



## Introduction

**PANAM** has been in the field of manufacturing precision Tube Fittings and Instrumentation valves since the last Two decades. With a team of dedicated specialists **PANAM** has always endeavored to satisfy customers ever widening demands with unmatched precision.

With the latest state of art in-house machinery and infrastructure under one roof, **PANAM** is manufacturing a wide range of Tube Fittings and Instrumentation products in different sizes and metals like brass, stainless steel, monel and in various other metals as per the customer's specific requirements. All Material are to ASTM standards and material test report available upon request. Material test report are available from Third Party. Variety of end connections - Male & Female NPT, BSPP, BSPT, ISO tapered pipe ends, Tube / Pipe socket weld.

**PANAM** Tube Fittings are 100% factory tested and are NACE certified with Heat code traceability. Maximum working pressure upto 20,000 psig (1378 bar) or Higher available upon request.

- API ISO 9001:2008 Certified
- API ISO TS 29001 Certified
- API Spec Q1 Certified
- API 6A Certified
- API 6D Certified
- API 600 Certified
- API 602 Certified
- MFG. Facility Approved by ABS Ind.
- ASTM F1387-99
- Leak Test Approved by TUV
- CE Marking



# Contents

## Design & Construction

SAE J514

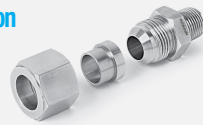
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SAE J514

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## Ordering Information

SAE J514

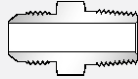
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## Male Connectors

SAE 070102

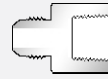
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## Female Connectors

SAE 070103

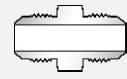
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## Unions

SAE 070101

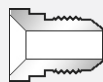
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SAE 070123

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SAE 070115

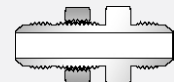
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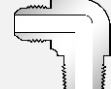
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## Male Elbows

SAE 070202

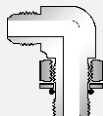
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## Adjustable Male Elbow

SAE 070220

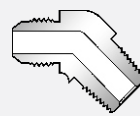
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## 45° Male Elbow

SAE 070302

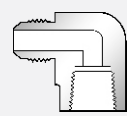
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## Female Elbow

SAE 070203

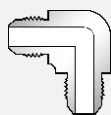
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## Union Elbows

SAE 070201

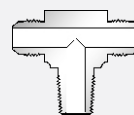
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## Male Branch Tee

SAE 070425

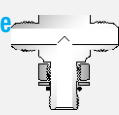
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## Adjustable Male Branch Tee

SAE 070429

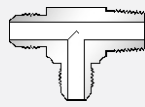
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## Male Run Tees

SAE 070424

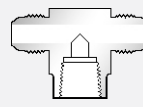
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## Female Branch Tees

SAE 070422

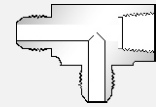
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## Female Run Tees

SAE 070426

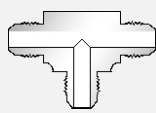
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## Union Tees

SAE 070432

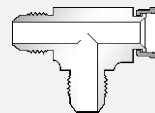
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## Swivel Run Tees

070432

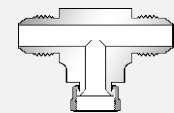
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## Swivel Branch Tees

SAE 0700433

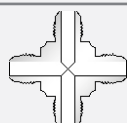
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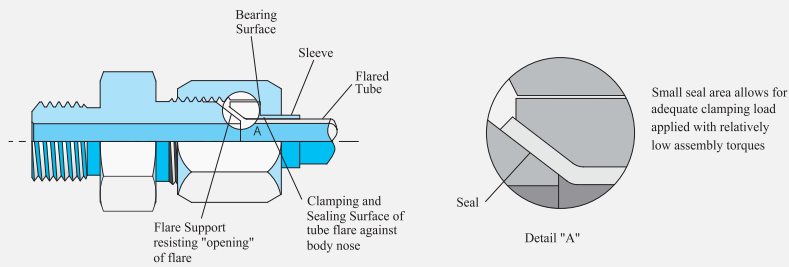
## Cross

SAE 070501

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## Design & Construction SAE-J514



The SAE 37° Flared Tube Fittings design is simple. It uses an easily produced flare at the tube end to seal and hold fluid under high pressure. The fitting consists of three pieces: the body, sleeve and nut. The tube end is flared at a 37° angle (74° included angle) and held between the fitting nose (seat) and the sleeve (support) with the nut as shown in Fig. providing a very effective (single) seal between the fitting nose and the tube flare.

The design of SAE 37° Flared Tube Fittings is very efficient. The fitting incorporates the smallest seal area of all fitting types. This seal area, as seen in Fig. is only slightly larger than the fluid flow area. The small seal area results in a compact design, low assembly torque, and a relatively high-pressure capability.

**The primary difference between a two-piece flare fitting & the three piece design is the flare support sleeve. The support sleeve provides several key functions:**

1. It provides a clamping surface for the tube flare.
2. It provides a bearing surface for the tube nut. The sleeve isolates the tube from the nut, minimizing the tube twist during assembly, a common problem of 2-piece flare fitting designs.
3. It provides support to the tube flare. The tapered fitting nose tends to wedge open the tube flare during assembly. The sleeve helps to resist this expansion, thus eliminating the possibility of tube flare and sleeve jamming inside the nut. This eliminates any waste of applied torque and allows for easy disassembly.
4. It makes the fitting adaptable to metric tube merely by changing its inside diameter.

### TUBE HANDLING

Scratches on the tube might cause leaks. It is, therefore, important to handle the tube carefully to reduce the risk of leaks. 1. Tubes must not be dragged on the floor. 2. Tubes must not be dragged out of a tubing rack, especially in cases of large OD tubes.

### TUBE CUTTING

Two different methods can be used to cut tubes:- 1. Tube cutter 2. Hacksaw

### TUBE CUTTER

To attain a leakfree connection, the tubing must be cut squarely. A good quality tube cutter with the appropriate blade for the tubing material is recommended. Do not try to reduce the time of cutting by taking deep cuts with each turn of the cutter. The end of the tube must be deburred to avoid damage to the fitting and to ensure that the tube reaches the bottom of the fitting.

### HACKSAW CUTTING

In order to cut the tube with a hacksaw and to attain square ends, the tube must be cut with guide blocks. This method of cutting requires deburring of the tube ends.

### WARNING

Do not hold the tube in a vise in the place where it will be inserted into the fitting. The vise will leave a mark on the tube that may cause leaks and might cause ovality.

## Assembly Instructions



Before tightening the nut



After tightening the nut

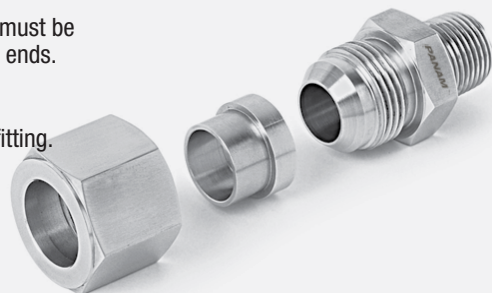
1. Cut the tube to the proper length.
2. Slide the nut and sleeve onto the tube.
3. With a special flaring tool, form the flare to 37 dimension according to SAE J533.
4. Screw the nut onto the body until finger tight.
5. From this position, tighten the nut with a wrench 1/4" turn in order to make a leakproof metal-to-metal connection

### TUBING DATA FOR 37 FLARE THREE-PIECE TUBE ASSEMBLY -

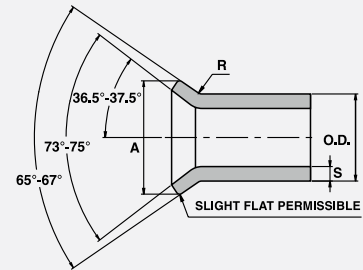
In order to ensure maximum fitting reliability and performance, please take great care when selecting the tube for each application. Tubing should be a fully annealed, seamless and drawn, suitable for bending and flaring, according to standard ASTM-269, AISI 316 or 304.

### QUALITY

Lengths of finished tubing should be reasonably straight and have smooth ends, free from burrs. Tubing should be free from scale and injurious defects, and it should have a workman like finish. Surface imperfections such as handling marks, die marks, or shallow pits will not be considered injurious defects provided the imperfections are within the tolerances specified for diameter and wall thickness. The removal of such imperfections is not required. (Quality SAE J524).



