



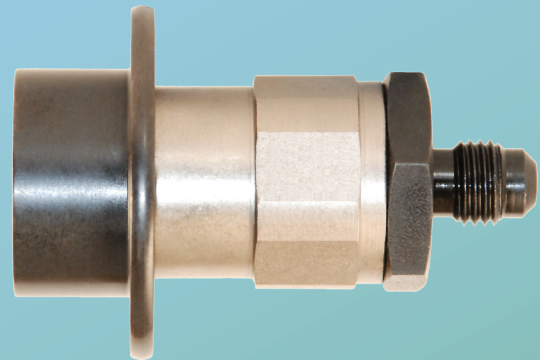
# Production Control Units, Inc.

2280 West Dorothy Lane, Dayton, Ohio 45439-1892

Phone (937) 299-5594 FAX: (937) 299-4843

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## SERVICE BULLETIN for Series HFC-134a BalLoc Coupler Model 86 (Low Side)



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# Production Control Units, Inc.-Coupler Products

2280 West Dorothy Lane, Dayton, Ohio 45439-1892 USA - Phone (937) 299-5594 - FAX: (937) 299-4843  
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## Coupler Application Data Inquiry

Company \_\_\_\_\_ Phone # \_\_\_\_\_

Contact \_\_\_\_\_ Fax # \_\_\_\_\_

Address \_\_\_\_\_ E-mail \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Country \_\_\_\_\_ Zip \_\_\_\_\_

Type & brand name for current coupler \_\_\_\_\_

Customer product manufactured \_\_\_\_\_

### Type of coupler required

Size and type of tube or port to be sealed \_\_\_\_\_

☐ Straight ☐ Swaged ☐ Expanded ☐ Other \_\_\_\_\_

Length of tube or port available for coupler \_\_\_\_\_

Quantity required \_\_\_\_\_

Delivery due date \_\_\_\_\_

### How will the coupler be used?

Refrigerant processing

What type of refrigerant? (HFC-134a, HP62, R-22, etc.) \_\_\_\_\_

Oil processing

What type of oil (Mineral, Polyol Ester, PAG, etc.) \_\_\_\_\_ (Attach MSDS)

Leak Burst testing

Maximum pressure & type of test media? (Air, Helium, etc.) \_\_\_\_\_

Vacuum

What level of vacuum needs to be achieved? \_\_\_\_\_

What Oil be present during vacuum pump down? \_\_\_\_\_

If "yes", what type of oil? \_\_\_\_\_

### Additional process information

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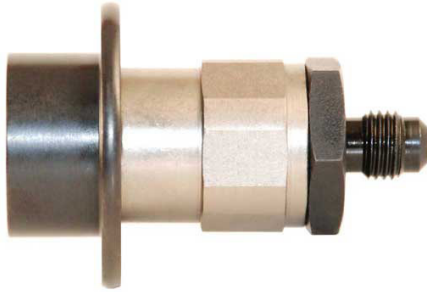
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Along with your request for quote, please provide (1) copy of print showing area to be sealed, and (3) quality sample parts.

NOTE: The Data Inquiry form is available in pdf format on our web site at

[www.PCUInc.com](http://www.PCUInc.com)



## GENERAL DESCRIPTION

The Production Control Units Series HFC-134a BalLoc Coupler, Model 86, is designed for easy installation onto the SAE J639 low side process fitting. Use the Model 86 Coupler for evacuation or refrigerant charging with de minimus refrigerant loss to atmosphere from the Coupler.

These tough, compact, lightweight PCU couplers utilize heat-treated parts for interchangeability and long life oxide and nickel finishes resist corrosion. They provide a large, unrestricted flow rate for a variety of production uses while minimizing process material loss during coupling/uncoupling.

A six (6) ball detent lock provides instant positive coupling. Simply pull back the grooved locking ring on the coupler, slide the coupler over the low-side fitting and push together until the lock ring snaps to it's "lock position".

Because of the unique design of the Series HFC-134a BalLoc Couplers, they are able to be built using inexpensive O-ring seals which provide positive leak-tight shutoff. They will hold pressure from vacuum to 500 psig.

