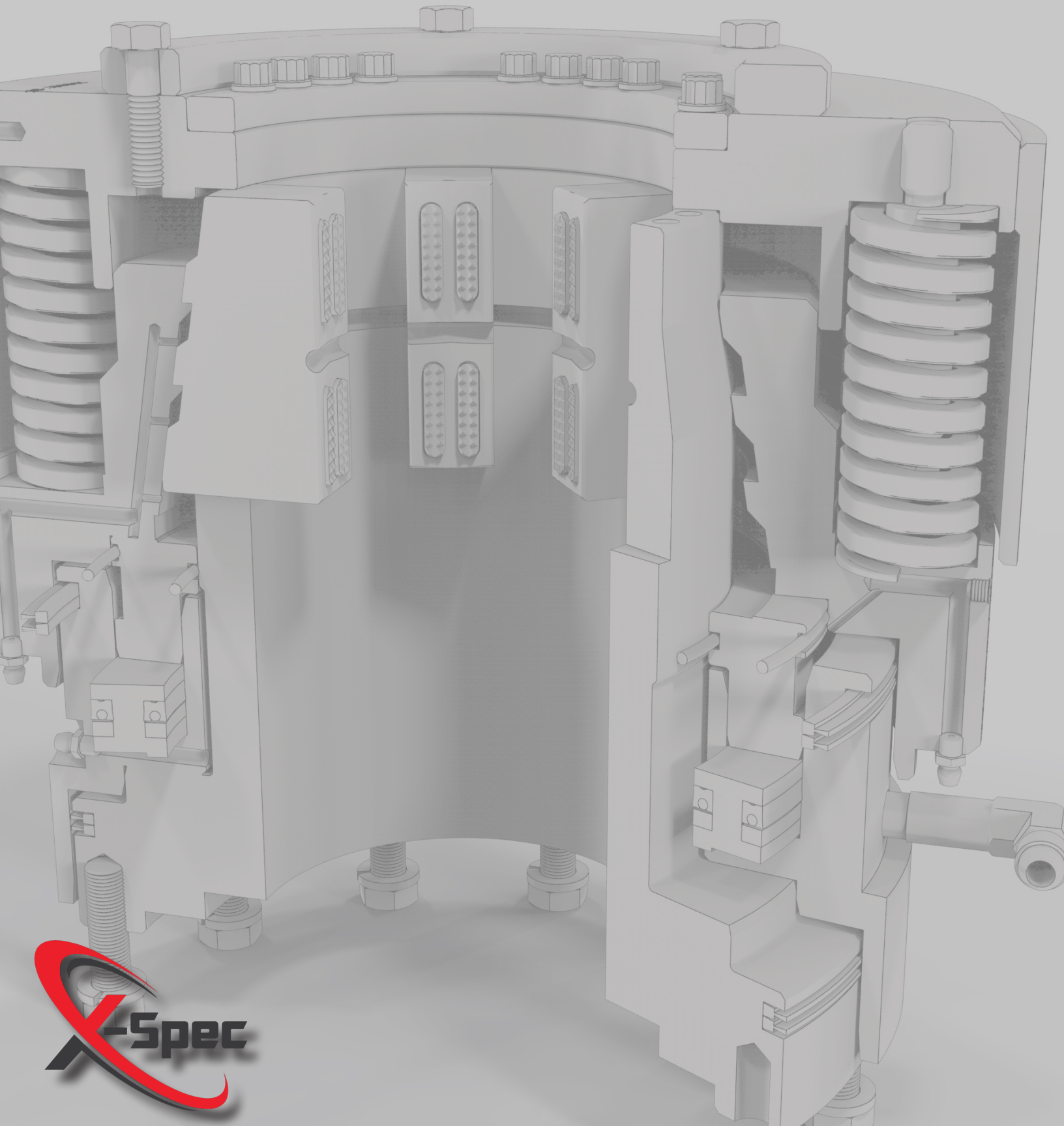
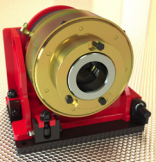


