Equipment

EQUIPMENT

Visit Crimpsource at

www.parker.com/crimpsource, your online

resource for hose crimp specifications.

Minikrimp

Karrykrimp

Parkrimp 1

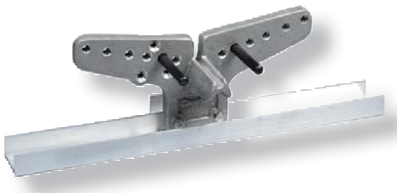
PHastkrimp

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

631075 C-22

Karrykut - Hose Cut-Off Machine

871522 C-23



Handycut - Hose Cut-Off Machine

881540 C-23

Push-Lok Cut-Off & Assembly Tool

316 C-23

Hose Cut-Off Tool

TH11-1 C-23

Hose Cut-Off Tool

TH9-1 C-24

Hose Insertion Depth Blocks

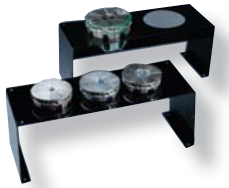
432-115V C-24

Hozembler

TH2-7 C-24

Fittings Push-On Stand

80C-0DR and 83C-0DR C-24



Die Storage Racks

80C-SDR C-25

Swivel Die Rack

601069 C-25

Hose Perforator

Hose Oil C-25

Hose Oil

Lubricant C-25

Accrolube - High Efficiency

652200 C-26

Mandrel Tool Kit - 22 Series

652201 C-26

Assembly Tools - 22 Series

2727 and 2726 C-26

Mandrel Tool Kit - 23 Series

TH2-7M25-6, TH2-7M25-8 C-26

Mandrels - 25 Series

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Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Hose Assemblies Are Easy With the Parkrimp System.

Since its introduction in 1980, the Parkrimp family of crimping machines has led the industry in ease of use and rugged durability.

With Parkrimp, you benefit from a full length crimp.

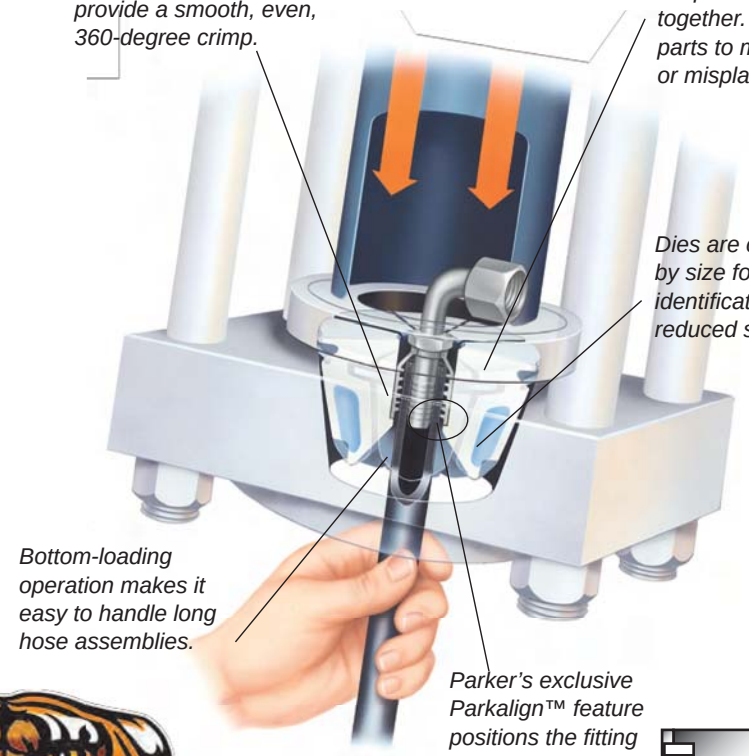
No-Skive hoses and fittings combine with the Parkrimp system to create high quality, reliable hydraulic hose assemblies every time.

Our low profile design makes routing hose assemblies easy.

When it comes to hose assemblies, no one puts it all together like Parker. From high-volume productivity to portable on-site assembly, we offer a variety of crimping machines, No-Skive hoses, and No-Skive fittings to meet your needs.

With Parkrimp equipment, anyone can make factory-quality hose assemblies quickly, easily, and cost effectively. Parkrimp machines are simple to operate and they're built to provide years of dependable service. Seven Parkrimp models – an entire family of crimpers – are available to meet your bench-mounted or portable needs, crimping straight or bent-stem fittings from 1/4" to 2" in diameter. Just use our No-Skive hoses and fittings to create leak-free hose assemblies whenever and wherever you need them.

The complete system from one source: No-Skive hose, No-Skive fittings, and crimping machines with worldwide availability and service.



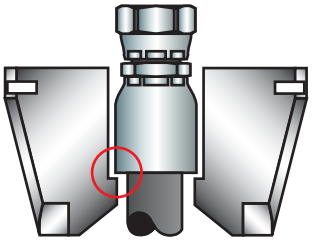
Eight segment crimp dies provide a smooth, even, 360-degree crimp.

Our linked crimp dies keep die segments together. No loose parts to mismatch or misplace.

Dies are color-coded by size for easy identification and reduced set-up time.

Bottom-loading operation makes it easy to handle long hose assemblies.

Parker's exclusive Parkalign™ feature positions the fitting in the dies perfectly every time.



Be sure to check www.parker.com/crimpsource for the most up to date information and crimp specifications.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Selecting the right die.

Once the proper Parker Hose and Fitting is selected that meets your application requirements, you will need to select the proper die to assemble them together.

Based on the hose size and approved fitting, select the proper color coded die, as called out in the chart below.

Example:

Hose	451TC-4
Fitting	43 Series
Die Body Color	Silver
Die Cavity Color (-4)	RED

Based on the Parkrimp machine being used to assemble the hose and fitting, individual die part numbers and tooling selection for your assembly can be found in Section C of this catalog.

For general hose assembly instructions for all Parkrimp machines, please turn to pages C-16 and C-17. (An instructional video is a standard part of each Parkrimp machine shipped from the manufacturer.)

Parker Hose Products Division also offers a full line of crimping accessories, including conversion kits, cabinets, cut-off saws, push-on tables, die racks, and mandrel tool kits.

Hose Dash Size	Die Cavity Color Code	43 Series Die Body Color	70 & 71 Series Die Body Color	73, 78, S6 & 79 Series Die Body Color	76 Series Die Body Color	26 Series Die Body Color	81 Series Die Body Color
		Silver	Black	Olive Drab	Silver	Silver	Silver
-4	RED		N/A	N/A	N/A		N/A
-5	PURPLE		N/A	N/A	N/A		N/A
-6	YELLOW			N/A	N/A		N/A
-8	BLUE			N/A	N/A		N/A
-10	ORANGE			N/A	N/A		N/A
-12	GREEN						
-16	BLACK						
-20	WHITE				N/A		
-24	RED				N/A		
-32	GREEN				N/A		

Hose Dash Size	Die Cavity Color Code	HY Series Die Body Color
		Silver
-4	BROWN	
-5	BROWN	
-6	BROWN	
-8	BROWN	
-10	BROWN	
-12	BROWN	
-16	BROWN	

Reference pages C-6 through C-15 for specific tool information regarding hose, fitting, and crimper combinations.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Minikrimp™

Features

- Light weight, portable, compact all-in-one unit
- Handpump or air over hydraulic design
- Removable pusher design for easy die change out
- Reference page C-20 for information on available power units
- For use with 25, 26, 43, 81, and HY Series fittings
- Do not crimp stainless steel fittings

Specifications

- Dimensions: 6” wide, 13” deep, 15” high
- Weight: 42 lbs (with hand pump)
- Rating: 30 ton force @ 10,000 psi maximum
- Full Cycle Time: 30 seconds

Important

The Minikrimp was developed by Parker Hannifin Parflex Division but is compatible with Parker Hannifin Hose Products Division products. Refer to Crimpsource™ on *www.parker.com/crimpsource* (the online resource for hose crimp specifications for the complete line of Parker crimping machines).
Any engineering and crimper performance issues pertaining to the Minikrimp should be directed to the Parflex Division, Technical Services Department, at (330) 296-2871 or fax, at (330) 296-8433.

Standard Equipment

Part Number		Description	Individual Part Number
94C- 001-PFD	94C- 002 -PFD		
●	●	Base unit	94C-080-PFD
●		Hand pump	015301
	●	Air over hydraulic pump kit with tubing and adapters	025411
●	●	Silver die ring	82C-R01-PFD

Optional Tooling

- Side Vise Mount (015736)
- Upright Table Mount (015306)
- Upright Vise Mount (015307)
- Black Die Ring (82C-R02-PFD)
- Connection Hose with Quick Coupling (015309)
- Bent Tube for Hand Pump Only (015308)
- Bent Tube for Air Over Hydraulic Pump Only (025349)

Note:
- For crimp instructions, see pages C-16 and C-17.
- Hose assemblies must be inspected for cleanliness and free of all foreign particles.
- Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Minikrimp™ Hose Die Selection Chart

Hose 7/08			Fittings	Hose/Die Selection and Crimp Diameters 7/08							
				– 4 RED	– 5 PUR	– 6 YEL	– 8 BLU	– 10 ORG	– 12 GRN	– 16 BLK	Die Ring
Die				80C-A04	80C-A05	80C-A06	80C-A08	80C-A10	80C-A12	80C-A16	
351TC 351ST 422 424 426	431 436 451TC 451ST 471TC	471ST 472TC 482T 482ST	43 Series	0.645 0.665	0.710 0.730	0.825 0.845	0.945 0.965	1.060 1.080	1.245 1.265	1.590 1.610	Silver
421WC 302/301 301LT	304 341 381	601 604 881	43 Series	0.685 0.705	0.750 0.770	0.865 0.885	0.985 1.005	1.100 1.120	1.285 1.305	1.630 1.650	Black
Die				80C-E04	80C-E05	80C-E06	80C-E08	80C-E10	80C-E12	80C-E16	
213	285	293	26 Series	0.460 0.480	0.520 0.540	0.575 0.595	0.670 0.690	0.805 0.825	0.915 0.935	1.175 1.195	Silver
201 206	225 244	266 221FR	26 Series	0.500 0.520	0.560 0.580	0.615 0.635	0.710 0.730	0.845 0.865	0.955 0.975	1.215 1.235	Black
Die									80C-V12	80C-V16	
811	811HT	881	81 Series						1.155 1.175	1.450 1.470	Silver
Die				80C-H585		80C-H735	80C-H840	80C-H970	80C-H1120		
AX			HY Series	0.595 0.575		0.745 0.725	0.850 0.830	0.980 0.960	1.130 1.110		Silver
Die				80C-H605		80C-H775	80C-H885	80C-H1010	80C-H1170		
BXX			HY Series	0.655 0.635		0.825 0.805	0.935 0.915	1.060 1.040	1.220 1.200		Black

Parker Hannifin Corp.
Hose Products Divison
30240 Lakeland Blvd.
Wickliffe, Ohio 44092

Caution: Read the operations and technical manual before attempting to operate this machinery. Keep hands clear of moving parts when operating machine.

NOTE: Do not use this machine to assemble stainless steel fittings with any hose listed on this chart

For a new decal, contact Parker at: 1-800-C-PARKER.

Karrykrimp

Features

- Portable, compact rugged design
- Numerous power unit options available
- Pivoting pusher design for easy die change out
- For use with 25, 26, 43, 81, and HY Series fittings

Specifications

- Dimensions: 15” wide, 12” deep, 27” high
- Weight: 54 lbs (without power unit)
- Rating: 30 ton force @ 10,000 psi maximum
- Full Cycle Time: 30 seconds with electric pump
- Reference page C-20 for information on available power units

Standard Equipment

Part Number				Description	Individual Part Number
82C-001	82C-002	82C-061	82C-080		
●	●	●	●	Karrykrimp portable crimper (base unit)	82C-080
●	●	●	●	2 piece stand	832021
●				Hand pump	82C-0HP
●	●	●		Connection hose with quick coupling	82C-00L
●	●	●		Silver die ring	82C-R01
●	●	●		Black die ring	82C-R02
●	●			43 Series dies (sizes 1/4”, 3/8”, 1/2”, 3/4” and 1”)	80C-Axx

Parkrimp 1

Features

- Compact bench mount design
- Engineered for optimal durability
- All in one crimper and power unit design
- For use with 25, 26, 43, 81, and HY Series fittings

Specifications

- Dimensions: 26” wide, 20” deep, 25” high
- Weight: 275 lbs (with power unit)
- Rating: 30 ton force @ 3,000 psi maximum
- Full Cycle Time: 20 seconds
- Hydraulic Fluid: AW32 oil
- **Note:** Includes a 115/230 volt, 1 phase, 60 hertz power unit wired for 115V. This unit comes with a 20 AMP male plug and must be run on a dedicated 20 AMP circuit.

Standard Equipment

Part Number			Description	Individual Part Number
80C-101	80C-061	80C-181		
●	●	●	Parkrimp 1 crimper with 115/230 volt, 1 phase, 60 Hz power unit wired for 115V	80C-181
●	●		Silver die ring	80C-R01
●	●		Black die ring	80C-R02
●			43 Series dies (sizes 1/4”, 3/8”, 1/2”, 3/4” and 1”)	80C-Axx

Note:
- For crimp instructions, see pages C-16 and C-17.
- Hose assemblies must be inspected for cleanliness and free of all foreign particles.
- Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Parkrimp 1/Karrykrimp Hose Die Selection Chart

PN: PK1/KK HOSE DECAL Hose 7/08			Fittings	Hose/Die Selection and Crimp Diameters PN: PK1/KK MASTER DECAL 8/07								
				– 4 RED	– 5 PUR	– 6 YEL	– 8 BLU	– 10 ORG	– 12 GRN	– 16 BLK	– 20 WHT	Die Ring
Die				80C-A04	80C-A05	80C-A06	80C-A08	80C-A10	80C-A12	80C-A16	80C-A20	
351TC 351ST 422 424 426	431 436 451TC 451ST 471TC	471ST 472TC 482TC 482ST	43 Series	0.645 0.665	0.710 0.730	0.825 0.845	0.945 0.965	1.060 1.080	1.245 1.265	1.590 1.610	1.970 1.990	Silver
421WC 302/301 301LT	304 341 381	601 604 881	43 Series	0.685 0.705	0.750 0.770	0.865 0.885	0.985 1.005	1.100 1.120	1.285 1.305	1.630 1.650	2.010 2.030	Black
Die				80C-E04	80C-E05	80C-E06	80C-E08	80C-E10	80C-E12	80C-E16		
213	285	293	26 Series	0.460 0.480	0.520 0.540	0.575 0.595	0.670 0.690	0.805 0.825	0.915 0.935	1.175 1.195		Silver
201 206	221FR 225 244	266 CAH SS25UL	26 Series	0.500 0.520	0.560 0.580	0.615 0.635	0.710 0.730	0.845 0.865	0.955 0.975	1.215 1.235		Black
Die									80C-V12	80C-V16	80C-V20	
811	811HT	881	81 Series						1.155 1.175	1.450 1.470	1.740 1.760	Silver
Die				80C-H585		80C-H735	80C-H840	80C-H970	80C-H1120			
AX			HY Series	0.575 0.595		0.725 0.745	0.830 0.850	0.960 0.980	1.110 1.130			Silver
Die				80C-H605		80C-H775	80C-H885	80C-H1010	80C-H1170			
BXX			HY Series	0.635 0.655		0.805 0.825	0.915 0.935	1.040 1.060	1.200 1.220			Black

Parker Hannifin Corp.
Hose Products Divison
30240 Lakeland Blvd.
Wickliffe, Ohio 44092

Caution: Read the operations and technical manual before attempting to operate this machinery. Do not operate this machine without guard in place. Keep hands clear of moving parts when operating machine.

NOTE: Do not use these machines to assemble 341-20, 451TC-20, 451ST-20 or any size stainless steel fittings.

For a new decal, contact Parker at: 1-800-C-PARKER.

Karrykrimp 2

Features

- Portable, compact rugged design
- Numerous power unit options available
- Crimps both steel and stainless steel fittings
- For use with 25,26, 43, 70, 71, 73, 78, 81, and HY Series fittngs

Specifications

- Dimensions: 14” wide, 15” deep, 30” high
- Weight: 100 lbs (without power unit)
- Rating: 60 ton force @ 10,000 psi maximum
- Full Cycle Time: 20 seconds with electric pump
- Reference page C-20 for information on available power units

Standard Equipment

Part Number 85C-061	Description	Individiual Part Number
●	Karrykrimp 2 portable crimper (base unit)	85C-080
●	2 piece stand	85C-STD
●	Connection hose with quick coupling	85C-00L
●	Silver die ring	85C-R01
●	Black die ring	85C-R02

PHastkrimp

Features

- Fast bench mounted unit
- Push button power on demand design
- Crimps both steel and stainless steel fittings
- For use with 25, 26, 43, 70, 71, 73, 78, 81, and HY Series fittings

Specifications

- Dimensions: 24” wide, 33” deep, 38” high
- Weight: 550 lbs
- Rating: 60 ton force @ 4,200 psi maximum
- Full Cycle Time: 6 seconds
- Hydraulic Fluid: AW32 oil
- **Note:** The 230VAC, 3 phase, 60 Hz power unit can be rewired to 460VAC by a qualified electrician

Standard Equipment

Part Number 89C-061	Part Number 89C-062	Description	Individual Part Number
●		PHastkrimp crimper with 230VAC, 3 phase, 60 Hz power unit wired for 230 volts	
	●	PHastkrimp crimper with 230VAC, 1 phase, 60 Hz power unit wired for 230 volts	
●	●	Silver die ring	85C-R01
●	●	Black die ring	85C-R02

Optional Tooling

- Die Kit (85C-KDA) Includes 43 Series dies in sizes 1/4”, 3/8”, 1/2”, 3/4”, 1” and 1-1/4” and 70/71 Series dies in sizes 3/8”, 1/2”, 3/4”, 1”, 1-1/4” **ONLY**.

Note:
- For crimp instructions, see pages C-16 and C-17.
- Hose assemblies must be inspected for cleanliness and free of all foreign particles.
- Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

PHastkrimp/Karrykrimp 2 Hose Die Selection Chart

PN: PH1/KK2 HOSE DECAL Hose 7/08			Fittings	Hose/Die Selection and Crimp Diameters PN: PH/KK2 MASTER DECAL 8/07								
				– 4 RED	– 5 PUR	– 6 YEL	– 8 BLU	– 10 ORG	– 12 GRN	– 16 BLK	– 20 WHT	Die Ring
Die				80C-A04	80C-A05	80C-A06	80C-A08	80C-A10	80C-A12	80C-A16	80C-A20	
351TC 351ST 422 424 426	431 436 451TC 451ST 471TC	471ST 472TC 482TC 482ST	43 Series	0.645 0.665	0.710 0.730	0.825 0.845	0.945 0.965	1.060 1.080	1.245 1.265	1.590 1.610	1.970 1.990	Silver
421WC 302/301 301LT	304 341 381	601 604 881	43 Series	0.685 0.705	0.750 0.770	0.865 0.885	0.985 1.005	1.100 1.120	1.285 1.305	1.630 1.650	2.010 2.030	Black
Die						83C-D06	83C-D08	83C-D10				
701 F42 (-8 ONLY)			70 Series			0.990 1.010	1.140 1.160	1.260 1.280				Black
Die						83C-D06	83C-D08	83C-D10	83C-D12	83C-D16	83C-D20	
711 721 721TC	721ST 772TC	772ST 774	71 Series			0.950 0.970	1.100 1.120	1.220 1.240	1.355 1.375	1.695 1.715	2.025 2.045	Silver
Die									80C-L12	80C-L16		
731			73 Series						1.420 1.440	1.730 1.750		Silver
Die									80C-L12	80C-L16		
78C	781 782TC	782ST	78 Series						1.420 1.440	1.730 1.750		Silver
Die				80C-E04	80C-E05	80C-E06	80C-E08	80C-E10	80C-E12	80C-E16		
213	285	293	26 Series	0.460 0.480	0.520 0.540	0.575 0.595	0.670 0.690	0.805 0.825	0.915 0.935	1.175 1.195		Silver
201 206	221FR 225 244	266 CAH SS25UL	26 Series	0.500 0.520	0.560 0.580	0.615 0.635	0.710 0.730	0.845 0.865	0.955 0.975	1.215 1.235		Black
Die									80C-V12	80C-V16	80C-V20	
811	811HT	881	81 Series						1.155 1.175	1.450 1.470	1.740 1.760	Silver
Die				80C-H585		80C-H735	80C-H840	80C-H970	80C-H1120	80C-H1365		
AX			HY Series	0.575 0.595		0.725 0.745	0.830 0.850	0.960 0.980	1.110 1.130	1.355 1.375		Silver
Die				80C-H605		80C-H775	80C-H885	80C-H1010	80C-H1170	80C-H1465		
BXX			HY Series	0.635 0.655		0.805 0.825	0.915 0.935	1.040 1.060	1.200 1.220	1.495 1.515		Black

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Hose Products Divison
30240 Lakeland Blvd.
Wickliffe, Ohio 44092

Caution: Read the operations and technical manual before attempting to operate this machinery. Do not operate this machine without guard in place. Keep hands clear of moving parts when operating machine.

NOTE: 1. Stainless steel crimper diameters are 0.010" greater than table listings with the exception of stainless steel HY series fitting which are 0.005" greater than the table listings. 2. Do not use lubricant to assemble spiral hose and fittings.

For a new decal, contact Parker at: 1-800-C-PARKER.

Superkrimp

Features

- Easy to use table top design
- Engineered for optimal durability
- Crimps both steel and stainless steel fittings
- For use with 25, 26, 43, 70, 71, 73, 76, 78, 79, 81, and HY Series fittings

Specifications

- Dimensions: 20” wide, 31” deep, 41” high
- Weight: 600 lbs
- Rating: 70 ton force @ 5,000 psi maximum
- Full Cycle Time: 20 seconds without adapter bowl
  15 seconds with adapter bowl
- Hydraulic oil: Enerpac oil

Standard Equipment

Part Number		Description	Individual Part Number
88C-081	88C-082		
●		Superkrimp crimper with 230/460 volt, 3 phase, 50/60 Hz power unit wired for 230 volts	
	●	Superkrimp crimper with 230/460 volt, 1 phase, 50/60 Hz power unit wired for 230 volts	
●	●	Adapter bowl	83C-OCB
●	●	Spacer ring	83C-R02
●	●	Spacer Plate	83C-R02H

Optional Tooling

- Die Kit (88C-KDA)

  Includes 43 Series dies in sizes 1/4”, 3/8”, 1/2”, 3/4”, 1” and 1-1/4” and 70/71 Series dies in sizes 3/8”, 1/2”, 3/4”, 1”, 1-1/4” and 1-1/2” **ONLY**.