## COUPLER FEATURES & SPECIFICATIONS

**SAFE:** Positive ball-lock action prevents blow-off or premature loss of sealed connection.

**STRONG:** Holds pressures from 25 microns up to 500 psig, minimum proof pressure 4000 psig.

The standard Series HFC-134a Coupler incorporates Buna-N seals for HFC-134a with lubricants.

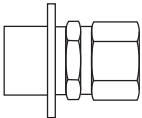
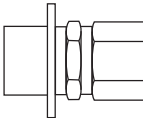
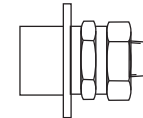
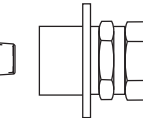
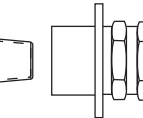
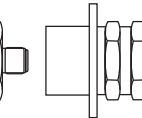
## MAINTENANCE INSTRUCTIONS

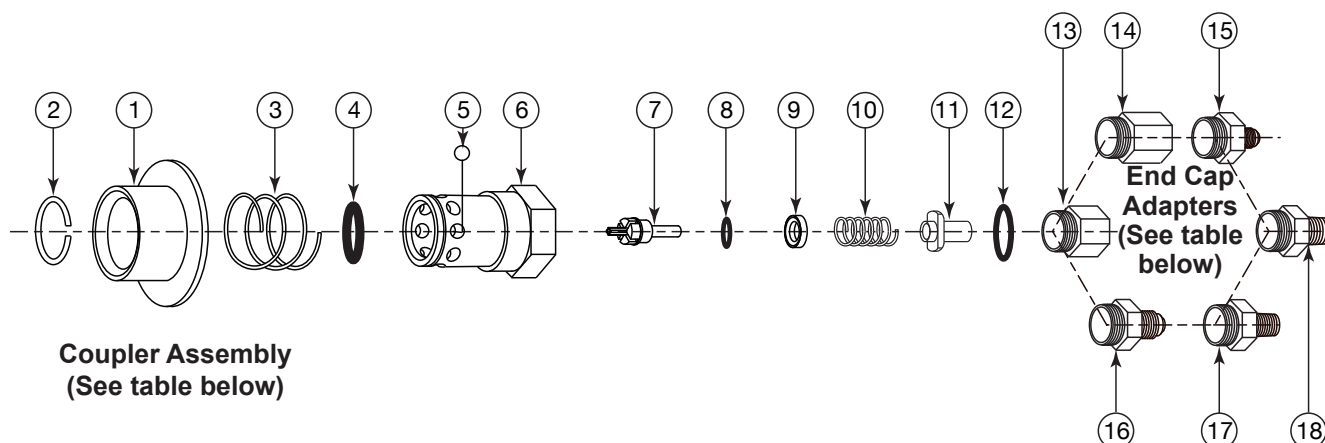
Coupler life is dependent upon a regular scheduled maintenance program. The application and its risk potential should determine frequency. PCU cannot determine a maintenance schedule due to the many factors involved: temperature, proper size selection, fluid compatibility, pressure, mechanical loads, user responsibility. User must establish a maintenance program based on previous service life. There are several factors that must be included when setting up a maintenance program: visual inspection for cracked, defective parts and excessively worn components; dirt or particle buildup in seal and clamping areas; thorough cleaning and proper lubrication; replace worn out and defective seals.

## SERIES HFC-134a COUPLERS

The basic Series HFC-134a coupler, less end cap adapter, consists of eleven parts, which must be assembled in correct order to assure proper functioning of the unit. Although all units are tested in our plant at 500 psig air and less than 50 microns vacuum, Production Control Units, Inc. cannot be responsible for any malfunction of the Series HFC-134a Coupler due to faulty servicing of the unit in the field by people other than PCU field engineers.

