



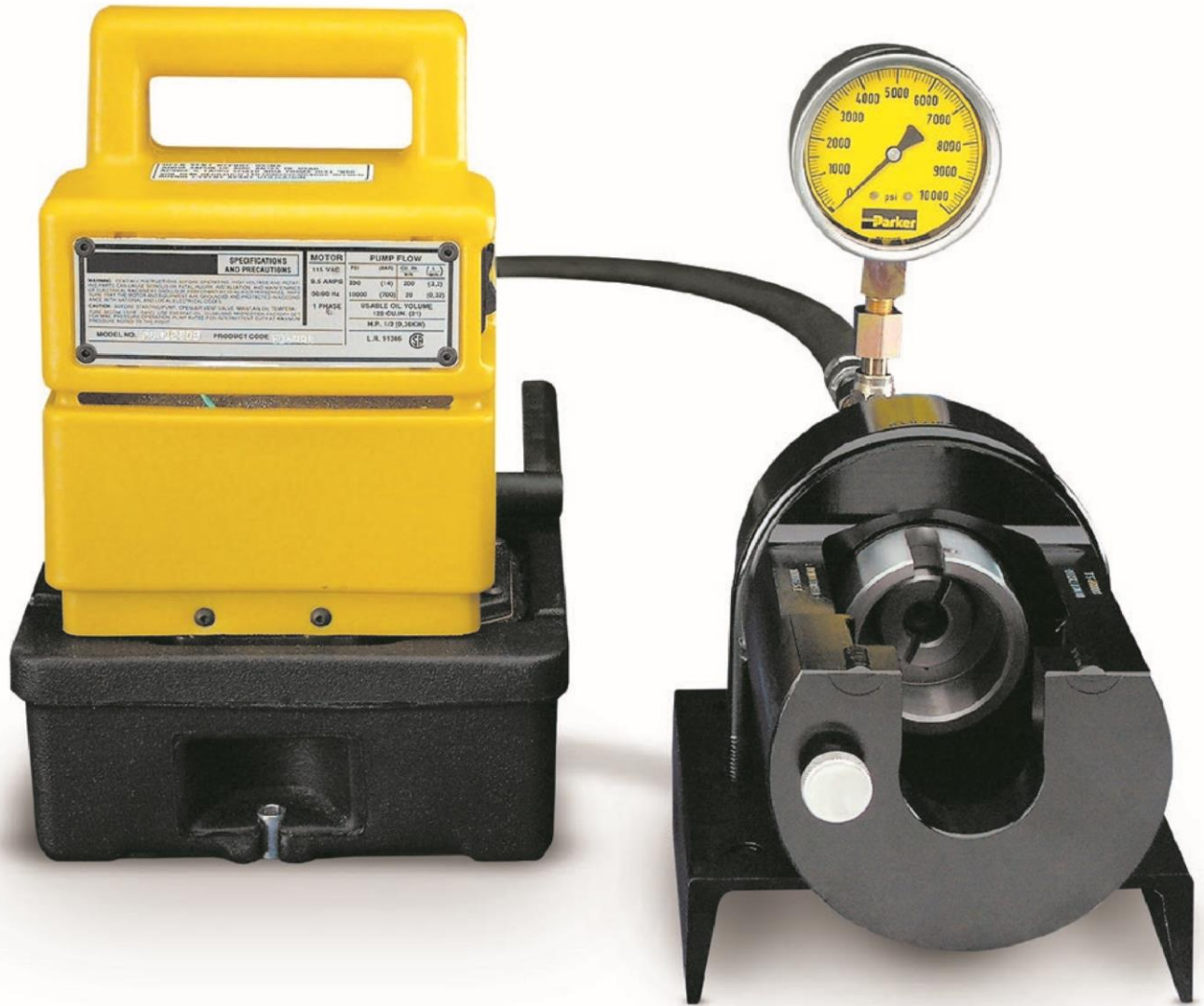
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Parker Hydra-Tool

Hydraulic Flaring and Presetting Tool
Bulletin 4392-B10



ENGINEERING YOUR SUCCESS.

Table of Contents

Table of Contents

Introduction..... 1

Set-Up Instructions..... 2

Tube-End Preparation..... 3

Flaring Information for 37° Triple-Lok® Fittings 5

Flaring for 37° Triple-Lok® Fittings 8

Presetting for EO and EO-2 Fittings 13

Presetting Ferulok Fittings 18

Maintenance and Troubleshooting..... 24

Parts Schematic 26

Offer of Sale 26

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Hydra-Tool

Portable Flaring and Presetting Tool

Easy to Operate

The Hydra-Tool is capable of flaring or presetting with a few simple operations. Simply select the components for the function that is to be completed and finish the tube assembly with ease.



37° Flaring

The Hydra-Tool is capable of completing 37° flares on steel, stainless steel, copper and aluminum tube from 1/4" (6mm) through 2" (50mm) outside diameters.

Portable

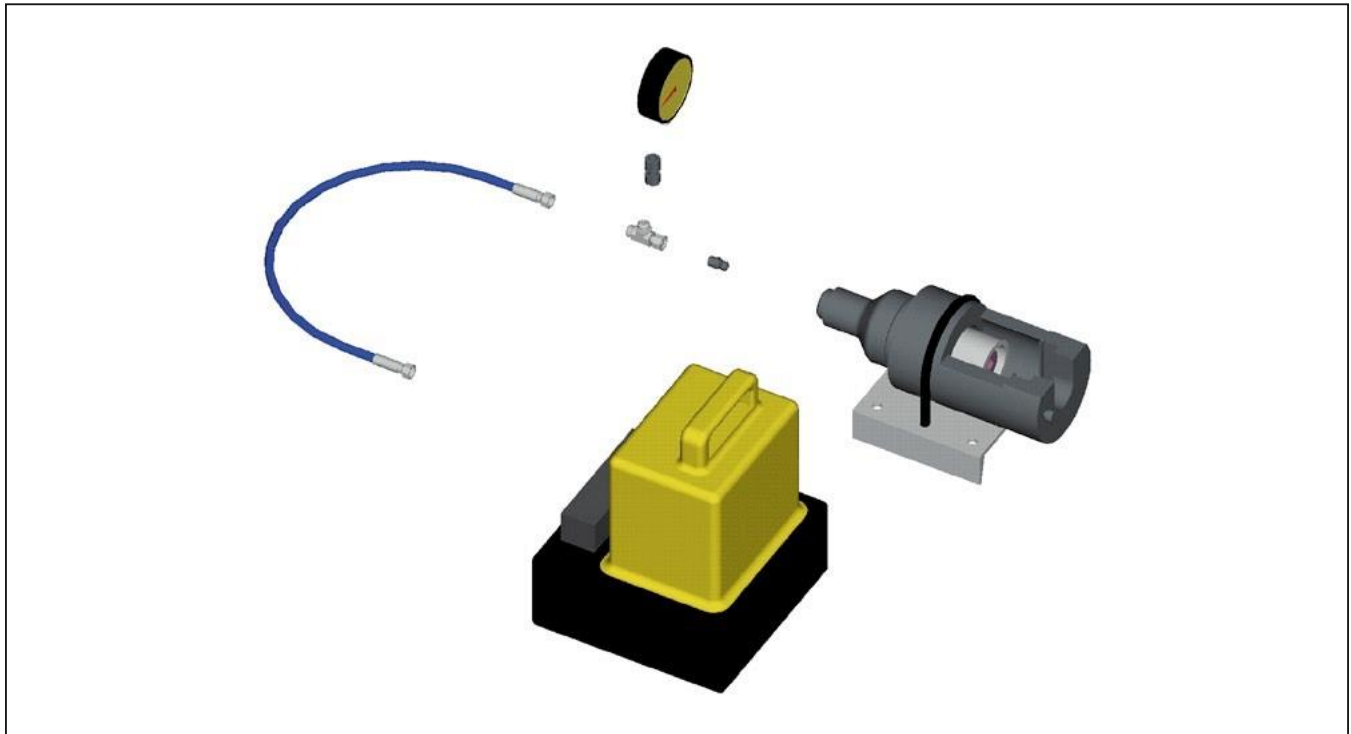
The lightweight Hydra-Tool (60 lb. base unit) can be easily moved around the workplace.