XP Rod Clamp

59-1000

Technical Manual



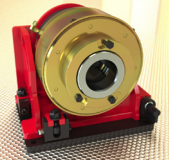


59-1000

XP Rod Clamp

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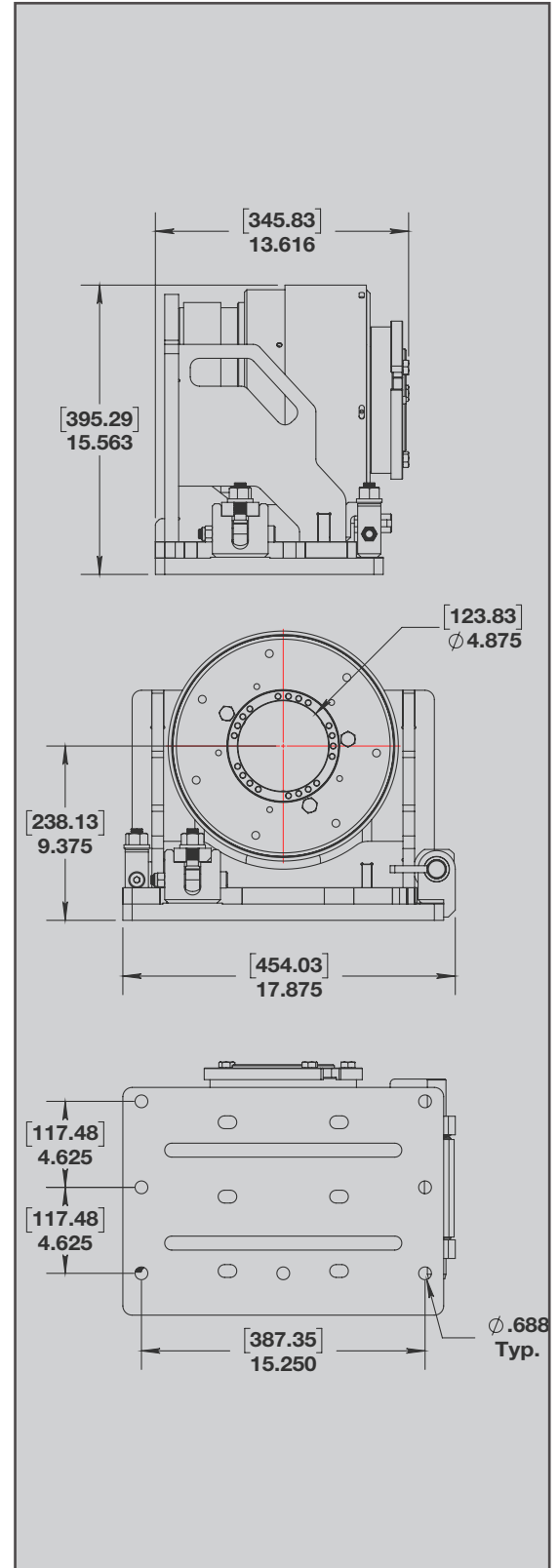
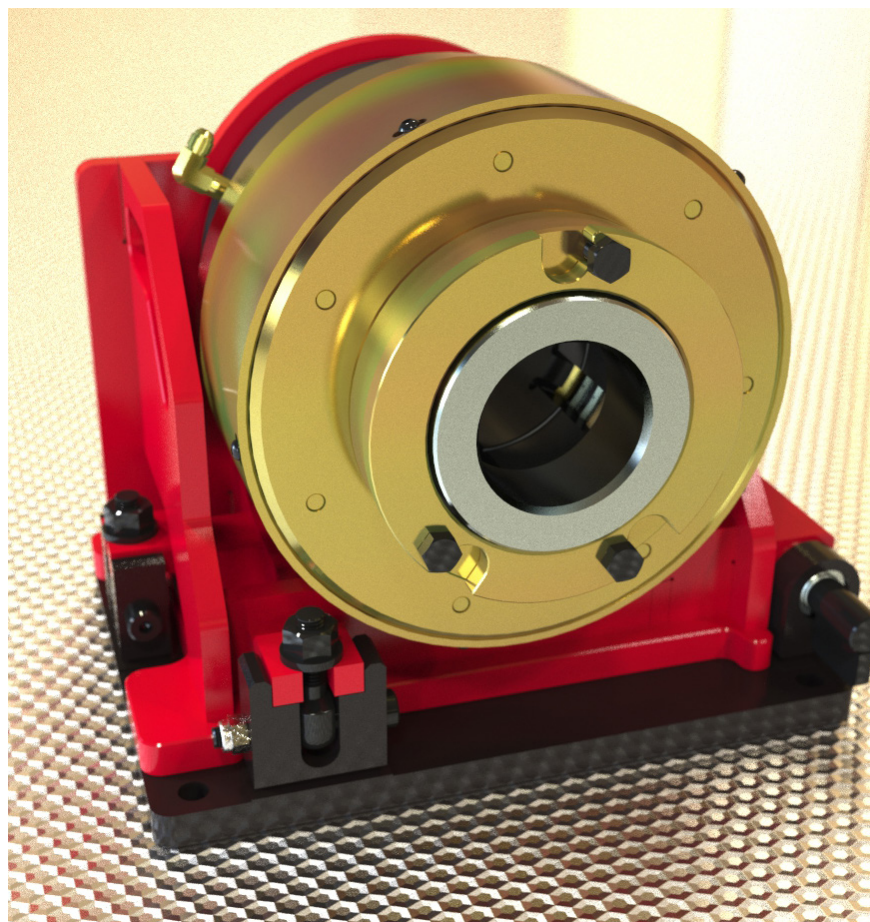
Specifications

Description

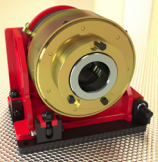
- Spring applied, hydraulic release
- Full P W/L core barrel capacity , 4-7/8" inside Diameter (123mm)
- Rod clamp can pivot out of the way for pw casing
- Bearing guided centering bushing kit available
- Uses same jaws as christensen chuck
- Holding capacity can be increased by the use of a nitrogen booster kit
- Same mounting pattern and center height as the 12HH rod clamp

Specifications

| | |
|--------------------------------|-------------------------------|
| Maximum Inside Diameter | 4.875" (123.8) |
| Holding Capacity | 40,000 lbs (18,182 kg) |
| Weight (Clamp Only) | 185 Lbs (84 Kg) |
| Weight (With Base) | 350 Lbs (159 Kg) |