## Flaring Operation



### Flaring according to SAE J533

Nominal Tube O.D.	A Single Flare Diameter				R		S	
	inch		mm		inch	mm	Max	Min
	Max	Min	Max	Min	± 0.02	± 0.5		
1/8	0.20	0.18	5.08	4.58	0.03	0.8	0.035	0.88
3/16	0.28	0.26	7.11	6.61	0.03	0.8	0.035	0.88
1/4	0.36	0.34	9.14	8.64	0.03	0.8	0.065	1.65
5/16	0.43	0.40	10.92	10.16	0.03	0.8	0.065	1.65
3/8	0.49	0.46	12.44	11.69	0.04	1.0	0.065	1.65
1/2	0.66	0.63	16.76	16.01	0.06	1.5	0.083	2.10
5/8	0.79	0.76	20.06	19.31	0.06	1.5	0.095	2.41
3/4	0.95	0.92	24.13	23.37	0.08	2.0	0.109	2.76
7/8	1.07	1.04	27.17	26.42	0.08	2.0	0.109	2.76
1	1.20	1.17	30.48	29.72	0.09	2.3	0.120	3.04
1 1/8	1.38	1.35	35.05	34.92	0.09	2.3	0.120	3.04
1 1/4	1.51	1.48	38.35	37.60	0.09	2.3	0.120	3.04
1 1/2	1.73	1.70	43.94	43.18	0.11	2.8	0.120	3.04

**DEBURRING PRIOR TO FLARING:-** To ensure satisfactory flares are produced, it may be necessary to deburr the tube end prior to flaring. It is usually necessary to break the inside corner smoothly before single flaring, and some non-ferrous tubing to eliminate is normally required to eliminate the cut off burr which might otherwise create leakage paths across a substantial portion of the flare. It is acceptable to smoothly break the outside corner prior to single flaring, or both outside and inside corners prior to double flaring, on any tube material to minimize splitting.

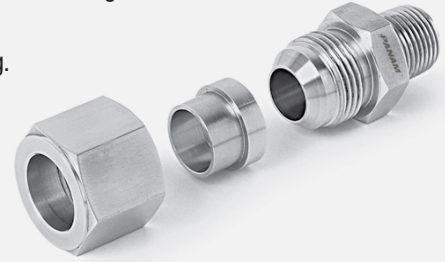
## Allowable Working Pressure Ratings (Capable of 4" to 1" Min Burst)

Nominal SAE Dash Size	Nominal Tube O.D.	37 ° Flare Straight Thread	Nominal Pipe Size	SAE Straight Threads Union & Bulkhead (psi)	Fittings with Pipe Threads (psi)
2	1/8	5/16-24	1/8	5000	5000
3	3/16	3/8-24	1/8	5000	5000
4	1/4	7/16-20	1/8	5000	5000
5	5/16	1/2-20	1/8	5000	5000
6	3/8	9/16-18	1/4	5000	5000
8	1/2	3/4-16	3/8	4500	4000
10	5/8	7/8-14	1/2	3500	3000
12	3/4	1 1/16-12	3/4	3500	3000
14	7/8	1 3/16-12	3/4	3000	2500
16	1	1 5/16-12	1	3000	2000
20	1 1/4	1 5/8-12	1 1/4	2500	1150
24	1 1/2	1 7/8-12	1 1/2	2000	1000
32	2	2 1/2-12	2	1500	1000

Working Pressure given are for low carbon steel material only, Specifications are subject to change with out prior notice.

## Features

- Size Ranges from 1/16" to 2"
- To avoid Galling threads are hardened with smooth surface which helps to extend the fittings service life.
- For smooth flow path elbows are designed with radius junction.
- All Fittings are marked with Size, Material and Heat code for easy source tracing.
- All threads are capped for protection and properly packaged
- Straight fittings are manufactured from bar stock & Forged fittings are manufactured from forgings
- All pipe threads meet the requirement if ASME/ANSI B1.20.1 for tapered pipe threads (NPT)
- Working pressure meets the requirements of ANSI/ASME B31.3 at ambient temperature.



## Ordering Information

**PANAM**      **P - MC - 4N - 4N - SS**

Fitting Type		P1 Size		P1 Type		P2, P3, and P4	Material	
MC	Male Connector	1	1/16	N	NPT Threads	Specify as per P Type and P Size	SS	316 SS
FC	Female Connector	2	1/8	R	ISO Tapered Threads		B	Brass
U	Union	3	3/16	G	ISO Parallel Threads	Materials like Hastloy, Monel, Duplex 2205, Duplex 2507 etc are available upon request	CS	Carbon Steel
UL	Large Hex Union	4	1/4	M	Metric Threads			
RA	Reducing Adapter	5	5/16-24	S	SAE/MS Straight Threads			
S	Sleeves	6	3/8 or 3/8-24	J	37° Flare			
BU	Bulkhead Union	7	7/16-20	SWL	Swivel Type			
BHLN	Bulkhead Lock Nut	8	1/2 or M8 x 1	A	Adjustable Type			
N	Nut	9	9/16-18					
TC	Tube Cap	10	5/8 or M10 x 1					
TCA	Tube Cap Assembly	12	3/4 or 3/4-16 or M12 x 1.5					
TP	Tube Plug	14	7/8-14 or M14 x 1.5					
ME	Male Elbow	16	1 or M16 x 1.5					
PLMC	45° Male Elbow	17	1 1/16-12					
FE	Female Elbow	18	M15 x 1.5					
UE	Union Elbow	19	1 3/16-12					
MBT	Male Branch Tee	20	1 1/4 or M20 x 1.5					
MRT	Male Run Tee	21	1 5/16-12					
FBT	Female Branch Tee	22	M22 x 1.5					
FRT	Female Run Tee	24	1 1/2 or M24 x 1.5					
UT	Union Tee	26	1 5/8-12					
SRT	Swivel Run Tee	27	M27 x 2					
UC	Union Cross	30	1 7/8 or M30 x 2					
		32	2					
		40	2 1/2 - 12					

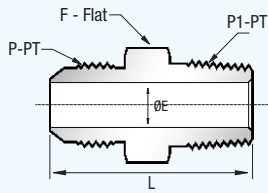
## Materials & Thread Relevant Standards

Material	Bar Stock	Forging
316 SS	ASTM A276, ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401
304 SS	ASTM A276, ASME SA479, EN 1.4301	ASTM A182, ASME SA182, EN 1.4301
Brass	ASME B16/ASTM B453	ASTM B283
Carbon Steel	ASTM A108	ASTM A105

Thread Relevant Standards	
NPT Threads	ASME B1.20.1, SAE AS71051
ISO Tapered Threads	ISO 7-1, BS 21, JIS B0203
ISO Parallel Threads	ISO 228, JIS B0202
SAE/MS	ASME B1.1, SAE J475
Metric	ISO 261

## 37° Flared Tube Fittings

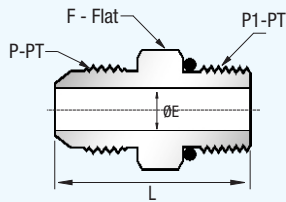
### Male Connectors - SAE 070102



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions		
	inch	mm		L	E	F
PMC-2J-2N-SS	1/8	3	1/8	28.2	1.6	11.1
PMC-3J-2N-SS	3/16	4	1/8	29.0	3.2	11.1
PMC-4J-2N-SS	1/4	6	1/8	31.0	4.4	12.7
PMC-4J-4N-SS	1/4	6	1/4	36.0	4.4	14.3
PMC-4J-8N-SS	1/4	6	1/2	42.7	4.4	22.2
PMC-5J-2N-SS	5/16	8	1/8	31.0	4.8	14.3
PMC-5J-4N-SS	5/16	8	1/4	36.1	6.0	14.3
PMC-6J-2N-SS	3/8	10	1/8	31.8	4.8	15.9
PMC-6J-4N-SS	3/8	10	1/4	36.3	7.1	15.9
PMC-6J-6N-SS	3/8	10	3/8	36.3	7.5	19.1
PMC-6J-8N-SS	3/8	10	1/2	42.5	7.5	22.2
PMC-8J-4N-SS	1/2	12	1/4	38.9	7.1	20.6
PMC-8J-6N-SS	1/2	12	3/8	38.9	9.9	20.6
PMC-8J-8N-SS	1/2	12	1/2	45.5	9.9	22.2
PMC-8J-12N-SS	1/2	12	3/4	47.0	9.9	28.6
PMC-10J-6N-SS	5/8	16	3/8	43.1	9.9	23.8
PMC-10J-8N-SS	5/8	16	1/2	48.0	12.3	23.8
PMC-10J-12N-SS	5/8	16	3/4	49.5	12.3	28.6
PMC-12J-12N-SS	3/4	18	3/4	52.3	15.5	28.6
PMC-12J-16N-SS	3/4	18	1	57.1	15.5	34.9
PMC-14J-12N-SS	7/8	22	3/4	53.1	18.3	31.8
PMC-16J-12N-SS	1	25	3/4	53.5	18.3	34.9
PMC-16J-16N-SS	1	25	1	58.4	21.5	34.9
PMC-20J-16N-SS	1 1/4	32	1	61.5	23.8	42.9
PMC-20J-20N-SS	1 1/4	32	1 1/4	62.2	27.5	42.9
PMC-24J-20N-SS	1 1/2	38	1 1/4	68.1	31.7	50.8
PMC-24J-24N-SS	1 1/2	38	1 1/2	68.1	33.0	50.8
PMC-32J-32N-SS	2	50	2	79.0	45.0	66.7

