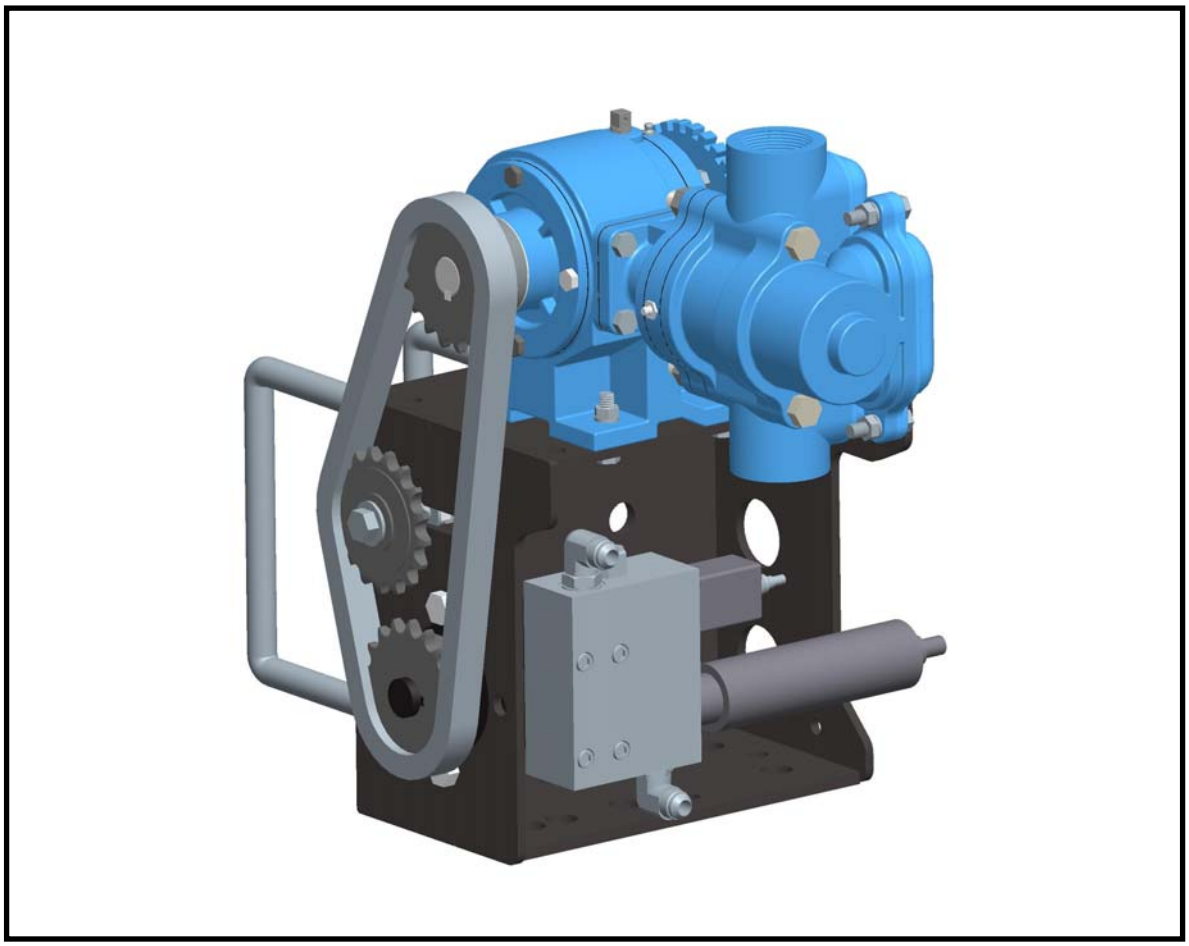
HYDRAULIC DRIVE KIT FOR VARIABLE RATE OR MANUAL CONTROL SYSTEMS

PARTS AND INSTALLATION MANUAL



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SAFETY PRECAUTIONS

- Equipment should be operated only by responsible people.
- Hydraulic installation should only be performed by an individual with a complete understanding of hydraulic systems and their requirements – see warning below.
- A careful operator is the best insurance against an accident.
- Fill system with WATER first and check output.
- Check all valves, fittings, hose clamps, etc. for wear / leaks before admitting process fluid to the system.
- Replace hoses when worn, cracked, or if leaking.

WARNING: USE OF THIS PRODUCT FOR ANY PURPOSES OTHER THAN ITS ORIGINAL INTENT, ABUSE OF THE PRODUCT, AND/OR MODIFICATION TO THE ORIGINAL PRODUCT IS STRICTLY PROHIBITED BY CDS-JOHN BLUE COMPANY. CDS-JOHN BLUE COMPANY RESERVES THE RIGHT TO DENY WARRANTY OR LIABILITY CLAIMS IN ANY/ALL SITUATIONS INVOLVING MISUSE, ABUSE OR MODIFICATION.