## HFC-134a REFRIGERANT SEALS

	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
						
COUPLER ASSEMBLY	<b>86211</b>	<b>86311</b>	<b>86231</b>	<b>86331</b>	<b>86221</b>	<b>86321</b>

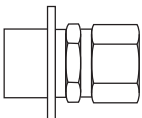
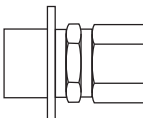
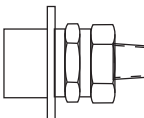
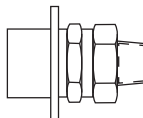
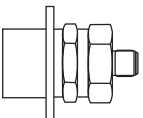
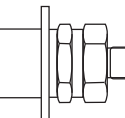


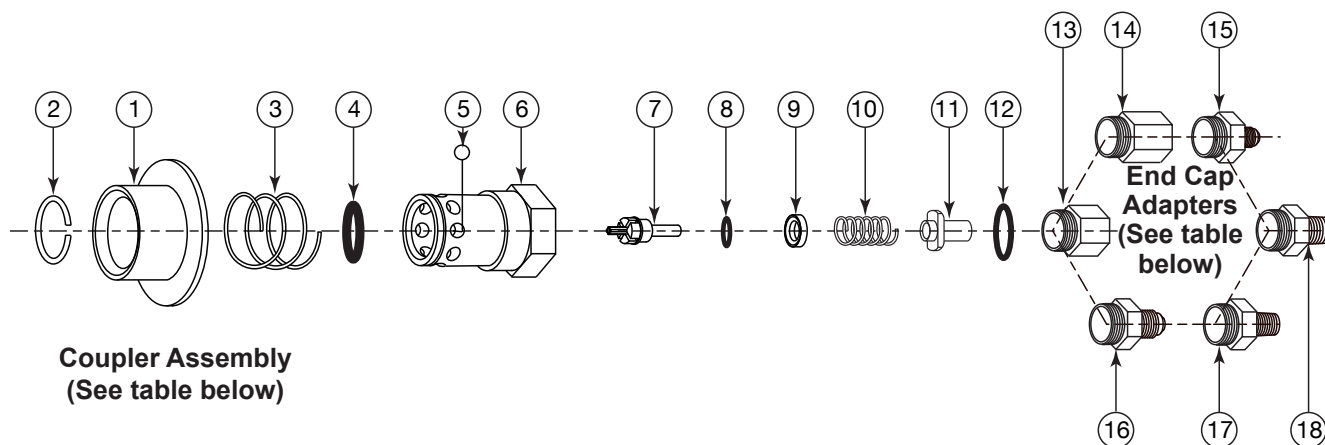
End Cap Adapters			
13.	86014 - 1/4" FPT	16.	86018 - 3/8" SAE FL
14.	86017 - 3/8" FPT	17.	86016 - 1/4" MPT
15.	86015 - 1/4" SAE FL	18.	86019 - 3/8" MPT

## REPLACEMENT PARTS LIST

Coupler Assembly HFC-134a REFRIGERANT SEALS					
1.	Retaining Ring	86004	7.	Coupler Valve Stem	87009
2.	Sleeve	86002	8.	Valve O-Ring	86012
3.	Coupler Sleeve Spring	86001	9.	O-Ring Retainer	86010
4.	Seal O-Ring	86011	10.	Coupler Valve Spring	86007
5.	Ball (6) Req'd	86003	11.	Perch	86008
6.	Coupler Body	86006	12.	End Cap O-Ring	86013

# BUNA-N (NITRILE) SEALS

	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
						
COUPLER ASSEMBLY	<b>86212</b>	<b>86312</b>	<b>86232</b>	<b>86332</b>	<b>86222</b>	<b>86322</b>

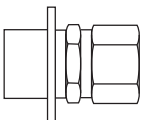
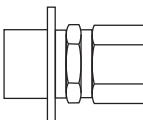
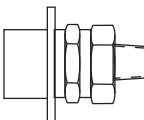
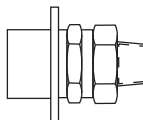
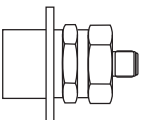
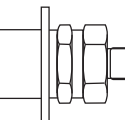