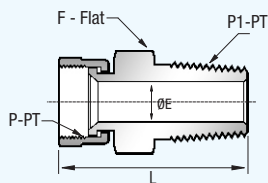
## 37° Flared Tube Fittings

### Male Connectors - SAE 070120



Part No	Tube OD (P-PT)		(P1-PT) SAE / MS	Dimensions		
	inch	mm		L	E	F
PMC-2J-5S-SS	1/8	3	5/16-24	26.9	1.6	11.1
PMC-3J-6S-SS	3/16	4	3/8-24	27.9	3.2	12.7
PMC-4J-7S-SS	1/4	6	7/16-20	31.2	4.4	14.3
PMC-4J-8S-SS	1/4	6	1/2-20	31.2	4.4	15.9
PMC-4J-9S-SS	1/4	6	9/16-18	33.0	4.4	17.5
PMC-4J-12S-SS	1/4	6	3/4-16	34.8	4.4	22.2
PMC-5J-8S-SS	5/16	8	1/2-20	31.2	6.0	15.9
PMC-6J-9S-SS	3/8	10	9/16-18	33.0	7.5	17.5
PMC-6J-12S-SS	3/8	10	3/4-16	35.1	7.5	22.2
PMC-6J-14S-SS	3/8	10	7/8-14	38.1	7.5	25.4
PMC-8J-9S-SS	1/2	12	9/16-18	36.6	7.5	20.6
PMC-8J-12S-SS	1/2	12	3/4-16	37.6	9.9	22.2
PMC-8J-14S-SS	1/2	12	7/8-14	40.6	9.9	25.4
PMC-8J-17S-SS	1/2	12	1 1/16-12	44.7	9.9	31.8
PMC-10J-12S-SS	5/8	16	3/4-16	40.6	10.7	23.8
PMC-10J-14S-SS	5/8	16	7/8-14	43.2	12.3	25.4
PMC-10J-17S-SS	5/8	16	1 1/16-12	47.2	12.3	31.8
PMC-12J-12S-SS	3/4	18	3/4-16	45.2	10.7	28.6
PMC-12J-14S-SS	3/4	18	7/8-14	46.4	12.7	28.6
PMC-12J-17S-SS	3/4	18	1 1/16-12	50.0	15.5	31.8
PMC-12J-21S-SS	3/4	18	1 5/16-12	50.8	15.5	38.1
PMC-14J-19S-SS	7/8	22	1 3/16-12	50.5	18.3	34.9
PMC-14J-21S-SS	7/8	22	1 5/16-12	51.3	18.3	38.1
PMC-16J-17S-SS	1	25	1 1/16-12	51.1	16.7	34.9
PMC-16J-19S-SS	1	25	1 3/16-12	51.8	18.3	34.9
PMC-16J-21N-SS	1	25	1 5/16-12	51.8	21.5	38.1

### Male Connectors - Swivel

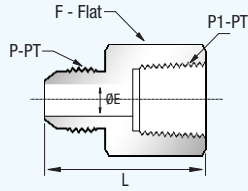


Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	G	F
PMC-2SWL-2N-SS	1/8	3	1/8	30.0	1.6	11.1	11.1
PMC-3SWL-2N-SS	3/16	4	1/8	32.0	3.2	12.7	11.1
PMC-4SWL-2N-SS	1/4	6	1/8	34.2	4.4	14.3	12.7
PMC-5SWL-2N-SS	5/16	8	1/8	35.0	6.0	15.9	14.3
PMC-6SWL-4N-SS	3/8	10	1/4	40.2	7.5	17.5	15.9
PMC-8SWL-6N-SS	1/2	12	3/8	42.7	9.9	22.2	20.6
PMC-10SWL-8N-SS	5/8	16	1/2	51.3	12.3	25.4	23.8
PMC-12SWL-12N-SS	3/4	18	3/4	54.5	15.5	31.8	28.6
PMC-14SWL-12N-SS	7/8	22	3/4	56.0	18.0	34.9	31.8
PMC-16SWL-16N-SS	1	25	1	63.7	21.5	38.1	34.9
PMC-20SWL-20N-SS	1 1/4	32	1 1/4	68.9	27.5	50.8	42.9
PMC-24SWL-24N-SS	1 1/2	38	1 1/2	77.6	33.0	57.2	50.8
PMC-32SWL-32N-SS	2	50	2	92.9	45.0	73.0	66.7



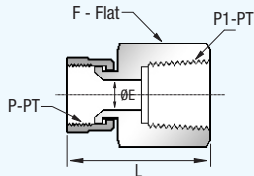
## 37° Flared Tube Fittings

### Female Connectors - SAE 070103



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions		
	inch	mm		L	E	F
PFC-2J-2N-SS	1/8	3	1/8	28.4	1.6	14.3
PFC-3J-2N-SS	3/16	4	1/8	28.7	3.2	14.3
PFC-4J-2N-SS	1/4	6	1/8	30.2	4.4	14.3
PFC-4J-4N-SS	1/4	6	1/4	35.3	4.4	19.1
PFC-5J-2N-SS	5/16	8	1/8	29.7	6.0	14.3
PFC-5J-4N-SS	5/16	8	1/4	35.3	6.0	19.1
PFC-6J-4N-SS	3/8	10	1/4	35.6	7.5	19.1
PFC-6J-6N-SS	3/8	10	3/8	37.1	7.5	22.2
PFC-8J-6N-SS	1/2	12	3/8	39.6	9.9	22.2
PFC-8J-8N-SS	1/2	12	1/2	45.6	9.9	28.6
PFC-10J-8N-SS	5/8	16	1/2	48.0	12.3	28.6
PFC-12J-8N-SS	3/4	18	1/2	52.1	15.5	28.6
PFC-12J-12N-SS	3/4	18	3/4	52.3	15.5	34.9
PFC-14J-12N-SS	7/8	22	3/4	52.3	18.3	34.9
PFC-16J-16N-SS	1	25	1	59.7	21.5	41.3
PFC-20J-20N-SS	1 1/4	32	1 1/4	63.2	27.5	50.8
PFC-32J-24N-SS	2	38	1 1/2	66.5	33.0	60.3
PFC-32J-32N-SS	2	50	2	75.4	45.0	73.0

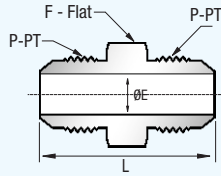
### Female Connectors - Swivel



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	G	F
PFC-2SWL-2N-SS	1/8	3	1/8	36.1	1.6	11.1	14.3
PFC-3SWL-2N-SS	3/16	4	1/8	37.3	3.2	12.7	14.3
PFC-4SWL-2N-SS	1/4	6	1/8	39.7	4.4	14.3	14.3
PFC-5SWL-2N-SS	5/16	8	1/8	40.5	6.0	15.9	14.3
PFC-6SWL-4N-SS	3/8	10	1/4	45.8	7.5	17.5	19.1
PFC-8SWL-6N-SS	1/2	12	3/8	47.0	9.9	22.2	22.2
PFC-10SWL-8N-SS	5/8	16	1/2	51.6	12.3	25.4	28.6
PFC-12SWL-12N-SS	3/4	18	3/4	66.6	15.5	31.8	34.9
PFC-14SWL-12N-SS	7/8	22	3/4	67.8	18.0	34.9	34.9
PFC-16SWL-16N-SS	1	25	1	73.5	21.5	38.1	41.3
PFC-20SWL-20N-SS	1 1/4	32	1 1/4	78.1	27.5	50.8	50.8
PFC-24SWL-24N-SS	1 1/2	38	1 1/2	86.7	33.0	60.3	60.3
PFC-32SWL-32N-SS	2	50	2	89.3	45.0	73.0	66.7