Check for Leaks

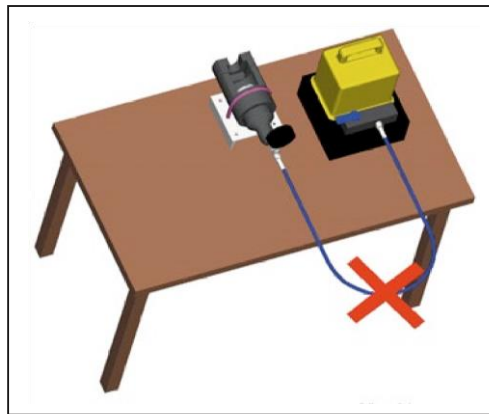
Operate the hydraulic pump and check for leaks at the connections. **CAUTION: Do not extend the Hydra-**

Tool cylinder without tooling installed. Cylinder damage may occur.

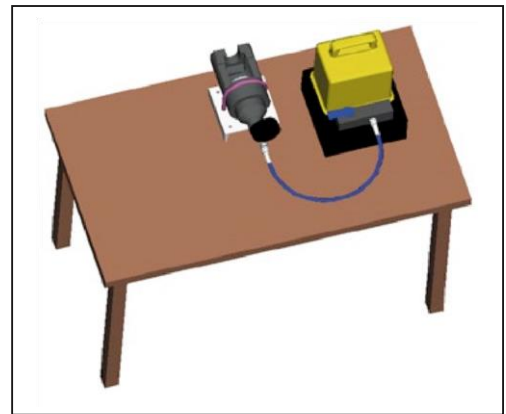


For Your Safety

When using this machine on a bench, be sure that the hose assembly does not extend over the edge of the bench where it can be struck by plant equipment.



Incorrect Method



Correct Method

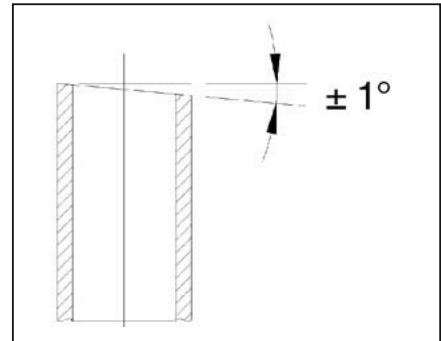
Tube-End Preparation

Tube-End Preparation

Tube-end preparation is one of the most critical processes in obtaining an optimum seal of a flared or preset tube end connection. Regardless of the tube material, similar guidelines for tube cut-off, deburring and cleanliness can help assure the tube to fitting connection remains leak free.

Tube Cutting

- It is critical that the tube be cut squarely within $\pm 1^\circ$ in order to assure the proper tube to fitting connection. If the tube is not cut squarely, it will result in the tube not resting properly in fitting body (presetting). A tube end which is not cut squarely may also result in a flare which is not circular.
- When cutting tube in preparation for flaring or presetting, a saw which utilizes a toothed blade is recommended. This type of tool will assure that the tube end is not hardened from excessive heat or cold working of material.

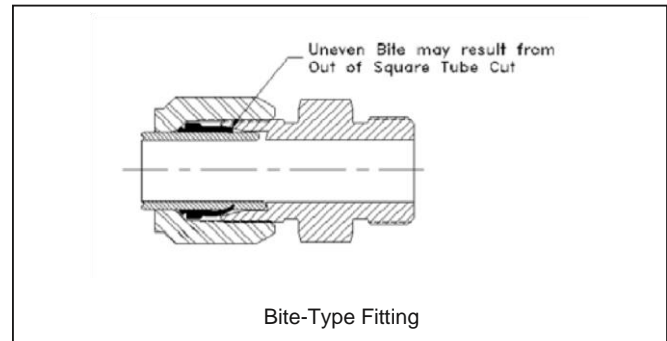
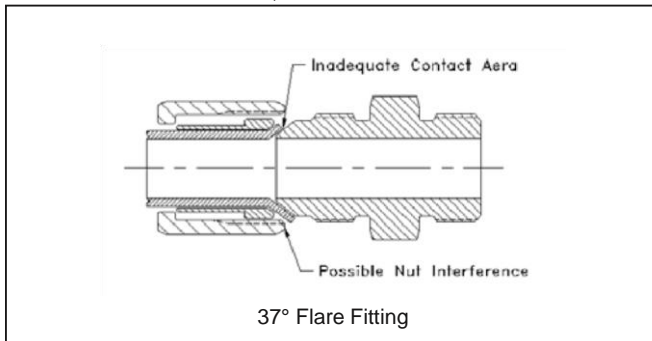


Recommended:

Hacksaw, Low-Speed Circular Saw.

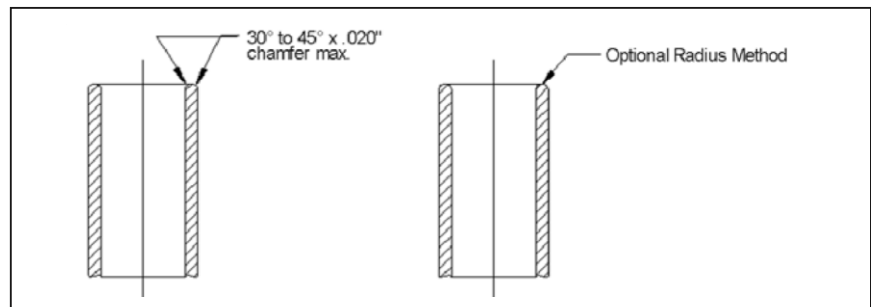
Not Recommended:

Tube Cutter, Abrasive Saw.



Tube Deburring

- Deburring the inside and outside diameter of the tube end is necessary to assure the tube fits properly inside the flare sleeve or ferrule and fitting body. Proper deburring of the tube end is necessary to form a flared tube end which is free of imperfections that may create a leak path between the tube and the fitting.



