3/8-18	3/4-16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

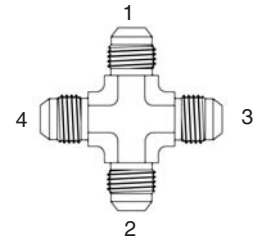
JIC to Pipe Run Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
	S	FG	SS	BR			
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

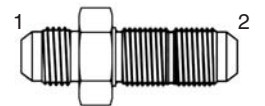


MS 51517
SAE 070501

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

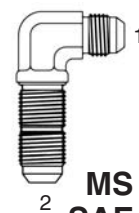


MS 51520
SAE 070601

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

Steel 37° JIC Adapters

2702

JIC Bulkhead Union Elbow 45°

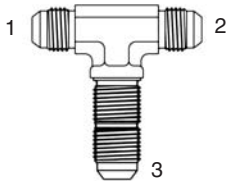


MS 51509
SAE 070801

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

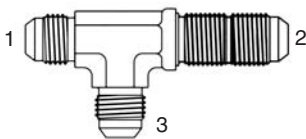


MS 51515
SAE 070959

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

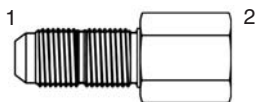


MS 51516
SAE 070958

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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



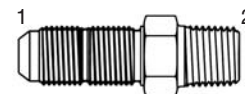
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
04-02	S		SS		7/16-20	1/8-27
04-04	S		SS		7/16-20	1/4-18
05-02	S				1/2-20	1/8-27
06-04	S		SS		9/16-18	1/4-18
06-06	S		SS		9/16-18	3/8-18
08-06	S		SS		3/4-16	3/8-18
08-08	S		SS		3/4-16	1/2-14
10-08	S		SS		7/8-14	1/2-14
12-12	S		SS		1 1/16-12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

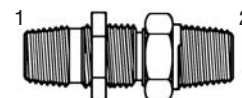
JIC to Pipe Bulkhead



Dash Size	Stock Materials				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

2708

Pipe Bulkhead



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

Dash Size	Stock Materials				T1 (UNF)
	S	FG	SS	BR	
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

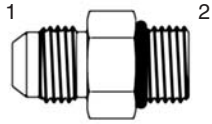


MS 51860
SAE 070118

Steel 37° JIC Adapters

6400

JIC to O-Ring



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

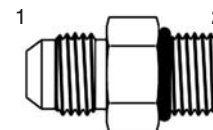
MS 51525
SAE 070120

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	Restriction
	S	FG	SS	BR			
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

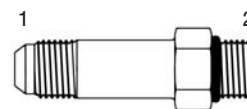
JIC to O-Ring with Restrictor



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



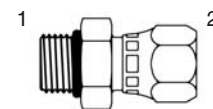
*Length = Overall Length of Fitting

MS 51526
SAE 070122

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

6402

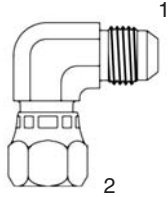
O-Ring to JIC Swivel



Steel 37° JIC Adapters

6500

JIC Swivel Elbow 90°

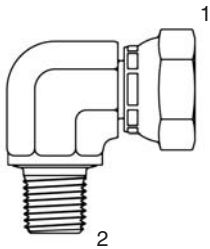


MS 51521
SAE 070221

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

6501

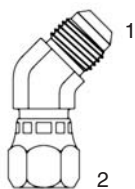
JIC Swivel to Pipe Elbow 90°



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

6502

JIC Swivel Elbow 45°



MS 51522
SAE 070321

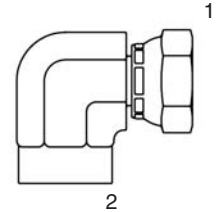
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04	S	FG	SS		7/16-20	7/16-20
05	S	FG			1/2-20	1/2-20
06	S	FG	SS		9/16-18	9/16-18
08	S	FG	SS		3/4-16	3/4-16
10	S	FG	SS		7/8-14	7/8-14
12	S	FG	SS		1 1/16-12	1 1/16-12
14	S				1 3/16-12	1 3/16-12
16	S	FG	SS		1 5/16-12	1 5/16-12
20	S	FG	SS		1 5/8-12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

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

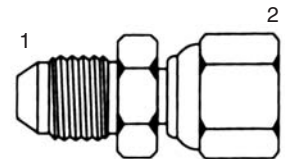
JIC Swivel to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

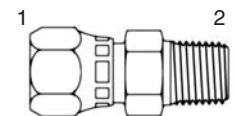


*Length = Overall Length of Fitting

Dash Size	Stock Materials				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
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

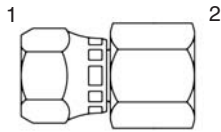
JIC Swivel to Pipe



Steel 37° JIC Adapters

6506

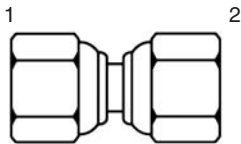
JIC Swivel to Pipe



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

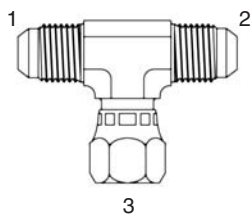
JIC Swivel Union



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

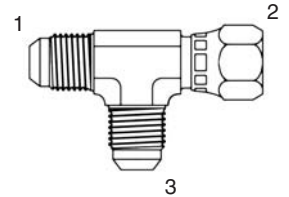
MS 51524
SAE 070433

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

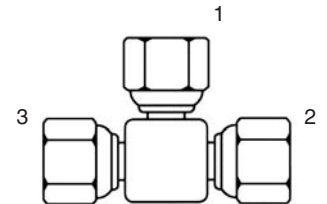


MS 51523
SAE 070432

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

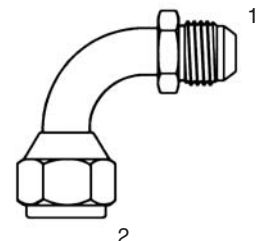
JIC Swivel Union Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

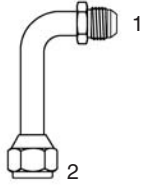
JIC Swivel Bent Tube Elbow 90°



Steel 37° JIC Adapters

6701-L

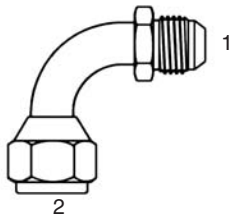
**JIC Swivel
Bent Tube Long
Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°**

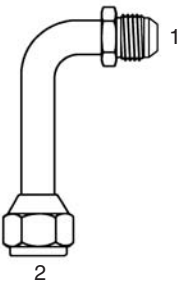


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
08	\$				3/4-16	3/4-16
12	\$				1 1/16-12	1 1/16-12
16	\$				1 5/16-12	1 5/16-12
20	\$				1 5/8-12	1 5/8-12
24	\$				1 7/8-12	1 7/8-12

* Meets SAE 100R10 Pressures.

6701-LXH

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



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°**

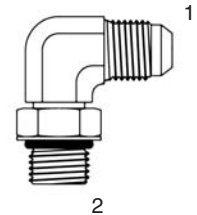


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
06	\$				9/16-18	9/16-18
08	\$				3/4-16	3/4-16
10	\$				7/8-14	7/8-14
12	\$				1 1/16-12	1 1/16-12
16	\$				1 5/16-12	1 5/16-12

Steel 37° JIC Adapters

6801

JIC to O-Ring Elbow 90°



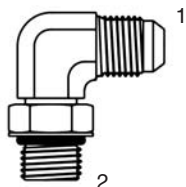
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
02	S	FG	SS		5/16-24	5/16-24
03	S	FG	SS		3/8-24	3/8-24
04-02	S	FG			7/16-20	5/16-24
04-03	S				7/16-20	3/8-24
04	S	FG	SS		7/16-20	7/16-20
04-05	S	FG			7/16-20	1/2-20
04-06	S	FG	SS		7/16-20	9/16-18
04-08	S	FG			7/16-20	3/4-16
04-10	S				7/16-20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

Steel 37° JIC Adapters

RST6801

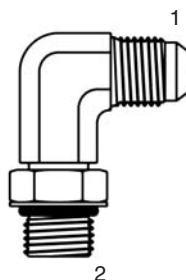
Restricted JIC to O-Ring Elbow 90°



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

6801-L

JIC to O-Ring Long Elbow 90°

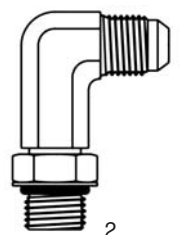


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	Length*
	S	FG	SS	BR			
04	\$	FG			7/16-20	7/16-20	1.19"
04-06	\$				7/16-20	9/16-18	1.66"
06	\$	FG			9/16-18	9/16-18	1.66"
06-08	\$				9/16-18	3/4-16	1.81"
08	\$	FG			3/4-16	3/4-16	1.81"
08-10	\$	FG			3/4-16	7/8-14	2.16"
10-08	\$	FG			7/8-14	3/4-16	1.88"
10	\$				7/8-14	7/8-14	2.16"
12	\$	FG			1 1/16-12	1 1/16-12	2.47"
16	\$	FG			1 5/16-12	1 5/16-12	3.06"
20	\$				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				T1 (UNF)	T2 (UNF)	Length*
	S	FG	SS	BR			
04	\$	FG			7/16-20	7/16-20	1.73"
04-06	\$				7/16-20	9/16-18	2.08"
06	\$	FG			9/16-18	9/16-18	2.08"
06-08	\$	FG			9/16-18	3/4-16	2.50"
08-06	\$				3/4-16	9/16-18	2.17"
08	\$	FG			3/4-16	3/4-16	2.50"
08-10	\$	FG			3/4-16	7/8-14	3.25"
10-08	\$	FG			7/8-14	3/4-16	2.56"
10	\$	FG			7/8-14	7/8-14	3.25"
12	\$	FG			1 1/16-12	1 1/16-12	3.34"
16-12	\$	FG			1 5/16-12	1 1/16-12	3.47"
16	\$	FG			1 5/16-12	1 5/16-12	3.72"
20	\$	FG			1 5/8-12	1 5/8-12	4.41"

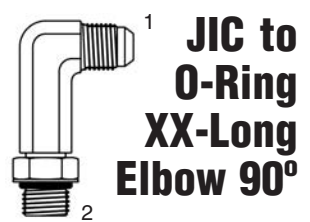
*Length = Middle of JIC to End of Threads

Steel 37° JIC Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	Length*
	S	FG	SS	BR			
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

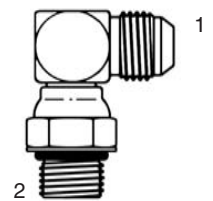


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
06		FG			9/16-18	9/16-18
08		FG			3/4-16	3/4-16
10		FG			7/8-14	7/8-14

*Swivel for installation only.

6801-S

**JIC to O-Ring
Swivel* Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°**

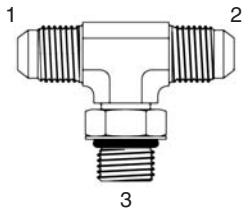


MS 51528
SAE 070320

Steel 37° JIC Adapters

6803

JIC to O-Ring Branch Tee

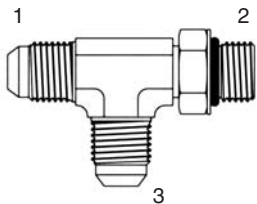


MS 51529
SAE 070429

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

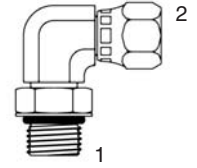
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
04	S	FG	SS	7/16-20	7/16-20	7/16-20
04-06-04	S	FG		7/16-20	9/16-18	7/16-20
05	S	FG		1/2-20	1/2-20	1/2-20
06-04-06	S	FG		9/16-18	7/16-20	9/16-18
06	S	FG	SS	9/16-18	9/16-18	9/16-18
06-08-06	S	FG		9/16-18	3/4-16	9/16-18
08-06-08	S	FG	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

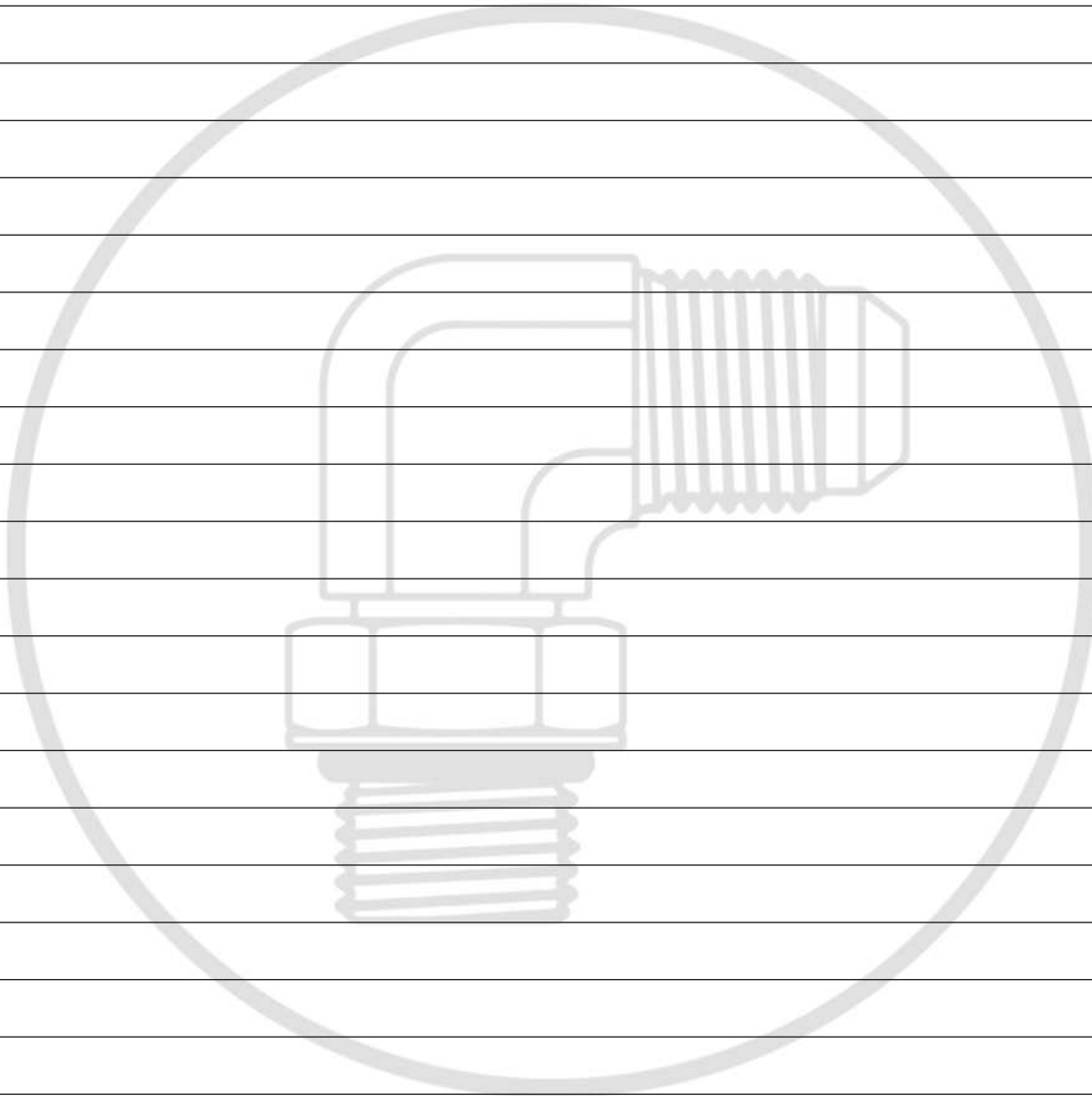
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04		FG			7/16-20	7/16-20
06-04		FG			9/16-18	7/16-20
06-06		FG			9/16-18	9/16-18
08-08		FG			3/4-16	3/4-16
10-10		FG			7/8-14	7/8-14
12-08		FG			1 1/16-12	3/4-16
12-12		FG			1 1/16-12	1 1/16-12
16-16		FG			1 5/16-12	1 5/16-12
20-20		FG	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

6809

**O-Ring to
JIC Swivel
Elbow 90°**



Notes



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

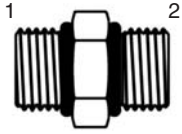
WHY WET TORQUE?

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

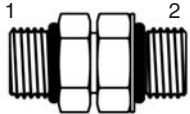
O-Ring Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

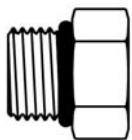
O-Ring Adjustable Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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				T1 (UNF)
	S	FG	SS	BR	
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

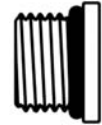
SAE 090109A

Steel SAE O-Ring Adapters

Dash Size	Stock Materials				T1 (UNF)
	S	FG	SS	BR	
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

6408-HHP

O-Ring Hollow Hex Plug

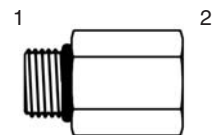


SAE 090109B

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

6410

O-Ring Reducer/Expander



S= Steel

FG=Forging

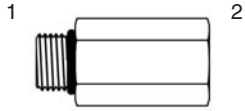
SS=Stainless Steel

BR=Brass

Steel SAE O-Ring Adapters

6410-L

O-Ring Extender

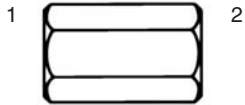


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	Length*
	S	FG	SS	BR			
04-04	\$				7/16-20	7/16-20	1.25"
06-06	\$				9/16-18	9/16-18	1.50"
08-08	\$				3/4-16	3/4-16	1.75"
10-10	\$				7/8-14	7/8-14	2.00"
12-12	\$				1 1/16-12	1 1/16-12	2.38"

*Length = Overall Length of Fitting

6425

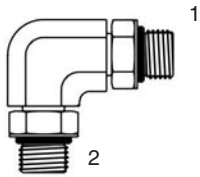
O-Ring Coupling



Dash Size	Stock Materials				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

6807

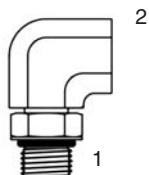
O-Ring Adjustable Union Elbow 90°



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

6815

O-Ring Adjustable Street Elbow 90°



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

Steel SAE O-Ring Adapters

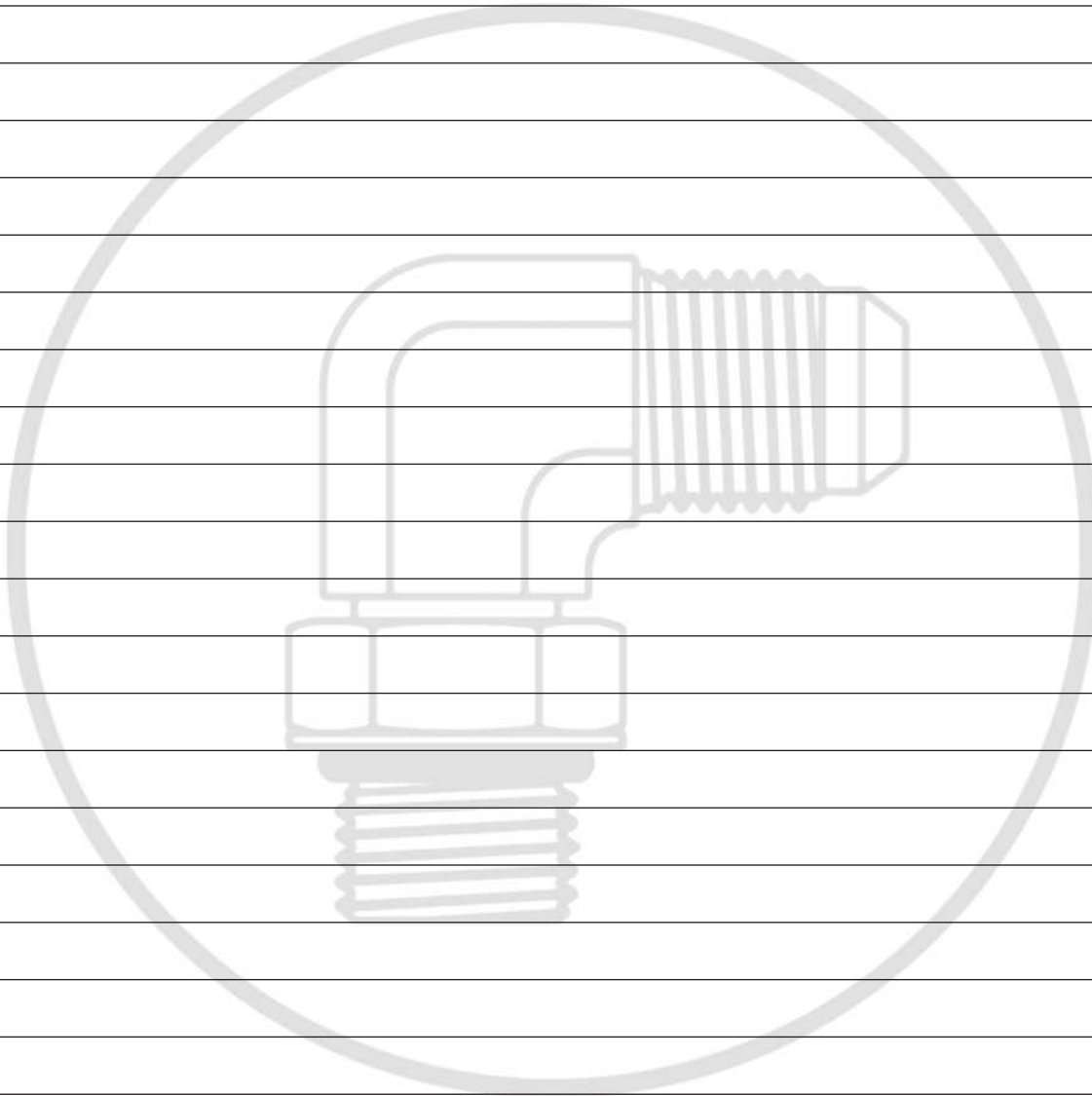
Dash Size	T1 (UNF)	I.D.	90 DB Nitrile 90 Durometer SAE Boss O-Ring
02	5/16-24	.239"	
03	3/8-24	.301"	
04	7/16-20	.351"	
05	1/2-20	.414"	
06	9/16-18	.468"	
08	3/4-16	.644"	
10	7/8-14	.755"	
12	1 1/16-12	.924"	
14	1 3/16-12	1.048"	
16	1 5/16-12	1.171"	
20	1 5/8-12	1.475"	
24	1 7/8-12	1.720"	
32	2 1/2-12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



Dash Size	T1 (UNF)	I.D.	90DB-Viton Viton 90 Durometer SAE Boss O-Ring
02	5/16-24	.239"	
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"	



Notes



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.

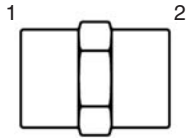
DASH SIZE	NPSM THREAD SIZE	TORQUE FOOT/LBS
-02	1/8-27	12
-04	1/4-18	25
-06	3/8-18	40
-08	1/2-14	54
-12	3/4-14	78
-16	1-11 1/2	112
-20	1 1/4-11 1/2	154
-24	1 1/2-11 1/2	211
-32	2-11 1/2	300

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



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

SAE 140138

5400-CL

Close Nipple



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

3000 psi

Steel Pipe Adapters

5400-N

Long Pipe Nipple



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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		SS		1/8-27	1/8-27	3.50"
02-4.0"	S		SS		1/8-27	1/8-27	4.00"
02-5.0"	S		SS		1/8-27	1/8-27	5.00"
02-6.0"	S		SS		1/8-27	1/8-27	6.00"
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"
04-3.5"	S		SS		1/4-18	1/4-18	3.50"
04-4.0"	S		SS		1/4-18	1/4-18	4.00"
04-5.0"	S		SS		1/4-18	1/4-18	5.00"
04-6.0"	S		SS		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		SS		3/8-18	3/8-18	2.50"
06-3.0"	S		SS		3/8-18	3/8-18	3.00"
06-3.5"	S		SS		3/8-18	3/8-18	3.50"
06-4.0"	S		SS		3/8-18	3/8-18	4.00"
06-5.0"	S		SS		3/8-18	3/8-18	5.00"
06-5.5"	S		SS		3/8-18	3/8-18	5.50"
06-6.0"	S		SS		3/8-18	3/8-18	6.00"
06-7.0"	S		SS		3/8-18	3/8-18	7.00"
06-8.0"	S		SS		3/8-18	3/8-18	8.00"
08-2.0"	S		SS		1/2-14	1/2-14	2.00"
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"
08-4.5"	S		SS		1/2-14	1/2-14	4.50"
08-5.0"	S		SS		1/2-14	1/2-14	5.00"
08-6.0"	S		SS		1/2-14	1/2-14	6.00"
08-8.0"	S		SS		1/2-14	1/2-14	8.00"
12-2.0"	S		SS		3/4-14	3/4-14	2.00"
12-2.5"	S		SS		3/4-14	3/4-14	2.50"
12-3.0"	S		SS		3/4-14	3/4-14	3.00"
12-3.5"	S				3/4-14	3/4-14	3.50"
12-4.0"	S		SS		3/4-14	3/4-14	4.00"
12-5.0"	S		SS		3/4-14	3/4-14	5.00"
12-5.5"	S		SS		3/4-14	3/4-14	5.50"
12-6.0"	S		SS		3/4-14	3/4-14	6.00"
16-3.0"	S		SS		1-11 1/2	1-11 1/2	3.00"
16-4.0"	S		SS		1-11 1/2	1-11 1/2	4.00"
16-5.0"	S		SS		1-11 1/2	1-11 1/2	5.00"
16-6.0"	S		SS		1-11 1/2	1-11 1/2	6.00"
20-3.0"	S		SS		1 1/4-11 1/2	1 1/4-11 1/2	3.00"
20-4.0"	S		SS		1 1/4-11 1/2	1 1/4-11 1/2	4.00"
20-6.0"	S		SS		1 1/4-11 1/2	1 1/4-11 1/2	6.00"
24-4.0"	S		SS		1 1/2-11 1/2	1 1/2-11 1/2	4.00"
24-6.0"	S		SS		1 1/2-11 1/2	1 1/2-11 1/2	6.00"
32-4.0"	S		SS		2-11 1/2	2-11 1/2	4.00"
32-5.0"	S				2-11 1/2	2-11 1/2	5.00"
32-6.0"	S		SS		2-11 1/2	2-11 1/2	6.00"

*Length = Overall Length of Fitting

3000 psi

S= Steel

FG=Forging

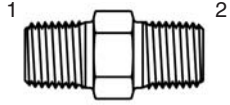
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5404

Hex Pipe Nipple



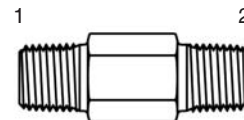
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
02-01	S				1/8-27	1/16-27
02	S		SS		1/8-27	1/8-27
04-02	S		SS		1/4-18	1/8-27
04	S		SS		1/4-18	1/4-18
06-02	S		SS		3/8-18	1/8-27
06-04	S		SS		3/8-18	1/4-18
06	S		SS		3/8-18	3/8-18
08-04	S		SS		1/2-14	1/4-18
08-06	S		SS		1/2-14	3/8-18
08	S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

SAE 140137

Steel Pipe Adapters

5404-L

Long Hex Pipe Nipple



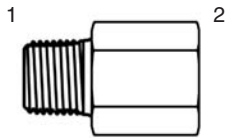
Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)	Length*
	S	FG	SS BR			
02-1.5"	S		SS	1/8-27	1/8-27	1.50"
02-2.0"	S		SS	1/8-27	1/8-27	2.00"
02-2.5"	S		SS	1/8-27	1/8-27	2.50"
02-3.0"	S		SS	1/8-27	1/8-27	3.00"
02-3.5"	S			1/8-27	1/8-27	3.50"
04-2.0"	S		SS	1/4-18	1/4-18	2.00"
04-2.5"	S		SS	1/4-18	1/4-18	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

Steel Pipe Adapters

5405

Expanding Pipe Adapter

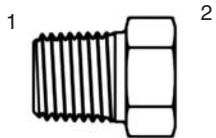


Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
01-02	S				1/16-27	1/8-27
02-02	S		SS		1/8-27	1/8-27
02-04	S		SS		1/8-27	1/4-18
02-06	S		SS		1/8-27	3/8-18
02-08	S		SS		1/8-27	1/2-14
4/28-02	S				1/4-28	1/8-27
04-04	S		SS		1/4-18	1/4-18
04-06	S		SS		1/4-18	3/8-18
04-08	S		SS		1/4-18	1/2-14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

SAE 140139

5406-E

Short Hex Reducer Bushing



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	Length*
	S	FG	SS	BR			
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"

AUTOMOTIVE PIPE

*Length = Length of Hex

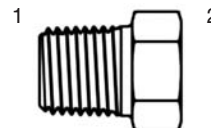
Steel Pipe Adapters

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

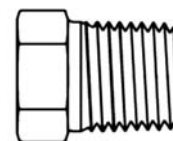


HYDRAULIC PIPE
SAE 140140

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

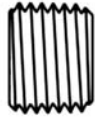
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5406-HHP