THE ORIGINAL INTENT OF THIS PRODUCT DOES NOT INCLUDE USE WHERE THE MAXIMUM ALLOWED SPEED, PRESSURE, OR TEMPERATURE IS EXCEEDED, AND IT DOES NOT INCLUDE APPLICATIONS UTILIZING FLUIDS THAT ARE NOT COMPATIBLE WITH THE PRODUCT'S COMPONENT MATERIALS. DO NOT USE THIS PRODUCT WITH FLAMMABLE OR COMBUSTIBLE FLUIDS SUCH AS GASOLINE, KEROSENE, DIESEL, ETC…, AND DO NOT USE IN EXPLOSIVE ATMOSPHERES. FAILURE TO FOLLOW THIS NOTICE MAY RESULT IN SERIOUS INJURY AND/OR PROPERTY DAMAGE AND WILL VOID THE PRODUCT WARRANTY. IF IN DOUBT ABOUT YOUR APPLICATION, CONTACT YOUR STOCKING DEALER OR THE CDS-JOHN BLUE TECHNICAL STAFF AT 1-800-253-2583.

Warning: High Pressure Oil
Escaping oil under pressure can cause serious injury. Relieve pressure before servicing lines, and inspect hoses and connections frequently for damage or leakage, but do not use hands to check for pinholes. Only use hoses with a working pressure rated at or higher than your tractor's system pressure.

To The Owner

This manual has been prepared and illustrated to assist you in the maintenance of your CDS – JOHN BLUE pump and drive. Enter your serial number and the date of the purchase in the space provided below for future reference in service information or for ordering parts. Because our engineering department is constantly improving products, we reserve the right to make design and specification changes without notice.

Model Number: _____ Serial Number: _____ Purchase Date: _____

INSTALLATION

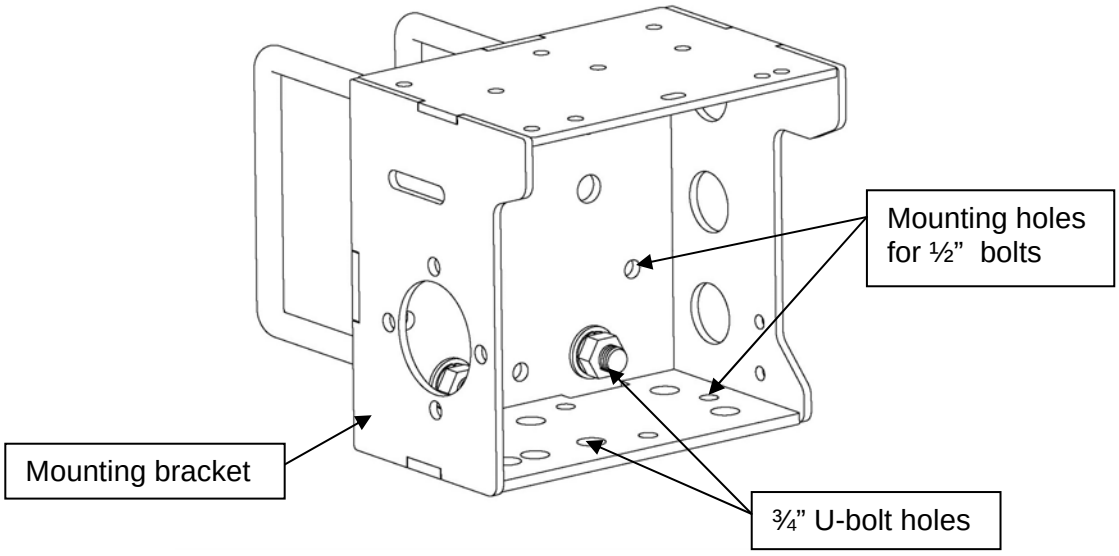
Mounting Bracket:

The drive mounting bracket may be installed in two ways:

- CDS-John Blue has 3/4” diameter u-bolts (not included) available for purchase that will allow the bracket to be mounted to the side or top of a bar using the provided holes on the back or bottom sides. Four u-bolt sizes are available – see the parts listing in this manual for part numbers.

- 1/2“ diameter bolts (not included) to attach it to a flat surface using the holes provided in either the back and bottom sides.

The u-bolt holes are spaced to fit 4”, 6”, and 7” bars, and optional adapter plates are available to mount the bracket on a 9” bar using the back surface.