Note:
- For crimp instructions, see pages C-16 and C-17.
- Hose assemblies must be inspected for cleanliness and free of all foreign particles.
- Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Superkrimp Hose Die Selection Chart

PN: SK HOSE DECAL 7/08 Hose	Fittings	Die Selection and Crimp Diameters — PN: SK MASTER DECAL 8/07									
		– 4 RED	– 5 PUR	– 6 YEL	– 8 BLU	– 10 ORG	– 12 GRN	– 16 BLK	– 20 WHT	– 24 RED	– 32 GRN
Die		80C-A04	80C-A05	80C-A06	80C-A08	80C-A10	80C-A12	80C-A16	80C-A20	83C-A24	83C-A32
351TC 351ST 422 424 426	43 Series	0.645 0.665	0.710 0.730	0.825 0.845	0.945 0.965	1.060 1.080	1.245 1.265	1.590 1.610	1.970 1.990	2.290 2.310	2.735 2.755
431 436 451TC 451ST 471TC								83C-A16H	83C-A20H		
471ST 472TC 482TC 482ST											
Tools Required		Small Silver Die (80C-AXX) and Adapter Bowl (83C-OCB)								Large Silver Die (83C-AXX)	
421WC 302/301 301LT		0.685 0.705	0.750 0.770	0.865 0.885	0.985 1.005	1.100 1.120	1.285 1.305	1.630 1.650	2.010 2.030	2.330 2.350	2.775 2.795
304 341 381											
601 604 881											
Tools Required		Spacer Ring (83C-R02), Small Silver Die (80C-AXX), and Adapter Bowl (83C-OCB)								Spacer Plate (83C-R02H) and Large Silver Die (83C-AXX)	
Die				83C-D06	83C-D08	83C-D10					
701 F42 (-8 ONLY)	70 Series			0.990 1.010	1.140 1.160	1.260 1.280					
Tools Required		Spacer Ring (83C-R02), Small Black Die (83C-DXX), and Adapter Bowl (83C-OCB)									
Die				83C-D06	83C-D08	83C-D10	83C-D12	83C-D16	83C-D20	83C-D24	
711 721 721TC	71 Series			0.950 0.970	1.100 1.120	1.220 1.240	1.355 1.375	1.695 1.715	2.025 2.045	2.290 2.310	
721ST 772TC								83C-D16H	83C-D20H		
772ST 774											
Tools Required		Small Black Die (83C-DXX) and Adapter Bowl (83C-OCB)								Large Black Die (83C-AXX)	
Die							83C-L12	83C-L16			
731	73 Series						1.420 1.440	1.730 1.750			
Tools Required							Large Olive Drab (83C-LXX)				
Die							83C-U12	83C-U16			
761	76 Series						1.540 1.560	1.865 1.885			
Tools Required							Large Silver Die (83C-UXX)				
Die							83C-L12	83C-L16	83C-L20		
78C	78 Series						1.420 1.440	1.730 1.750	2.140 2.160		
781 782TC											
782ST											
Tools Required							Large Olive Drab (83C-LXX)				
Die							83C-L12	83C-L16			
791TC	79 Series						1.420 1.440	1.730 1.750			
792TC F42											
792ST											
Tools Required							Large Olive Drab Die (83C-LXX)				
Die		80C-E04	80C-E05	80C-E06	80C-E08	80C-E10	80C-E12	80C-E16	83C-E20	83C-E24	83C-E32
213	26 Series	0.460 0.480	0.520 0.540	0.575 0.595	0.670 0.690	0.805 0.825	0.915 0.935	1.175 1.195	1.420 1.440	1.670 1.690	2.160 2.180
285											
293											
Tools Required		Small Silver Die (80C-EXX) and Adapter Bowl (83C-OCB)							Large Silver Die (83C-EXX)		
201 206		0.500 0.520	0.560 0.580	0.615 0.635	0.710 0.730	0.845 0.865	0.955 0.975	1.215 1.235	1.460 1.480	1.710 1.730	2.200 2.220
221FR 225 244											
266 CAH SS25UL											
Tools Required		Spacer Ring (83C-R02), Small Silver Die (80C-EXX), and Adapter Bowl (83C-OCB)							Spacer Plate (83C-R02H) and Large Silver Die (83C-EXX)		
Die							80C-V12	80C-V16	80C-V20	83C-V24	83C-V32
811	81 Series						1.155 1.175	1.450 1.470	1.740 1.760	2.010 2.030	2.430 2.450
811HT											
881											
Tools Required		Small Silver Die (80C-VXX) and Adapter Bowl (83C-OCB)								Large Silver Die (83C-VXX)	
Die		80C-H585		80C-H735	80C-H840	80C-H970	80C-H1120	80C-H1365			
AX	HY Series	0.575 0.595		0.725 0.745	0.830 0.850	0.960 0.980	1.110 1.130	1.355 1.375			
Tools Required		Small Silver Die (80C-HXXX or 80C-HXXXX) and Adapter Bowl (83C-OCB)									
Die		80C-H605		80C-H775	80C-H885	80C-H1010	80C-H1170	80C-H1465			
BXX		0.635 0.655		0.805 0.825	0.915 0.935	1.040 1.060	1.200 1.220	1.495 1.515			
Tools Required		Spacer Ring (83C-R02), Small Silver Die (80C-HXXX or 80C-HXXXX), and Adapter Bowl (83C-OCB)									

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Hose Products Divison
30240 Lakeland Blvd.
Wickliffe, Ohio 44092

Caution: Read the operations and technical manual before attempting to operate this machinery. Do not operate this machine without guard in place. Keep hands clear of moving parts when operating machine.

NOTE: 1. The 83C-R12 split die ring is used for all crimping operations. 2. Stainless steel crimper diameters are 0.010" greater than table listings with the exception of stainless steel HY series fitting which are 0.005" greater than the table listings. 3. Do not use lubricant to assemble spiral hose and fittings.

For a new decal, contact Parker at: 1-800-C-PARKER.

Parkrimp 2

Features

- Easy to use vertical design
- Crimps full range of Parker hoses from 1/4” through 2” I.D.
- Crimps both steel and stainless steel fittings
- For use with 25, 26, 43, 70, 71, 73, 76, 78, 79, 81, S6 and HY Series fittings

Specifications

- Dimensions: 31” wide, 24” deep, 77” high
- Weight: 842 lbs (Head is 558 lbs and base is 284 lbs)
- Rating: 125 ton force @ 5,000 psi maximum
- Full Cycle Time: 30 seconds without adapter bowl
  20 seconds with adapter bowl
- Hydraulic oil: Enerpac oil

Standard Equipment

Part Number				Description	Individual Part Number
83C-001	83C-081	83C-002	83C-082		
●	●	●	●	Parkrimp 2 crimper head assembly	83C-080
●	●			Parkrimp 2 stand assembly with 230/460 volt, 3 phase, 50/60 Hz power unit (wired for 230 volt)	83C-S40
		●	●	Parkrimp 2 stand assemlby with 230 volt, 1 phase, 50/60 Hz power unit	83C-S20
●	●	●	●	Adapter bowl	83C-OCB
●	●	●	●	Spacer ring	83C-R02
●	●	●	●	Spacer Plate	83C-R02H
●		●		Die Kit Includes 43 Series dies in sizes 1/4”, 3/8”, 1/2”, 3/4”, 1”, 1-1/4” dies and 70/71 Series dies in sizes 3/8”, 1/2”, 3/4”, 1”, 1-1/4”, 1-1/2”, 2” **ONLY**	83C-KDA

Note:
- For crimp instructions, see pages C-16 and C-17.
- Hose assemblies must be inspected for cleanliness and free of all foreign particles.
- Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

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Parkrimp 2 Hose Die Selection Chart

PN: PK2 HOSE DECAL 7/08 Hose	Fittings	Die Selection and Crimp Diameters					PN: PK2 MASTER DECAL 5/08				
		– 4 RED	– 5 PUR	– 6 YEL	– 8 BLU	– 10 ORG	– 12 GRN	– 16 BLK	– 20 WHT	– 24 RED	– 32 GRN
Die		80C-A04	80C-A05	80C-A06	80C-A08	80C-A10	80C-A12	80C-A16	80C-A20	83C-A24	83C-A32
351TC 351ST 422 424 426 / 431 436 451TC 451ST 471TC / 471ST 472TC 482TC 482ST	43 Series	0.645 0.665	0.710 0.730	0.825 0.845	0.945 0.965	1.060 1.080	1.245 1.265	1.590 1.610	1.970 1.990	2.290 2.310	2.735 2.755
								83C-A16H	83C-A20H		
Tools Required			Small Silver Die (80C-AXX) and Adapter Bowl (83C-OCB)							Large Silver Die (83C-AXX)	
421WC 302/301 301LT / 304 341 381 / 601 604 881		0.685 0.705	0.750 0.770	0.865 0.885	0.985 1.005	1.100 1.120	1.285 1.305	1.630 1.650	2.010 2.030	2.330 2.350	2.775 2.795
Tools Required			Spacer Ring (83C-R02), Small Silver Die (80C-AXX), and Adapter Bowl (83C-OCB)							Spacer Plate (83C-R02H) and Large Silver Die (83C-AXX)	
Die				83C-D06	83C-D08	83C-D10					
701 F42 (-8 ONLY)	70 Series			0.990 1.010	1.140 1.160	1.260 1.280					
Tools Required			Spacer Ring (83C-R02), Small Black Die (83C-DXX), and Adapter Bowl (83C-OCB)								
Die				83C-D06	83C-D08	83C-D10	83C-D12	83C-D16	83C-D20	83C-D24	83C-D32
711 721 721TC / 721ST 772TC / 772ST 774	71 Series			0.950 0.970	1.100 1.120	1.220 1.240	1.355 1.375	1.695 1.715	2.025 2.045	2.290 2.310	2.775 2.795
								83C-D16H	83C-D20H		
Tools Required			Small Black Die (83C-DXX) and Adapter Bowl (83C-OCB)							Large Black Die (83C-AXX)	
Die							83C-L12	83C-L16	83C-L20	83C-L24	83C-L32
731	73 Series						1.420 1.440	1.730 1.750	2.140 2.160	2.440 2.460	3.025 3.045
Tools Required								Large Olive Drab (83C-LXX)			
Die							83C-U12	83C-U16			
761	76 Series						1.540 1.560	1.865 1.885			
Tools Required							Large Silver (83C-UXX)				
Die							83C-L12	83C-L16	83C-L20	83C-L24	83C-L32
P35/78C / 781 782TC / 782ST	78/S6 Series	*S6 Series Fittings to be used on P35-32 Only					1.420 1.440	1.730 1.750	2.140 2.160	2.440 2.460	3.025 3.045
Tools Required								Large Olive Drab (83C-LXX)			
Die							83C-L12	83C-L16	83C-L20	83C-L24	
791TC / 792TC F42 / 792ST	79 Series						1.420 1.440	1.730 1.750	2.140 2.160	2.440 2.460	
Tools Required							Large Olive Drab (83C-LXX)				
Die		80C-E04	80C-E05	80C-E06	80C-E08	80C-E10	80C-E12	80C-E16	83C-E20	83C-E24	83C-E32
213 / 285 / 293	26 Series	0.460 0.480	0.520 0.540	0.575 0.595	0.670 0.690	0.805 0.825	0.915 0.935	1.175 1.195	1.420 1.440	1.670 1.690	2.160 2.180
Tools Required			Small Silver Die (80C-EXX) and Adapter Bowl (83C-OCB)							Large Silver Die (83C-EXX)	
201 206 / 221FR 225 244 / 266 CAH SS25UL		0.500 0.520	0.560 0.580	0.615 0.635	0.710 0.730	0.845 0.865	0.955 0.975	1.215 1.235	1.460 1.480	1.710 1.730	2.200 2.220
Tools Required			Spacer Ring (83C-R02), Small Silver Die (80C-EXX), and Adapter Bowl (83C-OCB)							Spacer Plate (83C-R02H) and Large Silver Die (83C-EXX)	
Die							80C-V12	80C-V16	80C-V20	83C-V24	83C-V32
811 / 811HT / 881	81 Series						1.155 1.175	1.450 1.470	1.740 1.760	2.010 2.030	2.430 2.450
Tools Required							Small Silver Die (80C-VXX) and Adapter Bowl (83C-OCB)			Large Silver Die (83C-VXX)	
Die		80C-H585		80C-H735	80C-H840	80C-H970	80C-H1120	80C-H1365			
AX	HY Series	0.575 0.595		0.725 0.745	0.830 0.850	0.960 0.980	1.110 1.130	1.355 1.375			
Tools Required		Small Silver Die (80C-HXXX or 80C-HXXXX) and Adapter Bowl (83C-OCB)									
Die		80C-H605		80C-H775	80C-H885	80C-H1010	80C-H1170	80C-H1465			
BXX		0.635 0.655		0.805 0.825	0.915 0.935	1.040 1.060	1.200 1.220	1.495 1.515			
Tools Required		Spacer Ring (83C-R02), Small Silver Die (80C-HXXX or 80C-HXXXX), and Adapter Bowl (83C-OCB)									

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Caution: Read the operations and technical manual before attempting to operate this machinery. Do not operate this machine without guard in place. Keep hands clear of moving parts when operating machine.

NOTE: 1. The 83C-R12 split die ring is used for all crimping operations. 2. Stainless steel crimper diameters are 0.010" greater than table listings with the exception of stainless steel HY series fitting which are 0.005" greater than the table listings. 3. Do not use lubricant to assemble spiral hose and fittings.

For a new decal, contact Parker at: 1-800-C-PARKER.

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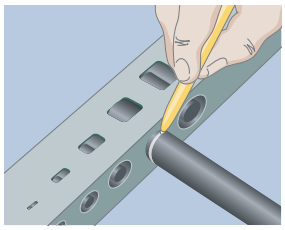
Crimping using Minikrimp, Karrykrimp, Parkrimp 1, Karrykrimp 2 and PHastkrimp

Parkrimp Fittings Series 25, 26, 43, 70, 71, 73, 76, 78, S6, 81, HY

1 Mark insertion depth and push on fitting



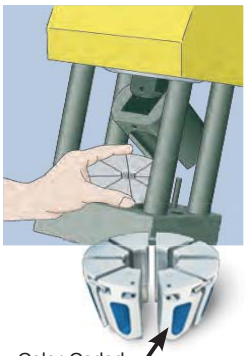
Mark the hose insertion depth and push hose into fitting until the mark on the hose is even with the end of the shell. Lubricate hose if necessary, however, **DO NOT lubricate if using spiral hose.** See Hose Insertion Depth table below.

For 81 Series Shells with 88 Series Fittings

Place shell onto end of hose and make sure the end of the shell lines up with the Insertion Depth mark.

Push hose onto the 88 Series fitting until the shell bottoms against the fitting's stop ring or hex. Lubricate hose if necessary.

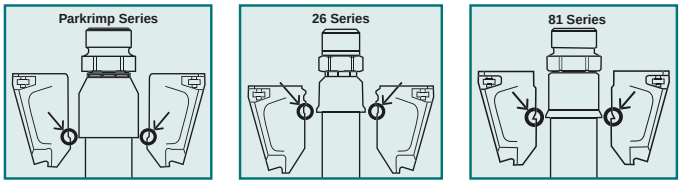
2 Insert unitized die train



Pull pin at the top of pusher to swing it back. Place unitized die-train into base plate. See decal on crimper for proper die set.
Note: Parkrimp 1 does not have a pin at the top of the pusher.

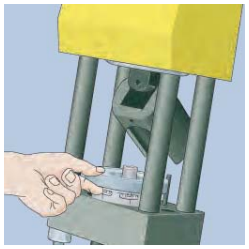
Important:
Lubricate the crimper's die bowl using a premium quality lithium-base grease.

3 Position the fitting

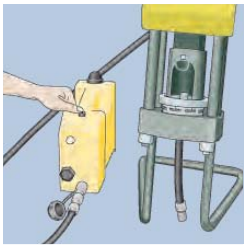


Position the hose and fitting in dies from below.
Rest bottom of coupling on die step using the PARKALIGN® feature.

4 Place die ring and crimp



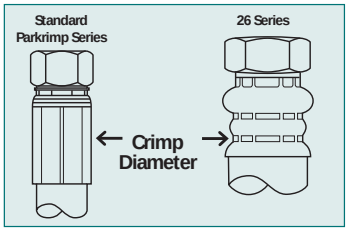
Place correct die ring on top of the dies. See decal on crimper for proper die ring.



Position pusher by replacing the pin and operate pump until the die ring bottoms out. Release pressure within the pump — remove finished assembly.

Note: Minikrimp, Karrykrimp & Karrykrimp 2 have several types of power sources, all of which are separate units from the crimping machine.

5 Measure crimp diameter



Measure crimp diameter on the flat surfaces of the crimped shell, referenced in the illustration to the left. Reference decal on crimper for crimp diameters. Never use hose assemblies with incorrect crimp diameters.

Important: Hose assemblies must be inspected for cleanliness and free of all foreign particles.

Hose insertion depths

Fitting Size	Fitting Series																			
	26		43		70		71		73		78		S6		79		81		HY	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
-4	13/16	21	13/16	21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1-7/16	37
-5	13/16	21	15/16	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-6	13/16	21	1-1/8	29	1-1/16	27	1-1/16	27	—	—	—	—	—	—	—	—	—	—	1-1/2	40
-8	13/16	21	1-5/16	33	1-5/16	33	1-1/4	32	—	—	—	—	—	—	—	—	—	—	1-9/16	40
-10	7/8	22	1-9/16	40	1-3/8	35	1-5/16	33	—	—	1-7/8	47	—	—	—	—	—	—	1-9/16	40
-12	7/8	22	1-1/2	38	1-1/2	38	1-7/16	37	1-7/8	48	1-7/8	48	—	—	2-3/16	56	1-1/8	29	1-5/8	40
-16	1	25	1-3/4	44	1-13/16	46	1-3/4	44	2	51	2	51	—	—	2-5/16	59	1-1/4	32	1-3/4	43
-20	1	25	1-7/8	48	1-3/4	44	1-13/16	46	2-1/2	64	2-1/2	64	—	—	2-13/16	71	1-5/16	33	—	—
-24	1-1/16	27	1-7/16	37	—	—	2-5/16	59	2-7/16	62	2-7/16	62	—	—	—	—	1-5/16	33	—	—
-32	1-1/4	32	1-13/16	46	—	—	2-7/16	62	2-13/16	71	—	—	3-1/2	88	—	—	1-11/16	43	—	—

For specific information on crimping, visit Crimpsource™ online at www.parker.com/crimpsource.

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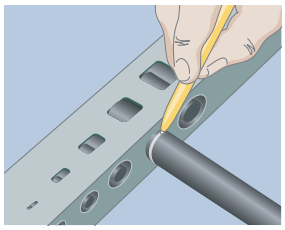
Crimping using Superkrimp and Parkrimp 2

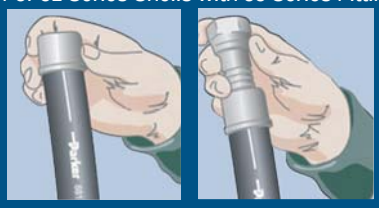
Parkrimp Fittings Series 25, 26, 43, 70, 71, 73, 76, 78, S6, 81, HY

1 Mark insertion depth and push on fitting



Mark the hose insertion depth and push hose into fitting until the mark on the hose is even with the end of the shell. Lubricate hose if necessary, however, **DO NOT lubricate if using spiral hose.** See Hose Insertion Depth table on previous page.

For 81 Series Shells with 88 Series Fittings

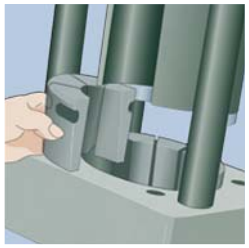


Place 81 Series Shell onto end of hose and make sure the end of the shell lines up with the Insertion Depth mark.

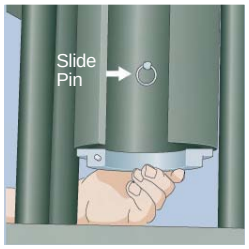
Push hose onto the 88 Series fitting until the shell bottoms against the fitting's stop ring or hex. Lubricate hose if necessary.

2a If using large two-piece dies

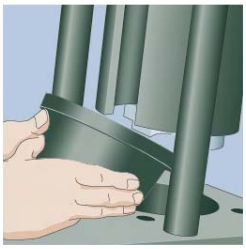
Insert the proper die set into the die bowl. (The die sets are in two halves of four dies each. Place one half in the back and one half in the front to accommodate bent tube fittings.) Reference decal on crimper for proper tool selection.



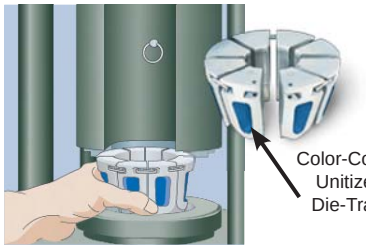
2b If using small unitized dies



With the pusher in the full up position, lift the back half of the split die ring. Lock it in the up position by pushing the slide pin in. (The slide pin is located inside the pusher at the back.)



Lubricate die bowl using a premium quality lithium-base grease. Carefully insert the adapter bowl, 83C-OCB, into the base bowl. The adapter bowl must be tilted toward the back of the crimper during insertion.



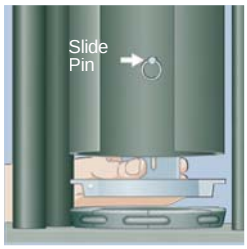
Lubricate die bowl using a premium quality lithium-base grease. Place unitized die-train into the adapter bowl. Select die and die ring by hose size and type. See decal on crimper for proper die set.

Note: Die sets have color-coded cavities indicating size and have the fitting series and dash size stamped on the top.

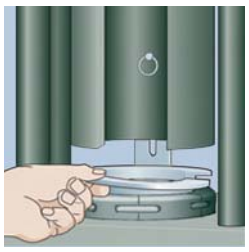
3 Place spacer ring

If required, place spacer ring on locating step of adapter bowl. Reference decal on crimper for tool selection.

4 Position the split die ring

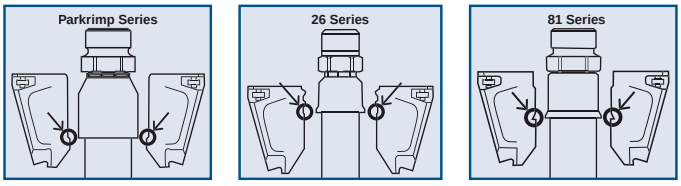


Lower the back half of the split die ring onto the dies by pulling the slide pin forward.



Insert the front half of the split die ring aligning the pins in the back half with the hole in the front half.

5 Position the fitting



Position the hose and fitting in dies from below.

Rest bottom of coupling on die step using the PARKALIGN® feature.

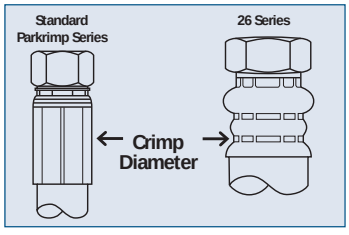
6 Crimp hose

Turn on the pump by pressing the "ON" switch. Pull the valve handle forward to bring the pusher down for crimping. When the split die ring contacts the base plate, the crimp is complete. Push the valve handle back to lift the pusher, open the dies, and release the finished assembly.

Note: You do not have to remove any tooling to insert or remove straight fittings. The front half of the split die ring and the front die train must be removed to insert and remove bent tube fittings.

7 Measure crimp diameter

Measure crimp diameter on the flat surfaces of the crimped shell, referenced in the illustration to the right. Reference decal on crimper for crimp diameters. Never use hose assemblies with incorrect crimp diameters.



Important: Hose assemblies must be inspected for cleanliness and free of all foreign particles.

Hose Products Division
Parker Hannifin Corporation
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Assembling Twin Tough Rubber Hose

Required Equipment:

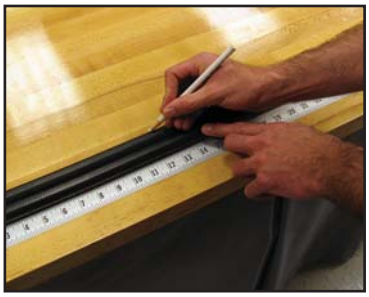
Twin Tough hose, fittings, knife, tape measure, heat shrink sleeve, scissors, grease pencil, heat gun, and calipers.

Set-up:

Position the bonded rubber hose so that it lies flat on a work surface without tendency to twist or turn.

Measure hose tear back length:

Measure and mark the length that the hoses are to be separated. A minimum of 12 inches is required for crimping the hose ends. A 24 inch tear back is recommended for use with hydraulic tools.



Note: If length of separation/tear back is specified from the threaded or swivel nut end of the coupling, then deduct the cut off allowance dimension for the specific style of coupling used. The cutoff allowance can be obtained from the hose fitting tables in the 4400 Catalog "B" dimension, or can be calculated by subtracting the insertion depth of the shell from the overall coupling length.

Cut hose tear back to length:

Press the bonded hose assembly firmly and flat against the work surface with your free hand so that it does not move.

A.) Using a sharp blade, pierce the center of the valley (web) formed by the hoses.

B.) To start the cut, place the blade in the center of that valley (web) drawing the knife with constant pressure.

C.) Once you have a 1 to 2 inch starter cut, firmly pull each hose end apart to your required separation length.

Note: It is important that the knife blade be perpendicular to the hose during this procedure so the blade cuts only the centerline of the valley (web). EXTREME CARE MUST BE TAKEN TO AVOID CUTTING THROUGH THE COVER OF THE HOSES AND THEREBY EXPOSING THE HOSE REINFORCEMENT. If this occurs, the hose assembly must be discarded.