Size	Tube O.D. (in.)	Steel Die Set Part No.	Stainless Steel Die Set Part No.	Tube O.D./Size (mm)	Part No.
4	1/4	710417-4	710417-4 SS	6	770106-6
5	5/16	710417-5	710417-5 SS*	8	770106-8
6	3/8	710417-6	710417-6 SS	10	770106-10
8	1/2	710417-8	710417-8 SS	12	770106-12
10	5/8	710417-10	710417-10 SS	14	770106-14*
12	3/4	710417-12	710417-12 SS	15	770106-15
14	7/8	710417-14	710417-14 SS*	16	770106-16
16	1	710417-16	710417-16 SS	18	770106-18
20	1-1/4	710417-20	710417-20 SS	20	770106-20
24	1-1/2	710415-24	710415-24 SS	22	770106-22
32	2	710415-32	710415-32 SS	25	770106-25
				28	770106-28
				30	770106-30
				32	770106-32
				35	770095-35
				38	770095-38
				42	770095-42
				50	770095-50

Flaring Information for 37° Triple-Lok

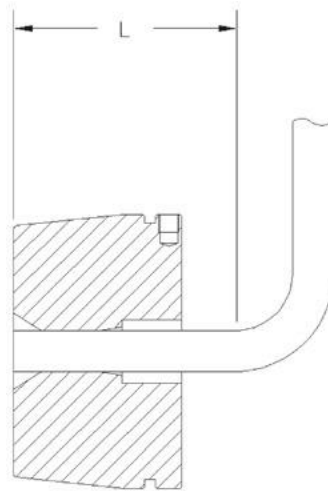
Flaring Information for 37° Triple-Lok® Fittings

Flaring Die Set, Inch Sizes Flaring Die

Set, Metric Sizes

* Non-standard

*Non-standard



L = Minimum Straight Length to Start of Bend

Size	Tube O.D. (in.)	Tube O.D. (mm)	"L" min. (in.)
-4	1/4	6	1.63
-5	5/16	8	1.63
-6	3/8	10	1.63
-8	1/2	12	2.19
-10	5/8	14, 15, 16	2.22
-12	3/4	18, 20	2.32
-14	7/8	-	2.38
-16	1	25	2.41
-20	1-1/4	30, 32	2.54
-24	1-1/2	35, 38	2.88
-32	2	42, 50	2.94

Recommended Flaring Pressure for Inch Tube

Size	Material	Tube Wall Thickness							
		0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134
4	SS	400	700	1100					
	Steel	300	500	800					
	Copper	150	200	350					
5	Aluminum	150	200	350					
	SS	500	800	1300					
	Steel	400	600	1000					
6	Copper	150	250	400					
	Aluminum	150	250	400					
	SS	600	900	1500					
	Steel	500	700	1100					
	Copper	200	300	500					
	Aluminum	200	300	500					
8	SS	800	1200	2000	2500				
	Steel	600	900	1500	1900				
	Copper	250	350	600	750				
10	Aluminum	250	350	600	750				
	SS	900	2000	2500	2800	3000			
	Steel	680	1500	1900	2100	2300			
12	Copper	275	600	750	800	900			
	Aluminum	275	600	750	800	900			
	SS	1000	1700	2500	3100	3500	4000		
	Steel	750	1300	1900	2300	2700	3000		
	Copper	300	500	750	900	1100	1200		
	Aluminum	300	500	750	900	1100	1200		

Hydra-Tool Hydraulic Flaring and Presetting Tool Flaring for 37° Triple-Lok® Fittings

14	SS		1500	2400	3000	3400	4200		
	Steel		1100	1800	2300	2600	3200		
	Copper		500	700	900	1000	1300		
16	Aluminum		500	700	900	1000	1300		
	SS			2400	3000	3400	4200	4800	
	Steel			1800	2300	2600	3200	3600	
20	Copper			700	900	1000	1300	1400	
	Aluminum			700	900	1000	1300	1400	
	SS			2800	3400	4000	4800	5300	
24	Steel			2100	2600	3000	3600	4000	
	Copper			800	1000	1200	1400	1600	
	Aluminum			800	1000	1200	1400	1600	
32	SS				4000	4500	5300	5800	
	Steel				3000	3400	4000	4400	
	Copper				1200	1300	1600	1700	
32	Aluminum				1200	1300	1600	1700	
	SS					3300	4000	5000	6300
	Steel					2500	3000	3800	4700
32	Copper					1000	1200	1500	1900
	Aluminum					1000	1200	1500	1900

Note: If tube size and wall thickness are not shown on this chart, see Catalog 4300, General Technical Section for recommended tube size for use with 37° flare fittings.

The values provided in this chart are to be used as a guide and normally will produce a satisfactory flare when using the Parker Hydra-Tool.

Recommended Flaring Pressure for Metric Tube

Size (mm)	Material	Tube Wall Thickness				
		1.0	1.5	2.0	2.5	3.0
6	SS	400	700	1100		
	Steel	300	500	800		
	Copper	150	200	350		
	Aluminum	150	200	350		
Size (mm)	Material	Tube Wall Thickness				
		1.0	1.5	2.0	2.5	3.0
22	SS		1500	2400	3000	3400
	Steel		1100	1600	2300	2600
	Copper		500	700	900	1000
	Aluminum		500	700	900	1000

8	SS	500	800	1300			25	SS			2400	3000	3400
	Steel	400	600	1000				Steel			1800	2300	2600
	Copper	150	250	400				Copper			700	900	1000
	Aluminum	150	250	400				Aluminum			700	900	1000
10	SS	600	900	1500			28	SS			2600	3200	3700
	Steel	500	700	1100				Steel			2000	2500	2800
	Copper	200	300	500				Copper			800	1000	1100
12	Aluminum	200	300	500			30	Aluminum			800	1000	1100
	SS	800	1200	2000	2500			SS			2800	3400	4000
	Steel	600	900	1500	1900			Steel			2100	2600	3000
14	Copper	250	350	600	750		32	Copper			800	1000	1200
	Aluminum	250	350	600	750			Aluminum			800	1000	1200
	SS	850	1600	2300	2600			SS				4000	4500
15	Steel						38	Steel				3000	3400
	Copper							Copper				1200	1300
	Aluminum							Aluminum				1200	1300
16	SS	875	1800	2400	2700		42	SS				4500	5800
	Steel							Steel				4700	6500
	Copper							Copper				3600	5200
	Aluminum							Aluminum				1500	1900
18	SS	900	2000	2500	2800	3000	50	SS				5200	7200
	Steel	680	1500	1900	2100	2300		Steel				3900	6100
	Copper	275	600	750	800	900		Copper				1900	2300
	Aluminum	275	600	750	800	900		Aluminum				1900	2300
20	SS	1000	1700	2500	3100	3500							
	Steel	750	1300	1900	2300	2700							
	Copper	300	500	750	900	1100							
	Aluminum	300	500	750	900	1100							
25	SS		1500	2400	3000	3400							
	Steel		1100	1800	2300	2600							
	Copper		500	700	900	1000							
	Aluminum		500	700	900	1000							

Note: The values provided in this chart are to be used as a guide and normally will produce a satisfactory flare when using the Parker Hydra-Tool.

