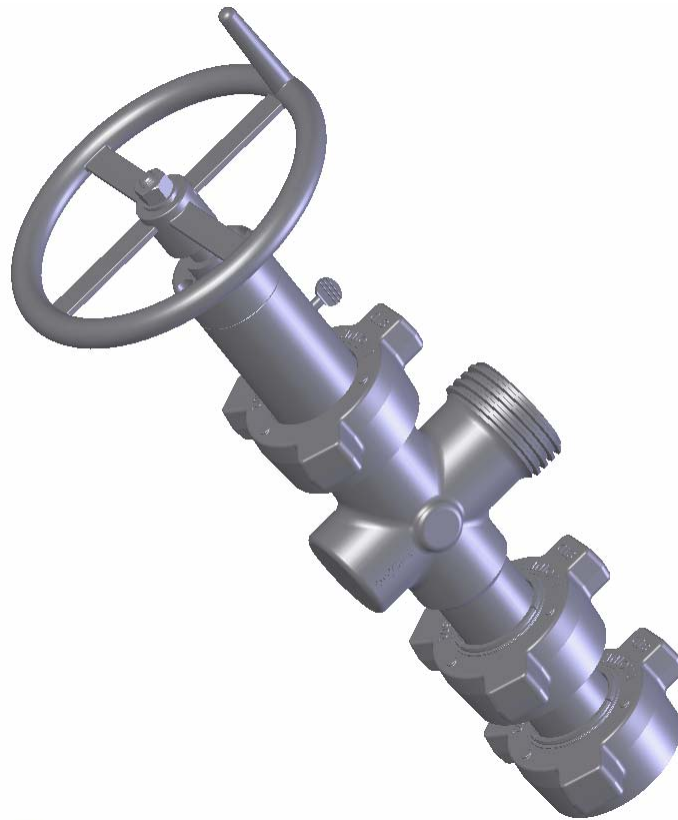


Choke Technical Manual



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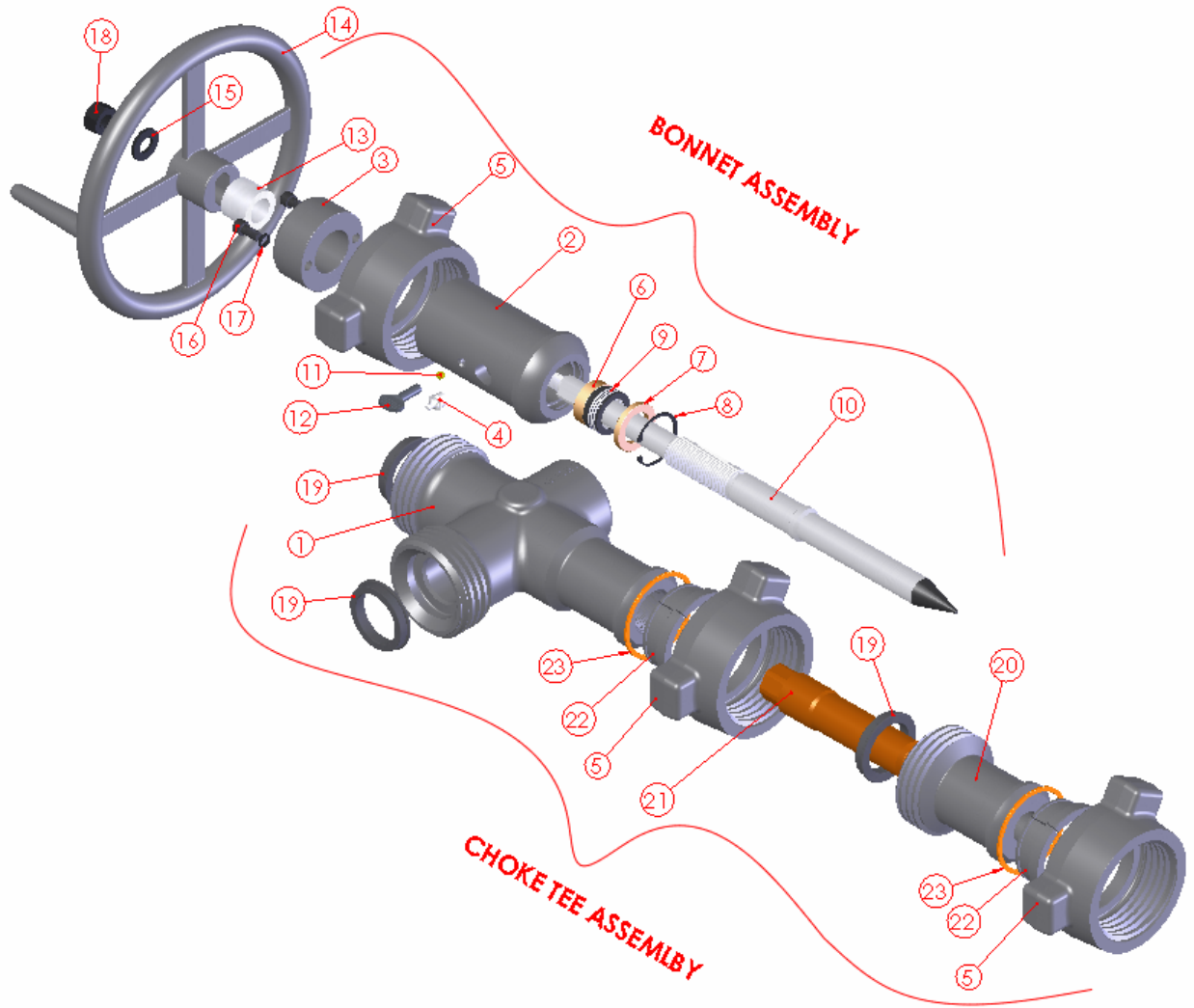
1.0 Overview

The Phoinix Global Choke is manufactured to the same standards as other Phoinix Global equipment. Currently, Phoinix Global manufactures 2" 1502 standard size chokes.

2.0 Parts List

All valves have generally the same parts in different sizes. Phoinix Global uses the following names for choke components. The following image is a CAA2CFM-S01 with part numbers and names.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	CBC2FM-S01	CHOKE BODY, 2"1502 FM STD 15K	1
2	CBB001-S01	CHOKE BONNET BODY, 2"1502 STD 15K	1
3	CBB002	CHOKE BONNET BODY EXTENSION, 2"	1
4	GF002	GREASE FITTING, ZERK 1/4"NPT	1
5	UWN-2C-D-S	WINGNUT, 2"1502 STD 15K DETACHABLE	3
6	CP002	CHOKE PACKING STEM GUIDE, 2"	1
7	CP003	CHOKE PACKING RETAINER, 2"	1
8	F-SRI-02.000	SNAP RING, INTERNAL 02.00" STAINLESS	1
9	CP001-H01	CHOKE PACKING, 2" H2S 15K	1
10	CS001-H01	CHOKE STEM, 3/4" H2S 15K LONG	1
11	H0029	BALL, 5/16" BRASS	1
12	F-TS0.375X1.00-F	THUMB SCREW, 3/8"-16 x 1.00"LONG FLAT POINT	1
13	CI001	CHOKE INDICATOR, 3/4"MAX	1
14	CH001	CHOKE HANDWHEEL, 2"	1
15	F-WFS-0.625	WASHER, FLAT STD 5/8"	1
16	F-SHC0.38-16X0.75-G5	CAP SCREW, SOC HD 3/8"-16 x 00.75"LONG	2
17	F-WLH-0.38	WASHER, LOCKING HIGH-COLLAR 3/8"	2
18	F-HN0.63-11-G8	HEX NUT, 5/8"-11 GRADE 8	1
19	USR2-S01	SEAL RING, 2"602/1002/1502 STD BUNA 90	3
20	CNB001-S01	CHOKE NIPPLE BODY, 2"1502 STD 15K	1
21	CST001-H01	CHOKE SEAT, 3/4"MAX FC-140 (6" LINED)	1
22	UNRC2	NUT RETAINER, 2"1502	2
23	URRC2	RETAINER RING, 2"1502	2



Phoinix Global 2" 1502 Choke Exploded View

3.0 Assembly Procedure

NOTE: It is imperative that the workstation being used to assemble the choke be clean and free of anything that could possibly contaminate the grease such as metal shavings, dirt, rust, old paint, etc. Do not sand or deburr near the workstation. Always use high quality graphite grease or anti-seize during assembly. Lubricate all parts especially threads.

step 1 Check sealing surfaces around the packing



step 2 Install Choke Bonnet Extension (3) with 3/8



step 3 Apply anti-seize in the packing gland of the bonnet body (2) and install the following in order:

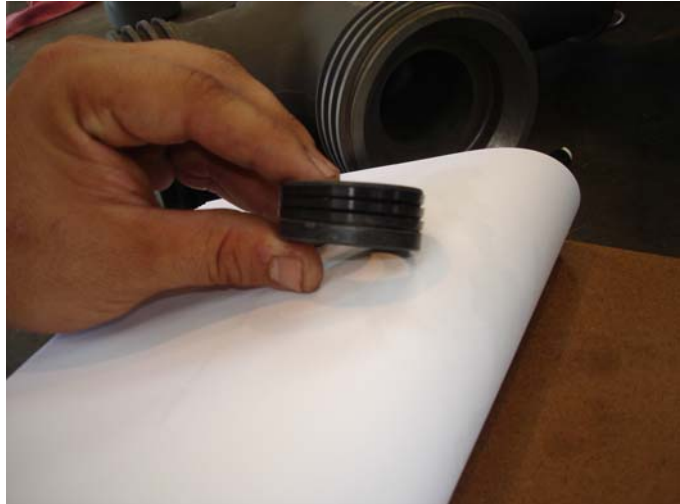
1. Stem guide (6)
2. Packing set (9) – the “V” of the chevron should face outward toward the opening of the 1502 connection.
3. Packing retainer (7)
4. Snap ring (8). Use snap-ring pliers to install.



Note: Install packing set (9) with thick back-up ring against the stem guide (6). The thin portion of the packing set will be facing the opening of the 1502 opening.



Note: This image is a closer look at the packing set arranged in the order that it should be installed.



Push packing set **(9)** into place



Push packing retainer **(7)** into place.



Install snap ring **(8)**. Use snap-ring pliers to install



step 4 Apply anti-seize to the threads of the stem **(10)**. Insert the end of the stem, opposite the carbide, into the packing and carefully push straight in until the threads of the stem meet and engage the threads of the bonnet. Turn the stem clockwise until the raised ring below the sealing area of the stem bumps against the packing retainer **(7)**.



Stem against packing retainer.



step 5 Slide Wing nut (5) onto bonnet body (2), insert brass ball (11) and thread in thumbscrew (12). Install grease sert (4).



Installing thumb screw (12).



step 6 Slide the choke indicator (13) onto the stem (10) with the "zero" end facing away from the choke bonnet (2) – do not tighten yet.



step 7 Attach the handwheel (14), washer (15), and hex nut (18) onto the stem (10).





step 8 Mount the bonnet assembly to the choke tee assembly with a good choke seat **(21)** and make up the union properly. Crank the hand wheel **(14)** clockwise to the full closed position, until the stem bottoms out firmly into the choke seat.



step 9 Line up the "zero" calibration of the indicator **(13)** with the indicator groove on the end of the bonnet extension **(6)** and tighten the setscrew in the indicator **(13)**. *Note-This step is required whenever the bonnet assembly **(2)** has been disengaged from the tee assembly **(1)**.*

step 10 Grease the bonnet using the grease fitting **(4)** on the side of the bonnet **(2)**.

step 11 Back the stem off the choke seat and tighten the thumbscrew **(12)** for transport.

4.0 Disassembly/Repair Procedure

A choke is typically disassembled to install repair parts or to simply clean and inspect the equipment.

Disassembly

1. Bleed off any pressure from the choke assembly.
2. Loosen the thumbscrew **(12)** and turn the hand wheel **(14)** counter-clockwise to disengage the tip of the stem **(10)** from the seat **(21)**.
3. Loosen the wing nut **(5)** and disconnect the bonnet assembly from the choke tee assembly.
4. Remove the seat **(21)** from the choke tee assembly using an appropriate choke wrench for the seat type.
5. Remove the hand wheel **(14)** by removing the hex nut **(18)** and flat washer **(15)**.
6. Loosen the setscrew in the indicator **(13)** and slide the indicator off the stem **(10)**.
7. Remove the stem **(10)** by grasping it by the carbide-tipped end and rotating counter-clockwise until the threads disengage.
8. Using snap-ring pliers, remove the snap-ring **(8)**. Then remove the packing retainer **(7)**, packing **(9)**, and stem guide **(6)**.
9. **As needed:** Remove the thumbscrew **(12)** so that the wing nut **(5)** may be removed if necessary.
10. Degrease and clean all parts.

Inspection and Repair

1. After degreasing the parts, visually inspect for wear, corrosion, or any other physical damage.
2. Inspect the threads, packing area, shaft and carbide tip of the stem **(10)** and replace as necessary. The cone of the carbide tip should be smooth and without grooves or cracks.
3. Inspect the threads and the carbide liner of the seat **(21)** and replace as necessary. The entry bevel of the carbide liner should be smooth and without grooves or cracks. Look down the orifice for washouts in the mid-section of the liner.
4. Inspect the packing gland of the bonnet **(2)**. Damage to the seal surfaces or excessive pitting is cause for replacement.
5. Inspect the packing retainer **(7)** and stem guide **(6)** for damage.
6. Always discard the packing **(9)** when removed from the bonnet.
7. Replace the wing nut **(5)** if the lugs are excessively mushroomed.

5.0 Maintenance

A strict policy of greasing a choke is required to ensure proper operation.

Grease the choke through the grease sert (4). This will help prevent galled threads and will aid in smooth operation of hand wheel.

To grease the choke:

Close choke – pump several strokes of grease and back hand wheel out pumping grease after every 4 or 5 turns.

Continue this process until choke has reached its maximum open position. Greasing the choke in the maximum open position is putting grease onto the packing sealing area of the stem.

6.0 Storage

Recommended shelf life storage:

0 to 3 months – nothing required

3 to 6 months – re-grease and operate by rotating plug. Make sure operation is smooth and free of grinding or scraping.

6 or more months – Disassemble, clean, and rebuild and test. Replace all seals.

After use:

Equipment should be disassembled and cleaned after each use to ensure a long life. Corrosive products left in a choke will greatly reduce the life of the valve.