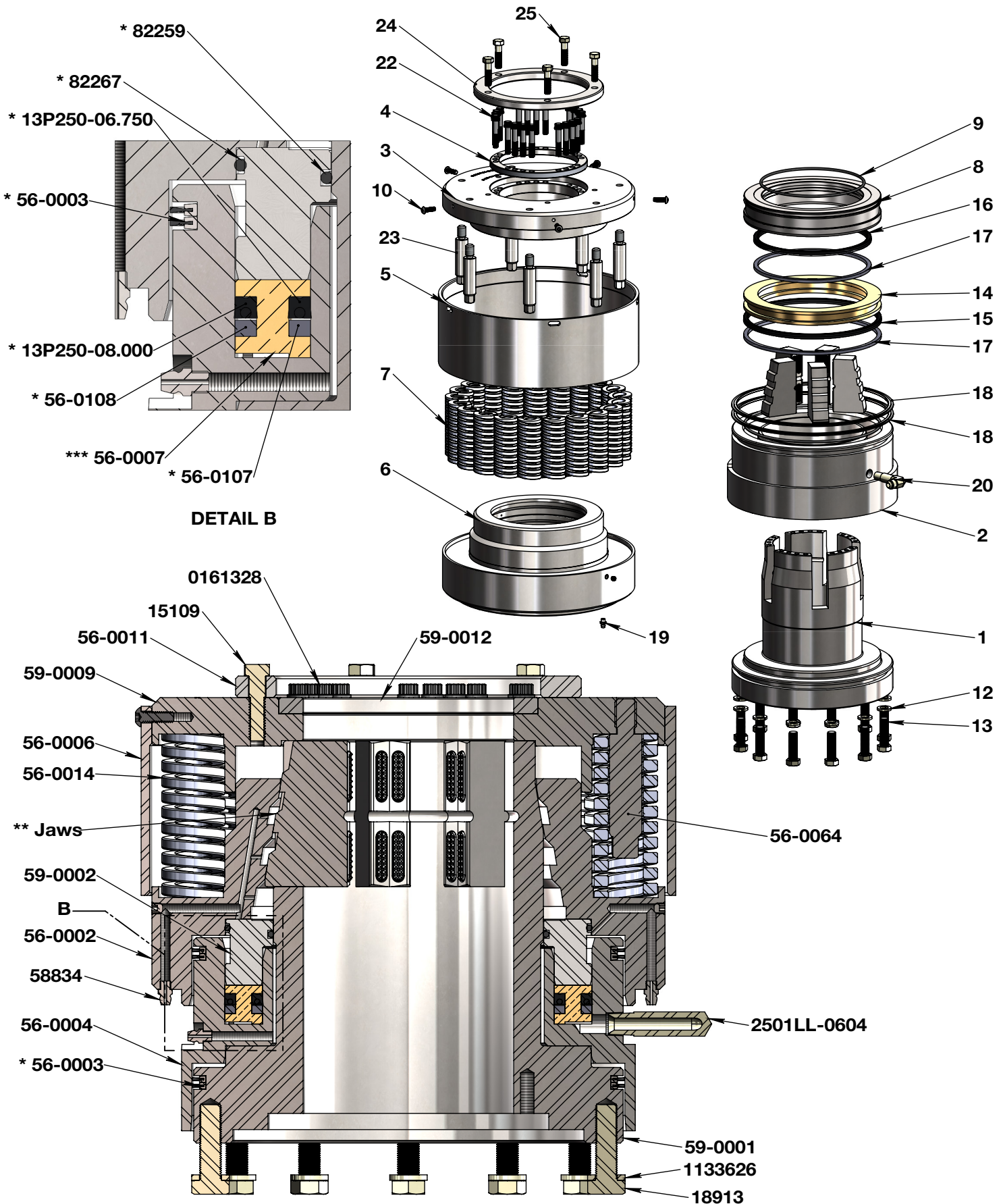


Specifications

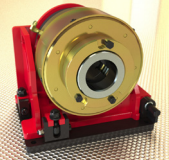


59-1000

XP Rod Clamp



Assembly Drawings



Assembly Kit Order

| Item # | Part # | Description | Weight (lbs) |
|--------|---------|-------------------|--------------|
| 1-27 | 59-1000 | XP Clamp Assembly | 202 |

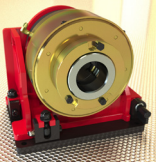
Parts List

| Item # | Part # | Description | Qty | Weight (lbs) |
|--------|---------------|--|-----|--------------|
| 1 | 13P250-06.750 | Inside Seal | 1 | 0.060 |
| 2 | 13P250-08.000 | Outside Seal | 1 | 0.071 |
| 3 | 56-0002 | Chuck Bowl | 1 | 43.921 |
| 4 | 56-0003 | Brush Seal | 4 | 0.160 |
| 5 | 56-0004 | Cylinder | 1 | 26.527 |
| 6 | 56-0006 | Spring Guard | 1 | 9.665 |
| 7 | 56-0007 | Piston, Brass | 1 | 4.022 |
| 8 | 56-0011 | Spacer Ring | 1 | 2.811 |
| 9 | 56-0014 | Compression Spring | 21 | 0.878 |
| 10 | 56-0064 | Spring Guide | 7 | 0.376 |
| 11 | 56-0107 | Inside Guide | 1 | 0.043 |
| 12 | 56-0108 | Outside Guide | 1 | 0.050 |
| 13 | 59-0001 | Base, XP Clamp | 1 | 46.944 |
| 14 | 59-0002 | Seal Retainer | 1 | 8.881 |
| 15 | 59-0009 | Top Plate, XP Clamp | 1 | 25.113 |
| 16 | 59-0012 | Spacer Ring | 1 | 0.835 |
| 17 | 2501LL-0604 | 90° Extra Long M-JIC #6 / M-NPT #4 | 1 | 0.153 |
| 18 | 15109 | 3/8-16 x 1-1/2" Grade 8 Yellow Zinc Finish Hex Cap Screw | 5 | 0.063 |
| 19 | 18913 | 1/2-20 x 1-3/4" Grade 8 Yellow Zinc Finish Hex Cap Screw | 12 | 0.133 |
| 20 | 58834 | 1/4-28 Straight Steel Zinc Self-Tapping Grease fitting | 3 | 0.010 |
| 21 | 82259 | O-Ring | 1 | 0.014 |
| 22 | 82267 | O Ring | 1 | 0.019 |
| 23 | 94051 | 1/4-20 x 3/4" Alloy Steel Button Socket Cap Screw | 5 | 0.012 |
| 24 | 94133 | 1/4" NPTF Steel Socket Head Pipe Plug 3/4" Taper Dryseal | 1 | 0.019 |
| 25 | 141571 | 1/4-28 x 1/4" Hex Drive Cup Point Alloy Steel Socket Set Screw | 2 | 0.002 |
| 26 | 161328 | 5/16-24 x 1-3/4" 12 Point Flanged Alloy Steel Ferry Cap Screw | 20 | 0.050 |
| 27 | 1133626 | 1/2 Zinc Finish Medium Split Lock Washer | 12 | 0.013 |

