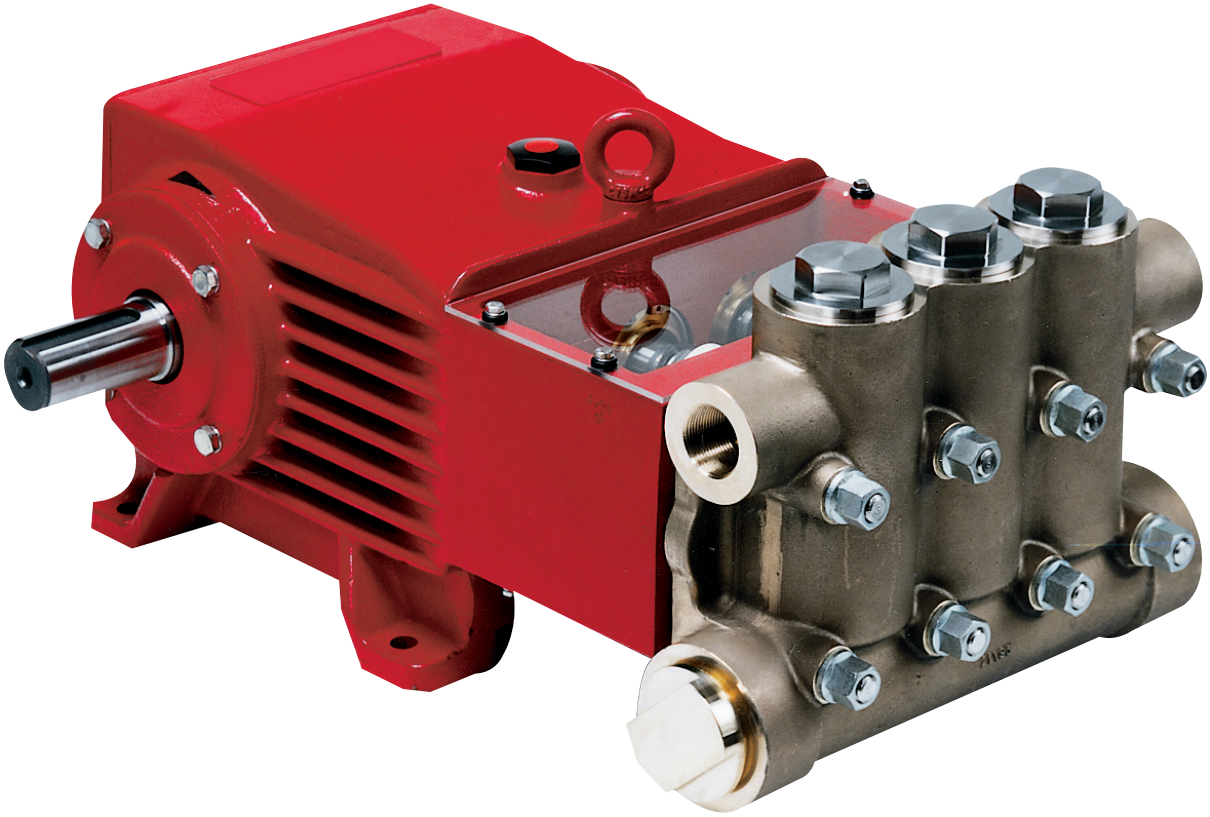
Triplex Ceramic Plunger Pump ModelsManual

Model

CGP7255A



ECO BLAST

Contents:

INSTALLATION INSTRUCTIONS

Installation of the ECO_2Blast, pump is not a complicated procedure, but there are some basic steps common to all pumps. The following information is to be considered as a general outline for installation. If you have unique requirements, please contact ECO_2Blast or your local distributor for assistance.

1. The pump should be installed flat on a base to a maximum of a 15 degree angle of inclination to ensure optimum lubrication.

2. The inlet to the pump should be sized for the flow rate of the pump with no unnecessary restrictions that can cause cavitation. Teflon tape should be used to seal all joints. If pumps are to be operated at temperatures in excess of 104° F, it is important to insure a positive head to the pump to prevent cavitation.

