

Bowie Pump

A large, faint background image featuring a globe with a Bowie Pump logo and a pump handle.

Reference Manual

IF IT FLOWS – THE BOWIE PUMP – CAN PUMP IT™

Bowie Industries, Inc.

Bowie, TX 76230 USA

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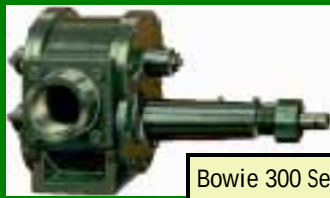
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Introduction to Bowie Series Pumps:

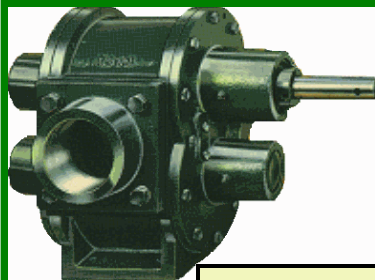
Bowie Pump Series



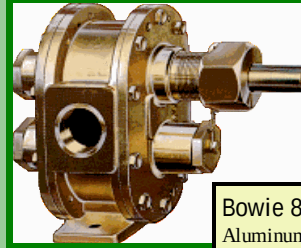
Bowie 300 Series Pump
Standard Bushing Type
Size: 2" - 3" - 4"



Bowie 400 Series Pump
Outboard Ball Bearing
With Seals or Optional Packing Gland
Size: 2" - 3" - 4"



Bowie 500 Series Pump
Inboard Ball Bearing
With Seals
Size: 2" - 3" - 4"



Bowie 8100 Series Pump
Aluminum Bronze
Standard Bushing Type
Size: 1¼" - 1½" - 2"



Bowie 9100 Series Pump
Cast Iron
Standard Bushing Type
Size: 1¼" - 1½" - 2"

**BOWIE ENGINEERS WILL ASSIST YOU IN ORDER-
ING**

Be sure to state type of material to be pumped, approximate viscosity, solid content if any, temperature range and rate of flow desired (GPM) in addition to other pertinent information.

Bowie Industries, Inc.

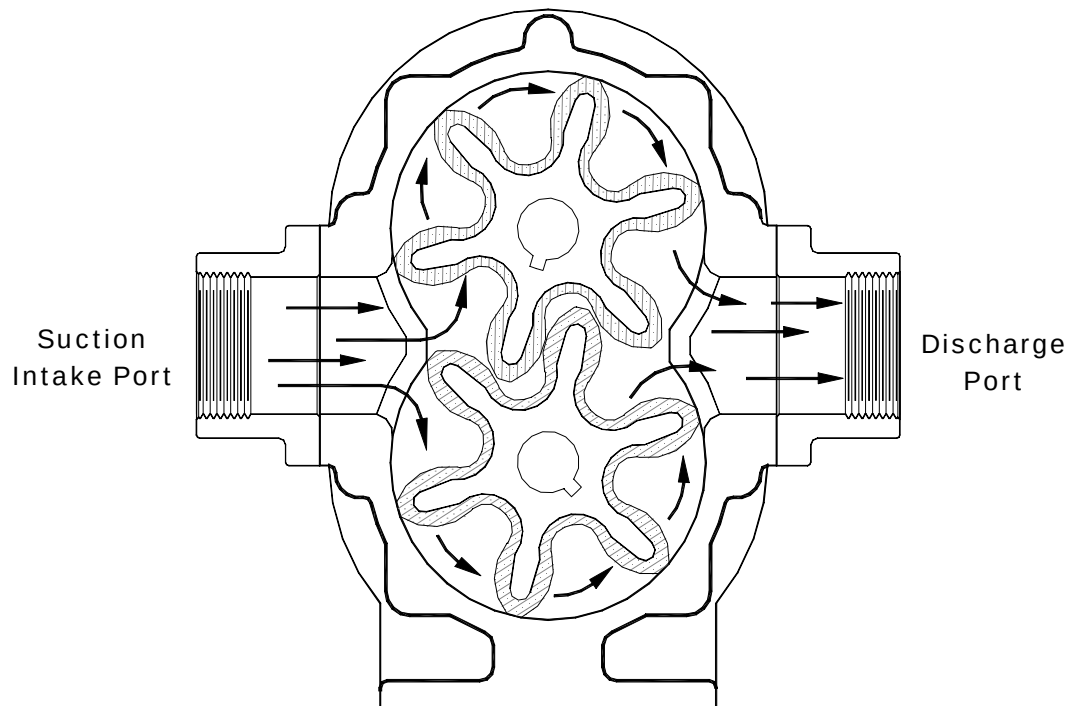
1004 E Wise St
P.O. Box 931
Bowie, Texas 76230

Phone: 800-433-0934
Fax: 940-872-4792
Email: info@bowieindustries.com



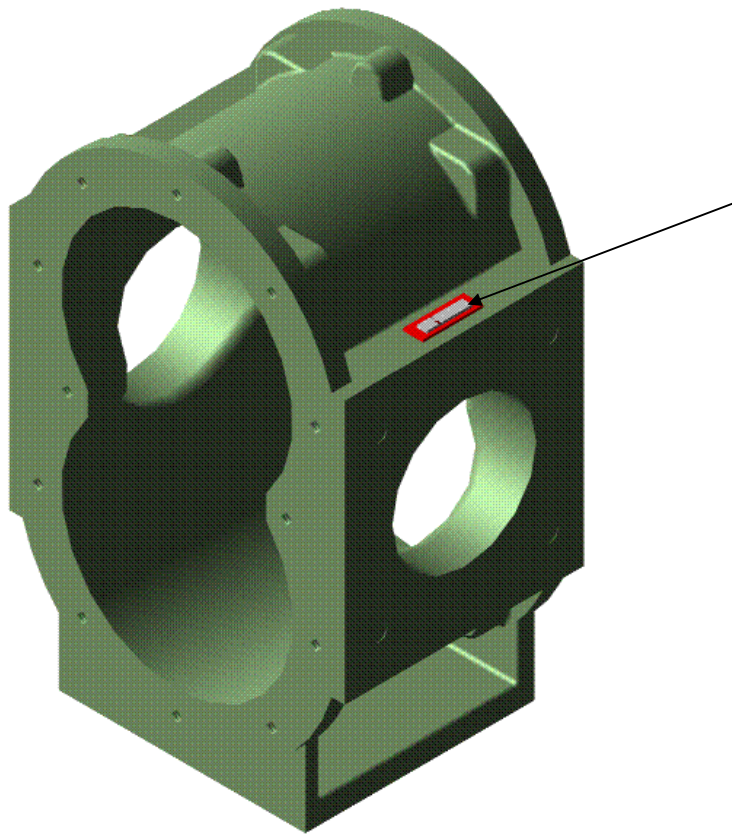
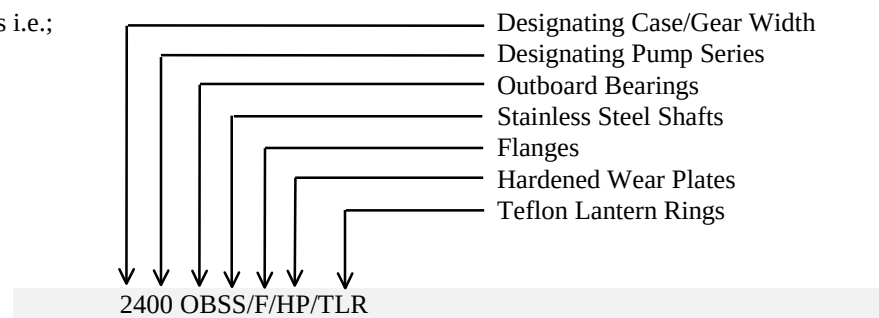
PUMPING PRINCIPLE:

The meshing of the gears cause a slight depression, with the resulting enmeshing of the gears causing a vacuum drawing the fluid being pumped into the space between the teeth of the gear. The liquid is carried between the teeth and the case to the opposite side of the pump. The fluid is also forced into the discharge line by the meshing of the gears. *Bowie Pumps* are positive displacement pumps. The pumping gears are of equal size and are the only two moving parts in the pump, which promotes longer life



Bowie Pump Identification:

Pump identification codes i.e.;



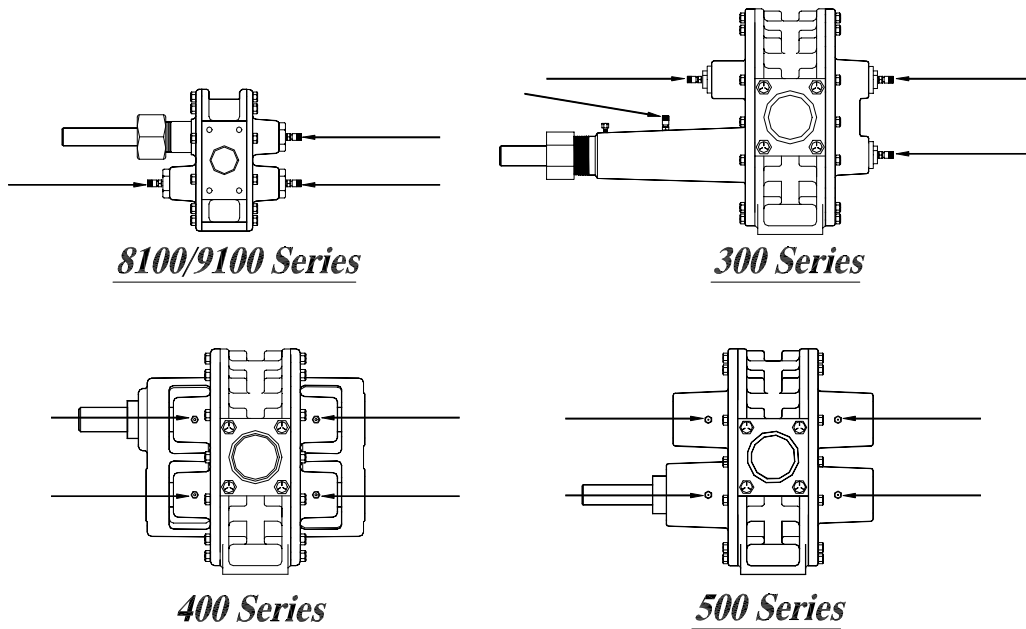
All Bowie Pumps are identified by a manufacturers serial number. The serial number is located on a tag over one of the ports on the center case. Use this number when identifying or referencing the pump.

LUBRICATION:

Bowie Pumps require lubrication only where grease fittings are provided. All bearings and bushing type pumps require a good grade of gun grease to insure longer life of the pumps.

No lubrication is required on bushing or bearing type pumps if oil is pumped exclusively. This is the only exception.

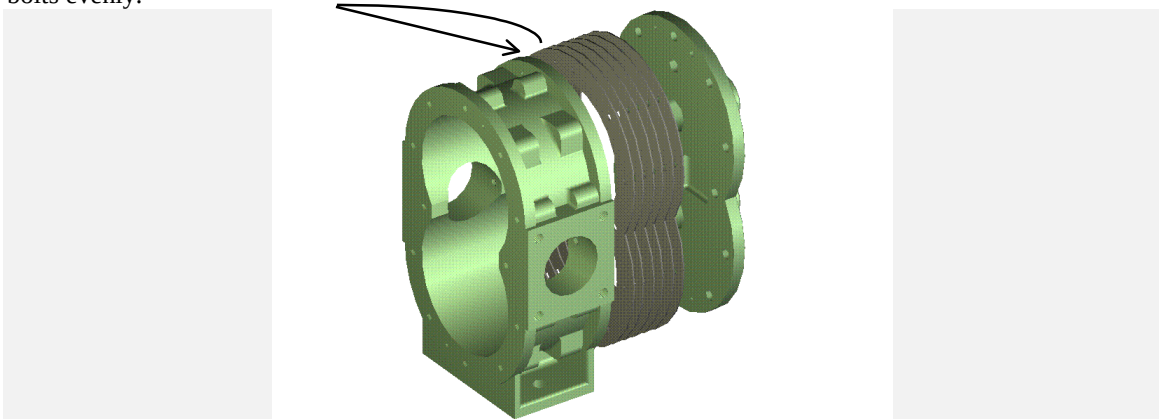
Periodic lubrication is of utmost importance in the care of the *Bowie Pumps*. This point cannot be over emphasized. Depending upon use this lubricating should be done every four (4) hours of continuous operation.

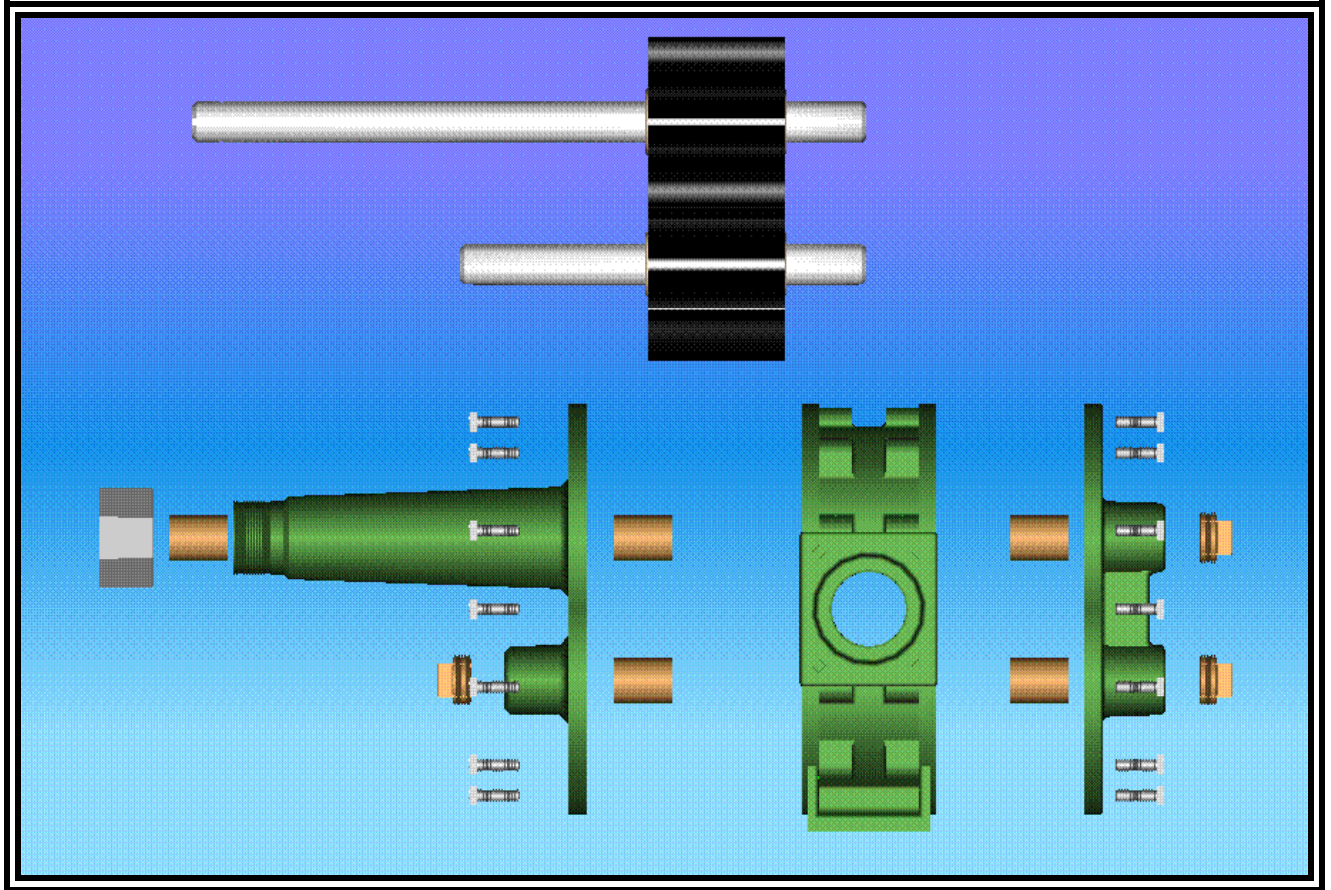


TYPICAL LUBRICATION LOCATIONS

ADJUSTMENT FOR CLEARANCE: All Series *BOWIE PUMPS*

Should it be necessary to adjust the pumps due to excessive clearance from normal wear of the impellers between the front and back plate housing, remove the back plate and remove one, two or three, etc. pump gaskets as may be required to take up the slack. Replace back plate, being careful that the remaining gaskets do not crimp or wrinkle, and tighten the bolts diametrically opposed to each other tightening the bolts evenly.