* Seal Kit #59-0105 includes items marked *

** Jaw set includes 5 matched jaws serviced only in sets of 5

*** Seal Kit #59-0110 includes items marked * and Piston 56-0007



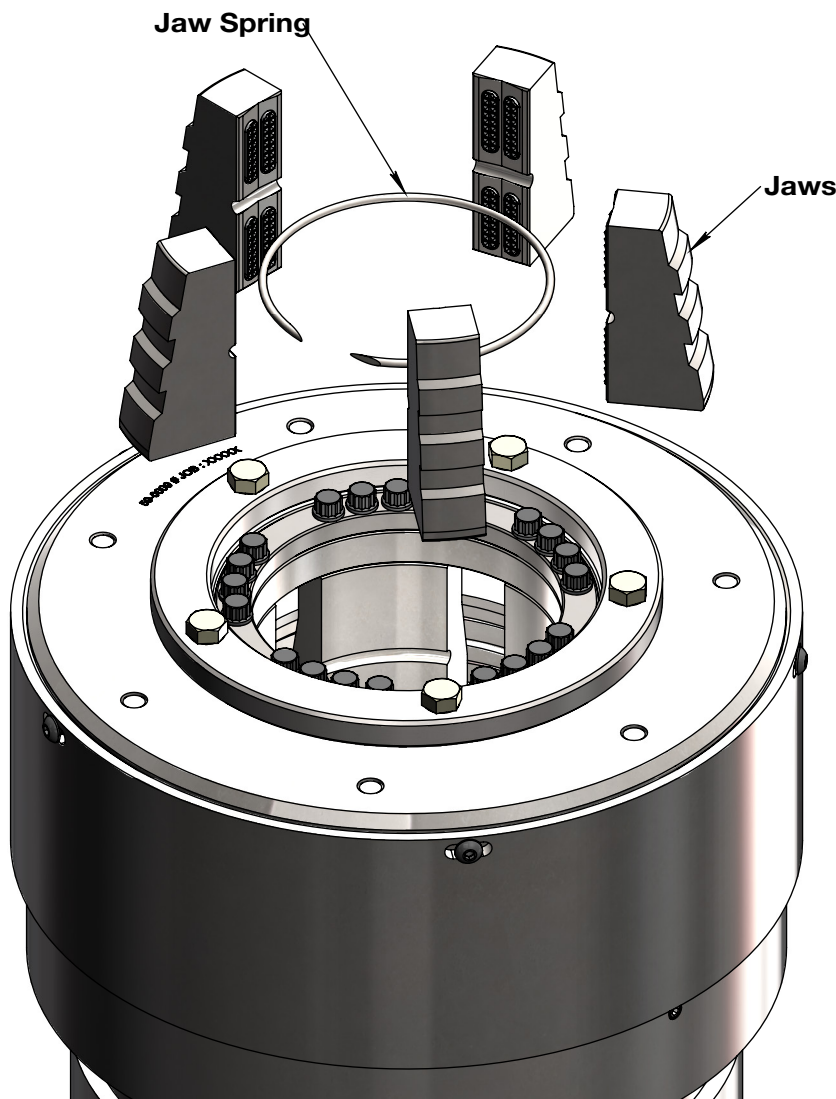
59-1000

XP Rod Clamp

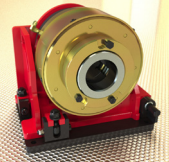
Options & Accessories

Jaws & Jaw Springs

| SIZE | JAW SET | | JAW SPRING | |
|----------------------------|------------|------------|------------|------------|
| | X-Spec P/N | Copco P/N | X-Spec P/N | Copco P/N |
| BW / BWL / BQ ROD / AW CSG | 30-20-01 | 3760007360 | 56-0040 | 3760009571 |
| NWL / NQ ROD | 30-20-02 | 3760007361 | 56-0041 | 3760009569 |
| BW CSG | 30-20-06 | 3760007362 | 56-0044 | 3760009561 |
| HW / HWL / HQ ROD / NW CSG | 30-20-03 | 3760003350 | 56-0042 | 3760009572 |
| PWL / PQ ROD / HW CSG | 30-20-04 | 3760007363 | 56-0043 | 3760009573 |



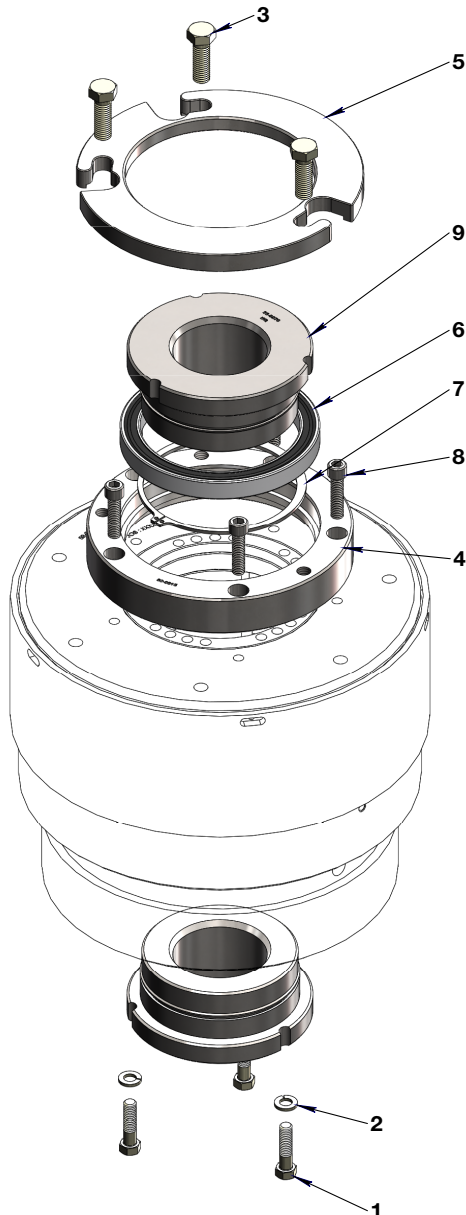
Jaws & Jaw Springs



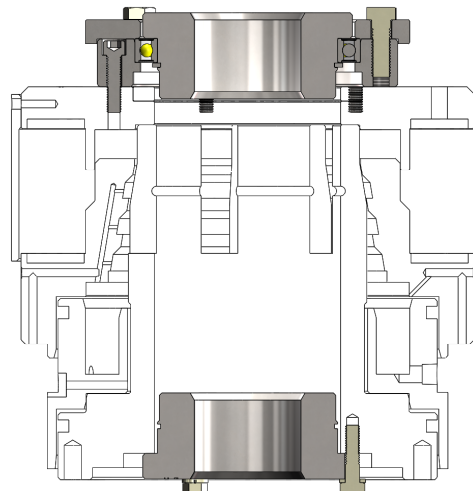
Options & Accessories

Guide Bushing Assembly Option

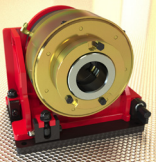
| Item # | Part # | Description | Qty | Weight (lbs) |
|--------|-------------|--|-----|--------------|
| 1 | 15109 | 3/8-16 x 1-1/2" Grade 8 Yellow Zinc Finish Hex Cap Screw | 3 | 0.0626 |
| 2 | 1133622 | 3/8 Zinc Finish Medium Split Lock Washer | 3 | 0.006 |
| 3 | 15209 | 1/2-13 x 1-1/2" Grade 8 Yellow Zinc Finish Hex Cap Screw | 3 | 0.117 |
| 4 | 59-0015 | Bearing Cage | 1 | 7.104 |
| 5 | 59-0016 | Top Plate | 1 | 4.089 |
| 6 | 15-6824-2RS | Single Row Ball Bearing | 1 | 1.047 |
| 7 | 045100-0475 | External Retaining Ring, N5100-475 | 1 | 0.1047 |
| 8 | 23309 | 3/8-16 x 1-1/2" Hex Drive Alloy Steel Socket Cap Screw | 5 | 0.061 |
| 9 | See Table | Guide Bushing | 2 | 8.156 |



| Guide Bushing | |
|---------------|-------------|
| Part # | Size |
| 55-0075 | B W/L Rod |
| 55-0075-SHL | B W/L Shell |
| 55-0076 | N W/L Rod |
| 55-0076-SHL | N W/L Shell |
| 55-0077 | H W/L Rod |
| 55-0077-SHL | H W/L Shell |
| 55-0078 | P W/L Rod |