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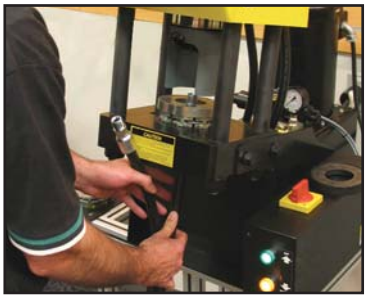
Measure Separation: It is suggested that the separation length be at least 12 inches, so the crimping operation can be accomplished without risk of kinking the hoses.

Stopping Separation: Parker recommends installing a heat shrink sleeve of at least 2 inches in length with the appropriate I.D. (Table 1) at the termination of the separated hose to provide protection against tearing of the valley (web) or hose covers. This heat shrink sleeve should be placed on the hose assembly prior to the crimping of the hose fittings. Once you have your heat shrink sleeve in place, use a heat gun to shrink the sleeve in place.

Note: EXTREME CARE MUST BE TAKEN TO AVOID EXPOSING THE HOSE ASSEMBLY TO THE DIRECT HIGH TEMPERATURES OF THE HEAT GUN WHILE INSTALLING THE HEAT SHRINK SLEEVE. LONG EXPOSURE FROM A HEAT GUN MAY ADVERSLEY AFFECT THE HOSE INNERTUBE OR ITS COVER.

Crimping Fittings: All of your crimping information can be found on Crimpsource (www.parker.com/crimpsource).



First, place your fittings onto each hose end making sure that both have been installed to the correct hose insertion depth. Choose the correct die and die ring. Place half of your hose assembly through the bottom of your Parkrimp crimper. Rest the bottom of the fitting on the die step using the Parkalign system. While lightly holding the hose assembly, operate your crimper pump so that the pusher on the crimper comes down in contact with the die ring until it bottoms out on the crimper base. Then release the pressure within the pump and remove the first half of your finished assembly. Always measure your hose assemblies for the correct crimp diameter. Now, repeat the crimping process on the other fitting.

Note: EXTREME CARE MUST BE TAKEN TO AVOID KINKING THE HOSE THAT IS NOT BEING CRIMPED DURING THIS PROCESS.

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Hand Pump
Part No. 82C-0HP

(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Ease of operation hand pump delivers 10,000 psi

Length:	23”
Width:	4”
Height:	5”
Port Size:	3/8” NPTF
Weight:	9 lbs
Hydraulic Fluid:	Enerpac oil

Hand Pump
Part No. 85C-0HP

(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Ease of operation hand pump delivers 10,000 psi

Length:	29”
Width:	13”
Height:	11”
Port Size:	3/8” NPTF
Weight:	61 lbs
Hydraulic Fluid:	Enerpac oil

Electric Pump
Part No. 82C-0EP

(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Ease of operation hand pump delivers 10,000 psi

Length:	13”
Width:	13”
Height:	15”
Port Size:	3/8” NPTF
Weight:	31 lbs
Hydraulic Fluid:	Enerpac oil

115 volt, 1 phase, 50/60 Hz, 9 amp

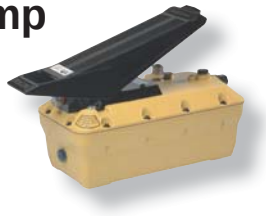
Electric Pump
Part No. 85C-0EP

(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Heavy duty electric pump delivers 10,000 psi at a faster cycle time

Length:	19”
Width:	11”
Height:	17”
Port Size:	3/8” NPTF
Weight:	59 lbs
Hydraulic Fluid:	Enerpac oil

115 volt, 1 phase, 50/60 Hz, 20 amp

Air/Hydraulic Pump
Part No. 82C-0AP



(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Lightweight pump operates with 80-150 psi shop air pressure and delivers 10,000 psi

Length:	15”
Width:	6”
Height:	6”
Intake Port Size:	1/4” NPTF
Output Port Size:	3/8” NPTF
Weight:	14 lbs
Hydraulic Fluid:	Enerpac oil

Vehicle Battery-Powered Pump
Part No. 85C-12V

(for use with the Minikrimp, Karrykrimp and Karrykrimp 2)
Ideal unit for Parker Mobile Hose Preplacement Service, Delivering 10,000 psi.

Length:	12”
Width:	8”
Height:	19.5”
Weight:	67 lbs
Hydraulic Fluid:	ISO-46

Enerpac Warranty Statement
Enerpac products are warrented to be free of defects in materials and workmanship. Any product that does not conform to specification will be repaired or replaced at Enerpac’s expense, anywhere in the world; simple as that! This warranty does not cover ordinary wear and tear, abuse, misuse, alterations, or the use of improper fluids. Determination of the authenticity of a warranty claim will be made only by Enerpac or its Authorized Service Centers.

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Hydraulic Press Kit

Part No. 8PC-001

For use with 26, 43, 81 and HY Series Fitting ONLY

Specifications

- Required Height from Press Base to Press Ram: 10 inches
- Required Width of Bowl Diameter: 5 inches
- Bowl Rating: 30 tons force maximum
- Minimum Required Press Capacity: Hose Size 1/4” to 1/2” needs a 20 ton press
  Hose size 5/8” to 1-1/4” needs a 30 ton press

Standard Equipment

Part Number 8PC-001	Description	Individual Part Number
●	Bowl Assembly	8PC-030
●	Pusher	8PC-00P
●	Silver Die Ring	81C-R01
●	Black Die Ring	81C-R02
●	43 Series dies in 1/4”, 3/8”, 1/2”, 3/4” and 1”	80C-Axx

Weatherhead Conversion Kit

Part No. 8WC-001

For use with 26, 43, 81 and HY Series Fitting **ONLY**

Convert ***Weatherhead T-400 crimper*** to utilize Parker Parkrimp No-Skive fittings.

Standard Equipment

Part Number 8WC-001	Description	Individual Part Number
●	Bowl Assembly	8PC-030
●	Pusher	8WC-00P
●	Silver Die Ring	81C-R01
●	Black Die Ring	81C-R02
●	43 Series Dies in 1/4”, 3/8”, 1/2” and 3/4”	80C-Axx

Gates Conversion Kit

Part No. 8GC-002

For use with 26, 43, 81 and HY Series Fitting **ONLY**

Convert ***Gates 701, 703 and 707 bottom loading crimpers*** to utilize Parker Parkrimp No-Skive fittings.

Standard Equipment

Part Number 8GC-002	Description	Individual Part Number
●	Bowl Assembly	8PC-030
●	Silver Die Ring	81C-R01
●	Black Die Ring	81C-R02
●	43 Series Dies in 1/4”, 3/8”, 1/2”, 3/4” and 1”	80C-Axx

Notes:
- **For additional information and operating instructions, visit the Parker Hose Products Division website at www.parkerhose.com.**
- **For crimping instructions, see pages C-16 and C-17.**
- **Hose assemblies must be inspected for cleanliness and free of all foreign particles.**

Hose Products Division
Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Hose Cut-Off Machine

Part No. 332T-115V

Features

- For quick, easy cutting of spiral reinforced hose up to 1-1/4" I.D.
- Moving parts shielded by guards

Specifications

- Dimensions: 13" wide x 26" long x 22" high
- Shipping Weight: 71 lbs.

Standard Equipment

Part Number 332T-115V	Description	Individual Part Number
●	Hose Cut-Off Machine with 1-1/2 HP, 3450 RPM, 115/230V single phase electic motor wired for 115V	
●	Scallop Cutting Blade (8" with 5/8" arbor size)	24398

Optional Equipment

- Smooth Cutting Blade (580661)

Hose Cut-Off Machine

Part No. 239 and 339

Features

- Designed for heavy duty use
- Cuts multi-braided wire reinforced hose including 6 spiral construction up to 2" I.D.

Specifications

- Dimensions: 22" wide x 42" long x 24" high
- Shipping Weight: 115 lbs.

Standard Equipment

Part Number 239	Part Number 339	Description	Individual Part Number
●		Hose Cut-Off Machine with 230V single phase motor	
	●	Hose Cut-Off Machine with 3 HP motor 230V, 3 phase, 60 cycle	
●	●	Scallop Cutting Blade (10" with 3/4" arbor size)	24248

Optional Equipment

- Smooth Cutting Blade (15960)

Hose Cut-Off Machine - Karrykut

Part No. 631075

Features

- Portable saw for cutting on the job
- Unique clamp system spreads hose as it cuts to prevent blade binding
- Cuts multi-braided wire reinforced hose including 4 spiral construction up to 1-1/4" I.D.

Specifications

- Dimensions: 16" wide x 12" long x 19" high
- Shipping Weight: 58 lbs.

Standard Equipment

Part Number 631075	Description	Individual Part Number
●	Power saw with 115volt (13 amp) universal AC motor	631140
●	Universal clamp attachment (can be used with any portable power saw unit having a 5/8" arbor, 8" blade capacity	631076
●	Cutting blade (8" with 5/8" arbor size)	580661

Hose Cut-Off Machine

Part No. TH3-50

Features

- Standard 14" scalloped blade
- Front plate with useable pins easily holds in place for a straight cut
- Clear face shield

Specifications

- 4.2 HP/115 volts 20 amp 1PH 50/60 cycle motor (a 20 amp dedicated circuit is recommended)
- Dimensions - 22-1/2" wide x 18-1/4" long x 23-1/2" high
- Shipping weight - 65 lbs.
- Blade size - 14" x 0.125" x 1"

Saw Part Number: TH3-50

- Optional Equipment:
- Scalloped Cutting Blade (TH3-50-1)
- Smooth Bevel Cutting Blade (TH3-50-2)

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Push-Lok Cut-Off & Assembly Tool

Part No. 881540

Features

- Combined hose cutter and toggle action press that cuts and assembles Parker Push-Lok in sizes 1/4” through 3/4” I.D.

Specifications

- Dimensions: 16” long
- Shipping Weight: 4 lbs.

Hose Cut-Off Tool

Part No. 316

Features

- Small in size and easy to use
- Quick cutting of textile reinforced hose
- Ruggedly built for years of trouble-free service

Specifications

- Dimensions: 15” long
- Shipping Weight: 6 lbs.

Hose Cut-Off Tool

Part No. TH11-1

Features

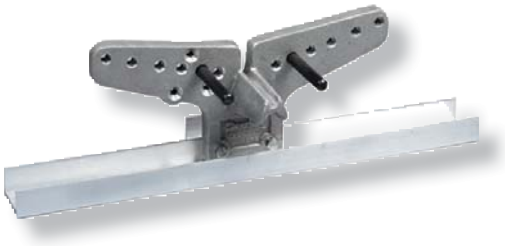
- Designed for quick, easy cutting of textile reinforced hose.
- Squarely cuts Push-Lok hose in sizes 1/4” through 3/4” I.D.

Specifications

- Dimensions: 8” long
- Shipping Weight: 0.3 lbs.

Hose Cut-Off Tool - Handykut

Part No. 871522



Features

- Portable tool for efficient cutting of hose
- Can be positioned onto a flat surface by clamps or by locking it in a vise, properly align the hose in a radius and cut it with a hacksaw

Specifications

- Dimensions: 6” wide x 18” long x 6” high
- Shipping Weight: 10 lbs.

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Hose Insertion Depth Blocks

Part No. TH9-1-XXX

Features

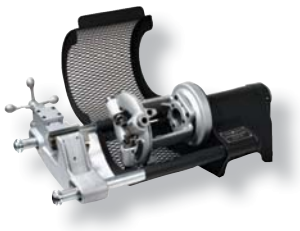
- For quick easy marking of hose insertion depth
- Ensures accuracy and increased productivity

Available Blocks

Part Number	Description
TH9-1-26A	26 Series -4 through -10
TH9-1-26B	26 Series -12 through -32
TH9-1-43A	43 Series -4 through -10
TH9-1-43B	43 Series -12 through -32
TH9-1-70	70 Series -6 through -20
TH9-1-71	71 Series -6 through -32
TH9-1-73	73 Series -12 through -32
TH9-1-78	78 Series -12 through -32
TH9-1-HY	HY Series -4 through -16

Hozembler

Part No. 432-115V



Features

- Power machine to facilitate the attachment of field attachable fittings
- Handles all hose and fittings up to 4 spiral wire, in sizes 3/16” through 2” I.D., including bent tube elbows
- Comes with vise, all adapters, foot switch and safety guard with 115V, 30 amp, universal AC motor

Specifications

- Shipping Weight: 141 lbs.

Optional Parts

- Mounting stand (662451)

Fitting Push-On Stand

Part No. TH2-7

Features

- Quickly and easily pushes fittings onto hose
- Boosts porductivity and quality
- Eliminates the need of rubber mallets and oils to get fittings onto the end of the hose for crimping
- Standard with straight tooling required for sizes 1/4” through 2” for all crimped fittings, 82 Series Push-Lok and 88 Series field attachable fittings

Specifications

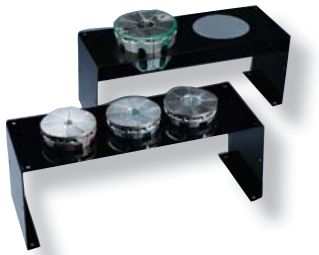
- Shipping Weight: 200 lbs.

Optional Tooling

- Elbow Pusher Set (TH2-7-ELS)

Die Storage Racks

Part No. 80C-0DR and 83C-0DR



Features

- Modular die rack designed to hold small and large Parkrimp dies
- Can be bolted together to a work bench horizontally or vertically

Standard Equipment

Part Number		Description
80C-0DR	83C-0DR	
●		Storage of three sets of small dies
	●	Storage of two sets of large dies

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Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Swivel Die Rack

Part No. 80C-SDR-XXXX

Features

- Holds up to 30 Parkrimp dies of any size
- Powder-coated, heavy-duty steel construction
- Consists of a base unit and up to five circular holders
- Floor or bench mounted

Standard Equipment

Part Number	Description
80C-SDR-SM	Swivel Die Rack and Small Die Holder
80C-SDR-LG	Swivel Die Rack and Large Die Holder
80C-SDR-BASE	Swivel Die Rack Base

Hose Perforator

Part No. 601069

Features

- Small hand tool to prick minute holes in the rubber cover
- To be used in gaseous applications where the pressure exceeds 250 psi
- Driven into the cover every few inches of length either striking the hose or by a rolling action over the hose cover
- Not generally necessary to perforate the hose on all sides

Specifications

- Shipping Weight: 2 lbs.

Hose Oil

Part No. Hose Oil

Features

- Reduces torque and eliminates waste lubrication
- Use hose oil with the recommended hose assembly instructions

Accrolube

Part No. Accrolube

Features

- High efficiency lubricant used for stainless steel field attachable fittings
- Contains Teflon to reduce the wear between metal surfaces, protects against corrosion and ultimately eliminates galling

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Parker Hannifin Corporation
Wickliffe, Ohio
www.parkerhose.com

Mandrel Tool Kit - 22 Series

Part No. 652200

Features

- For assembly of Parker 22 Series field attachable fittings
- One of each part listed below is included in the kit

Standard Equipment

Hose I.D.	Dash Size	SAE (JIC) 37°	SAE 45°
3/16	-4	●	●
1/4	-5	●	●
5/16	-6	●	●
13/32	-8	●	●
1/2	-10	●	●
5/8	-12	●	●

Assembly Tools - 22 Series

Part No. 652201

Features

- For assembly of Parker 22 Series field attachable fittings
- One of each part listed below is included in the kit

Standard Equipment

Hose I.D.	Dash Size	SAE (JIC) 37°	SAE 45°
7/8	-16	●	●
1-1/8	-20	●	●
1-3/8	-24	●	●
1-13/16	-32	●	

Mandrel Tool Kit - 23 Series

Part No. 2727 and 2726

Features

- For assembly of Parker 23 Series field attachable fittings
- Part No. 2727 is for JIC 37° flared fittings
- Part No. 2726 is for SAE 45° and PTT 30° flared fittings

Standard Equipment

Hose I.D.	Dash Size	2727	2726
3/16	-4	●	●
1/4	-5	●	●
5/16	-6	●	●
13/32	-8	●	●
1/2	-10	●	●
5/8	-12	●	●
7/8	-16	●	●

Mandrels - 25 Series

(For 271 Transportation Hose)
Part No. TH2-7M25-6 and TH2-7M25-8

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Equipment

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Hand Tube Benders – Inch

These are sturdy, easy-to-use hand tools for fast and accurate bending without kinks or visible flattening. Twelve individual sizes from -2 (1/8" O.D.) to -16 (1" O.D.) are available.

Medium Duty Inch Hand Tube Benders

Designed and built for fast, accurate bends and long service life.

These are individual benders for eight inch tube sizes (1/8", 3/16", 1/4", 5/16", 3/8", 1/2" 5/8", 3/4"). All of these benders will bend copper, aluminum, annealed steel and stainless steel. These can be used in hands or mounted in a bench vise.

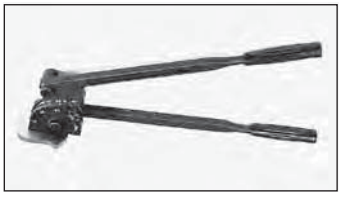

Fig. R1 — Medium Duty Inch Hand Tube Bender

HOW TO USE: Simply align marks of the pressure arm and radius block, then bend to the desired angle (up to 180°) by pulling steadily on the slide block handle. Bend angles are indicated on the radius block, both front and back. (Detailed instructions are included with each bender.) See the table below for technical data and part numbers.

Size	Tube O.D. (in.)	Radius to Tube Centerline (in.)	Min. Wall Without Flattening (in.)	Recommended Max. Wall Thickness Copper, Aluminum (in.)	Steel, Stainless Steel (in.)	Part No.
2	1/8	7/16	0.012	Any	0.032.....	**2-2829S**
3	3/16	9/16	0.020	Any	0.032.....	**3-2829S**
4	1/4	9/16	0.028	Any	0.083.....	**4-2829S**
5	5/16	15/16	0.032	Any	0.083.....	**5-2829S**
6	3/8	15/16	0.032	Any	0.083.....	**6-2829S**
8	1/2	1 1/2	0.042	Any	0.083.....	**8-2829S**
10	5/8	3	0.042	Any	0.065.....	**10-2829S**
12	3/4	3 3/4	0.049	Any	0.065.....	**12-2829S**

Ratchet Hand Tube Benders

These are individual benders for three tube sizes, 5/8", 3/4" and 7/8", in copper, aluminum, annealed steel and stainless steel. They can be used in hands or mounted in a bench vise.

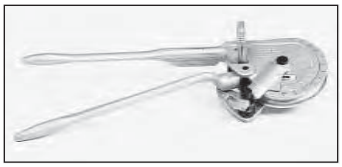

Fig. R2 — Ratchet Hand Tube Bender

HOW TO USE: Position the tube in the bender, close the latch and pull the ratchet handle away from radius block handle until the desired angle (up to 180°) is formed. Bend angles are indicated on the radius block. (Detailed instructions are included with each bender.) See the table below for technical data and part numbers.

Size	Tube O.D. (in.)	Radius to Tube Centerline (in.)	Min. Wall Without Flattening (in.)	Recommended Max. Wall Thickness Copper, Aluminum (in.)	Steel, Stainless Steel (in.)	Part No.
10	5/8	3	0.042	Any	0.049.....	**10-2829**
12	3/4	3 3/4	0.049	Any	0.065.....	**12-2829**
14	7/8	3 3/4	0.049	Any	0.065.....	**14-2829**

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

1" Hand Tube Bender
Part No. 16-2829

For 1" O.D. tube in soft copper and aluminum materials. This bender can be used in hands, but mounting in a bench vise is suggested, especially for heavier wall thickness tube.

HOW TO USE: Align marks and bend the tube to the desired angle (up to 180°) by pulling steadily on the operating handle. The handle may be re-positioned for maximum leverage. Bend angles are indicated on the radius block. (Detailed instructions are included with the bender.) See the table below for technical data and part numbers.

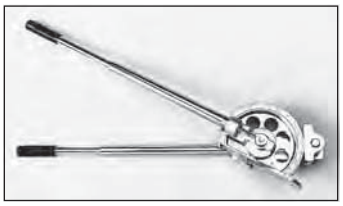

Fig. R3 — 1" Hand Tube Bender

Size	Tube O.D. (in.)	Radius to Tube Centerline (in.)	Min. Wall Without Flattening (in.)	Recommended Max. Wall Thickness Copper, Aluminum (in.)	Steel, Stainless Steel (in.)	Part No.
16	1	3 1/2	0.065	Any	Not Recommended	**16-2829**

Hand Tube Benders – Metric

These are sturdy, easy-to-use hand tools for fast and accurate bending without kinks or visible flattening. Individual sizes in ten models from size 5mm to 25mm are available.

Medium Duty Metric Hand Tube Benders

Designed and built for fast, accurate bends and long service life.

These are individual benders for six metric tube sizes (5mm, 6mm, 8mm, 10mm, 12mm and 14mm). All of these benders will bend copper, aluminum, annealed steel and stainless steel. These can be used in hands or mounted in a bench vise.

Fig. R4 — Medium Duty Metric Hand Tube Bender

HOW TO USE: Simply align the marks on the slide block and radius block, then bend to the desired angle (up to 180°) by pulling steadily on the slide block handle. Bend angles are indicated on the radius block, both front and back. (Detailed instructions are included with each bender.) See the table below for technical data and part numbers.

Tube O.D. (mm)	Radius to Tube Centerline (mm)	Min. Tube Wall Thickness (mm)	Recommended Max. Wall Thickness Copper, Aluminum (mm)	Steel, Stainless Steel (mm)	Part No.
5	14.3	0.5	Any	1.0.....	**2829-5mm**
6	14.3	1.0	Any	1.5.....	**2829-6mm**
8	23.8	1.0	Any	1.5.....	**2829-8mm**
10	23.8	1.0	Any	2.0.....	**2829-10mm**
12	38.1	1.0	Any	2.0.....	**2829-12mm**
14	38.1	1.0	Any	2.0.....	**2829-14mm**

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Bench Mount Metric Hand Bender and Cutting Guide

This bender combines a tube cutting guide with the bender for sizes 6mm, 8mm, 10mm, and 12mm. There are three bender rollers that cover all sizes. The bender mounts easily to a work bench or table.

Part Description	Part No.
Bench Mount Tube Bender (6mm, 8mm, 10mm, 12mm)	**BAV06/12KPLX**

Fig. R5 — BAV06/12KPLX

Vise Mount Metric Hand Benders

Vise Mount Metric Bender – 6/18mm

This bender has six interchangeable rollers to cover tube sizes 6mm, 8mm, 10mm, 12mm, 14mm, 15mm, 16mm, and 18mm.

Part Description	Part No.
Vise Mount Tube Bender (6mm, 8mm, 10mm, 12mm, 14mm, 15mm, 16mm, 18mm)	**BV06/18KPLX**

Fig. R6 — BV06/18KPLX

Tube O.D. (mm)	Bend Radius (mm)	Max. Wall Thickness (mm)
6	33	2.5
8	34	2.5
10	36	2.5
12	37	2.5
14	37	2.0
15	44	2.0
16	44	2.0
18	52	2.0

Vise Mount Metric Bender – 20/25mm

This bender has three interchangeable rollers to cover tube sizes 20mm, 22mm, and 25mm. All bend radii are 86.5mm. Pressure arm is not included with the BV20/25KPLX, however it can be manufactured on site with a piece of tube, or it can be ordered separately with part number BV20/2510X. Maximum wall thickness for all sizes is 2.0mm.

Part Description	Part No.
Vise Mount Tube Bender (20mm, 22mm, 25mm)	**BV20/25KPLX**
Pressure Arm	**BV20/2510X**

Fig. R7 — BV20/25KPLX

Hand Crank & Hydraulic Tube Bender Capacity Guides

All benders listed in Tables S1 through S3 are capable of bending 1/2" O.D. and under fully annealed steel and stainless steel tube with no limit on wall thickness. For HARD copper and HIGH STRENGTH aluminum, use the wall thickness shown for stainless steel. Observe that VERY HARD materials may not be ductile enough to bend without fracture.

Inch Tube Sizes

Tube O.D.	Material	Tube Wall Thickness (in.)											
		0.035	0.049	0.058	0.065	0.072	0.083	0.095	0.109	0.120	0.134	0.156	0.188
		Bender Code*											
3/4"	S	ABCD	ABCD	ABCD	ABCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD
	SS	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD
1"	S	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD
	SS	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	BCD	CD	CD
1 1/4"	S	BCD	BCD	BCD	BCD	BCD	BCD	CD	CD	CD	CD	CD	CD
	SS	BCD	BCD	BCD	BCD	BCD	CD	CD	CD	CD	CD	C	C
1 1/2"	S	BCD	BCD	BCD	BCD	BCD	CD	CD	CD	CD	CD	CD	CD
	SS	BCD	BCD	CD	CD	CD	CD	CD	CD	CD	CD	C	C
2"	S	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD
	SS	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	—	—

Table R1 — Hand Crank and Hydraulic Tube Benders Maximum Capacity Guide – Inch Sizes

Inch Pipe Sizes

Pipe Size	Material	Inch Pipe Schedule (IPS)	
		40	80
		Bender Code*	
1/2"	S	CD	CD
	SS	CD	CD
3/4"	S	CD	CD
	SS	CD	CD
1"	S	CD	CD
	SS	CD	CD
1 1/4"	S	CD	CD
	SS	CD	CD
1 1/2"	S	CD	CD
	SS	CD	CD
2"	S	D	D
	SS	D	—

Table R2 — Hand Crank and Hydraulic Benders Maximum Capacity Guide – Inch Pipe Sizes

Metric Tube Sizes

Tube O.D. (mm)	Material	Tube Wall Thickness (mm)						
		1.5	2	2.5	3	3.5	4	5
		Bender Code*						
18	S	ABCD	ABCD	ABCD	ABCD	BCD	BCD	CD
	SS	BCD	BCD	BCD	BCD	BCD	BCD	CD
20	S	ABCD	ABCD	ABCD	BCD	BCD	BCD	CD
	SS	BCD	BCD	BCD	BCD	BCD	BCD	CD
22	S	BCD	BCD	BCD	BCD	BCD	BCD	CD
	SS	BCD	BCD	BCD	BCD	BCD	CD	CD
25	S	BCD	BCD	BCD	BCD	BCD	CD	CD
	SS	BCD	BCD	BCD	BCD	CD	CD	CD
28	S	BCD	BCD	BCD	BCD	CD	CD	CD
	SS	BCD	BCD	CD	CD	CD	CD	CD
30	S	BCD	BCD	BCD	BCD	CD	CD	CD
	SS	BCD	BCD	CD	CD	CD	CD	CD
32	S	BCD	BCD	CD	CD	CD	CD	CD
	SS	BCD	BCD	CD	CD	CD	CD	CD
35	S	BCD	CD	CD	CD	CD	CD	CD
	SS	BCD	CD	CD	CD	CD	CD	CD
38	S	BCD	CD	CD	CD	CD	CD	CD
	SS	CD	CD	CD	CD	CD	CD	CD
42	S	CD	CD	CD	CD	CD	CD	CD
	SS	CD	CD	CD	CD	CD	CD	—
50	S	CD	CD	CD	CD	CD	CD	—
	SS	CD	CD	CD	CD	CD	—	—

Table R3 — Hand Crank and Hydraulic Tube Benders Maximum Capacity Guide – Metric Tube Sizes

***Codes:**

(A) Model 412 — Tube (1/4" thru 3/4" and 6mm thru 20mm) — Worm & Gear
(B) Model 424 — Tube (1/4" thru 1 1/2" and 6mm thru 38mm) — Worm & Gear
(C) Model HB632 — Tubeg (3/8" thru 2" and 10mm thru 50mm) — Hydraulic
(D) Model CP432 — Tube (1/4" thru 2") — Hydraulic

Dimensions and pressures for reference only, subject to change.

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Exactol® Crank-Operated Benders

Models 412/424

Fig. R8 — 412 Bender

These portable benders are vise or bench mountable for easy action and fast accurate bending to 180°. Two models are available to bend tube sizes 4 (1/4") through 24 (1 1/2"). Exactol benders are designed with a worm-gear drive with a 60 to 1 gear ratio to allow accurate bending with minimum effort. They bend aluminum, copper, annealed steel and annealed stainless steel without kinks or wrinkles. Easy crank operation permits continuous production without excessive operator fatigue; for use in tube fabrication shops, in the field, or in factory maintenance departments.

A video (on DVD) is included to provide proper instructions for use.

Exactol® Model 412

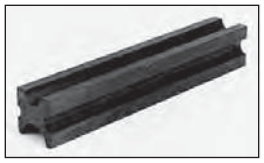

Fig. R9 — Slide Block

The Exactol Model 412 will bend tube from size 4 (1/4") through size 12 (3/4") and 6mm through 20mm inclusive and is completely portable. Accessories include a sturdy metal carrying case, which accommodates the 412 bender, slide block, and selected radius blocks. See page R7 for wall thickness capabilities. May be held in a vise or bench mounted using the bench mounting adapter. Bulletin 4391-B400S and DVD are included with bender, which describe the operation in detail.

NOTE: The 412 must be bench mounted if mandrels are used.

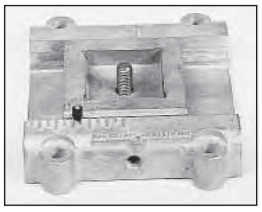

Fig. R10 — Bench Mount Adapter

COMPONENTS REQUIRED

The minimum components required are a Model 412 Bender with a slide block and a radius block which match the tube O.D. to be bent.

Part Name	Part No.
Exactol Model 412 Bender (for 1/4" through 3/4" O.D.)	**560569**
Slide Block (for sizes 4-5-6-8-10-12)	**550585**
Slide Block (for sizes 6mm-8mm-12mm-12mm-14mm)	**820091**
Slide Block (for sizes 15mm-16mm-18mm-20mm)	**820092**
Radius Blocks (for sizes 4-5-6-8-10-12 and 6mm thru 38mm)	See pages R10 – R11

OPTIONAL ACCESSORIES

Carrying Case (for bender, slide block and selected radius blocks)	**550572**
Bench Mounting Adapter	**550570**

Mandrel Bending Components

for 412 and 424 Benders ..... See pages R16 – R18

Dimensions and pressures for reference only, subject to change.

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Exactol® Model 412 Kit

This 412 kit contains all the basic tool requirements for bending tube from 1/4” through 3/4”.

	Part No.
	412 KIT

The following part numbers are included in the kit:

Part Name	Part No.
Exactol Model 412 Bender	**560569**
Carrying Case	**550572**
Slide Block for 1/4” through 3/4” tube	**550585**
Radius Block – 1/4” O.D. tube	**550579**
Radius Block – 3/8” O.D. tube	**550581**
Radius Block – 1/2” O.D. tube	**550582**
Radius Block – 5/8” O.D. tube	**550583**
Radius Block – 3/4” O.D. tube	**550584**

Fig. R11 — 412 Kit

Exactol® Model 424

The Exactol Model 424 will bend tube from size 4 (1/4” O.D.) through size 24 (1 1/2” O.D.) and 6mm through 38mm inclusive. See page R7 for wall thickness capabilities. It is completely portable and may be vise or bench mounted. Bulletin 4391-B400S and video are included with the bender, which describe the operation in detail.

NOTE: The 424 must be bench mounted if mandrels are used.

A video (on DVD) is included to provide proper instructions for use.

Fig. R12 — 424 Bender

COMPONENTS REQUIRED
The minimum components required are a Model 424 Bender with a slide block and a radius block that match the tube O.D. to be bent.

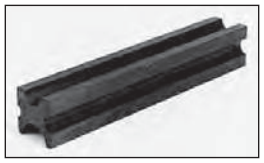

Fig. R13 — Slide Block

Part Name	Part No.
Exactol Model 424 bender (for 1/4” through 1 1/2” O.D.)	**621044**
Slide Block (for sizes 4-5-6-8-10-12)	**550585**
Slide Block (for sizes 14-16-18-20)	**621045**
Slide Block (for size 24)	**870150**
Slide Block (for sizes 6mm-8mm-10mm-12mm-14mm)	**820091**
Slide Block (for sizes 15mm-16mm-18mm-20mm)	**820092**
Slide Block (for sizes 22mm-25mm-28mm-30mm)	**820093**
Slide Block (for size 35mm)	**820094**
Slide Block (for size 38mm)	**870150**
Radius Blocks (for sizes -4 thru -24 and 6mm thru 38mm)	See pages R10 – R11

OPTIONAL ACCESSORIES

Bench Mounting Adapter	**631156**
Mandrel Bending Components for 412 and 424 Benders	See pages R16 – R18

Exactol® Model 424 Kit

Part No. 424 Kit

This 424 Kit contains all the basic tool requirements for bending tube from 1/4" through 1 1/2". The following part numbers are included in the kit:

Part Name	Part No.
Exactol Model 424 bender (for 1/4" through 1 1/2" O.D.)	**621044**
Slide Block (for sizes 4-5-6-8-10-12)	**550585**
Slide Block (for sizes 14-16-18-20)	**621045**
Slide Block (for size 24)*	**870150**
Radius Blocks – 1/4" O.D. Tube*	**550579**
Radius Block – 3/8" O.D. Tube	**550581**
Radius Block – 1/2" O.D. Tube	**550582**
Radius Block – 5/8" O.D. Tube	**550583**
Radius Block – 3/4" O.D. Tube	**550584**
Radius Block – 1" O.D. Tube	**621047**
Radius Block – 1 1/4" O.D. Tube	**621049**
Radius Block – 1 1/2" O.D. Tube*	**870149**

* Items not shown in the photo, but which are included in the 424 Kit.

Fig. R15 — 424 Kit

Radius Blocks

For use with Exactol Models 412/424 benders.

The 412 and 424 bender radius blocks have built in tube clamps, therefore separate clamp blocks are not required. The radius blocks are interchangeable within bender size ranges. Close bend radius blocks utilize the small bend radii, but also allow the bend to begin closer to the end connection.

412 and 424 Bender – Small Bend Radius Blocks

Size	Tube O.D. (in.)	Bend Radius (in.)	Part No.
4	1/4	9/16	**550573**
5	5/16	11/16	**550574**
6	3/8	15/16	**550575**
8	1/2	1 1/4	**550576**
10	5/8	1 1/2	**550577**
12	3/4	1 3/4	**550578**

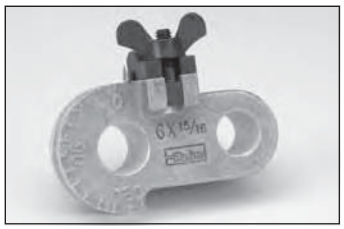

Fig. R16 — Small Bend Radius Block

412 and 424 Bender – Large Bend Radius Blocks

Size	Tube O.D. (in.)	Bend Radius (in.)	Part No.
4	1/4	3/4	**550579**
5	5/16	1	**550580**
6	3/8	1 1/4	**550581**
8	1/2	2	**550582**
10	5/8	2 1/2	**550583**
12	3/4	3	**550584**
14	7/8	3 1/2	**621046**
16	1	4	**621047**
18	1 1/8	4 1/2	**621048**
20	1 1/4	5	**621049**
24	1 1/2	5	**870149**

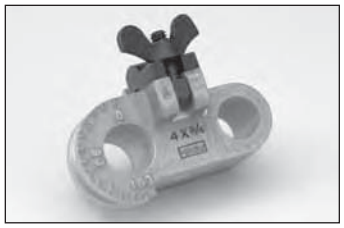

Fig. R17 — Large Bend Radius Block

Dimensions and pressures for reference only, subject to change.

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412 and 424 Bender – Close Bend Radius Blocks

Fig. R18 — Close Bend Radius Block

These adapters are used when bends are needed close to the end of the tube after the flare has been made, ferrule has been pre-set, or flange has been made. For flared or Ferulok fittings, attach tube end by threading tube nut onto the radius block threaded pin. To use this block with Seal-Lok fittings, Close Bend Adapters for Seal-Lok must be used to attach the tube to the radius block.

Size	Tube O.D. (in.)	Bend Radius (in.)	Part No.
8	1/2	1 1/4	**590533**
10	5/8	1 1/2	**590535**
12	3/4	1 3/4	**590537**

Close Bend Adapters for Seal-Lok

These adapters are used when bends are needed close to the end of the tube after the flange has been made or the sleeve has been brazed onto the end of the tube.

HOW TO USE: Screw the Seal-Lok adapter into the internal thread* of the threaded pin on the radius block. Then attach the flanged or brazed tube by threading the tube nut to the Seal-Lok adapter on the radius block threaded pin.

***** If the threaded pin does not have an internal thread, a new threaded pin is required.

Fig. R19 — Seal-Lok Close Bend Adapter

Tube O.D. (in.)	Description	Part No.
1/2	Seal-Lok Adapter	**930421-8**
5/8	Seal-Lok Adapter	**930421-10**
3/4	Seal-Lok Adapter	**930421-12**
1	Seal-Lok Adapter	**930421-16**
1 1/4	Seal-Lok Adapter	**930421-20**
1 1/2	Seal-Lok Adapter	**930421-24**
1/2	Threaded Pin (for Close Bend Radius Blocks)	**930420-8**
5/8	Threaded Pin (for Close Bend Radius Blocks)	**930420-10**
3/4	Threaded Pin (for Close Bend Radius Blocks)	**930420-12**
1	Threaded Pin (for Close Bend Radius Blocks)	**930420-16**
1 1/4	Threaded Pin (for Close Bend Radius Blocks)	**930420-20**
1 1/2	Threaded Pin (for Close Bend Radius Blocks)	**930420-24**

412 and 424 Bender – Metric Radius Blocks

Fig. R20 — Radius Block

Tube O.D. (mm)	Bend Radius (mm)	Part No.
6	14	**820090-6mm**
8	18	**820090-8mm**
10	24	**820090-10mm**
12	32	**820090-12mm**
14	38	**820090-14mm**
15	38	**820090-15mm**
16	38	**820090-16mm**
18	44	**820090-18mm**
20	44	**820090-20mm**
22	89	**820090-22mm**
25	102	**820090-25mm**
28	102	**820090-28mm**
30	127	**820090-30mm**
32	127	**820090-32mm**
35	127	**820090-35mm**
38	127	**870149 (same as 1-1/2” Radius Block)**

Hydraulic Tube Bender Model HB632

Hydraulic power does the work in bending tube of all materials in sizes from 6 (3/8" O.D.) through size 32 (2" O.D.), 10mm through 50mm, with wall thicknesses as great as .188 for annealed steel, and pipe sizes from 3/8" through 1-1/2". See page R7 for wall thickness capabilities. The radius block, around which the tube is bent, is driven by a roller chain and sprocket powered by a cylinder and a separate hydraulic power unit.

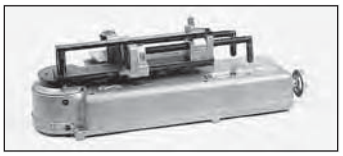

Fig. R21 — HB632

Maximum bend angle is 180° with radii from 1 1/4" to 8". Close second bends can be performed in either direction. An adjustable stop controls the degree of bend to a maximum of 180° and is graduated in 1° increments. After the bend is completed and pressure is released, a spring returns the clamp arm to the zero starting position.

The clamp vise arm features a quick release speed screw for positioning the required clamp block. Each size of tube requires the proper sized radius block, clamp block and slide block.

Fig. R22 — 900085 Pump

Written instructions, a DVD and Bulletin 4391-B26 are included with each bender.

HB632 radius blocks, slide blocks and clamp blocks will work with the following benders as well: 624, 824, 832 and 848.

NOTE: For size 28 (1 3/4" O.D. tube) through 32 (2" O.D. tube) radius blocks, an adapter plate is required.

Fig. R23 — High Flow Pum

DIMENSIONS: L – 40" W – 11" H – 12"

COMPONENTS REQUIRED
Minimum components required are a Model HB632 Bender, hose assembly, hydraulic pump and a radius, slide and clamp block which match the tube/pipe O.D. to be bent.

Part Name	Part No.
Hydraulic Bender Model HB632 (without pump)	**631050**
Hydraulic Pump (10,000 psi, 110V AC)	**900085**
High Flow Hydraulic Pump (10,000 psi, 110V)	**974691**
Hose Assembly (3' long)	**910004**

One each of the following is required per tube O.D.:
Radius Block, Clamp Block, Slide Block.

Radius Block ..... See pages R13 – R15

INCH TUBE SIZES

Clamp Block (for -6)	**864266**
Clamp Block (for -8, -12, -16, -24)	**631092**
Clamp Block (for -10, -14, -18, -20)	**631093**
Clamp Block (for -28)	**027418-28**
Clamp Block (for -32)	**027418-32**
Slide Block (for -6)	**864276**
Slide Block (for -8, -12, -16, -24)	**520516**
Slide Block (for -10, -14, -18, -20)	**520518**
Slide Block (for -28)	**631063**
Slide Block (for -32)	**631066**

Fig. R24 — Clamp Block

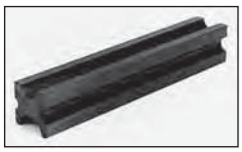

Fig. R25 — Slide Block

Dimensions and pressures for reference only, subject to change.

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METRIC TUBE SIZES	Part No.
Clamp Block (for 10mm, 12mm, 14mm, 16mm)	**790017**
Clamp Block (for 15mm, 16mm, 18mm, 20mm)	**780195**
Clamp Block (for 22mm, 25mm, 30mm, 32mm)	**780196**
Clamp Block (for 35mm)	**974346**
Clamp Block (for 38mm)	**631092**
Clamp Block (for 42mm)	**974349**
Clamp Block (for 50mm)	**974352**
Slide Block (for 10mm, 12mm, 14mm, 16mm)	**790016**
Slide Block (for 15mm, 16mm, 18mm, 20mm)	**780192**
Slide Block (for 22mm, 25mm, 30mm, 32mm)	**780193**
Slide Block (for 35mm)	**820094**
Slide Block (for 38mm)	**520516**
Slide Block (for 42mm)	**974348**
Slide Block (for 50mm)	**974351**

INCH PIPE SIZES	
Clamp Block (for 3/8”, 1/2”, 3/4”)	**974332**
Clamp Block (for 1”)	**974338**
Clamp Block (for 1 1/4”)	**974341**
Clamp Block (for 1 1/2”)	**974343**
Slide Block (for 3/8”, 1/2”, 3/4”)	**974331**
Slide Block (for 1”)	**974336**
Slide Block (for 1 1/4”)	**974340**
Slide Block (for 1 1/2”)	**974342**

OPTIONAL ACCESSORIES

Radius Block Adapter Plate
(for sizes 1 3/4”, 42mm, 1 1/2 IPS and larger) **660221**

Mandrel Bending Components for HB632 ..... See pages R16 – R18

A video (on DVD) is included to provide proper instructions for use.

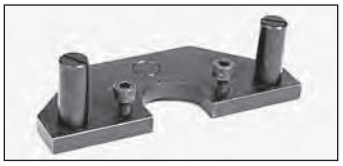

Fig. R26 — Radius Block Adapter Plate

Radius Blocks

For use with HB632 Bender

Radius blocks for every standard tube size from size 6 (3/8” O.D.) to size 32 (2” O.D.), 10mm through 50mm, and inch pipe sizes 3/8” through 1-1/2” are available.

Standard Radius Blocks – Inch Sizes

Size	Tube O.D. (in.)	Radius (in.)	Part No.
6	3/8	1 1/8	**590512-18**
6	3/8	1 1/4	**540502**
8	1/2	1 1/4	**530763**
8	1/2	1 1/2	**590515-24**
10	5/8	1 1/2	**530764**
10	5/8	1 7/8	**590518-30**
12	3/4	1 3/4	**530765**
12	3/4	2 1/4	**590521-36**
14	7/8	2	**530766**
14	7/8	2 5/8	**590523-42**
16	1	3	**590524-48**
18	1 1/8	3 3/8	**590526-54**
18	1 1/8	3 1/2	**530768**
20	1 1/4	3 3/4	**590527-60**
24	1 1/2	4 1/2	**590530-72**
24	1 1/2	5	**530770**
28	1 3/4	7	**631057-112***
32	2	8	**631060-128***

Fig. R27 — Radius Block for use with HB632 Bender

* Requires the use of Radius Block Adapter Plate, Part No. 660221.

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Radius Blocks – Metric Sizes

Tube O.D./ Size (mm)	Radius (mm)	Part No.
10	32	**810023**
12	32	**780175**
14	38	**780176**
15	38	**780177**
16	38	**780178**
18	44	**780179**
20	44	**780180**
22	89	**780181**
25	100	**780182**
30	128	**780183**
32	128	**780184**
35	105	**974344**
38	114	**590530-72**
42	128	**974347***
50	**150**	**974350***

Fig. R28 — Radius Block for use with HB632 Bender

Radius Blocks – Inch Pipe Sizes

Inch Pipe Size (in.)	Bend Radius (in.)	Part No.
3/8	2 1/4	**974325**
1/2	2 5/8	**974326**
3/4	3 1/4	**974327**
1	4	**974328**
1 1/4	5	**974329**
1 1/2	6	**974330***

* Requires the use of Radius Block Adapter Plate, Part No. 660221.

Close Bend Radius Blocks for HB632

These adapters are used when bends are needed close to the end of the tube after the flare has been made, ferrule has been pre-set, or flange has been made. For flared or Ferulok fittings, attach tube end by threading tube nut onto the radius block threaded pin. To use this block with Seal-Lok fittings, Close Bend Adapters for Seal-Lok must be used to attach the tube to the radius block.

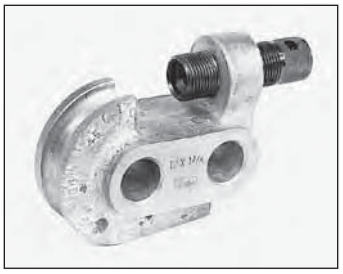

Fig. R29 — Close Bend Radius Block

Close Bend Radius Blocks – Inch Sizes

Size (in.)	Tube O.D. (in.)	Radius (in.)	Part No.
8	1/2	1 1/4	**530597**
10	5/8	1 1/2	**530601**
12	3/4	1 3/4	**530605**
14	7/8	2	**530609**
16	1	3	**530613**
20	1 1/4	3 3/4	**530621**
24	1 1/2	5	**530625**

Close Bend Adapters for Seal-Lok

These adapters are used when bends are needed close to the end of the tube after the flange has been made or the sleeve has been brazed onto the end of the tube.

HOW TO USE: Screw the Seal-Lok adapter into the internal thread* of the threaded pin on the radius block. Then attach the flanged or brazed tube by threading the tube nut to the Seal-Lok adapter on the radius block threaded pin.

***** If the threaded pin does not have an internal thread, a new threaded pin is required.

Tube O.D. (in.)	Description	Part No.
1/2	Seal-Lok Adapter	**930421-8**
5/8	Seal-Lok Adapter	**930421-10**
3/4	Seal-Lok Adapter	**930421-12**
1	Seal-Lok Adapter	**930421-16**
1 1/4	Seal-Lok Adapter	**930421-20**
1 1/2	Seal-Lok Adapter	**930421-24**
1/2	Threaded Pin (for Close Bend Radius Blocks)	**930420-8**
5/8	Threaded Pin (for Close Bend Radius Blocks)	**930420-10**
3/4	Threaded Pin (for Close Bend Radius Blocks)	**930420-12**
1	Threaded Pin (for Close Bend Radius Blocks)	**930420-16**
1 1/4	Threaded Pin (for Close Bend Radius Blocks)	**930420-20**
1 1/2	Threaded Pin (for Close Bend Radius Blocks)	**930420-24**

Fig. R30 — Seal-Lok Close Bend Adapter

Close Bend Radius Blocks – Metric Sizes

Tube O.D./ Size (mm)	Radius (mm)	Thread Size	Part No.
12	32	3/4-16	**780185**
14	38	7/8-14	**780186**
15	38	7/8-14	**780187**
16	38	7/8-14	**780188**
18	44	1 1/16-12	**780189**
20	44	1 1/16-12	**780190**
38	127	1 7/8-12	**530625**

Dimensions and pressures for reference only, subject to change.

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Bender Table (With Locking Casters) for HB632

Sturdy, heavy all steel construction, strongly braced to keep bender, mandrel rod, and mandrel rod stop assembly rigidly aligned. All holes are pre-drilled at factory to accommodate the HB632 bender and rod stop assembly.