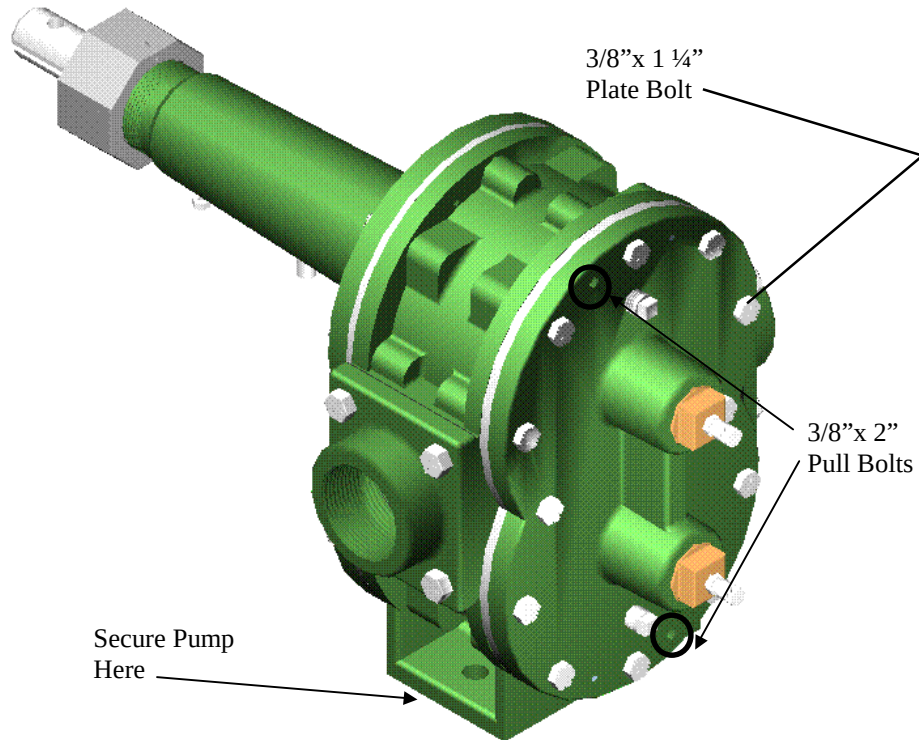


300 Series Bowie Pumps

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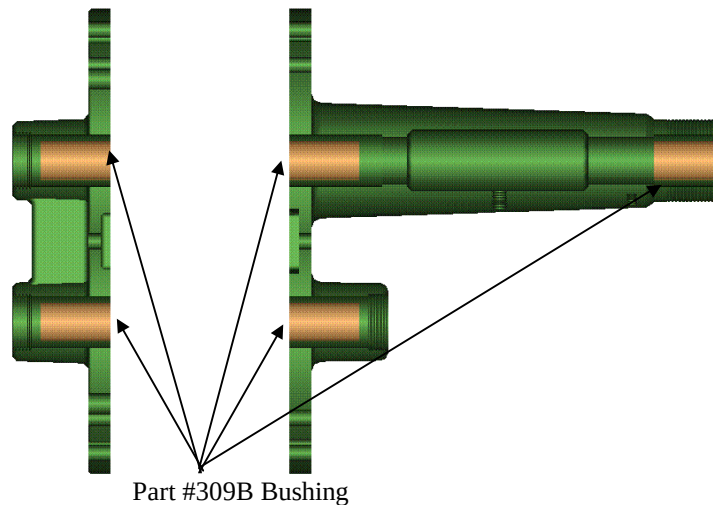
DISASSEMBLY OF 300 SERIES PUMPS

1. Secure base of pump to table or workbench.
2. Remove twelve (12) 3/8" x 1 1/4" back plate bolts that attaches back plate to center case.



Insert two (2) 3/8" x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolt so that the plate move evenly on top and bottom to avoid binding on the bushings and shafts.

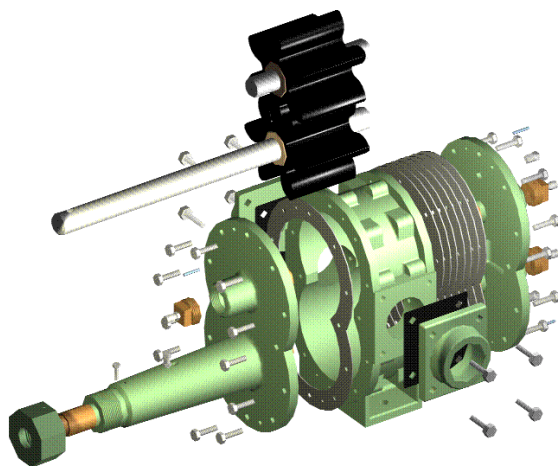
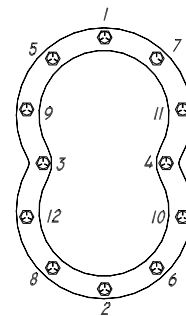
1. Remove tie wire securing the packing nut. Remove packing nut and packing on drive shaft.
2. Carefully remove drive and idler gears.
3. To remove front plate, remove twelve (12) 3/8" x 1 1/4" front plate bolt that attached the front plate to the center case. Follow steps of line 3 to remove front plate.
4. Remove the two end plugs from the back plate and the one end plug from the front plate.
5. There is access now for removal of the bushings (part #309B), three in the front plate and two in the back plate.



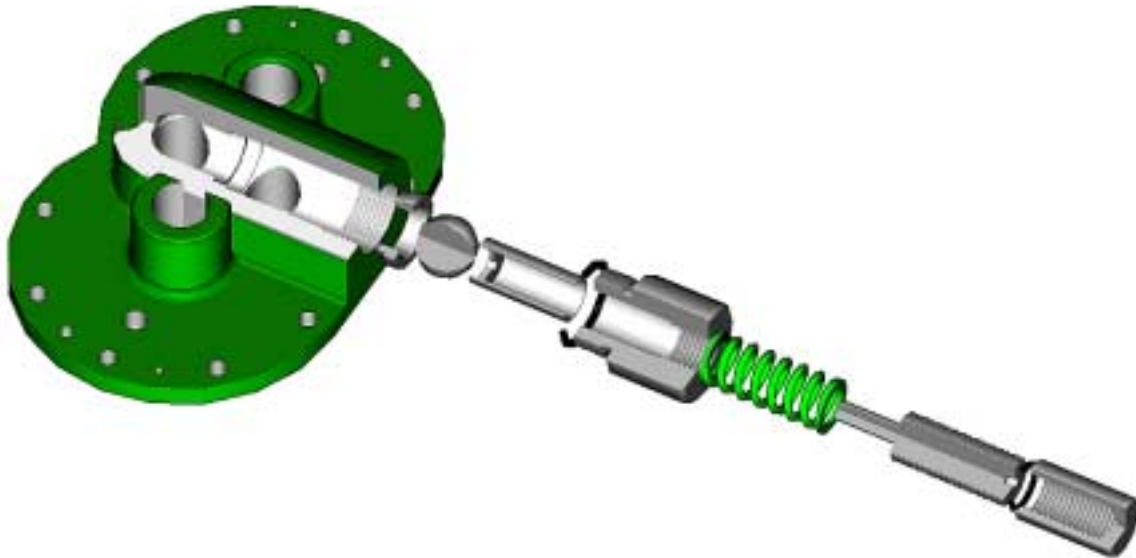
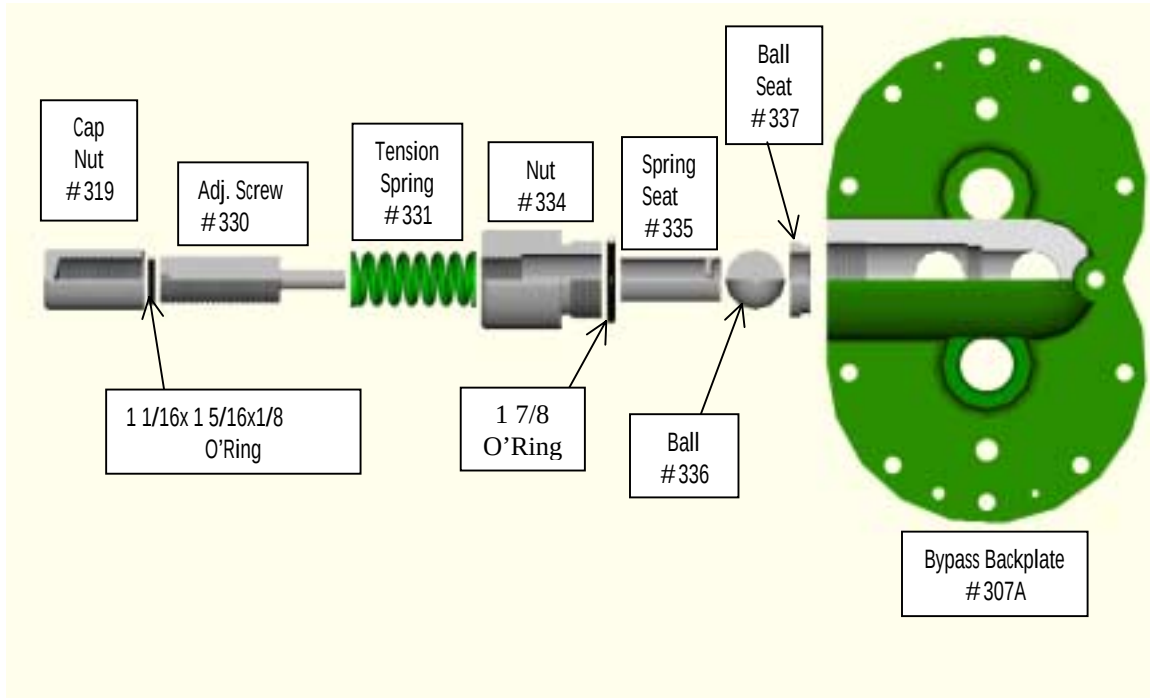
ASSEMBLY OF 300 SERIES BOWIE PUMPS

Prior to assembly of pump make sure all parts are clean and free from foreign objects.

1. Install end plugs and drain plugs into both the front [part no. 302] and back plates [part no. 307].
2. Attach front plate [part no. 302] to center case using one [part no. 306] gasket between plate and center case. Affix bolts finger tight.
1. Solidly secure center case. Lightly oil both the idler and drive gears prior to installation into the center case.
2. Insert idler and drive gears into center case and front plate.
3. Use seven [part no. 306] gaskets between back plate [part no. 307] and center case. Attach back plate to center case with bolts finger tight.
4. Tighten bolt numbers 1 & 2 on both the front and back plates.
5. Oil gears through the input/discharge port
6. Turn the gears several turns with the drive shaft to seat the gears in place. When the gears are turning smoothly tighten bolt numbers 3 & 4 on both the front and back plates. Turn the gears several turns with the drive shaft to assure smooth operation. If the gears turn smoothly then continue to tighten the bolts in the sequence as shown in diagram to 22-25 ft. lbs. Otherwise loosen the bolts and repeat steps 5 & 7.
7. Install taper pins on both plates, top and bottom.
8. Install graphite packing [part no. 313G] into packing nut [part no. 301].
9. Install packing nut over drive shaft and turn until firm, not tight. Note: over tightening can cause damage
10. Use tie wire to secure packing nut in place.
11. Lubricate at all grease fittings. Three are located on end plugs, and one on over front plate drive shaft gland. Grease front plate drive shaft gland until grease starts to come out the packing.



Bypass Assembly



The bypass is easily adjusted and is set for approximately 30 lbs. pressure when leaving the factory. The pressure is easily adjusted with the adjusting screw (#330). Seven turns equals approximately 30 lbs. pressure. The stainless steel ball and seat assures longer life of the bypass. Make sure that the adjusting valve points to the outlet port.