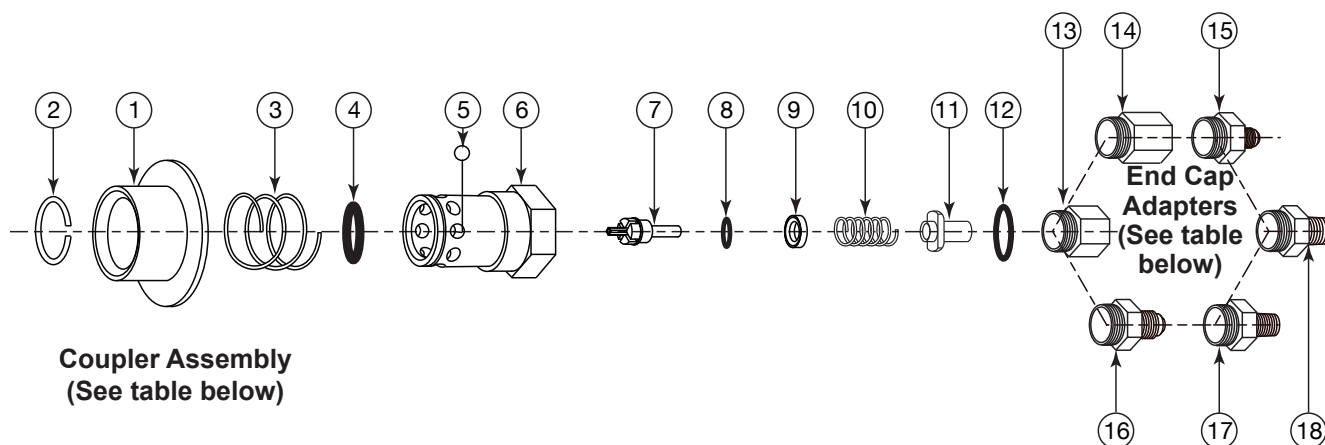
End Cap Adapters			
13.	86014 - 1/4" FPT	16.	86018 - 3/8" SAE FL
14.	86017 - 3/8" FPT	17.	86016 - 1/4" MPT
15.	86015 - 1/4" SAE FL	18.	86019 - 3/8" MPT

## REPLACEMENT PARTS LIST

Coupler Assembly BUNA-N (NITRILE) SEALS					
1.	Retaining Ring	86004	7.	Coupler Valve Stem	87009
2.	Sleeve	86002	8.	Valve O-Ring	86012
3.	Coupler Sleeve Spring	86001	9.	O-Ring Retainer	86010
4.	Seal O-Ring	86011	10.	Coupler Valve Spring	86007
5.	Ball (6) Req'd	86003	11.	Perch	86008
6.	Coupler Body	86006	12.	End Cap O-Ring	86013

## FLUOROCARBON SEALS

	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
						
COUPLER ASSEMBLY	<b>86213</b>	<b>86313</b>	<b>86233</b>	<b>86333</b>	<b>86223</b>	<b>86323</b>

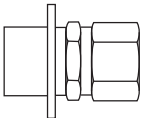
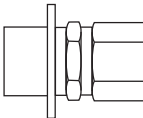
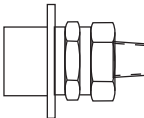
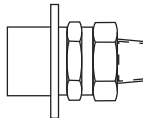
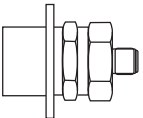
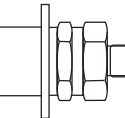