Flaring for 37° Triple-Lok Fittings

Components Required

Sizes -4 through -20 (6mm - 32mm)

Sizes -24 through -32 (35mm - 50mm)

Description	Part N
Flaring Cone	710419
Die Ring	710416A
Die Retainer Assy.	710424-1
Flaring Die Set	See Chart

Description	Part Number
Flaring Cone	710411
Die Ring	710412
Die Retainer Assy.	710424-2
Flaring Die Set	See Chart pg. 4



Flaring Cone



Flaring Die Set



Die Ring



Die Retainer

Step 1 Select Tooling

Based on the tube size to be flared, select the Flaring Cone, Die Ring, and Die Retainer Assembly from the tables above. Select the Flaring Die Set from the chart on page 4.



Step 2 Install Flaring Cone

Insert the Flaring Cone into the piston and turn to allow the roll pin to engage and hold the locked position.

Step 3 Install Die Ring

Install the Die Ring by inserting and turning to engage the roll pin and lock the Die Ring the cone in place.



Step 4 Lubricate Surfaces

Lubricate the outside surface of the Flaring Cone and the inside surface of the Die Ring with an extreme pressure lubricant (such as STP oil) near the front of the Hydra-Tool. Assure that as

Step 5 Lower Die Retainer

Install the Lower Die Retainer into the Hydra-Tool by placing into the slot located with an extreme pressure lubricant (such as STP oil) near the front of the Hydra-Tool. Assure that as

treatment). This will prevent the slot in the retainer is facing upward. galling and adhesion of components during operation.



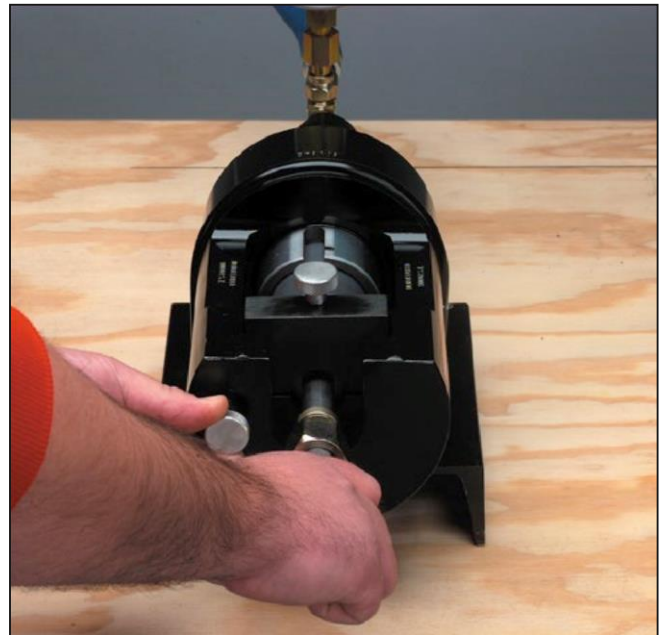
Step 6 Install Lower Die Halve
Lubricate the outer conical surface of the Die half. Place the lower Die half in the Retainer. Assembly with the knurled thumb screw.



Step 7 Install Upper Die
Install the Flaring Die half with the threaded hole into the upper half of the Die Retainer lower Die. Secure the die in place by turning the knurled thumb screw clockwise.



Step 8 Install Tube
Place the properly prepared tube end to be flared on the lower die half in the HydraTool. Then, place the top Die Retainer with the Upper Die into the slot over the tube assembly.



Step 10
Retainer with the Upper Die into the slot over the tube assembly.

Step 9 Flaring Pressure

Refer to the charts on pages 5 & 6 for the outside diameter and wall thickness of the tube to be flared.

Position Tube

Position the Tube Stop by rotating the knurled knob located on the front of the Hydra-Tool counter-clockwise until the Tube Stop is

Flaring for 37° Triple-Lok® Fittings

centered against the front of the die halves. Pull the knurled knob so the tube stop contacts the front of the dies. Position the tube end against the Tube Stop. Release the knurled knob and allow the Tube Stop to return to its original position.

CAUTION: Do not operate the Hydra-Tool with the Tube Stop in the “up” position. Damage will result.

**Step 11 Begin Flare**

Ensure the tube is held in position and energize the hydraulic power unit to begin the flaring process. The Die Ring will engage the Die Halves and clamp the tube in position. The Pressure Gauge will show a rapid rise as the Flaring Cone is forced solidly against the tube.

Flaring for 37° Triple-Lok® Fittings



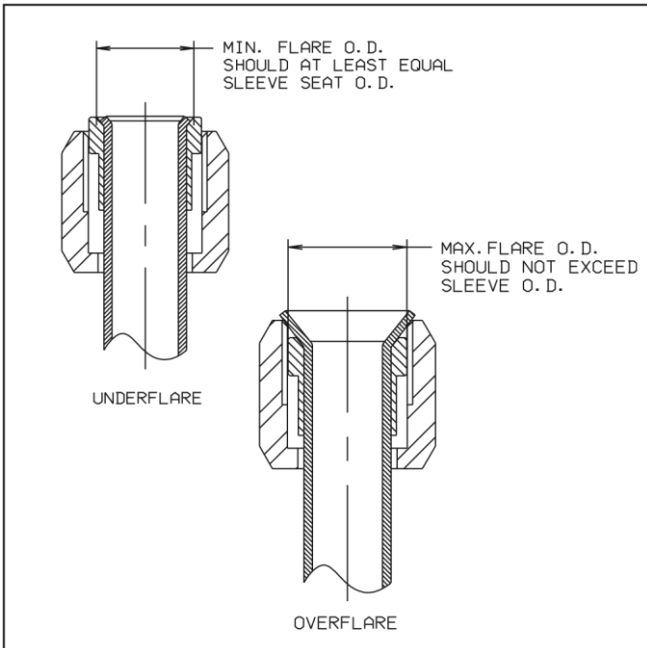
Step 12 Flare Tube

When the Pressure Gauge reading reaches the pressure that was previously determined de-energize the hydraulic power supply. This will allow the Hydra-Tool cylinder to retract. The flare is complete.



Step 13 Remove Flared Tube

Remove the upper Die Retainer and Flaring Die then remove the tube. in step 9,



Step 14 Inspect Flare

Inspect the flare diameter using the visual inspection as shown.