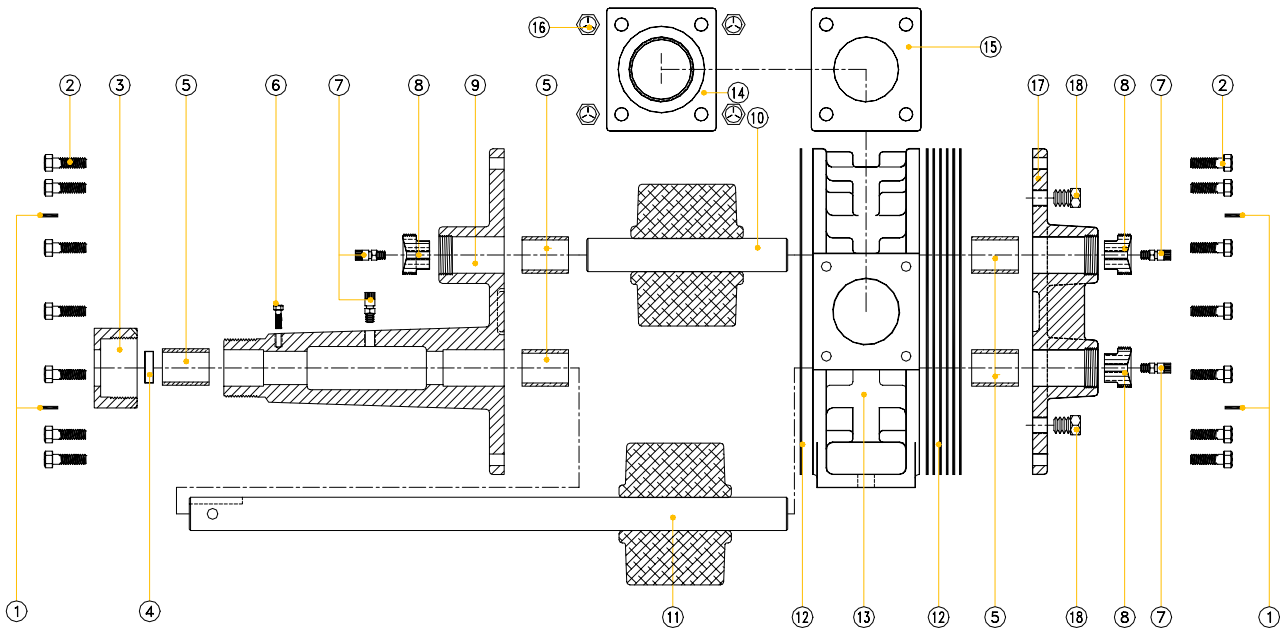
Note: this is a pump option. Not on all Bowie 300 Series pumps.

300 Series Parts



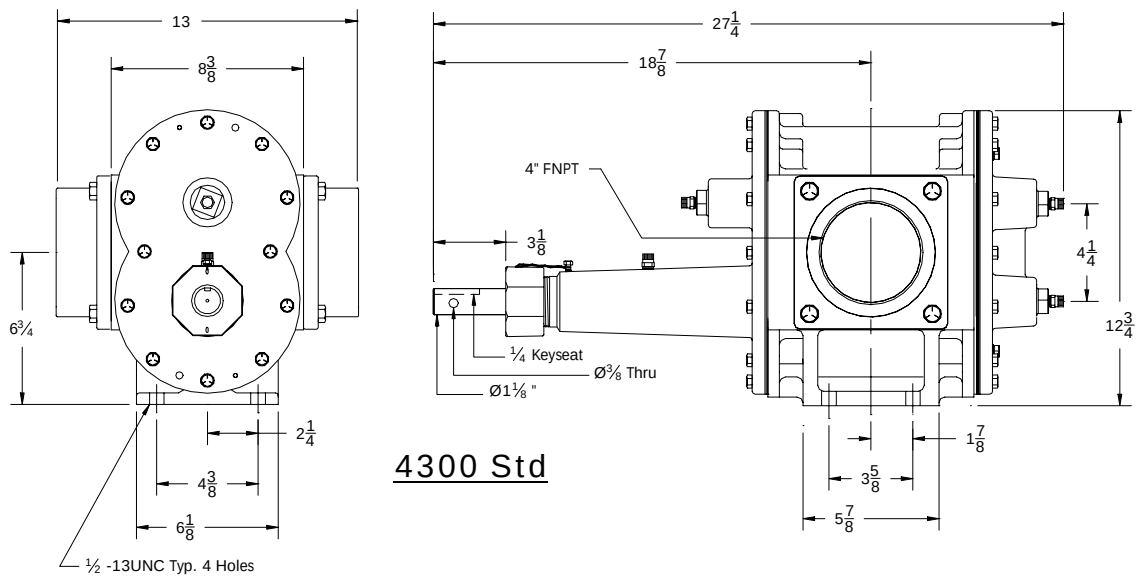
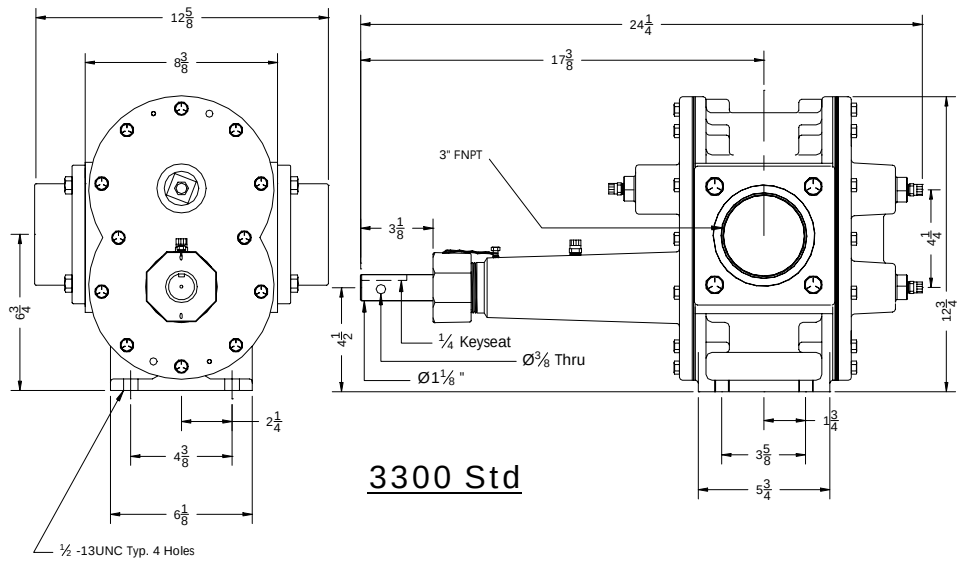
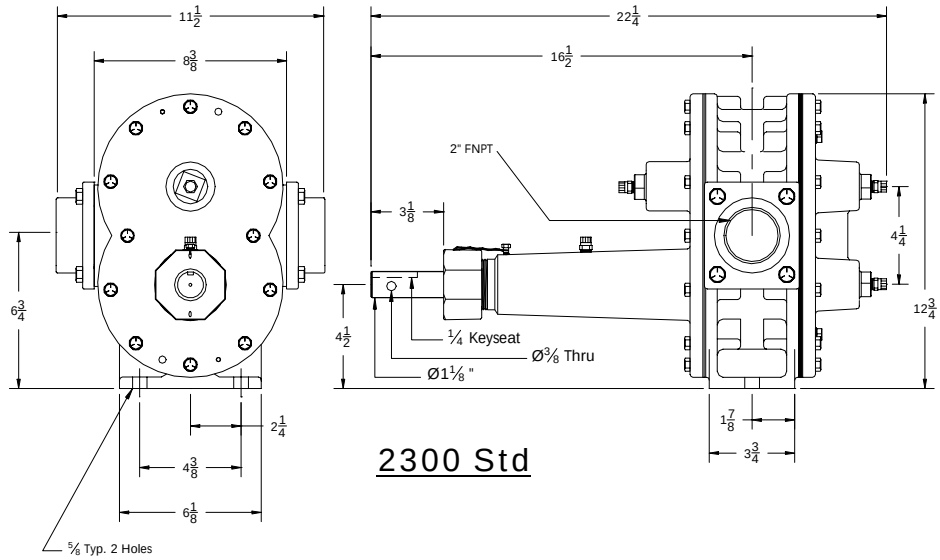
Stock				Stock				Stock				
No	No.	Description	Qty	No	No.	Description	Qty	No	No.	Description	Qty	
1	301	Nut, Packing	1	8	313G	Packing, Graphite	1	*	14	_303	Case, Center	1
2	302	Plate, front	1	9	314	Bolt, End Plate	24	*	15	_304G	Gear, Buna-N	1
3	304K	Key, Gear	2	10	315	Pin, Tape	4	*	16	_304A	Shaft, Idler	1
4	306	Gasket, Plate	8	11	316	Fitting, Grease	1	*	17	_305A	Shaft, Drive	1
5	307	Plate, Back	1	12	317	Screw, Lock	1	*	18	_310	Flange, Adapter	2
6	308BF	Plug, Bronze W/Grease Ftg	3	13	318	Plug, Drain	2	*	19	_311	Gasket, Flange	2
7	309B	Bushing, Bronze	5					*	20	_312	Flange, Bolt	8

* Denotes 4 digit code number use pump size for first number

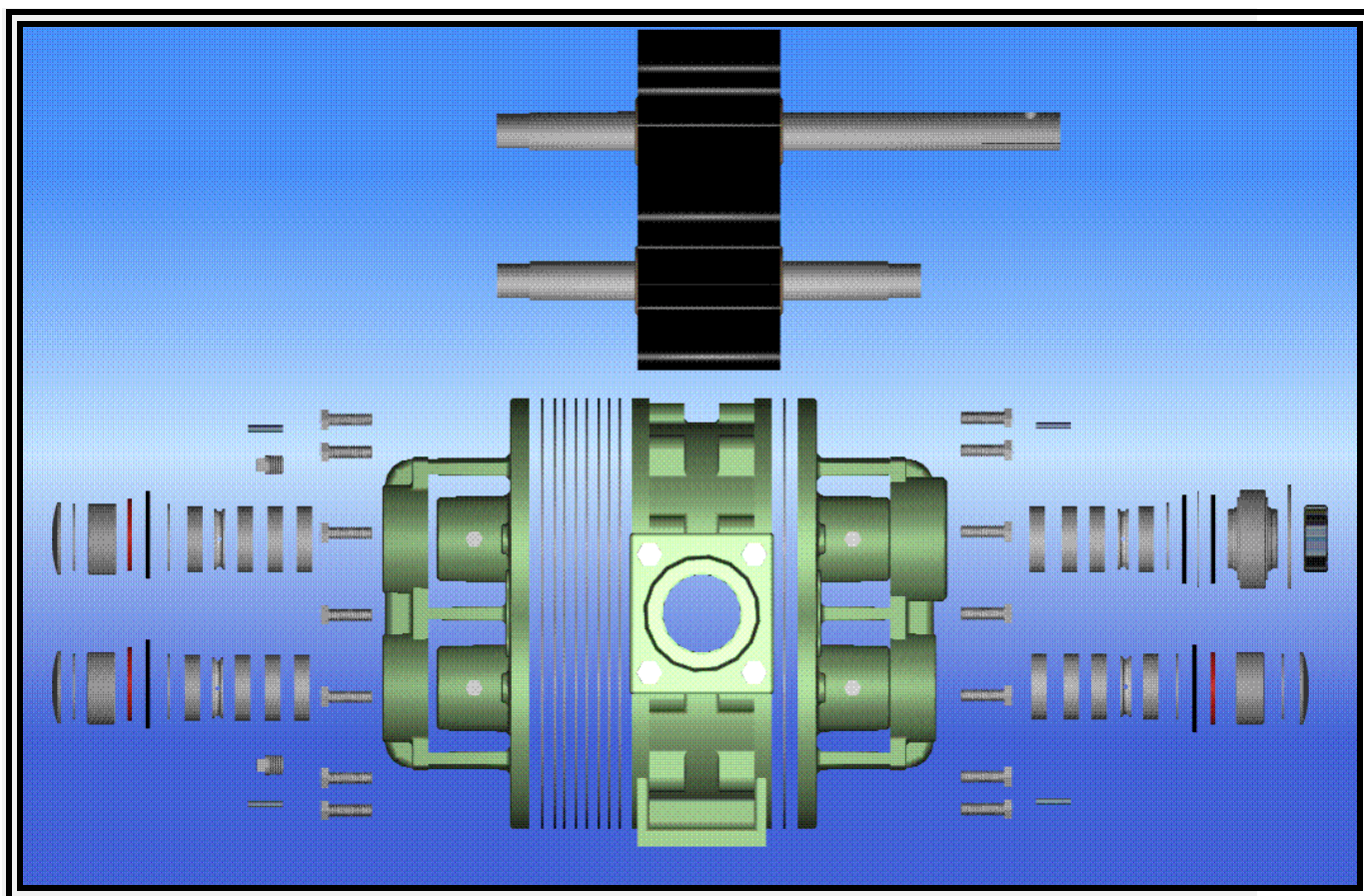


Options:

Stock No.	Description	Stock No.	Description		Stock No.	Description
309 BG	Bushing, Brz Grooved	334	Nut, Bypass	*	_3 SS	Stainless Steel Shafts
309 T	Bushing, Teflon	23/33 BP	Plate, Bypass	*	_304 BG	Bronze Gear
313 T	Packing, Teflon	23/33 EXT	Shaft, Extension	*	_304 CG	Steel Gear
319	Nut, Bypass Valve	23/33 SS EXT	Shaft, SS Extension	*	_304 UG	Urethane Gear
330	Screw, Adj. Bypass	23/33 HP	Plate, Hard Wear	*	_304 V	Viton Gear
331	Spring, Bypass	23/33 RK	Repair Kit	*	_310A	Flange, Adapter Mounting
335	Seat, Spring	23/33 RKT	Repair Kit Teflon	*	_310 HM	Flange, Adapter for Hydro-Mulcher
336	Ball, Bypass	23/33 TB	Bushings, Teflon	*	Denotes	4 Digit Number 1 st digit pump size
337	Seat, Ball					



Notes:



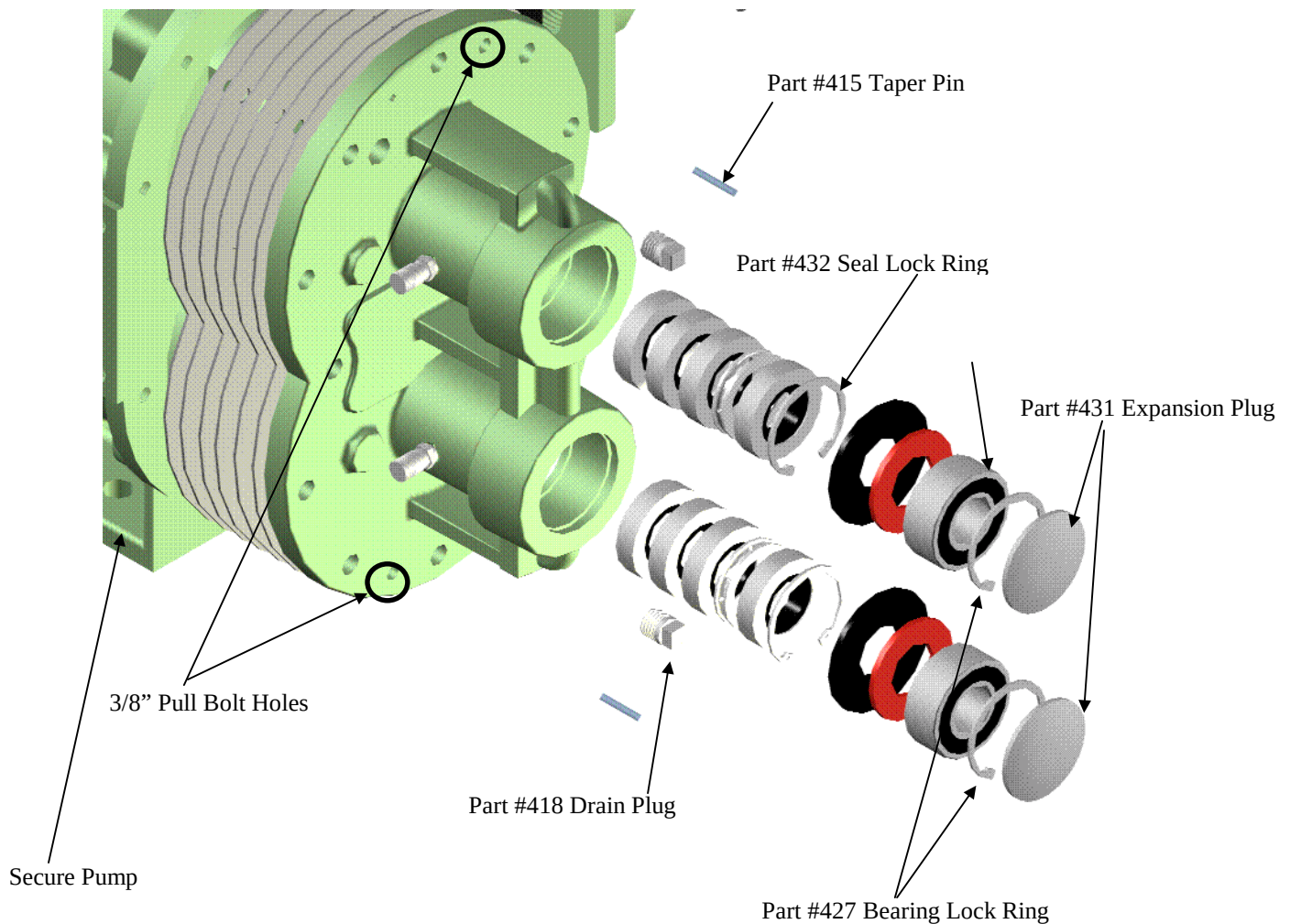
400 Series Bowie Pumps

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DISASSEMBLY OF 400 SERIES PUMPS

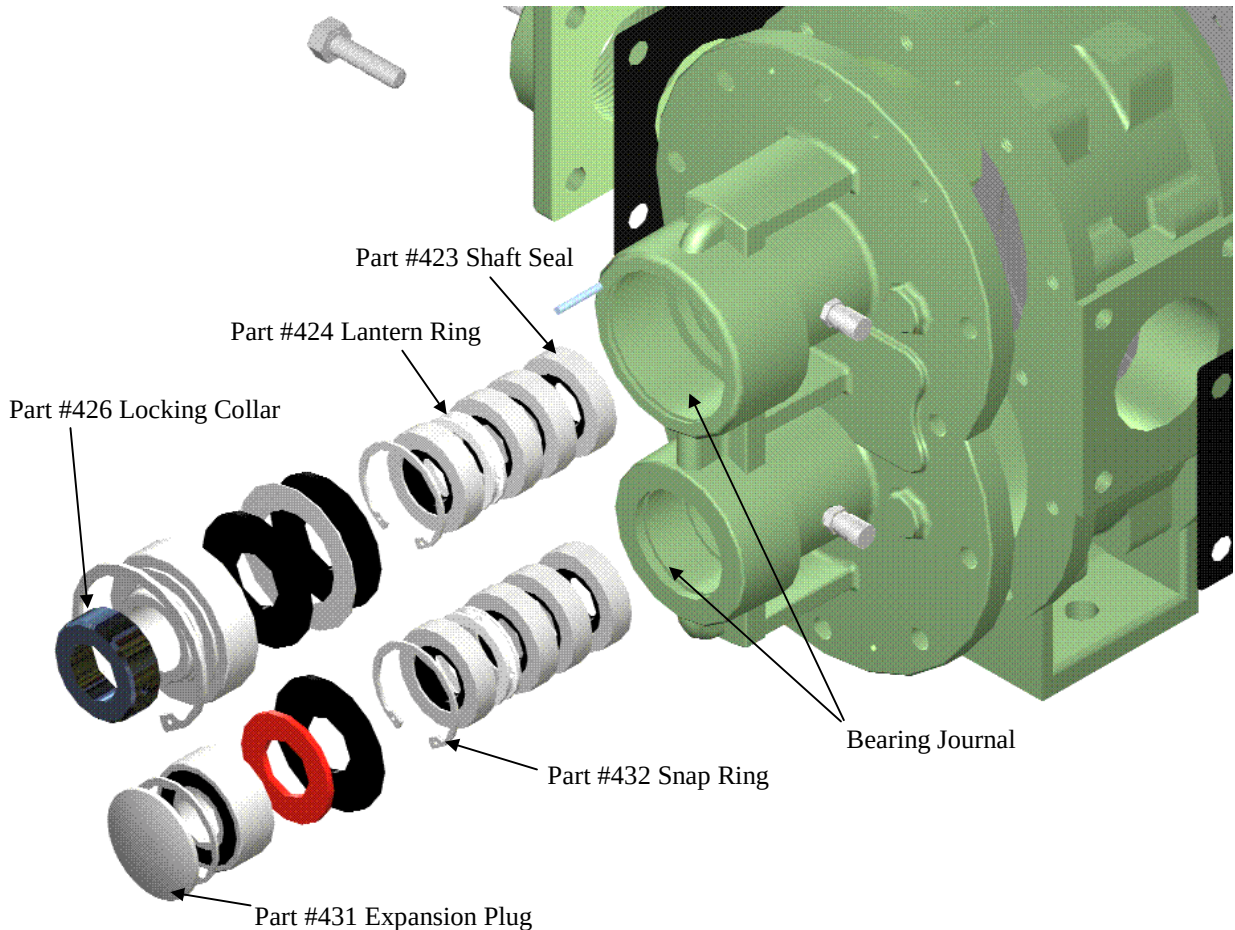
A. Removal of Back Plate

1. Secure base of pump to table or workbench.
2. Remove twelve (12) 3/8" x 1 1/4" back plate bolts that attaches back plate to center case
3. Insert two (2) 3/8"x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolt so that the plate move evenly on top and bottom to avoid binding on the shafts.
4. At removal of back plate from the case. Drive expansion plugs (part #431) out of back plate.
5. Remove both 2" bearing lock rings from back plate.
6. Drive (part #425) small bearings form back plate using Bowie tool #9957. *An alternate tool of similar configuration may be used.*
7. Remove seal lock rings (part #432).
8. Drive lip seals (part #423) and Teflon lantern ring (part #424) out through the bearing journal using Bowie toll #9957 or an alternate tool may be used.



B. Removal of Drive and Idler Gear

1. Remove the locking collar on the large drive shaft bearing (part #426) by loosening set screw then turning the locking collar $\frac{1}{4}$ of a turn either clockwise or counter-clockwise.
2. To remove the expansion plug covering the idler bearing. Drill a small hole in center of the expansion plug and use a small pry tool to pop it out from the front plate.
3. With the front plate (part #421) still bolted to the center case, press drive gear and shaft out through the open back side of the case. Press out the idler gear and shaft out through the open back side of case.



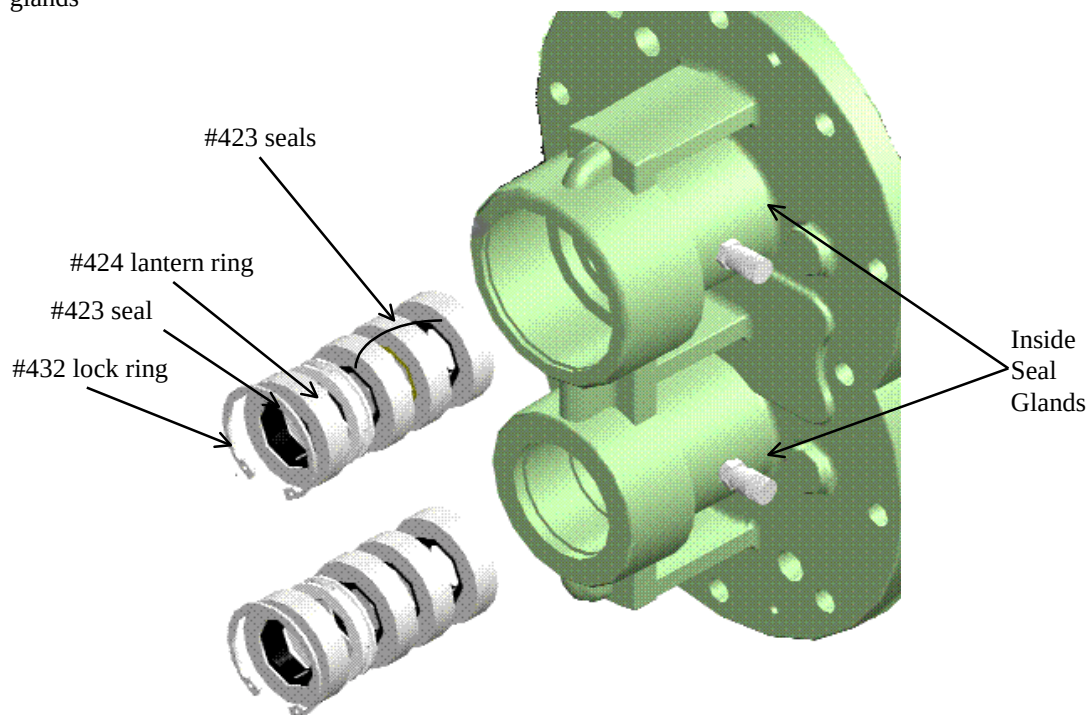
C. Removal and Disassembly of Front Plate

1. Remove twelve (12) $\frac{3}{8}$ "x $1\frac{1}{4}$ " back plate bolts to center case.
2. Insert two (2) $\frac{3}{8}$ "x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolts so that the plate moves evenly top and bottom to avoid binding.
3. Remove the idler bearing snap ring (part #427) and the large bearing snap ring (part #428)
4. Drive the idler and drive bearings out of journals using Bowie tool #9975 or similar tool
5. Remove the seal retaining snap ring (part #432).
6. Drive four (4) seals (part #423) and lantern ring (part #424) out through the bearing journal using Bowie tool #9957 or equivalent tool.

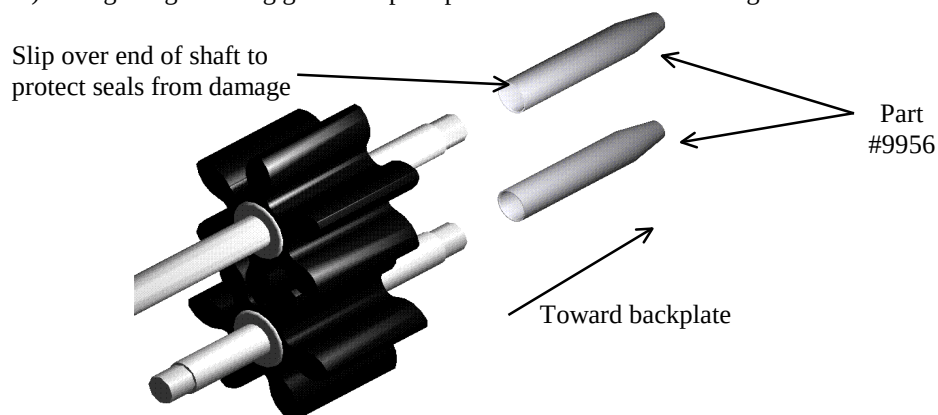
ASSEMBLY OF 400 SERIES BOWIE PUMPS

Prior to assembly of pump make sure all parts are clean and free from foreign objects.

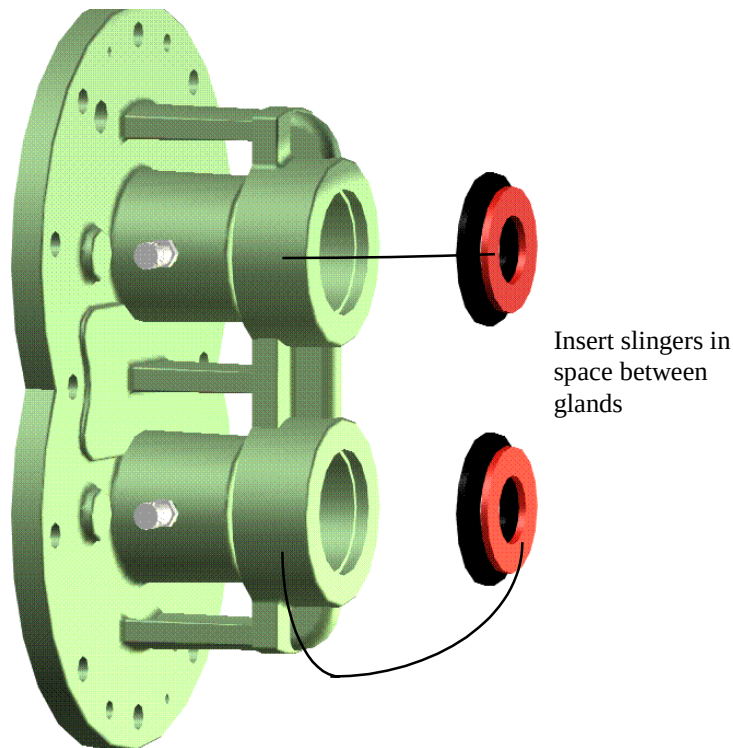
1. Install drain plug into back plate [part no. 418].
2. Install three shaft seals (part no. 423), lantern ring (part no. 424), and one shaft seals (part no. 423), and seal lock ring (part no.432) into inside glands of front (part no. 421) and back plate (part no.418) inside glands



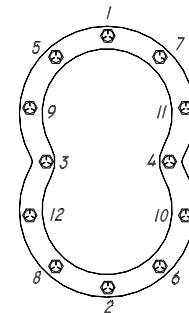
3. Solidly secure center case.
4. Attach front plate [part no. 421] to center case using one [part no. 406] gasket between plate and center case. Affix bolts finger tight.
5. Lightly oil both the idler and drive gears prior to installation into the center case.
6. Insert drive gear into center case and front plate using Bowie seal protector tool #9956. Then install one black slinger washer (part no. 430), one steel washer (part no. 434), one bearing shield washer (part no. 433) through large bearing gland to open space between front and rear glands.