DIMENSION: H – 36" W – 30" L – 10'

NOTE: Table is supplied with locking casters for ease of mobility.

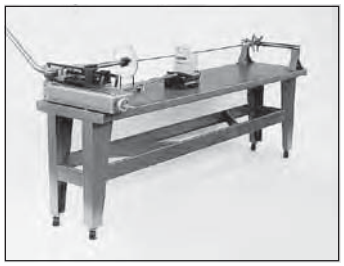

Fig. R31 — Bender Table (equipment not included)

Part Name	Part No.
Bender Table (with locking casters) for HB632	**520515**

Mandrel Bending Components

When bending thin wall tube it may be necessary to insert a mandrel into the tube to prevent excessive distortion or flattening. To accomplish such bending, a Mandrel, Mandrel Rod, and a Mandrel Rod Stop Assembly are required. The Rod Stop Assembly holds the end of the Mandrel Rod in proper alignment with the tube while the Mandrel, which is threaded onto the other end of the Mandel Rod, supports the tube on its I.D., thus preventing tube kinking or flattening during bending.

The following parts are required for mandrel bending with the 412 and 424 bender:

Part Name	Part No.
Mandrel Rod Stop Assembly	**550571** (See page R18)
Stop Assembly Adapter Riser (424 only)	**631154** (See page R18)
Mandrel Rods	See page R17
Mandrel	See page R17

The following parts are required for mandrel bending with the 632 bender:

Part Name	Part No.
Mandrel Rod Stop Assembly	**631141** (See page R18)
Mandrel Rods	See page R17
Mandrel	See page R17

Example:
Tube O.D.: 2"
Wall Thickness: 0.095"
Centerline Radius: 8"

Vertical Axis = $\frac{8"}{2"} = 4$

Horizontal Axis = $\frac{2"}{.095"} \approx 21$

Answer: Plug Mandrel required

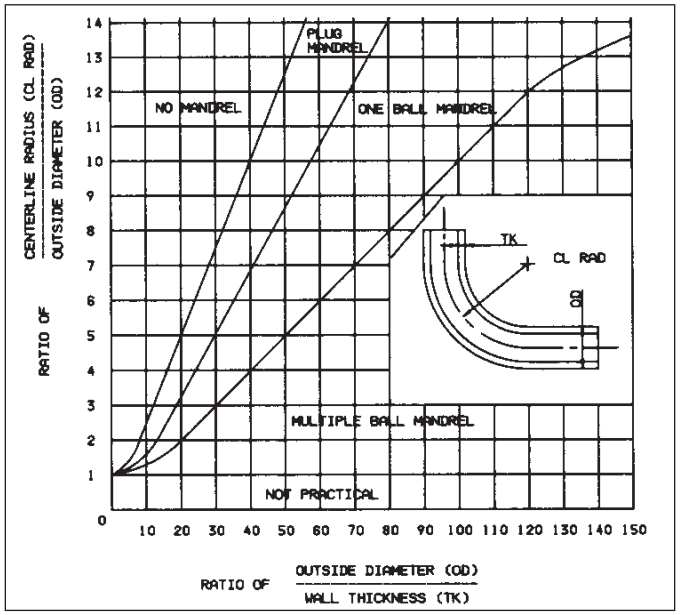

Fig. R32 — Mandrel Graph Chart

Dimensions and pressures for reference only, subject to change.

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Mandrels (Plug Type)

For use with Exactol Models 412, 424 and the HB632 benders. Mandrels ensure smooth bends without kinking, or wrinkling when bending thin-walled tube, or when making short-radius bends. Mandrels support the tube wall from the inside to keep it fully open for a smooth bend.

A rule that is generally followed to determine whether or not a mandrel is necessary is as follows: When the wall thickness of the tube to be bent is 7 percent or more of the tube O.D., a mandrel is usually not necessary. On wall thicknesses that range between 4-6 percent of the tube O.D., it is necessary to use a mandrel to avoid wrinkling and flattening in the bend area. This rule is based on a bend radii of between three and four times the tube O.D.

Part Number Example: 924417-Size X Wall Thickness = **924417-12X058**

* See Fig. R32 for mandrel usage.

To order mandrel, specify tube O.D. and wall thickness.

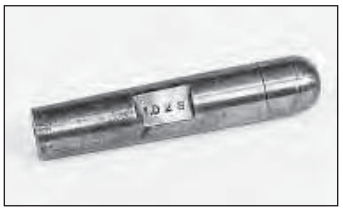

Fig. R33 — Mandrel

Size	END SIZE (in.)	Wall Thickness (in.)	(in.)	(in.)	(in.)	(in.)
6	3/8	—	0.035	0.042	—	—
8	1/2	—	0.035	0.042	0.049	—
10	5/8	0.035	0.042	0.049	—	—
12	3/4	0.035	0.042	0.049	0.058	0.065
14	7/8	0.035	—	0.049	0.058	0.065
16	1	0.035	0.042	0.049	0.058	0.065
18	1 1/8	—	0.042	0.049	—	0.065
20	1 1/4	—	0.049	—	0.065	0.095
24	1 1/2	0.049	0.058	0.065	0.083	—

Table R4 — Mandrel Sizes

Mandrel Rods

For use with the HB632 Model Bender and Exactol Models 412/424 benders. Mandrel rods (as well as a mandrel rod stop assembly) are required when using mandrels. Mandrel rod diameters are determined by tube I.D.

Fig. R34 — Mandrel Rods

Mandrel Rod Sizes

Mandrel Rod Dia. (in.)	Tube I.D. (in.)	Part No.
1/4	.283 to .362	**520506**
5/16	.363 to .484	**520507**
13/32	.485 to 1.489	**520508**
5/8	1.49 to 1.87	**520509**

Mandrel Rod Stop Assembly

For use with Model HB632 bender.

The Mandrel Rod Stop Assembly, when bolted to the end of a table opposite of the bender, keeps the mandrel rod in alignment with the tube when mandrel bending.

Part Name	Part No.
Mandrel Rod Stop Assembly (for bender Model HB632).....	**631141**

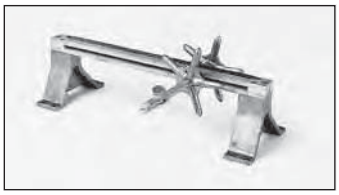

Fig. R35 — Mandrel Rod Stop Assembly /632

Mandrel Rod Stop Assembly

For use with Exactol 412/424 Model benders.

Part Name	Part No.
Mandrel Rod Stop Assembly.....	**550571**

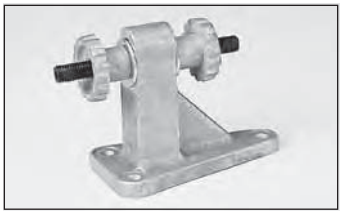

Fig. R36 — Mandrel Rod Stop Assembly 412/424

Part Name	Part No.
Stop Assembly Adapter/Riser for 424.....	**631154**

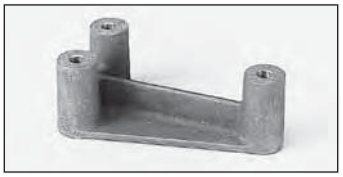

Fig. R37 — Stop Assembly Adapter/Riser

Universal Side Angle Indicator

For use with Model HB632 bender.

Accurately determines angle between tube bends in different planes. Keeps out of plane angles accurate, when making repeated bends. Large, easy-to-read vernier dial. Maximum 3/4" O.D. tube can be used if the tube must be extended through the indicator. Maximum 1 1/2" O.D. tube can be used if end of tube is held in clamp jaw.

Part Name	Part No.
Universal Side Angle Indicator	**520520**

Fig. R38 — Universal Side Angle Indicator

Dimensions and pressures for reference only, subject to change.

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CP432 Tube and Pipe Bender

A 90 psi air supply does all the work for bending steel and stainless steel tube and pipe. This bender utilizes a center push bending method which is easy to master. Offered in an all inclusive kit. See Bulletin 4391-CP432 for more information. A separate accessory kit of tooling for bending 10mm through 50mm tube is also available. See page R20 for part number information.

Part Name	Part No.
CP432 Tube and Pipe Bender Kit	**CP432**

Includes all tooling necessary for bending 1/4" thorugh 2" tube and 1/2 through 2" pipe.

Fig. R39 — CP432 Bender Kit

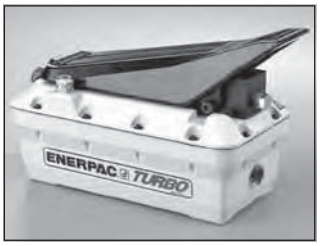

Fig. R40 — Pump

Fig. R41 — Multi-Size Tube Radius Block

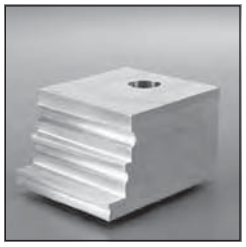

Fig. R42 — Multi-Size Tube Slide Block

REPLACEMENT COMPONENTS

Part Name	Part No.
Air/Hydraulic Pump	**PAT-1102N**
Hose Assembly	**975222**
Quick Coupler, Receptacle	**3050-3**
Quick Coupler, Nipple	**3010-3**
Hydraulic Cylinder	**RC-1010**
Radius Blocks	See below
Slide Blocks	See below

Radius Blocks for CP432 – Inch Tube Sizes

Tube O.D. (in.)	Bend Radius (in.)	Part No.
1/4	9/16	**975179**
3/8	1 1/4	**975179**
1/2	1 1/2	**975179**
5/8	1 7/8	**975180**
3/4	2 1/4	**975180**
1	3	**975181**
1 1/4	3 3/4	**975182**
1 1/2	4 1/2	**975183**
2	8	**975184**

Slide Blocks for CP432 (2 required) – Inch Tube Sizes

Tube O.D. (in.)	Part No.
1/4	**975185**
3/8	**975185**
1/2	**975185**
5/8	**975186**
3/4	**975186**
1	**975187**
1 1/4	**975187**
1 1/2	**975188**
2	**975188**

*For inch pipe size radius blocks and slide blocks refer to Table R5 to right.

Pipe Size	Bend Radius)	Radius Block Part #	Slide Block Part # (2 req.'d.)	Drive Pin
1/2	3-3/16	BZ-12011	BZ-12071	A-12
3/4	5	BZ-12021		
1	5-7/8	BZ-12031		
1-1/4	7-1/4	BZ-12041		
1-1/2	8	BZ-12051		
2	9-1/2	BZ-12061		

Table R5 - Inch Pipe Sizes

Dimensions and pressures for reference only, subject to change.

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Radius Blocks for CP432 – Metric Tube Sizes

Tube O.D. (mm)	Bend Radius (mm)	Part No.
10	34	**976503-Block**
12	34	**976503-Block**
14	38	**976503-Block**
15	38	**976505**
16	38	**976505**
18	42	**976508**
20	42	**976508**
22	89	**976510**
25	100	**976510**
30	100	**976512**
32	100	**976515**
35	105	**976516**
38	114	**976517**
42	128	**976518**
50	200	**976519**

Fig. R43 — Typical Radius Block

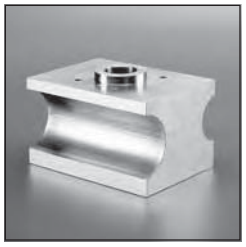

Fig. R44 — Typical Slide Block

Slide Blocks for CP432 (2 required) – Metric Tube Sizes

Tube O.D. (mm)	Part No.
10	**976504**
12	**976504**
14	**976504**
15	**976506**
16	**976506**
18	**976509**
20	**976509**
22	**976511**
25	**976511**
30	**976513**
32	**976513**
35	**976520**
38	**976520**
42	**976521**
50	**976521**

ACCESSORIES

Part Name	Part No.
Metric Tooling Kit (10-50mm)	**CP432-MM TOOL KIT**

Dimensions and pressures for reference only, subject to change.

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Kloskut® Tube Cutters

These adjustable tube cutters are designed to produce square cut ends with no external burr and minimum internal burr when used on fully annealed copper, brass, aluminum, and steel tube. Both feature a hardened and burnished tool-steel cutting wheel, flare cut-off grooves in rollers for removal of old flares and a swing-away reamer for removing internal burrs. The handle feeds and adjusts the cutting wheel to uniformly cut tube as the cutter is rotated.

NOTE: Tube cutters are **not recommended** for use with stainless steel tube because of the work hardening effect. The use of a hacksaw with a "Tru-Kut" Sawing Vise or a rotary teeth saw is recommended for stainless steel.

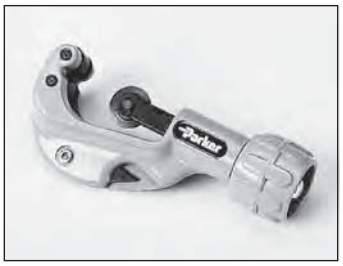

Fig. R45 — 218B Medium Kloskut Tube Cutter

Medium Kloskut

Part Description	Part No.
Tube cutter for 1/8" to 1 1/8" O.D.	**218B**
Cutter Wheel for 218B	**218B Wheel**
Cutter Shaft	**218B Shaft**

Fig. R46 — 1232 Large Kloskut Tube Cutter

Large Kloskut

Part Description	Part No.
Tube Cutter for 3/4" to 2" O.D.	**1232**
Cutter Wheel for 1232	**1232 Wheel**

Tru-Kut® Sawing Vise

This hacksaw guide will accommodate tube, pipe and hose from sizes 3 (3/16" O.D.) to 32 (2" O.D.), assuring square cut-offs within ± 1°. For use with a fine tooth hacksaw blade for smooth cuts.

HOW TO USE: Mount in a vise or bolt to a bench. Clamp tube, pipe or hose into the Tru-Kut vise and cut off; guide ensures accurate square cuts.

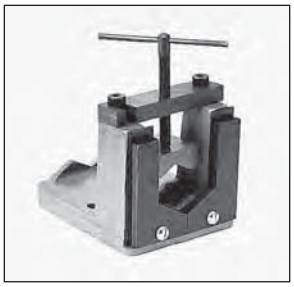

Fig. R47 — Tru-Kut Sawing Vise

Part Description	Part No.
Tru-Kut Sawing Vise	**710439**

Cut-Off Saw

The 974250 Cut-Off Saw is designed to operate at low speed to prevent work hardening the tube end. The saw will assure a square cut on the tube with minimum burrs. The saw will cut 1/4" through 2 3/4" copper, brass, aluminum, steel and stainless steel tube. An adequate supply of cutting fluid is provided by an internal recirculating pump. The unit is designed for bench or stand mounting and operates on 110V, 15 amp power supply.

Fig. R48 — Cut-Off Saw (shown on Saw Base)

Part Description	Part No.
Cut-Off Saw	**974250**
Accessories	
Saw Base	**AF160026**
Replacement Parts	
Cutting Lubricant (Approx. 1 gal. container)	**Saw Lube**
Saw Blade – 250 mm x 2.0 mm thick (all purpose)	**987036**
Saw Blade – 200 mm x 2.0 mm thick (all purpose)	**987037**

Dimensions and pressures for reference only, subject to change.

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In-Ex® Tube Deburring Tool 226A

A quick twist of the wrist will deburr either the O.D. or the I.D. of the tube end. Parker's In-Ex deburrer can be used on annealed steel, stainless steel, copper and aluminum, for tube sizes 1/8" to 1 5/8" O.D.

Part Description	Part No.
In-Ex Deburring Tool	**226A**
Blade Set for 226A Tube Deburr Tool	**226A Blades**

Fig. R49 — 226A In-Ex Deburr Tool

Power Deburr Tool

The Parker Power Deburr Tool is designed for deburring the I.D. and O.D. of 1/4" through 2" steel, stainless steel, copper and aluminum tube. The lightweight unit incorporates a modular design which allows Parker's Cut-Off Saw, part number 974250, to be easily mounted on the top. The Power Deburr Tool requires 110V/10A power supply.

Dimensions: L – 20", W – 18", H – 9".

Part Description	Part No.
Power Deburr Tool	**972125**

Replacement Parts

I.D. Deburr Cone	**971816**
O.D. Deburr Blades (six blade set)	**910485**

Fig. R50 — Power Deburr Tool

Parflange® 1025

Bench-Top 90° Flanging and 37° Flaring System

Tooling must be ordered separately

- Eliminates braze joint
- Compact, lightweight design
- Bench mountable
- Easy to operate
- Available in 110-volt single-phase or 440-volt 3-phase (please specify by ordering 1025/110 or 1025/440)
- Flanges or flares tube in less than 20 seconds
- For tube sizes 1/4" O.D. thru 1-1/2" O.D. (steel); and 1/4" O.D. thru 1" O.D. (stainless steel) – Flanging/flaring of tube sizes 1" & greater results in heavy machine vibration. Therefore, this machine is only recommended for occasional use for preparing tube ends 1" or larger.

  Tooling is also available for comparable metric tube sizes.

Electrical Power: 110V/20A single-phase, or 440V/3-phase/2.1A

Power Cable Length: 8 feet long (2.5 meters)

Dimensions: Height: 18 1/8 inches (460mm)
Width: 15 3/8 inches (390mm)
Depth: 26 3/8 inches (670mm)

Weight: Basic Unit: 175 lbs. (80 kg.)
Each Die (typical): 4 lbs. (1.8 kg.)

Flanging Pin Lubrication Fluid: **LB2000**

See Bulletin 4390-1025A or 4390-1025 for more details.

A DVD is included to provide instructions for proper use.

Fig. R51 — Parflange® 1025 Machine

CAUTION: Extension cords are ***not*** recommended and could cause damage to the machine due to a lack of power supply.

Fig. R52 — Flanging Pin

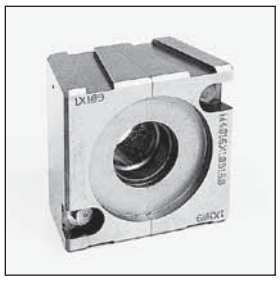

Fig. R53 — Flanging Die Set

Fig. R54 — LB 2000

COMPONENTS REQUIRED

Part Name	Part No.
Parflange 1025 (110 volt)	**1025/110**
Parflange 1025 (440 volt)	**1025/440**
Flanging Pin	See page R23
Flanging Die Set	See page R23
Flaring Pin	See page R31
Flaring Die Set	See page R31
Lubrication Fluid	**LB 2000**
Die Adjustment Shims (Old Style Dies Only)	**Shim Kit**

REPLACEMENT PART

Part Name	Part No.
Tube Stop	**1025/0281014**

Dimensions and pressures for reference only, subject to change.

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Inch and Metric Flanging Tooling for 1025

Tube Size O.D. x Wall Thickness (in.)	Tooling for 90°/180° Tube Flanging			Available Flanging Tooling	
	Flange Pin and Die Set Part Number	Pin Part Number	Die Part Number	1025	
				-S	-SS
1/4 x .028	4004X028180	B4004X028180	M4004X028180	•	
1/4 x .035	4004X035180	B4004X035180	M4004X035180	•	•
1/4 x .049	4004X049180	B4004X049180	M4004X049180	•	
3/8 x .035	4006X035180	B4006X035180	M4006X035180	•	•
3/8 x .049	4006X049180	B4006X049180	M4006X049180	•	•
3/8 x .065	4006X065180	B4006X065180	M4006X065180	•	•
1/2 x .035	4008X035180	B4008X035180	M4008X035180	•	•
1/2 x .049	4008X049180	B4008X049180	M4008X049180	•	•
1/2 x .065	4008X065180	B4008X065180	M4008X065180	•	•
1/2 x .083	4008X083180	B4008X083180	M4008X083180	•	•
5/8 x .049	4010X049180	B4010X049180	M4010X049180	•	•
5/8 x .065	4010X065180	B4010X065180	M4010X065180	•	•
5/8 x .083	4010X083180	B4010X083180	M4010X083180	•	•
5/8 x .095	4010X095180	B4010X095180	M4010X095180	•	•
5/8 x .109	4010X109180	B4010X109180	M4010X109180	•	
5/8 x .120	4010X120180	B4010X120180	M4010X120180	•	
3/4 x .049	4012X049180	B4012X049180	M4012X049180	•	•
3/4 x .065	4012X065180	B4012X065180	M4012X065180	•	•
3/4 x .083	4012X083180	B4012X083180	M4012X083180	•	•
3/4 x .095	4012X095180	B4012X095180	M4012X095180	•	•
3/4 x .109	4012X109180	B4012X109180	M4012X109180	•	•
3/4 x .120	4012X120180	B4012X120180	M4012X120180	•	
1 x .065	4016X065180	B4016X065180	M4016X065180	•	•
1 x .083	4016X083180	B4016X083180	M4016X083180	•	•
1 x .095	4016X095180	B4016X095180	M4016X095180	•	
1 x .109	4016X109180	B4016X109180	M4016X109180	•	
1 x .120	4016X120180	B4016X120180	M4016X120180	•	
1 x .134	4016X134180	B4016X134180	M4016X134180	•	
1 x .148	4016X148180	B4016X148180	M4016X148180		
1 x .156	4016X156180	B4016X156180	M4016X156180		
1 x .188	4016X188180	B4016X188180	M4016X188180		
1 1/4 x .065	4020X065180	B4020X065180	M4020X065180	•	
1 1/4 x .083	4020X083180	B4020X083180	M4020X083180	•	
1 1/4 x .095	4020X095180	B4020X095180	M4020X095180	•	
1 1/4 x .109	4020X109180	B4020X109180	M4020X109180	•	
1 1/4 x .120	4020X120180	B4020X120180	M4020X120180	•	
1 1/4 x .134	4020X134180	B4020X134180	M4020X134180		
1 1/4 x .148	4020X148180	B4020X148180	M4020X148180		
1 1/4 x .156	4020X156180	B4020X156180	M4020X156180		
1 1/4 x .188	4020X188180	B4020X188180	M4020X188180		
1 1/2 x .065	4024X065180	B4024X065180	M4024X065180	•	
1 1/2 x .083	4024X083180	B4024X083180	M4024X083180	•	
1 1/2 x .095	4024X095180	B4024X095180	M4024X095180	•	
1 1/2 x .109	4024X109180	B4024X109180	M4024X109180	•	
1 1/2 x .120	4024X120180	B4024X120180	M4024X120180	•	
1 1/2 x .134	4024X134180	B4024X134180	M4024X134180	•	
1 1/2 x .148	4024X148180	B4024X148180	M4024X148180		
1 1/2 x .156	4024X156180	B4024X156180	M4024X156180		
1 1/2 x .188	4024X188180	B4024X188180	M4024X188180		

Note: Use “-SS” suffix after part number for flanging tools for stainless steel tube. Contact the Tube Fittings Division for sizes and/or materials not listed, or for additional SS sizes released for limited use.

Table R6 — Pin & Die Part Numbers for Inch Sizes

Tube Size O.D. x Wall Thickness (mm)	Tooling for 90°/180° Tube Flanging		Available Flanging Tooling	
	Pin Part Number	Die Part Number	1025	
			-S	-SS
6 x 1	B4018006X1M	M4018006X1M	•	
6 x 1.5	B4018006X1.5M	M4018006X1.5M	•	
8 x 1	B4018008X1M	M4018008X1M	•	
8 x 1.5	B4018008X1.5M	M4018008X1.5M	•	
10 x 1	B4018010X1M	M4018010X1M	•	
10 x 1.5	B4018010X1.5M	M4018010X1.5M	•	
10 x 2	B4018010X2M	M4018010X2M	•	
12 x 1	B4018012X1M	M4018012X1M	•	
12 x 1.5	B4018012X1.5M	M4018012X1.5M	•	•
12 x 2	B4018012X2M	M4018012X2M	•	
15 x 1.5	B4018015X1.5M	M4018015X1.5M	•	
15 x 2	B4018015X2M	M4018015X2M	•	
16 x 1	B4018016X1M	M4018016X1M	•	
16 x 1.5	B4018016X1.5M	M4018016X1.5M	•	
16 x 2	B4018016X2M	M4018016X2M	•	•
16 x 2.5	B4018016X.5M	M4018016X2.5M	•	
18 x 1	B4018018X1M	M4018018X1M	•	
18 x 1.5	B4018018X1.5M	M4018018X1.5M	•	
18 x 2	B4018018X2M	M4018018X2M	•	
20 x 2	B4018020X2M	M4018020X2M	•	•
20 x 2.5	B4018020X2.5M	M4018020X2.5M	•	
20 x 3	B4018020X3M	M4018020X3M	•	
22 x 1.5	B4018022X1.5M	M4018022X1.5M	•	
22 x 2	B4018022X2M	M4018022X2M	•	
22 x 2.5	B4018022X2.5M	M4018022X2.5M	•	
22 x 3	B4018022X3M	M4018022X3M	•	
25 x 2	B4018025X2M	M4018025X2M	•	
25 x 2.5	B4018028X2.5M	M4018028X2.5M	•	
25 x 3	B4018030X2M	M4018030X2M	•	
25 x 3.5	B4018025X3.5M	M4018025X3.5M	•	
25 x 4	B4018025X4M	M4018025X4M		
28 x 2	B4018028X2M	M4018028X2M	•	
28 x 2.5	B4018028X2.5M	M4018028X2.5M	•	
30 x 2	B4018030X2M	M4018030X2M	•	
30 x 3	B4018030X3M	M4018030X3M	•	
30 x 3.5	B4018030X3.5M	M4018030X3.5M		
30 x 4	B4018030X4M	M4018030X4M		
32 x 3	B4018032X3M	M4018032X3M	•	
32 x 4	B4018032X4M	M4018032X4M		
35 x 3	B4018035X3M	M4018035X3M	•	
38 x 3	B4018038X3M	M4018038X3M		
38 x 4	B4018038X4M	M4018038X4M		
38 x 5	B4018038X5M	M4018038X5M		

Note: Flanging tools (90°/180°) listed are for carbon steel tube. Contact the Tube Fittings Division for metric flanging tools for tube materials other than carbon steel or for sizes not listed.