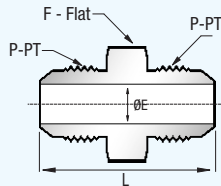
## 37° Flared Tube Fittings

### Unions - SAE 070101



Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PU-2J-SS	1/8	3	29.7	1.6	11.1
PU-3J-SS	3/16	4	31.2	3.2	11.1
PU-4J-SS	1/4	6	34.8	4.4	12.7
PU-5J-SS	5/16	8	34.8	6.0	14.3
PU-6J-SS	3/8	10	35.8	7.5	15.9
PU-8J-SS	1/2	12	41.1	9.9	20.6
PU-10J-SS	5/8	16	47.8	12.3	23.8
PU-12J-SS	3/4	18	54.9	15.5	28.6
PU-14J-SS	7/8	22	56.1	18.0	31.8
PU-16J-SS	1	25	57.2	21.5	34.9
PU-20J-SS	1 1/4	32	61.7	27.5	42.9
PU-24J-SS	1 1/2	38	69.8	33.0	50.8
PU-32J-SS	2	50	86.4	45.0	66.7

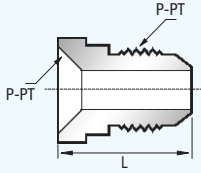
### Large Hex Unions - SAE 070119



Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PUL-2J-SS	1/8	3	29.7	1.6	14.3
PUL-3J-SS	3/16	4	31.2	3.2	15.9
PUL-4J-SS	1/4	6	34.8	4.4	17.5
PUL-5J-SS	5/16	8	34.8	6.0	19.1
PUL-6J-SS	3/8	10	35.8	7.5	20.6
PUL-8J-SS	1/2	12	41.1	9.9	25.4
PUL-10J-SS	5/8	16	47.8	12.3	28.6
PUL-12J-SS	3/4	18	54.9	15.5	34.9
PUL-14J-SS	7/8	22	56.1	18.3	38.1
PUL-16J-SS	1	25	57.2	21.5	41.3
PUL-20J-SS	1 1/4	32	61.7	27.5	47.6
PUL-24J-SS	1 1/2	38	69.8	33.0	54.0
PUL-32J-SS	2	50	86.4	45.0	69.9

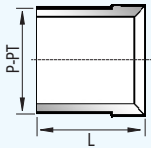
## 37° Flared Tube Fittings

### Reducing Adapters - SAE 070123



Part No	Tube OD (P-PT)		Tube OD (P-PT)		Dimensions
	inch	mm	inch	mm	L
PRA-6J-4J-SS	3/8	10	1/4	6	24.6
PRA-8J-4J-SS	1/2	12	1/4	6	25.4
PRA-8J-6J-SS	1/2	12	3/8	10	25.4
PRA-10J-4J-SS	5/8	16	1/4	6	26.2
PRA-10J-6J-SS	5/8	16	3/8	10	26.2
PRA-12J-4J-SS	3/4	18	1/4	6	27.7
PRA-12J-6J-SS	3/4	18	3/8	10	27.7
PRA-12J-8J-SS	3/4	18	1/2	12	30.2
PRA-14J-6J-SS	7/8	22	3/8	10	28.7
PRA-14J-10J-SS	7/8	22	5/8	16	33.7
PRA-16J-4J-SS	1	25	1/4	6	31.0
PRA-16J-6J-SS	1	25	3/8	10	31.0
PRA-16J-8J-SS	1	25	1/2	12	32.3
PRA-16J-10J-SS	1	25	5/8	16	35.1
PRA-16J-12J-SS	1	25	3/4	18	37.3
PRA-20J-12J-SS	1 1/4	32	3/4	18	38.8
PRA-20J-16J-SS	1 1/4	32	1	25	40.3
PRA-24J-8J-SS	1 1/2	38	1/2	12	39.6
PRA-24J-12J-SS	1 1/2	38	3/4	18	41.4
PRA-24J-16J-SS	1 1/2	38	1	25	41.4
PRA-32J-24J-SS	2	50	1 1/2	38	48.5

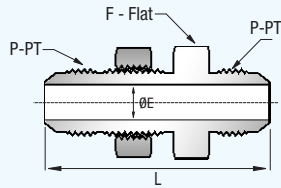
### Sleeves - 070115



Part No (inch)	Part No (mm)	Tube OD (P-PT)		Dimensions
		inch	mm	L
PS-2J-SS	PS-3M-SS	1/8	3	8.6
PS-3J-SS	PS-4M-SS	3/16	4	8.6
PS-4J-SS	PS-6M-SS	1/4	6	10.4
PS-5J-SS	PS-8M-SS	5/16	8	11.2
PS-6J-SS	PS-10M-SS	3/8	10	12.7
PS-8J-SS	PS-12M-SS	1/2	12	14.2
PS-10J-SS	PS-16M-SS	5/8	16	16.8
PS-12J-SS	PS-18M-SS	3/4	18	17.3
PS-14J-SS	PS-22M-SS	7/8	22	19.3
PS-16J-SS	PS-25M-SS	1	25	19.8
PS-20J-SS	PS-32M-SS	1 1/4	32	23.1
PS-24J-SS	PS-38M-SS	1 1/2	38	28.4
PS-32J-SS	PS-50M-SS	2	50	30.2

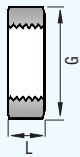
## 37° Flared Tube Fittings

### Bulkhead Unions - SAE 070601



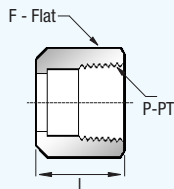
Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PBU-3J-SS	3/16	4	48.3	3.2	15.9
PBU-4J-SS	1/4	6	52.6	4.4	17.5
PBU-5J-SS	5/16	8	52.6	6.0	19.1
PBU-6J-SS	3/8	10	55.4	7.5	20.6
PBU-8J-SS	1/2	12	62.0	9.9	25.4
PBU-10J-SS	5/8	16	69.6	12.3	28.6
PBU-12J-SS	3/4	18	78.5	15.5	34.9
PBU-14J-SS	7/8	22	79.2	18.3	38.1
PBU-16J-SS	1	25	79.8	21.5	41.3
PBU-20J-SS	1 1/4	32	84.1	27.5	47.6
PBU-24J-SS	1 1/2	38	89.4	33.0	54.0
PBU-32J-SS	2	50	106.7	45.0	69.9

### Bulkhead Lock Nuts - SAE 070118



Part No	Tube OD (P-PT)		Dimensions	
	inch	mm	L	E
PBLN-3J-SS	3/16	4	5.6	15.9
PBLN-4J-SS	1/4	6	7.1	17.5
PBLN-5J-SS	5/16	8	7.1	19.1
PBLN-6J-SS	3/8	10	6.9	20.6
PBLN-8J-SS	1/2	12	7.9	25.4
PBLN-10J-SS	5/8	16	9.1	28.6
PBLN-12J-SS	3/4	18	10.4	34.9
PBLN-14J-SS	7/8	22	10.4	38.1
PBLN-16J-SS	1	25	10.4	41.3
PBLN-20J-SS	1 1/4	32	10.4	47.6
PBLN-24J-SS	1 1/2	38	10.4	54.0
PBLN-32J-SS	2	50	10.4	69.9

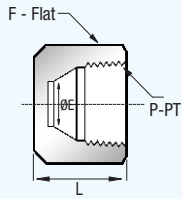
### Nuts - SAE 070110



Part No inch	Part No SAE/MS	Tube OD (P-PT)		(P-PT) SAE/MS	Dimensions	
		inch	mm		L	F
PN-2J-SS	PN-5S-SS	1/8	3	5/16-24	14.0	9.5
PN-3J-SS	PN-6S-SS	3/16	4	3/8-24	15.0	11.1
PN-4J-SS	PN-7S-SS	1/4	6	7/16-20	15.8	14.3
PN-5J-SS	PN-8S-SS	5/16	8	1/2-20	17.3	15.9
PN-6J-SS	PN-9S-SS	3/8	10	9/16-18	18.5	17.5
PN-8J-SS	PN-12S-SS	1/2	12	3/4-16	21.6	22.2
PN-10J-SS	PN-14S-SS	5/8	16	7/8-14	28.9	25.4
PN-12J-SS	PN-17S-SS	3/4	18	1 1/16-12	26.2	31.8
PN-14J-SS	PN-19S-SS	7/8	22	1 3/16-12	27.7	34.9
PN-16J-SS	PN-21S-SS	1	25	1 5/16-12	28.7	38.1
PN-20J-SS	PN-22S-SS	1 1/4	32	1 5/8-12	31.2	50.8
PN-24J-SS	PN-30S-SS	1 1/2	38	1 7/8-12	36.1	57.2
PN-32J-SS	PN-40S-SS	2	50	2 1/2-12	44.5	73.0