Hollow Hex Plug



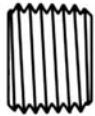
SAE 130109

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

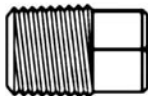
Flush Hollow Hex Plug 7/8 Taper



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

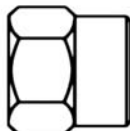


SAE 130109A

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



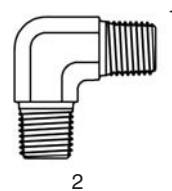
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02	\$		SS		1/8-27
04	\$		SS		1/4-18
06	\$		SS		3/8-18
08	\$		SS		1/2-14
12	\$		SS		3/4-14
16	\$		SS		1-11 1/2

Steel Pipe Adapters

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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°



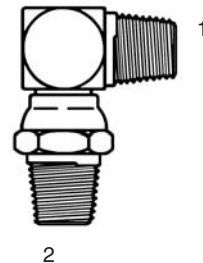
SAE 140237

Dash Size	Stock Materials				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

5500-S

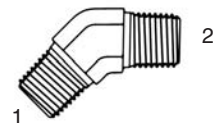
Pipe Swivel* Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

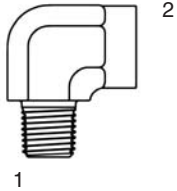
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5502

Street Elbow 90°

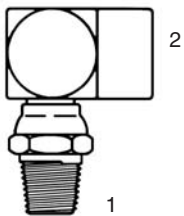


Dash Size	Stock Materials			T1 (NPTF)	T2 (NPTF)
	S	FG	SS BR		
02	S	FG	SS	1/8-27	1/8-27
02-04	S	FG	SS	1/8-27	1/4-18
4/28-02	S			1/4-28	1/8-27
04-02	S	FG	SS	1/4-18	1/8-27
04	S	FG	SS	1/4-18	1/4-18
04-06	S	FG	SS	1/4-18	3/8-18
04-08	S		SS	1/4-18	1/2-14
06-02	S	FG	SS	3/8-18	1/8-27
06-04	S	FG	SS	3/8-18	1/4-18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

SAE 140239

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

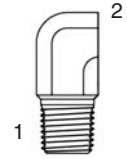
*Swivel For Installation Only

Steel Pipe Adapters

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

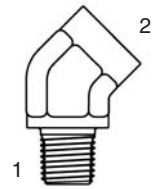
Short Body Street Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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°

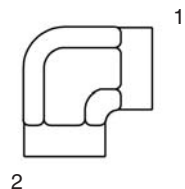


SAE 140339

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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°

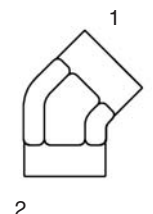


SAE 140238

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

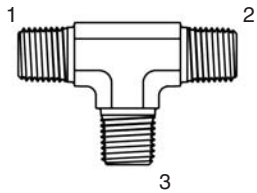
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

5600

Pipe Tee

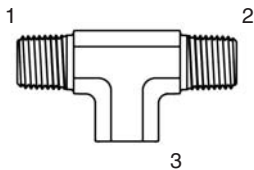


SAE 140437

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	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			1-11 1/2	1-11 1/2	1-11 1/2
20	S				1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
24	S				1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

5601

Pipe Tee

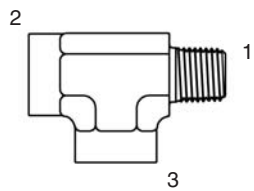


SAE 140427

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	S	FG			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			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

5602

Street Tee

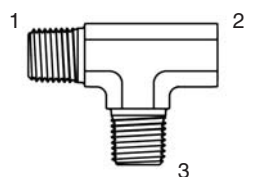


SAE 140424

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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				2-11 1/2	2-11 1/2	2-11 1/2

5603

Pipe Tee



SAE 140426

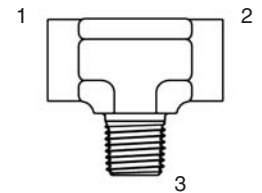
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02	S	FG			1/8-27	1/8-27	1/8-27
04	S	FG	SS		1/4-18	1/4-18	1/4-18
06	S	FG			3/8-18	3/8-18	3/8-18
08	S	FG	SS		1/2-14	1/2-14	1/2-14
12	S	FG	SS		3/4-14	3/4-14	3/4-14
16	S	FG	SS		1-11 1/2	1-11 1/2	1-11 1/2
20	S	FG			1 1/4-11 1/2	1 1/4-11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

Steel Pipe Adapters

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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

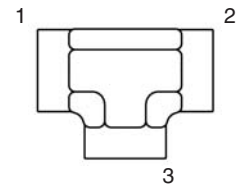


SAE 14042S

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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		1/2-11 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

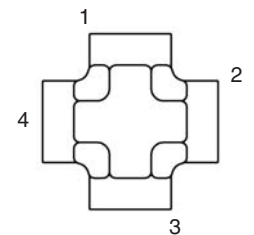


SAE 140438

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
	S	FG	SS	BR			
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

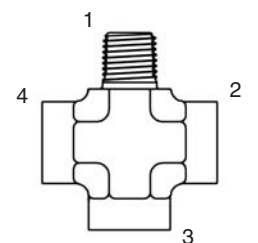


SAE 140538

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
	S	FG	SS	BR			
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

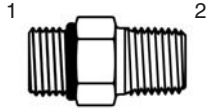
Pipe Cross



Steel Pipe Adapters

6401

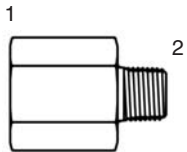
O-Ring to Pipe



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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



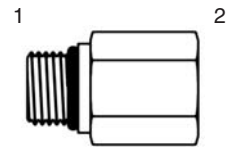
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-02	S			7/16-20	1/8-27
04-04	S			7/16-20	1/4-18
05-02	S			1/2-20	1/8-27
06-04	S			9/16-18	1/4-18
06-06	S			9/16-18	3/8-18
06-08	S			9/16-18	1/2-14
08-04	S			3/4-16	1/4-18
08-06	S			3/4-16	3/8-18
08-08	S			3/4-16	1/2-14
08-12	S			3/4-16	3/4-14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

6405

O-Ring to Pipe

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



S= Steel

FG=Forging

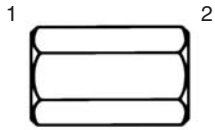
SS=Stainless Steel

BR=Brass

Steel Pipe Adapters

6420

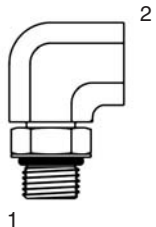
O-Ring to Pipe



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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

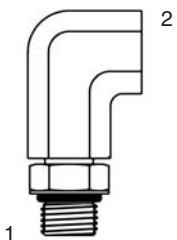
O-Ring to Pipe Elbow 90°



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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			T1 (UNF)	T2 (NPTF)	Length*
	S	FG	SS BR			
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"

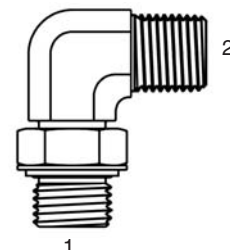
*Length = Middle of NPTF to End of Threads

Steel Pipe Adapters

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

6806

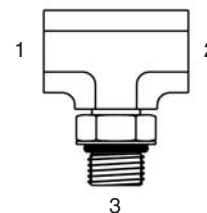
O-Ring to Pipe Elbow 90°



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

6855

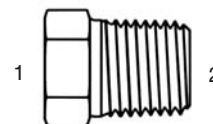
Pipe to O-Ring Branch Tee



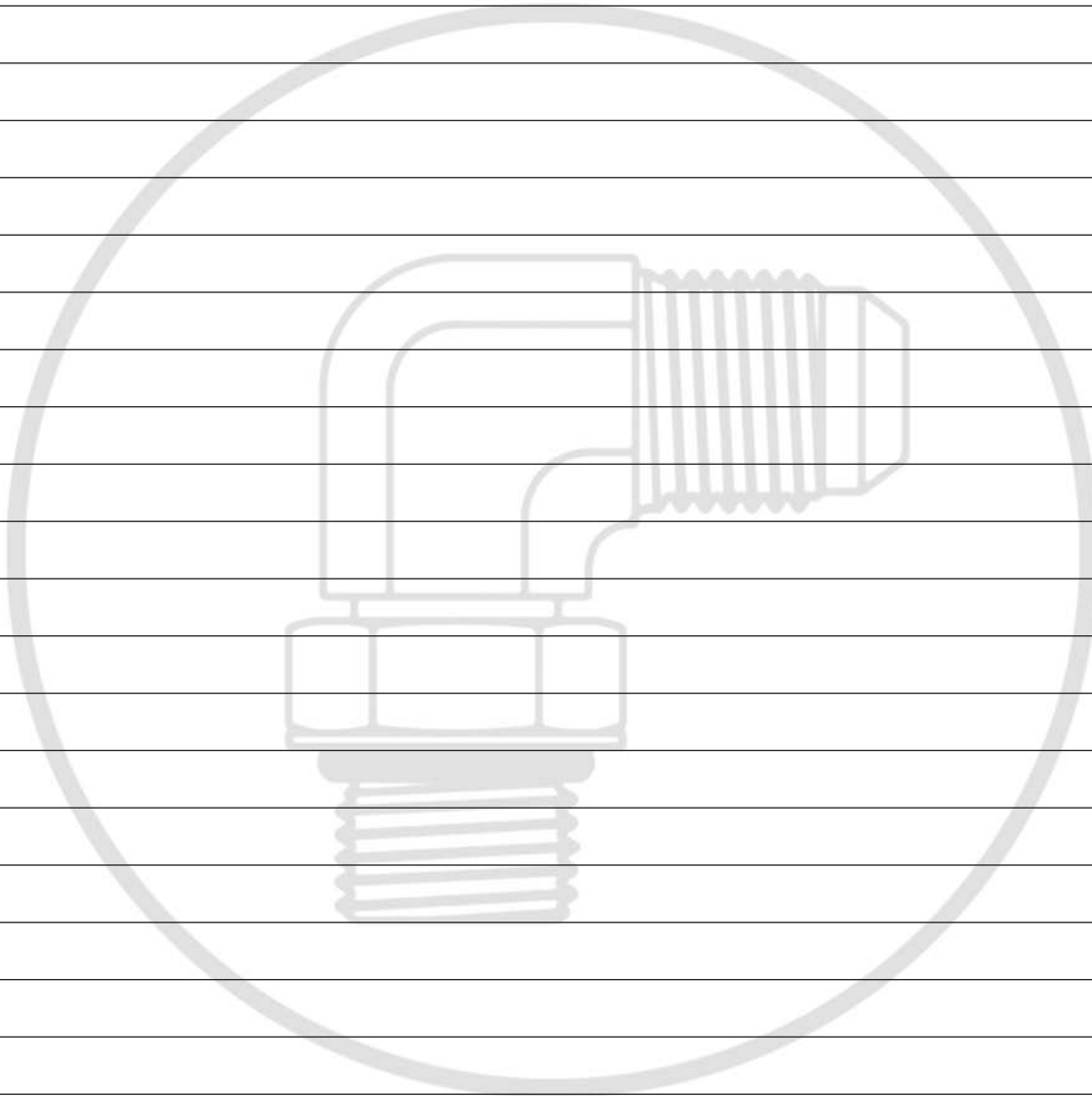
Dash Size	Stock Materials				Braze Port	T2 (NPTF)
	S	FG	SS	BR		
06-04	\$				3/8	1/4-18
08-06	\$				1/2	3/8-18
10-08	\$				5/8	1/2-14
12-08	\$				3/4	1/2-14
12-12	\$				3/4	3/4-14
16-16	\$				1	1-11 1/2
20-16	\$				1 1/4	1-11 1/2
20-20	\$				1 1/4	1 1/4-11 1/2
24-24	\$				1 1/2	1 1/2-11 1/2

404

Braze Port to Pipe



Notes



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 counterclockwise to no less than the 1 o'clock position, but no more than the 12 o'clock position.

WHY WET TORQUE?

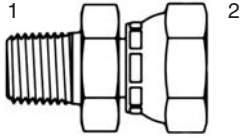
Due to differences in materials, plating types and thickness, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque 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

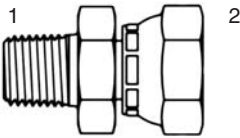


SAE 140130

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

RST1404

Restricted Pipe Swivel Union



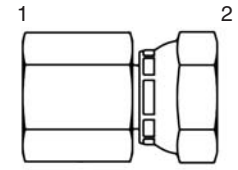
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	Restriction
	S	FG	SS	BR			
04-04-R.000	S				1/4-18	1/4-18	.000
04-04-R.031	S				1/4-18	1/4-18	.031
04-04-R.062	S				1/4-18	1/4-18	.062
06-04-R.000	S				3/8-18	1/4-18	.000
06-04-R.031	S				3/8-18	1/4-18	.031
06-04-R.062	S				3/8-18	1/4-18	.062
06-06-R.000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

Steel Pipe Swivel Adapters

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
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

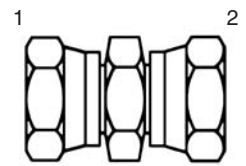


SAE 140131

Dash Size	Stock Materials				T1 (NPSM)	T2 (NPSM)
	S	FG	SS	BR		
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

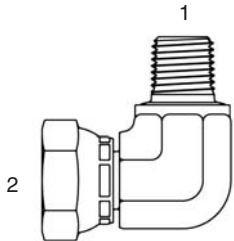
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

1501

Pipe Swivel Elbow 90°

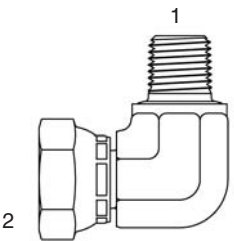


SAE 140230

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°



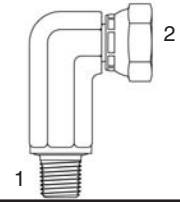
Dash Size	Stock Materials			T1 (NPTF)	T2 (NPSM)	Restriction
	S	FG	SS BR			
04-04-R.000	S			1/4-18	1/4-18	.000
04-04-R.031	S			1/4-18	1/4-18	.031
04-04-R.062	S			1/4-18	1/4-18	.062
06-04-R.000	S			3/8-18	1/4-18	.000
06-04-R.031	S			3/8-18	1/4-18	.031
06-04-R.062	S			3/8-18	1/4-18	.062
06-06-R.000	S		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

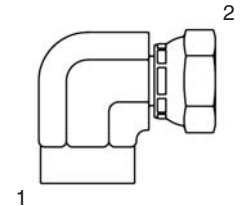
*Length = Middle of NPSM to End of Threads

1501-LL Pipe Swivel Elbow Long 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
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

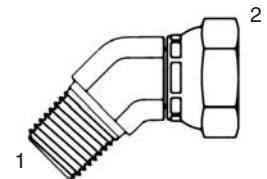
1502 Pipe Swivel Elbow 90°



SAE 140231

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
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

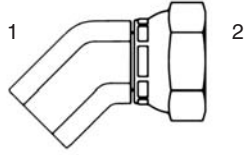
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

1504

Pipe Swivel Elbow 45°

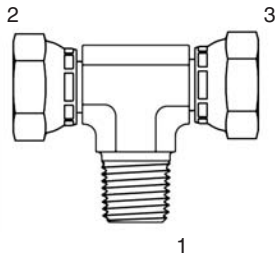


SAE 140331

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
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

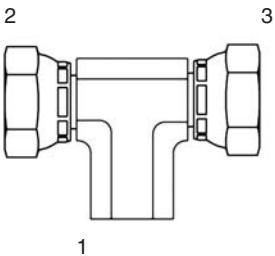
Pipe Branch Tee Swivel Union



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	T3 (NPSM)
	S	FG	SS	BR			
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



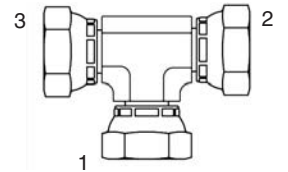
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	T3 (NPSM)
	S	FG	SS	BR			
02-02-02	S	FG			1/8-27	1/8-27	1/8-27
04-04-04	S	FG			1/4-18	1/4-18	1/4-18
06-04-04	S				3/8-18	1/4-18	1/4-18
06-06-06	S	FG			3/8-18	3/8-18	3/8-18
06-08-08	S				3/8-18	1/2-14	1/2-14
08-06-06	S	FG			1/2-14	3/8-18	3/8-18
08-08-08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

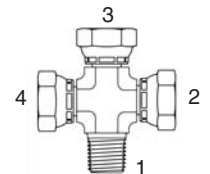
Pipe Swivel Union Tee



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)	T3 & T4 (NPSM)
	S	FG	SS	BR			
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

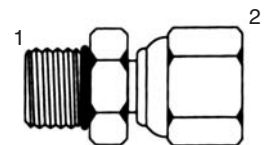
Pipe Swivel Union Cross



Dash Size	Stock Materials				T1 (UNF)	T2 (NPSM)
	S	FG	SS	BR		
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

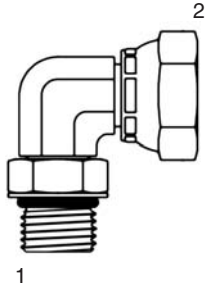
SS=Stainless Steel

BR=Brass

Steel Pipe Swivel Adapters

6901

O-Ring to Pipe Swivel Elbow 90°

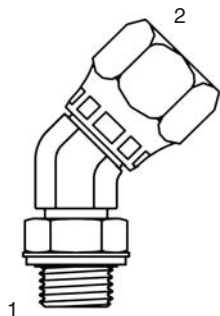


SAE 140257

Dash Size	Stock Materials				T1 (UNF)	T2 (NPSM)
	S	FG	SS	BR		
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

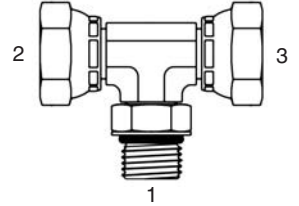
Dash Size	Stock Materials				T1 (UNF)	T2 (NPSM)
	S	FG	SS	BR		
04-04	S	FG			7/16-20	1/4-18
06-04	S				9/16-18	1/4-18
06-06	S	FG			9/16-18	3/8-18
06-08	S				9/16-18	1/2-14
08-06	S	FG			3/4-16	3/8-18
08-08	S	FG			3/4-16	1/2-14
08-12	S				3/4-16	3/4-14
10-06	S				7/8-14	3/8-18
10-08	S	FG			7/8-14	1/2-14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

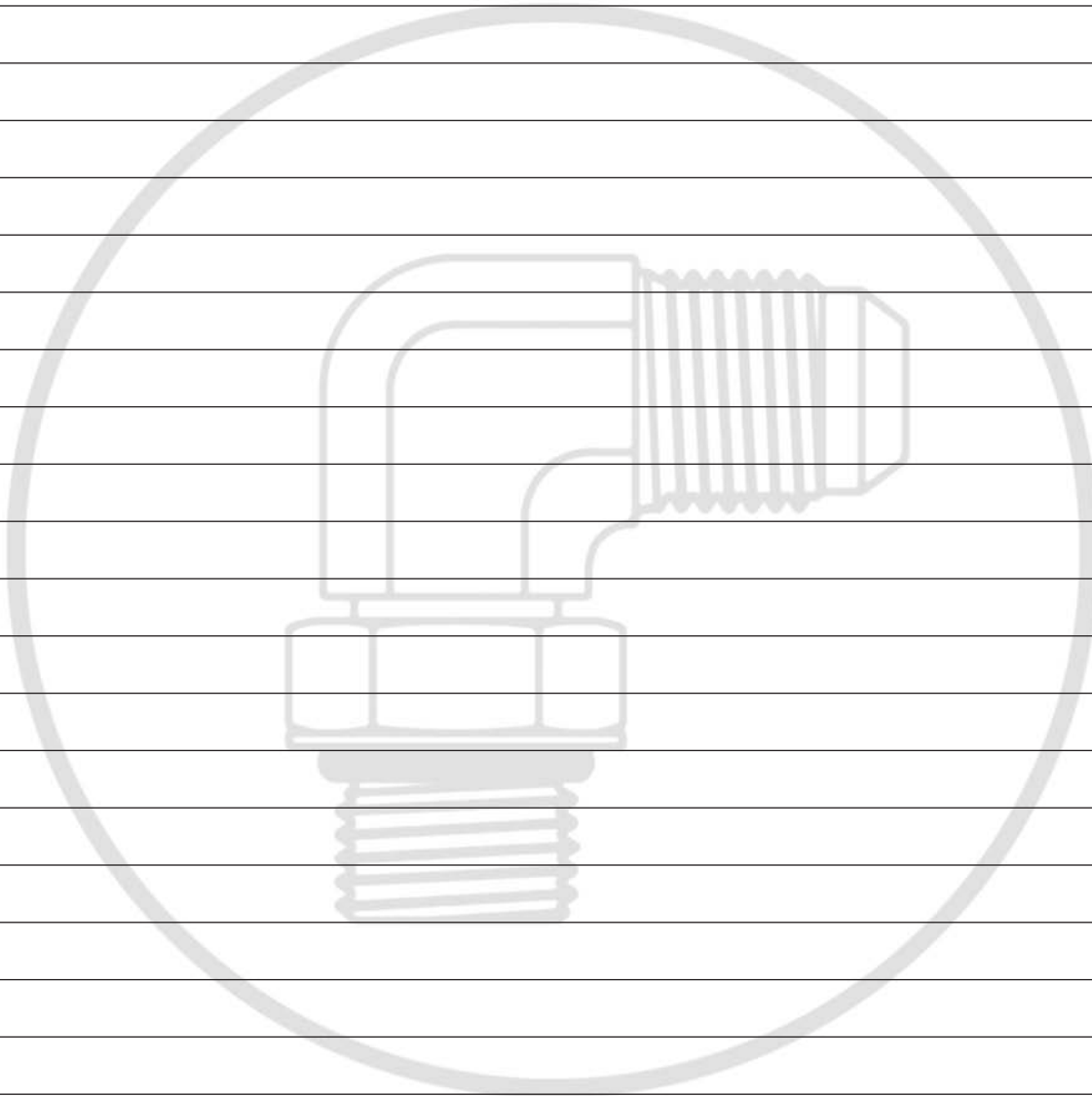
Dash Size	Stock Materials				T1 (UNF)	T2 (NPSM)	T3 (NPSM)
	S	FG	SS	BR			
04-04-04	S				7/16-20	1/4-18	1/4-18
06-06-06	S				9/16-18	3/8-18	3/8-18
08-06-06	S				3/4-16	3/8-18	3/8-18
08-08-08	S				3/4-16	1/2-14	1/2-14

6911

O-Ring Branch Tee Swivel Union



Notes



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.

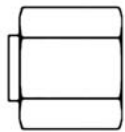
See **SAE STRAIGHT THREAD O-RING SECTION** for assembly instructions for installation of **O-RING FACE SEAL FITTINGS** with O-ring straight thread port studs.

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				Tube O.D.	T1 (UNF)
	S	FG	SS	BR		
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



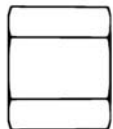
SAE 520118

Dash Size	Stock Materials				T1 (UNF)
	S	FG	SS	BR	
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				Tube O.D.	T1 (UNF)
	S	FG	SS	BR		
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

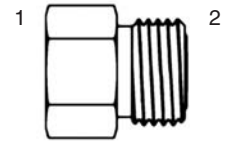
Dash Size	Stock Materials				Tube O.D.
	S	FG	SS	BR	
04	\$		SS		.25
06	\$		SS		.38
08	\$		SS		.50
10	\$		SS		.62
12	\$		SS		.75
16	\$		SS		1.00
20	\$		SS		1.25
24	\$		SS		1.50

Steel O-Ring Face Seal Adapters

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

FF403

Braze-On ORFS Connector

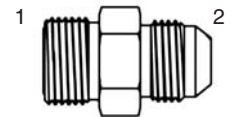


SAE 520104

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04	S				9/16-18	7/16-20
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

FF2402

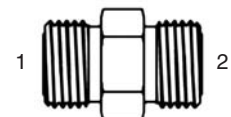
ORFS to JIC



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

FF2403

ORFS Union



SAE 520101

S= Steel

FG=Forging

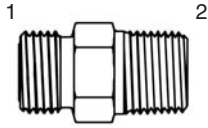
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF2404

ORFS to Pipe

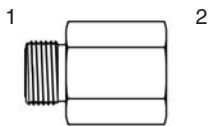


SAE 520102

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

FF2405

ORFS to Pipe



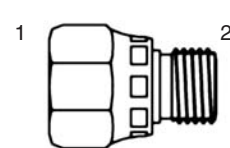
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-04	S			9/18-18	1/4-18
06-04	S			11/16-16	1/4-18
06-06	S			11/16-16	3/8-18
06-08	S			11/16-16	1/2-14
08-06	S			13/16-16	3/8-18
08-08	S			13/16-16	1/2-14
12-12	S			1 3/16-12	3/4-14
16-16	S			1 7/16-12	1-11 1/2
20-20	S			1 11/16-12	1 1/4-11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

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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				T1 (UNF)
	S	FG	SS	BR	
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				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

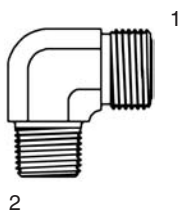
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF2501

**ORFS to Pipe
Elbow 90°**

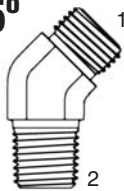


SAE 520202

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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°**

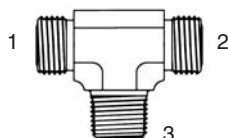


SAE 520302

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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**

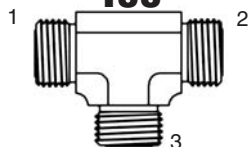


SAE 520425

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3(NPTF)
	S	FG	SS	BR			
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				T1 (UNF)	T2 (UNF)	T3(UNF)
	S	FG	SS	BR			
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				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
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

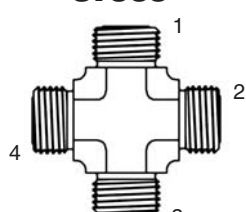


SAE 520424

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
	S	FG	SS	BR			
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				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

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

FF2700

ORFS Bulkhead Union



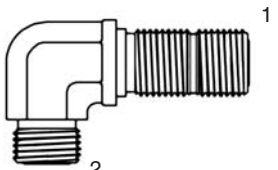
SAE 520601

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

FF2701

ORFS Bulkhead Union 90°

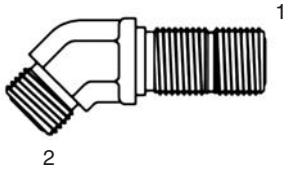


SAE 520701

Steel O-Ring Face Seal Adapters

FF2702

ORFS Bulkhead Union 45°



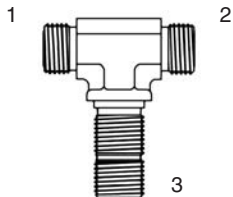
SAE 520801

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

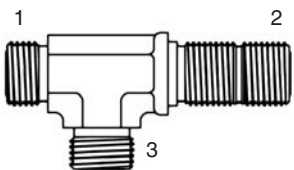


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3(UNF)
	S	FG	SS	BR			
04		FG			9/16-18	9/16-18	9/16-18
06		FG			11/16-16	11/16-16	11/16-16
08		FG			13/16-16	13/16-16	13/16-16
10		FG			1-14	1-14	1-14
12		FG			1 3/16-12	1 3/16-12	1 3/16-12
16		FG			1 7/16-12	1 7/16-12	1 7/16-12
20		FG			1 11/16-12	1 11/16-12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

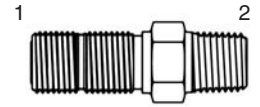
Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

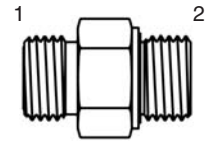
ORFS to Pipe Bulkhead



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPP)
	S	FG	SS	BR		
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

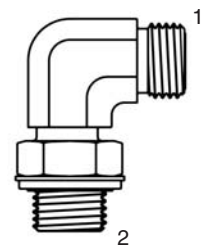
ORFS to BSPP



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPP)
	S	FG	SS	BR		
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

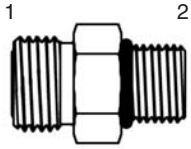
ORFS to BSPP Elbow 90°



Steel O-Ring Face Seal Adapters

FF6400

ORFS to O-Ring

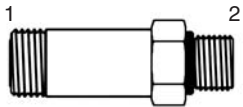


Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04	S		SS		9/16-18	7/16-20
04-06	S		SS		9/16-18	9/16-18
04-08	S				9/16-18	3/4-16
06-04	S		SS		11/16-16	7/16-20
06	S		SS		11/16-16	9/16-18
06-08	S		SS		11/16-16	3/4-16
06-10	S				11/16-16	7/8-14
08-06	S		SS		13/16-16	9/16-18
08	S		SS		13/16-16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

SAE 520120

FF6400-L

ORFS to O-Ring Long



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	Length*
	S	FG	SS	BR			
04	S				9/16-18	7/16-20	2.00"
06	S				11/16-16	9/16-18	2.25"
08	S				13/16-16	3/4-16	2.75"
10	S				1-14	7/8-14	3.00"
12	S				1 3/16-12	1 1/16-12	3.60"
16	S				1 7/16-12	1 5/16-12	4.00"
20	S				1 11/16-12	1 5/8-12	4.50"
24	S				2-12	1 7/8-12	5.00"

SAE 520122

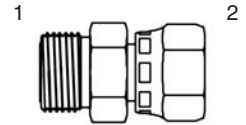
*Length = Overall Length of Fitting

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04	S				9/16-18	7/16-20
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