Guide Bushing Assembly Option



59-1000

XP Rod Clamp

Options & Accessories

Pivot Base

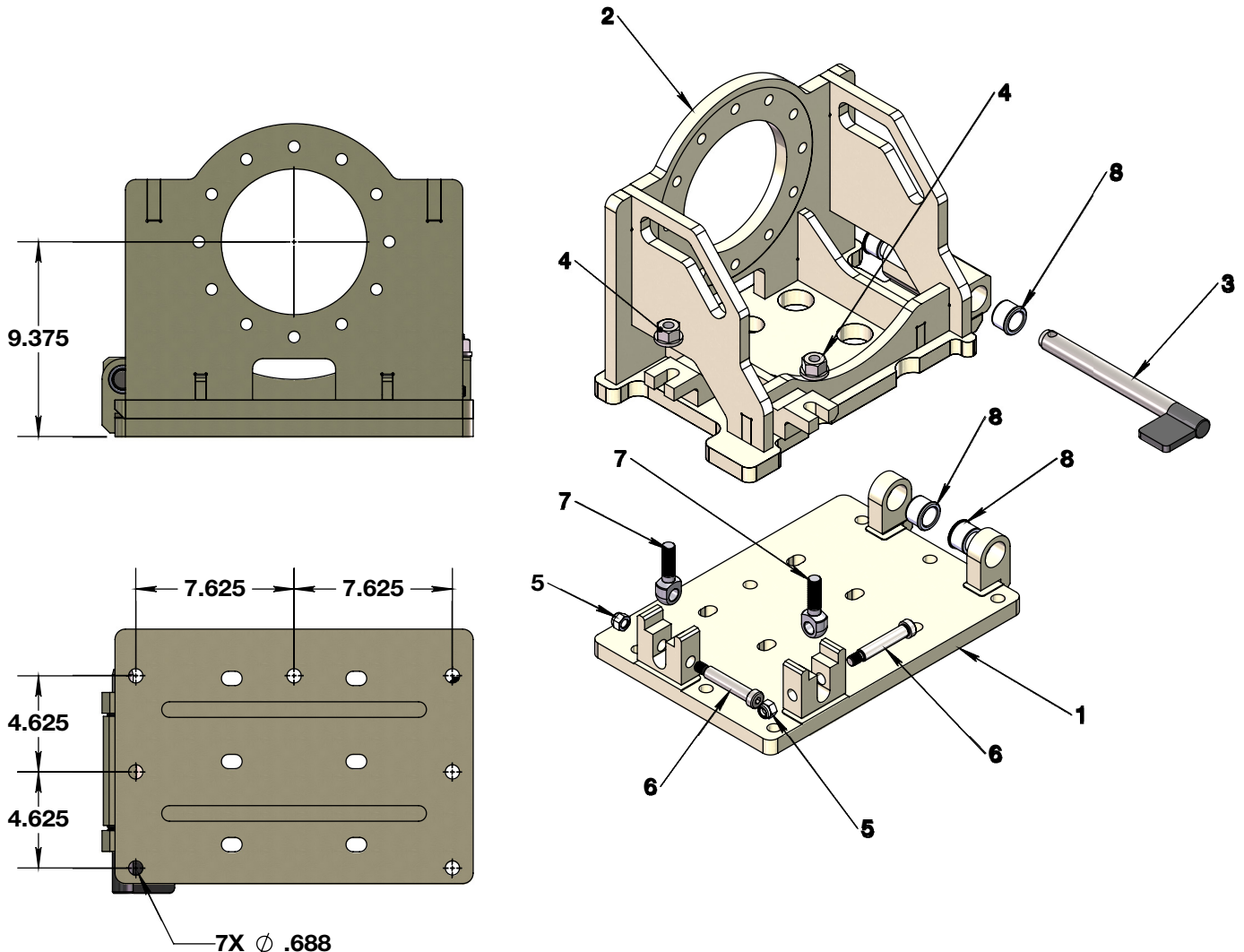
Assembly Kit Order

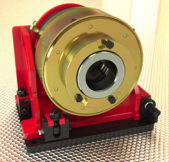
| Item # | Part # | Description | Weight (lbs) |
|--------|---------|----------------------|--------------|
| 1-8 | 59-1500 | Pivot Base, XP Clamp | 197.7 |

Parts List

| Item # | Part # | Description | Qty | Weight (lbs) |
|--------|------------|---|-----|--------------|
| 1 | 59-1505 | Fixed Base, XP Clamp | 1 | 54.419 |
| 2 | 59-1510 | Mobile Base, XP Clamp | 1 | 137.787 |
| 3 | 59-1515 | Pivot Pin | 1 | 2.771 |
| 4 | 400806 | Flanged Nut, 5/8-11 UNC | 2 | 0.2 |
| 5 | 37527 | 1/2-13 Grade 2 Zinc Finish NE Steel Nylon Insert Lock Nut | 2 | 0.05 |
| 6 | 26377 | 5/8" Shoulder x 3" Shoulder Length x 1/2"-13 Steel Socket Shoulder Bolt | 2 | 0.35 |
| 7 | 12-12-2000 | Eye Bolt, 5/8-11 UNC X 2" Lg | 2 | 0.358 |
| 8 | 25-886414 | H/T Bushing, Ø1.375" OD X Ø1.000" ID X 0.875" Lg | 4 | 0.201 |

Pivot Base





Options & Accessories

Jaw Spring Tool

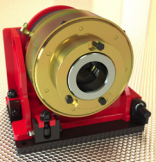
Assembly Kit Order

| Item # | Part # | Description | Weight (lbs) |
|--------|---------|-------------------------|--------------|
| 1-8 | 59-0200 | Jaw Spring Install Tool | 3.813 |

Parts List

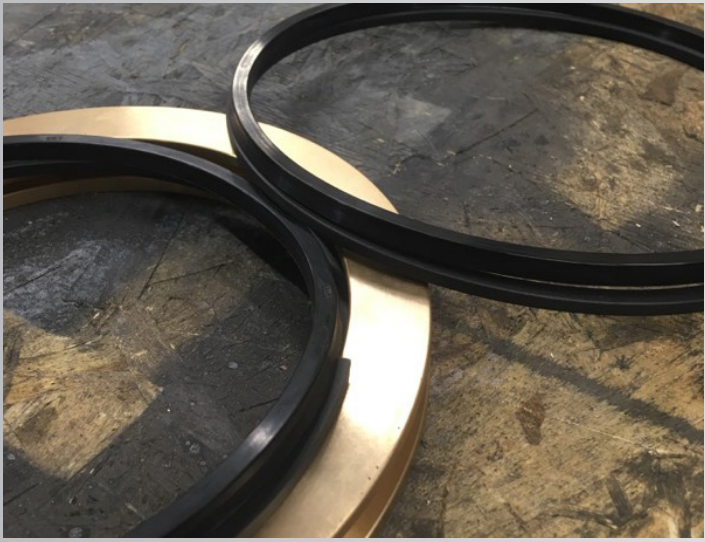
| Item # | Part # | Description | Qty | Weight (lbs) |
|--------|---------|---|-----|--------------|
| 1 | 56-0201 | Tool Leg | 5 | 0.248 |
| 2 | 56-0202 | Body | 1 | 0.499 |
| 3 | 56-0203 | Plunger | 1 | 0.627 |
| 4 | 56-0204 | Knob | 1 | 0.861 |
| 5 | 18298 | Thrust Bearing | 1 | 0.2 |
| 6 | 37021 | 5/16-18 Grade 2 Zinc Finish NE Steel Nylon Insert Lock Nut | 5 | 0.014 |
| 7 | 64313 | 3/8" x 1-3/4" Plain Finish Steel Slotted Spring Pin | 1 | 0.0346 |
| 8 | 26329 | 3/8" Shoulder x 3/4" Shoulder Length Steel Socket Shoulder Bolt | 5 | 0.047 |