7. Insert idler gear into center case and front plate. Before shaft enters front plate small bearing gland install one black slinger washer (part no. 430), one red slinger washer (part #429). Oil gears in center case before putting backplate to center case.



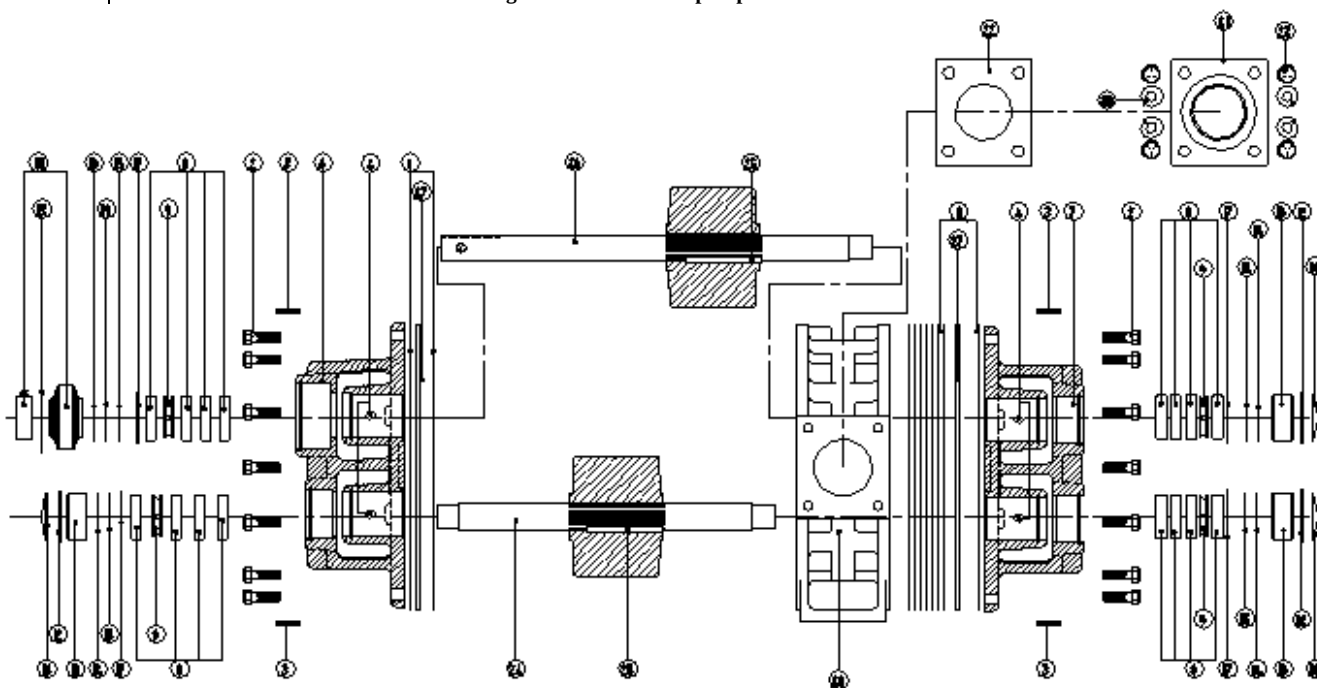
1. Use seven [part no. 406] gaskets between back plate [part no. 422] and center case. Before shaft enters front plate small bearing gland install one black slinger washer (part no. 430), one red slinger washer (part #429) on each shaft. Attach back plate to center case with bolts finger tight.
2. Tighten bolt numbers 1 & 2 on both the front and back plates.
1. Outside bearings should be inserted approximately $\frac{1}{2}$ way into glands. Turn the gears several turns with the drive shaft to seat the gears in place. When the gears are turning smoothly tighten bolt numbers 3 & 4 on both the front and back plates. Turn the gears several turns with the drive shaft to assure smooth operation. At this time fully insert bearings (1 part #426, 3 part #425) into glands. Install part #428 lock ring into large bearing gland on front plate drive gear shaft. Install three part #427 lock rings into small bearing glands. If the gears turn smoothly then continue to tighten the bolts in the sequence as shown in diagram to 22-25 ft. lbs. Otherwise loosen the bolts and repeat steps 5 & 7.
2. Over small bearing glands use part #431 expansion plugs to cover openings.
3. Lubricate at all grease fittings. These are located on the side of inside seal glands of both front and back plates..





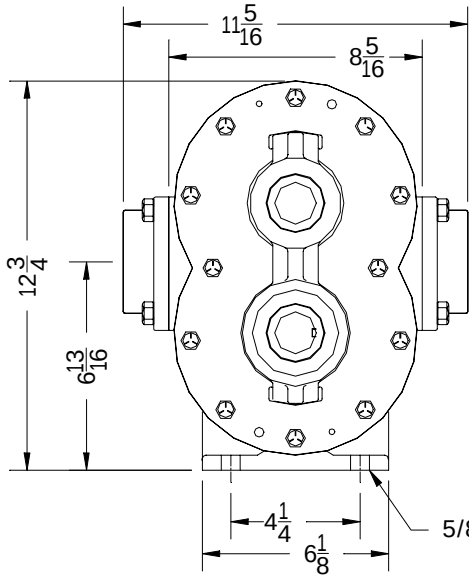
Stock				Stock				Stock				
No	No.	Description	Qty	No	No.	Description	Qty	No	No.	Description	Qty	
1	406	Gasket, Plate	8	11	426	Bearing, Large	1	*	20	-403	Case, Center	1
2	414	Bolt, End Plate	24	12	427	Ring, Lock 2" Bearing	3	*	21	-410	Flange, Adapter	2
3	415	Pin, Tape	4	13	428	Ring, Lock 3" Bearing	1	*	22	-411	Gasket, Flange	2
4	416	Fitting, Grease	4	14	429	Washer, Red Slinger	3	*	23	-412	Flange, Bolt	8
5	418	Plug, Drain	2	15	430	Washer, Blk Slinger	4	*	24	-419A	Shaft, Idler	1
6	421	Plate, Front OB	1	16	431	Plug, Expansion	3	*	25	-419K	Key, Gear	2
7	422	Plate, Back OB	1	17	432	Ring, Lock Seal	4	*	26	-419G	Gear, Buna-N	2
8	423	Seal, Shaft	16	18	433	Washer, Bearing Shield	1	*	27	-420A	Shaft, Drive	1
9	424	Ring, Lantern	4	19	434	Washer, Steel	1	** Optional				
10	425	Bearing, Small	3					**	28	422HP	Wear Plate	2

- Denotes 4 digit code number use pump size for first number

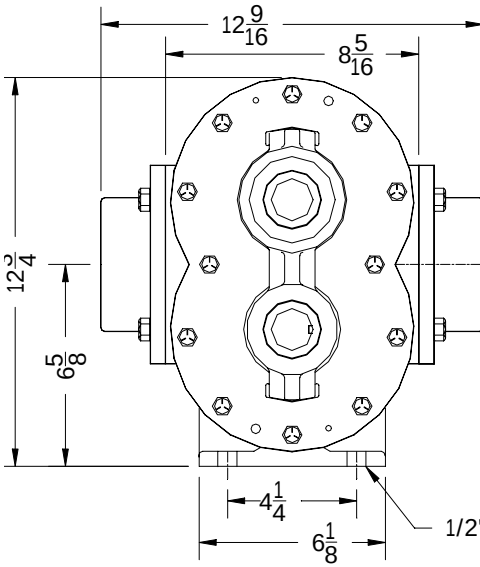


Options:

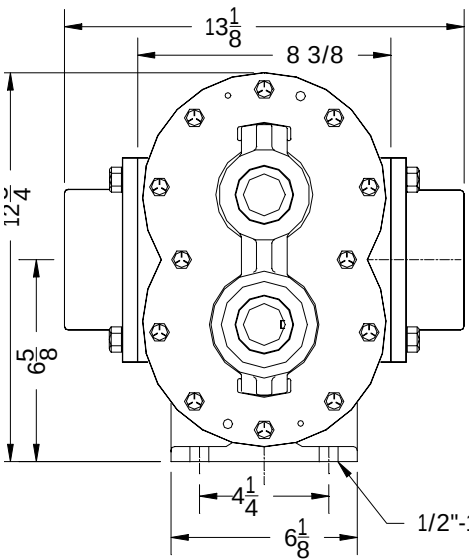
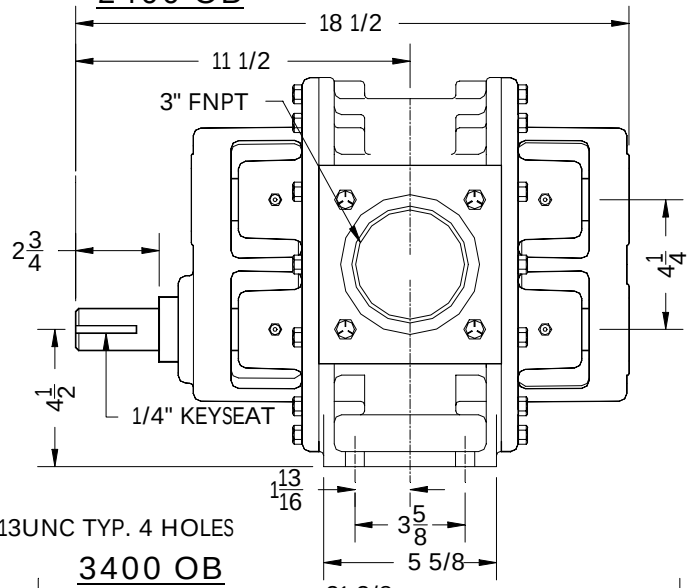
Stock No.	Description	Stock No.	Description	Stock No.	Description
421P	Plate, Ft POB	424T	Ring, Lantern Teflon POB	* _4 SS	Stainless Steel Shafts
422P	Plate, Back POB	24/34 EXT	Shaft, Extension	* _419 CG	Steel Gear
423G	Packing, Graphite	24/34 HP	Plate, Hard Wear	* _419 UG	Urethane Gear
423T	Packing, Teflon	24/34 RK	Repair Kit	* _419 VG	Viton Gear
424P	Nut, Packing POB	24/34 POB RK	Repair Kit	* _410A	Flange, Adapter Mounting
424S	Ring, Lantern Steel OB	24/34 POB	Gland, Packing	* _410 B	Flange, Adapter Alum/Bronze
				* Denotes	4 Digit Number 1 st digit pump size



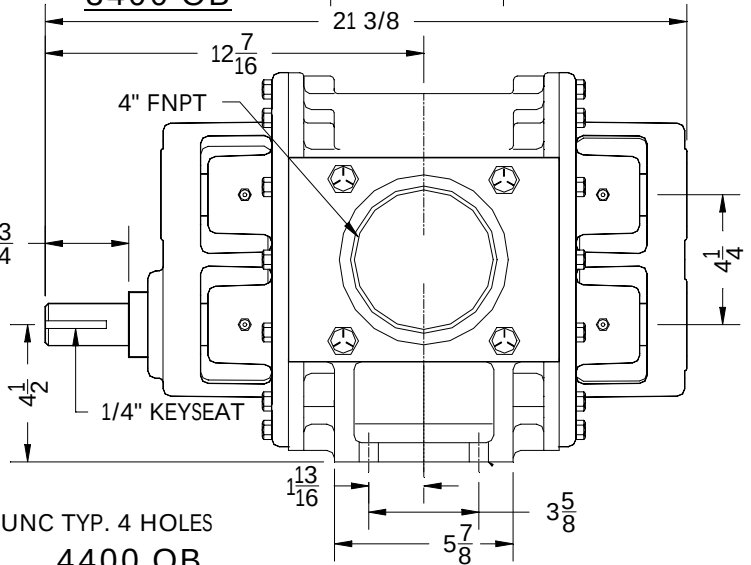
2400 OB



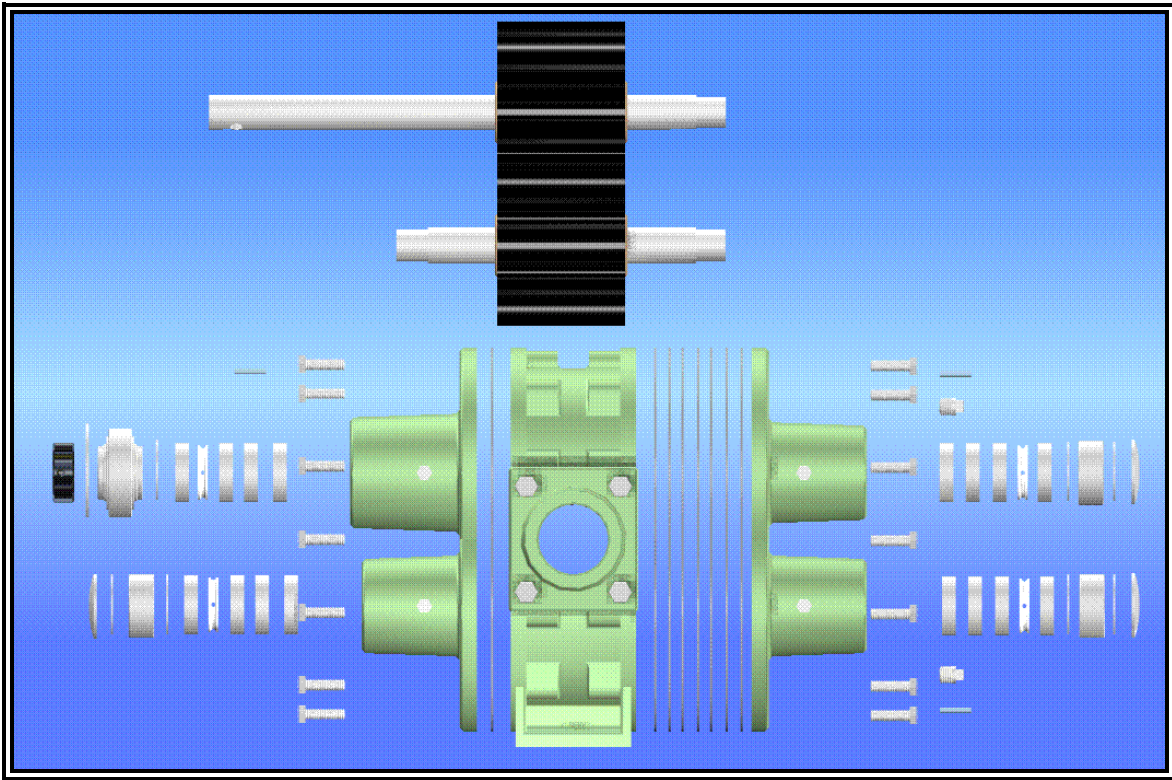
3400 OB



4400 OB



Notes:



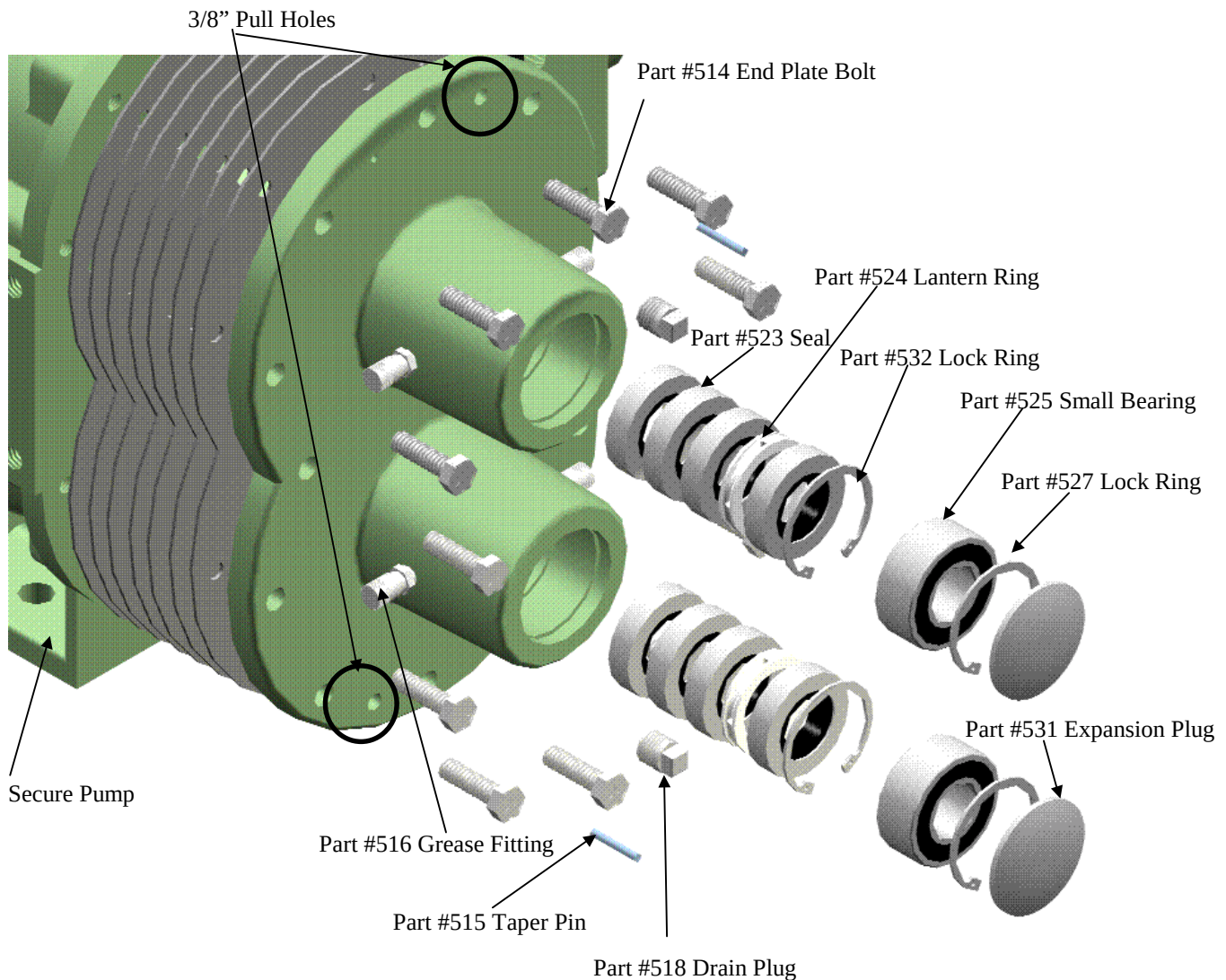
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DISASSEMBLY OF 500 SERIES PUMPS

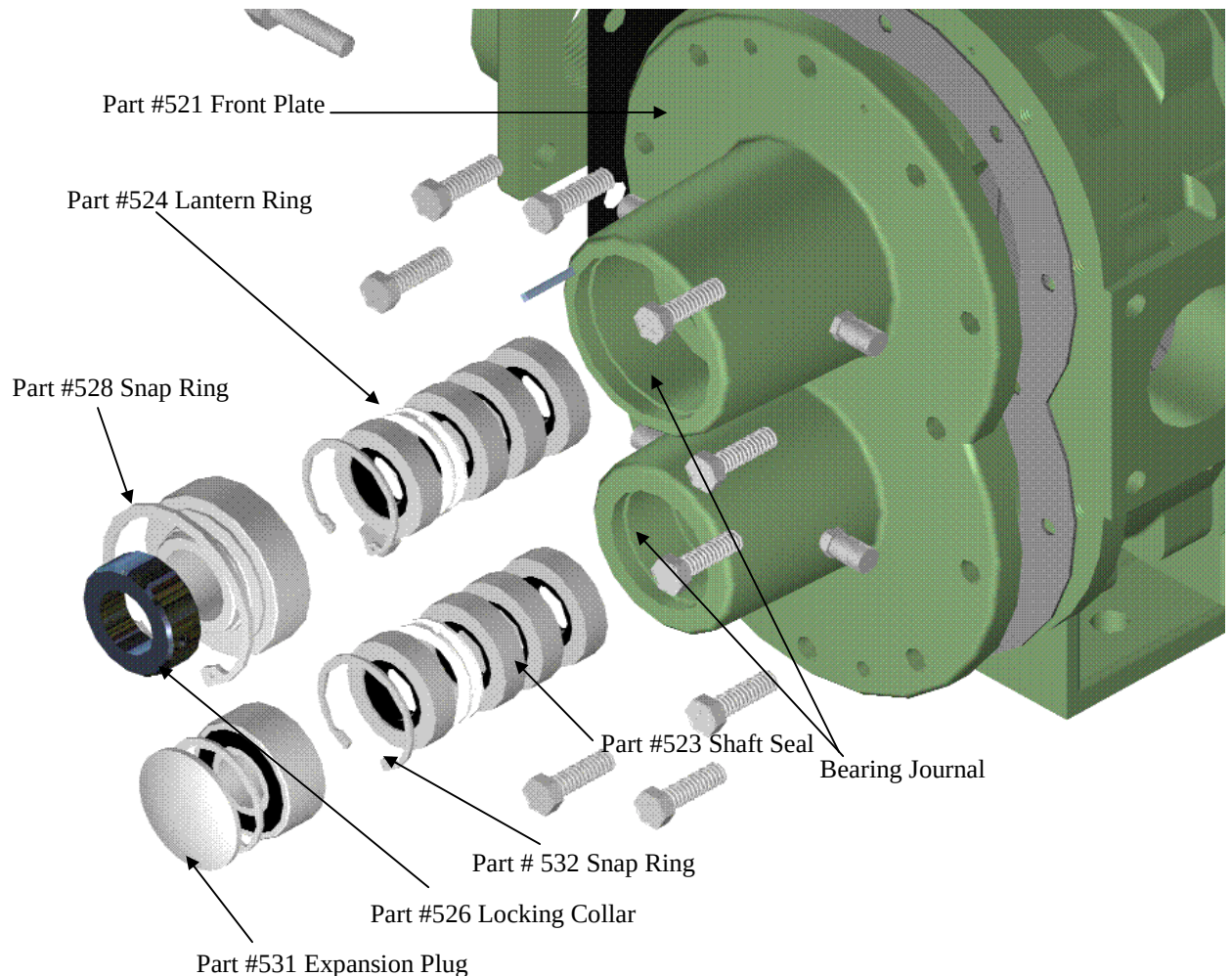
A. Removal of Back Plate

1. Secure base of pump to table or workbench.
2. Remove twelve (12) 3/8" x 1 1/4" back plate bolts that attaches back plate to center case
3. Insert two (2) 3/8"x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolt so that the plate move evenly on top and bottom to avoid binding on the shafts.
4. At removal of back plate from the case. Drive expansion plugs (part #531) out of back plate.
5. Remove both 2" bearing lock rings (part #527) from back plate.
6. Drive (part #525) small bearings from back plate using Bowie tool #9957. *An alternate tool of similar configuration may be used.*
7. Remove seal lock rings (part #532).
8. Drive lip seals (part #523) and teflon lantern ring (part #524) out through bearing journal using Bowie tool #9957 or alternate tool may be used.



B. Removal of Drive and Idler Gears

1. Remove the locking collar on the large drive shaft bearing (part #526) by loosening set screw then turning the locking collar $\frac{1}{4}$ of a turn either clockwise or counter-clockwise.
2. To remove the expansion plug covering the idler bearing. Drill a small hole in the center of the expansion plug and use a small pry tool to pop it out from the plate.
3. With the front plate (part #521) still bolted to the center case, press the drive gear out through the open back side of the case. Press out the idler gear and shaft out through the open back side of the case..



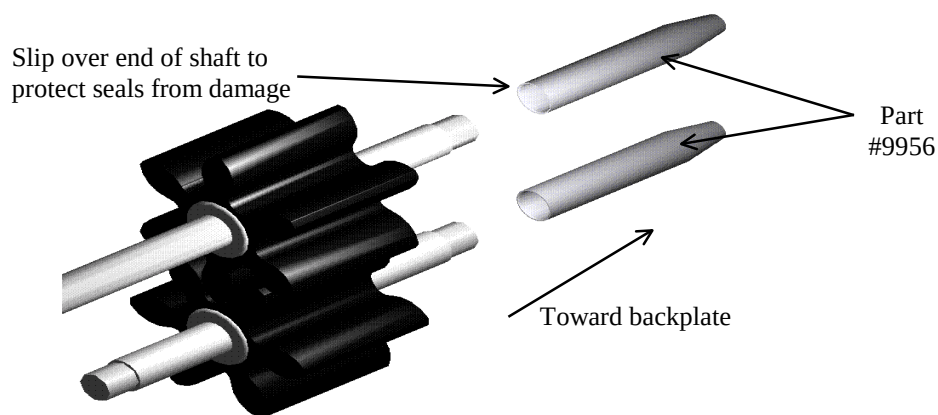
C. Removal and Disassembly of Front Plate

1. Remove twelve (12) $\frac{3}{8}$ " x $1\frac{1}{4}$ " back plate bolt that attaches back plate to center case.
2. Insert two (2) $\frac{3}{8}$ " x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolts so that the plate moves evenly on top and bottom to avoid binding.
3. Remove the idler bearing snap ring (part #527) and the large bearing snap ring (part #528).
4. Drive the idler and drive bearings out of journals using Bowie tool #9975 or similar tool.
5. Remove the seal retaining snap ring (part #532).
6. Drive four (4) seals (part #523) and the lantern ring (part #524) out through the bearing journal using Bowie tool #9957 or equivalent tool.

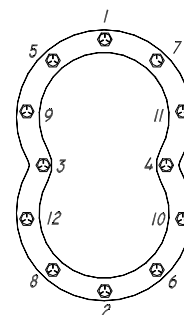
ASSEMBLY OF 500 SERIES BOWIE PUMPS

Prior to assembly of pump make sure all parts are clean and free from foreign objects.

1. Install drain plug into back plate [part no. 518].
2. Install three shaft seals (part no. 523), lantern ring (part no. 524), and one shaft seals (part no. 523), and seal lock ring (part no. 532) into inside glands of front (part no. 521) and back plate (part no. 522) inside glands
3. Solidly secure center case.
4. Attach front plate [part no. 521] to center case using one [part no. 506] gasket between plate and center case. Affix bolts finger tight.
5. Lightly oil both the idler and drive gears prior to installation into the center case.
6. Insert drive gear into center case and front plate using Bowie seal protector tool #9956.