FF6402

ORFS to JIC Swivel

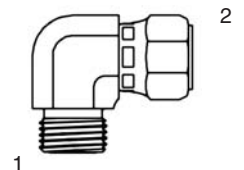


SAE 520181

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04		FG	SS		9/16-18	9/16-18
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

FF6500

ORFS to ORFS Swivel Nut Elbow 90°

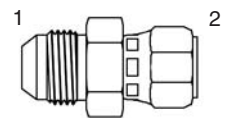


SAE 520221

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04	S				7/16-20	9/16-18
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

FF6504

JIC to ORFS Swivel



SAE 520801

S= Steel

FG=Forging

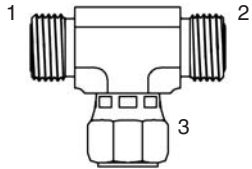
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF6600

ORFS to Swivel Branch Tee

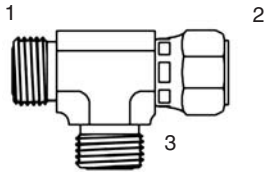


SAE 520433

Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
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

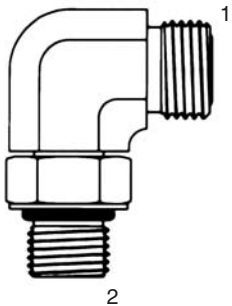


SAE 520432

Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
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

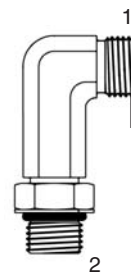
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
04	FG	SS		9/16-18	7/16-20
04-06	FG	SS		9/16-18	9/16-18
04-08	FG			9/16-18	3/14-16
06-04	FG	SS		11/16-16	7/16-20
06-05	FG			11/16-16	1/2-20
06	FG	SS		11/16-16	9/16-18
06-08	FG	SS		11/16-16	3/4-16
06-10	FG			11/16-16	7/8-14
06-12	FG			11/16-16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

FF6801-L

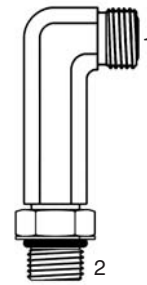
ORFS to
O-Ring
Long
Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04		FG			9/16-18	7/16-20
06		FG			11/16-16	9/16-18
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

FF6801-LL

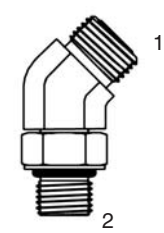
ORFS to
O-Ring
Extra
Long
Elbow
90°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04		FG	SS		9/16-18	7/16-20
04-06		FG			9/16-18	9/16-18
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

FF6802

ORFS to O-Ring
Elbow 45°



SAE 520320

S= Steel

FG=Forging

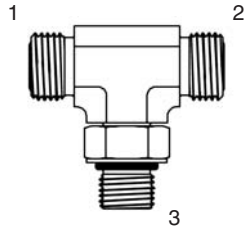
SS=Stainless Steel

BR=Brass

Steel O-Ring Face Seal Adapters

FF6803

ORFS to O-Ring Branch Tee

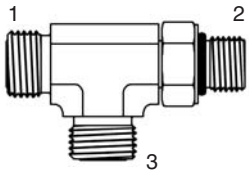


SAE 520429

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3(UNF)
	S	FG	SS	BR			
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

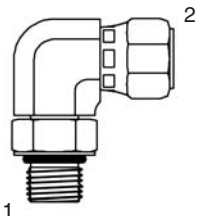


SAE 520428

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3(UNF)
	S	FG	SS	BR			
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°



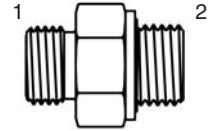
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04-04	FG				7/16-20	9/16-18
06-06	FG				9/16-18	11/16-16
08-08	FG				3/4-16	13/16-16
10-10	FG				7/8-14	1-14
12-12	FG				1 1/16-12	1 3/16-12
16-16	FG				1 5/16-12	1 7/16-12
20-20	FG				1 5/8-12	1 11/16-12
24-24	FG				1 7/8-12	2-12

Steel O-Ring Face Seal Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
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

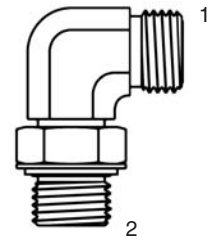
ORFS to Metric



Dash Size	Stock Materials				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
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

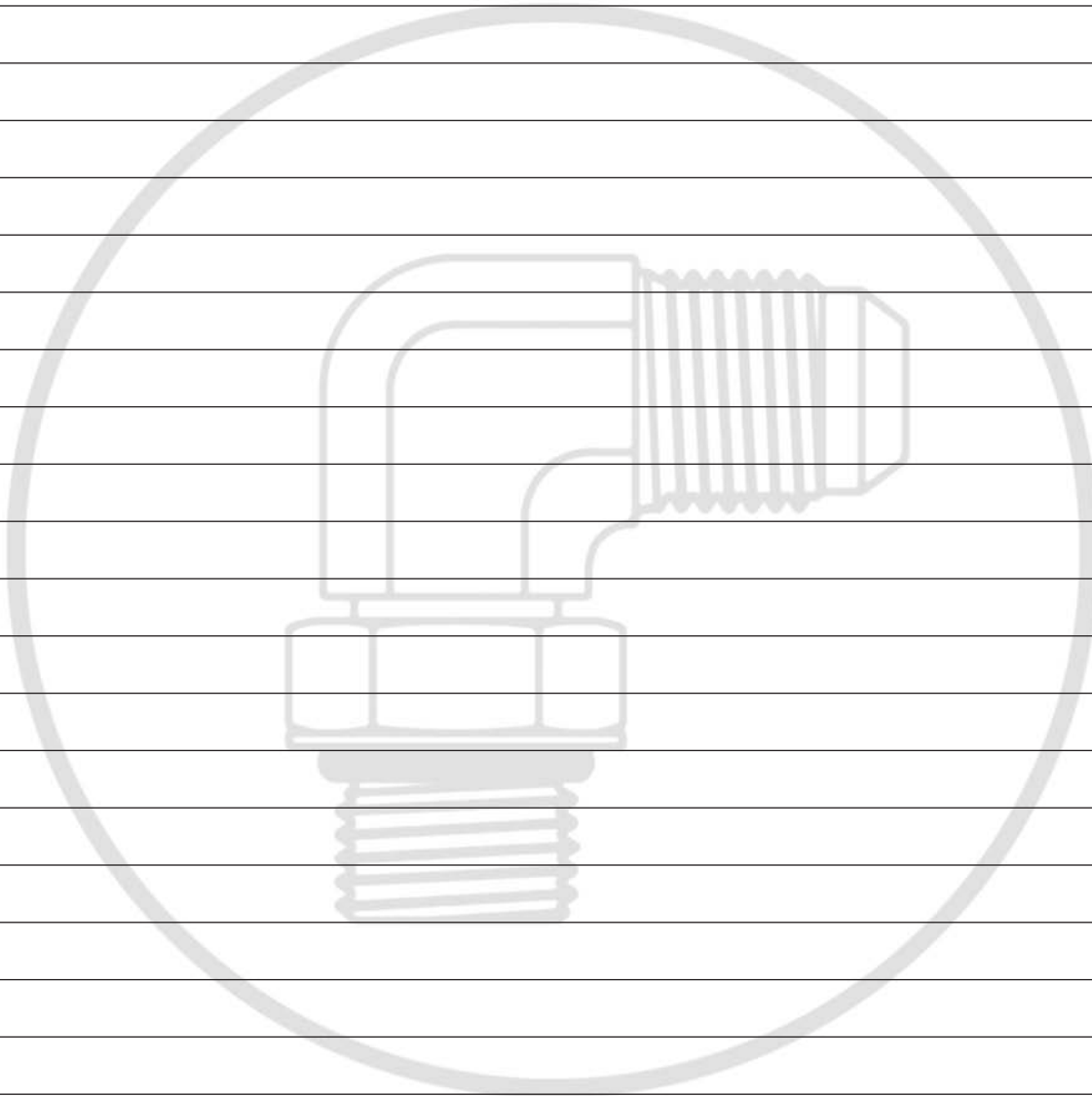
90DFF

Buna-N
Durometer ORFS
O-Ring



* Viton available upon request.

Notes

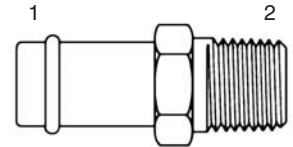


Steel Beaded Hose Fittings

Dash Size	Stock Materials				Hose I.D.	T2 (NPTF)
	S	FG	SS	BR		
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

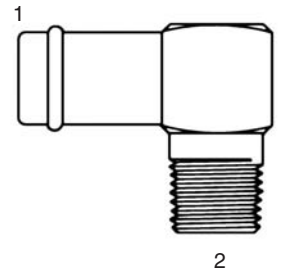


SAE 430160

Dash Size	Stock Materials				Hose I.D.	T2 (NPTF)
	S	FG	SS	BR		
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°

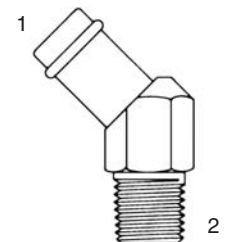


SAE 430260

Dash Size	Stock Materials				Hose I.D.	T2 (NPTF)
	S	FG	SS	BR		
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

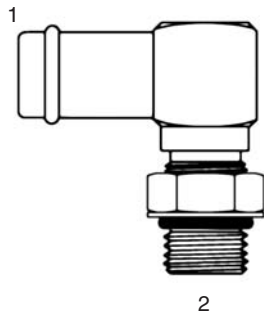
SS=Stainless Steel

BR=Brass

Steel Beaded Hose Fittings

4601

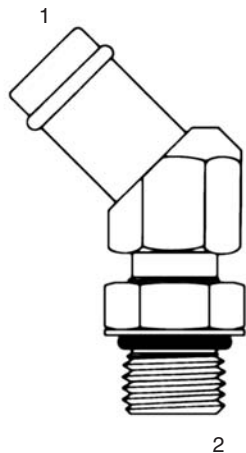
Beaded Hose to O-Ring Elbow 90°



Dash Size	Stock Materials				Hose I.D.	T2 (UNF)
	S	FG	SS	BR		
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°



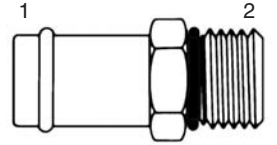
Dash Size	Stock Materials				Hose I.D.	T2 (UNF)
	S	FG	SS	BR		
04	S	FG			1/4	7/16-20
04-06	S	FG			1/4	9/16-18
06	S	FG			3/8	9/16-18
08-06	S	FG			1/2	9/16-18
08	S	FG			1/2	3/4-16
10-08	S				5/8	3/4-16
10	S	FG			5/8	7/8-14
10-12	S				5/8	1 1/16-12
12-08	S				3/4	3/4-16
12-10	S				3/4	7/8-14
12	S	FG			3/4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

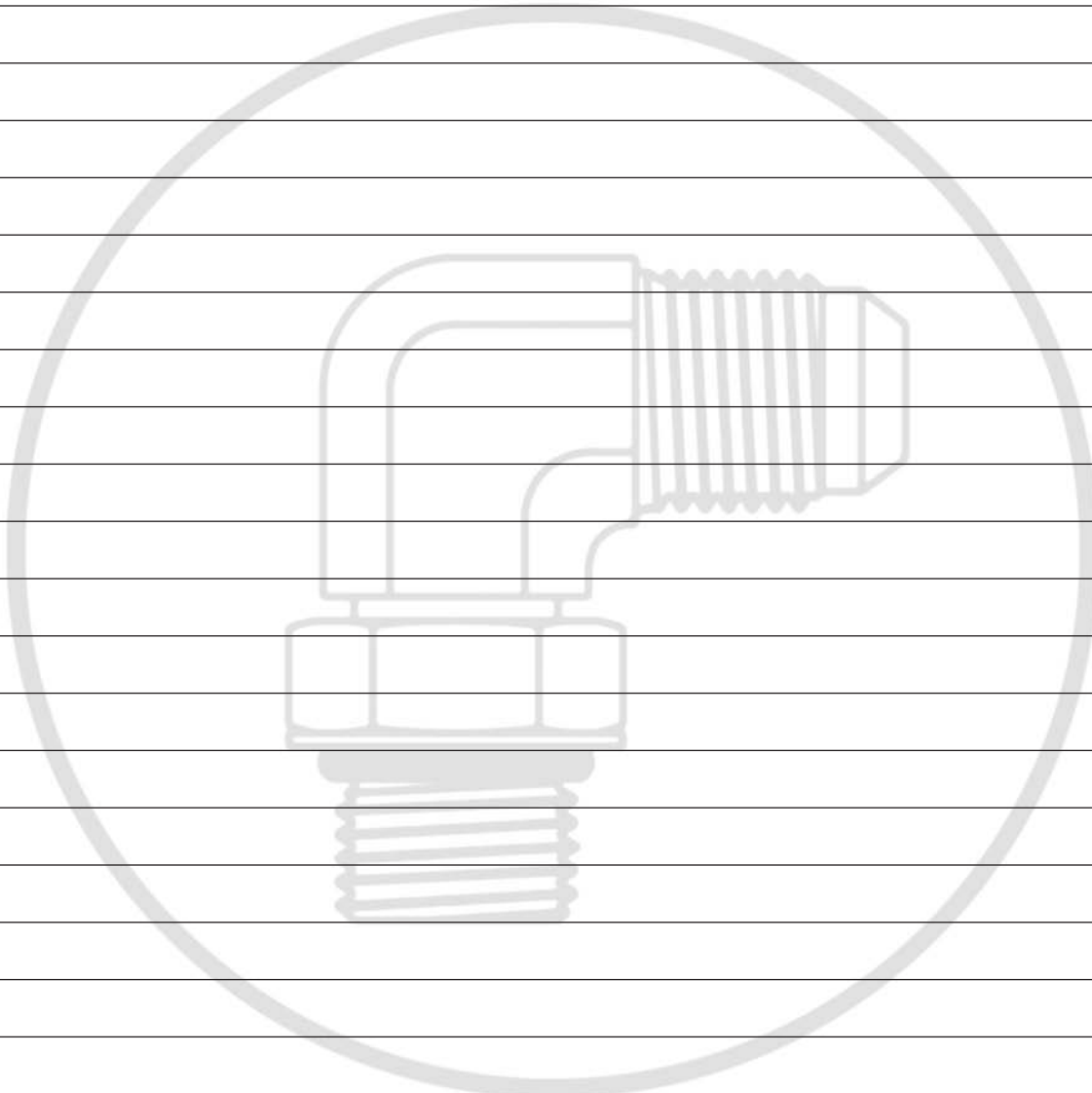
Dash Size	Stock Materials				Hose I.D.	T2 (UNF)
	S	FG	SS	BR		
04	S				1/4	7/16-20
05	S				5/16	1/2-20
06	S				3/8	9/16-18
06-08	S				3/8	3/4-16
06-10	S				3/8	7/8-14
08	S				1/2	3/4-16
08-10	S				1/2	7/8-14
10-08	S				5/8	3/4-16
10	S				5/8	7/8-14
12-08	S				3/4	3/4-16
12	S				3/4	1 1/16-12
16-12	S	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



Notes



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

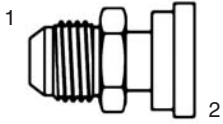
WHY WET TORQUE?

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

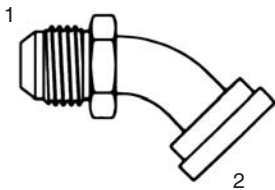


Dash Size	Stock Materials			T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS BR			
08-08	S			3/4-16	1/2	1.18"
08-12	S	FG		3/4-16	3/4	1.50"
10-10 Komatsu	S			7/8-14	16MM	34MM
10-16	S			7/8-14	1	1.75"
12-12	S	FG		1 1/16-12	3/4	1.50"
12-16	S	FG		1 1/16-12	1	1.75"
14-12	S			1 3/16-12	3/4	1.50"
16-12	S	FG	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

CODE 61

6845

JIC to Flange Elbow 45°



Dash Size	Stock Materials			T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS BR			
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"

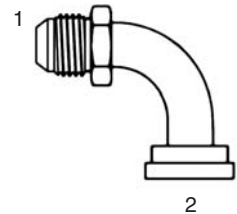
CODE 61

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°

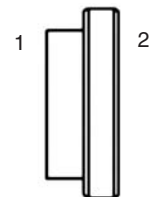


CODE 61

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

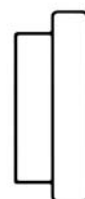


CODE 61

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				Flange Size
	S	FG	SS	BR	
08	<input type="checkbox"/>				1/2
12	<input type="checkbox"/>				3/4
16	<input type="checkbox"/>				1
20	<input type="checkbox"/>				1 1/4
24	<input type="checkbox"/>				1 1/2
32	<input type="checkbox"/>				2
40	<input type="checkbox"/>				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



CODE 61

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

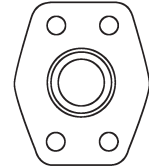
To order flanges as a kit that includes two flange halves, four grade 5 hex head cap screws, four spring lock washers, and one nitrile o-ring, add the suffix "K" to the base component part number. (Example: SFK-12)

Steel Flange Components CODE 61

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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

W4

Pipe Weld Flange Pad

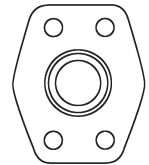


CODE 61

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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

W43

Pipe Thread Flange Pad

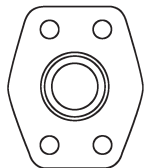


CODE 61

Dash Size	Stock Materials				T1 (UNF)	Pad Size
	S	FG	SS	BR		
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

W46

O-Ring Flange Pad



CODE 61

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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

WC4

Pipe Weld Companion Flange Pad



CODE 61

S= Steel

FG=Forging

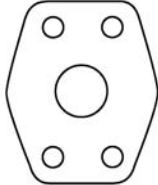
SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 61

WC43

Pipe Companion Flange Pad



CODE 61

Dash Size	Stock Materials			T1 (NPTF)	Pad Size
	S	FG	SS BR		
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

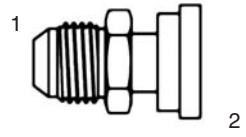
Dash Size	Stock Materials			T1 (UNF)	Pad Size
	S	FG	SS BR		
08-08	\$			3/4-16	1/2
12-12	\$			1 1/16-12	3/4
16-16	\$			1 5/16-12	1
20-20	\$			1 5/8-12	1 1/4
24-24	\$			1 7/8-12	1 1/2
32-32	\$			2 1/2-12	2

Steel Flange Components CODE 62

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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

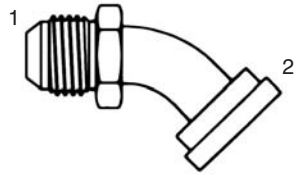


CODE 62

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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°

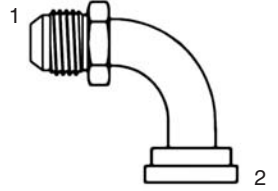


CODE 62

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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

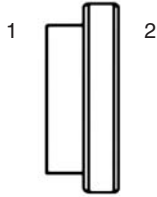
SS=Stainless Steel

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"

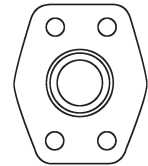
To order flanges as a kit that includes two flange halves, four grade 5 hex head cap screws, four spring lock washers, and one nitrile o-ring, add the suffix "K" to the base component part number. (Example: SFXK-12)

Steel Flange Components CODE 62

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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 1/2-1 1/2	2 1/2
48-48	\$				3-1 1/2	3

W42

Pipe Weld Flange Pad

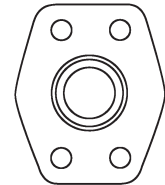


CODE 62

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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

W44

Female Pipe Flange Pad

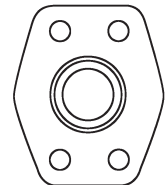


CODE 62

Dash Size	Stock Materials				T1 (UNF)	Pad Size
	S	FG	SS	BR		
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

W48

O-Ring Flange Pad

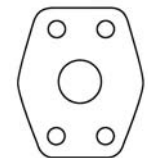


CODE 62

Dash Size	Stock Materials				T1 (NPTF)	Pad Size
	S	FG	SS	BR		
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

WC42

Pipe Weld Companion Flange Pad



CODE 62

S= Steel

FG=Forging

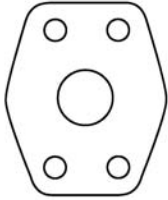
SS=Stainless Steel

BR=Brass

Steel Flange Components CODE 62

WC44

Pipe Companion Flange Pad



CODE 62

Dash Size	Stock Materials			T1 (NPTF)	Pad Size
	S	FG	SS BR		
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

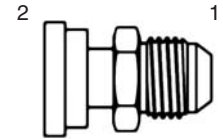
To order companion flange, (mating flange with flat surface and threaded screw holes), add the suffix "C" after the base component part number. (Example [W43C-12-12](#))

No Braze Flange Adapters

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	<input checked="" type="checkbox"/>	1 1/16-12	3/4	1.62"
16-12	<input checked="" type="checkbox"/>	1 5/16-12	3/4	1.62"

NB6842

JIC to No Braze Flange

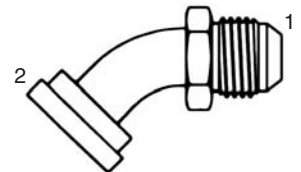


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	<input checked="" type="checkbox"/>	1 1/16-12	3/4	1.62"
16-12	<input checked="" type="checkbox"/>	1 5/16-12	3/4	1.62"

NB6847

JIC to No Braze Flange Elbow 45°

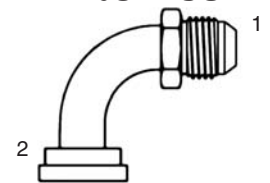


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	<input checked="" type="checkbox"/>	1 1/16-12	3/4	1.62"
16-12	<input checked="" type="checkbox"/>	1 5/16-12	3/4	1.62"

NB6892

JIC to No Braze Flange Elbow 90°

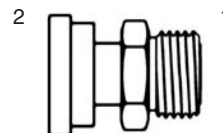


CODE 62

Dash Size	Stock Materials S FG SS BR	T1 (UNF)	Flange Size	Flange Head O.D.
12-12	<input checked="" type="checkbox"/>	1 3/16-12	3/4	1.62"
16-12	<input checked="" type="checkbox"/>	1 7/16-12	3/4	1.62"

NBFF6842

ORFS to No Braze Flange



CODE 62

S= Steel

FG=Forging

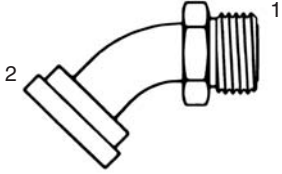
SS=Stainless Steel

BR=Brass

No Braze Flange Adapters

NBFF6847

**ORFS to No
Braze Flange
Elbow 45°**



CODE 62

Dash Size	Stock Materials			T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS BR			
12-12	<input checked="" type="checkbox"/>			1 3/16-12	3/4	1.62"
16-12	<input checked="" type="checkbox"/>			1 7/16-12	3/4	1.62"

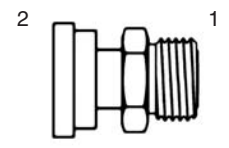
Note: The no braze flange adapters are designed with a larger through hole than standard flange adapters and manufactured as a one-piece design. This is designed to reduce pressure drop and heat.

O-Ring Face Seal Flange Adapters

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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

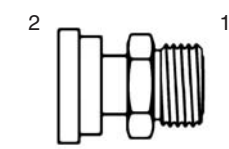


CODE 61

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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

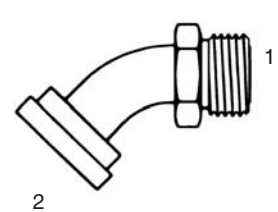


CODE 62

Dash Size	Stock Materials				T1 (UNF)	Flange Size	Flange Head O.D.
	S	FG	SS	BR			
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°

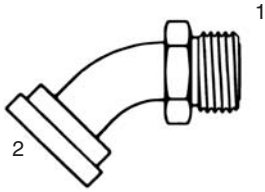


CODE 61

O-Ring Face Seal Flange Adapters

FF6847

**ORFS to Flange
Elbow 45°**

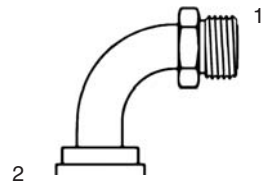


CODE 62

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°**

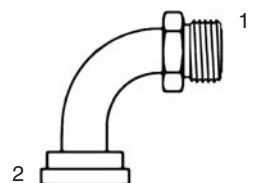


CODE 61

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	

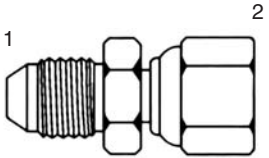
Metric compression fittings are available in other sizes and configurations in steel and stainless steel. Please call customer service for additional information.

BSPB Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (BSPB)
	S	FG	SS	BR		
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
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
08-06	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
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
12-12	S				1 1/16-12	3/4-14
12-16	S				1 1/16-12	1-11
16-16	S				1 5/16-12	1-11
20-20	S				1 5/8-12	1 1/4-11

3240

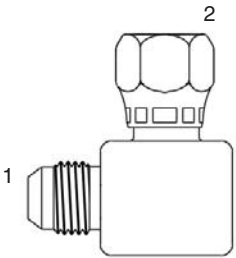
JIC to BSPB Swivel



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPB)
	S	FG	SS	BR		
06-06	S				9/16-18	3/8-19
08-08	S				3/4-16	1/2-14
12-12	S				1 1/16-12	3/4-14

3401

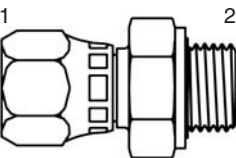
JIC to BSPB Swivel Elbow 90°



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

3402

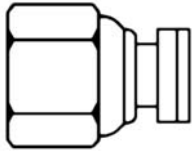
JIC to BSPB



BSPP Adapters

3406

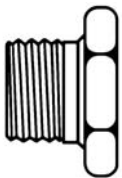
Swivel BSPP Cap



Dash Size	Stock Materials				T1 (BSPP)
	S	FG	SS	BR	
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

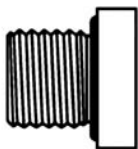
BSPP Plug



Dash Size	Stock Materials				T1 (BSPP)
	S	FG	SS	BR	
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

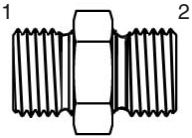


Dash Size	Stock Materials				T1 (BSPP)
	S	FG	SS	BR	
02	\$				1/8-28
04	\$				1/4-19
06	\$				3/8-19
08	\$				1/2-14
12	\$				3/4-14
16	\$				1-11
20	\$				1 1/4-11
24	\$				1 1/2-11

BSPB Adapters

3420

BSPB Nipple

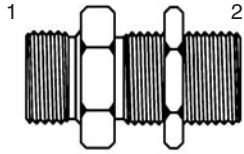


Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPB)
	S	FG	SS	BR		
02-02	S				1/8-28	1/8-28
04-02	S				1/4-19	1/8-28
04-04	S				1/4-19	1/4-19
06-02	S				3/8-19	1/8-28
06-04	S				3/8-19	1/4-19
06-06	S				3/8-19	3/8-19
08-02	S				1/2-14	1/8-28
08-04	S				1/2-14	1/4-19
08-06	S				1/2-14	3/8-19
08-08	S				1/2-14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

BSPP Adapters

3421

BSPP Bulkhead Union



Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPP)
	S	FG	SS	BR		
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

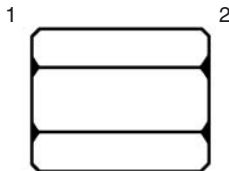
BSPP Bulkhead Locknut



Dash Size	Stock Materials				T1 (BSPP)
	S	FG	SS	BR	
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



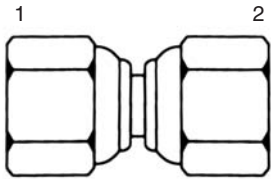
Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPP)
	S	FG	SS	BR		
02-02	\$				1/8-28	1/8-28
04-02	\$				1/4-19	1/8-28
04-04	\$				1/4-19	1/4-19
06-02	\$				3/8-19	1/8-28
06-04	\$				3/8-19	1/4-19
06-06	\$				3/8-19	3/8-19
08-06	\$				1/2-14	3/8-19
08-08	\$				1/2-14	1/2-14
10-08	\$				5/8-14	1/2-14
10-10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

BSPB Adapters

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

3426

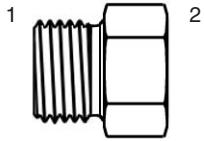
BSPB Swivel Union



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

3430

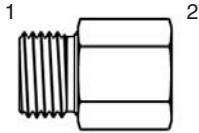
BSPB Reducer Bushing



BSPP Adapters

3435

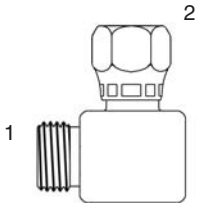
BSPP to BSPP Extended Bushing



Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPP)
	S	FG	SS	BR		
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

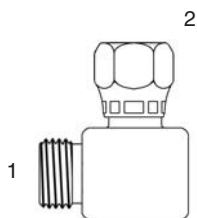
BSPP to BSPP Swivel Elbow 90°



Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPP)
	S	FG	SS	BR		
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°



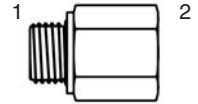
Dash Size	Stock Materials				T1 (BSPP)	T2 (UNF)
	S	FG	SS	BR		
04-04	\$				1/4-19	7/16-20
06-06	\$				3/8-19	9/16-18
06-08	\$				3/8-19	3/4-16
08-06	\$				1/2-14	9/16-18
08-08	\$				1/2-14	3/4-16
08-10	\$				1/2-14	7/8-14
12-12	\$				3/4-14	1 1/16-12

BSPB Adapters

Dash Size	Stock Materials				T1 (BSPB)	T2 (NPTF)
	S	FG	SS	BR		
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

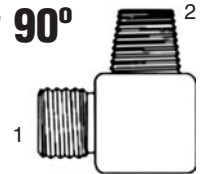
BSPB to Pipe



Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPT)
	S	FG	SS	BR		
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

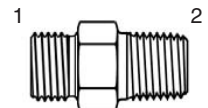
BSPB to BSPT Elbow 90°



Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPT)
	S	FG	SS	BR		
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

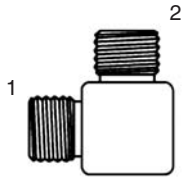
BSPB to BSPT



BSPP Adapters

3601

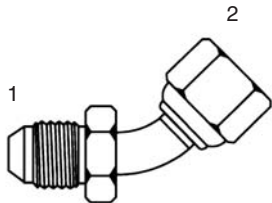
BSPP to BSPP Elbow 90°



Dash Size	Stock Materials			T1 (BSPP)	T2 (BSPP)
	S	FG	SS BR		
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

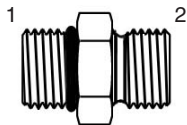
JIC to BSPP bent Tube Swivel Elbow 45°



Dash Size	Stock Materials			T1 (UNF)	T2 (BSPP)
	S	FG	SS BR		
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

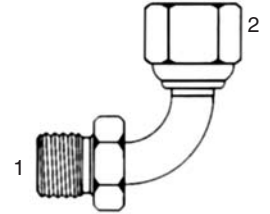


Dash Size	Stock Materials			T1 (UNF)	T2 (BSPP)
	S	FG	SS BR		
04-04	\$			7/16-20	1/4-19
04-06	\$			7/16-20	3/8-19
06-04	\$			9/16-18	1/4-19
06-06	\$			9/16-18	3/8-19
06-08	\$			9/16-18	1/2-14
08-06	\$			3/4-16	3/8-19
08-08	\$			3/4-16	1/2-14
10-06	\$			7/8-14	3/8-19
10-08	\$			7/8-14	1/2-14
12-08	\$	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

BSPB Adapters

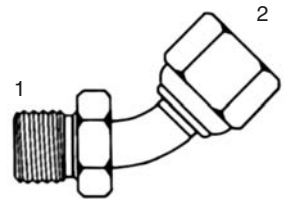
Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPB)
	S	FG	SS	BR		
04-04	\$				1/4-19	1/4-19
06-06	\$				3/8-19	3/8-19
08-08	\$				1/2-14	1/2-14
10-10	\$				5/8-14	5/8-14
12-12	\$				3/4-14	3/4-14
16-16	\$				1-11	1-11
20-20	\$				1 1/4-11	1 1/4-11
24-24	\$				1 1/2-11	1 1/2-11
32-32	\$				2-11	2-11

3701 BSPB to BSPB Bent Tube Swivel Elbow 90°



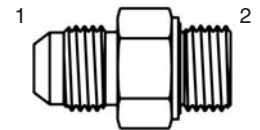
Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPB)
	S	FG	SS	BR		
04-04	\$				1/4-19	1/4-19
06-06	\$				3/8-19	3/8-19
08-08	\$				1/2-14	1/2-14
10-10	\$				5/8-14	5/8-14
12-12	\$				3/4-14	3/4-14
16-16	\$				1-11	1-11
20-20	\$				1 1/4-11	1 1/4-11

3702 BSPB to BSPB Bent Tube Swivel Elbow 45°



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPB)
	S	FG	SS	BR		
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 BSPB



Port Seal-Crush Washer And O-Ring Included

S= Steel

FG=Forging

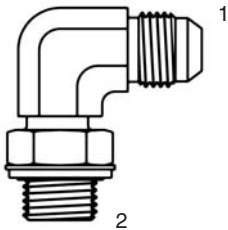
SS=Stainless Steel

BR=Brass

BSPP Adapters

3801

JIC to BSPP Elbow 90°

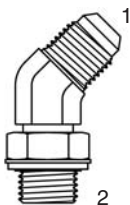


Dash Size	Stock Materials				T1 (UNF)	T2 (BSPP)
	S	FG	SS	BR		
04-02	S	FG			7/16-20	1/8-28
04-04	S	FG			7/16-20	1/4-19
05-02	S	FG			1/2-20	1/8-28
06-04	S	FG			9/16-18	1/4-19
06-06	S	FG			9/16-18	3/8-19
06-08	S	FG			9/16-18	1/2-14
08-04	S	FG			3/4-16	1/4-19
08-06	S	FG			3/4-16	3/8-19
08-08	S	FG			3/4-16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

Port Seal-Crush Washer And O-Ring Included

3802

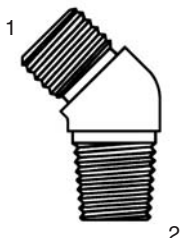
JIC to BSPP Elbow 45°



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

3807

BSPP to BSPT Elbow 45°

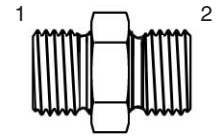


Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPT)
	S	FG	SS	BR		
04-02	S				1/4-19	1/8-28
04-04	S				1/4-19	1/4-19
04-06	S				1/4-19	3/8-19
06-04	S				3/8-19	1/4-19
06-06	S				3/8-19	3/8-19
08-06	S				1/2-14	3/8-19
08-08	S				1/2-14	1/2-14
12-12	S				3/4-14	3/4-14

BSPB Adapters

3810

BSPB to Metric (1.5 MM Pitch)

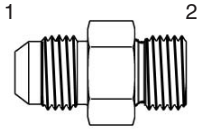


Dash Size	Stock Materials S FG SS BR	T1 (BSPB)	T2 (MM)
02-12	S	1/8-28	12X1.5
02-14	S	1/8-28	14X1.5
04-10	S	1/4-19	10X1.5
04-12	S	1/4-19	12X1.5
04-14	S	1/4-19	14X1.5
04-16	S	1/4-19	16X1.5
04-18	S	1/4-19	18X1.5
04-22	S	1/4-19	22X1.5
06-12	S	3/8-19	12X1.5
06-14	S	3/8-19	14X1.5
06-16	S	3/8-19	16X1.5
06-18	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

BSPB Adapters

3820

JIC to BSPB Dual Port*



Dash Size	Stock Materials			T1 (UNF)	T2 (BSPB)
	S	FG	SS BR		
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

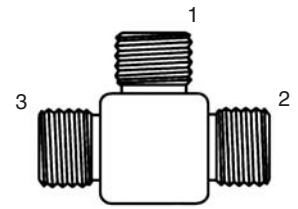
* For Port Seal Applications a DS-BSP Is Required.

BSPB Adapters

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

3823

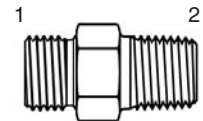
BSPB Tee



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

3825

BSPB to Pipe



* For Port Seal Applications a DS-BSP is Required

S= Steel

FG=Forging

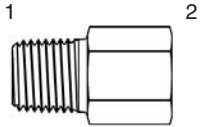
SS=Stainless Steel

BR=Brass

BSPP Adapters

3826

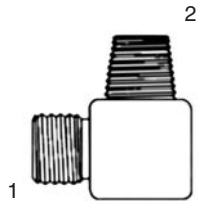
Pipe to BSPP



Dash Size	Stock Materials			T1 (NPTF)	T2 (BSPP)
	S	FG	SS BR		
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

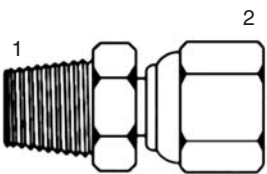
BSPP to Pipe Elbow 90°



Dash Size	Stock Materials			T1 (BSPP)	T2 (NPTF)
	S	FG	SS BR		
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

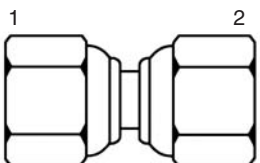
Pipe to BSPP Swivel



Dash Size	Stock Materials			T1 (NPTF)	T2 (BSPP)
	S	FG	SS BR		
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



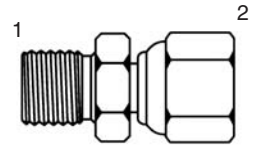
Dash Size	Stock Materials			T1 (BSPP)	T2 (UNF)
	S	FG	SS BR		
04-04	\$			1/4-19	7/16-20
06-06	\$			3/8-19	9/16-18
06-08	\$			3/8-19	3/4-16
08-06	\$			1/2-14	9/16-18
08-08	\$			1/2-14	3/4-16
10-10	\$			5/8-14	7/8-14
12-12	\$			3/4-14	1 1/16-12
16-16	\$			1-11	1 5/16-12
20-20	\$			1 1/4-11	1 5/8-12

BSPB Adapters

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

3840

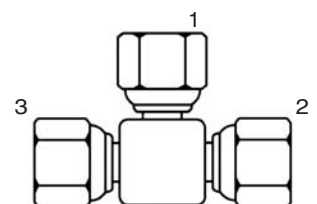
BSPB to BSPB Swivel



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

3853

BSPB Swivel Union Tee



S= Steel

FG=Forging

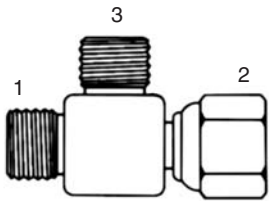
SS=Stainless Steel

BR=Brass

BSPP Adapters

3854

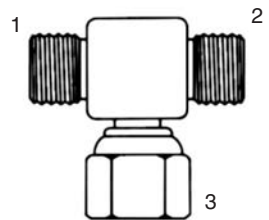
BSPP Run Tee



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

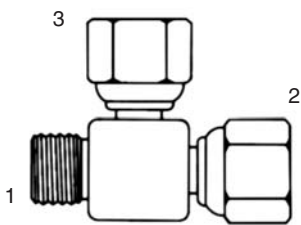
BSPP Branch Tee



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

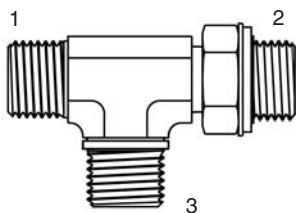
BSPP Swivel Run Tee



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



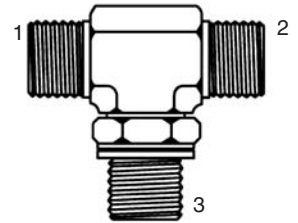
Dash Size	Stock Materials S FG SS BR	T1 (BSPP)	T2 (BSPP)	T3 (BSPP)
04	\$ FG	1/4-19	1/4-19	1/4-19
06-04	\$ FG	3/8-19	3/8-19	1/4-19
06	\$ FG	3/8-19	3/8-19	3/8-19
08-06	\$ FG	1/2-14	1/2-14	3/8-19
08	\$ FG	1/2-14	1/2-14	1/2-14
12	\$ FG	3/4-14	3/4-14	3/4-14

BSPB Adapters

Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPB)	T3 (BSPB)
	S	FG	SS	BR			
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

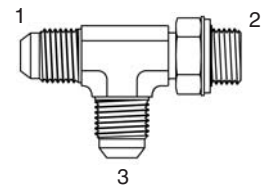
BSPB Adjustable Branch Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (BSPB)
	S	FG	SS	BR			
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

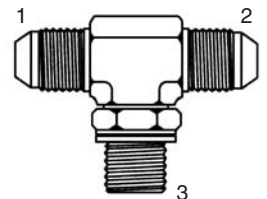
JIC to BSPB Adjustable Run Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (BSPB)
	S	FG	SS	BR			
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

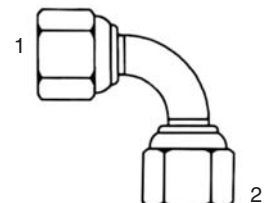
JIC to BSPB Adjustable Branch Tee



Dash Size	Stock Materials				T1 (BSPB)	T2 (BSPB)
	S	FG	SS	BR		
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

BSPB to BSPB Bent Tube Swivel Elbow 90°



S= Steel

FG=Forging

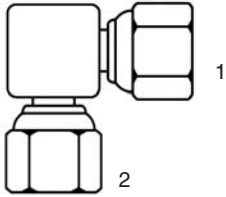
SS=Stainless Steel

BR=Brass

BSPP Adapters

3904

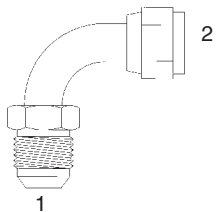
BSPP Swivel Union Elbow 90°



Dash Size	Stock Materials			T1 (BSPP)	T2 (BSPP)
	S	FG	SS BR		
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			T1 (UNF)	T2 (BSPP)
	S	FG	SS BR		
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



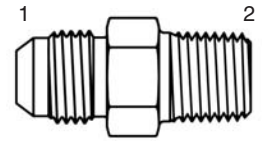
Dash Size	Stock Materials			BSPP Size
	S	FG	SS BR	
02	\$			1/8-28
04	\$			1/4-19
06	\$			3/8-19
08	\$			1/2-14
10	\$			5/8-14
12	\$			3/4-14
16	\$			1-11
20	\$			1 1/4-11
24	\$			1 1/2-11
32	\$			2-11
40	\$			2 1/2-11
48	\$			3-11

BSPT Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (BSPT)
	S	FG	SS	BR		
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

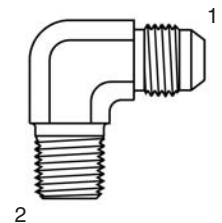
JIC to BSPT



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPT)
	S	FG	SS	BR		
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

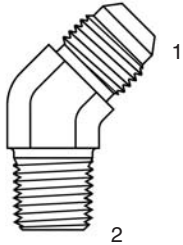
JIC to BSPT Elbow 90°



BSPT Adapters

3503

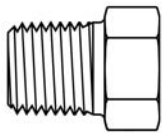
JIC to BSPT Elbow 45°



Dash Size	Stock Materials				T1 (UNF)	T2 (BSPT)
	S	FG	SS	BR		
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

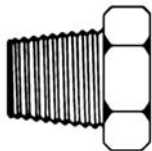
BSPT Plug



Dash Size	Stock Materials				T1 (BSPT)
	S	FG	SS	BR	
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

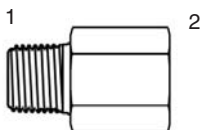
BSPT Countersunk Plug



Dash Size	Stock Materials				T1 (BSPT)
	S	FG	SS	BR	
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

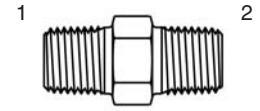


Dash Size	Stock Materials				T1 (BSPT)	T2 (BSPT)
	S	FG	SS	BR		
04-02	\$				1/4-19	1/8-28
06-02	\$				3/8-19	1/8-28
06-04	\$				3/8-19	1/4-19
08-04	\$				1/2-14	1/4-19
08-06	\$				1/2-14	3/8-19
12-06	\$				3/4-14	3/8-19
12-08	\$				3/4-14	1/2-14
16-08	\$				1-11	1/2-14
16-12	\$				1-11	3/4-14

BSPT Adapters

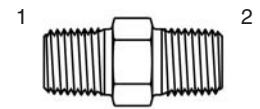
Dash Size	Stock Materials				T1 (BSPT)	T2 (BSPT)
	S	FG	SS	BR		
02-02	S				1/8-28	1/8-28
04-02	S				1/4-19	1/8-28
04-04	S				1/4-19	1/4-19
06-02	S				3/8-19	1/8-28
06-04	S				3/8-19	1/4-19
06-06	S				3/8-19	3/8-19
08-04	S				1/2-14	1/4-19
08-06	S				1/2-14	3/8-19
08-08	S				1/2-14	1/2-14
10-10	S				5/8-14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

3520 BSPT Hex Nipple



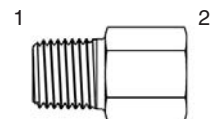
Dash Size	Stock Materials				T1 (BSPT)	T2 (NPTF)
	S	FG	SS	BR		
04-04	S				1/4-19	1/4-18
04-06	S				1/4-19	3/8-18
06-04	S				3/8-19	1/4-18
06-06	S				3/8-19	3/8-18
08-08	S				1/2-14	1/2-14
12-12	S				3/4-14	3/4-14
16-16	S				1-11	1-11 1/2
20-20	S				1 1/4-11	1 1/4-11 1/2
24-24	S				1 1/2-11	1 1/2-11 1/2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

3524 BSPT to Pipe



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

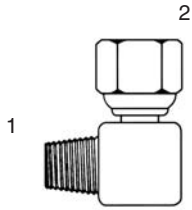
3545 BSPT to BSPP



BSPT Adapters

3827

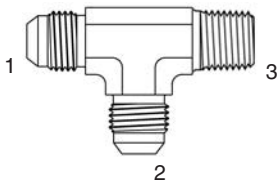
BSPT to BSPP Swivel Elbow 90°



Dash Size	Stock Materials			T1 (BSPT)	T2 (BSPP)
	S	FG	SS BR		
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

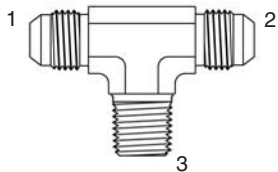
JIC to BSPT Run Tee



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (BSPT)
	S	FG	SS BR			
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



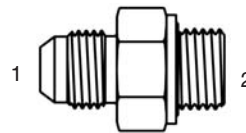
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (BSPT)
	S	FG	SS BR			
04-04	\$	FG		7/16-20	7/16-20	1/4-19
06-04	\$	FG		9/16-18	9/16-18	1/4-19
08-06	\$	FG		3/4-16	3/4-16	3/8-19
10-08	\$	FG		7/8-14	7/8-14	1/2-14
12-12	\$	FG		1 1/16-12	1 1/16-12	3/4-14

Metric Adapters

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

7400

JIC to Metric

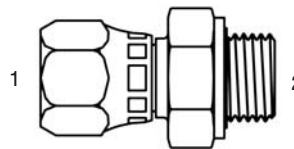


*Port seal-crush washer and O-ring included.

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

7402

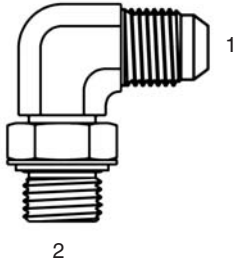
JIC to Metric



Metric Adapters

7801

JIC to Metric Elbow 90°

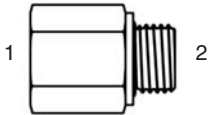


Dash Size	Stock Materials				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
04-10	S	FG			7/16-20	10X1.0
04-12	S	FG			7/16-20	12X1.5
04-14	S	FG			7/16-20	14X1.5
05-10	S	FG			1/2-20	10X1.0
05-12	S	FG			1/2-20	12X1.5
05-14	S	FG			1/2-20	14X1.5
06-12	S	FG			9/16-18	12X1.5
06-14	S	FG			9/16-18	14X1.5
06-16	S	FG			9/16-18	16X1.5
08-16	S	FG			3/4-16	16X1.5
08-18	S	FG			3/4-16	18X1.5
08-22	S	FG			3/4-16	22X1.5
10-18	S	FG			7/8-14	18X1.5
10-20	S	FG			7/8-14	20X1.5
10-22	S	FG			7/8-14	22X1.5
12-22	S	FG			1 1/16-12	22X1.5
12-27	S	FG			1 1/16-12	27X2.0
14-26	S	FG			1 3/16-12	26X1.5
16-27	S	FG			1 5/16-12	27X2.0
16-33	S	FG			1 5/16-12	33X2.0
20-42	S	FG			1 5/8-12	42X2.0

*Port seal-crush washer and O-ring included.

7455

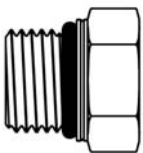
Pipe to Metric



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

7408

Metric Hex Head Plug



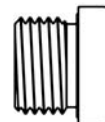
Dash Size	Stock Materials				T1 (MM)
	S	FG	SS	BR	
08	S				8X1.0
10	S				10X1.0
10-1.5	S				10X1.5
12-1.0	S				12X1.0
12	S				12X1.5
14	S				14X1.5
16	S				16X1.5
18	S				18X1.5
20	S				20X1.5
22	S				22X1.5
24	S				24X1.5
26	S				26X1.5
30	S				30X1.5

Metric Adapters

Dash Size	Stock Materials				T1 (MM)
	S	FG	SS	BR	
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	\$				30X1.5
33	\$				33X2.0
42	\$				42X2.0
48	\$				48X2.0

7408-HHP

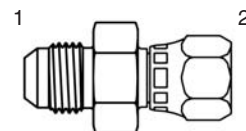
Metric Hollow Hex Plug



Dash Size	Stock Materials				T1 (UNF)	T2 (THREAD)
	S	FG	SS	BR		
05-L06-12	\$				1/2-20	12X1.5
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

7430

JIC to Metric (Light & Heavy Series)

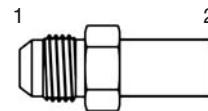


L=LIGHT S=HEAVY

Dash Size	Stock Materials				T1 (UNF)	T2 (DIAMETER)
	S	FG	SS	BR		
04-06	\$				7/16-20	6
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

7625

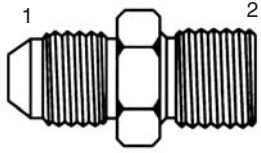
JIC to Metric Standpipe



Metric Adapters

7420-L

**JIC to Metric
Dual Purpose***



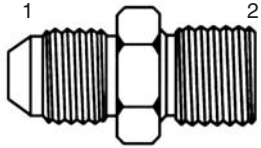
LIGHT SERIES

Dash Size	Stock Materials				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
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***



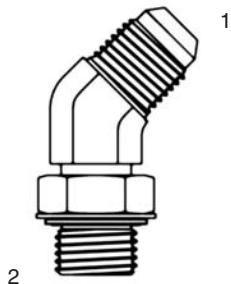
HEAVY SERIES

Dash Size	Stock Materials				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
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				T1 (UNF)	T2 (MM)
	S	FG	SS	BR		
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				Metric Dash Size
	S	FG	SS	BR	
06	S				6
08	S				8
10	S				10
12	S				12
14	S				14
16	S				16
18	S				18
20	S				20
22	S				22
26	S				26
27	S				27
30	S				30
33	S				33
36	S				36
42	S				42
52	S				52

DS-MM

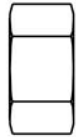
**Bonded Seal
for Metric
Parallel Thread**



Metric Compression

7105-L

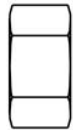
Metric Light Series Tube Nut



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

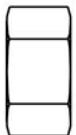
Metric Extra Light Series Tube Nut



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

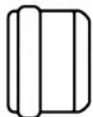
Metric Heavy Series Tube Nut



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				T1 (MM)
	S	FG	SS	BR	
04	S				4
06	S				6
08	S				8
10	S				10
12	S				12

7195-LL

Metric Extra Light Series Cutting Ring

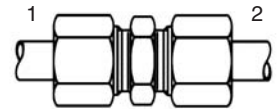


7195-LL Series is compatible with the 7105-LL series only.

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

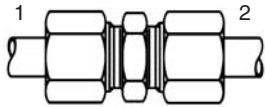
SS=Stainless Steel

BR=Brass

Metric Compression

8000-S

Heavy Series Straight Coupling

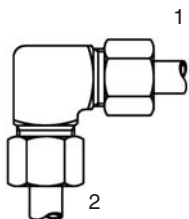


EO SERIES - G & GR

Dash Size	Stock Materials				Tube O.D. (MM)	Tube O.D. (MM)
	S	FG	SS	BR		
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°

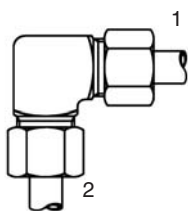


EO SERIES - W

Dash Size	Stock Materials				Tube O.D. (MM)	Tube O.D. (MM)
	S	FG	SS	BR		
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

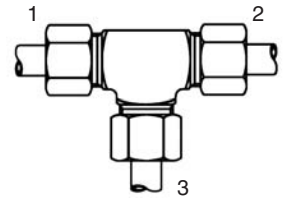
Dash Size	Stock Materials				Tube O.D. (MM)	Tube O.D. (MM)
	S	FG	SS	BR		
06	\$				6	6
08	\$				8	8
10	\$				10	10
12	\$				12	12
14	\$				14	14
16	\$				16	16
20	\$				20	20
25	\$				25	25
30	\$				30	30
38	\$				38	38

Metric Compression

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

8603-L

Light Series Equal Tee

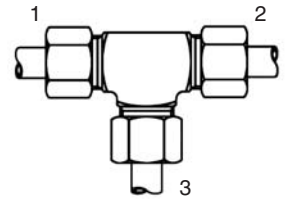


EO SERIES - T

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

8603-S

Heavy Series Equal Tee

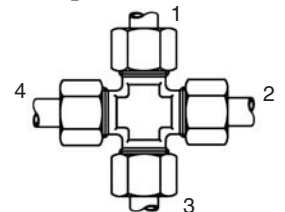


EO SERIES - T

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

8650-L

Light Series Equal Cross

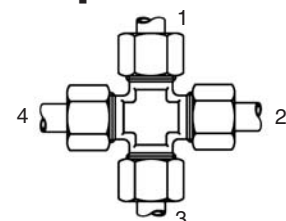


EO SERIES - K

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

8650-S

Heavy Series Equal Cross



EO SERIES - K

S= Steel

FG=Forging

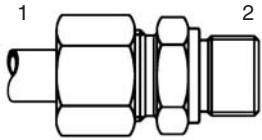
SS=Stainless Steel

BR=Brass

Metric Compression

8100-L

Light Series Stud Coupling (BSPP)

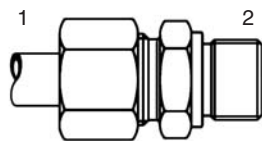


EO SERIES - GE-LR

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)

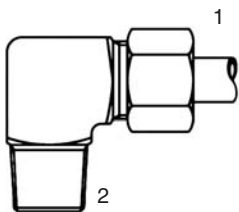


EO SERIES - GE-SR

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)

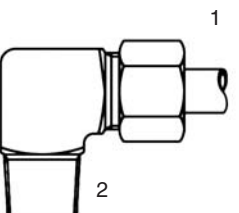


EO SERIES - WE-R/M

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

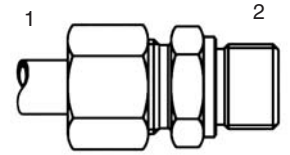
Dash Size	Stock Materials S FG SS BR	Tube O.D. (MM)	T2 (BSPP)
06-04	\$	6	1/4-19
08-04	\$	8	1/4-19
10-06	\$	10	3/8-19
12-06	\$	12	3/8-19
14-08	\$	14	1/2-14
16-08	\$	16	1/2-14

Metric Compression

Dash Size	Stock Materials				Tube O.D. (MM)	T2 (MM)
	S	FG	SS	BR		
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

8200-L

Light Series Stud Coupling (Metric Parallel)

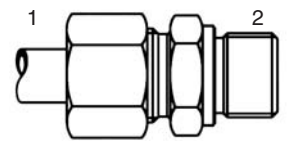


EO SERIES - GE-LM

Dash Size	Stock Materials				Tube O.D. (MM)	T1 (MM)
	S	FG	SS	BR		
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

8200-S

Heavy Series Stud Coupling (Metric Parallel)

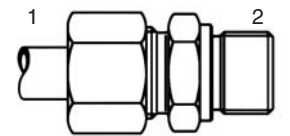


EO SERIES - GE-SM

Dash Size	Stock Materials				Tube O.D. (MM)	T1 (MM)
	S	FG	SS	BR		
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

8201-L

Light Series Stud Coupling (Metric Taper)

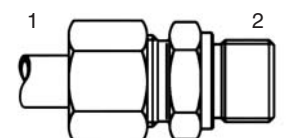


EO SERIES - GE-LM

Dash Size	Stock Materials				Tube O.D. (MM)	T1 (MM)
	S	FG	SS	BR		
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

8201-S

Heavy Series Stud Coupling (Metric Taper)



EO SERIES - GE-SM

S= Steel

FG=Forging

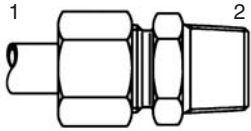
SS=Stainless Steel

BR=Brass

Metric Compression

8300-L

Light Series Stud Coupling (NPTF)

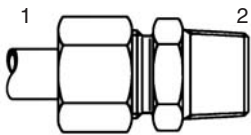


EO SERIES - GE-NPT

Dash Size	Stock Materials				Tube O.D. (MM)	T2 (NPTF)
	S	FG	SS	BR		
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)

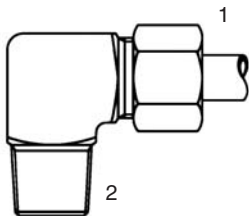


EO SERIES - GE-NPT

Dash Size	Stock Materials				Tube O.D. (MM)	T2 (NPTF)
	S	FG	SS	BR		
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)

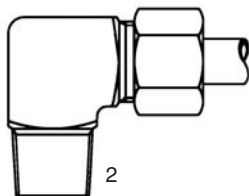


EO SERIES - WE-NPT

Dash Size	Stock Materials				Tube O.D. (MM)	T2 (NPTF)
	S	FG	SS	BR		
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

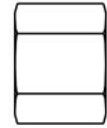
Dash Size	Stock Materials				Tube O.D. (MM)	T2 (NPTF)
	S	FG	SS	BR		
06-04	\$				6	1/4-18
08-04	\$				8	1/4-18
10-06	\$				10	3/8-18
12-06	\$				12	3/8-18
14-08	\$				14	1/2-14
16-08	\$				16	1/2-14
20-12	\$				20	3/4-14
25-16	\$				25	1-11 1/2
30-20	\$				30	1 1/4-11 1/2
38-24	\$				38	1 1/2-11 1/2

30° Seat Adapters

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

3861

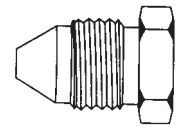
**JIS Cap
(30° Seat BSPP
Thread)**



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

3862

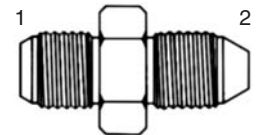
**JIS Plug
(30° Seat
BSPP Thread)**



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

3864

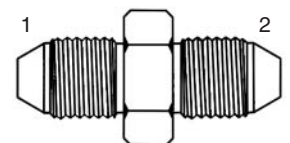
**JIC - JIS Union
(30° Seat
BSPP Thread)**



Dash Size	Stock Materials				T1 (BSPP)	T2 (BSPP)
	S	FG	SS	BR		
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

3866

**JIS Union
(30° Seat
BSPP Thread)**



S= Steel

FG=Forging

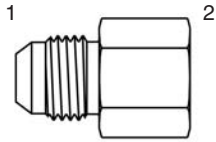
SS=Stainless Steel

BR=Brass

30° Seat Adapters

3871

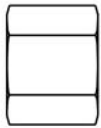
JIC - JIS Solid (30° Seat BSPP Thread)



Dash Size	Stock Materials			T1 (UNF)	T2 (BSPP)
	S	FG	SS BR		
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

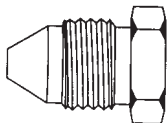
Komatsu Cap (30° Seat Metric Thread)



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

7862

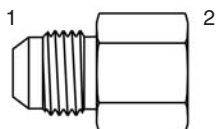
Komatsu Plug (30° Seat Metric Thread)



Dash Size	Stock Materials			T1 (MM)
	S	FG	SS BR	
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)



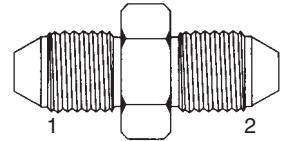
Dash Size	Stock Materials			T1 (UNF)	T2 (MM)
	S	FG	SS BR		
04-14	\$			7/16-20	14x1.5
06-18	\$			9/16-18	18x1.5
08-22	\$			3/4-16	22x1.5
10-24	\$			7/8-14	24x1.5
12-30	\$			1 1/16-12	30x1.5

30° Seat Adapters

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

7868

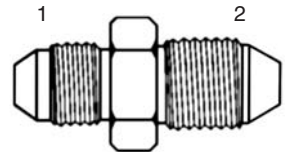
**Komatsu Union
(30° Seat
Metric Thread)**



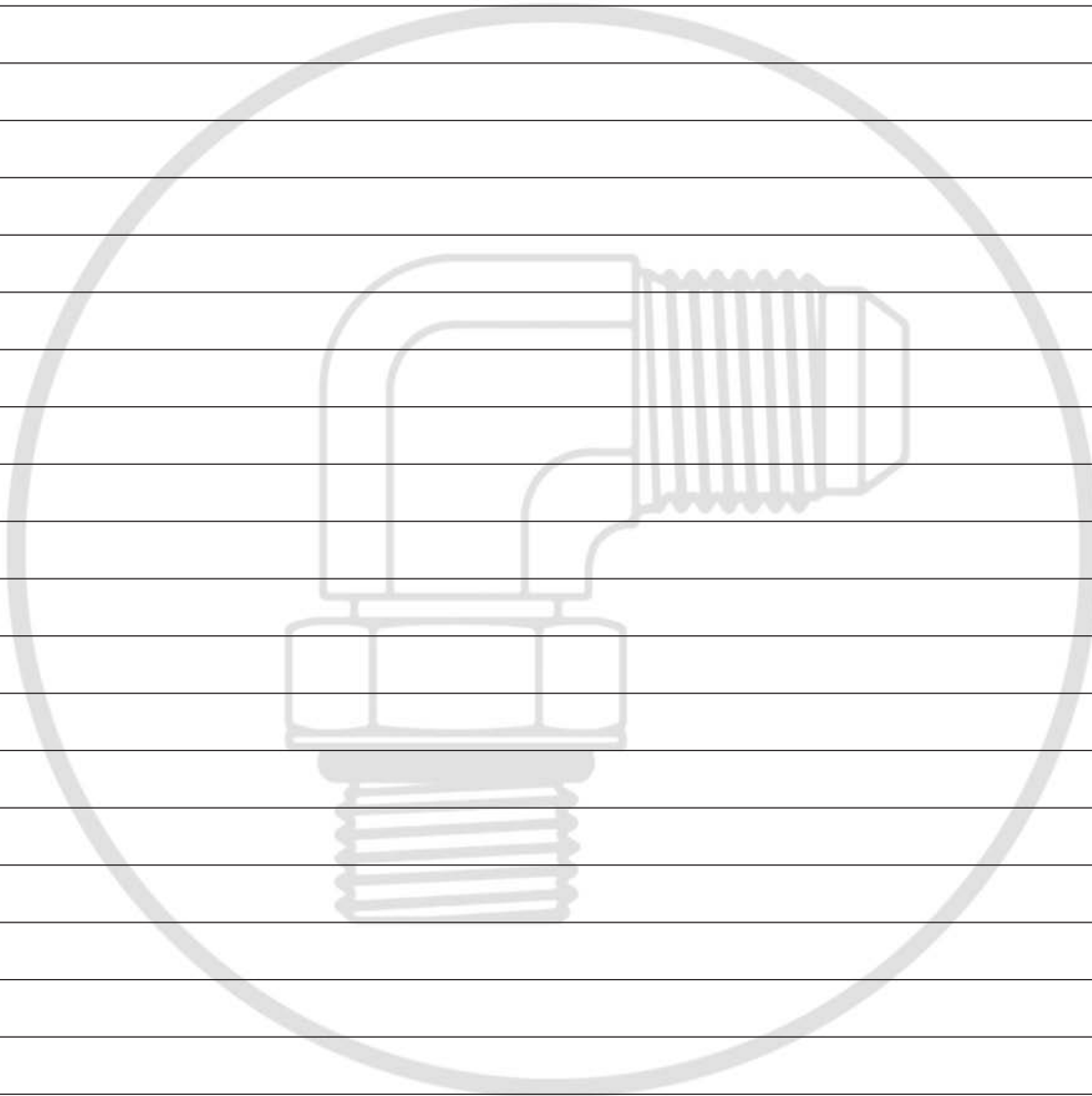
Dash Size	Stock Materials				T1 (UNF)	T2(MM)
	S	FG	SS	BR		
04-14	S				7/16-20	14x1.5
06-18	S				9/16-18	18x1.5
08-22	S				3/4-16	22x1.5
10-24	S				7/8-14	24x1.5
12-30	S				1 1/16-12	30x1.5
16-33	S				1 5/16-12	33x1.5

7869

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



Notes



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

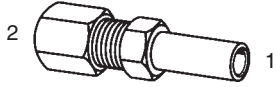
- STEP 1.** Cut tube square and debur inside and outside. Flush away any contaminants.
- STEP 2.** Inspect components for damage or contamination.
- STEP 3.** Lubricate the inside of nut and all surfaces of the sleeve, slide nut onto tube with smaller opening first. Slide sleeve onto tube with the largest 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

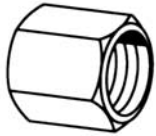


SAE 080123

Dash Size	Stock Materials				Body	Tube
	S	FG	SS	BR		
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

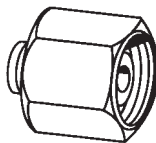


MS51823
SAE 080110

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

7165

Sleeve



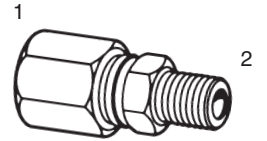
MS51825
SAE 080115A

Dash Size	Stock Materials				Tube O.D.
	S	FG	SS	BR	
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				T1 (Tube O.D.)	T2 (NPTF)
	S	FG	SS	BR		
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

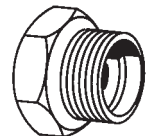


MS51819
SAE 080102

Dash Size	Stock Materials				Tube O.D.
	S	FG	SS	BR	
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

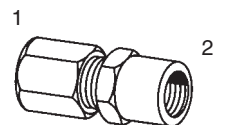


MS51891
SAE 080109

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (NPTF)
	S	FG	SS	BR		
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

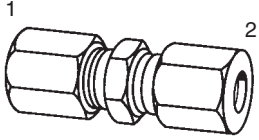
Pipe Connector



MS51816
SAE 080103

7305

Small Hex Union

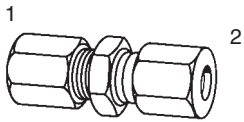


MS51814
SAE 080101

Dash Size	Stock Materials			T1 (Tube O.D.)	T2 (Tube O.D.)
	S	FG	SS BR		
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

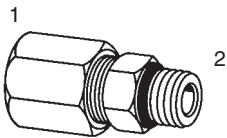


MS518156
SAE 080119

Dash Size	Stock Materials			T1 (Tube O.D.)	T2 (Tube O.D.)
	S	FG	SS BR		
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



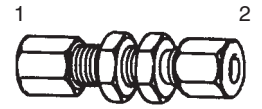
MS51843
SAE 080120

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

7325

Bulkhead Union

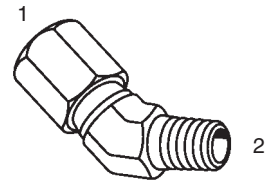


MS51812
SAE 080601

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

7355

Pipe Elbow 45°

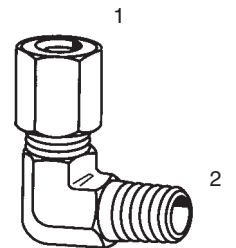


MS51817
SAE 080302

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

7405

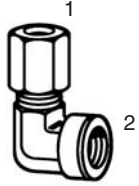
Pipe Elbow 90°



MS51815
SAE 080202

7455-E

Pipe Elbow 90°

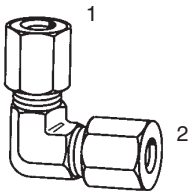


MS51813
SAE 080203

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (NPTF)
	S	FG	SS	BR		
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°

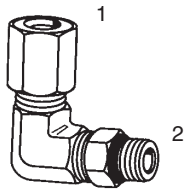


MS51820
SAE 080201

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (Tube O.D.)
	S	FG	SS	BR		
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°

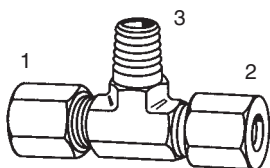


MS51839
SAE 080220

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (UNF)
	S	FG	SS	BR		
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



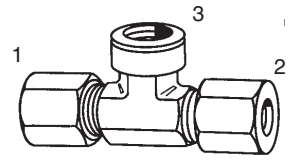
MS51818
SAE 080425

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (NPTF)
	S	FG	SS	BR			
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				T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (NPTF)
	S	FG	SS	BR			
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

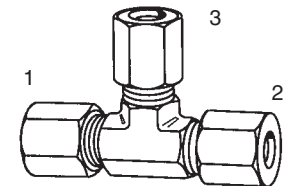


MS51821
SAE 080427

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (Tube O.D.)
	S	FG	SS	BR			
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

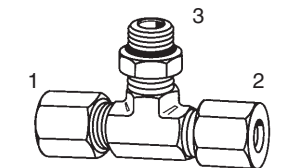


MS51811
SAE 080401

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (Tube O.D.)	T3 (UNF)
	S	FG	SS	BR			
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

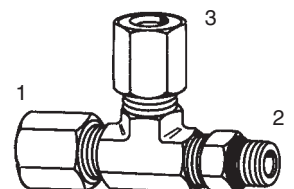


MS51841
SAE 080429

Dash Size	Stock Materials				T1 (Tube O.D.)	T2 (UNF)	T3 (Tube O.D.)
	S	FG	SS	BR			
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

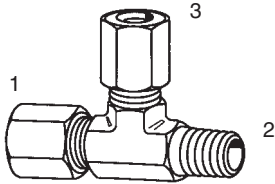
O-Ring Run Tee



MS51892
SAE 080428

7755

Pipe Run Tee

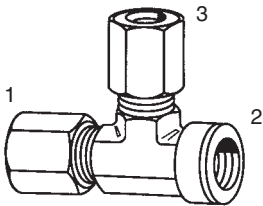


MS51824
SAE 080424

Dash Size	Stock Materials			T1 (Tube O.D.)	T2 (NPTF)	T3 (Tube O.D.)
	S	FG	SS BR			
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			T1 (Tube O.D.)	T2 (NPTF)	T3 (Tube O.D.)
	S	FG	SS BR			
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

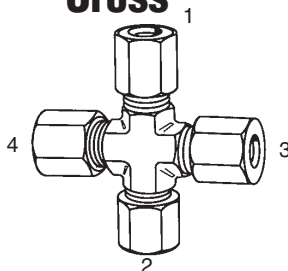


MS51860
SAE 080118

Dash Size	Stock Materials			Tube O.D.
	S	FG	SS BR	
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			T1 (Tube O.D.)	T2 (Tube O.D.)	T3 & T4 (Tube O.D.)
	S	FG	SS BR			
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				T1 (NPTF)	T2 (NPTF)	LS 5000 Pipe Coupling
	S	FG	SS	BR			
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	
24-24	S				1 1/2-11 1/2	1 1/2-11 1/2	
32-32	S				2-11 1/2	2-11 1/2	

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	LS 5405 Pipe to Pipe
	S	FG	SS	BR			
04-04	S			BR	1/4-18	1/4-18	
06-06	S			BR	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	
24-24	S				1 1/2-11 1/2	1 1/2-11 1/2	
32-32	S				2-11 1/2	2-11 1/2	

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	LS 5500 Pipe to Pipe Elbow 90°
	S	FG	SS	BR			
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	
24-24	S				1 1/2-11 1/2	1 1/2-11 1/2	
32-32	S				2-11 1/2	2-11 1/2	

S= Steel

FG=Forging

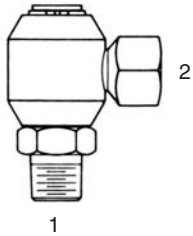
SS=Stainless Steel

BR=Brass

3000 PSI Live Swivels

LS 5502

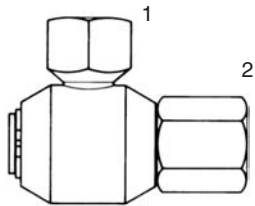
Pipe to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

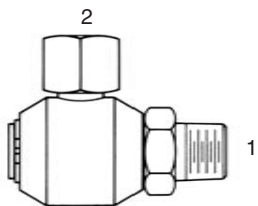
Pipe to Pipe Elbow 90°



Dash Size	Stock Materials				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 1501

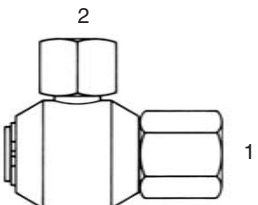
Pipe to NPSM Swivel Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
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°



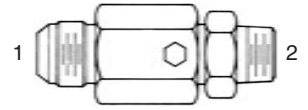
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPSM)
	S	FG	SS	BR		
04-04	\$				1/4-18	1/4-18
06-04	\$				3/8-18	1/4-18
06-06	\$				3/8-18	3/8-18
08-08	\$				1/2-14	1/2-14
12-12	\$				3/4-14	3/4-14
16-16	\$				1-11 1/2	1-11 1/2
20-20	\$				1 1/4-11 1/2	1 1/4-11 1/2
24-24	\$				1 1/2-11 1/2	1 1/2-11 1/2
32-32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

3000 PSI Live Swivels

Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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 2404

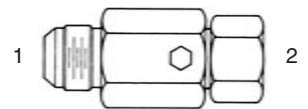
JIC to Pipe



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

LS 2405

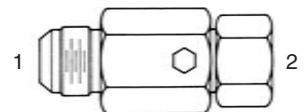
JIC to Pipe



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

LS 2406

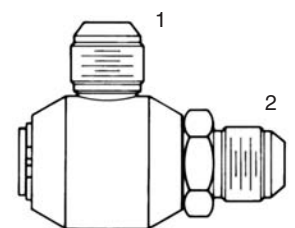
JIC to JIC



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

LS 2500

JIC to JIC Elbow 90°



S= Steel

FG=Forging

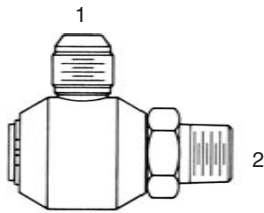
SS=Stainless Steel

BR=Brass

3000 PSI Live Swivels

LS 2501

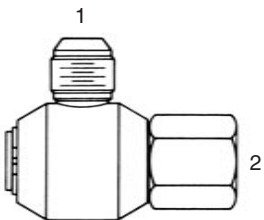
**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

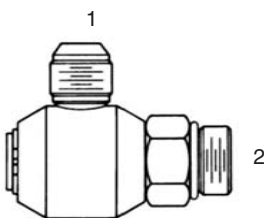
**JIC to Pipe
Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

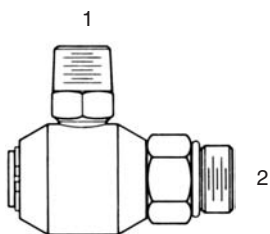
**JIC to O-Ring
Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°**



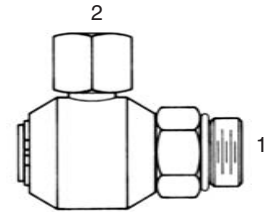
Dash Size	Stock Materials				T1 (NPTF)	T2 (UNF)
	S	FG	SS	BR		
04-06	\$				1/4-18	9/16-18
06-06	\$				3/8-18	9/16-18
08-10	\$				1/2-14	7/8-14
12-12	\$				3/4-14	1 1/16-12
16-16	\$				1-11 1/2	1 5/16-12
20-20	\$				1 1/4-11 1/2	1 5/8-12
24-24	\$				1 1/2-11 1/2	1 7/8-12

3000 PSI Live Swivels

Dash Size	Stock Materials				T1 (UNF)	T2 (NPSM)
	S	FG	SS	BR		
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

LS 6901

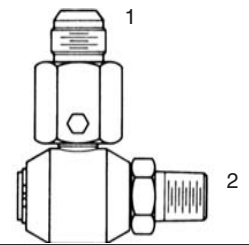
O-Ring to Pipe Swivel Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

LSS 2501

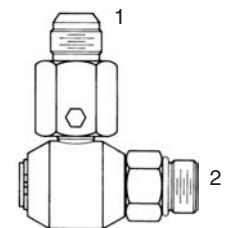
JIC to Pipe Elbow 90°-Dual Plane Swivel



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

LSS 6801

JIC to O-Ring Elbow 90°-Dual Plane Swivel



Other sizes and configurations are available upon request.

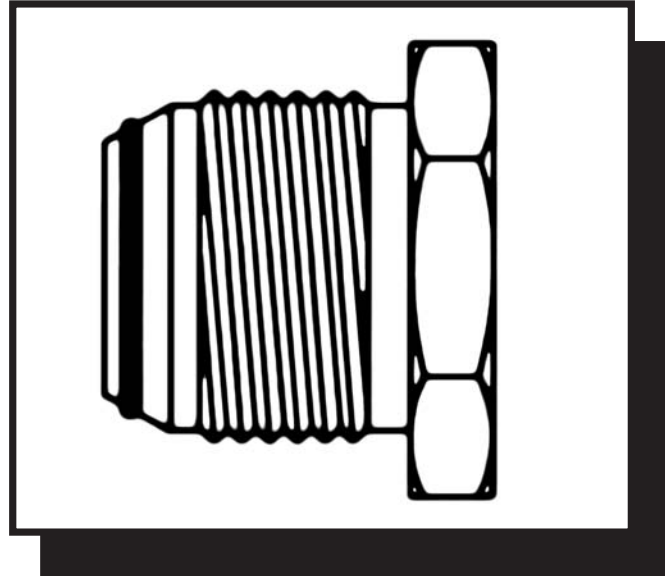
FLARE-O®

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.

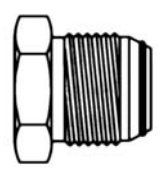
The cross-sectional area of the O-ring groove is larger than the cross-sectional area of the O-ring. This allows the O-ring to move in response to pressure differentials. The O-ring is not extruded during assembly into the area between the mating surfaces to behave like a gasket. Instead, the O-ring 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				Bore	T1 (UNF)
	S	FG	SS	BR		
04	S				1/4	7/16-20
06	S				3/8	9/16-18
08	S				1/2	3/4-16
10	S				5/8	7/8-14
12	S				3/4	1 1/16-12
14	S				7/8	1 3/16-12
16	S				1	1 5/16-12
20	S				1 1/4	1 5/8-12
24	S				1 1/2	1 7/8-12
32	S				2	2 1/2-12

F403


Flare-O Braze Tube Union



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

F500


Flare-O Braze Tube Union Elbow 90°



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

F600

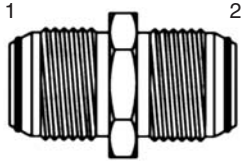
Flare-O Braze Tube Union Tee



Flare-O® Adapters

F2403

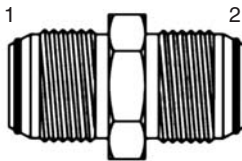
Flare-O Tube Union



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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

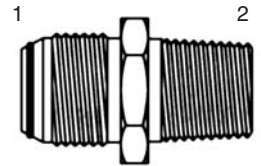


Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
04	\$			7/16-20	7/16-20
06	\$			9/16-18	9/16-18
08	\$			3/4-16	3/4-16
10	\$			7/8-14	7/8-14
12	\$			1 1/16-12	1 1/16-12
16	\$			1 5/16-12	1 5/16-12
20	\$			1 5/8-12	1 5/8-12
24	\$			1 7/8-12	1 7/8-12

Flare-O® Adapters

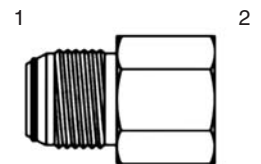
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
04-02	S				7/16-20	1/8-27
04-04	S				7/16-20	1/4-18
04-06	S				7/16-20	3/8-18
04-08	S				7/16-20	1/2-14
05-02	S				1/2-20	1/8-27
05-04	S				1/2-20	1/4-18
05-06	S				1/2-20	3/8-18
06-02	S				9/16-18	1/8-27
06-04	S				9/16-18	1/4-18
06-06	S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

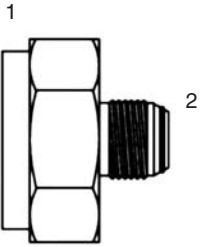
F2405 Flare-O to Pipe



Flare-O® Adapters

F2406

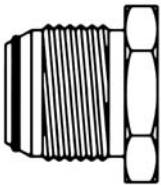
Flare-O Tube Reducer Expander



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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

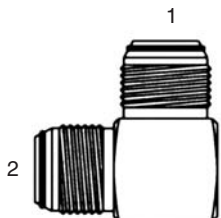
Flare-O Plug



Dash Size	Stock Materials			T1 (UNF)
	S	FG	SS BR	
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			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

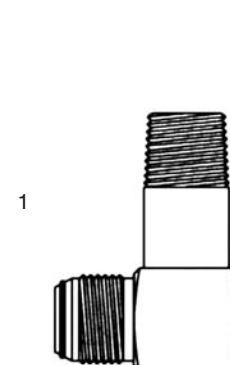
Flare-O to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

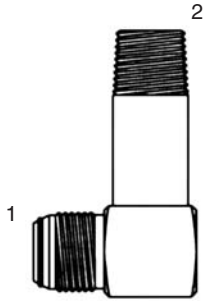
Flare-O to Pipe Long Elbow 90°



Flare-O® Adapters

F2501-LL

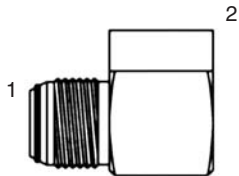
**Flare-O to Pipe
Extra Long
Elbow 90°**



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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°**



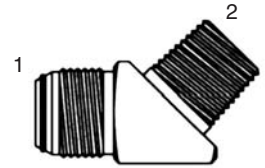
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
04-02	\$			7/16-20	1/8-27
04-04	\$			7/16-20	1/4-18
05-02	\$			1/2-20	1/8-27
05-04	\$			1/2-20	1/4-18
06-04	\$			9/16-18	1/4-18
06-06	\$			9/16-18	3/8-18
06-08	\$			9/16-18	1/2-14
08-06	\$			3/4-16	3/8-18
08-08	\$			3/4-16	1/2-14
10-08	\$	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

F2503

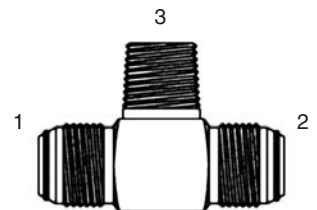
Flare-O to Pipe Elbow 45°



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

F2601

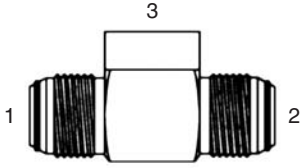
Flare-O to Pipe Branch Tee



Flare-O® Adapters

F2602

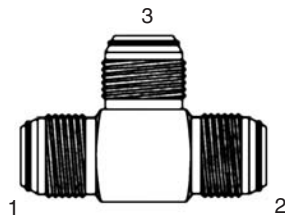
Flare-O to Pipe Branch Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (NPTF)
	S	FG	SS	BR			
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

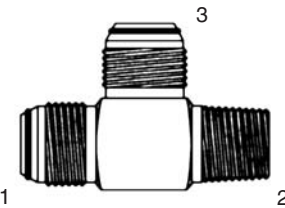
Flare-O Tube Union Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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



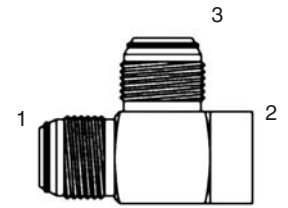
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
04-02	\$				7/16-20	1/8-27	7/16-20
04-04	\$				7/16-20	1/4-18	7/16-20
05-02	\$				1/2-20	1/8-27	1/2-20
06-04	\$				9/16-18	1/4-18	9/16-18
06-06	\$				9/16-18	3/8-18	9/16-18
06-08	\$				9/16-18	1/2-14	9/16-18
08-06	\$				3/4-16	3/8-18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

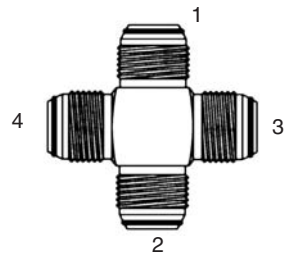
Flare-O to Pipe Run Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 & T4 (UNF)
	S	FG	SS	BR			
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

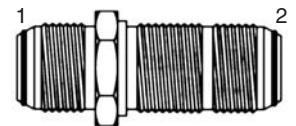
Flare-O Tube Union Cross



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

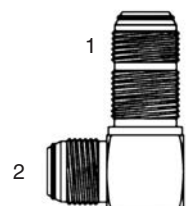
Flare-O Bulkhead Tube Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

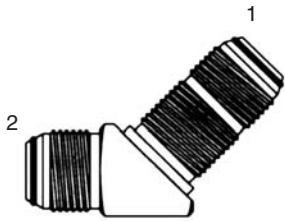
Flare-O Bulkhead Tube Union Elbow 90°



Flare-O® Adapters

F2702

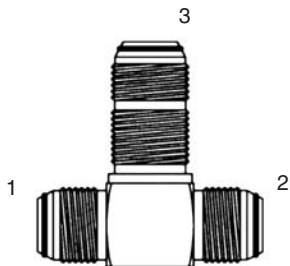
Flare-O Bulkhead Tube Union Elbow 45°



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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

F2703

Flare-O Bulkhead Tube Union Branch Tee

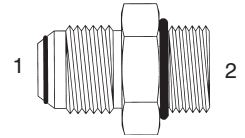


Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS BR			
04	\$			7/16-20	7/16-20	7/16-20
06	\$			9/16-18	9/16-18	9/16-18
08	\$			3/4-16	3/4-16	3/4-16
10	\$			7/8-14	7/8-14	7/8-14
12	\$			1 1/16-12	1 1/16-12	1 1/16-12
16	\$			1 5/16-12	1 5/16-12	1 5/16-12

Flare-O® Adapters

F6400

Flare-O to O-Ring



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

Flare-O® Adapters

F6400-L

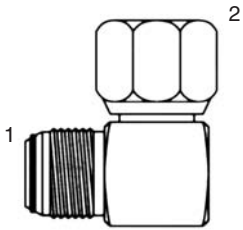
**Flare-O to
O-Ring Long**



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

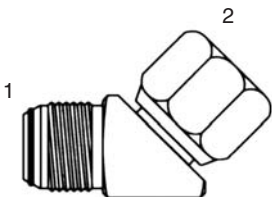
**Flare-O to
JIC Swivel
Elbow 90°**



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°**



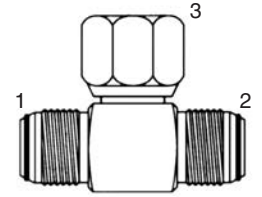
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
04	\$				7/16-20	7/16-20
06	\$				9/16-18	9/16-18
08	\$				3/4-16	3/4-16
10	\$				7/8-14	7/8-14
12	\$				1 1/16-12	1 1/16-12
16	\$				1 5/16-12	1 5/16-12
20	\$				1 5/8-12	1 5/8-12
24	\$				1 7/8-12	1 7/8-12
32	\$				2 1/2-12	2 1/2-12

Flare-O® Adapters

Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

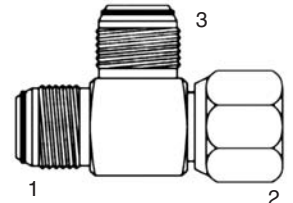
Flare-O to JIC Swivel Branch Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

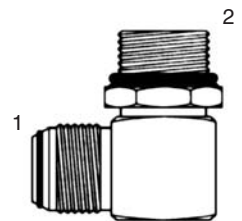
Flare-O to JIC Swivel Run Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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°

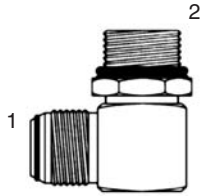


*Cont'd..

Flare-O® Adapters

F6801

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



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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

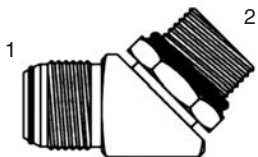
**Flare-O to
O-Ring
Extra Long
Elbow 90°**



Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
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°**



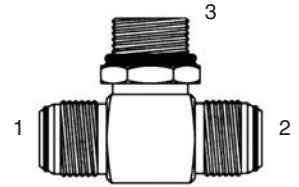
Dash Size	Stock Materials			T1 (UNF)	T2 (UNF)
	S	FG	SS BR		
04	\$			7/16-20	7/16-20
05	\$			1/2-20	1/2-20
06	\$			9/16-18	9/16-18
06-08	\$			9/16-18	3/4-16
08-06	\$			3/4-16	9/16-18
08	\$			3/4-16	3/4-16
08-10	\$			3/4-16	7/8-14
10-08	\$			7/8-14	3/4-16
10	\$			7/8-14	7/8-14
12-10	\$			1 1/16-12	7/8-14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

F6803

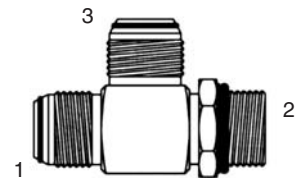
**Flare-O to
O-Ring
Branch Tee**



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
05	S	1/2-20	1/2-20	1/2-20
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
14	S	1 3/16-12	1 3/16-12	1 3/16-12
16	S	1 5/16-12	1 5/16-12	1 5/16-12
20	S	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

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

STEEL1-169

ACCESSORIES170-181

Clamps171

Hose Protection172-174

Test Points175-178

Quick Disconnects179-181

BRASS182-236

Accessories

Part Number	Stock Materials				Clamping Diameter	Bolt Hole
	S	FG	SS	BR		
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				Clamping Diameter
	S	FG	SS	BR	
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

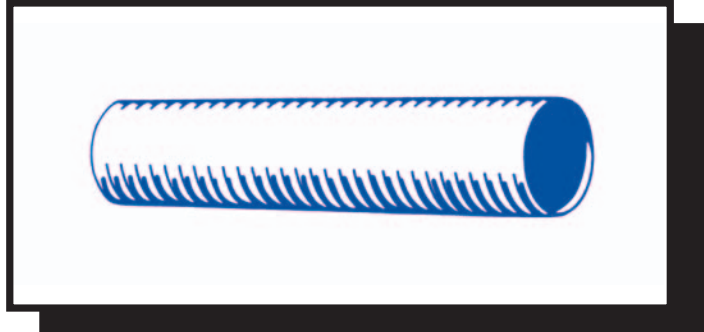
Worm Gear Clamp*



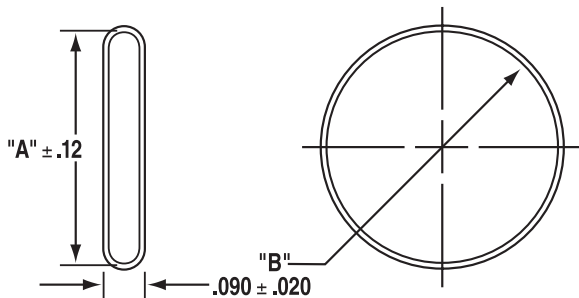
PROTEC

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 *PRO WRAP*®

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

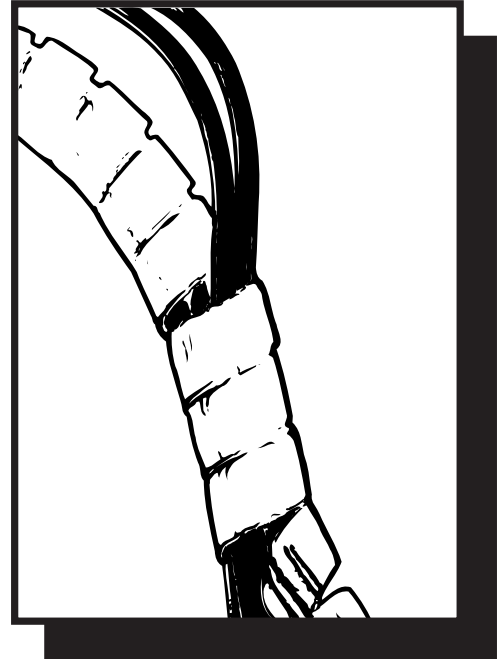
- UV Resistant 100% Polyethylene

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

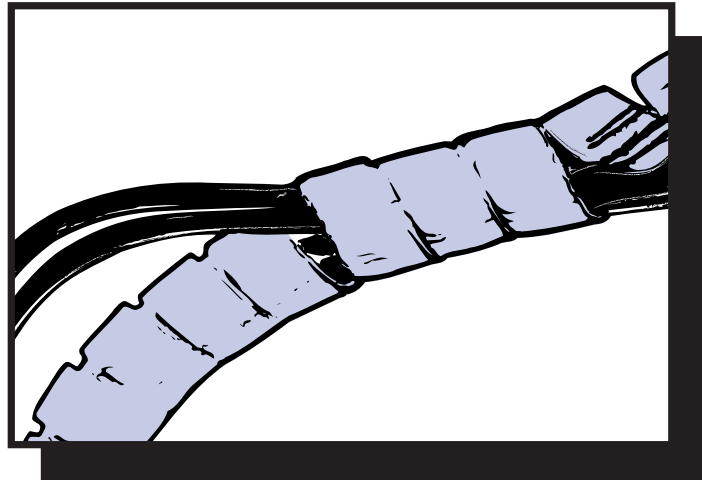
- Four colors to help match & identify
*Black, Yellow, Red, Blue
- Sizes to fit 1/4" hose to 8" bundles

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

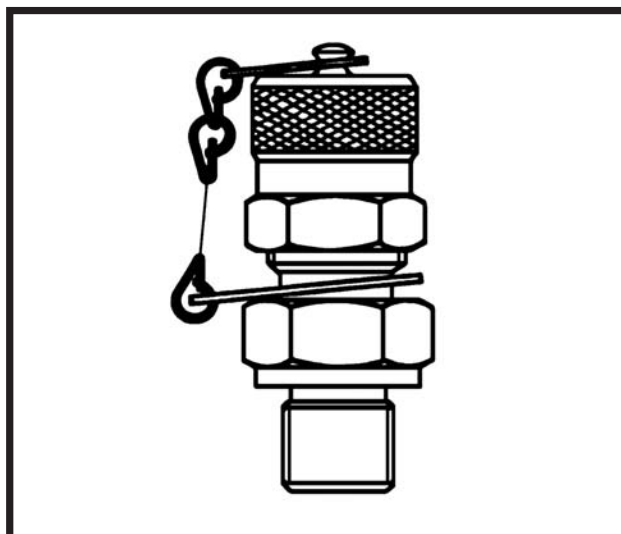
- Construction Equipment
- Agricultural Equipment
- Mining Equipment
- Test Stands
- Plant Maintenance
- Trouble-Shooting

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				Thread	Seal Type	PSI/Bar	Hex (MM)
	S	FG	SS	BR				
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				Thread	Seal Type	PSI/Bar	Hex (MM)
	S	FG	SS	BR				
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

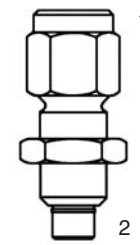
Pro Test Points With Metal Cap and Chain (Female Threads)



Part Number	Stock Materials				T1	T2 (Male)	PSI/Bar	Hex (MM)
	S	FG	SS	BR				
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)

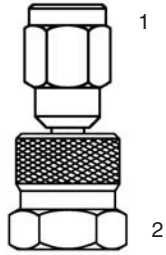
HGCP

Hose Gauge Connectors



GCP

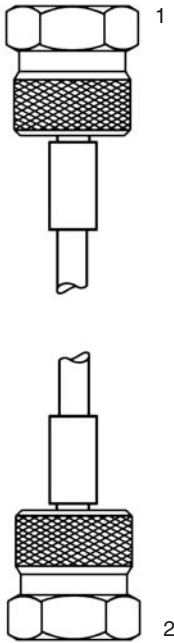
Gauge Connectors



Part Number	Stock Materials			T1	T2 (Female)	PSI/Bar	Hex (MM)
	S	FG	SS BR				
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

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

Complete kit part # -- TP KIT

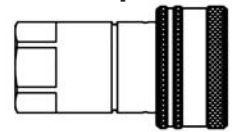
Kits can be customized with different components

Quick Disconnects

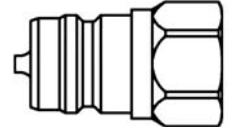
Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
ANV-14-F	1/4	1/4	TMA-14	5075
ANV-14-M	1/4	1/4	TFA-14	5075
ANV-38-F	3/8	3/8	TMA-38	4550
ANV-38-M	3/8	3/8	TFA-38	4550
ANV-34-F	3/4	3/4	TMA-34	3625
ANV-34-M	3/4	3/4	TFA-34	3625
ANV-1-F	1	1	TMA-1	3335
ANV-1-M	1	1	TFA-1	3335
Interchanges with: ISO 7241-A Parker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

ANV Series

Coupler



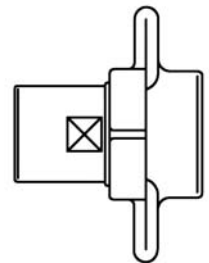
Tip



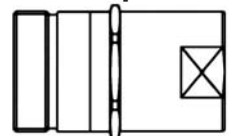
Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
FB-12-F	3/4	3/4	TMFB-12S	3625
FB-12-M	3/4	3/4	TFFB-12S	3625
FB-16-F	1	1	TMFB-16S	3335
FB-16-M	1	1	TFFB-16S	3335
FB-20-F	1 1/4	1 1/4	TMFB-20S	3045
FB-20-M	1 1/4	1 1/4	TFFB-20S	3045
Interchanges with: Parker 6100 Aeroquip 5100				

FB Series

Coupler



Tip

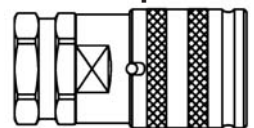


Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
FF-38-F*	3/8	3/8	TMF-38	4350
FF-38-M*	3/8	3/8	TFF-38	4350
FF-38-12-F*	3/8	1/2	TMF-38	4350
FF-38-12-M*	3/8	1/2	TFF-38	4350
FF-12-F	1/2	1/2		3650
FF-12-M	1/2	1/2		3650
FF-34-F	3/4	3/4		3650
FF-34-M	3/4	3/4		3650
*Complies with: HTMA Standards ISO 16028				

FF Series

Flush Face

Coupler



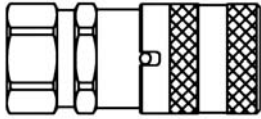
Tip



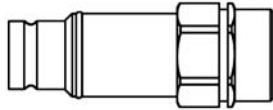
Quick Disconnects

FFI Series

Coupler



Tip

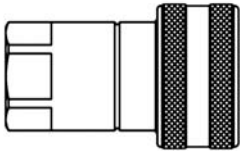


Dash Size	Body Size	Thread (NPT)	WP PSI
FFI-12-F	1/2	1/2	3625
FFI-12-M	1/2	1/2	3625
FFI-34-F	3/4	3/4	3625
FFI-34-M	3/4	3/4	3625

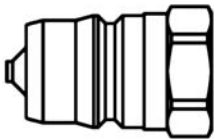
**Interchanges with:
ISO 16028**

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

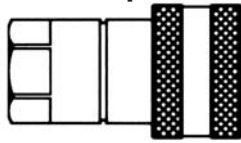
**Also available in brass and stainless on request.
Interchanges with:
ISO 7241-B
Parker 60
Aeroquip FD45**

Quick Disconnects

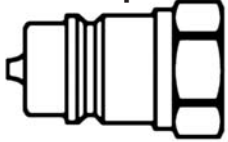
Dash Size	Body Size	T1 (NPT)	Cap #/Plug #	WP PSI
NV-14-F	1/4	1/4	TM-14	5075
NV-14-M	1/4	1/4	TF-14	5075
NV-38-F	3/8	3/8	TM-38	4550
NV-38-M	3/8	3/8	TF-38	4550
NV-12-F*	1/2	1/2	TM-12	3625
NV-12-M*	1/2	1/2	TF-12	3625
NV-34-UNF-F*	1/2	3/4-16 (UNF)	TM-12	3625
NV-34-UNF-M*	1/2	3/4-16 (UNF)	TF-12	3625
NV-34-F	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



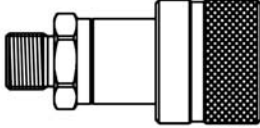
Tip



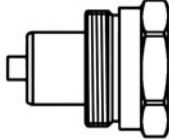
Dash Size	Body Size	T1 (NPT)	WP PSI
PVVM-1/14-F	1/4	1/4	10000
PVVM-14-M	1/4	1/4	10000
PVVM-1/38-F	3/8	3/8	10000
PVVM-38-M	3/8	3/8	10000
Screw to Connect - High Pressure Interchanges with: Parker 3000			

PVVM Series

NPT Thread
Coupler



Tip

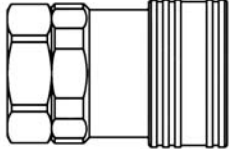


Dash Size	Body Size	T1 (NPT)	WP PSI
TNV-4-F	1/4	1/4	4000
TNV-4-M	1/4	1/4	4000
TNV-6-F	3/8	3/8	4350
TNV-6-M	3/8	3/8	4350
TNV-8-F	1/2	1/2	3200
TNV-8-M	1/2	1/2	3200
TNV-12-F	3/4	3/4	2750
TNV-12-M	3/4	3/4	2750
TNV-16-F	1	1	2175
TNV-16-M	1	1	2175
Interchanges with: Snaptite H Series			

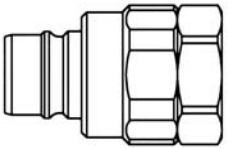
TNV Series

Quick Connect

Coupler



Tip



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

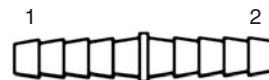
Garden Hose Fittings233-236

Brass Hose Barb Fittings

Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (Hose I.D.)
	S	FG	SS	BR		
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

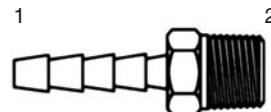
Hose Splicer



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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

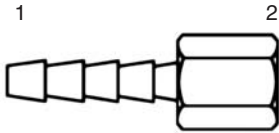
Hose Barb to Pipe



Brass Hose Barb Fittings

4245

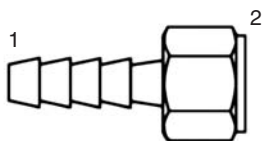
Hose Barb to Pipe (RIGID)



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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

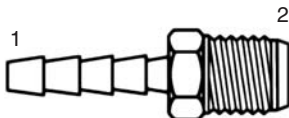
Hose Barb to Ball Seat Pipe Swivel



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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



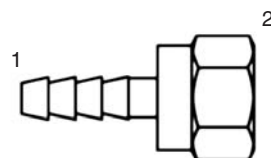
Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
04-04				BR	1/4	7/16-20
04-06				BR	1/4	5/8-18
05-05				BR	5/16	1/2-20
06-06				BR	3/8	5/8-18
08-08				BR	1/2	3/4-16

Brass Hose Barb Fittings

Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
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

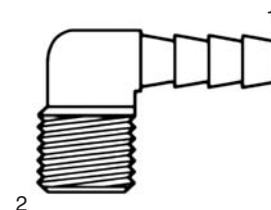
Hose Barb to JIC Swivel



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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

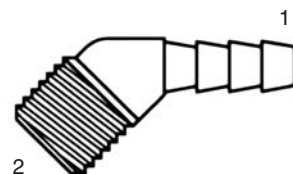
Hose Barb to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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°



Brass Hose Barb Fittings

BFL

Brass Ferrule



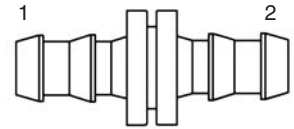
Dash Size	Stock Materials				Ferrule I.D.
	S	FG	SS	BR	
450				BR	.450
475				BR	.475
500				BR	.500
525				BR	.525
550				BR	.550
575				BR	.575
600				BR	.600
625				BR	.625
650				BR	.650
675				BR	.675
700				BR	.700
725				BR	.725
750				BR	.750
775				BR	.775
800				BR	.800
850				BR	.850
900				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				T1 (Hose I.D.)	T2 (Hose I.D.)
	S	FG	SS	BR		
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

4300

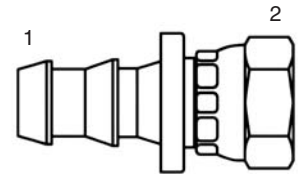
Hose Splicer



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
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

4301

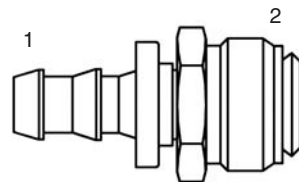
Hose Barb to SAE 45° Swivel



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
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

4303

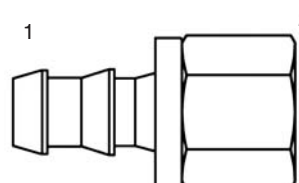
Hose Barb to SAE 45° Inverted Flare



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
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

4305

Hose Barb to SAE 45° Inverted Flare Swivel



S= Steel

FG=Forging

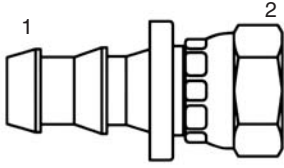
SS=Stainless Steel

BR=Brass

Brass Push-On Hose Barb Fittings

4311

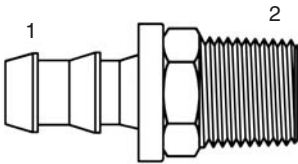
Hose Barb to JIC Swivel



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
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

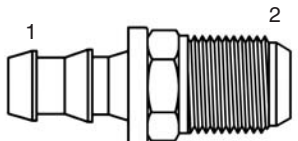
Hose Barb to Pipe



Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (NPTF)
	S	FG	SS	BR		
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



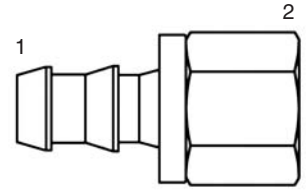
Dash Size	Stock Materials				T1 (Hose I.D.)	T2 (UNF)
	S	FG	SS	BR		
04-04				BR	1/4	7/16-20
04-06				BR	1/4	9/16-18
06-06 SAE				BR	3/8	5/8-18
06-06				BR	3/8	9/16-18
06-08				BR	3/8	3/4-16
08-08				BR	1/2	3/4-16

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

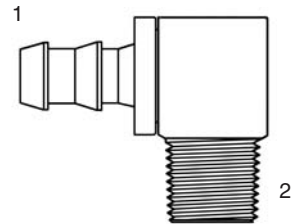
Hose Barb to Pipe



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

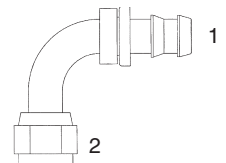
Hose Barb to Pipe Elbow 90°



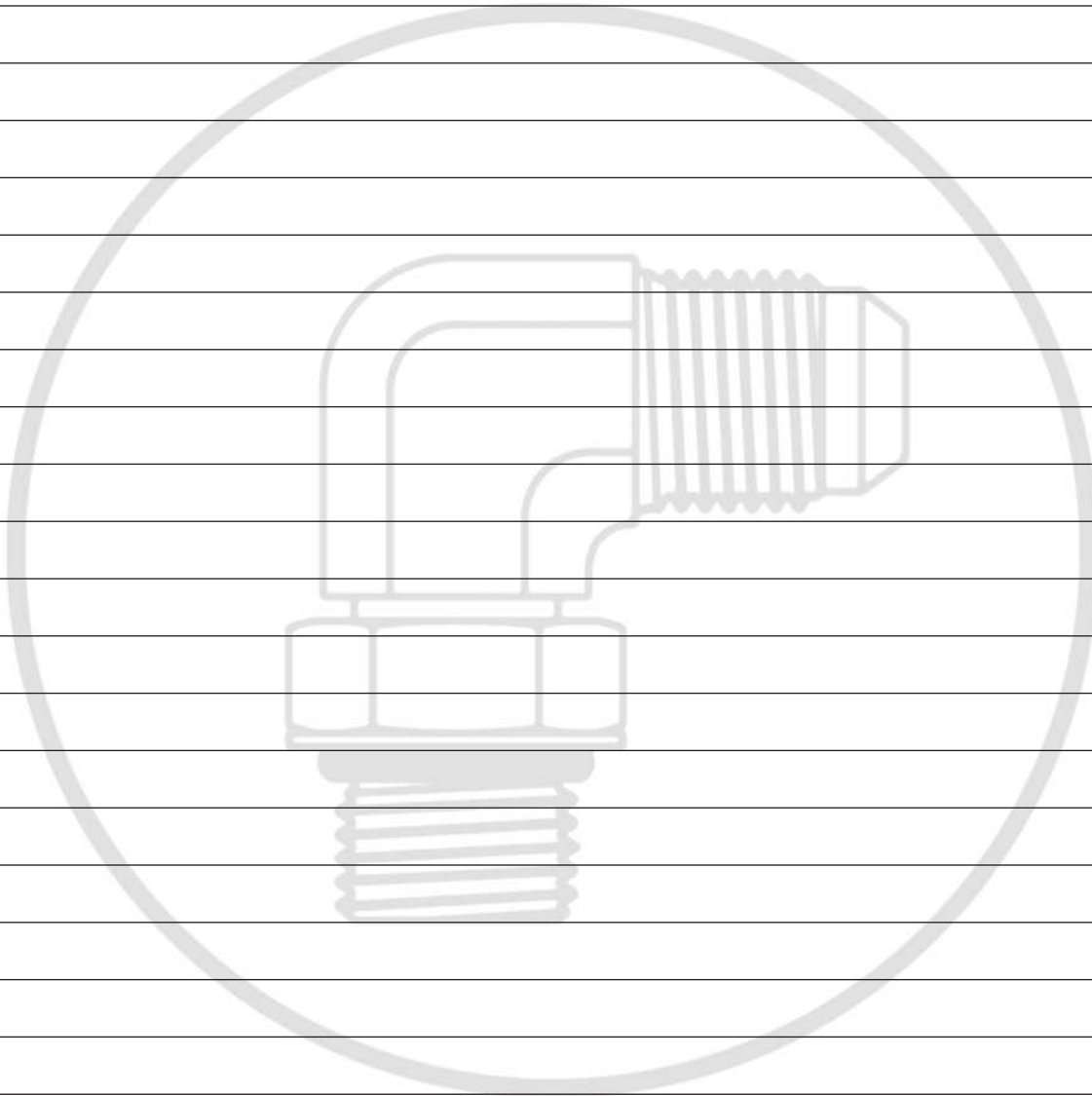
Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (NPTF)
04-04	S	1/4	1/8-27
06-06	S	3/8	3/8-18
08-08	S	1/2	1/2-14

4330


Hose Barb to JIC Swivel 90° Bent Tube

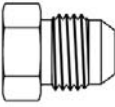


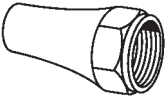
Notes

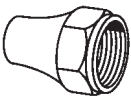


Brass SAE 45° Adapters

Dash Size	Stock Materials				T1 (UNF)	40C SAE Cap
	S	FG	SS	BR		
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				T1 (UNF)	40P SAE Plug
	S	FG	SS	BR		
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				T1 (UNF)	41 SAE Long Nut
	S	FG	SS	BR		
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				T1 (UNF)	41S SAE Short Nut
	S	FG	SS	BR		
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	

S= Steel

FG=Forging

SS=Stainless Steel

BR=Brass

Brass SAE 45° Adapters

42

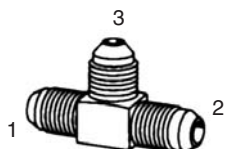
SAE Tube Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

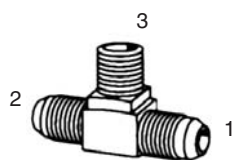
SAE Tube Union Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

45

SAE Tube to Pipe Branch Tee



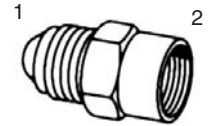
Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (NPTF)
	S	FG	SS	BR			
02-02-02				BR	5/16-24	5/16-24	1/8-27
03-03-02				BR	3/8-24	3/8-24	1/8-27
04-04-02				BR	7/16-20	7/16-20	1/8-27
04-04-04				BR	7/16-20	7/16-20	1/4-18
04-04-06				BR	7/16-20	7/16-20	3/8-18
05-05-02				BR	1/2-20	1/2-20	1/8-27
05-05-04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

46

SAE Tube to Pipe



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

48

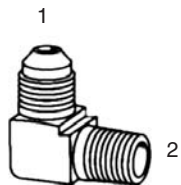
SAE Tube to Pipe



Brass SAE 45° Adapters

49

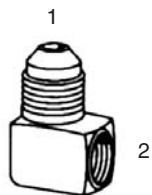
SAE Tube to Pipe Elbow 90°



Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
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

50

SAE Tube to Pipe Elbow 90°



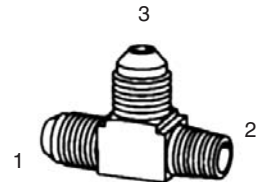
Dash Size	Stock Materials			T1 (UNF)	T2 (NPTF)
	S	FG	SS BR		
03-02			BR	3/8-24	1/8-27
04-02			BR	7/16-20	1/8-27
04-04			BR	7/16-20	1/4-18
04-06			BR	7/16-20	3/8-18
05-02			BR	1/2-20	1/8-27
05-04			BR	1/2-20	1/4-18
06-02			BR	5/8-18	1/8-27
06-04			BR	5/8-18	1/4-18
06-06			BR	5/8-18	3/8-18
06-08			BR	5/8-18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

51

SAE Tube to Pipe Run Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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

54

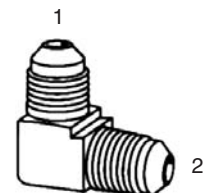
SAE Tube to Pipe Elbow 45°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

55

SAE Tube Union Elbow 90°



Brass Compression Adapters

60

Tube Sleeve



Dash Size	Stock Materials				Tube Size
	S	FG	SS	BR	
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				Tube Size
	S	FG	SS	BR	
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

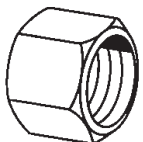
Self-Align Tube Sleeve



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

61

Tube Nut



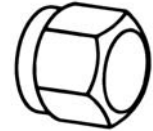
Dash Size	Stock Materials				T1 (Tube Size)
	S	FG	SS	BR	
02				BR	5/16-24
03				BR	3/8-24
04				BR	7/16-24
05				BR	1/2-24
06				BR	9/16-24
08				BR	11/16-20
10				BR	13/16-18
12				BR	1-18
14				BR	1 1/8-18

Brass Compression Adapters

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

61-C

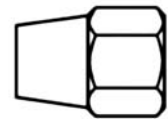
Tube Cap



Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)
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

61-L

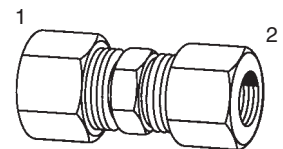
Long Tube Nut



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
04-02	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

62

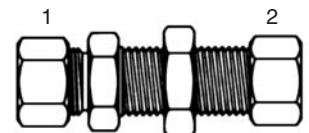
Tube Union



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

62-BH

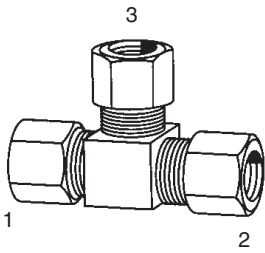
Bulkhead Tube Union



Brass Compression Adapters

64

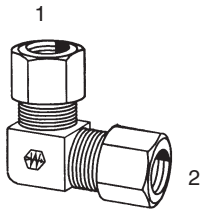
Tube Union Tee



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

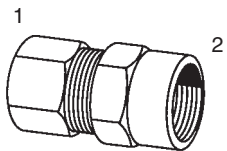
Tube Union Elbow 90°



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



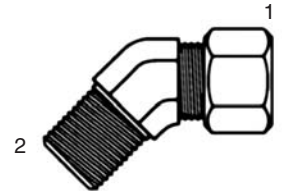
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
05-04	BR	1/2-24	1/4-18
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06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

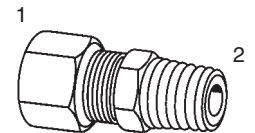
**Tube to Pipe
Elbow 45°**



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

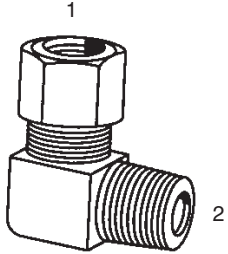
Tube to Pipe



Brass Compression Adapters

69

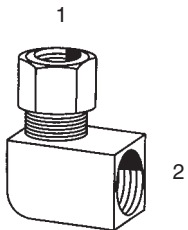
Tube to Pipe Elbow 90°



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

70

Tube to Pipe Elbow 90°



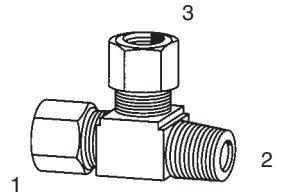
Dash Size	Stock Materials S FG SS BR	T1 (Tube Size)	T2 (NPTF)
02-02	BR	5/16-24	1/8-27
03-02	BR	3/8-24	1/8-27
04-02	BR	7/16-24	1/8-27
04-04	BR	7/16-24	1/4-18
04-06	BR	7/16-24	3/8-18
04-08	BR	7/16-24	1/2-14
05-02	BR	1/2-24	1/8-27
06-02	BR	9/16-24	1/8-27
06-04	BR	9/16-24	1/4-18
06-06	BR	9/16-24	3/8-18
08-04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

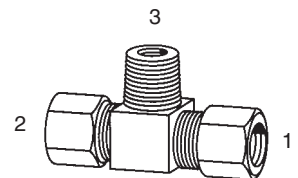
Tube to Pipe Run Tee



Dash Size	Stock Materials				T1 (Tube Size)	T2 (Tube Size)	T3 (NPTF)
	S	FG	SS	BR			
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

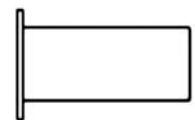
Tube to Pipe Branch Tee



Dash Size	Stock Materials				Tube Size	O.D.
	S	FG	SS	BR		
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

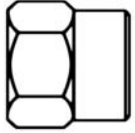


NOTE: All brass compression fittings are available with a self-align nut and sleeve. To order add "SA" after the base number. (Example 68-SA-2-2)

Brass Pipe Adapters

3129

Pipe Cap



Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
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				T1 (NPTF)
	S	FG	SS	BR	
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

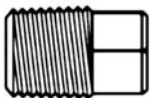
Slotted Plug



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

3151

Square Head Plug



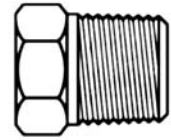
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02				BR	1/8-27
04				BR	1/4-18
06				BR	3/8-18
08				BR	1/2-14
12				BR	3/4-14
16				BR	1-11 1/2

Brass Pipe Adapters

Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
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

3152

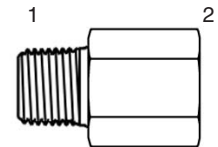
Hex Head Plug



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

3200

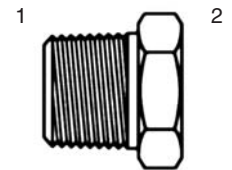
Pipe Expander/Extender



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

3220

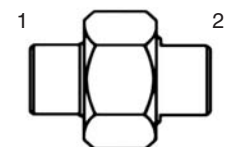
Hex Reducer Bushing



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

3250

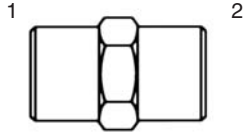
Pipe Swivel Union



Brass Pipe Adapters

3300

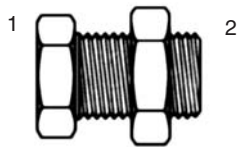
Pipe Coupling



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

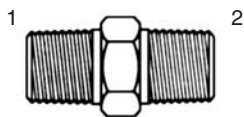


Dash Size	Stock Materials				T1&T2 (NPTF) BULKHEAD THREAD	Length*
	S	FG	SS	BR		
02x1.5				BR	1/8-27 5/8-18	1.50"
04x.94				BR	1/4-18 3/4-16	.94"
04x1.5				BR	1/4-18 3/4-16	1.50"
06x1.3				BR	3/8-18 1-14	1.31"
08x1.5				BR	1/2-14 1-1/8-14	1.50"

*Length = Overall Length of Fitting

3325

Hex Nipple



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

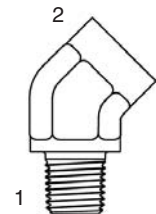
Long Nipple



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

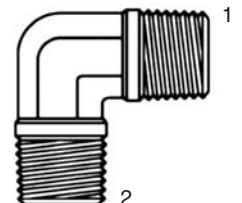
Street Elbow 45°



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

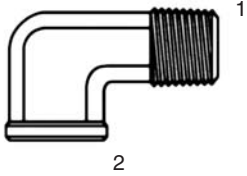
SS=Stainless Steel

BR=Brass

Brass Pipe Adapters

3400

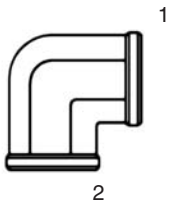
Street Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

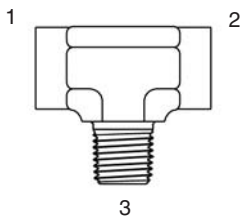
Pipe Elbow 90°



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
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

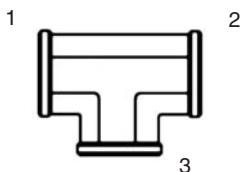
Pipe Branch Tee



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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



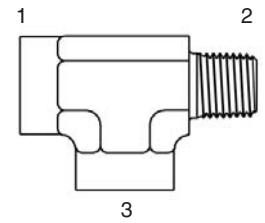
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
02				BR	1/8-27	1/8-27	1/8-27
04				BR	1/4-18	1/4-18	1/4-18
06				BR	3/8-18	3/8-18	3/8-18
08				BR	1/2-14	1/2-14	1/2-14
12				BR	3/4-14	3/4-14	3/4-14

Brass Pipe Adapters

Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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

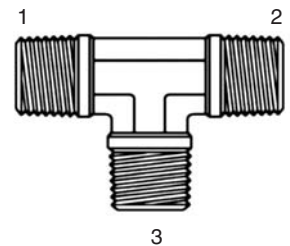
Street Tee



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 (NPTF)
	S	FG	SS	BR			
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

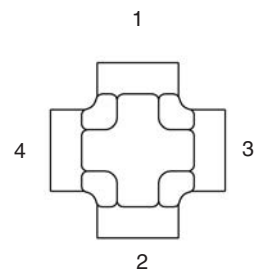
Pipe Tee



Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)	T3 & T4 (NPTF)
	S	FG	SS	BR			
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



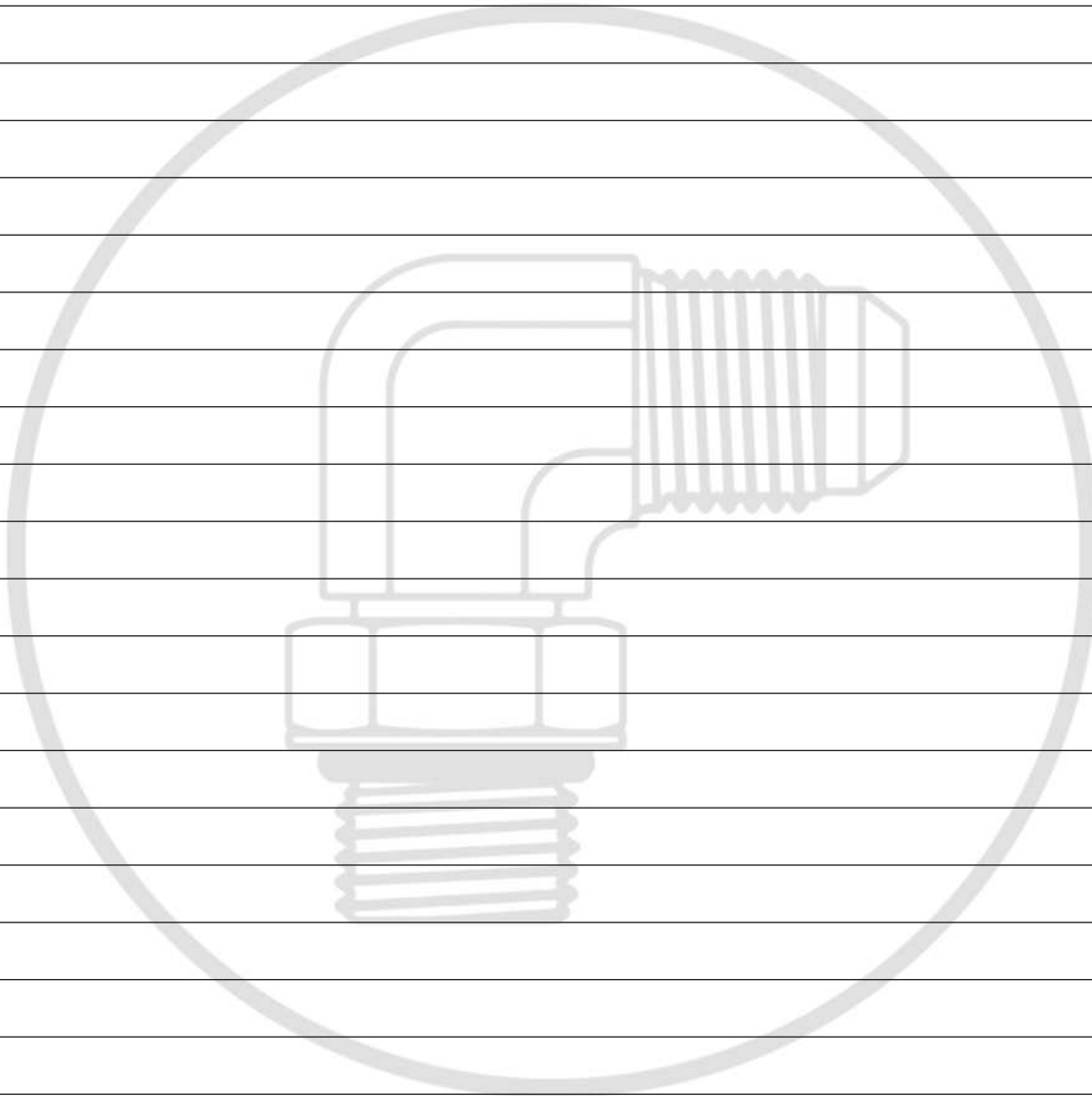
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
01				BR	1/8-27
02				BR	1/4-18
03				BR	3/8-18
04				BR	1/2-14

BV

Breather Vent Plug



Notes



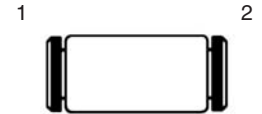
Brass Poly Push Fittings

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

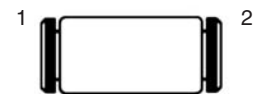


Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
04-02	BR	1/4	1/8
04-02.5	BR	1/4	5/32
05-02.5	BR	5/16	5/32
05-04	BR	5/16	1/4
06-02	BR	3/8	1/8
06-02.5	BR	3/8	5/32
06-04	BR	3/8	1/4
06-05	BR	3/8	5/16
08-04	BR	1/2	1/4
08-06	BR	1/2	3/8

Also available with nickel plating.

263PP

Tube Union Reducer

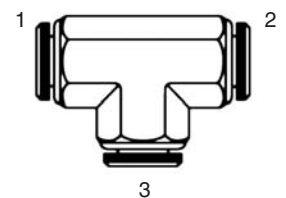


Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size	Tube Size
02	BR	1/8	1/8	1/8
02.5	BR	5/32	5/32	5/32
04	BR	1/4	1/4	1/4
05	BR	5/16	5/16	5/16
06	BR	3/8	3/8	3/8
08	BR	1/2	1/2	1/2

Also available with nickel plating.

264PP

Tube Union Tee

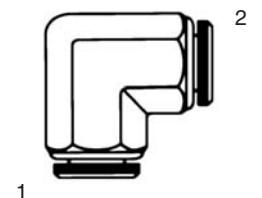


Dash Size	Stock Materials S FG SS BR	Tube Size	Tube Size
02.5	BR	5/32	5/32
04	BR	1/4	1/4
05	BR	5/16	5/16
06	BR	3/8	3/8
08	BR	1/2	1/2

Also available with nickel plating.

265PP

Tube Union Elbow 90°



Brass Poly Push Fittings

266PP

Tube to Pipe

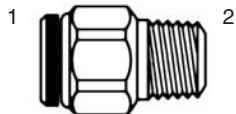


Dash Size	Stock Materials			Tube Size	T2 (NPTF)
	S	FG	SS BR		
02-02			BR	1/8	1/8-27
02.5-02			BR	5/32	1/8-27
04-02			BR	1/4	1/8-27
04-04			BR	1/4	1/4-18
06-04			BR	3/8	1/4-18
06-06			BR	3/8	3/8-18

Also available with nickel plating.

268PP

Tube to Pipe

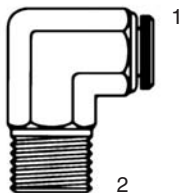


Dash Size	Stock Materials			Tube Size	T2 (NPTF)
	S	FG	SS BR		
02-01			BR	1/8	1/16-27
02-02			BR	1/8	1/8-27
02.5-02			BR	5/32	1/8-27
02.5-04			BR	5/32	1/4-18
02.5-10/32			BR	5/32	10/32 UNF
03-02			BR	3/16	1/8-27
04-10/32			BR	1/4	10/32 UNF
04-01			BR	1/4	1/16-27
04-02			BR	1/4	1/8-27
04-04			BR	1/4	1/4-18
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			Tube Size	T2 (NPTF)
	S	FG	SS BR		
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.

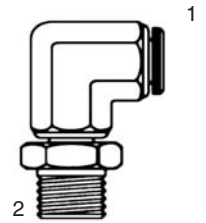
Brass Poly Push Fittings

Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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°

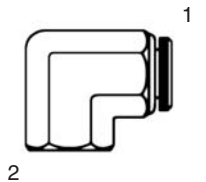


Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
02.5-02				BR	5/32	1/8-27
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
06-04				BR	3/8	1/4-18

Also available with nickel plating.

270PP

Tube to Pipe Elbow 90°

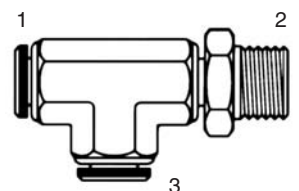


Dash Size	Stock Materials				Tube Size	T2 (NPTF)	Tube Size
	S	FG	SS	BR			
02.5-02-02.5				BR	5/32	1/8-27	5/32
04-02-04				BR	1/4	1/8-27	1/4
04-04-04				BR	1/4	1/4-18	1/4
05-02-05				BR	5/16	1/8-27	5/16
06-04-06				BR	3/8	1/4-18	3/8
08-06-08				BR	1/2	3/8-18	1/2
08-08-08				BR	1/2	1/2-14	1/2

Also available with nickel plating.

271PP

Tube to Pipe Swivel Run Tee

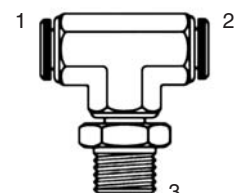


Dash Size	Stock Materials				Tube Size	Tube Size	T3 (NPTF)
	S	FG	SS	BR			
02.5-02.5-02				BR	5/32	5/32	1/8-27
04-04-02				BR	1/4	1/4	1/8-27
04-04-04				BR	1/4	1/4	1/4-18
05-05-02				BR	5/16	5/16	1/8-27
06-06-04				BR	3/8	3/8	1/4-18
06-06-06				BR	3/8	3/8	3/8-18
08-08-06				BR	1/2	1/2	3/8-18
08-08-08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

Also available with nickel plating.

272PP

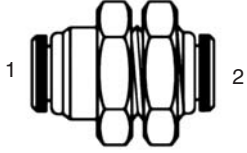
Tube to Pipe Swivel Branch Tee



Brass Poly Push Fittings

282PP

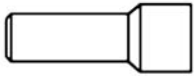
Tube Bulkhead Union



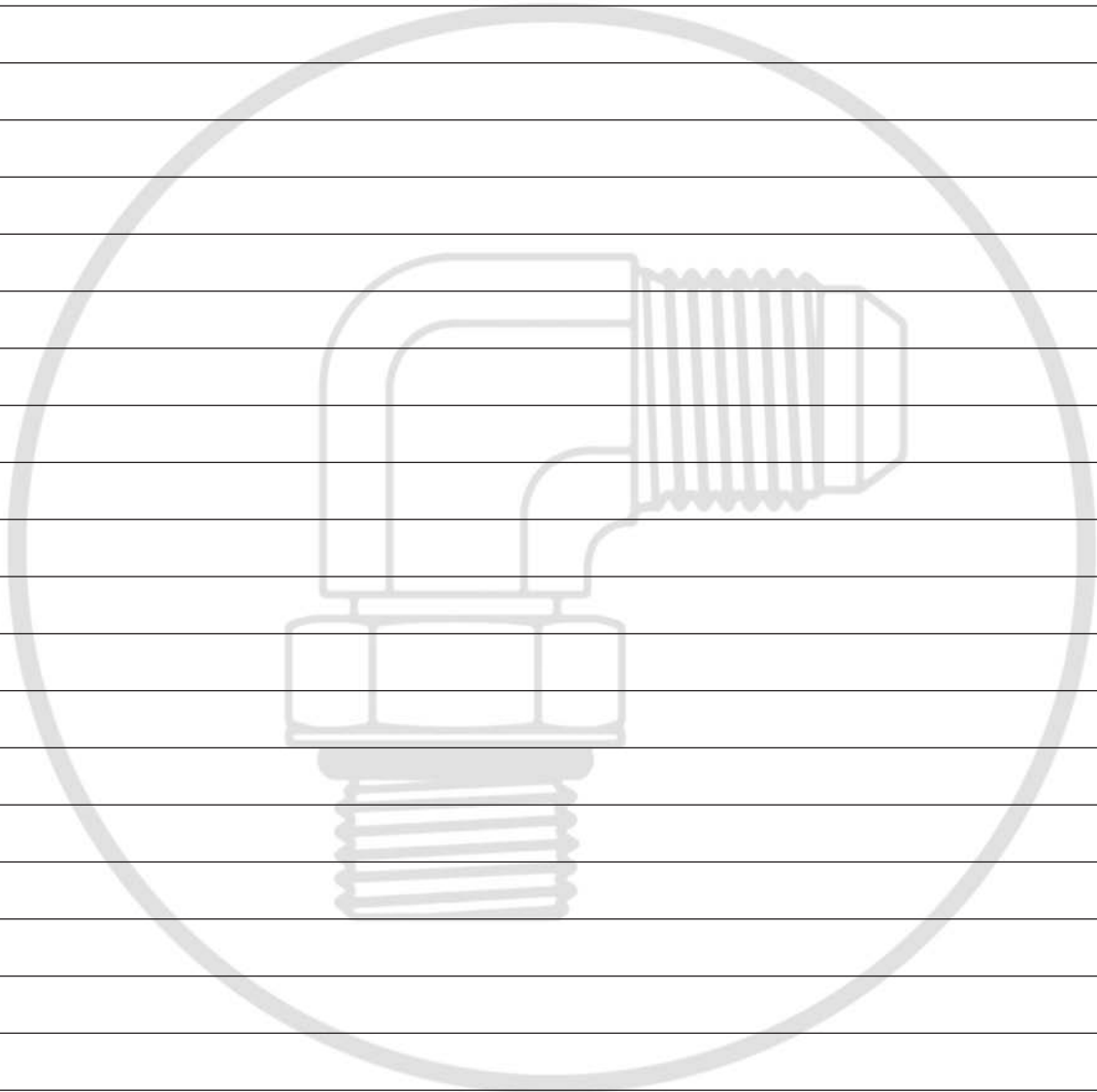
Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
02				BR	1/8	1/8
02.5				BR	5/32	5/32
04				BR	1/4	1/4
05				BR	5/16	5/16
06				BR	3/8	3/8
08				BR	1/2	1/2
Also available with nickel plating.						

284PP

Tube Plug



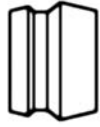
Dash Size	Stock Materials				Tube Size
	S	FG	SS	BR	
02				BR	1/8
02.5				BR	5/32
04				BR	1/4
05				BR	5/16
06				BR	3/8
08				BR	1/2



Brass Poly Flow Fittings

260P

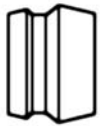
Nylon Sleeve



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

260PB

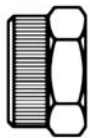
Brass Sleeve



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

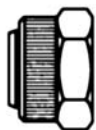
Brass Nut



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



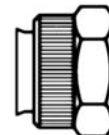
Dash Size	Stock Materials S FG SS BR	Tube Size
04	BR	1/4
05	BR	5/16
06	BR	3/8
08	BR	1/2

Brass Poly Flow Fittings

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

261PB

Brass Nut And Brass Sleeve



Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
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

262P

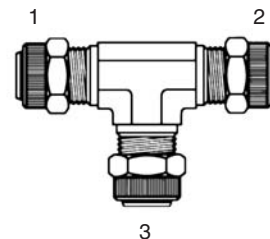
Tube Union



Dash Size	Stock Materials				Tube Size	Tube Size	Tube Size
	S	FG	SS	BR			
02				BR	1/8	1/8	1/8
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

264P

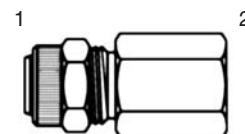
Tube Union Tee



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

266P

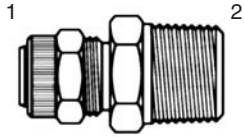
Tube to Pipe



Brass Poly Flow Fittings

268P

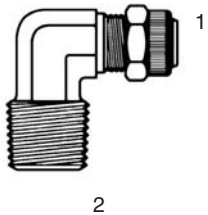
Tube to Pipe



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

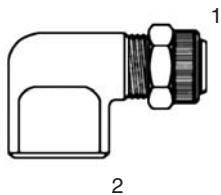
Tube to Pipe Elbow 90°



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°



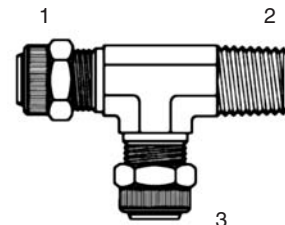
Dash Size	Stock Materials S FG SS BR	Tube Size	T2 (NPTF)
04-02	BR	1/4	1/8-27
04-04	BR	1/4	1/4-18
06-04	BR	3/8	1/4-18
08-06	BR	1/2	3/8-18

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

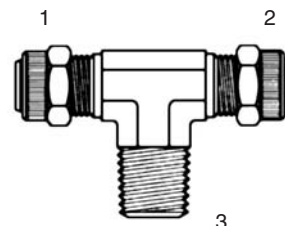
Tube to Pipe Run Tee



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

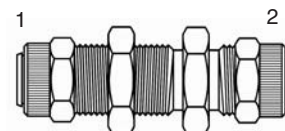
Tube to Pipe Branch Tee



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

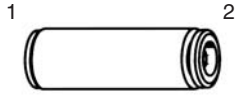
Tube Bulkhead Union



Brass Push-In D.O.T. Fittings

1562

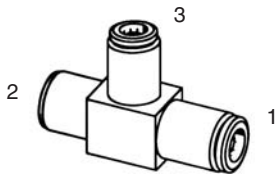
Tube Union



Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
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

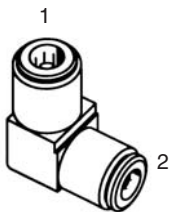
Tube Union Tee



Dash Size	Stock Materials				Tube Size	Tube Size	Tube Size
	S	FG	SS	BR			
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

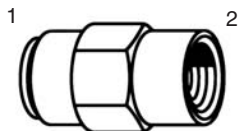
Tube Union Elbow 90°



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

1566

Tube to Pipe



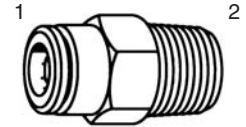
Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
08-08				BR	1/2	1/2-14

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

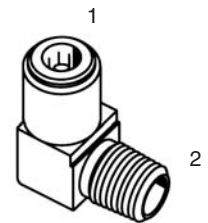
Tube to Pipe



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

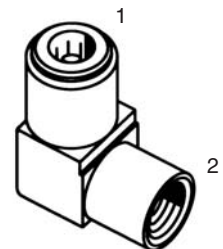
Tube to Pipe Elbow 90°



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

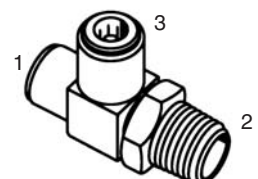
Tube to Pipe Elbow 90°



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

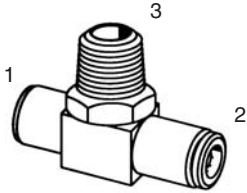
Tube to Pipe Swivel Run Tee



Brass Push-In D.O.T. Fittings

1572

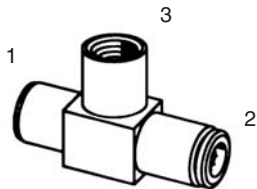
**Tube to Pipe
Swivel
Branch Tee**



Dash Size	Stock Materials				Tube Size	Tube Size	T3 (NPTF)
	S	FG	SS	BR			
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

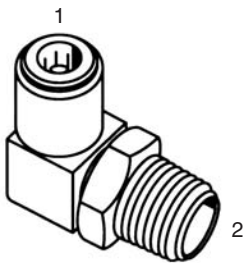
**Tube to Pipe
Branch Tee**



Dash Size	Stock Materials				Tube Size	Tube Size	T3 (NPTF)
	S	FG	SS	BR			
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				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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				Tube Size	Tube Size
	S	FG	SS	BR		
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
04	BR	1/4
06	BR	3/8
08	BR	1/2
10	BR	5/8
12	BR	3/4

1460

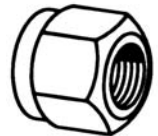
Tube Sleeve



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

1461

Tube Nut



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

1462

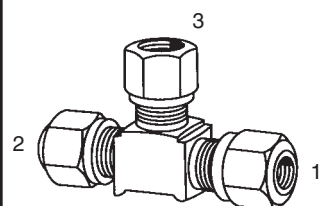
Tube Union



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
10	BR	5/8	5/8	5/8

1464

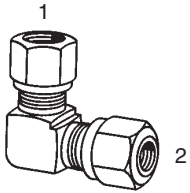
Tube Union Tee



Brass Air Brake Fittings

1465

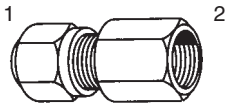
Tube Union Elbow 90°



Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
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

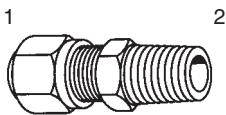
Tube to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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

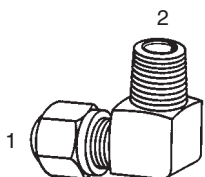
Tube to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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°



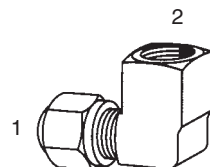
Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
04-06				BR	1/4	3/8-18
06-02				BR	3/8	1/8-27
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
06-08				BR	3/8	1/2-14
08-04				BR	1/2	1/4-18
08-06				BR	1/2	3/8-18
08-08				BR	1/2	1/2-14
10-06		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

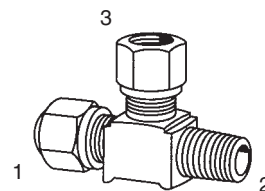
Tube to Pipe Elbow 90°



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

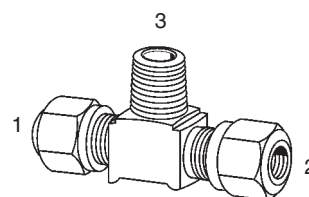
Tube to Pipe Run Tee



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

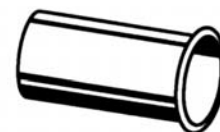
Tube to Pipe Branch Tee



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

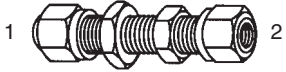
Tube Insert



Brass Air Brake Fittings

1474

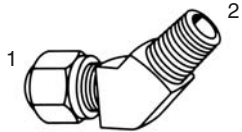
Tube Bulkhead Union



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

1480

Tube to Pipe Elbow 45°



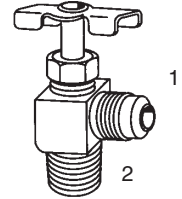
Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
04-02				BR	1/4	1/8-27
04-04				BR	1/4	1/4-18
06-02				BR	3/8	1/8-27
06-04				BR	3/8	1/4-18
06-06				BR	3/8	3/8-18
08-06				BR	1/2	3/8-18
08-08				BR	1/2	1/2-14
10-08				BR	5/8	1/2-14

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials				Tube O.D.	T2 (NPTF)
	S	FG	SS	BR		
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

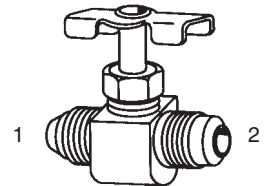
SAE 45° to Pipe
Elbow 90°



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

NV102

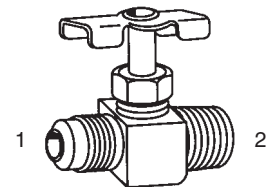
SAE 45° Union



Dash Size	Stock Materials				Tube O.D.	T2 (NPTF)
	S	FG	SS	BR		
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

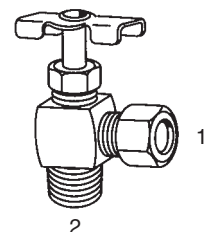
SAE 45° to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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

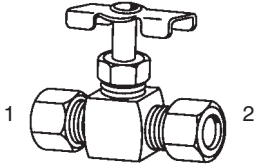
Compression to
Pipe Elbow 90°



Brass Needle Valves and Drain Cocks

NV105

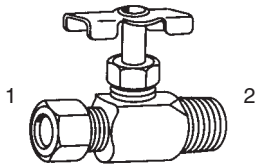
Compression Union



Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
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

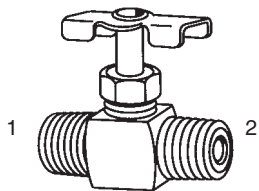
Compression to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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

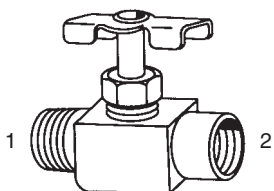
Pipe Union



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

NV108

Pipe to Pipe



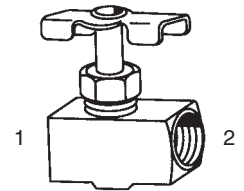
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

Brass Needle Valves and Drain Cocks

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

NV109

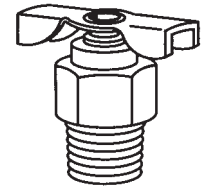
Pipe Union



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

DC602

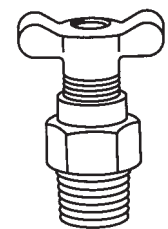
Internal Seat



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

DC603

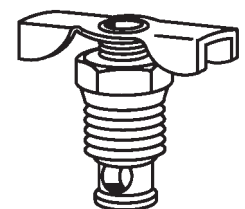
Tee Handle Internal Seat



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

DC604

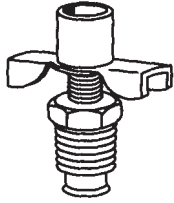
External Seat



Brass Needle Valves and Drain Cocks

DC606

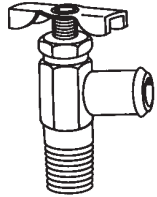
External Seat



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

DC607

Angle BIB Drain Cock



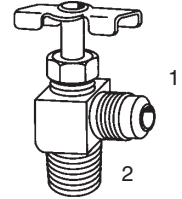
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02				BR	1/8-27
04				BR	1/4-18

Brass Needle Valves and Drain Cocks

Dash Size	Stock Materials				Tube O.D.	T2 (NPTF)
	S	FG	SS	BR		
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

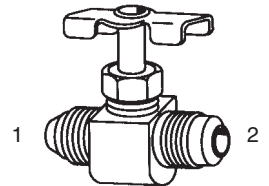
**SAE 45° to Pipe
Elbow 90°**



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

NV102

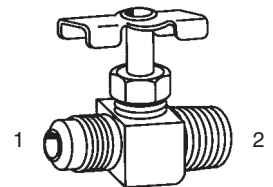
SAE 45° Union



Dash Size	Stock Materials				Tube O.D.	T2 (NPTF)
	S	FG	SS	BR		
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

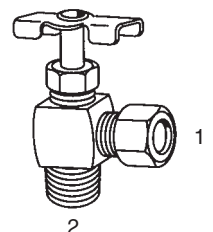
SAE 45° to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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

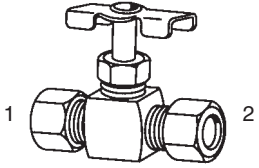
**Compression to
Pipe Elbow 90°**



Brass Needle Valves and Drain Cocks

NV105

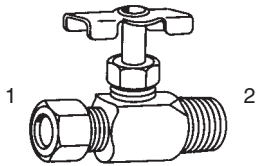
Compression Union



Dash Size	Stock Materials				Tube Size	Tube Size
	S	FG	SS	BR		
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

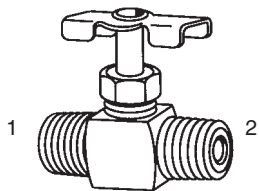
Compression to Pipe



Dash Size	Stock Materials				Tube Size	T2 (NPTF)
	S	FG	SS	BR		
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

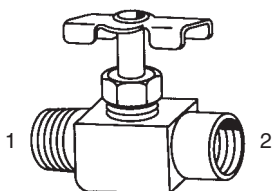
Pipe Union



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

NV108

Pipe to Pipe



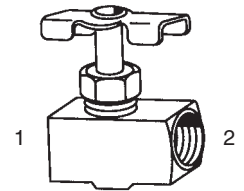
Dash Size	Stock Materials				T1 (NPTF)	T2 (NPTF)
	S	FG	SS	BR		
02-02				BR	1/8-27	1/8-27
04-04				BR	1/4-18	1/4-18

Brass Needle Valves and Drain Cocks

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

NV109

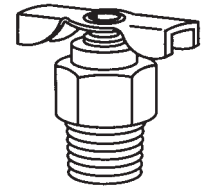
Pipe Union



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

DC602

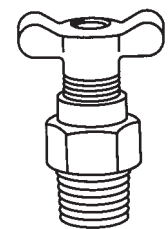
Internal Seat



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

DC603

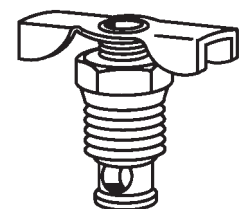
Tee Handle Internal Seat



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

DC604

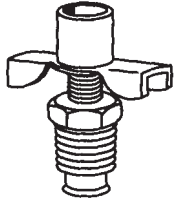
External Seat



Brass Needle Valves and Drain Cocks

DC606

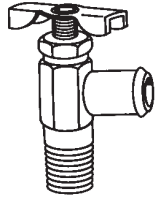
External Seat



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


DC607

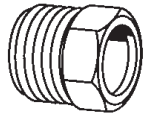
Angle BIB Drain Cock

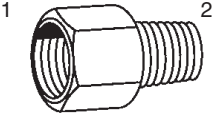


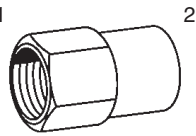
Dash Size	Stock Materials				T1 (NPTF)
	S	FG	SS	BR	
02				BR	1/8-27
04				BR	1/4-18

Brass Inverted Flare Adapters

Dash Size	Stock Materials				T1 (UNF)	100
	S	FG	SS	BR		
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				T1 (UNF)	105
	S	FG	SS	BR		
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				T1 (UNF)	T2 (NPTF)	202
	S	FG	SS	BR			
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				T1 (UNF)	T2 (NPTF)	252
	S	FG	SS	BR			
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

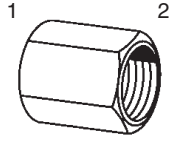
SS=Stainless Steel

BR=Brass

Brass Inverted Flare Adapters

302

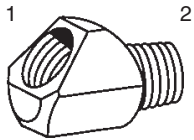
Tube Union



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

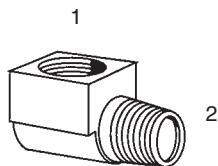
Tube to Pipe Elbow 45°



Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
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°



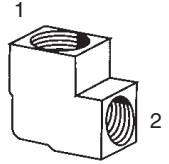
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)
	S	FG	SS	BR		
02-02				BR	5/16-24	1/8-27
03-02				BR	3/8-24	1/8-27
04-02				BR	7/16-24	1/8-27
04-04				BR	7/16-24	1/4-18
05-02				BR	1/2-20	1/8-27
05-04				BR	1/2-20	1/4-18
06-02				BR	5/8-18	1/8-27
06-04				BR	5/8-18	1/4-18
06-06				BR	5/8-18	3/8-18
08-06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

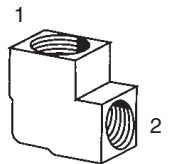
Tube to Pipe Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)
	S	FG	SS	BR		
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

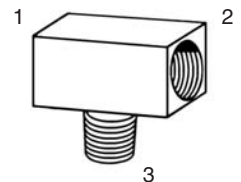
Tube Union Elbow 90°



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (NPTF)
	S	FG	SS	BR			
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

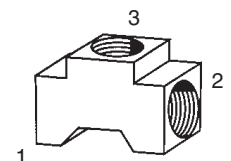
Tube to Pipe Branch Tee



Dash Size	Stock Materials				T1 (UNF)	T2 (UNF)	T3 (UNF)
	S	FG	SS	BR			
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

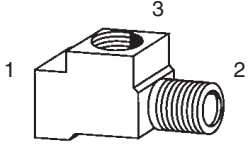
Tube Union Tee



Brass Inverted Flare Adapters

752

Tube to Pipe Run Tee



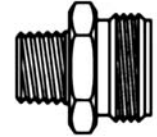
Dash Size	Stock Materials				T1 (UNF)	T2 (NPTF)	T3 (UNF)
	S	FG	SS	BR			
03-02				BR	3/8-24	1/8-27	3/8-24
04-02				BR	7/16-24	1/8-27	7/16-24
05-02				BR	1/2-20	1/8-27	1/2-20
06-04				BR	5/8-18	1/4-18	5/8-18
08-06				BR	3/4-18	3/8-18	3/4-18

Brass Garden Hose Fittings

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

4024

Male GHT to Pipe

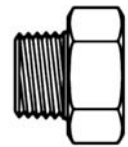


2 1

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

4025

Female GHT to Pipe



2 1

Dash Size	Stock Materials				T1 (GH) Thread	T2 (NPTF)
	S	FG	SS	BR		
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

4026

Male GHT to Pipe

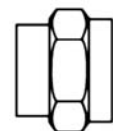


1 2

Dash Size	Stock Materials				T1 (GH) Thread	T2 (NPTF)
	S	FG	SS	BR		
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

4030

Female GHT to Pipe

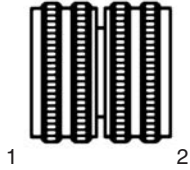


2 1

Brass Garden Hose Fittings

4040

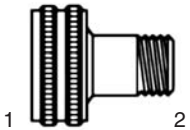
Female GHT Swivel Union



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

4044

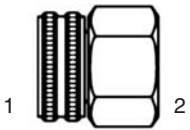
Female GHT Swivel to Pipe



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

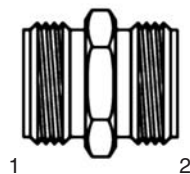
Female GHT Swivel to Pipe



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



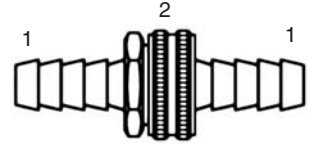
Dash Size	Stock Materials S FG SS BR	T1 (GH) Thread	T2 (GH) Thread
12-12	BR	3/4	3/4

Brass Garden Hose Fittings

Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread
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

4100

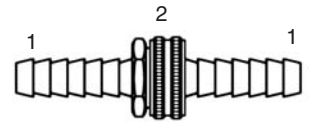
GHT Hose Barb Assembly



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

4100-L

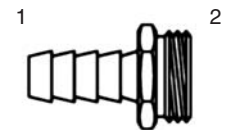
Long Shank GHT Hose Barb Assembly



Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread
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

4144

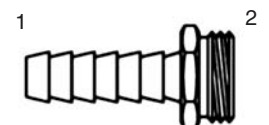
Hose Barb to Male GHT



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

4144-L

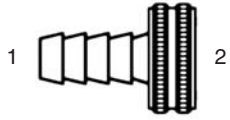
Long Shank Hose Barb to Male GHT



Brass Garden Hose Fittings

4145

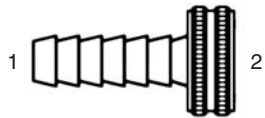
Hose Barb to Female GHT Swivel



Dash Size	Stock Materials S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread
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 S FG SS BR	T1 (Hose I.D.)	T2 (GH) Thread
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

SAE	Tompkins No.
070101	2403
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

Index

Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #
100	.229	2601	.14	3325	.204	3856	.118	452	.231
105	.229	2602	.15	3326	.204	3857	.118	46	.193
1404	.58	2603	.15	3327	.205	3858	.119	4601	.84
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
1469	.222	262PP	.209	3420	.105	3904	.120	54	.195
1470	.223	263PP	.209	3421	.106	3905	.120	5400-CL	.40
1471	.223	264P	.215	3422	.106	3950	.207	5400-N	.41
1472	.223	264PP	.209	3425	.106	402	.230	5404	.42
1473	.223	2650	.17	3426	.107	4025	.233	5404-L	.43
1474	.224	265PP	.209	3430	.107	4026	.233	5405	.44
1480	.224	266P	.215	3435	.108	4027	.233	5406	.45
1501	.60	266PP	.210	3436	.108	403	.3	5406-CAP	.46
1501-LL	.61	268P	.216	3437	.108	4030	.233	5406-E	.44
1502	.61	268PP	.210	3455	.109	404	.55	5406-FLP	.46
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
1566	.218	2703	.18	3508-HHP	.122	40P	.191	5500-S	.47
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
1582	.220	271PP	.211	3601	.110	418	.3	5600	.50
1601	.62	272P	.217	3602	.110	419	.4	5601	.50
1602	.62	272PP	.211	3620	.110	41S	.191	5602	.50
1603	.63	279PP	.211	3656	.124	42	.192	5603	.50
1604	.63	282P	.217	3657	.124	4200	.183	5604	.51
202	.229	282PP	.212	3700	.206	4244	.183	5605	.51
2403	.4,5	284PP	.212	3701	.111	4245	.184	5652	.51
2403-LH	.5	2FFI Series	.180	3702	.111	4245-S	.184	5655	.51
2404	.5,6	302	.230	3750	.207	4250	.184	60	.196
2404-L	.6	303	.2	3800	.111	4255	.185	602	.231
2404-LL	.7	304	.2	3801	.112	4290	.185	60-P	.196
2405	.7	304-C	.2	3802	.112	4295	.185	60-SA	.196
2406	.8	306	.19	3807	.112	4300	.187	61	.196
2407	.9	3129	.202	3810	.113	4301	.187	61-C	.197
2408	.9	3149	.202	3820	.114	4303	.187	61-L	.197
2500	.9	3150	.202	3823	.115	4305	.187	62	.197
2501	.10	3151	.202	3825	.115	4311	.188	62-BH	.197
2501-L	.11	3152	.203	3826	.116	4312	.188	64	.198
2501-LL	.11	318	.2	3827	.124	4313	.188	6400	.20
2501-LLL	.12	319	.3	3828	.116	4315	.189	6400-L	.21
2501-S	.12	3200	.203	3832	.116	4390	.189	6401	.52
2502	.12	3220	.203	3835	.116	44	.192	6402	.21
2503	.13	3240	.103	3840	.117	4404	.83	6403	.34
2504	.13	3250	.203	3853	.117	45	.192	6403-NWO	.34
2505	.14	3300	.204	3854	.118	4501	.83	6404	.52
252	.229	3300-BH	.204	3855	.118	4503	.83	6405	.53

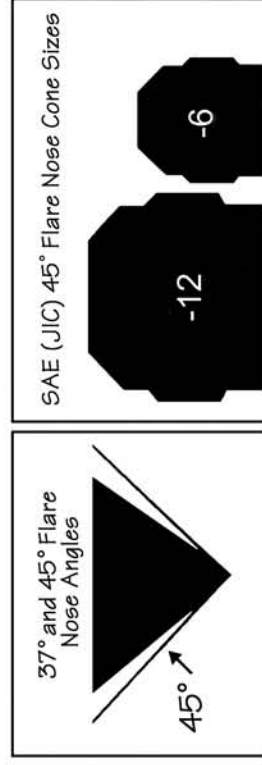
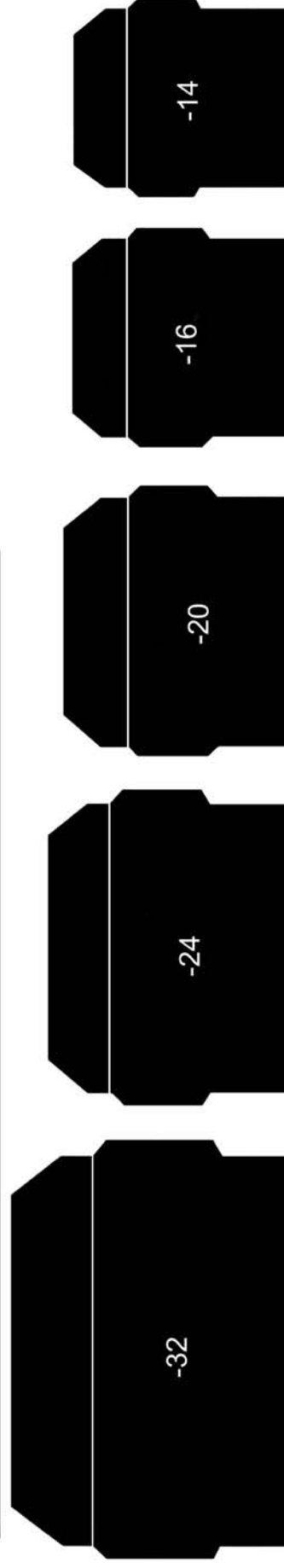
Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #
6408	.34	7105-L	.130	8500-L	.132	FF Series	.179	LS-2500	.151
6408-HHP	.35	7105-LL	.130	8500-S	.132	FF2402	.69	LS-2501	.152
6410	.35	7105-S	.130	8603-L	.133	FF2403	.69	LS-2502	.152
6410-L	.36	7129	.142	8603-S	.133	FF2404	.70	LS-5000	.149
6420	.54	7165	.142	8650-L	.133	FF2405	.70	LS-5405	.149
6425	.36	7195	.130	8650-S	.133	FF2406	.71	LS-5500	.149
65	.198	7195-LL	.131	90DB	.37	FF2408	.71	LS-5502	.150
6500	.22	72	.201	90DB-Viton	.37	FF2500	.71	LS-5504	.150
6501	.22	7205	.143	90DF	.90, 94	FF2501	.72	LS-6801	.152
6502	.22	7229	.143	90DFF	.81	FF2503	.72	LS-6806	.152
6503	.23	7255	.143	ANV Series	.179	FF2601	.72	LS-6901	.153
6504	.23	73	.201	BFL	.186	FF2603	.72	LSS-2501	.153
6505	.23	7305	.144	BV	.207	FF2605	.73	LSS-6801	.153
6506	.24	7306	.144	CP	.90	FF2650	.73	MBH	.178
6510	.24	7315	.144	DC602	.227	FF2700	.73	NB6842	.97
66	.198	7325	.145	DC603	.227	FF2701	.73	NB6847	.97
6600	.24	7355	.145	DC604	.227	FF2702	.74	NB6892	.97
6602	.25	7400	.125	DC606	.228	FF2703	.74	NBFF6842	.97
6606	.25	7402	.125	DC607	.228	FF2704	.74	NBFF6847	.98
67	.199	7405	.145	DS-BSP	.120	FF2705	.74	NV Series	.181
6701	.25	7408	.126	DS-MM	.129	FF2706	.75	NV101	.225
6701-L	.26	7408-HHP	.127	F2403	.156	FF304-C	.68	NV102	.225
6701-LXH	.26	7420-L	.128	F2403-LH	.156	FF306	.68	NV103	.225
6701-XH	.26	7420-S	.128	F2404	.157	FF318	.68	NV104	.225
6702	.26	7430	.127	F2405	.157	FF319	.68	NV105	.226
68	.199	7455	.126	F2406	.158	FF3800	.75	NV106	.226
6801	.27	7455-E	.146	F2408	.158	FF3801	.75	NV107	.226
6801-L	.28	7505	.146	F2500	.158	FF403	.69	NV108	.226
6801-LL	.28	7515	.146	F2501	.159	FF6400	.76	NV109	.227
6801-LLL	.29	752	.232	F2501-L	.159	FF6400-L	.76	PROTEC	.172
6801-S	.29	7605	.146	F2501-LL	.160	FF6402	.77	PROWRAP	.173
6802	.29	7625	.127	F2502	.160	FF6500	.77	PROWRAP+	.174
6803	.30	7655	.147	F2503	.161	FF6504	.77	PVVM Series	.181
6804	.30	7705	.147	F2601	.161	FF6600	.78	RST1404	.58
6805	.54	7715	.147	F2602	.162	FF6602	.78	RST1501	.60
6805-LL	.54	7716	.147	F2603	.162	FF6801	.78	RST2404	.6
6806	.55	7755	.148	F2605	.162	FF6801-L	.79	RST2501	.11
6807	.36	7801	.126	F2606	.163	FF6801-LL	.79	RST6400	.21
6809	.31	7802	.128	F2650	.163	FF6802	.79	RST6801	.28
6815	.36	7805	.148	F2700	.163	FF6803	.80	SF	.90
6840	.88	7861	.138	F2701	.163	FF6804	.80	SFX	.94
6842	.93	7862	.138	F2702	.164	FF6809	.80	TNV Series	.181
6845	.88	7865	.138	F2703	.164	FF6840	.99	TP	.177
6847	.93	7868	.139	F403	.155	FF6842	.99	W4	.91
6855	.55	7869	.139	F500	.155	FF6845	.99	W42	.95
6861	.89	7924	.148	F600	.155	FF6847	.100	W43	.91
6861-P	.89	7955	.148	F6400	.165	FF6890	.100	W44	.95
6862	.94	8000-L	.131	F6400-L	.166	FF6892	.100	W46	.91
6862-P	.94	8000-S	.132	F6500	.166	FF7400	.81	W48	.95
6890	.89	8100-L	.134	F6502	.166	FF7801	.81	WC4	.91
6892	.93	8100-S	.134	F6600	.167	FFI Series	.180	WC42	.95
69	.200	8101-L	.134	F6602	.167	GCP	.178	WC43	.92
6900	.63	8101-S	.134	F6801	.167, 168	GHW	.236	WC44	.96
6901	.64	8200-L	.135	F6801-L	.168	HGCP	.177	WC46	.92
6902	.64	8200-S	.135	F6801-LL	.168	HK	.171	WGC	.171
6911	.65	8201-L	.135	F6802	.168	HNV Series	.180		
70	.200	8201-S	.135	F6803	.169	LS-1501	.150		
7015	.142	8300-L	.136	F6804	.169	LS-1502	.150		
702	.231	8300-S	.136	F90DB	.169	LS-2404	.151		
71	.201	8301-L	.136	F90DB-Viton	.169	LS-2405	.151		
7105	.142	8301-S	.136	FB Series	.179	LS-2406	.151		

Thread Size Chart (Male)

NPT (MP) / BSPT / BSPP



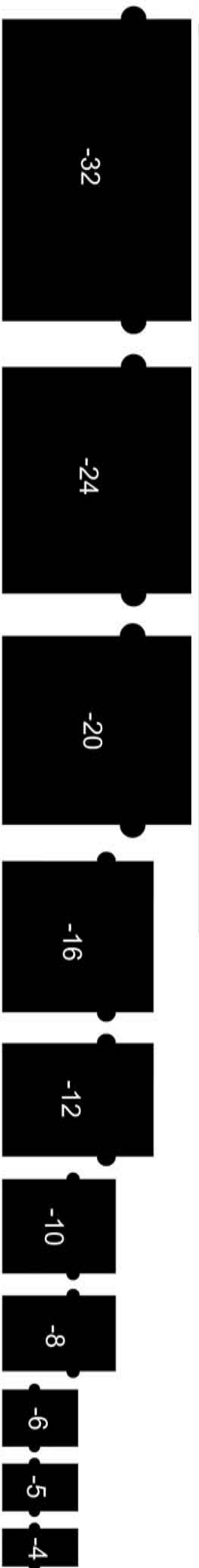
JIC 37° Flare (MJ) / SAE 45° Flare / SAE O-Ring (MOR)



Flat Face O-Ring (MORFS)



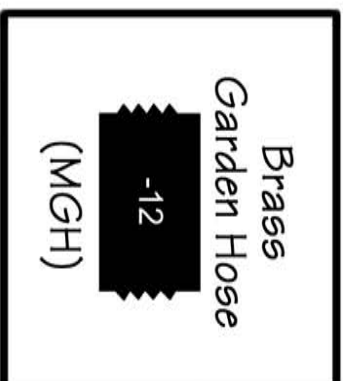
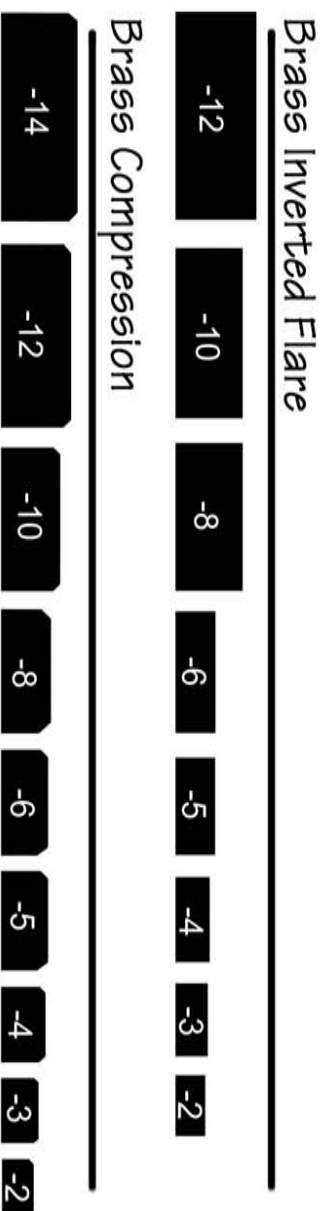
Beaded Hose



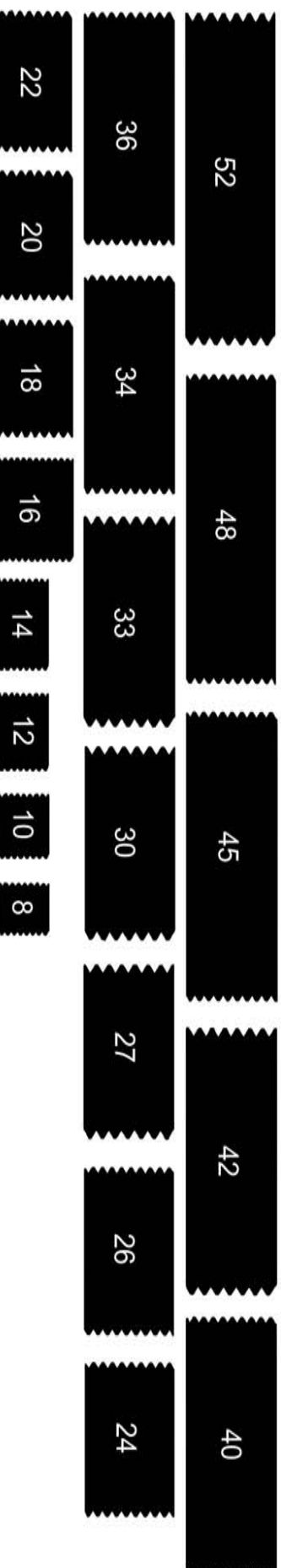
Brass Push On Hose (HB)



Brass Hose Barb (HB)



Metric Parallel (MM)





DISTRIBUTION CENTERS

800.255.1008
Toll Free Fax: 800.959.3333

Calling the Tompkins Toll-Free number will automatically route you to the Tompkins Distribution Center in your region.

OLATHE, KS • KANSAS CITY, MO • CHARLOTTE, NC • ONTARIO, CA

913.764.8088
Fax: 913.764.8340

816.483.1004
Fax: 816.483.1015

704.347.0490
Fax: 704.347.2501

909.390.5200
Fax: 909.390.5201

TWINSBURG, OH • DES MOINES, IA • NEW CASTLE, DE • PORTLAND, OR

330.425.4060
Fax: 330.425.4066

800.422.3495
Fax: 888.266.1028

302.326.1002
Fax: 302.326.1004

503.255.7995
Fax: 503.255.7785



Discover, Visa, MasterCard, American Express

stockmeup.com

SHIPPING GUARANTEE

All orders placed by 8:30 pm Eastern Time will ship same day. If your order should fail to ship same day, Tompkins will pre-pay your order UPS Red up to 100 lbs., UPS blue up to 200 lbs. and Best Way over 200 lbs.



MASTER CATALOG

Tompkins[®]

800.255.1008
STOCKMEUP.COM