3. The discharge plumbing from the pump should be properly sized to the flow rate to prevent line pressure loss to the work area. It is essential to provide a safety bypass valve between the pump and the work area to protect the pump from pressure spikes in the event of a blockage or the use of a shut-off gun.

4. Use of a dampener is necessary to minimize pulsation at drive elements, plumbing, connections, and other system areas. The use of a dampener with ECO_2Blast pumps is optional, although recommended by ECO_2Blast to further reduce system pulsation. Dampeners can also reduce the severity of pressure spikes that occur in systems using a shut-off gun. A dampener must be positioned downstream from the unloader.

5. Crankshaft rotation on ECO_2Blast pumps should be made in the direction designated by the arrows on the pump crankcase. Reverse rotation may be safely achieved by following a few guidelines available upon request from ECO_2Blast. Required horsepower for system operation can be obtained from the chart on page 3.

6. Before beginning operation of your pumping system, remember: Check that the crankcase and seal areas have been properly lubricated per recommended schedules. Do not run the pump dry for extended periods of time. Cavitation will result in severe damage. Always remember to check that all plumbing valves are open and that pumped media can flow freely to the inlet of the pump.

Finally, remember that high pressure operation in a pump system has many advantages. But, if it is used carelessly and without regard to its potential hazard, it can cause serious injury.

IMPORTANT OPERATING CONDITIONS
Failure to comply with any of these conditions invalidates the warranty

1. Prior to initial operation, add oil to crankcase so that oil level is between the two lines on the oil dipstick. DO NOT OVERFILL. **Use ECO_2Blast Recommended Oil**, which is equivalent to SAE 85-90W Industrial Gear Lube Oil. If operating a pump below 32 °F, use synthetic motor oil (SAE 0W40).

Crankcase oil should be changed after the first 50 hours of operation, then at regular intervals of 500 hours or less depending on operating conditions.

2. Pump operation must not exceed rated pressure, volume, or RPM. A pressure relief device must be installed in the discharge of the system.

3. Acids, alkalines, or abrasive fluids cannot be pumped unless approval in writing is obtained before operation from ECO_2Blast.

4. Run the pump dry approximately 10 seconds to drain the water before exposure to freezing temperatures.

Specifications
Model CGP7255A

	U.S.	Metric
Volume	51.5 GPM	195 LPM
Discharge Pressure	1500 PSI	100 bar
Speed		550 RPM
Inlet Pressure	870 PSI	60 bar
Plunger Diameter	2.17”	55mm
Plunger Stroke	2.05”	52mm
Crankshaft Diameter	1.89”	48mm
Key Width	0.55”	14mm
Crankshaft Mounting		Either side
Shaft Rotation		Top of pulley towards manifold
Temperature of Pumped Fluids	-40 °F to 140 °F	-40 °C to 60 °C
Inlet Ports		(2) 2-1/2” BSP
Discharge Ports		(2) 1-1/4” BSP
Weight	374 lbs.	170 kg
Crankcase Oil Capacity	1.6 Gal.	6.0 liters
Fluid End Material		Nickle-plated Spherodical Cast Iron

Consult the factory for special requirements that must be met if the pump is to operate beyond one or more of the limits specified above.

PULLEY INFORMATION

Pulley selection and pump speed are based on a 1725 RPM motor and “B” section belts. When selecting desired GPM, allow for a ±5% tolerance on pumps output due to variations in pulleys, belts and motors among manufacturers.

1. Select GPM required, then select appropriate motor and pump pulley from the same line.
2. The desired pressure is achieved by selecting the correct nozzle size that corresponds with the pump GPM.

HORSEPOWER INFORMATION

Horsepower ratings shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

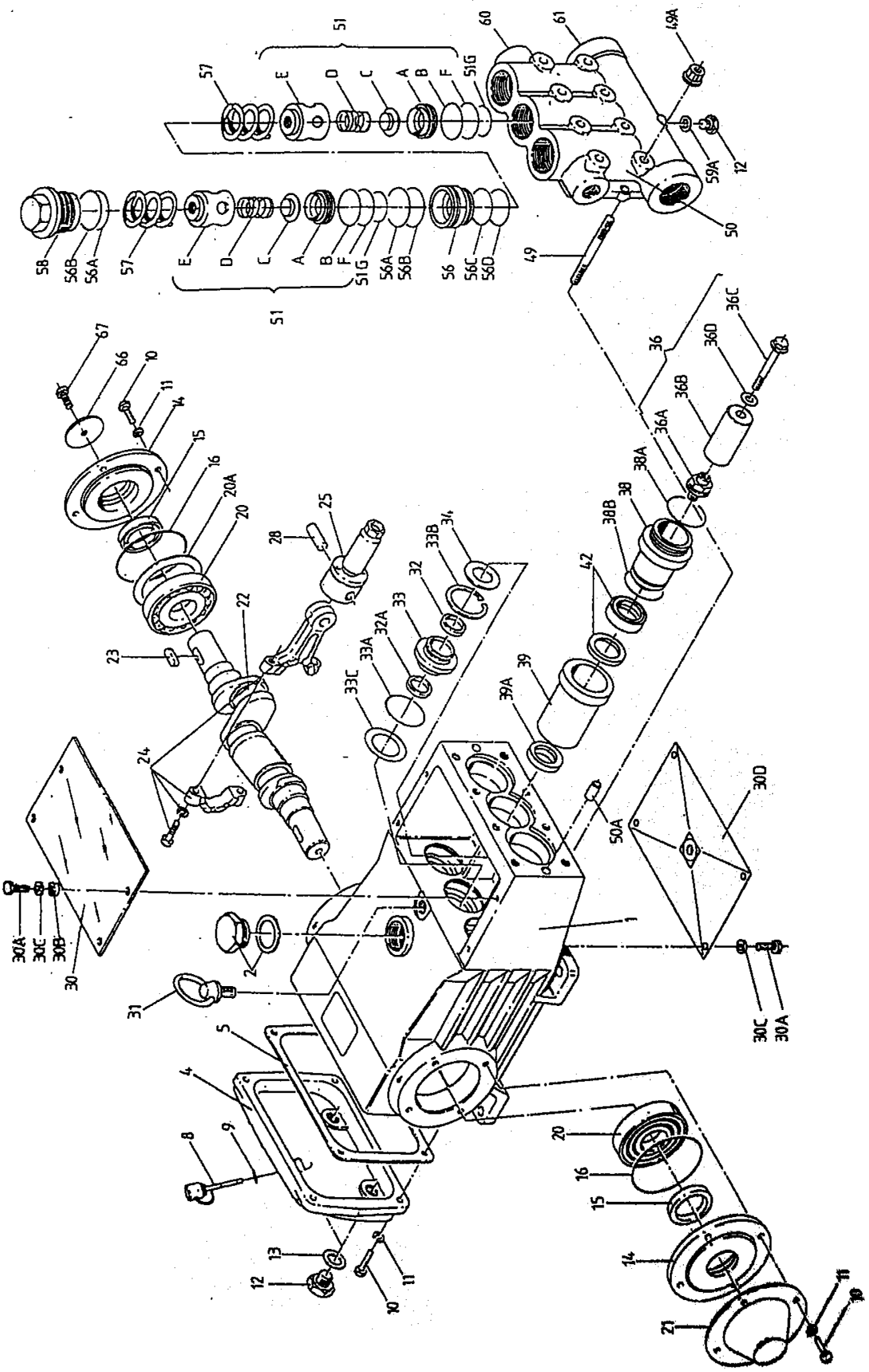
We recommend that a 1.15 service factor be specified when selecting an electric motor as the power source. To compute specific pump horsepower requirements, use the following formula:

(GPH X PSI) / 1450 = HP

CGP7255A PULLEY SELECTION & HORSEPOWER REQUIREMENTS

RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI
250	23.4	13.4	16.7	21.7	25.1
350	32.8	18.7	23.4	30.4	35.1
450	42.1	24.1	30.1	39.1	45.1
550	51.5	29.4	36.8	47.8	55.2

Exploded View - CGP7255A



PARTS LIST - CGP7255A

ITEM	PART	DESCRIPTION	QTY.
1	CP07600	Crankcase	1
2	CP13000	Oil Filler Plug Assembly	1
4	CP07601	Crankcase Cover	1
5	CP07602	Gasket, Crankcase Cover	1
8	CP07603	Oil Dip Stick	1
9	CP01009	O-Ring, Dip Stick	1
10	CP13133	Hexagon Screw	12
11	CP06725	Spring Washer	12
12	CP07109	Drain Plug	3
13	CP07182	Gasket, Drain Plug	2
14	CP07607	Bearing Cover	2
15	CP07608	Radial Shaft Seal	2
16	CP07184	O-Ring	2
20	CP07610	Taper Roller Bearing	2
20A	CP07611	Fitting Disc (Shim)	1-5
21	CP07612	Shaft Protector	1
22	CP13405	Crankshaft	1
23	CP07614	Key	1
24	CP13182	Connecting Rod Assy.	3
25	CP13183	Crosshead Assy.	3
28	CP13184	Crosshead Pin	3
30	CP07600	Cover Plate	1
30A	CP07225-0100	Hexagon Screw	8
30B	CP13136	Grommet	4
30C	CP07622	Washer	8
30D	CP13154	Cover Plate	1
31	CP07623	Eye Bolt	1
32	CP07624	Radial Shaft Seal	3
32A	CP07625	Shaft Seal	3
33	CP07626	Seal Retainer	3
33A	CP07627	O-Ring	3
33B	CP07628	Circlip	3
33C	CP07249	Fitting Disc	3
34	CP13137	Oil Scraper	3
36	CP07706	Plunger Pipe Assy., (36 A-D)	3

ITEM	PART	DESCRIPTION	QTY.
36A	CP07667	Plunger Connection	3
36B	CP07666	Plunger Pipe (55mm)	3
36C	CP07664	Tension Screw	3
36D	CP07665	Copper Ring	3
38	CP13155	Seal Case	3
38A	CP13156-0003	O-Ring, EPDM	3
38B	CP07721-0003	O-Ring, EPDM	3
39	CP13157	Seal Sleeve	3
39A	CP07723	Compact Ring	3
42	CP07711-0020	V-Sleeve, Teflon	3
49	CP13159	Stud Bolt	8
49A	CP13160	Hex Nut	8
50	CP06802	Valve Casing	1
50A	CP13162	Cylinder Stud	2
51	CP06994	Valve Assembly	6
51A	CP13163	Valve Seat	6
51B	CP07653-0003	O-Ring, EPDM	6
51C	CP13164	Valve Plate	6
51D	CP07732-0100	Valve Spring, 316 S.S.	6
51E	CP13165	Spacer Pipe	6
51F	CP13166	Support Ring	6
51G	CP07266-0003	O-Ring, EPDM	6
56	CP13167	Valve Adaptor	3
56A	CP07658-0003	O-Ring, EPDM	6
56B	CP07635	Support Ring	6
56C	CP13168	Support Ring	3
56D	CP07653-0003	O-Ring. EPDM	3
57	CP13173	Tension Spring	6
58	CP13170	Plug, M64 x 2	3
59A	CP07661	Copper Ring	1
60	CP13151	Plug, 1-1/4” BSP	1
61	CP13171	Plug, 2-1/2” BSP	1
66	CP13362	Disc For Crankshaft	1
67	CP13358	Hexagon Screw	1

REPAIR KITS - CGP7255A

Plunger Packing Kit
CP09593

Item	Part #	Description	Qty.
38A	CP13156-0003	O-Ring, EPDM	3
38B	CP07721-0003	O-Ring, EPDM	3
39A	CP07723	Compact Ring	3
42	CP07711-0020	V-Sleeve, Teflon	6

Oil Seal Kit
CP09221

Item	Part #	Description	Qty.
32	CP07624	Radial Shaft Seal	3
32A	CP07625	Shaft Seal	3
33A	CP07627	O-Ring, Oil Seal Housing	3

Valve Assembly Kit
CP09594

Item	Part #	Description	Qty.
51A	CP13163	Valve Seat	2
51B	CP07653-0003	O-Ring, EPDM	2
51C	CP13164	Valve Plate	2
51D	CP07732-0100	Valve Spring, 316 S.S.	2
51F	CP13166	Support Ring	2
51G	CP07266-0003	O-Ring, EPDM	2
56A	CP07658-0003	O-Ring, EPDM	2
56B	CP07635	Support Ring	2
56C	CP13168	Support Ring	1
56D	CP07653-0003	O-Ring, EPDM	2

CGP7255A REPAIR INSTRUCTIONS

TO CHECK VALVES
Lossen plugs (58), take out tension spring (57) and then remove the complete valve (51) with either a valve tool or an M16 hexagon screw. Remove valve adapter (56) and tension spring (57) with pull-out tool size 5. There is an O-ring (51G) under both the suction and the discharge valve each of which can be removed with a bent piece of wire.To disassemble valve hit the top of the valve plate (C) carefully with a bolt and press the valve seat (A) out of the spacer pipe (E). Check sealing surfaces and replace worn parts. Check O-rings and support rings.Tighten plugs (58) to 107 ft. lbs.

TO CHECK SEALS AND PLUNGER PIPE
Loosen nuts (49A) and remove pump head. Separate plunger connection (36A) from crosshead (25) by means of two open-end wrenches (size 22 and 27). Pull seal sleeves (39) out of their fittings in the crankcase. Take seal case (38) out of seal sleeve (39). Examine plunger parts (36A-36D), seals (42,39A) and O-rings. When replacing plunger pipe (36B), tighten tension screws (36C) to 30 ft. lbs.
Replace worn parts; grease seals with Silicone before installing.

CAUTION: Don't loosen the 3 plunger connections (36A) before the valve casing has been removed otherwise the tension screw (36C) could hit against the spacer pipe (51E) when the pump is being turned. Seal life can be increased if the pretensioning allows for a little leakage. This assists lubrication and keeps the seals cool. It is therefore not necessary to replace seals before the leakage becomes too heavy and causes output and operating pressure to drop.

MOUNTING VALVE CASING
Check O-rings on seal case (38). Clean surfaces of seal sleeves in gear box and sealing surfaces of valve casing. Push valve casing carefully on O-rings of seal case and centering studs (50A). Tighten nuts (49A) to 103 ft. lbs.

TO DISASSEMBLE GEAR
Take out plunger and seal sleeves as described above. Drain oil. After removing the circlip ring (33B), lever out seal retainer (33) with a screw driver. Check seals (32, 32A, 33A) and surfaces of crosshead. Remove crankcase cover (4). Loosen inner hexagon screws on the connecting rods (24) and push con rod halves as far into the crosshead guide as possible.

Note: Connecting rods are marked for identification. Do not twist con rod halves. Con rod is to be reinstalled in the same position on shaft journals.Check surfaces of connecing rod and crankshaft (22) take out bearing cover to one side and push out crankshaft taking particular care that the conrod doesn't gt bent.

Note: Seal (32A) must always be installed so taht the seat up on the inside diameter faces the oil.

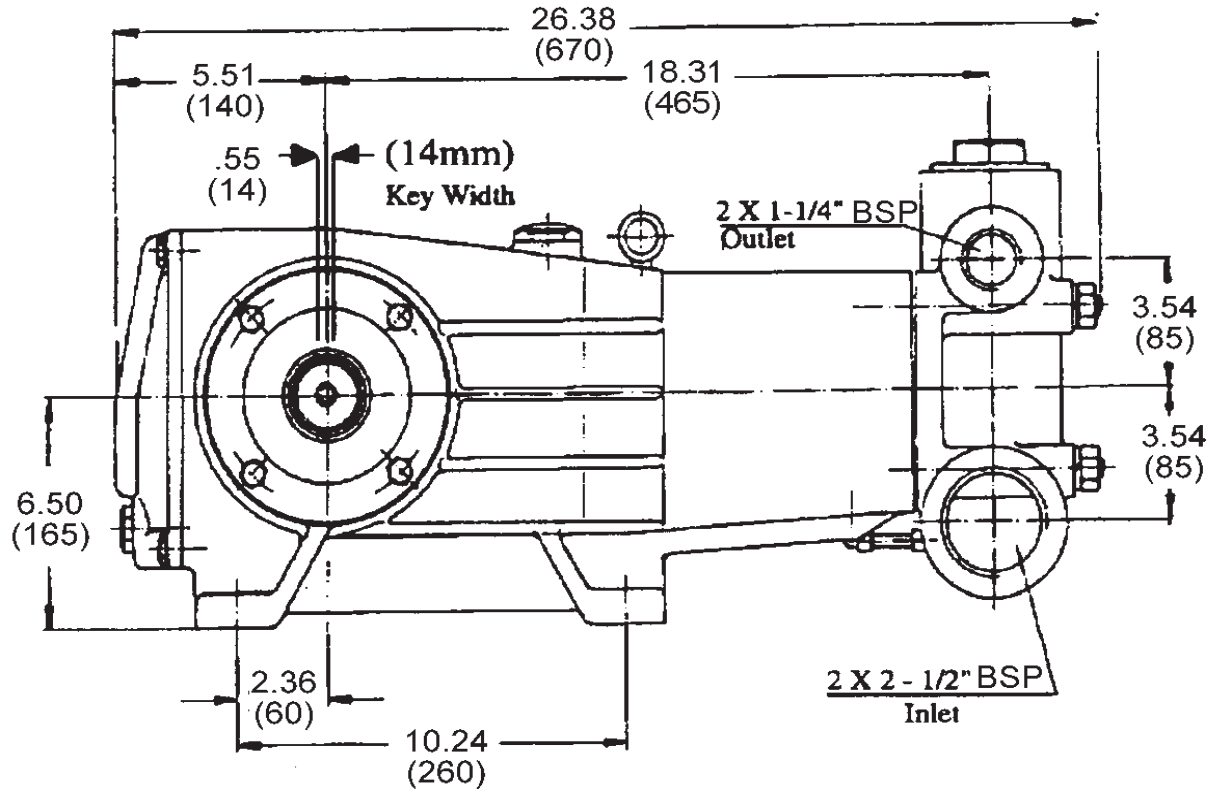
Reassemble in revers order: Regulate axial bearing clearance minimum 0.1mm, maximum 0.15-by means of fitting disc (20A) shaft should yturn easily with little clearance. Tighten inner hexagon screws to 30 ft. lbs.

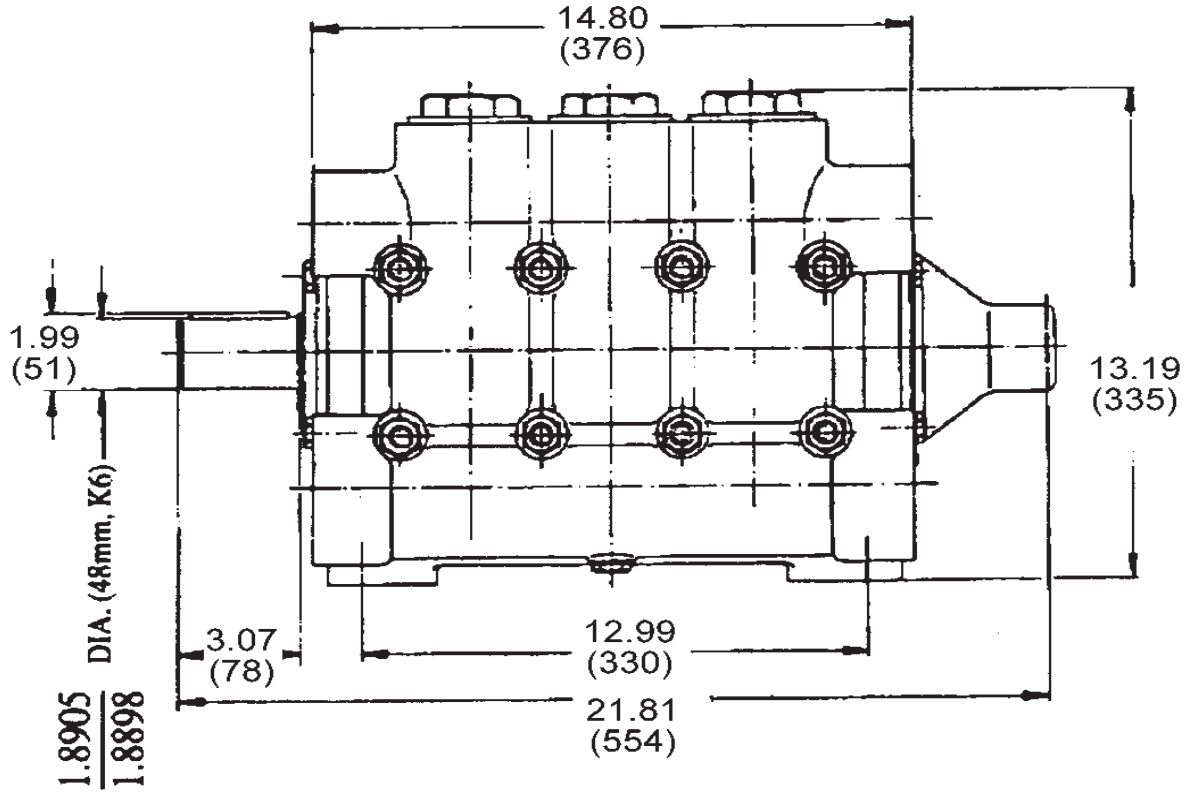
Note: Connecting rod has to be able to be slighty moved sidewise at the stroke journals.

Preventative Maintenance Check-List & Recommended Spare Parts List

Check	Daily	Weekly	50hrs	Every 500 hrs	Every 1500 hrs	Every 3000 hrs
Oil Level/Quality	X					
Oil Leaks	X					
Water Leaks	X					
Belts, Pulley		X				
Plumbing		X				
Recommended Spare Parts						
Oil Change (1 Quart) p/n 1153			X	X		
Seal Spare Parts (1 kit/pump) (See page 5 for kit list)					X	
Oil Seal Kit (1 kit/pump) (See page 5 for kit lit)					X	
Valve Spare Parts (1 kit/pump) (See page 5 for kit list)						X

CGP7255A SERIES DIMENSIONS - INCHES (mm)





LIMITED WARRANTY

Eco_2Blast pumps and accessories are warranted by the manufacturer to be free from defects in workmanship and material as follows:

1. For portable pressure washers and car wash applications, the discharge manifolds will never fail, period. If they ever fail, we will replace them free of charge. Our other pump parts, used in portable pressure washers and in car wash applications, are warranted for five years from the date of shipment for all pumps used in NON-SALINE, clean water applications.
2. One (1) year from the date of shipment for all other Eco_2Blast industrial and consumer pumps.
3. Six (6) months from the date of shipment for all rebuilt pumps.
4. Ninety (90) days from the date of shipment for all Eco_2Blast accessories.

This warranty is limited to repair or replacement of pumps and accessories of which the manufacturer's evaluation shows were defective at the time of shipment by the manufacturer. The following items are NOT covered or will void the warranty:

1. Defects caused by negligence or fault of the buyer or third party.
2. Normal wear and tear to standard wear parts.
3. Use of repair parts other than those manufactured or authorized by Eco_2Blast.
4. Improper use of the product as a component part.
5. Changes or modifications made by the customer or third party.
6. The operation of pumps and or accessories exceeding the specifications set forth in the Operations Manuals provided by Eco_2Blast.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Eco_2Blast which are deemed to be defective due to workmanship or failure of material. A Returned Goods Authorization (R.G.A.) number and completed warranty evaluation form is required prior to the return to Eco_2Blast of all products under warranty consideration. Call (260)728-4433 to obtain an R.G.A. number.

Repair or replacement of defective products as provided is the sole and exclusive remedy provided hereunder and the MANUFACTURER SHALL NOT BE LIABLE FOR FURTHER LOSS, DAMAGES, OR EXPENSES, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES DIRECTLY OR INDIRECTLY ARISING FROM THE SALE OR USE OF THIS PRODUCT.

THE LIMITED WARRANTY SET FORTH HEREIN IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATION, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED BY THE MANUFACTURER.

WARNING: This product might contain a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov

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