7. Use seven [part no. 506] gaskets between back plate [part no. 522] and center case. Attach back plate to center case with bolts finger tight.
8. Tighten bolt numbers 1 & 2 on both the front and back plates.
9. Outside bearings should be inserted approximately $\frac{1}{2}$ way into glands. Turn the gears several turns with the drive shaft to seat the gears in place. When the gears are turning smoothly tighten bolt numbers 3 & 4 on both the front and back plates. Turn the gears several turns with the drive shaft to assure smooth operation. At this time fully insert bearings (1 part #526, 3 part #525) into glands. Install part #528 lock ring into large bearing gland on front plate drive gear shaft. Install three part #527 lock rings into small bearing glands. If the gears turn smoothly then continue to tighten the bolts in the sequence as shown in diagram to 22-25 ft. lbs. Otherwise loosen the bolts and repeat steps 5 & 7

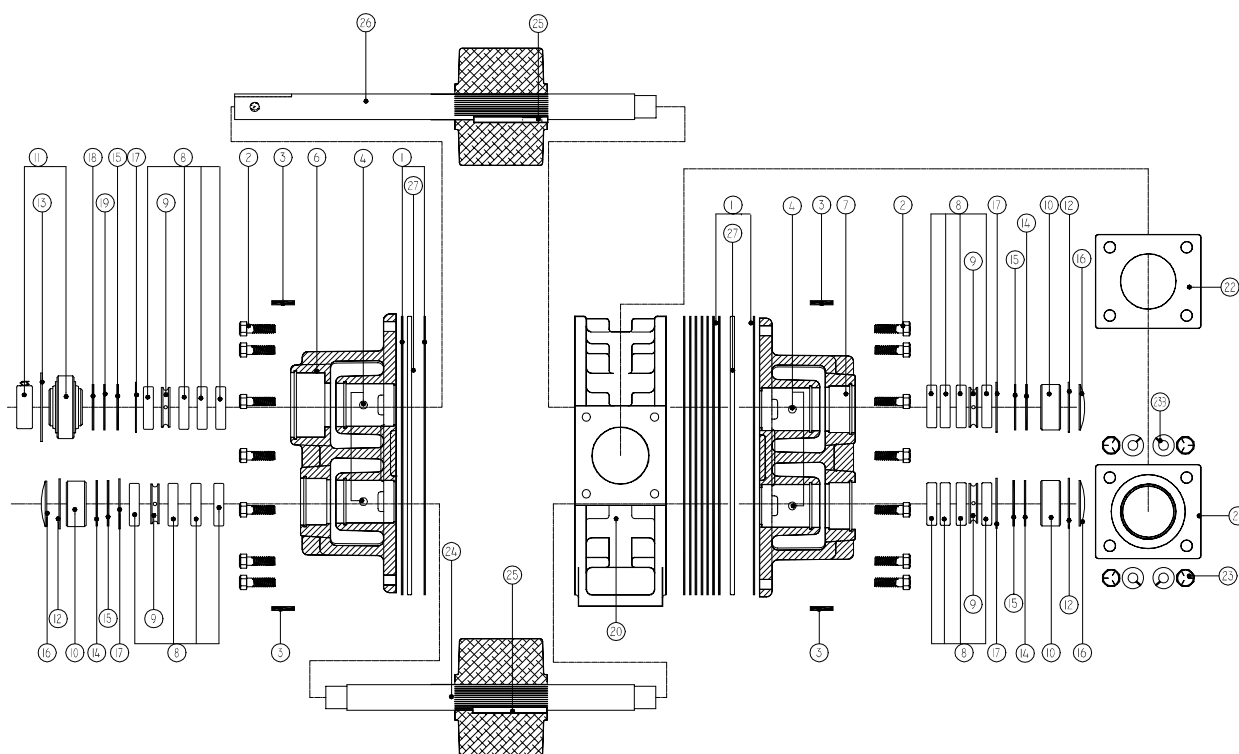


10. Over small bearing glands use part #531 expansion plugs to cover openings.
11. Lubricate at all grease fittings. These are located on the side of inside seal glands of both front and back plates..



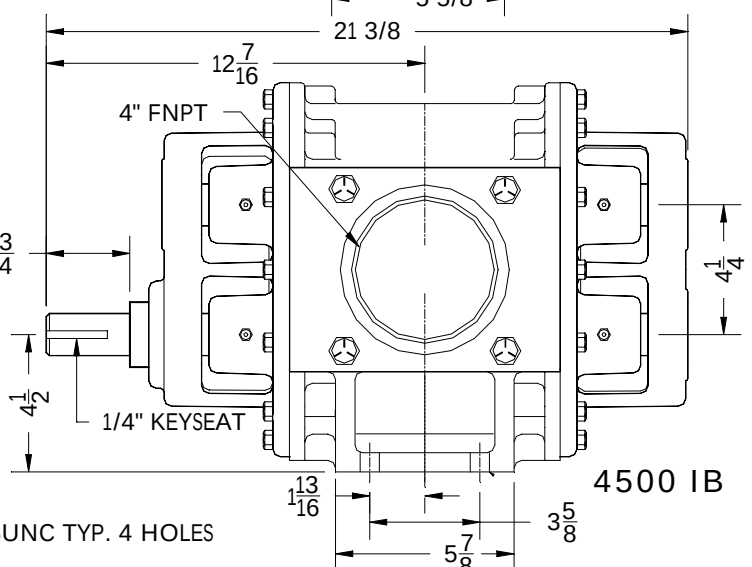
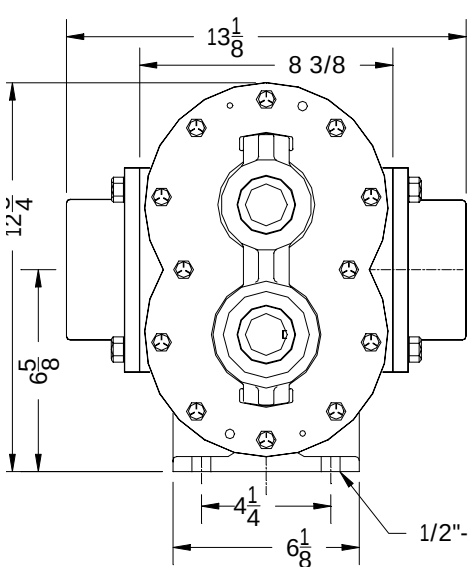
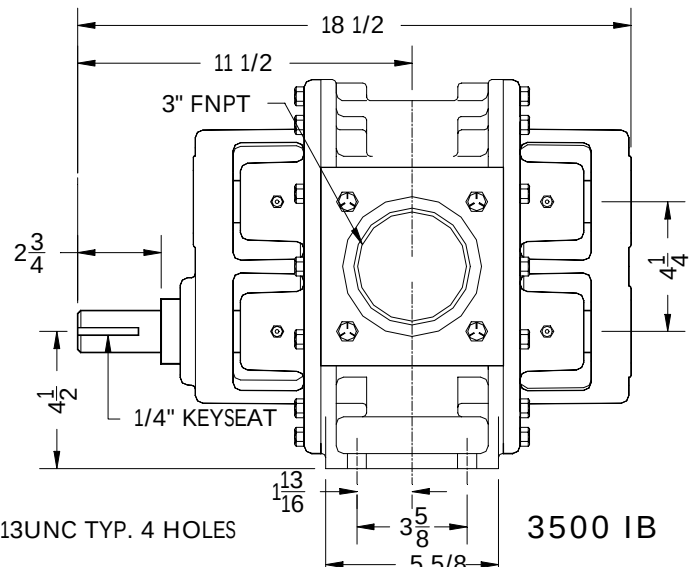
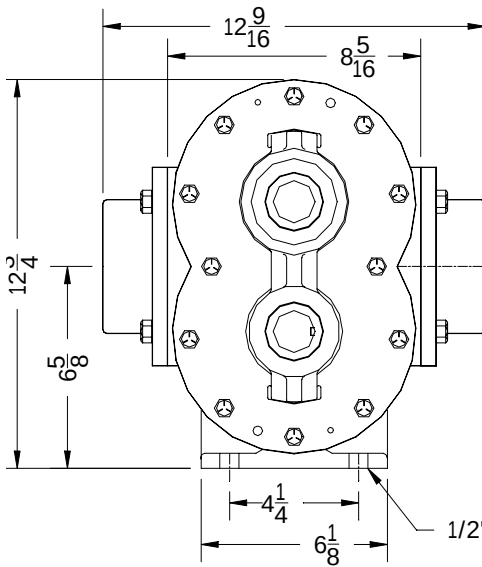
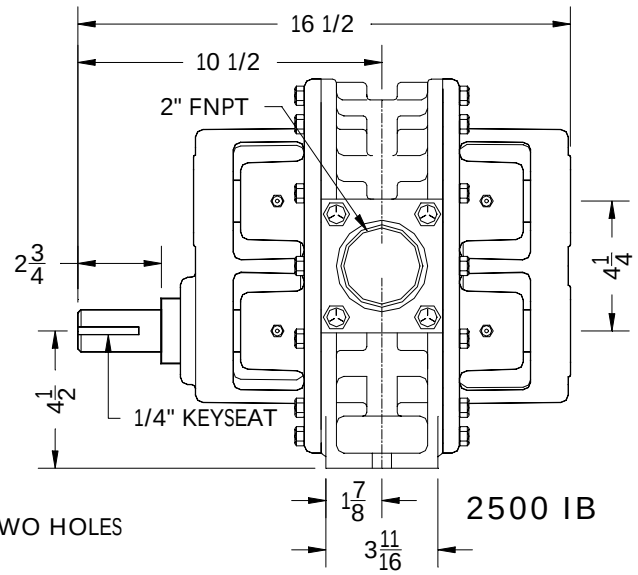
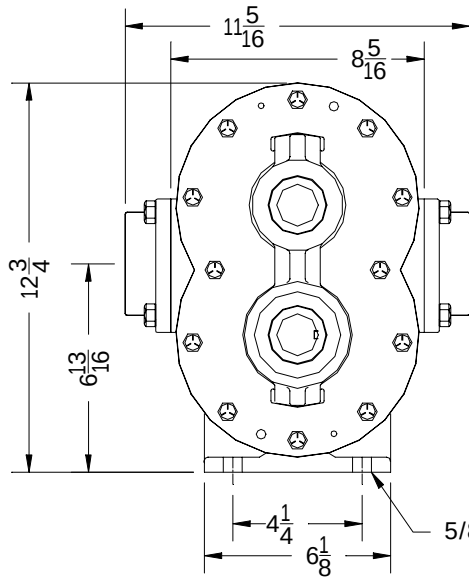
Stock				Stock				Stock			
No	No.	Description	Qty	No	No.	Description	Qty	No	No.	Description	Qty
1	506	Gasket, Plate	8	8	523	Seal, Shaft	16	* 16	-503	Case, Center	1
2	514	Bolt, End Plate	24	9	524	Ring, Lantern	4	* 17	-510	Flange, Adapter	2
3	515	Pin, Tape	4	10	525	Bearing, Small	3	* 18	-511	Gasket, Flange	2
4	516	Fitting, Grease	8	11	526	Bearing, Large	1	* 19	-512	Flange, Bolt	8
5	518	Plug, Drain	2	12	527	Ring, Lock 2" Bearing	3	* 20	-501A	Shaft, Idler	1
6	521	Plate, Front OB	1	13	528	Ring, Lock 3" Bearing	1	* 21	-501K	Key Gear	2
7	522	Plate, Back OB	1	14	531	Plug, Expansion	3	* 22	-501G	Gear, Buna-N	2
				15	532	Ring, Lock Seal		* 23	-502A	Shaft, Drive	1

- Denotes 4 digit code number use pump size for first number

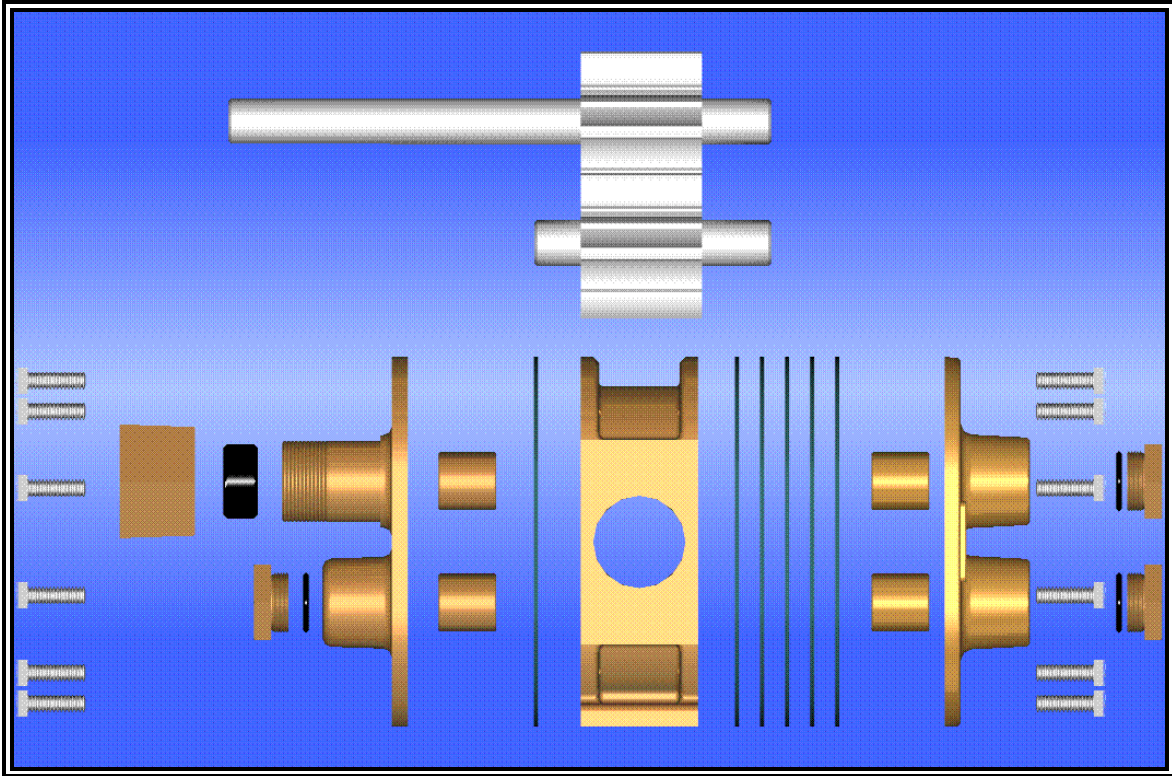


Options:

Stock No.	Description	Stock No.	Description		Stock No.	Description
25/35 EXT	Shaft, Extension	25/35 IB RK	Repair Kit	*	-5 SS	Stainless Steel Shafts
25/35 SS EXT	Shaft, SS Extension	24/34 POB RK	Repair Kit	*	-501 C	Steel Gear
25/35 HP	Plate, Hard Wear	24/34 POB	Gland, Packing	*	-501 UG	Urethane Gear
				*	-510A	Flange, Adapter Mounting
				*	Denotes	4 Digit Number 1 st digit pump size



Notes:

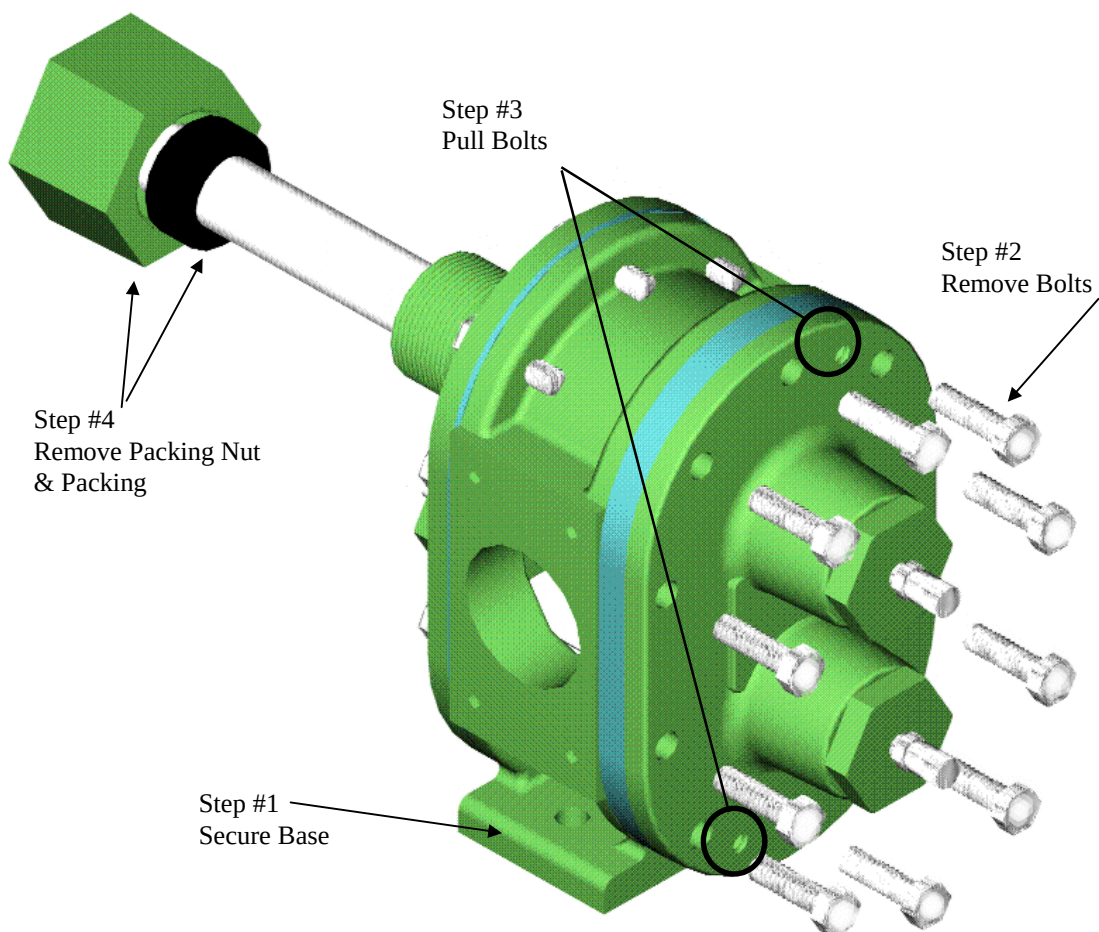


8100/9100 Series Bowie Pumps

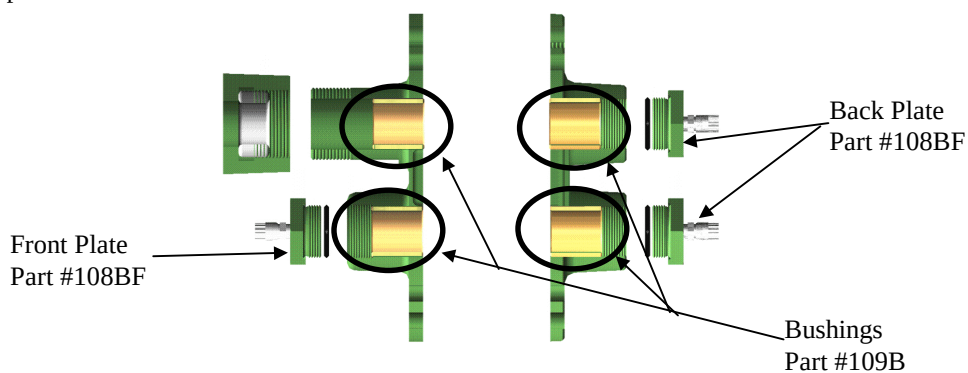
	<i>Page</i>
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Assembly	27
Parts Stock Numbers	28
Footprints	29

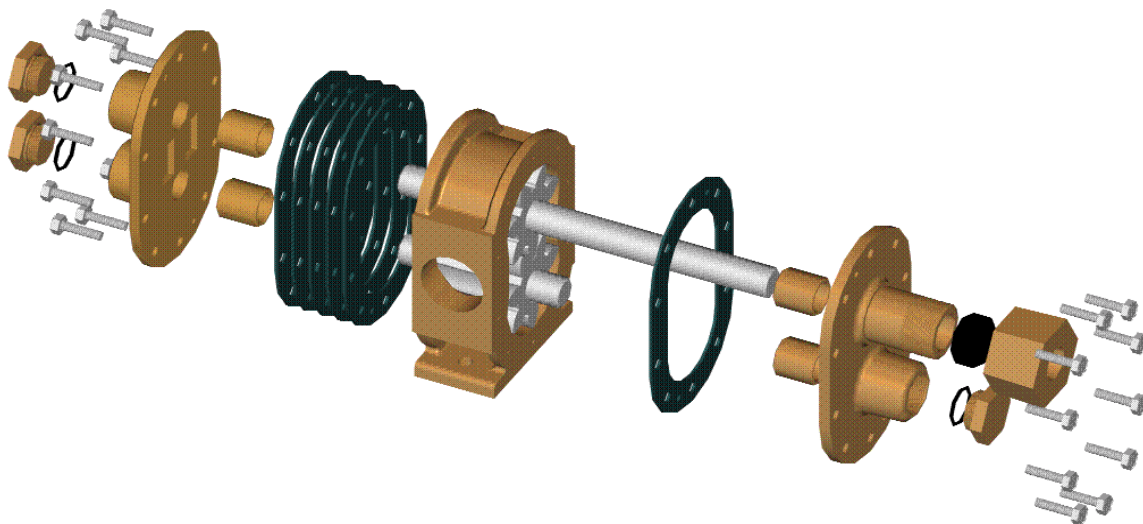
DISASSEMBLY OF 8100/9100 SERIES PUMPS

1. Secure base of pump to table or workbench.
2. Remove ten (10) 3/8" x 1 1/4" back plate bolts that attaches back plate to center case.
3. Insert two (2) 3/8"x 2" pull bolts into threaded holes. Remove end plate by sequentially turning the pull bolt so that the plate move evenly on top and bottom to avoid binding on the bushings and shafts.
4. Remove packing nut and packing on drive shaft.



5. Carefully remove drive and idler gears.
6. To remove front plate, remove ten (10) 3/8"x 1 1/4" front plate bolt that attached the front plate to the center case. Follow steps of line 3 to remove front plate.
7. Remove the two end plugs from the back plate and the one end plug from the front plate.
8. There is access now for removal of the bushings (part #109B), two in the front plate and two in the back plate.

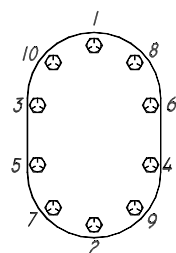




ASSEMBLY OF 8100/9100 SERIES BOWIE PUMPS

Prior to assembly of pump make sure all parts are clean and free from foreign objects.

1. Install end plugs with o'rings into both the front [part no's. 108, 127] and back plates [part no. 8107 or 9107].
2. Attach front plate [part no. 8102 or 9102] to center case using one [part no. 106] gasket between plate and center case. Affix bolts finger tight.
3. Solidly secure center case. Lightly oil both the idler and drive gears prior to installation into the center case.
4. Insert idler and drive gears into center case and front plate.
5. Use seven [part no. 106] gaskets between back plate [part no. 8107 or 9107] and center case. Attach back plate to center case with bolts finger tight.
6. Tighten bolt numbers 1 & 2 on both the front and back plates.
7. Oil gears through the input/discharge port
8. Turn the gears several turns with the drive shaft to seat the gears in place. When the gears are turning smoothly tighten bolt numbers 3 & 4 on both the front and back plates. Turn the gears several turns with the drive shaft to assure smooth operation. If the gears turn smoothly then continue to tighten the bolts in the sequence as shown in diagram to 22-25 ft. lbs. Otherwise loosen the bolts and repeat steps 5 & 7.
9. Install graphite packing [part no. 113G] into packing nut [part no. 8101 or 9101].
10. Install packing nut over drive shaft and turn until firm, not tight. Note: over tightening can cause damage
11. Use tie wire to secure packing nut in place.
12. Lubricate at all grease fittings. Three are located on end plugs, and one on over front plate drive shaft gland. Grease front plate drive shaft gland until grease starts to come out the packing.

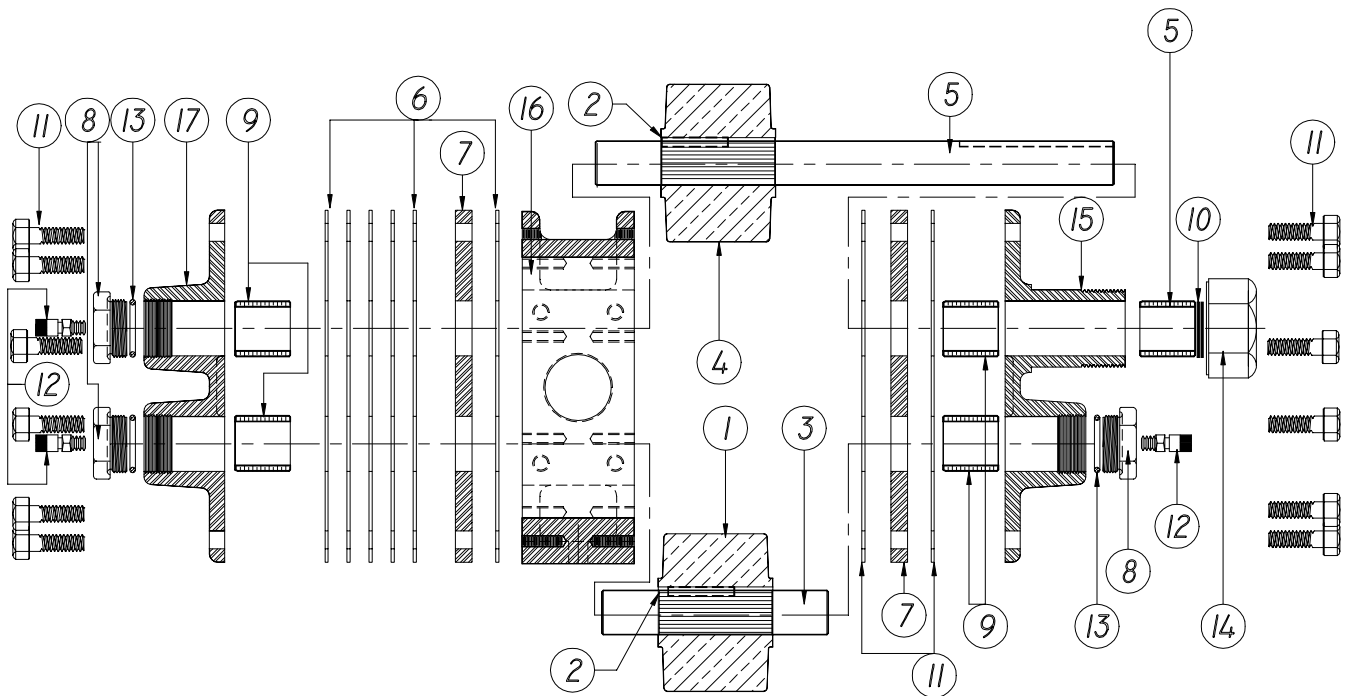


8100/9100 Series Parts



No	Stock No.	Description	Qty	No	Stock No.	Description	Qty	No	Stock No.	Description	Qty
1	104	Gear, Idler	1	8	108	End Plug	3	14	-101	Nut, Packing	1
2	104K	Key Gear	2		108BF	End Plug W/Ftg. Opt. ¹	(3)	15	-102	Plate, Front	1
3	104 SSA	Shaft, Idler	1	9	109B	Bushing, Bronze	4	16	-103	Case, Center	1
4	105	Gear, Drive	1	10	113G	Packing, Graphite	1	17	-107	Plate Back	1
5	105 SSA	Shaft, Drive	1	11	114	Bolt, End Plate	20		110F 1.50	Flange Adapter	**
6	106	Gasket, Plate	8	12	116	Fitting, Grease Opt. ¹	(3)		110F 2.00	Flange Adapter	**
7	107 HP	Wear Plate **	2	13	127	O'ring	3		9111	Flange Gasket	
						** Optional			9112	Bolt Flange	

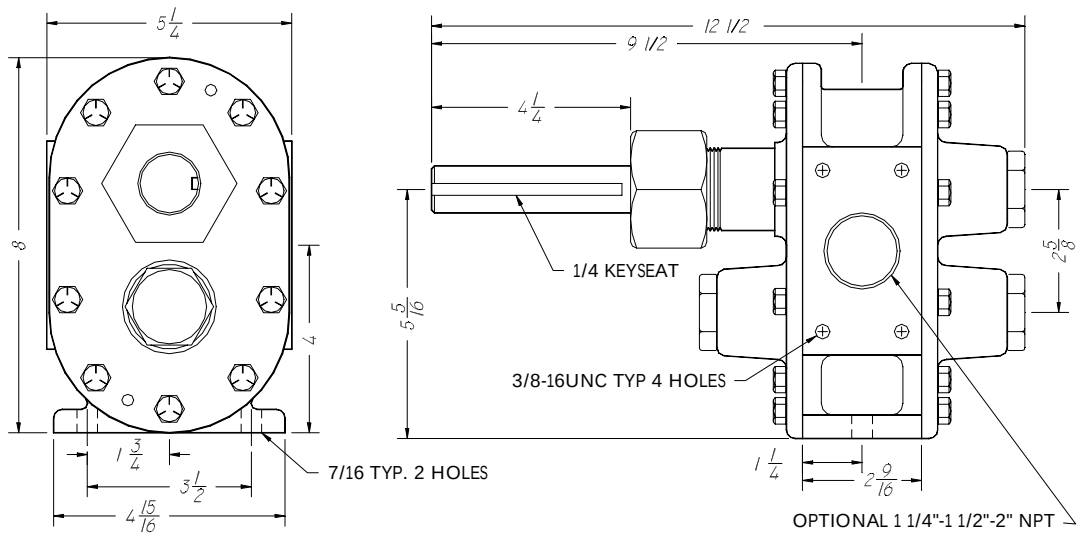
- Use 8 for first number if Alum/Bronze Use 9 for first number if Cast Iron



Options:

Stock No.	Description	Stock No.	Description	Stock No.	Description
109T	Bushing, Teflon	122	Nut, Bypass	104 BG	Bronze Gear
113T	Packing, Teflon	123	Screw, Adj. Bypass	104 CG	Steel Gear
107 HP	Plate, Hard Wear	124	Spring, Bypass	104 UG	Urethane Gear
* -107A	Plate, Bypass Complete	125	Ball, Bypass	104 VG	Viton Gear
* -1	Plate, Bypass	126	Cap, Bypass	81/91 SS EXT	Shaft Extension

8100 SS
or
9100 SS



Notes: