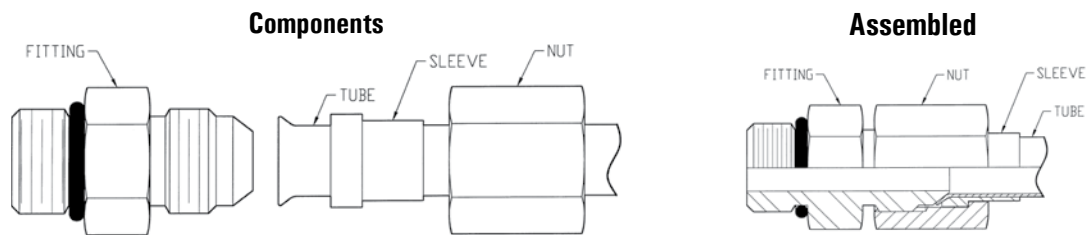


# 37° JIC Flare (Nuts)



The 37° JIC (Joint Industrial Council) Flare is a reliable, straight thread, single-flare design that is used world-wide. It is popular in many applications and environments because it is compact and easy to assemble. It also features high holding power with low torque requirements. The 37° JIC connection consists of three pieces: the nut, the sleeve, and the fitting in a range of sizes from 1/8" up through 2". The sleeve not only absorbs vibration, but acts as a support to the flare during assembly and helps reduce the risk of twisting the tube. Since it is a metal-to-metal seal it can be reliably connected and reconnected multiple times. Because flaring is necessary, it is NOT recommended for thick wall tubing, and the tubing used should not be harder than Rockwell B65. **For assembly instructions see the 37° JIC Torque Values on pages 48-49, and the Female JIC Swivel details on pages 132-133.**

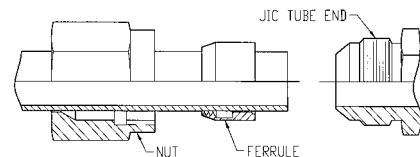
Hydraulic tube fittings are dimensionally standardized by SAE under J514, but because of differing manufacturing methods, and interpretation of conformance, actual performance will vary between brands. This is where our Quality Assurance Department sets us apart from other manufacturers. Pressure Connections takes great pride in each fitting we sell. Standard material for our 37° JIC Fittings is steel with a RoHs compliant 96-hour salt spray finish that exceeds the SAE 72-hour salt spray requirement. For details about our Quality Assurance Program please reference the inside front cover of this catalog.

## 37° JIC Flare (Nuts)

<p><b>302</b></p> <p>Pg. 21 <b>Short Flare Nut</b> (No sleeve required)</p>	<p><b>304</b> (070111)</p> <p>Pg. 21 <b>Long Flare Nut</b> (No sleeve required)</p>	<p><b>304C</b> (070112)</p> <p>Pg. 22 <b>Tube Cap</b> 1-FJ</p>	<p><b>306</b> (070118)</p> <p>Pg. 22-75-160 <b>Bulkhead Locknut</b> (Use with #2700)</p>	<p><b>318</b> (070110)</p> <p>Pg. 23 <b>Tube Nut</b> (Use with #319)</p>	<p><b>319</b> (070115)</p> <p>Pg. 23 <b>Tube Sleeve</b> (Use with #318)</p>	<p><b>418</b></p> <p>Pg. 25 <b>Convert-A-Flare Nut</b> (Use with #419)</p>	<p><b>419</b></p> <p>Pg. 25 <b>Convert-A-Flare Sleeve</b> (Use with #418)</p>
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• Available in 316 Stainless Steel

**Convert-A-Flare** nut & ferrule design (418/419) allows you to convert any male 37° JIC fitting into a flareless tube fitting. Assembly is simplified as no special tools or flaring tools are needed.



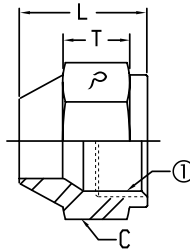
**SAE J514**

Ref. Weatherhead C5125

**302**

**Short Flare Nut (JIC)**

JIC Nuts



No Sleeve Required

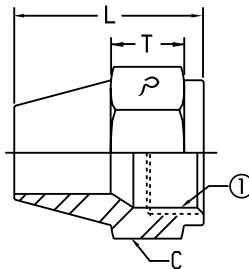
302-① ①-FJ	Tube O.D.	① Female JIC	C Hex	L Length	T Thickness
302-04	1/4	7/16 - 20	9/16	0.59	0.33
302-05	5/16	1/2 - 20	5/8	0.59	0.33
302-06	3/8	9/16 - 18	11/16	0.65	0.34
302-08	1/2	3/4 - 16	7/8	0.81	0.45
302-10	5/8	7/8 - 14	1"	0.94	0.52
302-12	3/4	1 1/16 - 12	1 1/4	1.14	0.64
302-14	7/8	1 3/16 - 12	1 3/8	1.20	0.69
302-16	1"	1 5/16 - 12	1 1/2	1.28	0.73
302-20	1 1/4	1 5/8 - 12	2"	1.44	0.73
302-24	1 1/2	1 7/8 - 12	2 1/4	1.56	0.83
302-32	2"	2 1/2 - 12	2 7/8	2.00	0.92

**SAE 070111**

Ref. Aeroquip 221000  
Ref. Weatherhead C5115

**304**

**Long Flare Nut (JIC)**



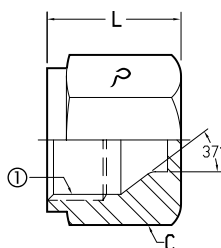
No Sleeve Required

304-① ①-FJ	Tube O.D.	① Female JIC	C Hex	L Length	T Thickness
304-03	3/16	3/8 - 24	7/16	0.94	0.27
304-04	1/4	7/16 - 20	9/16	1.00	0.33
304-05	5/16	1/2 - 20	5/8	1.06	0.33
304-06	3/8	9/16 - 18	11/16	1.09	0.34
304-08	1/2	3/4 - 16	7/8	1.28	0.45
304-10	5/8	7/8 - 14	1"	1.48	0.52
304-12	3/4	1 1/16 - 12	1 1/4	1.66	0.64
304-14	7/8	1 3/16 - 12	1 3/8	1.81	0.69
304-16	1"	1 5/16 - 12	1 1/2	1.94	0.73
304-20	1 1/4	1 5/8 - 12	2"	2.19	0.73
304-24	1 1/2	1 7/8 - 12	2 1/4	2.31	0.83
304-32	2"	2 1/2 - 12	2 7/8	2.75	0.92

JIC Nuts

# 37° JIC Flare (Nuts)

## 304C Tube Cap



**SAE 070112**

Ref. Aeroquip 210292  
Ref. Parker FNTX  
Ref. Weatherhead C5129

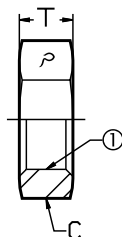
Available in **316 Stainless Steel**

304C-① ①-FJ	Tube O.D.	① Female JIC	C Hex	L Length	Operating Pressure
304C-02	1/8	5/16 - 24	3/8	0.50	7,500
304C-03	3/16	3/8 - 24	7/16	0.56	7,500
304C-04	1/4	7/16 - 20	9/16	0.59	7,500
304C-05	5/16	1/2 - 20	5/8	0.61	6,000
304C-06	3/8	9/16 - 18	11/16	0.63	6,000
304C-08	1/2	3/4 - 16	7/8	0.75	6,000
304C-10	5/8	7/8 - 14	1"	0.84	5,000
304C-12	3/4	1 1/16 - 12	1 1/4	0.91	5,000
304C-14	7/8	1 3/16 - 12	1 3/8	0.97	5,000
304C-16	1"	1 5/16 - 12	1 1/2	1.02	4,500
304C-20	1 1/4	1 5/8 - 12	2"	1.06	4,000
304C-24	1 1/2	1 7/8 - 12	2 1/4	1.19	4,000
304C-32	2"	2 1/2 - 12	2 7/8	1.44	2,000

4:1 Safety Factor

# 306

## Bulkhead Locknut Also Used for Flareless Bulkheads



**SAE 070118**

Ref. Aeroquip 210212  
Ref. Parker WLN / 53N  
Ref. Weatherhead 5924

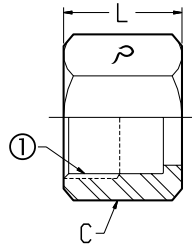
Use with #2700 & C-2700 • Available in **316 Stainless Steel**

306-① Part No.	① Tube Thread	C Hex	T Thickness
306-02	5/16 - 24	9/16	0.22
306-03	3/8 - 24	5/8	0.22
306-04 & 306E-04 (Cold Headed)	7/16 - 20	11/16 (11/16)	0.28 (0.25)
306-05	1/2 - 20	3/4	0.28
306-06 & 306E-06 (Cold Headed)	9/16 - 18	13/16 (7/8)	0.27 (0.32)
306-08 & 306E-08 (Cold Headed)	3/4 - 16	1" (1 1/8)	0.31 (0.42)
306-10	7/8 - 14	1 1/8	0.36
306-12	1 1/16 - 12	1 3/8	0.41
306-14	1 3/16 - 12	1 1/2	0.41
306-16	1 5/16 - 12	1 5/8	0.41
306-20 ①	1 5/8 - 12	1 7/8	0.41
306-24 ①	1 7/8 - 12	2 1/8	0.41
306-32 ①	2 1/2 - 12	2 3/4	0.41

All of our Bulkhead Fittings are available with the Locknut (306), assembled on the body. Just add an "LN" suffix to the series number (2700LN-12-12).

**SAE 070110**

Ref. Aeroquip 1290  
 Ref. Parker BTX / 06B  
 Ref. Weatherhead C5105



**318**  
**Tube Nut**

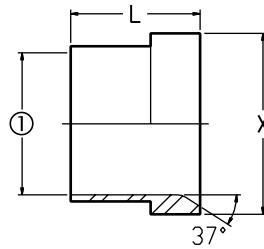
JIC Nuts

Use with #319    ● Available in 316 Stainless Steel

318-① Part No.	Tube O.D.	① Female JIC Thread	C Hex	L Length
318-02	1/8	5/16 - 24	3/8	0.55
318-03	3/16	3/8 - 24	7/16	0.61
318-04	1/4	7/16 - 20	9/16	0.62
318-05	5/16	1/2 - 20	5/8	0.68
318-06	3/8	9/16 - 18	11/16	0.73
318-08	1/2	3/4 - 16	7/8	0.85
318-10	5/8	7/8 - 14	1"	0.98
318-12	3/4	1 1/16 - 12	1 1/4	1.03
318-14	7/8	1 3/16 - 12	1 3/8	1.09
318-16	1"	1 5/16 - 12	1 1/2	1.13
318-20	1 1/4	1 5/8 - 12	2"	1.23
318-24	1 1/2	1 7/8 - 12	2 1/4	1.42
318-32	2"	2 1/2 - 12	2 7/8	1.75

**SAE 070115**

Ref. Aeroquip 900605  
 Ref. Parker TX / 06S  
 Ref. Weatherhead C5165



**319**  
**Tube Sleeve**

Use with #318    ● Available in 316 Stainless Steel

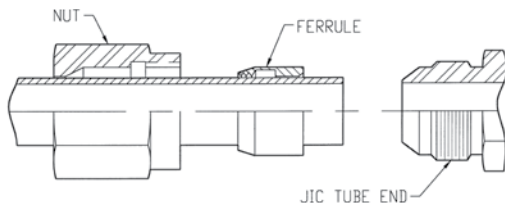
319-① Part No.	① Tube O.D.	L Length	X Diameter
319-02	1/8	0.34	0.267
319-03	3/16	0.34	0.329
319-04	1/4	0.41	0.383
319-05	5/16	0.44	0.445
319-06	3/8	0.50	0.432
319-08	1/2	0.56	0.682
319-10	5/8	0.66	0.797
319-12	3/4	0.68	0.972
319-14	7/8	0.76	1.097
319-16	1"	0.78	1.222
319-20	1 1/4	0.91	1.534
319-24	1 1/2	1.12	1.784
319-32	2"	1.19	2.409