Table R7 — Pin & Die Part Numbers for Metric Sizes

Manual Flaring Tool Vise Block and Flaring Pin — Metric Tube

These 37° flaring tools are designed for use in a vise when flaring metric tube from 6mm O.D. to 38mm O.D.

From 20mm size tube and upward it is necessary to use a pre-flaring pin to start the flare.

- **Clamp tube flush in black halves**
- **Flare tube by hammering the flaring pin.**

A separate block and pin set is used for each tube size.

Fig. R55 — Vise Block

Pre-Flaring Pins

Tube O.D. (mm)	Part No.
20	P1E
25	P1E
30	P1E
32	P1E
38	P1E

Fig. R56 — Pre-Flaring Pins

Flaring Pins

Tube O.D. (mm)	Part No.
6	P17408
8	P17408
10	P17408
12	P17414
14	P17414
15	P17414
16	P17414
18	P17418
20	P17418
25	P17422
30	P17432
32	P17432
38	P17438

Fig. R57 — Flaring Pin

Vise Blocks

Tube O.D. (mm)	Part No.
6	M27406
8	M27408
10	M27410
12	M27412
14	M27414
15	M27415
16	M27416
18	M27418
20	M27420
25	M27425
30	M27430
32	M27432
38	M27438

Dimensions and pressures for reference only, subject to change.

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Vise Block with Flaring Pin

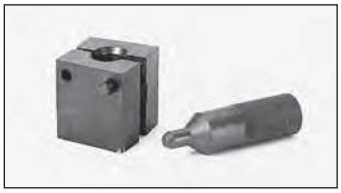

Fig. R58 — Vise Block with Flaring Pin

These impact 37° flaring tools are for use with copper, aluminum alloy, and thin wall steel or stainless steel. Separate tool-ing set for each tube size 4 (1/4" O.D.) through 24 (1 1/2" O.D.). Maximum wall thickness: 1/8" to 3/8" is 15% of tube O.D., 1/2" and larger is 10% of tube O.D.

HOW TO USE: Clamp tube flush in matching halves of block in a bench vise. Give hardened steel flaring pin a few **sharp** blows with a hammer to form the flare.

Size	Tube O.D. (in.)	Part No.
4	1/4	**4-2866**
5	5/16	**5-2866**
6	3/8	**6-2866**
8	1/2	**8-2866**
10	5/8	**10-2866**
12	3/4	**12-2866**
14	7/8	**14-2866**
16	1	**16-2866**
20	1 1/4	**20-2866**
24	1 1/2	**24-2866**

Order vise block with flaring pin using part numbers above. The block and pin may be ordered separately by suffixing the part number with either Pin or Block.

Part Number Example:
4-2866 Block

Rolo-Flair®

Manual Rotary Flaring Tool

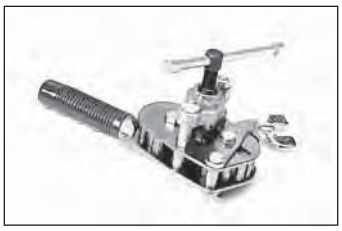

Fig. R59 — Rolo-Flair

(For soft metal tube)

Precision burnished 37° and 45° flares in tube sizes from 2 (1/8" O.D.) to 12 (3/4" O.D.) with an easy turn of the handle. For use with copper and aluminum alloys. A depth gauge allows proper positioning of tube for consistent flaring.

HOWTO USE: Open die, insert tube up to the gauge and clamp the tube in the die. Turn drive handle clockwise to flare, then counterclockwise for retracting flaring cone. Open clamping die by loosening wing nut and remove flared tube.

Part Name	Part No.
Rolo-Flair for 37° flares (for 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", O.D.)	**212FB**
Rolo-Flair for 45° flares (for 1/8", 3/16", 1/4", 5/16", 3/8", 1/2",5/8", 3/4", O.D.)	**945TH**

Combination Flarer

Part No.
210A

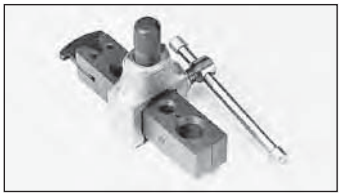

Fig. R60 — 210A Combination Flarer

For 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", O.D. tube.

The combination flarer is a 7-in-1 impact tool for flaring (37°) soft copper, aluminum and fully annealed steel tube, sizes 2 (1/8" O.D.) through 10 (5/8" O.D.). Maximum wall thickness: 1/8" to 3/8" is 15% of tube O.D., 1/2" and larger is 10% of tube O.D.

HOW TO USE: Insert tube into proper flare hole and fasten with clamping screw. Set hardened-steel flaring punch in tube and form flare with a few **sharp** hammer blows. (Tube should not project more than 1/16" above top of block.)

Dimensions and pressures for reference only, subject to change.

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Hydra-Tool

Hydraulic Flaring and Pre-Setting Tool

Flaring

An efficient dependable device for 37° and 45° flaring of steel, stainless steel and copper tube. This task is made easy through hydraulic power provided by a hand or electric pump. The equipment is portable and easy to use.

This tool accommodates dies for tubes ranging in inch sizes from 4 through 32 (1/4" through 2" outside diameters) with wall thicknesses as great as .134", and metric sizes from 6mm through 50mm. The hydraulic "push" of the Hydra-Tool flares the tube to a 37° flare angle. A gauge can be provided to enable the operator to determine the pressure required to adequately flare any given material and wall thickness of the tube. Complete instructions are included with the Hydra-Tool. See bulletin 4392-B10. See the following for Hydra-Tool basic unit or kit, and choice of power sources and necessary tooling.

NOTE: Flaring die sets and other tooling are available in non-standard sizes upon request from the factory.

See Appendix for flaring pressures.

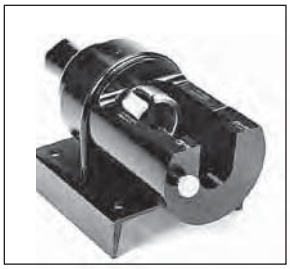

Fig. R61 — Hydra-Tool

Fig. R62 — Electric Pump

Fig. R63 — Hand Pump

Fig. R64 — Flaring Cone

Fig. R65 — Die Ring

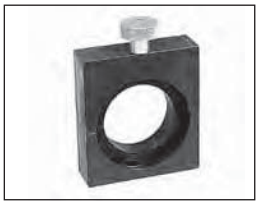

Fig. R66 — Die Retainer

Fig. R67— Hydra-Tool Kit

COMPONENTS REQUIRED

Part Name	Part No.
*Hydra-Tool (basic unit)	**710400B**
*Hydra-Tool Male Adapter	**6-8 F5OLO-S**
*"T" Adapter for Gauge	**6 R6LO-S**
*Hose Assembly (for hand or electric pumps)	**910004**
*Adapter for Gauge	**6 G6L-S**
*Pressure Gauge (0 - 10,000 psi)	**900044**
Electric Hydraulic Pump (10,000 psi; 1/2 hp; 40-125 volt)	**900085**
Hand Hydraulic Pump (10,000 psi; 2 speed)	**900086**
Die Ring (1/4" - 1 1/4") (6mm - 32mm)	**710416A**
Die Ring (1 1/2" - 2") (35mm - 50mm)	**710412**
37° Flaring Cone (1/4" - 1 1/4") (6mm - 32mm)	**710419**
37° Flaring Cone (1 1/2" - 2") (35mm - 50mm)	**710411**
Die Retainer Assembly (1/4" - 1 1/4") (6mm - 32mm)	**710424-1**
Die Retainer Assembly (1 1/2" - 2") (35mm - 50mm)	**710424-2**
Flaring Die Sets	See pages R28 – R29
*Lubricant	**STP****
45° Flaring Cone (1/4" - 1")	**910312**

*Included in Hydra-tool kit (Part 720370B-3)

****STP Lubricant is the only lubricant recommended for use with Hydra-Tool.

Hydra-Tool Kit

Part Name	Part No.
Hydra-Tool Kit (for use with electric or hand pump) Includes basic unit, gauge adapter, Hydra-Tool connector, lubricant, "T" adapter, carrying case, hose assembly, operation manual and video.	**720370B-3**

Dimensions and pressures for reference only, subject to change.

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Hydra-Tool 37° Flaring Die Sets for Steel – Inch

Size	Tube O.D. (in.)	Part No.
4	1/4	**710417-4**
5	5/16	**710417-5**
6	3/8	**710417-6**
8	1/2	**710417-8**
10	5/8	**710417-10**
12	3/4	**710417-12**
14	7/8	**710417-14**
16	1	**710417-16**
20	1 1/4	**710417-20**
24	1 1/2	**710415-24**
32	2	**710415-32**

Fig. R68 — Flaring Die Set

Hydra-Tool 37° Flaring Die Sets for Stainless Steel – Inch

Size	Tube O.D. (in.)	Part No.
4	1/4	**710417-4 SS**
5	5/16	**710417-5 SS***
6	3/8	**710417-6 SS**
8	1/2	**710417-8 SS**
10	5/8	**710417-10 SS**
12	3/4	**710417-12 SS**
14	7/8	**710417-14 SS***
16	1	**710417-16 SS**
20	1 1/4	**710417-20 SS**
24	1 1/2	**710415-24 SS**
32	2	**710415-32 SS**

* Non-standard.

Hydra-Tool 37° Flaring Die Sets – Metric

Tube O.D./ Size (mm)	Part No.
6	**770106-6**
8	**770106-8**
10	**770106-10**
12	**770106-12**
15	**770106-15**
16	**770106-16**
18	**770106-18**
20	**770106-20**
22	**770106-22**
25	**770106-25**
28	**770106-28**
30	**770106-30**
32	**770106-32**
35	**770095-35**
38	**770095-38**
42	**770095-42**
50	**770095-50**

Hydra-Tool 45° Flaring Die Sets – Inch

Size	Tube O.D. (in.)	Part No.
4	1/4	**977420-4**
6	3/8	**977420-6**
8	1/2	**977420-8**
10	5/8	**977420-10**
12	3/4	**977420-12**
14	7/8	**977420-14**
16	1	**977420-16**

REPLACEMENT PART

Part Name	Part No.
Tube Stop Assembly	**710420B**

OPTIONAL ACCESSORIES

Part Name	Part No.
Hydra-Tool Carrying Case	**720377**

Sturdy wood case for Hydra-Tool and tooling.
(Hydra-Tool Kit is shipped in this carrying case.)

Fig. R69 — Carrying Case

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Karryflare Portable Flaring Machine

The Karryfare is a portable flaring machine that is designed for fabricating 37 degree tube flares. It's lightweight, portable, and is capable of flaring 1/4" through 1-1/2" (6mm-38mm) steel & stainless steel tubing. It's telescopic handle and wheeled carrying case allows it to be easily transported from one work site location to another.

Part Name	Part No.
Karry Flare	**KarryFlare**

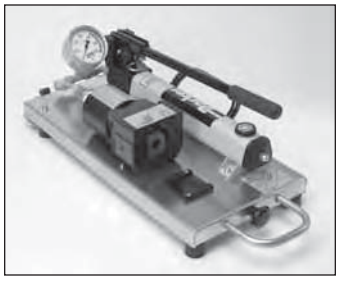

Fig. R70 — KarryFlare

Hydraulic power is generated by a hand operated pump. A pressure gauge is provided which enables the operator to review the necessary pressure requirements for proper flaring of their specific tubing requirements (operating pressures are specific to the tubes O.D. and wall thickness). The complete unit is mounted on a wheeled base plate, with telescopic handle, and includes 37° cone and case cover.

Dimensions: H – 10" W – 14" L – 30"

Application range

The Karryflare machine is capable of flaring tube from 1/4" O.D. to 1 1/2" O.D. or from 6mm O.D. to 38mm O.D.

Fig. R71 — Flaring Die Set

FLARING COMPONENTS

Part Name	Part No.
Replacement 37° Flaring Cone	**Karryflare/FPIN**
37° Flaring Die Sets	See below

Tube Die Sets – Inch

Tube O.D. (in.)	Part No.
1/4	**M 047415-1**
5/16	**M 157408-1**
3/8	**M 067415-1**
1/2	**M 087415**
5/8	**M 107415**
3/4	**M 127415**
1	**M 167415**
1 1/4	**M 207415**
1 1/2	**M 157438**

Tube Die Sets – Metric

Tube O.D. (mm)	Part No.
6	**M 157406-1**
8	**M 157408-1**
10	**M 157410-1**
12	**M 157412**
14	**M 157414**
15	**M 157415**
16	**M 157416**
18	**M 157418**
20	**M 157420**
25	**M 157425**
30	**M 157430**
32	**M 157432**
38	**M 157438**

Dimensions and pressures for reference only, subject to change.

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Inch and Metric Flaring Tooling for 1025

Parflange® 1025 37° Flaring and Flanging Systems

Parker's Parflange 1025 machine is designed to create 37° flared tube ends. For more detailed information on the machine and part numbers, refer to page R23.

Fig. R72 — Parflange 1025

Tube Size O.D. x Wall Thickness (in.)	Tooling for 37°/74° Tube Flaring		Available Flaring Tooling
	Pin Part Number	Die Part Number	1025
1/4 x .020	B4004X020074	M4004074	•
1/4 x .028	B4004X028074	M4004074	•
1/4 x .035	B4004X035074	M4004074	•
1/4 x .049	B4004X049074	M4004074	•
1/4 x .065	B4004X065074	M4004074	•
3/8 x .020	B4006X020074	M4006074	•
3/8 x .028	B4006X028074	M4006074	•
3/8 x .035	B4006X035074	M4006074	•
3/8 x .049	B4006X049074	M4006074	•
3/8 x .065	B4006X065074	M4006074	•
1/2 x .028	B4008X028074	M4008074	•
1/2 x .035	B4008X035074	M4008074	•
1/2 x .049	B4008X049074	M4008074	•
1/2 x .065	B4008X065074	M4008074	•
1/2 x .083	B4008X083074	M4008074	•
5/8 x .035	B4010X035074	M4010074	•
5/8 x .049	B4010X049074	M4010074	•
5/8 x .065	B4010X065074	M4010074	•
5/8 x .083	B4010X083074	M4010074	•
5/8 x .095	B4010X095074	M4010074	•
3/4 x .035	B4012X035074	M4012074	•
3/4 x .049	B4012X049074	M4012074	•
3/4 x .065	B4012X065074	M4012074	•
3/4 x .083	B4012X083074	M4012074	•
3/4 x .095	B4012X095074	M4012074	•
3/4 x .109	B4012X109074	M4012074	•
1 x .035	B4016X035074	M4016074	•
1 x .049	B4016X049074	M4016074	•
1 x .065	B4016X065074	M4016074	•
1 x .083	B4016X083074	M4016074	•
1 x .095	B4016X095074	M4016074	•
1 x .109	B4016X109074	M4016074	•
1 x .120	B4016X120074	M4016074	•
1 1/4 x .049	B4020X049074	M4020074	•
1 1/4 x .065	B4020X065074	M4020074	•
1 1/4 x .083	B4020X083074	M4020074	•
1 1/4 x .095	B4020X095074	M4020074	•
1 1/4 x .109	B4020X109074	M4020074	•
1 1/4 x .120	B4020X120074	M4020074	•
1 1/2 x .065	B4024X065074	M4024074	•
1 1/2 x .083	B4024X083074	M4024074	•
1 1/2 x .095	B4024X095074	M4024074	•
1 1/2 x .109	B4024X109074	M4024074	•
1 1/2 x .120	B4024X120074	M4024074	•

Table R8 — Parflange Flaring Tooling for Inch Sizes

Tooling suitable for 37°/74° flaring of steel, stainless steel, aluminum, monel, copper, and cupro-nickel tube materials. For 37°/74° flaring, one die covers each tube O.D.; a different pin is required for each tube wall. Setscrews in flaring dies may require slight adjustment for different tube materials and/or tube walls.

Tube Size O.D. x Wall Thickness (mm)	Tooling for 37°/74° Tube Flaring		Available Flaring Tooling
	Pin Part Number	Die Part Number	1025
6 x 1	B4007406X1M	M4007406M	•
6 x 1.5	B4007406X1.5M	M4007406M	•
8 x 1	B4007408X1M	M4007408M	•
8 x 1.5	B4007408X1.5M	M4007408M	•
10 x 1	B4007410X1M	M4007410M	•
10 x 1.5	B4007410X1.5M	M4007410M	•
12 x 1.5	B4007412X1.5M	M4007412M	•
12 x 2	B4007412X2M	M4007412M	•
15 x 1.5	B4007415X1.5M	M4007415M	•
15 x 2	B4007415X2M	M4007415M	•
16 x 1.5	B4007416X1.5M	M4007416M	•
16 x 2	B4007416X2M	M4007416M	•
18 x 2	B4007418X2M	M4007418M	•
20 x 2	B4007420X2M	M4007420M	•
20 x 2.5	B4007420X2.5M	M4007420M	•
25 x 2	B4007425X2M	M4007425M	•
25 x 2.5	B4007425X2.5M	M4007425M	•
25 x 3	B4007425X3M	M4007425M	•
30 x 2.5	B4007430X2.5M	M4007430M	•
30 x 3	B4007430X3M	M4007430M	•
32 x 3	B4007432X3M	M4007432M	•
38 x 3	B4007438X3M	M4007438M	•
38 x 4	B4007438X4M	M4007438M	

Table R9 — Parflange Flaring Tooling for Metric Sizes

Tooling suitable for 37°/74° flaring of steel, stainless steel, aluminum, monel, copper, and cupro-nickel tube materials. Apply LB 2000 lube to flaring pin. Setscrews in flaring dies may require slight adjustment for different tube materials and/or tube walls.

Fig. R73 — Flaring Pin

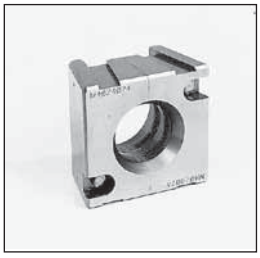

Fig. R74— Flaring Die

Dimensions and pressures for reference only, subject to change.

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SAE Straight Thread Port Tapping Tools*

Taps are available for SAE J1926-1 female straight thread ports in sizes 2 through 32. Taps are bottoming type and made from high speed tool steel.

Fig. R75 — SAE Straight Thread Port Tapping Tool

SAE Dash Size	Overall Length (in.)	Shank Dia. (in.)	Wrench Flat Size (in.)	Part No.
2	2 23/32	0.318	0.238	**5/16X24 UNF-2B**
3	2 15/16	0.381	0.286	**3/8X24 UNF-2B**
4	3 5/16	0.323	0.242	**7/16X20 UNF-2B**
5	3 3/8	0.367	0.275	**1/2X20 UNF-2B**
6	3 19/32	0.429	0.322	**9/16X18 UNF-2B**
8	4 1/4	0.590	0.442	**3/4X16 UNF-2B**
10	4 11/16	0.697	0.523	**7/8X14 UNF-2B**
12	5 1/8	0.896	0.672	**1 1/16X12 UNF-2B**
14	5 7/16	1.021	0.766	**1 3/16X12 UNF-2B**
16	5 3/4	1.108	0.831	**1 5/16X12 UNF-2B**
20	6 11/16	1.305	0.979	**1 5/8X12 UNF-2B**
24	7 5/16	1.519	1.139	**1 7/8X12 UNF-2B**
32	8 3/4	2.100	1.575	**2 1/2X12 UNF-2B**

SAE Straight Thread Port Counterboring Tools*

Parker offers counterboring tools for SAE J1926-1 female straight thread ports in sizes 2 through 32. Counterbores are 4-fluted high speed tool steel.

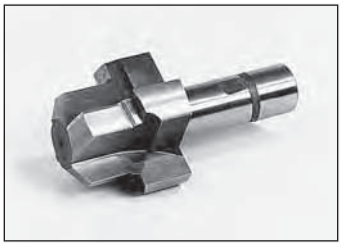

Fig. R76 — SAE Straight Thread Port Counterboring Tool

SAE Dash Size	Shank Dia. (in.)	Shank Length (in.)	Overall Length (in.)	Recommended Pilot Drill or Bore Size (in.)	Part No.
2	1/2	1 1/2	2 1/2	0.266	**Y-34730**
3	1/2	1 1/2	2 1/2	0.328	**Y-34731**
4	1/2	1 1/2	2 41/64	0.377	**Y-34732**
5	1/2	1 1/2	2 41/64	0.438	**Y-34733**
6	3/4	1 1/2	2 47/64	0.500	**Y-34734**
8	3/4	1 1/2	2 53/64	0.672	**Y-34735**
10	1	2	3 29/64	0.797	**Y-34736**
12	1	2	3 19/32	0.969	**Y-34737**
14	1	2	3 41/64	1.095	**Y-34738**
16	1	2	3 41/64	1.220	**Y-34739**
20	1 1/2	2	3 37/64	1.530	**Y-34740**
24	1 1/2	2	3 37/64	1.780	**Y-34741**
32	1 1/2	2	3 49/64	2.405	**Y-34743**

*** See Appendix for recommended use of port tools.**

BSPP Straight Thread Port Counterboring Tools*

Parker offers counterboring/spotfacing tools for DIN 3852-2 female straight thread port connections in sizes 1/8” through 1-1/2”. Counterbores are carbide tipped.

Size	Shank Dia. (in.)	Shank Length (in.)	Overall Length (in.)	Part No.
G1/8	1/2	1 1/2	2 1/2	**974094-G1/8**
G1/4	1/2	1 1/2	2 1/2	**974094-G1/4**
G3/8	3/4	1 1/2	2 1/2	**974094-G3/8**
G1/2	3/4	2	3	**974094-G1/2**
G3/4	1	2	3	**974094-G3/4**
G1	1	2	3 1/2	**974094-G1**
G1-1/4	1 1/2	2	3 1/2	**974094-G1-1/4**
G1-1/2	1 1/2	2	3 1/2	**974094-G1-1/2**

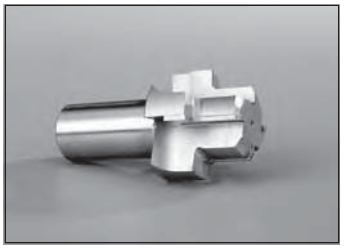

Fig. R77 — BSPP Straight Thread Port Counterboring Tool

BSPP Straight Thread Tapping Tools*

BSPP taps are available for ISO 228-1 threaded connections in sizes 1/8” through 1 1/2”. All taps are bottoming type manufactured from high speed steel.

Size	Shank Dia. (in.)	Overall Length (in.)	Thread Size	Part No.
G1/8	0.438	2 1/8	1/8-28	**974242-G1/8**
G1/4	0.563	2 7/16	1/4-19	**974242-G1/4**
G3/8	0.700	2 9/16	3/8-19	**974242-G3/8**
G1/2	0.688	3 1/8	1/2-14	**974242-G1/2**
G3/4	0.906	3 1/4	3/4-14	**974242-G3/4**
G1	1.125	3 3/4	1-11	**974242-G1**
G1-1/4	1.313	4	1 1/4-11	**974242-G1-1/4**
G1-1/2	1.500	4 1/4	1 1/2-11	**974242-G1-1/2**

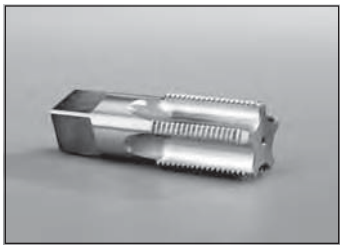

Fig. R78 — BSPP Straight Thread Tapping Tool

BSPT Taper Pipe Thread Tapping Tools*

BSPT taps are available for ISO 7-1 taper thread connections in sizes 1/8” through 1 1/2”. All taps are bottoming type manufactured from high speed steel.

Size	Shank Dia. (in.)	Overall Length (in.)	Thread Size	Part No.
R1/8	0.438	2 1/8	1/8-28	**974243-R1/8**
R1/4	0.563	2 7/16	1/4-19	**974243-R1/4**
R3/8	0.700	2 9/16	3/8-19	**974243-R3/8**
R1/2	0.688	3 1/8	1/2-14	**974243-R1/2**
R3/4	0.906	3 1/4	3/4-14	**974243-R3/4**
R1	1.125	3 3/4	1-11	**974243-R1**
R1-1/4	1.313	4	1 1/4-11	**974243-R1-1/4**
R1-1/2	1.500	4 1/4	1 1/2-11	**974243-R1-1/2**

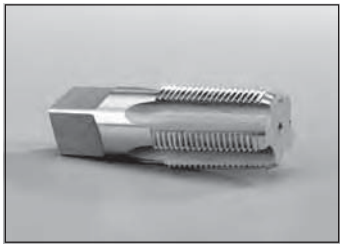

Fig. R79 — BSPT Taper Pipe Thread Tapping Tool

*** See Appendix for recommended use of port tools.**

Dimensions and pressures for reference only, subject to change.

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NPTF Thread Tapping Tools*

NPTF taps are available for taper pipe thread connections in sizes 1/8" through 1 1/2". All taps are bottoming type manufactured from high speed steel.

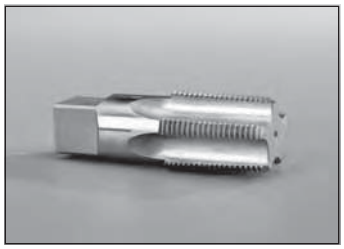

Fig. R80 — NPTF Port Tap

Shank Dia. (in.)	Overall Length (in.)	Thread Size	Part No.
0.438	2 1/8	1/8-27	**974244-1/8**
0.563	2 7/16	1/4-18	**974244-1/4**
0.700	2 9/16	3/8-18	**974244-3/8**
0.688	3 1/8	1/2-14	**974244-1/2**
0.906	3 1/4	3/4-14	**974244-3/4**
1.125	3 3/4	1-11 1/2	**974244-1**
1.313	4	1 1/4-11 1/2	**974244-1-1/4**
1.500	4 1/4	1 1/2-11 1/2	**974244-1-1/2**

ISO 6149-1 Straight Thread Port Tapping Tools*

ISO 6149-1 female straight thread port taps are available for M8 to M48 port sizes. Taps are bottoming type and made from high speed steel.

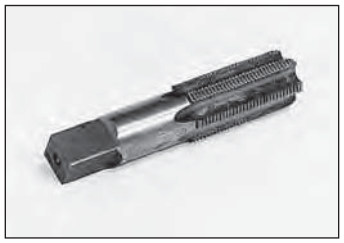

Fig. R81 — ISO 6149-1 Straight Thread Port Tap

Overall Length (in.)	Shank Dia. (in.)	Wrench Flat Size (in.)	Thread Size	Part No.
2 23/32	0.318	0.238	M8x1	**M8X1 D5 2FL**
2 15/16	0.381	0.286	M10x1	**M10X1-6H**
3 3/8	0.367	0.275	M12x1.5	**M12X1.5-6H TAP**
3 19/32	0.429	0.322	M14x1.5	**M14X1.5-6H-TAP**
3 13/16	0.400	0.360	M16x1.5	**M16X1.5-6H-TAP**
4 1/32	0.542	0.406	M18x1.5	**M18X1.5-6H-TAP**
4 11/16	0.697	0.523	M22x1.5	**M22X1.5-6H-TAP**
5 1/8	0.896	0.672	M27x2	**M27X2-6H-TAP**
5 3/4	1.108	0.831	M33x2	**M33X2-6H-TAP**
7	1.430	1.072	M42x2	**M42X2-6H-TAP**
7 5/8	1.644	1.233	M48x2	**M48X2-6H-TAP**

*** See Appendix for recommended use of port tools.**

ISO 6149-1 Straight Thread Port Counterboring Tools — Small Spotface*

ISO 6149-1 female straight thread port counterboring tools are available with small spotface for M8 to M48 port sizes. Counterbores are 4-fluted*, carbide-tipped.

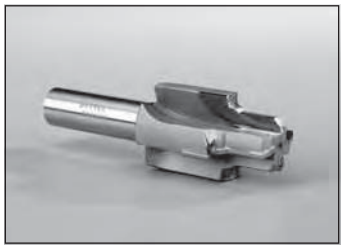

Fig. R82 — ISO 6149-1 Straight Thread Port Counterboring Tool — Small Spotface

Shank Dia. (in.)	Shank Length (in.)	Overall Length (in.)	Recommended Pilot Drill or Bore Size (in.)	Use with Thread Size	Part No.
1/2	2	4 1/8	0.272	M8x1*	**R1449B**
1/2	2	4 1/8	0.348	M10x1*	**R1450B**
1/2	2	4 1/8	0.406	M12x1.5	**R 1451B-S**
1/2	2	4 1/8	0.484	M14x1.5	**R 1452B-S**
1/2	2	4 1/8	0.563	M16x1.5	**R 1453B-S**
1/2	2	4 1/8	0.641	M18x1.5	**R 1454B-S**
1/2	2	4 1/8	0.797	M22x1.5	**R 1455B-S**
3/4	2 1/2	5	0.969	M27x2	**R 1456B-S**
3/4	2 1/2	5	1.210	M33x2	**R 1457B-S**
3/4	2 1/2	5	1.565	M42x2	**R 1458B-S**
3/4	2 1/2	5	1.801	M48x2	**R1459B**

* M8 and M10 are 3-fluted

ISO 6149-1 Straight Thread Port Counterboring Tools with ID Groove*

ISO 6149-1 female straight thread port counterboring tools are available with identification groove for M8 to M48 port sizes. Counterbores are 4-fluted*, carbide-tipped.

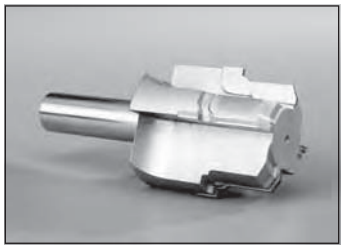

Fig. R83 — ISO 6149-1 Straight Thread Port Counterboring Tool with ID Groove

Shank Dia. (in.)	Shank Length (in.)	Overall Length (in.)	Recommended Pilot Drill or Bore Size (in.)	Use with Thread Size	Part No.
1/2	2	4 1/8	0.348	M10x1*	**R1450A**
1/2	2	4 1/8	0.406	M12x1.5	**R1451A**
1/2	2	4 1/8	0.484	M14x1.5	**R1452A**
1/2	2	4 1/8	0.563	M16x1.5	**R1453A**
1/2	2	4 1/8	0.641	M18x1.5	**R1454A**
1/2	2	4 1/8	0.797	M22x1.5	**R1455A**
3/4	2 1/2	5	0.969	M27x2	**R1456A**
3/4	2 1/2	5	1.210	M33x2	**R1457A**

* M10 are 3-fluted

*** See Appendix for recommended use of port tools.**

Ferulset® Pre-Setting Tool

For Ferulok® flareless tube fittings.

Ferulset provides a fast and easy way to manually pre-set the ferrule onto steel and stainless steel tube with the famous Ferulok “bite.” Ferulset bodies are manufactured from hardened steel for withstanding repeated pre-sets. A separate tool is required for each size tube; size 2 (1/8” O.D.) through size 32 (2” O.D.).

Fig. R84 — Ferulset®

HOW TO USE: Lubricate threads on tool, threads on nut, as well as tail and lead ends of ferrule with a suitable lubricant such as STP. Insert tube end with ferrule into tool until it bottoms against shoulder and thread the nut down until finger tight. Light wrenching may be required to get to a consistent starting position, especially with larger sizes. Hold tube steady against internal shoulder and tighten nut 1-3/4 turns. Loosen nut and inspect bite using inspection criteria outlined for Ferulok in the Assembly / Installation section.

Size	Tube O.D. (in.)	Part No.
2	1/8	**560576**
3	3/16	**560577**
4	1/4	**560578**
5	5/16	**560579**
6	3/8	**560580**
8	1/2	**560581**
10	5/8	**560582**
12	3/4	**560583**
14	7/8	**560584**
16	1	**560585**
20	1 1/4	**560586**
24	1 1/2	**560587**
32	2	**560589**

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

VOMO Pre-Assembly Bodies

For EO and EO-2 Flareless Metric Tube Fittings

VOMO tools are made of hardened tool-steel, for standard assembly of steel fittings, stainless steel fittings and hose standpipes (BE).

Refer to the EO/EO2 Assembly and Installation section for use information (page S28).

NOTE: It is strongly recommended that a hydraulic tool be used to preset EO and EO-2 fittings in sizes 30S, 35L, 38S and 42L.

Fig. R85 — VOMO Pre-Assembly Tool

Series	Tube O.D. (mm)	Part No.
LL	4	**VOMO04LLX**
LL	6	**VOMO06LLX**
LL	8	**VOMO08LLX**
LL	10	**VOMO10LLX**
LL	12	**VOMO12LLX**
L	6	**VOMO06LX**
L	8	**VOMO08LX**
L	10	**VOMO10LX**
L	12	**VOMO12LX**
L	15	**VOMO15LX**
L	18	**VOMO18LX**
L	22	**VOMO22LX**
L	28	**VOMO28LX**
L	35	**VOMO35LX**
L	42	**VOMO42LX**
S	6	**VOMO06SX**
S	8	**VOMO08SX**
S	10	**VOMO10SX**
S	12	**VOMO12SX**
S	14	**VOMO14SX**
S	16	**VOMO16SX**
S	20	**VOMO20SX**
S	25	**VOMO25SX**
S	30	**VOMO30SX**
S	38	**VOMO38SX**

Hyferset

Parker Hydraulic Ferrule Pre-Setting Tool for Ferulok® Fittings and EO/EO-2 Metric Fittings

PORTABLE...EFFICIENT...EASY TO USE

The Hyferset is an efficient, dependable device for pre-setting Parker ferrules on tube of steel and stainless steel. This task is made easy through hydraulic power provided by a hand or electric pump. The equipment is portable, and has an optional sturdy wood carrying case.

In hydraulic pre-setting, little physical strength is required by the operator to set ferrules properly. Although the amount of force needed increases as the ferrule size increases, the pressure can be easily achieved.

This tool accommodates pre-setting dies for tubes ranging in size from 4 through 32 (1/4" through 2" outside diameter) and 6mm to 28mm O.D. metric sizes. The tube, with tube nut and ferrule, is positioned in the die. The hydraulic "push" of the Hyferset pre-sets the ferrule onto the tube — producing a visible ridge of metal, in front of the sleeve bite edge, that can be easily inspected.

Positive Stop Body Dies (For Ferulok Fittings Only)

The positive stop body die design eliminates the need for predetermined relief valve settings, pressure gauges or chart reading. Positive stop feature allows for uniform assemblies to be made on tube from 1/4" thru 2". One set of dies can be used on both steel and stainless steel tube. When used in conjunction with the Ferulok visible bite ferrules, the entire system is the most reliable method available for assembling a fitting to a piece of tube.

See Appendix for pre-setting pressures for EO and EO-2 steel fittings.

You will find instructions for proper use in the 4393-B1 user manual.

Fig. R86 — Hyferset

Fig. R87 — Electric Pump

Fig. R88 — Hand Pump

COMPONENTS REQUIRED

Part Name	Part No.
*Hyferset (basic unit, no accessories)	**611011A**
*Hyferset Adapter	**6 FLO-S**
Gauge "T" Adapter	**6 R6LO-S**
*Hose Assembly	**910004**
Gauge Swivel Adapter	**6 G6L-S**
Pressure Gauge (0 - 10,000 psi)	**900044**
*Hand pump (10,000 psi, 2 speed)	**900086**
Electric pump (10,000 psi, 1/2 HP, 40-125 volt)	**900085**
Nut die set (1/4" to 2" O.D.)	See page R39
Positive Stop body die (1/4" to 2" O.D.)	See page R39
Nut Die Set (6mm to 28mm)	See page R40
Body Die (6mm to 28mm)	See page R40

* Included in Hyferset Kit

Part Name	Part No.
Hyferset Kit Includes basic unit, hand hydraulic pump, hose assembly, 1 adapter (6 FLO-S), wooden carrying case, operation manual and video.	**611049C**

Fig. R89 — Hyferset Kit

Dimensions and pressures for reference only, subject to change.

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OPTIONAL ACCESSORIES

Part Name	Part No.
Wooden carrying case	**651085**

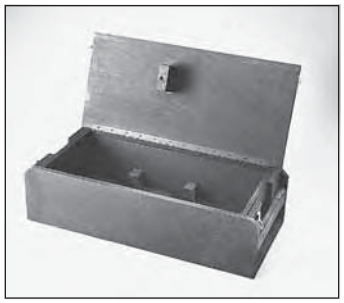

Fig. R90 — Hyferset Wood Carrying Case

Hyferset Body Dies for Ferulok Fittings

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

Fig. R91 — Body Die

Hyferset Nut Dies for Ferulok Fittings

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

Fig. R92 — Nut Die

Hyferset Body Dies for EO / EO-2 Fittings

Series	Tube O.D. Size (mm)	Part No.
L	6	**910290-6L**
L	8	**910290-8L**
L	10	**910290-10L**
L	12	**910290-12L**
L	15	**910290-15L**
L	18	**910290-18L**
L	22	**910290-22L**
L	28	**910290-28L**
S	6	**910289-6S**
S	8	**910289-8S**
S	10	**910289-10S**
S	12	**910289-12S**
S	14	**910289-14S**
S	16	**910289-16S**
S	20	**910289-20S**
S	25	**910289-25S**

Fig. R93 — Body Die

Hyferset Nut Dies for EO / EO-2 Fittings

Tube O.D. Size (mm)	Part No.
6	**910291-6 mm**
8	**910291-8 mm**
10	**910291-10 mm**
12	**910291-12 mm**
14	**910291-14 mm**
15	**910291-15 mm**
16	**910291-16 mm**
18	**910291-18 mm**
20	**910291-20 mm**
22	**910291-22 mm**
25	**910291-25 mm**
28	**910291-28 mm**

Fig. R94 — Nut Die

Hydra-Tool

Pre-Setting Components

COMPONENTS REQUIRED

Part Name	Part No.
*Hydra-Tool (basic unit) (Fig. S98)	**710400B**
Hand pump (10,000 psi, 2 speed)	**900086**
Electric pump (10,000 PSI, 1/2 HP, 40-125 volt)	**900085**
*Hose Assembly	**910004**
Back-up Plate (sizes -4 to -32 and 6mm to 28mm)	**770102**
Back-up Plate (sizes 30 to 42mm)	See page R42
Ram Insert (sizes -4 to -32)	**770101**
Small Ram Insert (EO & EO-2 only)	**971108**
Large Piston Stop Adapter (EO & EO-2 only)	**971107**
Nut die set (1/4" to 2" O.D.)	See below
Positive Stop body die (1/4" to 2" O.D.)	See below
Nut Die Set (6mm to 42mm)	See page R42
Body Die (6mm to 42mm)	See page R42
*Pressure Gauge (0 - 10,000 psi)	**900044**
*Male Adapter	**6-8 F5OLO-S**
*Adapter	**6 G6L-S**
*Hydra-Tool Gauge Adapter	**6 R6LO-S**
*Lubricant	**STP**

* Included in Kit

**STP lubricant is the only lubricant recommended for use with the Hydra-Tool.

See Appendix for pre-setting pressures.

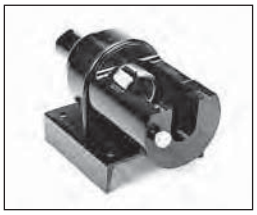

Fig. R95 — Hydra Tool

Fig. R96 — Ram Insert (Ferulok Only)

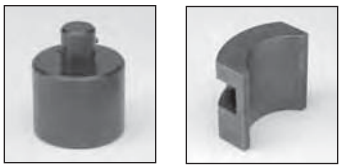

Fig. R97 — Small Ram Insert and Stop Adapter (EO and EO-2 only)

Hydra-Tool Kit

Part Name	Part No.
Hydra-Tool Kit (for use with electric or hand pump) Includes basic unit, gauge adapter, Hydra-Tool connector, lubricant, adapter, carrying case, hose assembly, operation manual and video.	**720370B-3**

Fig. R98— Hydra-Tool Kit

Hydra-Tool Body Dies for Ferulok Fittings

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

Fig. R99 — Body Die

Hydra-Tool Nut Dies for Ferulok Fittings

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

Fig. R100— Nut Die

Dimensions and pressures for reference only, subject to change.

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Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Hydra-Tool Body Dies for EO / EO-2 Fittings

Series	Tube O.D. Size (mm)	Part No.
L	6	910290-6L
L	8	910290-8L
L	10	910290-10L
L	12	910290-12L
L	15	910290-15L
L	18	910290-18L
L	22	910290-22L
L	28	910290-28L
L	35	910290-35L
L	42	910290-42L
S	6	910289-6S
S	8	910289-8S
S	10	910289-10S
S	12	910289-12S
S	14	910289-14S
S	16	910289-16S
S	20	910289-20S
S	25	910289-25S
S	30	910289-30S
S	38	910289-38S

Fig. R101 — Body Die

Fig. R102 — Back up Plate

Hydra-Tool Nut Die / Split Back-up Plate Sets for EO / EO-2 Fittings

Tube O.D. Size (mm)	Part No.
6	910291-6 mm
8	910291-8 mm
10	910291-10 mm
12	910291-12 mm
14	910291-14 mm
15	910291-15 mm
16	910291-16 mm
18	910291-18 mm
20	910291-20 mm
22	910291-22 mm
25	910291-25 mm
28	910291-28 mm
30	970135-30 mm
35	970135-35 mm
38	970135-38 mm
42	970135-42 mm

Fig. R103 — Split Nut Dies

Fig. R104— Nut Die

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

EO-Karrymat

The EO-Karrymat is a dependable device for safe and efficient bite-type pre-setting. It allows pre-assembly of all sizes of EO, EO-2 and Ferulok fittings without the need for electric power.

The EO-Karrymat consists of a hydraulic drive, Handpump and pressure gauge, all firmly attached to a carrying case.

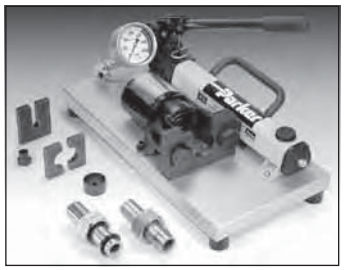

Fig. R105— EO-Karrymat

Part Name	Part No.
EO-Karrymat	**EOKarrymat**

EO-Karrymat Body Dies for EO / EO-2 Fittings

Series	Tube O.D. (mm)	Part No.
LL	4	**MOK04LLX**
LL	6	**MOK06LLX**
LL	8	**MOK08LLX**
LL	10	**MOK10LLX**
LL	12	**MOK12LLX**
L	6	**MOK06LX**
L	8	**MOK08LX**
L	10	**MOK10LX**
L	12	**MOK12LX**
L	15	**MOK15LX**
L	18	**MOK18LX**
L	22	**MOK22LX**
L	28	**MOK28LX**
L	35	**MOK35LX**
L	42	**MOK42LX**
S	6	**MOK06SX**
S	8	**MOK08SX**
S	10	**MOK10SX**
S	12	**MOK12SX**
S	14	**MOK14SX**
S	16	**MOK16SX**
S	20	**MOK20SX**
S	25	**MOK25SX**
S	30	**MOK30SX**

Fig. R106 — MOK Body Die

Dimensions and pressures for reference only, subject to change.

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http://www.parker.com/tfd

EO-Karrymat Nut Dies for EO / EO-2 Fittings

Series	Tube O.D. (mm)	Part No.
LL	4	**GHP04X**
LL	6	**GHP06X***
LL	8	**GHP08X***
LL	10	**GHP10X***
LL	12	**GHP12X***
L	6	**GHP06X***
L	8	**GHP08X***
L	10	**GHP10X***
L	12	**GHP12X***
L	15	**GHP15X**
L	18	**GHP18X**
L	22	**GHP22X**
L	28	**GHP28X**
L	35	**GHP35X**
L	42	**GHP42X**
S	6	**GHP06X***
S	8	**GHP08X***
S	10	**GHP10X***
S	12	**GHP12X***
S	14	**GHP14X**
S	16	**GHP16X**
S	20	**GHP20X**
S	25	**GHP25X**
S	30	**GHP30X**
S	38	**GHP38X**

* Nut Dies for 6-12mm are identical in LL, L and S series.

Fig. R107 — GHP Nut Die

EO-Karrymat Body Dies for Ferulok Fittings

Tube Size (in.)	Part No.
1/4	**976521-4**
3/8	**976521-6**
1/2	**976521-8**
5/8	**976521-10**
3/4	**976521-12**
7/8	**976521-14**
1	**976521-16**
1 1/4	**976521-20**
1 1/2	**976521-24**
2	**976521-32**

Fig. R108 — EO-Karrymat Body Die for Ferulok

EO-Karrymat Back-up Plates for Ferulok Fittings

Tube Size (in.)	Part No.
1/4	**975867-4**
3/8	**975867-6**
1/2	**975867-8**
5/8	**975867-10**
3/4	**975867-12**
7/8	**975867-14**
1	**975867-16**
1 1/4	**975867-20**
1 1/2	**975867-24**
2	**975867-32**

Fig. R109 — EO-Karrymat Back-up Plates for Ferulok

Dimensions and pressures for reference only, subject to change.

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Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

O-Ring Pick

Plastic O-ring pick allows for easy removal of O-rings without causing damage to the fitting.

Part Name	Part No.
O-Ring Pick	**O-Ring Pick**

Fig. R110 — O-Ring Pick

Captive O-Ring Assembly Tool

The captive O-ring (CORG) assembly tool utilizes a Parker patented method for inserting O-rings in ORFS fittings, such as Seal-Lok, without causing O-ring damage. These tools can be used both as a hand tool and a bench-mounted tool. All CORG tools have a #8-32 tapped hole to allow easy mounting.

Fitting Size	L (in.)	D1 (in.)	D2 (in.)	O-Ring Size	Part No.
-4	1.4	0.8	0.6	2-011	**CORG-4**
-6	1.5	0.9	0.6	2-012	**CORG-6**
-8	1.5	1.1	0.8	2-014	**CORG-8**
-10	1.6	1.3	0.9	2-016	**CORG-10**
-12	1.9	1.4	1.1	2-018	**CORG-12**
-16	1.9	1.7	1.3	2-021	**CORG-16**
-20	2.1	1.9	1.6	2-025	**CORG-20**
-24	2.1	2.3	1.9	2-029	**CORG-24**
-32	2.2	2.8	2.4	2-135	**CORG-32**

Fig. R111 — Captive O-Ring Assembly Tool

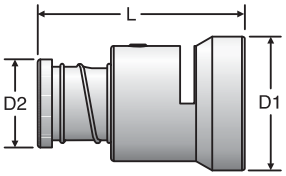

Fig. R112 — Captive O-Ring Assembly Tool dimensions

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Braze Flux

Black braze flux can be used for brazing either steel or stainless steel components. When applied liberally this flux helps the flow of the silver braze alloy and prevents oxidation.