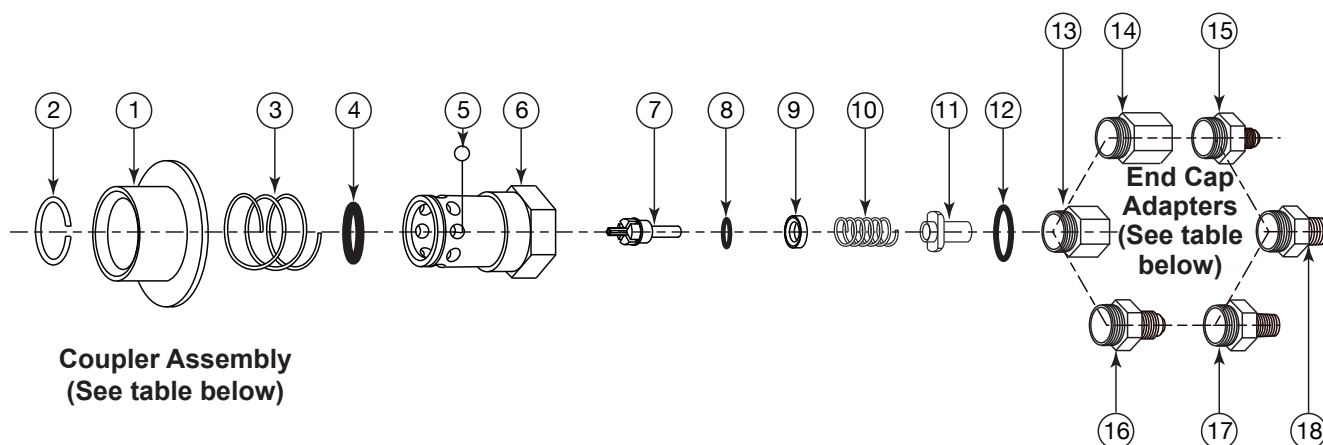
End Cap Adapters			
13.	86014 - 1/4" FPT	16.	86018 - 3/8" SAE FL
14.	86017 - 3/8" FPT	17.	86016 - 1/4" MPT
15.	86015 - 1/4" SAE FL	18.	86019 - 3/8" MPT

## REPLACEMENT PARTS LIST

Coupler Assembly FLUOROCARBON SEALS					
1.	Retaining Ring	86004	7.	Coupler Valve Stem	87009
2.	Sleeve	86002	8.	Valve O-Ring	55014
3.	Coupler Sleeve Spring	86001	9.	O-Ring Retainer	86010
4.	Seal O-Ring	86029	10.	Coupler Valve Spring	86007
5.	Ball (6) Req'd	86003	11.	Perch	86008
6.	Coupler Body	86006	12.	End Cap O-Ring	61852

## EPDM SEALS

	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
						
COUPLER ASSEMBLY	<b>86216</b>	<b>86316</b>	<b>86236</b>	<b>86336</b>	<b>86226</b>	<b>86326</b>