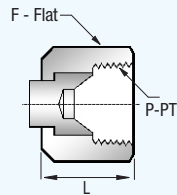
## 37° Flared Tube Fittings

### Tube Caps - SAE 070109



Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PTC-2J-SS	1/8	3	12.7	1.6	9.5
PTC-3J-SS	3/16	4	14.3	3.2	11.1
PTC-4J-SS	1/4	6	15.1	4.4	14.3
PTC-5J-SS	5/16	8	15.5	6.0	15.9
PTC-6J-SS	3/8	10	15.9	7.5	17.5
PTC-8J-SS	1/2	12	19.1	9.9	22.2
PTC-10J-SS	5/8	16	21.4	12.3	25.4
PTC-12J-SS	3/4	18	23.0	15.5	31.8
PTC-14J-SS	7/8	22	24.6	18.3	34.9
PTC-16J-SS	1	25	25.8	21.5	38.1
PTC-20J-SS	1 1/4	32	27.0	27.5	50.8
PTC-24J-SS	1 1/2	38	30.2	33.0	57.2
PTC-32J-SS	2	50	36.5	45.0	73.0

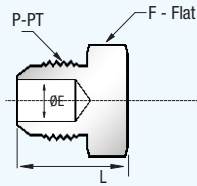
### Tube Cap Assembly - SAE 070112A



Part No	Tube OD (P-PT)		Dimensions	
	inch	mm	L	F
PTCA-2J-SS	1/8	3	15.3	9.5
PTCA-3J-SS	3/16	4	16.8	11.1
PTCA-4J-SS	1/4	6	17.1	14.3
PTCA-5J-SS	5/16	8	19.5	15.9
PTCA-6J-SS	3/8	10	20.5	17.5
PTCA-8J-SS	1/2	12	23.9	22.2
PTCA-10J-SS	5/8	16	27.1	25.4
PTCA-12J-SS	3/4	18	31.6	31.8
PTCA-14J-SS	7/8	22	32.0	34.9
PTCA-16J-SS	1	25	32.8	38.1
PTCA-20J-SS	1 1/4	32	35.4	50.8
PTCA-24J-SS	1 1/2	38	43.2	57.2
PTCA-32J-SS	2	50	52.6	73.0

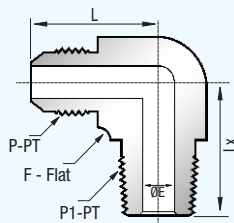
## 37° Flared Tube Fittings

### Tube Plugs - SAE 070112



Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PTP-2J-SS	1/8	3	17.8	1.6	11.1
PTP-3J-SS	3/16	4	18.5	3.2	11.1
PTP-4J-SS	1/4	6	20.3	4.4	12.7
PTP-5J-SS	5/16	8	20.3	6.0	14.3
PTP-6J-SS	3/8	10	21.3	7.5	15.9
PTP-8J-SS	1/2	12	23.9	9.9	20.6
PTP-10J-SS	5/8	16	27.9	12.3	23.8
PTP-12J-SS	3/4	18	32.5	15.5	28.6
PTP-14J-SS	7/8	22	33.3	18.3	31.8
PTP-16J-SS	1	25	33.8	21.5	34.9
PTP-20J-SS	1 1/4	32	36.8	27.5	42.9
PTP-24J-SS	1 1/2	38	41.9	33.0	50.8
PTP-32J-SS	2	50	52.1	45.0	66.7

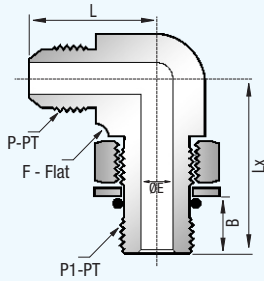
### Male Elbow - SAE 070202



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PME-2J-2N-SS	1/8	3	1/8	19.6	1.6	11.1	18.3
PME-3J-2N-SS	3/16	4	1/8	21.1	3.2	11.1	18.3
PME-4J-2N-SS	1/4	6	1/8	22.6	4.4	12.7	19.8
PME-4J-4N-SS	1/4	6	1/4	26.9	4.4	14.3	27.7
PME-5J-2N-SS	5/16	8	1/8	24.1	4.8	14.3	19.8
PME-5J-4N-SS	5/16	8	1/4	26.9	6.0	14.3	27.7
PME-6J-2N-SS	3/8	10	1/8	26.9	4.8	14.3	22.8
PME-6J-4N-SS	3/8	10	1/4	26.9	7.1	14.3	27.7
PME-6J-6N-SS	3/8	10	3/8	29.0	7.5	17.5	31.0
PME-6J-8N-SS	3/8	10	1/2	31.2	7.5	20.6	37.3
PME-8J-4N-SS	1/2	12	1/4	31.8	7.1	20.6	31.0
PME-8J-6N-SS	1/2	12	3/8	31.8	9.9	20.6	31.0
PME-8J-8N-SS	1/2	12	1/2	33.7	9.9	20.6	37.3
PME-8J-12N-SS	1/2	12	3/4	36.0	9.0	25.4	40.4
PME-10J-6N-SS	5/8	16	3/8	36.8	9.9	20.6	33.0
PME-10J-8N-SS	5/8	16	1/2	36.8	12.3	20.6	37.3
PME-10J-12N-SS	5/8	16	3/4	38.9	12.3	25.4	40.4
PME-12J-12N-SS	3/4	18	3/4	42.2	15.5	27.0	40.4
PME-12J-16N-SS	3/4	18	1	42.2	15.5	31.8	50.4
PME-14J-12N-SS	7/8	22	3/4	45.7	18.3	31.8	42.9
PME-16J-12N-SS	1	25	3/4	46.0	18.3	34.9	45.2
PME-16J-16N-SS	1	25	1	46.0	21.5	34.9	50.0
PME-20J-16N-SS	1 1/4	32	1	52.3	23.8	42.9	59.6
PME-20J-20N-SS	1 1/4	32	1 1/4	52.3	27.5	42.9	60.5
PME-24J-24N-SS	1 1/2	38	1 1/2	59.2	33.0	50.8	67.1
PME-32J-32N-SS	2	50	2	77.7	45.0	63.5	76.2

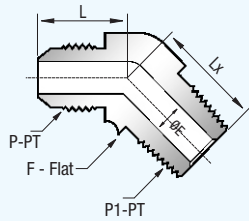
## 37° Flared Tube Fittings

### Adjustable Male Elbows - SAE 070220



Part No	Tube OD (P-PT)		(P1-PT) SAE/MS	Dimensions				
	inch	mm		L	E	F	Lx	B
PME-2J-5A-SS	1/8	3	5/16-24	19.6	1.6	11.1	23.9	8.4
PME-3J-6A-SS	3/16	4	3/8-24	21.1	3.2	11.1	23.9	8.4
PME-4J-7A-SS	1/4	6	7/16-20	22.6	4.4	12.7	26.2	9.8
PME-5J-8A-SS	5/16	8	1/2-20	24.1	6.0	14.3	28.7	9.8
PME-6J-9A-SS	3/8	10	9/16-18	26.9	7.5	15.9	31.8	11.0
PME-8J-12A-SS	1/2	12	3/4-16	31.8	9.9	20.6	36.8	12.5
PME-10J-14A-SS	5/8	16	7/8-14	36.8	12.3	23.8	43.2	14.2
PME-12J-17A-SS	3/4	18	1 1/16-12	42.2	15.5	31.8	49.3	16.5
PME-14J-19A-SS	7/8	22	1 3/16-12	45.7	18.3	31.8	50.8	16.5
PME-16J-21A-SS	1	25	1 5/16-12	46.0	21.5	34.9	52.1	16.5
PME-20J-22A-SS	1 1/4	32	1 5/8-12	52.3	27.5	42.9	57.2	16.5
PME-24J-30A-SS	1 1/2	38	1 7/8-12	59.2	33.0	50.8	60.7	16.5
PME-32J-40A-SS	2	50	2 1/2-12	77.7	45.0	63.5	73.4	16.5