Presetting EO and EO-2 Fittings

Components Required

Tube O.D. Size (mm)	Part No.			
	Nut Die Set	Body Die L-Series	Body Die S-Series	Split Back-Up Plate
6	910291-6 mm	910290-6L	910289-6S	—
8	910291-8 mm	910290-8L	910289-8S	—
10	910291-10 mm	910290-10L	910289-10S	—
12	910291-12 mm	910290-12L	910289-12S	—
14	910291-14 mm	—	910289-14S	—
15	910291-15 mm	910290-15L	—	—
16	910291-16 mm	—	910289-16S	—
18	910291-18 mm	910290-18L	—	—
20	910291-20 mm	—	910289-20S	—
22	910291-22 mm	910290-22L	—	—
25	910291-25 mm	—	910289-25S	—
28	910291-28 mm	910290-28L	—	—
30	—	—	910289-30S	970135-30 mm
35	—	910290-35L	—	970135-35 mm
38	—	—	910289-38S	970135-38 mm
42	—	910290-42L	—	970135-42 mm

Sizes 6mm through 42mm

Description	Part Number
-------------	-------------

Large Piston Stop Adapter	971107
Small Ram Insert	971108
Back-Up Plate (6mm-28mm only)	770102
Nut Die (6mm-28mm only)	See Table
Split Back-Up Plate (30mm-42mm only)	See Table
Body Die	See Table

Step 1 Select Tooling Select the necessary tooling from the chart at the left based on the size tube/fitting to be preset.



Nut Die Set



Back-Up Plates



Body Die



Small Ram Insert and Stop Adapter (EO and EO-2 only)

Hydra-Tool Presetting Pressure for Steel EO and EO-2 Fittings

Pressures for Steel EO Fittings

Pre-Setting Pressures (psi) for EO Fittings							
Wall Thickness (mm)							
Size	Series	1.0	1.5	2.0	2.5	3.0	4.0
6	L	500	500	500			
6	S	500					
8	L	500		500			
8	S	500					
			500				
10	L		500				
10	S		500				
12	L	300	300	500			

Pressures for Steel EO-2 Fittings

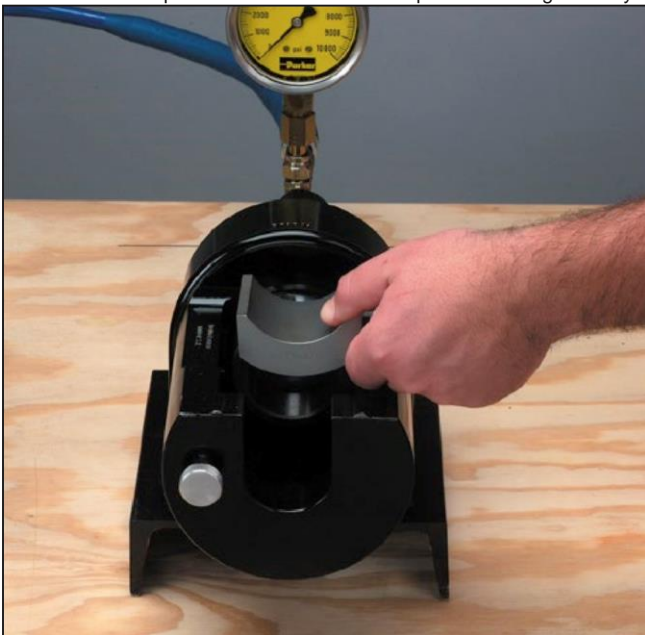
Hydra-Tool Pre-Setting Pressures (psi) for EO-2 Fittings using the large piston stop adapter		
Size	Series	Any wall
6	L	1,000
6	S	1,000
8	L	800
8	S	800
10	L	1,000
10	S	1,100

Presetting EO and EO-2 Fittings

12	S		300				
14	S			1,500			
15	L			800			
			500				
16	S			1,200		1,300	
18	L					1,300	
			1,000				
20	S				2,000		
22	L						
			1,500	1,500			
25	S					2,000	2,000
28	L						
				2,000			
30	S					3,000	
35	L					3,300	
				3,000			
38	S						3,500
42	L						
						4,000	

12	L	1,700
12	S	1,700
14	S	2,300
15	L	1,700
16	S	2,600
18	L	2,000
20	S	3,700
22	L	3,100
25	S	4,300
28	L	3,600
30	S	5,900
35	L	5,200
38	S	8,400
42	L	7,600

Note: The values provided in these charts are provided as a guide only and normally will produce a satisfactory bite when using the Parker Hydra-Tool.



Step 2 Install Stop Adapter
 Insert the Large Piston Stop Adapter into the opening in the housing of the Hydra-adapter so the notch in the rotate the Ram Insert so the roll pin adapter is aligned with the Tube Stop. engages the center piston and locks



Step 3 Install Ram Insert
 Install the Small Ram Insert into the center piston of the Hydra-Tool. When inserting, rotate the Ram Insert so the roll pin adapter is aligned with the Tube Stop.

Presetting EO and EO-2 Fittings
the Ram Insert in place.



Step 4 Install Nut Support (6mm - 28mm only)

First, drop the Back-Up Plate into the slot near the front of the machine. Then insert the nut support in the Back-Up Plate opening from the inside so that the Nut Support shoulder seats squarely in the counterbore of the Back-Up Plate.

Step 5 Install Split Back-up Plates (30mm - 42mm only)

Install the Split Back-Up Plates into the front housing of the Hydra-Tool.

Step 6 Assemble Nut and Ferrule to Tube

Slide nut and ferrule onto the tube. For EO, the straight pilot section (bite edge) points toward the end of the tube which is to be preset, and the raised portion of the

Presetting EO and EO-2 Fittings



ferrule points toward the nut. For EO-2, slide the functional nut assembly onto the tube with the threaded end of the nut facing the end of the tube which is to be preset.

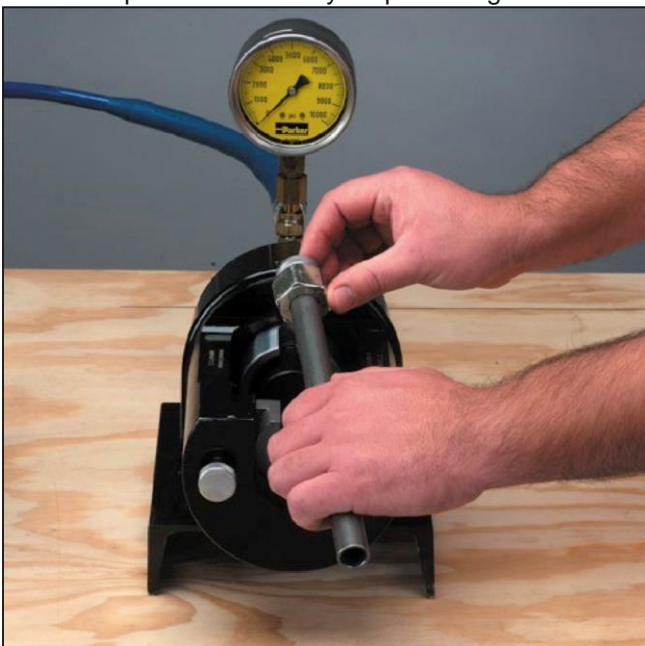
Step 7 Lubricate Ferrule — EO Only

Lubricate leading outer (bite) edge of ferrule with lubricant. Lubrication reduces wear on the die and reduces friction to ensure that all the force is available to preset the ferrule.

Presetting EO and EO-2 Fittings



Step 8 Install Body Die
 Lubricate the inside of the Body Die with lubricant (EO only), then install the Body Die over the tube end until the tube bottoms on die shoulder. Push nut and ferrule forward to place parts in correct position, the Body Die will enter the bore of the nut, and the parts will be ready for presetting.



Step 11 Remove Tube
 Lift tube with preset ferrule out and inspect according to recommended procedures.



Refer to Catalog 4300, EO/EO-2 Technical Section.

Step 9 Position Assembly for Presetting
 Place the tube within the slot in the nut support.

Step 10 Preset the Ferrule
 Determine the required preset pressure based on the tube size from the chart on page 11. Apply hydraulic pressure to advance the piston of the Hydra-Tool. Continue operation until the predetermined pressure is reached. De-energize the hydraulic power supply, the Hydra-Tool piston will retract.

Presetting Ferulok Fittings

Components Required

Description	Part Number
Ram Insert	770101
Back-Up Plate	770102
Nut Die	See Table
Body Die	See Table

Step 1 Select Tooling

Select the necessary tooling from the chart above based on the size tube to be preset.

Size	Tube O.D. (in.)	Nut Die Part No.	Body Die Part No.
4	1/4	680370-4	720105-4
6	3/8	680370-6	720105-6
8	1/2	680370-8	720105-8
10	5/8	680370-10	720105-10
12	3/4	680370-12	720105-12
14	7/8	680370-14	720105-14
16	1	680370-16	720105-16
20	1-1/4	680370-20	720105-20
24	1-1/2	680370-24	720105-24
32	2	680370-32	720105-32



Ram Insert (Ferulok Only)



Back-up Plate



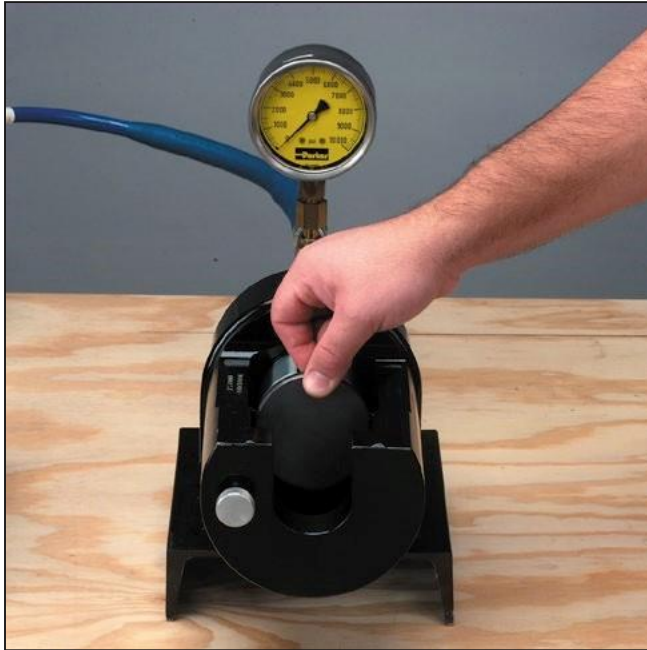
Nut Die Set Body Die

Hydra-Tool Presetting Pressures for Ferulok Fittings ^{1) 2) 3)}

Tube Size	Wall Thickness – Steel							Wall Thickness – Stainless Steel						
	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.035	0.049	0.065	0.083	0.095	0.109	0.120
4	300	300	500	600	600	600		300	300	500	700	700	700	
6	300	500	600	700	700	700	700	300	500	700	700	700	700	800
8		500	700	800	900	1,000	1,000		600	700	1,000	1,000	1,100	1,100
10			700	900	1,000	1,100	1,100			800	1,000	1,100	1,300	1,300
12			900	1,000	1,100	1,100	1,300			1,000	1,100	1,300	1,300	1,500
14			1,000	1,100	1,100	1,300	1,500			1,000	1,300	1,300	1,500	1,600
16				1,100	1,300	1,500	1,600				1,500	1,500	1,600	1,600
20					1,500	1,600	1,800					1,600	2,000	2,000
24					1,800	2,000	2,300					2,100	2,300	2,300
32					2,800	2,900	3,300					3,100	3,300	3,300

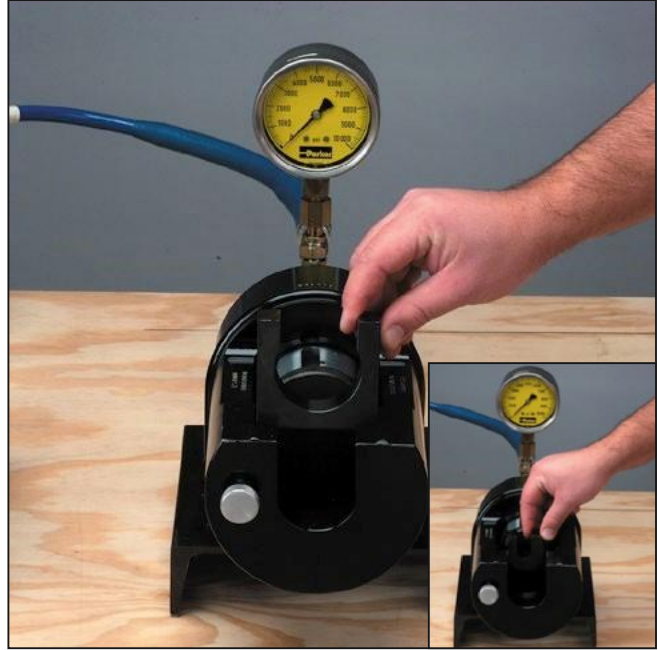
1) These values are provided as a guide only and normally will produce a satisfactory bite.

- 2) Ferulok presetting dies are positive stop dies. Use of above pressures is optional.
- 3) For wall thicknesses greater than those listed, contact the Tube Fittings Division.



Step 2 Install Ram Insert

Install the Ram Insert into the large piston of the Hydra-Tool.

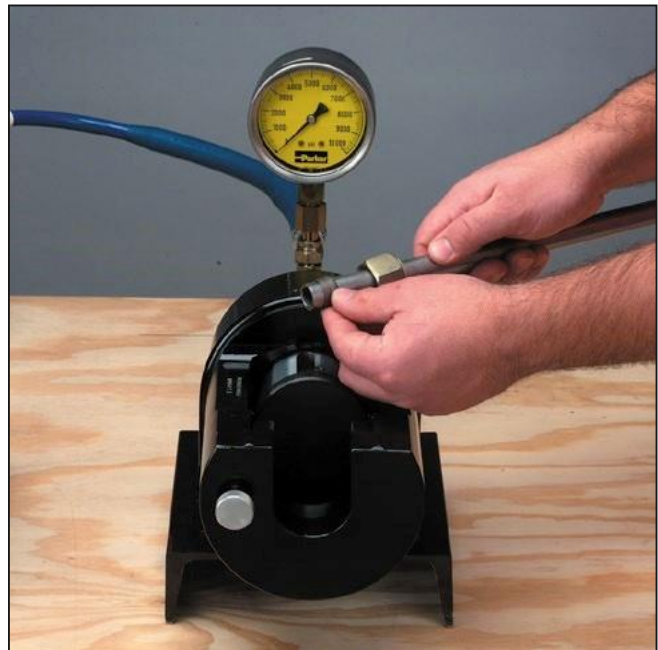


Step 3 Install Nut Support

First, drop the Back-Up Plate into the slot the Hydra-Tool near the front of the machine. Then insert the nut support in the Back-Up Plate opening from the inside so that the Nut Support shoulder seats squarely in the counterbore of the Back-Up Plate.

Step 4 Presetting Pressure (optional for inch sizes)

Based on the tube outside diameter and wall thickness, determine the presetting pressure from the chart on page 15.



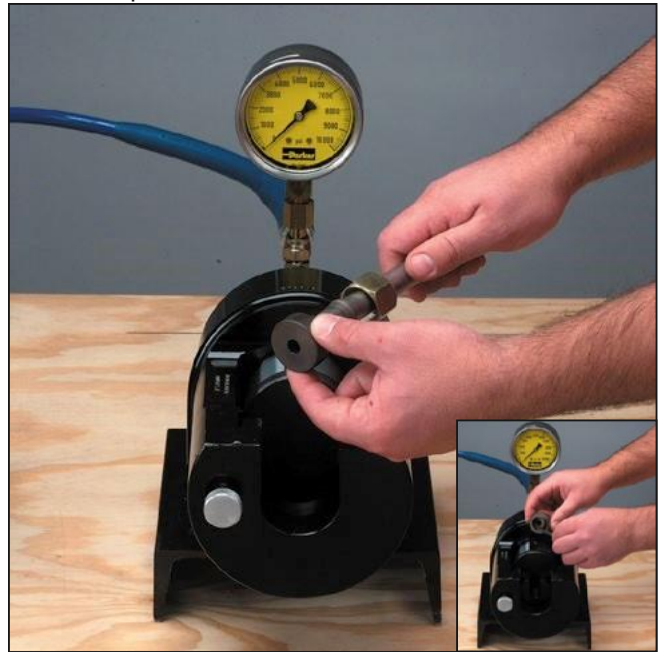
Step 5 Assemble Nut and Ferrule

Slide nut and ferrule onto the tube. The

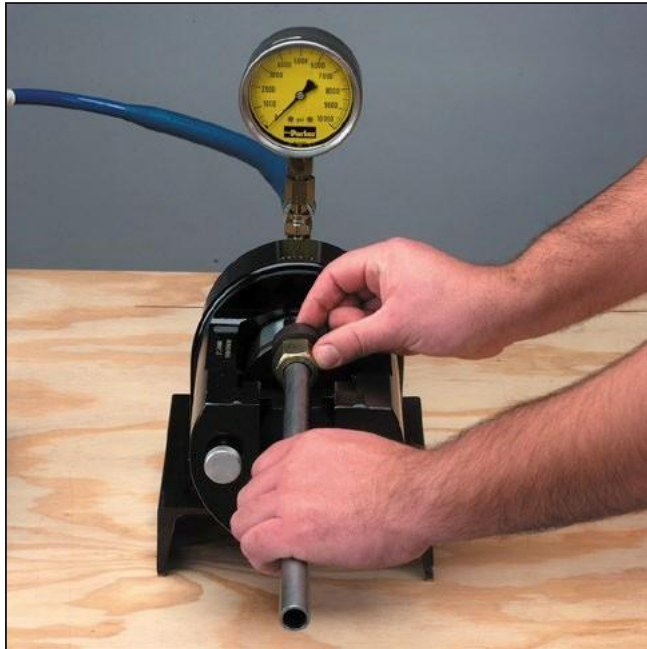
straight pilot section (bite edge) points toward the end of the tube which is to be preset, and the raised portion of the ferrule points toward the nut.



Step 6 Lubricate Ferrule
 Lubricate leading outer (bite) edge of ferrule with lubricant. Lubrication reduces wear on and reduces friction to ensure that all force is available to preset the ferrule.



Step 7 Install Body Die
 Lubricate the inside of the Body Die with lubricant, then install the Body Die over the die and the tube end until the tube bottoms on die shoulder. Push nut and ferrule forward. The Body Die will enter the bore of the nut, and the parts will be in the correct position for



Step 8 Position Assembly for Presetting
Place the tube within the slot in the Nut Support.

presetting.

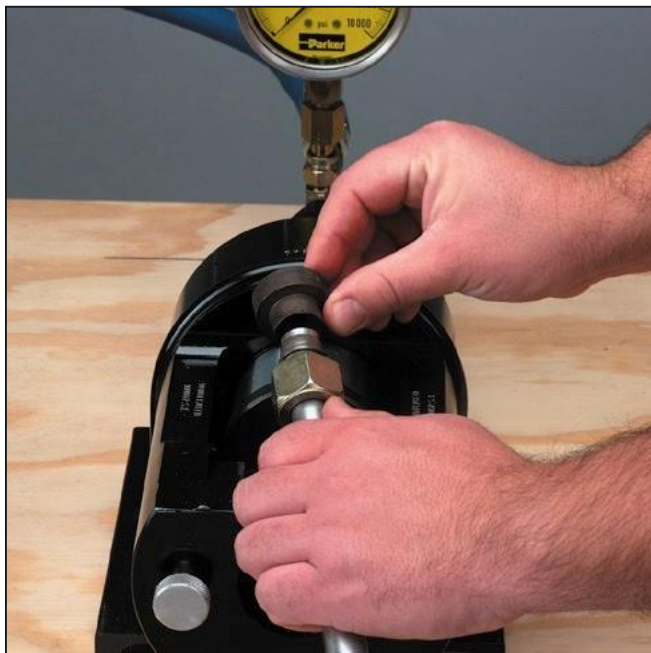


Step 9 Preset the Ferrule Apply hydraulic pressure to advance the piston of the Hydra-Tool. Continue operation until the predetermined pressure is reached.

Method 1:

Method 2: De-energize the hydraulic power supply. The Hydra-Tool piston will retract.

Follow Steps 1-8, skipping step 4, then watch the nut make positive contact (bottom out) on the shoulder of the body die. After contact is made, de-energize the hydraulic power supply, allowing the Hydra-Tool to retract.



Step 10 Remove Tube

Lift tube with preset ferrule out and inspect according to recommended procedures. Refer to Catalog 4300, Ferulok Technical Section.

Troubleshooting

Maintenance

- All moving parts should be kept clean and free from dirt and grit.
- All tooling should be handled carefully to avoid damaging the smooth surfaces. Presence of nicks, burrs, pieces of dirt or chips may mar the surfaces of the tube.
- Lubrication is a necessity when flaring or presetting.

Caution: Do not extend the cylinder without proper tooling assembled in the machine. Extending this assembly can cause the piston return spring to stretch. The piston will not return to its original position once the spring is deformed.

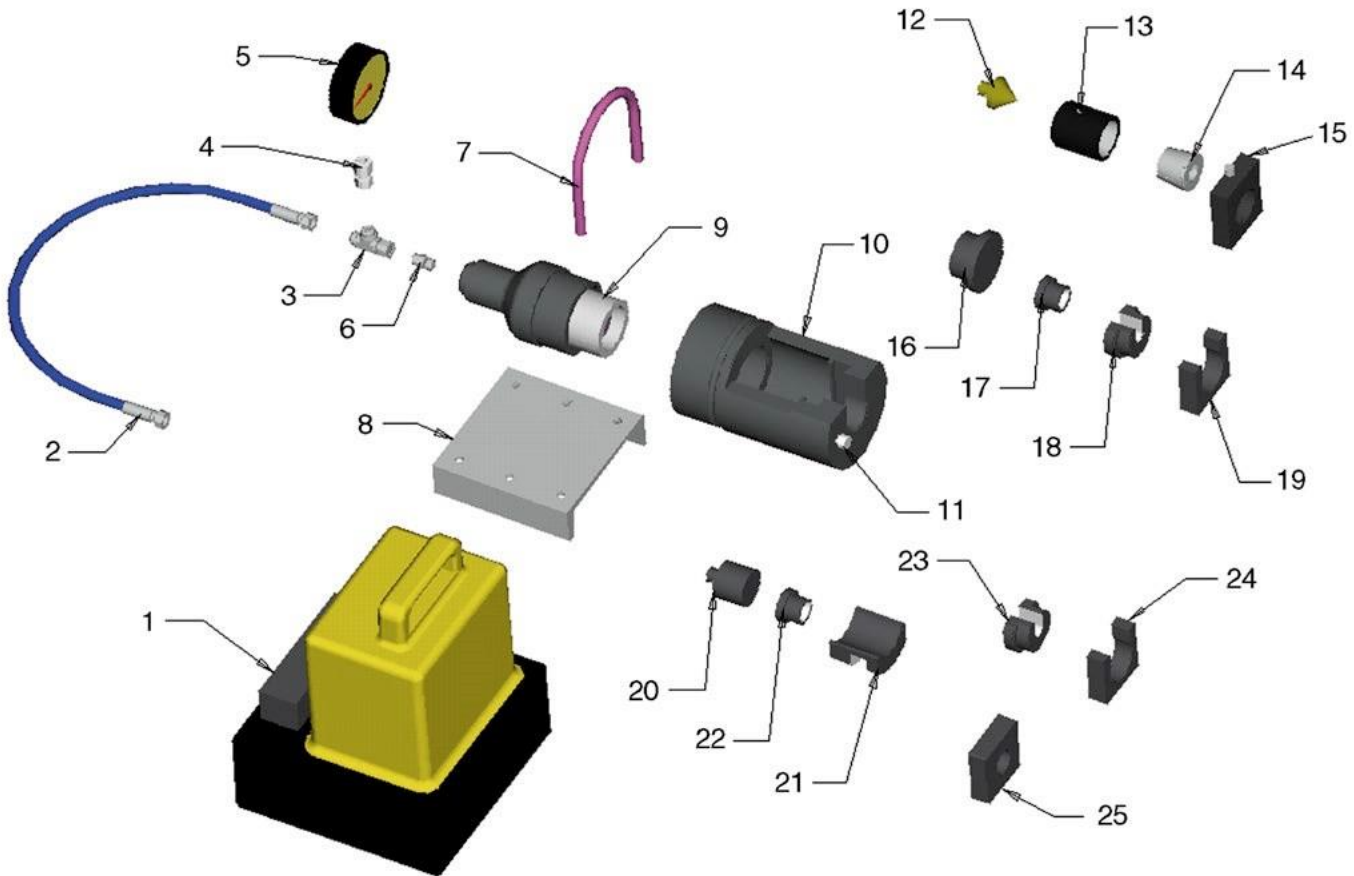
Problem	Cause / Solution
Cylinder does not advance	<ul style="list-style-type: none"> • Check the pump to see if fluid flow is being provided. • Check all connections for leaks.
Cylinder does not retract	<ul style="list-style-type: none"> • Required surfaces are not adequately lubricated with a high pressure lubricant such as STP. • Valve on hydraulic pump has not been released to allow hydraulic fluid to flow back to the pump. • The cylinder may have been extended without tooling in position. This may have caused the return spring to be damaged.
Flare is too large	<ul style="list-style-type: none"> • Too high of a flaring pressure was used. • Too much tube was extended in front of the flaring dies.
Flare is too small	<ul style="list-style-type: none"> • Too low of a flaring pressure was used. • The tube was not extended into the dies and against the tube stop properly.
Surface of flare is rough	<ul style="list-style-type: none"> • Tube was not properly cut and deburred. • Surface of the flaring cone is damaged. • No lubricant was applied to the flaring cone.
Ferrule preset is inadequate	<ul style="list-style-type: none"> • Too low of a presetting pressure was used. • Positive stop of tube nut to body die was not reached (Ferulok only). • Ferrule placed on tube incorrectly. • No lubrication was used on ferrule and body.
Ferrule preset is excessive	<ul style="list-style-type: none"> • Too high of a presetting pressure was used.

Troubleshooting

Item No.	Part Description	Part Number	Item No.	Part Description	Part Number
1	Electric – Hydraulic Pump, 10,000psi Hand – Hydraulic Pump, 10,000psi	900085 900086	15	Die Retainer Assembly (-4 to -20, 6mm to 32mm) Die Retainer Assembly (-24 to -32, 35mm to 50m) Die Retainer Knob Roll Pin for Knob Die Ret. Screw (-4 to -20, 6mm to 32mm) Die Ret. Screw (-24 to -32, 35mm to 502mm)	710424-1 710424-2 710414 1/16X7/16 710413-2 710413-1
2	3' Hose Assembly, 10,000psi	910004			
3	"T" Adapter for gage	R6LO-S			
4	Swivel Adapter for gage	G6L-S			
5	Pressure Gage	900044			
6	Male Connector	6-8 F5OLO-S			
7	Mounting U-Bolt	870091			
8	Mounting Base	870092			
9	Cylinder Assembly*	710400B- Cylinder	16	Ram Insert for Ferulok	770101
			17	Body Die for Ferulok	See page 15
10	Sub-Assembly Housing	870090	18	Nut Support for Ferulok	See page 15
11	Tube Stop Assembly	710420B	19	Back-Up Plate	770102
12	Flaring Cone (-4 to -20, 6mm to 32mm) Flaring Cone (-24 to -32, 35mm to 50m)	710419 710411	20	Small Ram Insert for EO and EO-2	971108
			21	Large Piston Stop Adapter	971107
			22	Body Die for EO and EO-2	See page 11
13	Die Ring (-4 to -20, 6mm to 32mm) Die Ring (-24 to -32, 35mm to 50m) Roll Pin for Die Rings	710416A 710412 5/32X1/2	23	Nut Support for EO and EO-2 (6mm to 28mm)	See page 11
			24	Back-Up Plate	770102

14	Flaring Die Set	See page 4	25	Split Back-Up Plate	See page 11
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*Rebuilt cylinder assemblies available. Contact Parker Tube Fittings Division Repair Department (614-279-7070) for further information.



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