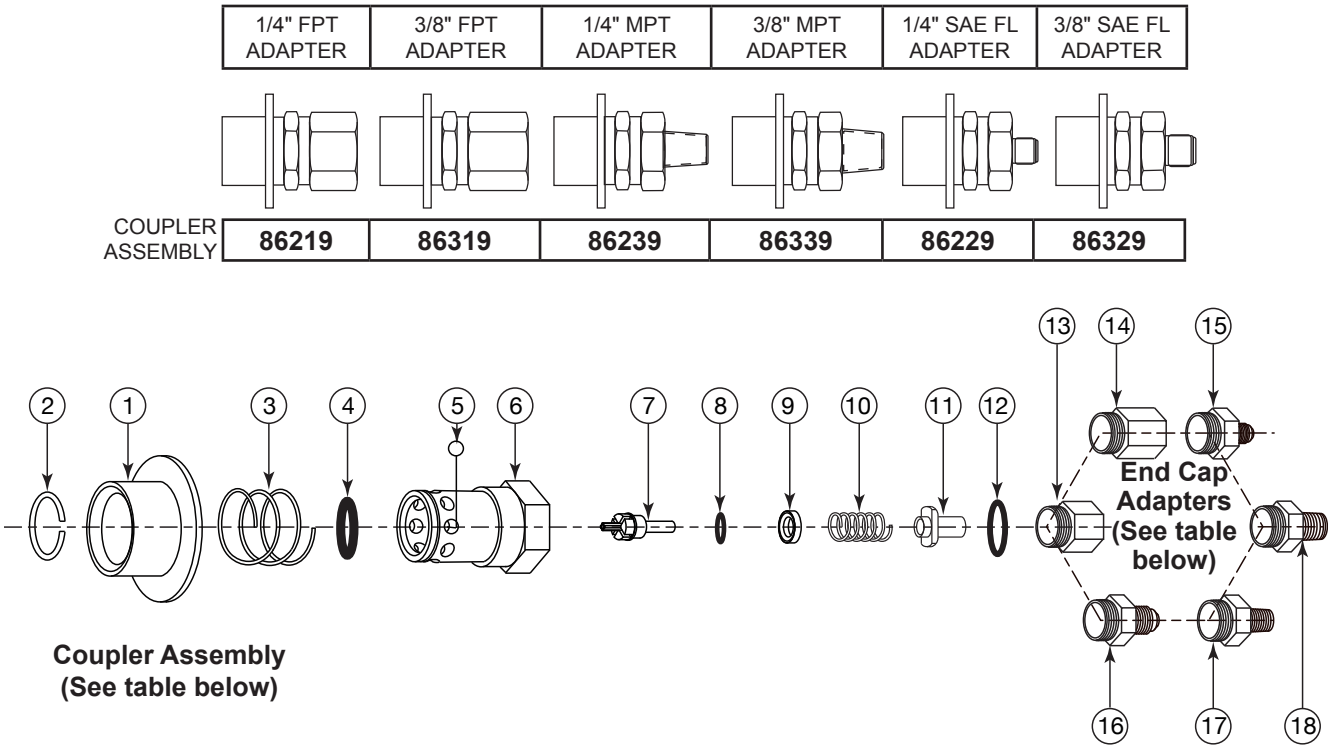


End Cap Adapters			
13.	86014 - 1/4" FPT	16.	86018 - 3/8" SAE FL
14.	86017 - 3/8" FPT	17.	86016 - 1/4" MPT
15.	86015 - 1/4" SAE FL	18.	86019 - 3/8" MPT

## REPLACEMENT PARTS LIST

Coupler Assembly EPDM SEALS					
1.	Retaining Ring	86004	7.	Coupler Valve Stem	87009
2.	Sleeve	86002	8.	Valve O-Ring	55016
3.	Coupler Sleeve Spring	86001	9.	O-Ring Retainer	86010
4.	Seal O-Ring	86030	10.	Coupler Valve Spring	86007
5.	Ball (6) Req'd	86003	11.	Perch	86008
6.	Coupler Body	86006	12.	End Cap O-Ring	61871

NEOPRENE SEALS



End Cap Adapters			
13.	86014 - 1/4" FPT	16.	86018 - 3/8" SAE FL
14.	86017 - 3/8" FPT	17.	86016 - 1/4" MPT
15.	86015 - 1/4" SAE FL	18.	86019 - 3/8" MPT

REPLACEMENT PARTS LIST

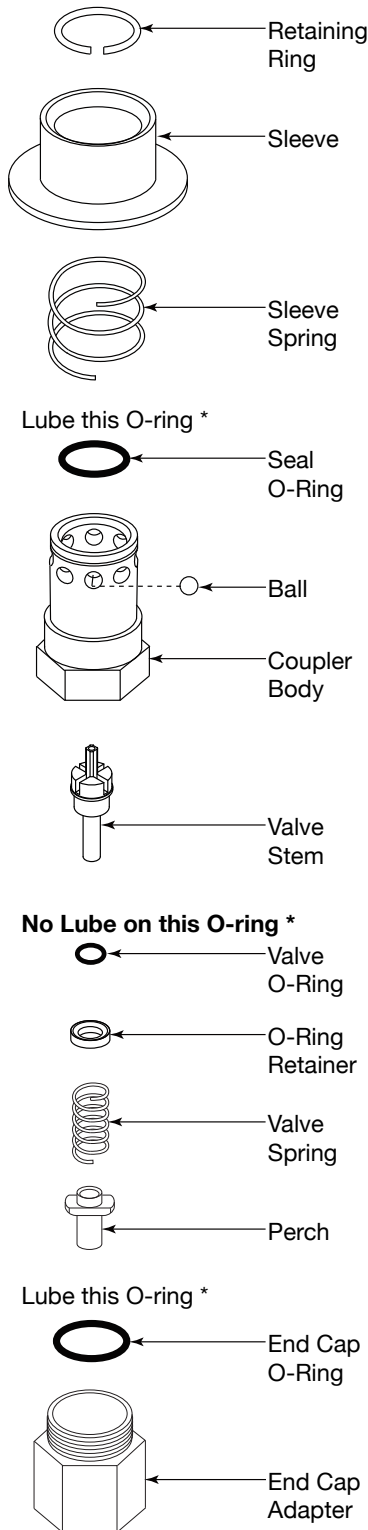
Coupler Assembly NEOPRENE SEALS					
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2.	Sleeve	86002	8.	Valve O-Ring	55012
3.	Coupler Sleeve Spring	86001	9.	O-Ring Retainer	86010
4.	Seal O-Ring	86031	10.	Coupler Valve Spring	86007
5.	Ball (6) Req'd	86003	11.	Perch	86008
6.	Coupler Body	86006	12.	End Cap O-Ring	61822