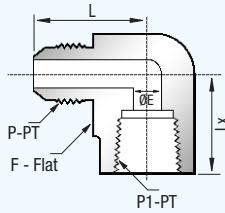
### 45° Male Elbows - SAE 070302



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PLME-2J-2N-SS	1/8	3	1/8	17.5	1.6	11.1	13.2
PLME-3J-2N-SS	3/16	4	1/8	17.5	3.2	11.1	13.2
PLME-4J-2N-SS	1/4	6	1/8	18.3	4.4	12.7	16.3
PLME-5J-2N-SS	5/16	8	1/8	19.6	4.8	14.3	16.3
PLME-6J-4N-SS	3/8	10	1/4	21.1	7.1	14.3	21.8
PLME-8J-6N-SS	1/2	12	3/8	24.9	9.9	17.5	24.1
PLME-10J-8N-SS	5/8	16	1/2	28.2	12.3	20.6	29.7
PLME-12J-12N-SS	3/4	18	3/4	32.5	15.5	27.0	30.5
PLME-14J-12N-SS	7/8	22	3/4	36.8	18.3	31.8	33.0
PLME-16J-16N-SS	1	25	1	37.3	21.5	34.9	37.6
PLME-20J-20N-SS	1 1/4	32	1 1/4	40.4	27.5	42.9	42.4
PLME-24J-24N-SS	1 1/2	38	1 1/2	45.2	33.0	50.8	45.0
PLME-32J-32N-SS	2	50	2	56.4	45.0	63.5	53.6

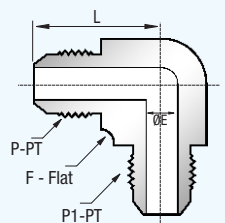
## 37° Flared Tube Fittings

### Female Elbows - SAE 070203



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PFE-2J-2N-SS	1/8	3	1/8	25.4	1.6	14.3	16.8
PFE-3J-2N-SS	3/16	4	1/8	26.2	3.2	14.3	16.8
PFE-4J-2N-SS	1/4	6	1/8	27.4	4.4	14.3	16.8
PFE-4J-4N-SS	1/4	6	1/4	30.9	4.4	20.6	22.4
PFE-5J-2N-SS	5/16	8	1/8	27.4	6.0	14.3	16.8
PFE-5J-4N-SS	5/16	8	1/4	30.9	6.0	20.6	22.4
PFE-6J-2N-SS	3/8	10	1/8	26.9	7.5	15.9	16.8
PFE-6J-4N-SS	3/8	10	1/4	31.2	7.5	20.6	22.4
PFE-6J-6N-SS	3/8	10	3/8	33.2	7.5	23.8	25.9
PFE-8J-4N-SS	1/2	12	1/4	31.6	9.9	20.6	22.4
PFE-8J-6N-SS	1/2	12	3/8	36.1	9.9	23.8	25.9
PFE-8J-8N-SS	1/2	12	1/2	36.1	9.9	27.0	31.2
PFE-10J-8N-SS	5/8	16	1/2	41.7	12.3	27.0	31.2
PFE-12J-8N-SS	3/4	18	1/2	42.1	15.5	31.8	31.2
PFE-12J-12N-SS	3/4	18	3/4	48.0	15.5	34.9	34.5
PFE-14J-12N-SS	7/8	22	3/4	47.2	18.3	34.9	36.1
PFE-16J-16N-SS	1	25	1	55.1	21.5	42.9	41.1
PFE-20J-20N-SS	1 1/4	32	1 1/4	59.2	27.5	50.8	43.2
PFE-24J-24N-SS	1 1/2	38	1 1/2	73.4	33.0	63.5	52.8
PFE-32J-32N-SS	2	50	2	83.8	45.0	63.5	60.7

### Union Elbows - SAE 070201

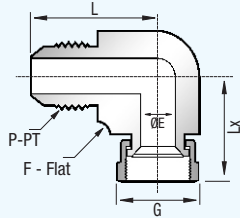


Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PUE-2J-SS	1/8	3	19.6	1.6	11.1
PUE-3J-SS	3/16	4	21.1	3.2	11.1
PUE-4J-SS	1/4	6	22.6	4.4	12.7
PUE-5J-SS	5/16	8	24.1	6.0	14.3
PUE-6J-SS	3/8	10	26.9	7.5	14.3
PUE-8J-SS	1/2	12	31.8	9.9	20.6
PUE-10J-SS	5/8	16	36.8	12.3	20.6
PUE-12J-SS	3/4	18	42.2	15.5	27.0
PUE-14J-SS	7/8	22	45.7	18.3	31.8
PUE-16J-SS	1	25	46.0	21.5	34.9
PUE-20J-SS	1 1/4	32	52.3	27.5	42.9
PUE-24J-SS	1 1/2	38	59.2	33.0	50.8
PUE-32J-SS	2	50	77.7	45.0	63.5



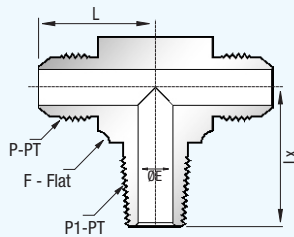
## 37° Flared Tube Fittings

### Union Elbows - Swivel



Part No	Tube OD (P-PT)		Dimensions				
	inch	mm	L	E	F	Lx	G
PUE-2J-2SWL-SS	1/8	3	19.6	1.6	11.1	24.6	11.1
PUE-3J-3SWL-SS	3/16	4	21.1	3.2	11.1	25.4	12.7
PUE-4J-4SWL-SS	1/4	6	22.6	4.4	12.7	25.4	14.3
PUE-5J-5SWL-SS	5/16	8	24.1	6.0	14.3	26.9	15.9
PUE-6J-6SWL-SS	3/8	10	26.9	7.5	15.9	31.8	17.5
PUE-8J-8SWL-SS	1/2	12	31.8	9.9	20.6	35.1	22.2
PUE-10J-10SWL-SS	5/8	16	36.8	12.3	23.8	41.1	25.4
PUE-12J-12SWL-SS	3/4	18	42.2	15.5	31.8	44.4	31.8
PUE-14J-14SWL-SS	7/8	22	45.7	18.3	31.8	45.2	34.9
PUE-16J-16SWL-SS	1	25	46.0	21.5	34.9	50.8	38.1
PUE-20J-20SWL-SS	1 1/4	32	52.3	27.5	42.9	58.7	50.8
PUE-24J-24SWL-SS	1 1/2	38	59.2	33.0	50.8	65.8	60.3
PUE-32J-32SWL-SS	2	50	77.7	45.0	63.5	85.9	73.0

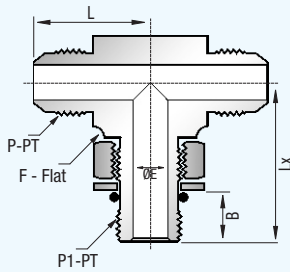
### Male Branch Tees - SAE 070425



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PMBT-2J-2N-SS	1/8	3	1/8	19.6	1.6	11.1	18.3
PMBT-3J-2N-SS	3/16	4	1/8	21.1	3.2	11.1	18.3
PMBT-4J-2N-SS	1/4	6	1/8	22.6	4.4	12.7	19.8
PMBT-4J-4N-SS	1/4	6	1/4	26.9	4.4	14.3	27.7
PMBT-5J-2N-SS	5/16	8	1/8	24.1	4.8	14.3	19.8
PMBT-5J-4N-SS	5/16	8	1/4	26.9	6.0	14.3	27.7
PMBT-6J-2N-SS	3/8	10	1/8	26.9	4.8	14.3	22.8
PMBT-6J-4N-SS	3/8	10	1/4	26.9	7.1	14.3	27.7
PMBT-6J-6N-SS	3/8	10	3/8	29.0	7.5	17.5	31.0
PMBT-6J-8N-SS	3/8	10	1/2	31.2	7.5	20.6	37.3
PMBT-8J-4N-SS	1/2	12	1/4	31.8	7.1	20.6	31.0
PMBT-8J-6N-SS	1/2	12	3/8	31.8	9.9	20.6	31.0
PMBT-8J-8N-SS	1/2	12	1/2	33.7	9.9	20.6	37.3
PMBT-8J-12N-SS	1/2	12	3/4	36.0	9.0	25.4	40.4
PMBT-10J-6N-SS	5/8	16	3/8	36.8	9.9	20.6	33.0
PMBT-10J-8N-SS	5/8	16	1/2	36.8	12.3	20.6	37.3
PMBT-10J-12N-SS	5/8	16	3/4	38.9	12.3	25.4	40.4
PMBT-12J-12N-SS	3/4	18	3/4	42.2	15.5	27.0	40.4
PMBT-12J-16N-SS	3/4	18	1	42.2	15.5	31.8	50.4
PMBT-14J-12N-SS	7/8	22	3/4	45.7	18.3	31.8	42.9
PMBT-16J-12N-SS	1	25	3/4	46.0	18.3	34.9	45.2
PMBT-16J-16N-SS	1	25	1	46.0	21.5	34.9	50.0
PMBT-20J-16N-SS	1 1/4	32	1	52.3	23.8	42.9	59.6
PMBT-20J-20N-SS	1 1/4	32	1 1/4	52.3	27.5	42.9	60.5
PMBT-24J-24N-SS	1 1/2	38	1 1/2	59.2	33.0	50.8	67.1
PMBT-32J-32N-SS	2	50	2	77.7	45.0	63.5	76.2