# Convert-A-Flare

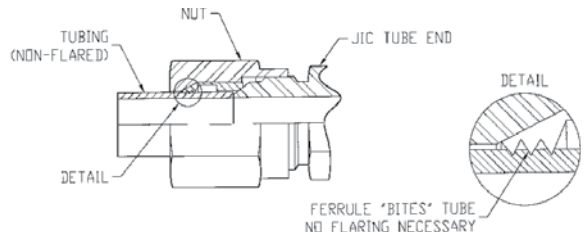


## Nut & Ferrule (418 / 419) converts any 37° JIC into Flareless WITHOUT flaring the tube.

Components



Assembled



Convert-A-Flare Nuts and Ferrules allow you to convert any male 37° JIC fitting into a flareless tube fitting. Assembly is simplified because no special tools are required. Not even a flaring tool is needed since there is no need to flare the tube. Errors are minimized because the ferrule cannot be assembled in the wrong direction. All the sizes assemble in the same manner and on different tube wall thickness', although the tubing used should not be harder than Rockwell B65. You will effectively be able to **reduce your inventory**, because you will be utilizing your standard 37° JIC parts that you already have in stock. Save time and money by not ordering or stocking flareless fittings. For details about our Quality Assurance Program please reference the inside front cover of this catalog.

### Convert-A-Flare Torque Values

Dash	Turns	Dash	Turns
-04	1 1/4	-12	1 1/2
-05	1 1/4	-16	1 1/2
-06	1 1/4	-20	1 1/2
-08	1 1/4	-24	1 1/2
-10	1 1/4	-32	1 1/2

The Turns Method assumes that the threads are lubricated with 10W hydraulic oil.

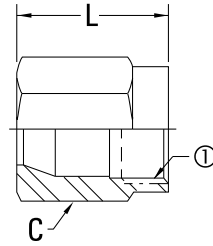
### Assembly Steps With a Visual Check

- 1) Tubing must be cut square and deburred inside and out. No Flaring required.
- 2) Clean the tubing and threads and lubricate all mating surfaces with 10W hydraulic oil.
- 3) Hand tighten the nut/ferrule (approx. 30 lb-in.).
- 4) Make alignment marks on the nut and fitting.
- 5) Proceed to tighten to the Turns value for the JIC.
- 6) When fully tightened make a 2nd set of alignment marks at the fully tightened position.

This completes a Convert-A-Flare connection with visual marks for a quick reference.

**Converts 37° JIC**

Ref. Aeroquip FC2875



**418**  
**Convert-A-Flare Nut**

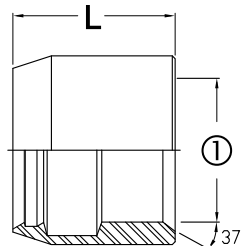
JIC Nuts

Use with **Convert-A-Flare Sleeve (419)**

418-① Part No.	Tube O.D.	① Female JIC Thread	C Hex	L Length
418-04	1/4	7/16 - 20	9/16	0.83
418-05	5/16	1/2 - 20	5/8	0.83
418-06	3/8	9/16 - 18	11/16	0.86
418-08	1/2	3/4 - 16	7/8	1.08
418-10	5/8	7/8 - 14	1"	1.12
418-12	3/4	1 1/16 - 12	1-1/4	1.36
418-16	1"	1 5/16 - 12	1-1/2	1.40
418-20	1 1/4	1 5/8 - 12	2"	1.80

**Converts 37° JIC**

Ref. Aeroquip FF9605



**419**  
**Convert-A-Flare Sleeve**

Use with **Convert-A-Flare Nut (418)**

419-① Part No.	① Tube O.D.	① Diameter	L Length
419-04	1/4	0.26	0.42
419-05	5/16	0.31	0.42
419-06	3/8	0.38	0.47
419-08	1/2	0.51	0.57
419-10	5/8	0.64	0.58
419-12	3/4	0.76	0.70
419-16	1"	1.02	0.70
419-20	1 1/4	1.25	1.00

**Please Note**

For an assembled **Convert-A-Flare** fitting add prefix '45-' to any part number (Example: 45-2404-08-08).