Part Name	Part No.
Black Flux	**Black Flux 1/2 lb**
Black Flux	**Black Flux 1 lb**

Fig. R113 — Braze Flux

Post Braze Cleaner

This cleaner is used to clean the assembly after brazing. Once the silver braze alloy has solidified, immediately immerse the joint into the braze cleaner solution. The cleaner combined with the sudden change in temperature removes the flux from the assembly. Braze cleaner does not provide corrosion protection. See "Corrosion Protection After Brazing" in the Assembly / Installation section, page S17.

Available in sizes 2 1/2 lb. and 5 lb. jars. When ordering simply denote quantity after Braze Cleaner.

Part Name	Part No.
Braze Cleaner	**Braze Cleaner 2 1/2 lb**
Braze Cleaner	**Braze Cleaner 5 lb**

Fig. R114 — Post Braze Cleaner

Lubricants

Lubricants act as friction reducers to ease forming processes, fitting assembly and prevent galling, corrosion and seizing of components. The use of the correct lubricant for various purposes is critical to achieve maximum tool life during forming processes and performance of threaded connections.

Parflange® Lubricants

Lubricants are used to maximize tool life during the flanging process. Selection of the appropriate lubricant for the type of Parflange machine is critical to its proper operation.

Part Description	Part No.
Recommended for use with steel or stainless steel	**LB 2000** (8 oz.)

Fig. R115 — Parflange Lubricant, LB 2000

Flaring and Presetting Lubricants

High pressure lubricant is necessary to maximize tool life and assure flare/preset quality during the associated processes. STP lubricant is recommended for lubrication of all presetting tools and for the flaring tooling associated with the Hydra-Tool and Karryflare machines.

Part Description	Part No.
Flaring and Presetting Lubricant	**STP**

Fig. R116 — STP Lubricant

EO / EO-2 Fitting Lubricants

EO Niromont lubricants are specifically developed for lubrication of threads prior to assembly of EO and EO-2 fittings.

Part Description	Part No.
EO Niromont – Liquid 250cc bottle	**Niromont Liquid**
EO Niromont – Paste 130 g. tin	**Niromont Paste**

Fig. R117 — EO Niromont

Loctite Anti-Seize Lubricant

This highly refined blend of aluminum, copper and graphite lubricant is designed for use during assembly of threaded components to prevent galling, corrosion and seizing in temperatures of -65°F to +1600°F. This lubricant also assures easier assembly. The lubricant is salt-, corrosion- and moisture-resistant. Applications: Stainless steel threads for reduced chance of galling.

Part Description	Part No.
4 oz. Tube, Brush Top	**80209**
8 oz. Bottle, Brush Top	**76732**
13 oz. Aerosol	**76759**
8 oz. Bottle, Marine Grade	**34395**
16 oz. Bottle, Marine Grade	**34026**

Fig. R118 — Loctite Anti-Seize Lubricant

Dimensions and pressures for reference only, subject to change.

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Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Super-Lube® PTFE Grease

Super-Lube® is developed for lubricating against friction and wear of mating components. It withstands temperatures ranging from -45°F to +450°F.

Part Description	Part No.
Super-Lube® 11 oz. Aerosol	**20029**

Fig. R119 — Super-Lube

Loctite Penetrating Oil

This product penetrates, lubricates and displaces moisture in mating components. Loctite Penetrating Oil also protects against rust and corrosion.

Part Description	Part No.
16 oz. Aerosol	**51221**

Fig. R120 — Loctite Penetrating Oil

O-Ring Lubricants

Parker O-Lube

O-Lube is an outstanding general-purpose grease intended for use with O-rings and other seals in hydraulic and pneumatic systems. The temperature range is from -29°C to +82°C (-20°F to +180°F).

Part Description	Part No.
O-ring Lubricant	**OLUBE-884-4-TFD**

Fig. R121 — Parker O-Lube

Parker Super O-Lube

Super O-Lube is an all-purpose O-ring lubricant. It is not a grease, but rather a high-viscosity silicone oil. The temperature range is -54°C to +204°C (-65°F to +400°F).

Part Description	Part No.
O-ring Lubricant	**SLUBE-884-2-TFD**

Fig. R122 — Parker Super O-Lube

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Thread Sealants

Thread sealants seal and secure metal pipes and fittings by filling the space between the threaded metal parts. Thread sealants harden to prevent leakage caused by vibration loosening, solvent evaporation, damaged threads and temperature cycling. Designed for low and high pressure applications, thread sealants seal quickly for on-line low pressure testing. When fully cured, they seal to the burst strength of most systems. Thread sealants are easily remove with basic hand tools. Thread sealants can be used on pipe thread fittings.

Threadmate™ Sealant/Lubricant

Threadmate™ is an extreme-duty lubricant developed to reduce galling during the assembly of pipe thread fittings. Threadmate™ promotes reliable sealing of pipe threads, even at high pressure. Recommended for use on stainless steel pipe threads.

Size available	Part No.
4 oz. tube	**MTM04T-TFD**

Fig. R123 — Threadmate Sealant/Lubricant

Loctite Thread Sealant 567

Formulated specifically for metal tapered pipe thread fittings. PST 567 cures rapidly to provide immediate low pressure sealing. Its controlled lubricity prevents galling and it protects mated thread areas from rust and corrosion. Performs in temperatures ranging from -65°F to +400°F. Application: Stainless steel tapered pipe threads.

Part Description	Part No.
6 ml Tube	**56707**
50 ml Tube	**56747**

Fig. R124 — Loctite Thread Sealant 567

Loctite Thread Sealant 545

Designed for both hydraulic and pneumatic systems, 545 contains no fillers or particles which could contaminate system fluids, foul valves, or clog fine filters and screens. Applications: Steel and brass tapered pipe threads. Temperature range: -65°F to +300°F.

Part Description	Part No.
.5 ml Capsule	**54505**
50 ml Bottle	**54531**

Fig. R125 — Loctite Thread Sealant 545

Dimensions and pressures for reference only, subject to change.

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Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Pipe Thread Sealing Cord

Loctite 55 Pipe Sealing Cord is a general purpose threaded pipe sealant. It is a non-curing, coated multifilament cord that seals fluids and gases in pipe threads up to 4". Sealant temperature ranges from -65°F to +300°F.

Part Description	Part No.
Pipe Thread Sealing Cord, 5,700 in	**35082**

Fig. R126 — Pipe Thread Sealing Cord

Thread Sealant Tape

Part Description	Part No.
1/2" x 520" Spools	**PTFE Tape**

Fig. R127 — PTFE Tape

Threadlockers

Thread lockers perform by filling the space between threaded metal parts and hardening to form a tough, adhesive bond and seal. Threadlockers seal the threads against leakage and prevent rust and corrosion. Threadlockers can be used on fasteners. Some threadlockers require extra effort or special tools for removal.

Loctite Primer N

Loctite 7649 Primer N decreases the set-up time of Loctite threadlockers and increases breakaway torque on most fastener surfaces. It allows for cold weather application. Applications: Use with Loctite threadlockers, thread sealants and retaining compounds.

Part Description	Part No.
25 g Aerosol	**21347**
4.5 oz. Aeorosol	**21348**

Fig. R128 — Loctite 7649 Primer N

Threadlocker 242

All-purpose, medium strength threadlocker is ideal for all nut and bolt applications. It eliminates the need for stocking expensive locknuts and washers. Its other advantages include locking and sealing while preventing parts loosening during vibration, protecting threads from corrosion, and easy disassembly with hand tools. Applications: All fastener applications. Temperature range: -65°F to +300°F.

Part Description	Part No.
10 ml Tube	**24221**
50 ml Tube	**24231**

Fig. R129 — Loctite Threadlocker 242

Dimensions and pressures for reference only, subject to change.

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Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Loctite High Strength Threadlocker 271

High strength threadlocker for heavy-duty applications is especially well-suited for permanently locking studs and press fits. It replaces set screw and snap rings and locks against vibration loosening. Applications: Permanent fastener requirements. Temperature range: -65°F to +300°F. DO NOT USE THIS PRODUCT WITH PARKER TUBE FITTINGS. RECOMMENDED ONLY FOR FASTENER APPLICATIONS.

Part Description	Part No.
10 ml Tube	**27121**
50 ml Tube	**27131**

Fig. R130 — Loctite High Strength Threadlocker 271

Cleaners

Loctite cleaners and degreasers are designed for various applications to remove grease, grime, paint, adhesives and other soils your working hands get into. Fast Orange hand cleaners have aded conditioners to prevent your hands from cracking and drying out.

Loctite Fast Orange Hand Cleaner

Fast Orange is the #1 selling biodegradable, waterless petroleum solvent-free hand cleaner that contains no harsh chemicals, mineral oils or ammonia that can sting cuts and abrasions. Pure, fresh smelling natural citrus power does the cleaning. With aloe, lanolin, jojoba, and now Corn Huskers Lotion® for added skin conditioning and protection, its smooth formula gently deep cleans the toughest dirt. Applications: Clean-up of resins, oil, grease, tar, ink, epoxies, paint and various adhesives.

Part Description	Part No.
Industrial Hand Wipes, 75 count	**34943**

Fig. R131 — Loctite Fast Orange Hand Cleaner

Loctite Natural Blue® Degreaser

This biodegradable, all-purpose, industrial strength, concentrated cleaner and degreaser can be easily diluted with water for use in a variety of cleaning applications. Non-flammable and non-toxic.

Part Description	Part No.
24 oz. Spray Bottle	**82249**
1 Gallon Concentrate	**82251**

Fig. R132 — Loctite Natural Blue® Degreaser

Loctite Pro Strength Parts Cleaner

This product was developed to aggressively penetrate, dissolve and remove oil and grease from parts. Dries quickly with no residue.

Part Description	Part No.
19 oz. Aerosol	**30548**

Fig. R133 — Loctite Pro Strength Parts Cleaner

Loctite Rack

Parker's Loctite Rack makes a convenient counter top display for Loctite products. No supplies included.

Part Description	Part No.
Loctite Product Rack	**RACK**

Fig. R134 — Loctite Rack (Supplies not included)

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Tube Preparation Centers

Parker offers five different styles of tube preparation centers to meet various user's needs, from the basic TP-1 unit which includes a cabinet and deburr unit, to the TP1025 which offers the ability to cut, deburr, Parflange and flare tube.

Utilizing a sturdy steel cabinet with bins for fitting storage, tooling shelves and heavy duty casters to ease mobility, Parker Tube Preparation Centers cover almost every tube preparation need. All machines require 110V, 20A power supply.

Fig. R135 — Tube Preparation Center TP1025

Part Description	**Part No.**
Tube Prep Center with Deburr Unit	**TP-1**
Tube Prep Center with Deburr and Saw	**TP-974250**
Tube Prep Center with Deburr, Saw and Hydratool	**TP432**
Tube Prep Center with Deburr, Saw and Hyferset	**TP-611011A**
Tube Prep Center with Deburr, Saw and Karryflare Tool	**TP-Karryflare**
Tube Prep Center with Deburr, Saw and 1025 Parflange	**TP1025**

Replacement Parts	**Part No.**
I.D. Deburr Cone	**971816**
O.D. Deburr Blades (set of 6)	**910485**
Cutting Lubricant	**Saw Lube**
Saw Blade – 250 mm x 2.0 mm thick (all purpose)	**987036**
Saw Blade – 200 mm x 2.0 mm thick (all purpose)	**987037**
Flaring tooling for TP432	See page R27 - R29
Presetting tooling for TP432 and TP-611011A	See page R38 - R40
Karryflare Flaring tooling	See page R30
Flanging tooling for TP1025	See page R24
Flaring tooling for TP1025	See page R24
Lubricant for TP432 / TP-611011A	**STP**
Lubricant for TP1025	**LB 2000**

Thread Identification Kit

The Thread Identification Kit can be used to identify metric, BSP, SAE and NPT threads, as well as SAE flanges. It contains thread gauges, calipers, thread profiles, and an instruction booklet that details most thread forms and connection styles found in fluidpower systems worldwide.

Part Name	Part No.
Thread Identification Kit	**MIK-1**

Fig. R136 — Thread Identification Kit

Portboards

The Portboards can be used for identification of ISO, SAE, BSP and NPT ports and port threads. They are machined with female threads for quick and easy identification by screwing in the male port end.

Portboard A (SAE Straight Thread -2 through -32 and NPT 1/8 through 1 1/2).

Part Name	Part No.
Portboard A	**Portboard A**

Fig. R137 — Portboard A

Portboard B (Metric 8mm through 48mm and BSP 1/8 through 1 1/2).

Part Name	Part No.
Portboard B	**Portboard B**

Fig. R138 — Portboard B

International Thread Kit

Parker's International Thread Kit offers the necessary tools to identify almost any thread you may encounter. The new ITK has LL, L and S series plugs to identify female DIN threads such as EO style hose ends. It also includes the MIK-1 and BSPP plugs in order to identify BSPP hose ends from 1/8" to 2".

Part Name	Part No.
International Thread Kit	**ITK**

Fig. R139 — International Thread Kit (ITK)

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
http://www.parker.com/tfd

Par-Lok® Wrench

360° Snap-action ratchet wrench for hex sizes from 3/8” to 2 1/4” across the flats and metric from 10mm to 50mm. Inch sizes meet government specifications and are listed as NSN-5120-00-474-7227. Wrenches are covered by a limited lifetime warranty. Damage due to over-torque is not covered by warranty.

Fig. R140 — Par-Lok Wrench

Install Tube Fittings Faster

Easy access ratchet wrench speeds fittings installation in tight locations. Rugged, snap-action jaws can be opened over tube lines, locked onto fitting hex and ratcheted within 1/8 turn. Full six point contact prevents fitting distortion common with wrench slippage. Ideal for tube line installations where compact runs require multiple fittings make-up, disassembly and remakes.

Fig. R141 — Par-Lok Wrench Kit

Specifications

Par-Lok wrenches are available individually or in six different kit combinations. Par-Lok jaws are constructed from drop-forged, high carbon steel material with a black conversion coat finish. Par-Lok handles are made from heavy gauge steel material, heat treated and with a corrosion resistant black finish. Solid stainless steel rivets and tempered jaw springs are designed into every wrench for maximum strength.

Fig. R142 — Par-Lok Wrench

Inch Hex Size Par-Lok Wrenches

Hex Size (in.)	Max. Torque (ft.-lbs.)	Part No.
3/8	24	**860062-6**
7/16	27	**860062-7**
1/2	32	**860062-8**
9/16	43	**860062-9**
5/8	65	**860062-10**
11/16	81	**860062-11**
3/4	92	**860062-12**
13/16	108	**860062-13**
7/8	135	**860062-14**
15/16	152	**860062-15**
1	162	**860062-16**
1 1/8	206	**860062-18**
1 1/4	238	**860062-20**
1 3/8	282	**860062-22**
1 1/2	314	**860062-24**
1 5/8	346	**860062-26**
1 7/8	364	**860062-30**
2	373	**860062-32**
2 1/4	391	**860062-36**

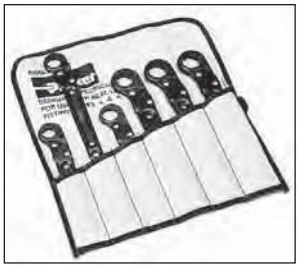

Fig. R143 — Seal-Lok Wrench Kit

Part Description	Part No.
Full kit of sizes 3/8” to 1”	**860062-KIT**
Full kit of sizes 1 1/8” to 2 1/4”	**860062-KIT2**
Seal-Lok Wrench Kit (5/8”, 11/16”, 3/4”, 13/16”, 7/8”, 15/16”)	**860062-LKIT**
Triple-Lok and Ferulok Wrench Kit (9/16”, 11/16”, 7/8”, 1”, 1 1/4”)	**860062-XUKIT**

Dimensions and pressures for reference only, subject to change.

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Metric Hex Size Par-Lok Wrenches

Hex Size (mm)	Max. Torque (ft.-lbs.)	Max. Torque (N-m)	Part No.
10	26	35	**860063-10**
11	27	37	**860063-11**
12	31	42	**860063-12**
13	33	45	**860063-13**
14	42	57	**860063-14**
16	65	88	**860063-16**
17	79	107	**860063-17**
19	92	125	**860063-19**
21	110	149	**860063-21**
22	131	178	**860063-22**
24	154	209	**860063-24**
27	74	100	**860063-27**
30	74	100	**860063-30**
32	125	170	**860063-32**
36	125	170	**860063-36**
41	229	310	**860063-41**
46	243	330	**860063-46**
50	243	330	**860063-50**

Fig. R144 — Triple-Lok and Ferulok Wrench Kit

Fig. R145 — Par-Lok Wrench Kit

Part Description	Part No.
Full kit of sizes 10mm to 22mm	**860063-KIT**
Full kit of sizes 27mm to 50mm	**860063-KIT2**

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Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
Vise Block with Flaring Pin	
4-2866	2.00
5-2866	2.00
6-2866	3.00
8-2866	3.50
10-2866	4.00
12-2866	12.00
14-2866	15.00
16-2866	18.00
20-2866	18.00
24-2866	20.00
Combination Flaring Tool	
210A	3.00
Rolo-Flare Tool	
945 TH	4.00
212FB	4.00
Hydra-Tool	
710400B	62.00
720370B-3	85.00
Accessories (Hydra-Tool)	
900044	1.00
910004	1.50
720377	16.00
710416	4.00
710412	3.00
710419	2.00
710411	2.00
710424-1	4.00
710424-2	4.00
710417-4	2.00
710417-5	2.00
710417-6	2.00
710417-8	2.00
710417-10	2.00
710417-12	2.00
710417-14	2.00
710417-16	2.00
710417-20	2.00
710415-24	2.00
710415-32	2.00
Power Source (Pumps)	
900085	30.00
900086	10.00
Flaring Dies - Metric (Hydra-Tool)	
770106-6	2.00
770106-8	2.00
770106-10	2.00
770106-12	2.00
770106-16	2.00
770106-18	2.00
770106-20	2.00
770106-25	2.00
770106-30	2.00
770106-32	2.00
Hydra-Tool Ferulok Pre-Set Tooling	
770101	5.00
770102	3.00

Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
Ferulset Tools (Ferulok Pre-Set Tool)	
560576	0.50
560577	0.50
560578	0.50
560579	0.50
560580	0.50
560581	0.50
560582	0.50
560583	0.50
560584	0.50
560585	0.50
560586	0.50
560587	1.00
560589	1.00
Hyferset (Ferulok Pre-Set Tool)	
611011A	35.00
Hyferset Accessories	
900086	10.00
910004	2.00
651085	15.00
Hyferset and Tooling	
611049C	53.00
680370-4	3.50
720105-4	0.50
680370-6	3.00
720105-6	0.50
680370-8	3.00
720105-8	0.50
680370-10	2.50
720105-10	0.50
680370-12	2.50
720105-12	0.50
680370-14	2.50
720105-14	0.50
680370-16	1.50
720105-16	1.00
680370-20	2.00
720105-20	1.00
680370-24	1.50
720105-24	1.00
680370-32	1.50
720105-32	1.00
Straight Thread Taps and Counterbores	
7/16-20 UNF-2B	1.00
9/16-18 UNF-2B	1.00
3/4-16 UNF-2B	1.00
7/8-14 UNF-2B	1.50
1 1/16-12 UN-2B	1.75
1 3/16-12 UN-2B	2.00
1 5/16-12 UN-2B	2.00
1 5/8-12 UN-2B	2.50
1 7/8-12 UN-2B	2.50
2 1/2-12 UN-2B	3.00

Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
Straight Thread Taps and Counterbores (Cont'd)	
Y-34730	0.50
Y-34731	0.50
Y-34732	0.50
Y-34733	0.75
Y-34734	1.00
Y-34735	1.00
Y-34736	1.50
Y-34737	1.50
Y-34738	1.75
Y-34739	2.00
Y-34740	2.00
Y-34741	2.50
Y-34743	2.50
Par-Lok Wrenches	
860062-Kit	4.50
860062-Kit 2	28.00
860063-Kit	4.00
Tube Cutters	
218B	1.00
1232	3.00
Parker Tru-Kut Sawing Vise	
710439	9.00
974250	198.00
Deburring Tools	
226A	1.00
972125	90.00
Hand Tube Benders	
2-2829S	2.00
3-2829S	2.00
4-2829S	2.50
5-2829S	2.50
6-2829S	3.00
8-2829S	3.00
10-2829	8.00
12-2829	15.00
14-2829	15.00
16-2829	16.00
4-2829AH	1.20
6-2829AH	3.70
8-2829AH	7.60
Exactol Tube Benders (412 & 424)	
560569	18.50
550570	5.00
550572	25.50
621044	38.00
631156	10.00
412 Kit	42.00
424 Kit	—
Slide Blocks (412 & 424)	
550585	3.50
621045	5.00
870150	5.00

(Continued on next page)

Table R10 — Tube Fabricating Equipment Weight Chart

Dimensions and pressures for reference only, subject to change.

Parker Hannifin Corporation
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Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
Radius Blocks (412 & 424)	
550579	1.00
550580	1.00
550581	2.50
550582	3.00
550583	4.00
550584	5.00
621046	7.00
621047	9.00
621048	9.50
621049	10.00
870149	11.00
Small Radius Blocks (412 & 424)	
550573	2.00
550574	2.00
550575	2.50
550576	2.50
550577	3.00
550578	4.00
Close Bend Radius Blocks	
590533	2.00
590535	3.00
590537	3.00
Metric Slide Blocks (412 & 424)	
820091	3.00
820092	5.00
820093	5.00
Metric Radius Blocks (412 & 424)	
820090-6mm	1.00
820090-8mm	2.00
820090-10mm	2.00
820090-12mm	3.00
820090-14mm	3.00
820090-15mm	4.00
820090-16mm	4.50
820090-18mm	6.50
820090-20mm	7.00
820090-22mm	9.00
820090-25mm	9.50
820090-28mm	10.00
820090-30mm	10.50
820090-32mm	11.00
Tube Preparation Centers	
TP432	560.00
TP1025	880.00
EO Presetting Tooling	
Nut Die	1.75
Body Die	.75
EO-Karrymat	55.00

Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
HB632 Hydraulic Tube Bender	
631050 (632)	245.00
660221	8.00
900085	30.00
Radius Blocks (HB632)	
540502	3.00
530763	3.50
530764	4.00
530765	6.00
530766	10.00
530768	14.00
530770	54.00
590512-18	35.00
590515-24	4.00
590518-30	6.00
590521-36	7.00
590523-42	8.00
590524-48	10.00
590526-54	12.00
590630-72	16.00
631060-128	50.00
Close Bend Radius Blocks for HB632	
530597	3.50
530601	5.00
530605	6.00
530609	8.00
530613	10.50
530621	12.00
530625	13.00
Metric Radius Blocks for HB632	
810023	3.00
780175	3.50
780176	4.00
780177	4.00
780178	5.00
780179	6.00
780180	8.00
780181	9.00
780182	10.50
780183	12.00
780184	13.00
CP432 Parflange Machines	225.00
1025	175.00
Metric Close Bend Radius Blocks for HB632	
780185	3.50
780186	3.50
780187	4.00
780188	5.00
780189	6.00
780190	6.50

Tube Fabricating Equipment Weights	
Part No.	**Approx. Ship Weight (lbs.)**
Clamp Blocks for HB632	
864266	4.00
631092	3.00
631093	3.00
027418-28	5.00
027418-32	5.00
Metric Clamp Blocks for HB632	
790017	3.00
780194	4.00
780195	3.00
780186	4.00
Metric Slide Blocks for HB632	
790016	8.00
780191	11.00
780192	9.00
780193	8.00
Bender Table	
520515	470.00
Mandrel Rod Stop Assemblies	
550571	5.00
631141	20.00
Universal Side Angle Indicator	
520520	25.00
Karryflare	116.00
Inch Flaring Dies for Karryflare	
M 047415-1	4.00
M 157408-1	4.00
M 067415-1	4.00
M 087415	4.00
M 107415	3.50
M 127415	3.50
M 167415	3.50
M 207415	3.00
M 157438	3.00
Parflange Tooling	
Pin and Die Set (1025)	4.50
Pin (1025)	.75
Die (1025)	3.75

Table R10 — Tube Fabricating Equipment Weight Chart (cont'd.)

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