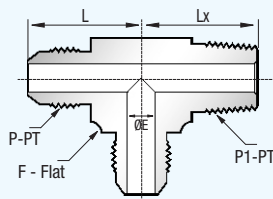
## 37° Flared Tube Fittings

### Adjustable Male Branch Tees - SAE 070429



Part No	Tube OD (P-PT)		(P1-PT) SAE/MS	Dimensions				
	inch	mm		L	E	F	Lx	B
PMBT-2J-5A-SS	1/8	3	5/16-24	19.6	1.6	11.1	23.9	8.4
PMBT-3J-6A-SS	3/16	4	3/8-24	21.1	3.2	11.1	23.9	8.4
PMBT-4J-7A-SS	1/4	6	7/16-20	22.6	4.4	12.7	26.2	9.8
PMBT-5J-8A-SS	5/16	8	1/2-20	24.1	6.0	14.3	28.7	9.8
PMBT-6J-9A-SS	3/8	10	9/16-18	26.9	7.5	15.9	31.8	11.0
PMBT-8J-12A-SS	1/2	12	3/4-16	31.8	9.9	20.6	36.8	12.5
PMBT-10J-14A-SS	5/8	16	7/8-14	36.8	12.3	23.8	43.2	14.2
PMBT-12J-17A-SS	3/4	18	1 1/16-12	42.2	15.5	31.8	49.3	16.5
PMBT-14J-19A-SS	7/8	22	1 3/16-12	45.7	18.3	31.8	50.8	16.5
PMBT-16J-21A-SS	1	25	1 5/16-12	46.0	21.5	34.9	52.1	16.5
PMBT-20J-22A-SS	1 1/4	32	1 5/8-12	52.3	27.5	42.9	57.2	16.5
PMBT-24J-30A-SS	1 1/2	38	1 7/8-12	59.2	33.0	50.8	60.7	16.5
PMBT-32J-40A-SS	2	50	2 1/2-12	77.7	45.0	63.5	73.4	16.5

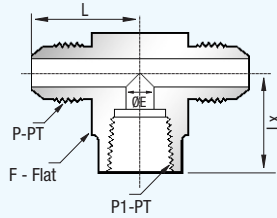
### Male Run Tees - SAE 070424



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PMRT-2J-2N-SS	1/8	3	1/8	19.6	1.6	11.1	18.3
PMRT-3J-2N-SS	3/16	4	1/8	21.1	3.2	11.1	18.3
PMRT-4J-2N-SS	1/4	6	1/8	22.6	4.4	12.7	19.8
PMRT-4J-4N-SS	1/4	6	1/4	26.9	4.4	14.3	27.7
PMRT-5J-2N-SS	5/16	8	1/8	24.1	4.8	14.3	19.8
PMRT-5J-4N-SS	5/16	8	1/4	26.9	6.0	14.3	27.7
PMRT-6J-2N-SS	3/8	10	1/8	26.9	4.8	14.3	22.8
PMRT-6J-4N-SS	3/8	10	1/4	26.9	7.1	14.3	27.7
PMRT-6J-6N-SS	3/8	10	3/8	29.0	7.5	17.5	31.0
PMRT-6J-8N-SS	3/8	10	1/2	31.2	7.5	20.6	37.3
PMRT-8J-4N-SS	1/2	12	1/4	31.8	7.1	20.6	31.0
PMRT-8J-6N-SS	1/2	12	3/8	31.8	9.9	20.6	31.0
PMRT-8J-8N-SS	1/2	12	1/2	33.7	9.9	20.6	37.3
PMRT-8J-12N-SS	1/2	12	3/4	36.0	9.0	25.4	40.4
PMRT-10J-6N-SS	5/8	16	3/8	36.8	9.9	20.6	33.0
PMRT-10J-8N-SS	5/8	16	1/2	36.8	12.3	20.6	37.3
PMRT-10J-12N-SS	5/8	16	3/4	38.9	12.3	25.4	40.4
PMRT-12J-12N-SS	3/4	18	3/4	42.2	15.5	27.0	40.4
PMRT-12J-16N-SS	3/4	18	1	42.2	15.5	31.8	50.4
PMRT-14J-12N-SS	7/8	22	3/4	45.7	18.3	31.8	42.9
PMRT-16J-12N-SS	1	25	3/4	46.0	18.3	34.9	45.2
PMRT-16J-16N-SS	1	25	1	46.0	21.5	34.9	50.0
PMRT-20J-16N-SS	1 1/4	32	1	52.3	23.8	42.9	59.6
PMRT-20J-20N-SS	1 1/4	32	1 1/4	52.3	27.5	42.9	60.5
PMRT-24J-24N-SS	1 1/2	38	1 1/2	59.2	33.0	50.8	67.1
PMRT-32J-32N-SS	2	50	2	77.7	45.0	63.5	76.2

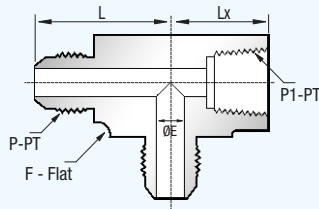
## 37° Flared Tube Fittings

### Female Branch Tees - 070427



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PFBT-2J-2N-SS	1/8	3	1/8	25.4	1.6	14.3	16.8
PFBT-3J-2N-SS	3/16	4	1/8	26.2	3.2	14.3	16.8
PFBT-4J-2N-SS	1/4	6	1/8	27.4	4.4	14.3	16.8
PFBT-4J-4N-SS	1/4	6	1/4	30.9	4.4	20.6	22.4
PFBT-5J-2N-SS	5/16	8	1/8	27.4	6.0	14.3	16.8
PFBT-5J-4N-SS	5/16	8	1/4	30.9	6.0	20.6	22.4
PFBT-6J-2N-SS	3/8	10	1/8	26.9	7.5	15.9	16.8
PFBT-6J-4N-SS	3/8	10	1/4	31.2	7.5	20.6	22.4
PFBT-6J-6N-SS	3/8	10	3/8	33.2	7.5	23.8	25.9
PFBT-8J-4N-SS	1/2	12	1/4	31.6	9.9	20.6	22.4
PFBT-8J-6N-SS	1/2	12	3/8	36.1	9.9	23.8	25.9
PFBT-8J-8N-SS	1/2	12	1/2	36.1	9.9	27.0	31.2
PFBT-10J-8N-SS	5/8	16	1/2	41.7	12.3	27.0	31.2
PFBT-12J-8N-SS	3/4	18	1/2	42.1	15.5	31.8	31.2
PFBT-12J-12N-SS	3/4	18	3/4	48.0	15.5	34.9	34.5
PFBT-14J-12N-SS	7/8	22	3/4	47.2	18.3	34.9	36.1
PFBT-16J-16N-SS	1	25	1	55.1	21.5	42.9	41.1
PFBT-20J-20N-SS	1 1/4	32	1 1/4	59.2	27.5	50.8	43.2
PFBT-24J-24N-SS	1 1/2	38	1 1/2	73.4	33.0	63.5	52.8
PFBT-32J-32N-SS	2	50	2	83.8	45.0	63.5	60.7

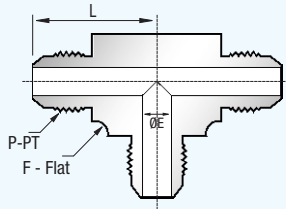
### Female Run Tees - SAE 070426



Part No	Tube OD (P-PT)		(P1-PT) NPT	Dimensions			
	inch	mm		L	E	F	Lx
PFRT-2J-2N-SS	1/8	3	1/8	25.4	1.6	14.3	16.8
PFRT-3J-2N-SS	3/16	4	1/8	26.2	3.2	14.3	16.8
PFRT-4J-2N-SS	1/4	6	1/8	27.4	4.4	14.3	16.8
PFRT-4J-4N-SS	1/4	6	1/4	30.9	4.4	20.6	22.4
PFRT-5J-2N-SS	5/16	8	1/8	27.4	6.0	14.3	16.8
PFRT-5J-4N-SS	5/16	8	1/4	30.9	6.0	20.6	22.4
PFRT-6J-2N-SS	3/8	10	1/8	26.9	7.5	15.9	16.8
PFRT-6J-4N-SS	3/8	10	1/4	31.2	7.5	20.6	22.4
PFRT-6J-6N-SS	3/8	10	3/8	33.2	7.5	23.8	25.9
PFRT-8J-4N-SS	1/2	12	1/4	31.6	9.9	20.6	22.4
PFRT-8J-6N-SS	1/2	12	3/8	36.1	9.9	23.8	25.9
PFRT-8J-8N-SS	1/2	12	1/2	36.1	9.9	27.0	31.2
PFRT-10J-8N-SS	5/8	16	1/2	41.7	12.3	27.0	31.2
PFRT-12J-8N-SS	3/4	18	1/2	42.1	15.5	31.8	31.2
PFRT-12J-12N-SS	3/4	18	3/4	48.0	15.5	34.9	34.5
PFRT-14J-12N-SS	7/8	22	3/4	47.2	18.3	34.9	36.1
PFRT-16J-16N-SS	1	25	1	55.1	21.5	42.9	41.1
PFRT-20J-20N-SS	1 1/4	32	1 1/4	59.2	27.5	50.8	43.2
PFRT-24J-24N-SS	1 1/2	38	1 1/2	73.4	33.0	63.5	52.8
PFRT-32J-32N-SS	2	50	2	83.8	45.0	63.5	60.7

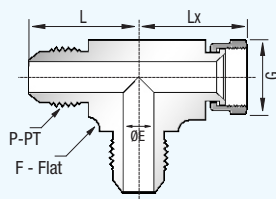
## 37° Flared Tube Fittings

### Union Tees - SAE 070401



Part No	Tube OD (P-PT)		Dimensions		
	inch	mm	L	E	F
PUT-2J-SS	1/8	3	19.6	1.6	11.1
PUT-3J-SS	3/16	4	21.1	3.2	11.1
PUT-4J-SS	1/4	6	22.6	4.4	12.7
PUT-5J-SS	5/16	8	24.1	6.0	14.3
PUT-6J-SS	3/8	10	26.9	7.5	15.9
PUT-8J-SS	1/2	12	31.8	9.9	20.6
PUT-10J-SS	5/8	16	36.8	12.3	23.8
PUT-12J-SS	3/4	18	42.2	15.5	28.6
PUT-14J-SS	7/8	22	45.7	18.0	31.8
PUT-16J-SS	1	25	46.0	21.5	34.9
PUT-20J-SS	1 1/4	32	52.3	27.5	42.9
PUT-24J-SS	1 1/2	38	59.2	33.0	50.8
PUT-32J-SS	2	50	77.7	45.0	63.5

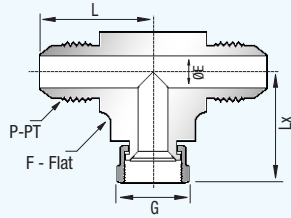
### Swivel Run Tees - SAE 070432



Part No	Tube OD (P-PT)		Dimensions				
	inch	mm	L	E	F	Lx	G
PSRT-2J-2SWL-SS	1/8	3	19.6	1.6	11.1	24.6	11.1
PSRT-3J-3SWL-SS	3/16	4	21.1	3.2	11.1	25.4	12.7
PSRT-4J-4SWL-SS	1/4	6	22.6	4.4	12.7	25.4	14.3
PSRT-5J-5SWL-SS	5/16	8	24.1	6.0	14.3	26.9	15.9
PSRT-6J-6SWL-SS	3/8	10	26.9	7.5	15.9	31.8	17.5
PSRT-8J-8SWL-SS	1/2	12	31.8	9.9	20.6	35.1	22.2
PSRT-10J-10SWL-SS	5/8	16	36.8	12.3	23.8	41.1	25.4
PSRT-12J-12SWL-SS	3/4	18	42.2	15.5	27.0	44.4	31.8
PSRT-14J-14SWL-SS	7/8	22	45.7	18.3	31.8	45.2	34.9
PSRT-16J-16SWL-SS	1	25	46.0	21.5	34.9	50.8	38.1
PSRT-20J-20SWL-SS	1 1/4	32	52.3	27.5	42.9	58.7	50.8
PSRT-24J-24SWL-SS	1 1/2	38	59.2	33.0	50.8	65.8	60.3
PSRT-32J-32SWL-SS	2	50	77.7	45.0	63.5	85.9	73.0

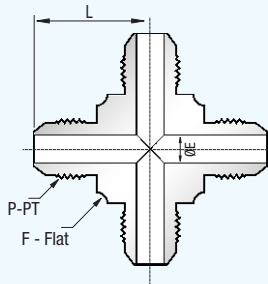
## 37° Flared Tube Fittings

### Swivel Branch Tees - SAE 070433



Part No	Tube OD (P-PT)		Dimensions				
	inch	mm	L	E	F	Lx	G
PSBT-2J-2SWL-SS	1/8	3	19.6	1.6	11.1	24.6	11.1
PSBT-3J-3SWL-SS	3/16	4	21.1	3.2	11.1	25.4	12.7
PSBT-4J-4SWL-SS	1/4	6	22.6	4.4	12.7	25.4	14.3
PSBT-5J-5SWL-SS	5/16	8	24.1	6.0	14.3	26.9	15.9
PSBT-6J-6SWL-SS	3/8	10	26.9	7.5	15.9	31.8	17.5
PSBT-8J-8SWL-SS	1/2	12	31.8	9.9	20.6	35.1	22.2
PSBT-10J-10SWL-SS	5/8	16	36.8	12.3	23.8	41.1	25.4
PSBT-12J-12SWL-SS	3/4	18	42.2	15.5	27.0	44.4	31.8
PSBT-14J-14SWL-SS	7/8	22	45.7	18.3	31.8	45.2	34.9
PSBT-16J-16SWL-SS	1	25	46.0	21.5	34.9	50.8	38.1
PSBT-20J-20SWL-SS	1 1/4	32	52.3	27.5	42.9	58.7	50.8
PSBT-24J-24SWL-SS	1 1/2	38	59.2	33.0	50.8	65.8	60.3
PSBT-32J-32SWL-SS	2	50	77.7	45.0	63.5	85.9	73.0

### Union Cross - SAE 070501



Part No	Tube OD (P-PT) Flare		Dimensions		
	inch	mm	L	E	F
PUC-2J-SS	1/8	3	19.6	1.6	11.1
PUC-3J-SS	3/16	4	21.1	3.2	11.1
PUC-4J-SS	1/4	6	22.6	4.4	12.7
PUC-5J-SS	5/16	8	24.1	6.0	14.3
PUC-6J-SS	3/8	10	26.9	7.5	14.3
PUC-8J-SS	1/2	12	31.8	9.9	20.6
PUC-10J-SS	5/8	16	36.8	12.3	20.6
PUC-12J-SS	3/4	18	42.2	15.5	27.0
PUC-14J-SS	7/8	22	45.7	18.3	31.8
PUC-16J-SS	1	25	46.0	21.5	34.9
PUC-20J-SS	1 1/4	32	52.3	27.5	42.9
PUC-24J-SS	1 1/2	38	59.2	33.0	50.8
PUC-32J-SS	2	50	77.7	45.0	63.5



***PANAM ENGINEERS LTD.***

An ISO 9001:2008 Company

203, Jaisingh Business Center, Parsiwada, Sahar Road, Andheri (East), Mumbai - 400 099. INDIA  
Tel.: +91 22 2831 5555 / 57 / 58 • Fax: +91 22 2831 5574 • email: sales@panamengineers.com / sales@panam.in  
website: www.panamengineers.com / www.panam.in