## SERIES 250 COUPLER ASSEMBLY

### DISASSEMBLY - COUPLER

Holding the coupler assembly in one hand, pull the sleeve back with thumb and forefinger of same hand to expose the end of the coupler body. Using retaining ring pliers (PCU Part # A-21599) or a pointed tool, pry the retaining ring from the groove on the coupler body. Set aside. Remove coupler sleeve and spring over a shop rag or towel to keep balls from rolling away. Remove balls and set aside. Place coupler body in a vise clamping on the hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Remove the coupler assembly from the vise. Tilt the coupler body down and slide out the valve assembly. (Note: Tap valve assembly loose if stuck.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard all O-rings. With a pointed tool, pry seal O-ring from inside coupler body, being careful not to scratch O-ring groove.



\* Use PCU O-ring lubricant 490-00134

### REASSEMBLY - COUPLER

Lubricate O-ring with PCU Lubricant #490-00134 before inserting seal O-ring in groove inside coupler body. Press firmly against inner diameter to ensure proper placement of seal. After parts have all been inspected, pick up valve stem and slide new valve O-ring over stem and upon shouldered portion of the valve stem. (**Do not lube this O-ring.**) Next, position the O-ring retainer behind the O-ring, making certain the cupped portion of the O-ring retainer is next to the O-ring. Slide the valve spring over the valve stem until it comes in contact with the flat side of the O-ring retainer. Slide the perch onto the valve stem, short end first, pushing it under the spring. Pick up the coupler body, holding it threaded end down, and slide the valve assembly up into the coupler body, valve stem first. Tilt the coupler body until the threaded end is pointing up, allowing the valve assembly to drop into place. Pick up the end cap adapter and screw the adapter to the coupler assembly. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Turn assembly over. Insert the balls (6) into the holes in the coupler body. Use O-ring grease or petroleum jelly in ball holes to hold balls in place. Slide sleeve spring over end of coupler body; place sleeve over spring, large diameter first. Push retaining ring into groove in coupler body using fingers or you may use the small diameter of the Ball Assembly Tool and push down on the retaining ring until the retaining ring snaps into the groove on the coupler body. Remove assembly tool, if used; this completes assembly.

### 250 Coupler Service Tool Kit #460-00250

625-00810	O-Ring Insertion Tool
A-21599	Retaining Ring Pliers



**WE SPECIALIZE IN CUSTOM COUPLERS & TOOLING TO SUIT YOUR APPLICATION.**



Series 25



Series 86



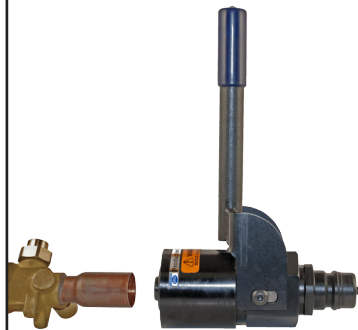
Series 87



Series 91



Series 93



Series 98



Series 100 & 101



Series 109



Series 250



Series 410



Series 500



Series 250 Evac & Charge



Series 13000



Series 104



Series 106



Series 106 Adapter

**Call our Coupler & Specialty Tooling Team for more information.**

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Web Site: [www.PCUInc.com](http://www.PCUInc.com) Email: [couplers@PCUInc.com](mailto:couplers@PCUInc.com)