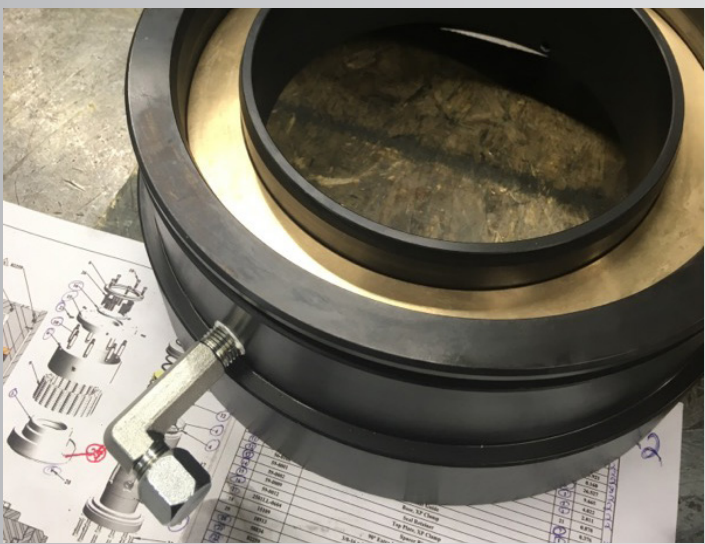
59-1000

XP Rod Clamp



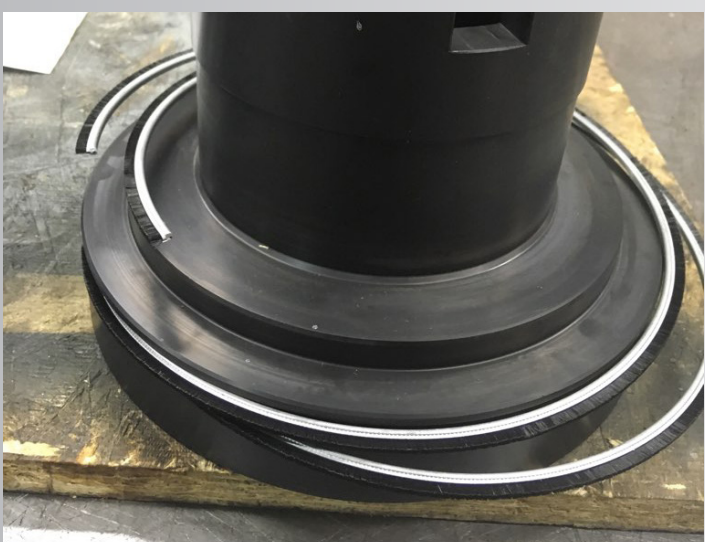
- Install **Nylon guides 56-0107** and **56-0108** into **Piston 56-0007** first
- Install seals with the lip pointing towards the part of the piston with a recess

1



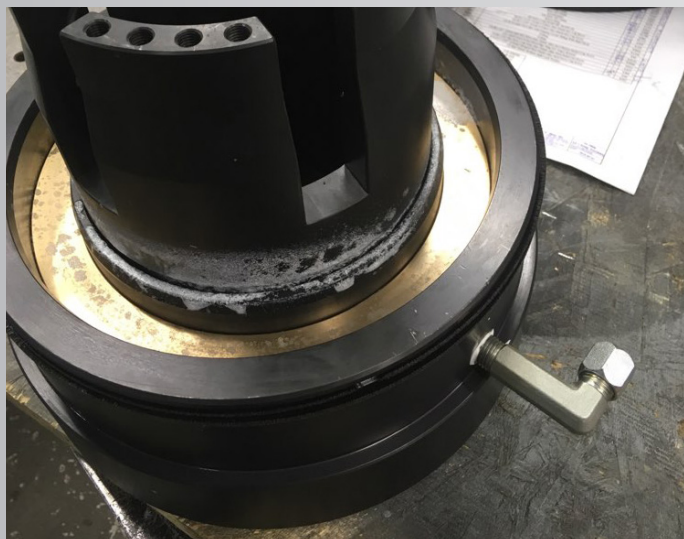
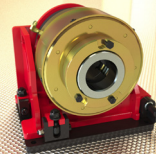
- When installing piston into **Cylinder 56-0004**, make sure the recessed face of the Piston is pointing towards the bottom of the cylinder
- Install **90° Extra Long M-JIC #6 / M-NPT #4 Fitting 2501LL-0604**
- Make sure to use thread sealant

2



- Insert 2 **Brush Seals 56-0003** into the groove of **Clamp Base 59-0001**
- Make sure both brush gaps are not aligned

3



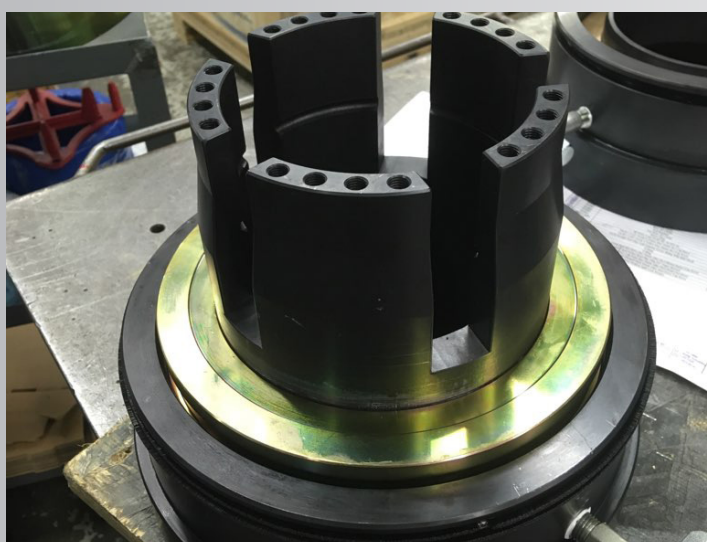
- Slide **Cylinder 56-0004** over **Base 59-0001**

4



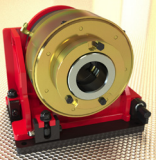
- Insert both o-rings **82267** and **82259** into **Seal Retainer 59-0002**

5



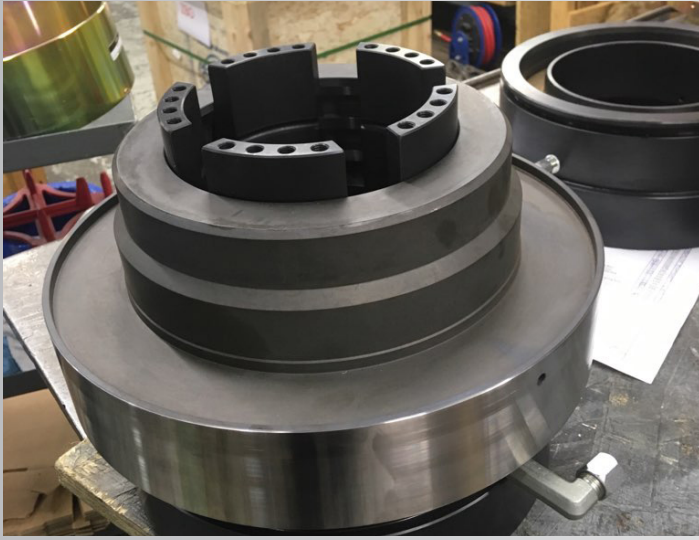
- Slide **Seal Retainer 59-0002** over **Base 59-0001** until it sits against the **Piston 56-0007**

6



59-1000

XP Rod Clamp



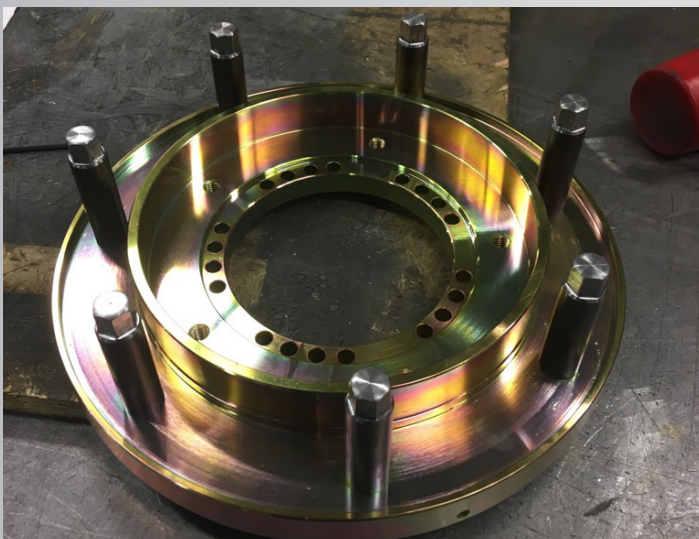
- Slide the **Bowl 56-0002** over the **Cylinder 56-0004** until it rests against **Seal Retainer 59-0002**

7



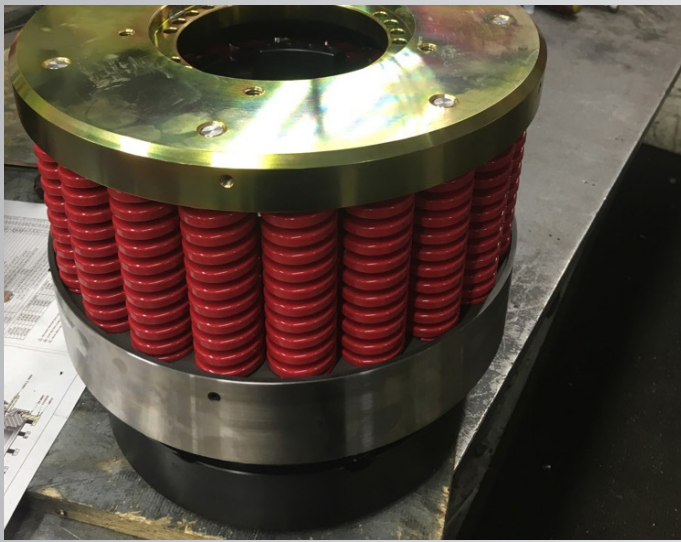
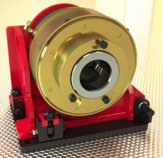
- Insert 21 **Compression Springs 56-0014** into the groove of the **Bowl 56-0002**

8



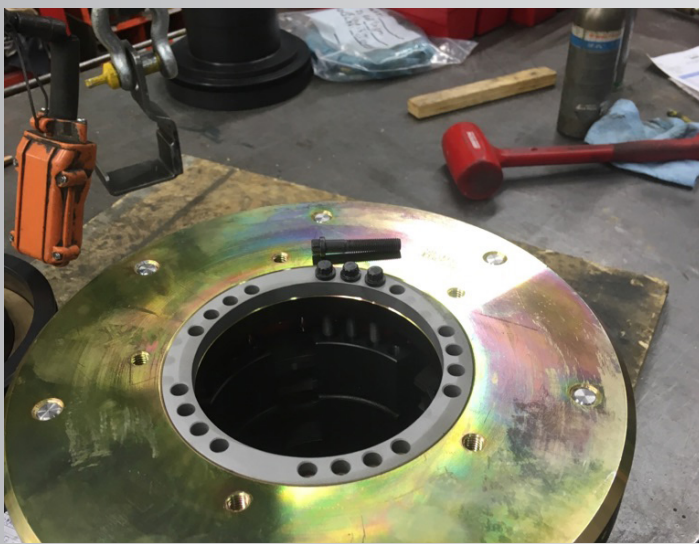
- Screw the 7 **Spring Guides 56-0064** into the **Top Plate 59-0009**

9



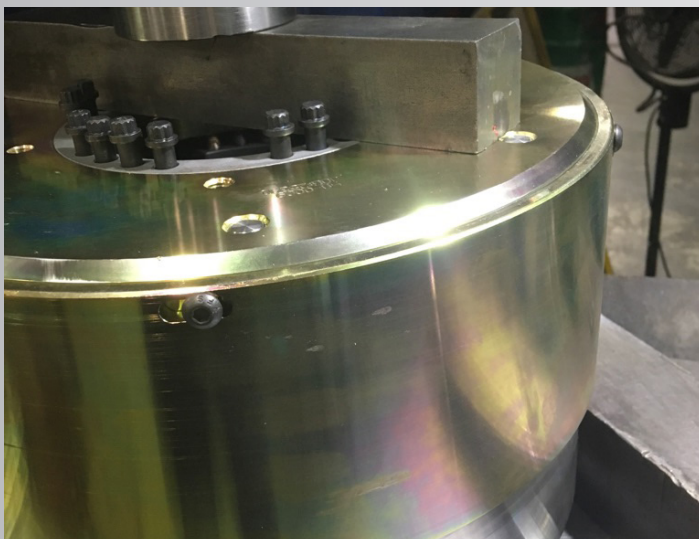
- Place **Top Plate 59-0009** over the springs, making sure the **Spring Guides 56-0064** are aligned with 7 **Compression Springs 56-0014**

10



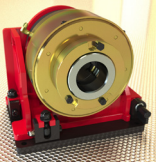
- Insert **Spacer Ring 59-0012** into **Top Plate 59-0009**, making sure holes are aligned
- Insert 20x **5/16-24 x 1-3/4" 12 Point Flanged Plain Finish Alloy Steel Ferry Cap Screw 0161328**
- Tighten screws by hand until flange is against **Spacer Ring 59-0012**
- Tighten the 20 screws **in alternance in a star pattern** until the **Top Plate 59-0009** sits against the top of the **Base 59-0001**. Torque @ 34 ft-lbs

11



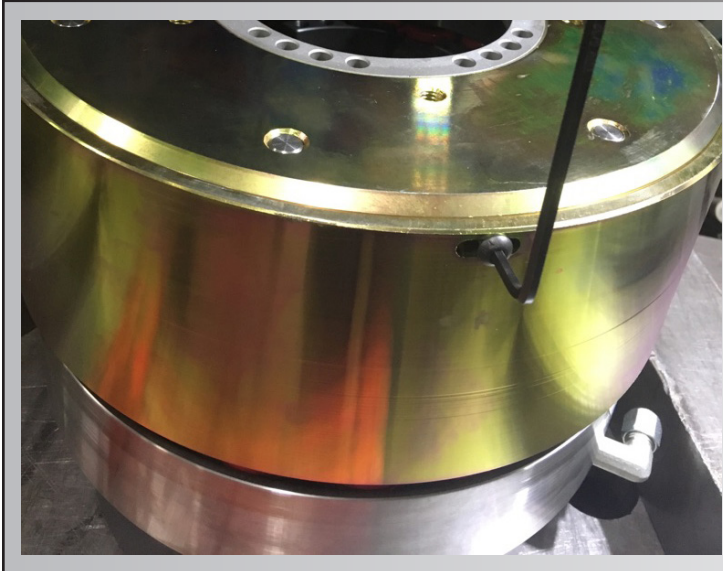
- If available, use a hydraulic press to compress the springs. Tighten the 20 screws in alternance. Torque @ 34 ft-lbs

12



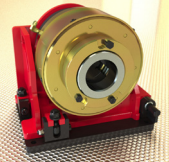
59-1000

XP Rod Clamp



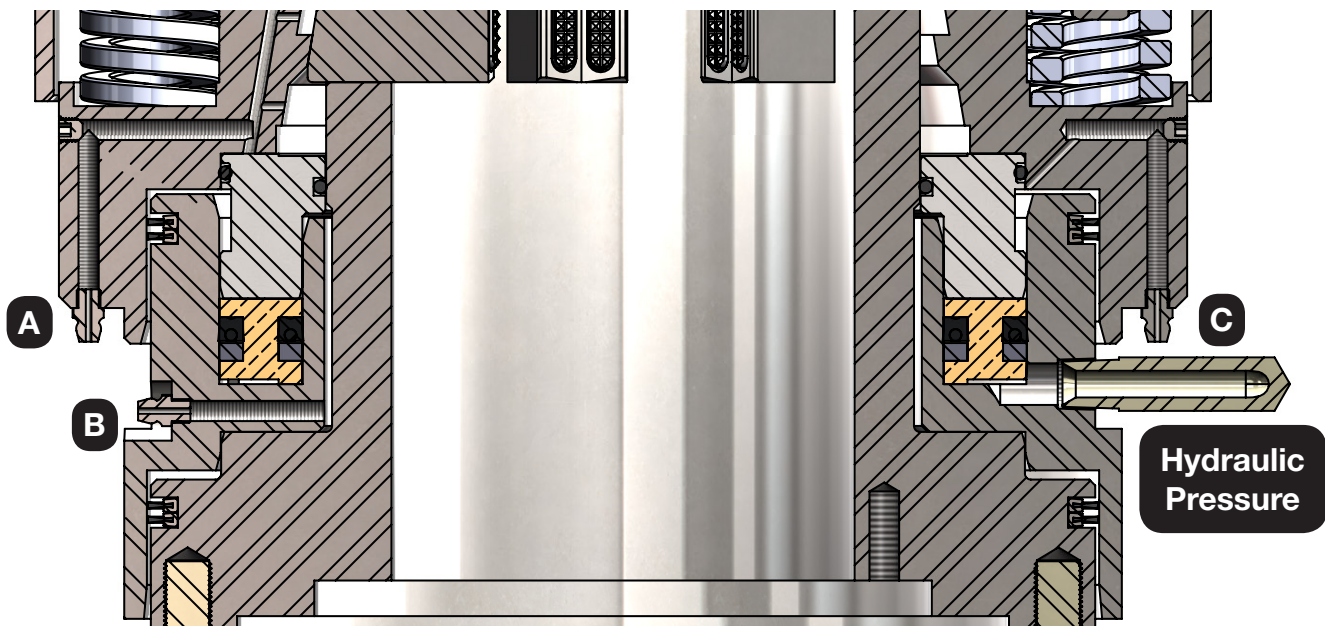
- Install the **Spring Guard 56-0006** and secure with 5x **1/4-20 x 3/4" ASTM F835 Hex Drive Zinc Finish Alloy Steel Button Socket Cap Screw 94051**

13



Maintenance

- When removing the **Top Plate 59-0009**, it is very important to unscrew the 20 **5/16-24 x 1-3/4" 12 Point Flanged Plain Finish Alloy Steel Ferry Cap Screw 0161328** in alternance a **few turns at a time**. **Never remove the screws completely before pressure from the compression springs is released.**
- When the **Bowl 56-0002** becomes worn from the friction with the jaws, simply remove the **Top Plate 59-0009** and rotate the Bowl until the worn part does not align with the jaw slots in the **Base 59-0001**
- Grease points and frequency are as follows:



| Grease Point | Frequency | Use |
|--------------|------------|--|
| A | 1x / Shift | Grease Jaws / Bowl Interface. Grease can also be applied directly to the back of the jaw upon insertion. It will also help the jaw stay in place |
| B | 1x / Shift | Grease Interface between inside wall of Cylinder and Seal Retainer |
| C | 1x / Shift | Grease Interface between outside wall of Cylinder and Seal Retainer |

- **Hydraulic pressure should be set to 1800 psi.** Hydraulic pressure is only used to open the clamp. Therefore, insufficient pressure can prevent the jaws from fully opening. Higher pressure could not be required and could make the seals fail prematurely.