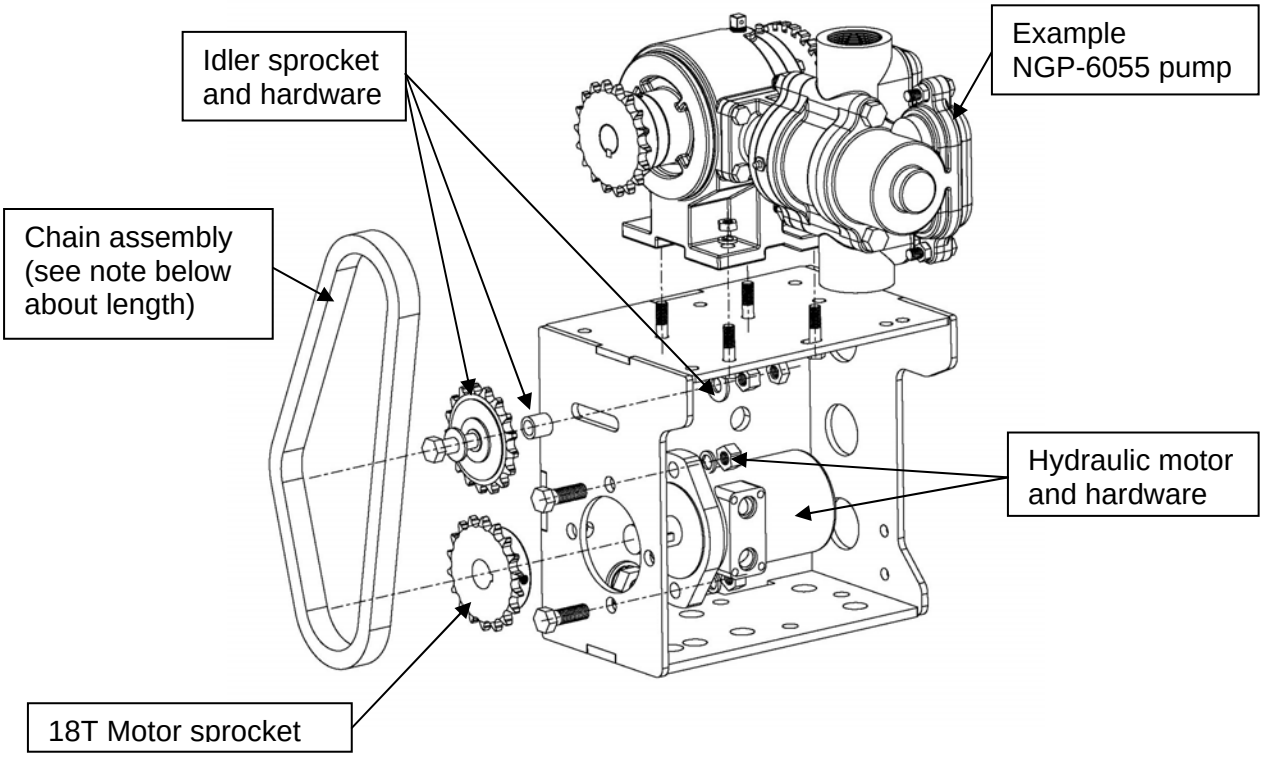


Component Assembly:

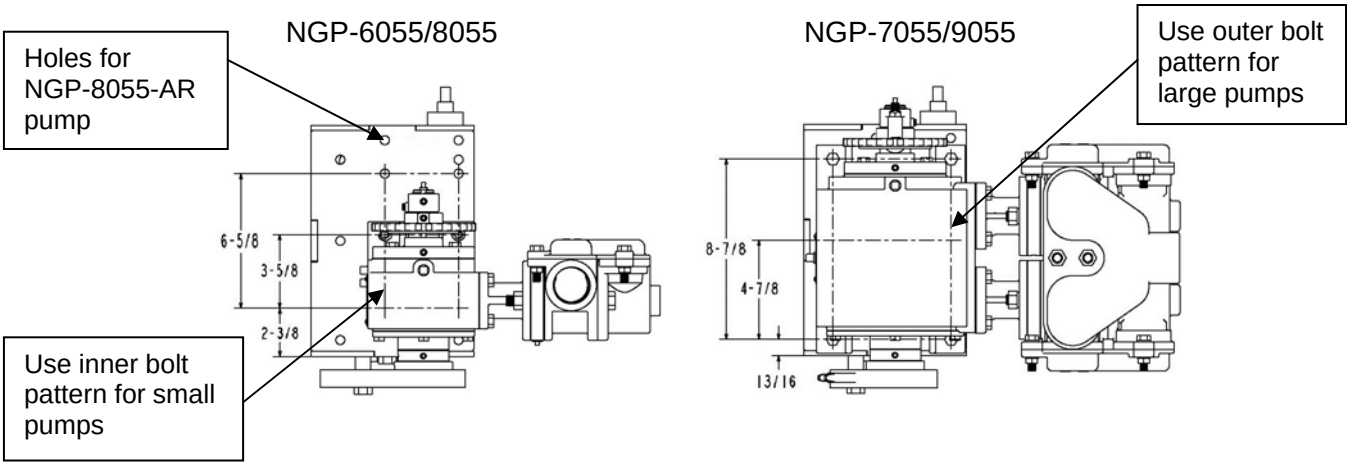
A.) Attach the hydraulic motor (with the ports facing out) to the mounting bracket using the ½" x 1-1/2" long bolts, lock washers, and nuts.

B.) Install the idler sprocket in the slot using the ½" x 3" long bolt, tube spacer, two flat washers, nut, and jam nut as shown - but do not fully tighten the nuts yet.

C.) Install the 18 tooth sprocket on to the motor shaft, align it with the idler sprocket, and tighten its two set screws.



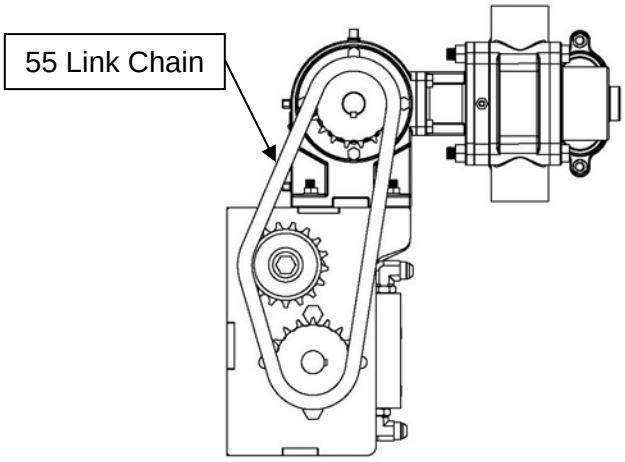
D.) Install the pump with the bolts and washers supplied with it. Note that there are two different bolt patterns in the top plate for small and large pumps. Adjust the position of the pump sprocket as necessary to align it with the other sprockets.



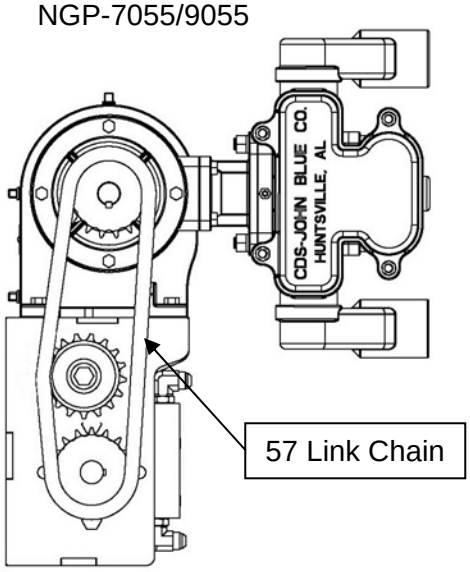
E.) Install the chain. Note that for NGP-7055 and NGP-9055 pumps it will be necessary to install <u>two more links</u> (supplied in the kit) onto the chain.

(Note that if you have an older CDS-John Blue Pump (e.g. LM-2455/4955) or a smaller size sprocket on your pump, it may be necessary to remove links from the chain.)

NGP-6055/8055



NGP-7055/9055



F.) Slide the idler sprocket over in the slot to tighten the chain, and then tighten the nut and jam nut to lock in place.

Hydraulic System:

To reach full pump rpm, the hydraulic system must supply at least 9.5 gpm to the manifold inlet port, and be capable of developing at least 1600 psi. The maximum gpm and pressure should not exceed 10 gpm and 2750 psi.

10 gpm should not be exceeded to keep from spinning the pump above its maximum rpm. Limit the amount of flow to the pump, or use an in-line bypass valve if necessary. A flow rate lower than 9.5 gpm may be used, as long as the user understands that that the piston pump cannot generate its advertised maximum flow and rpm.

As supplied, the system is compatible with a closed center <u>load sensing</u> hydraulic system, which compensates for flow and pressure. If you have a closed center <u>pressure compensating</u> system, you may have to put an-inline orifice <u>before</u> the inlet port of the manifold to make the variable stroke pump build pressure. Both of the systems above will have a tractor equipped with a flow control valve to adjust max flow.

An open center hydraulic system will require the use of a flow bypass valve if the flow is too high, since this system uses a constant flow pump. Note that care must be taken to avoid overheating when bypassing a large volume of oil for long periods of time.

1.) Assembly for units with the Variable Rate Manifold –

A.) Install the hydraulic manifold by first removing the four bolts that retain the port shipping cover plate on the hydraulic motor.

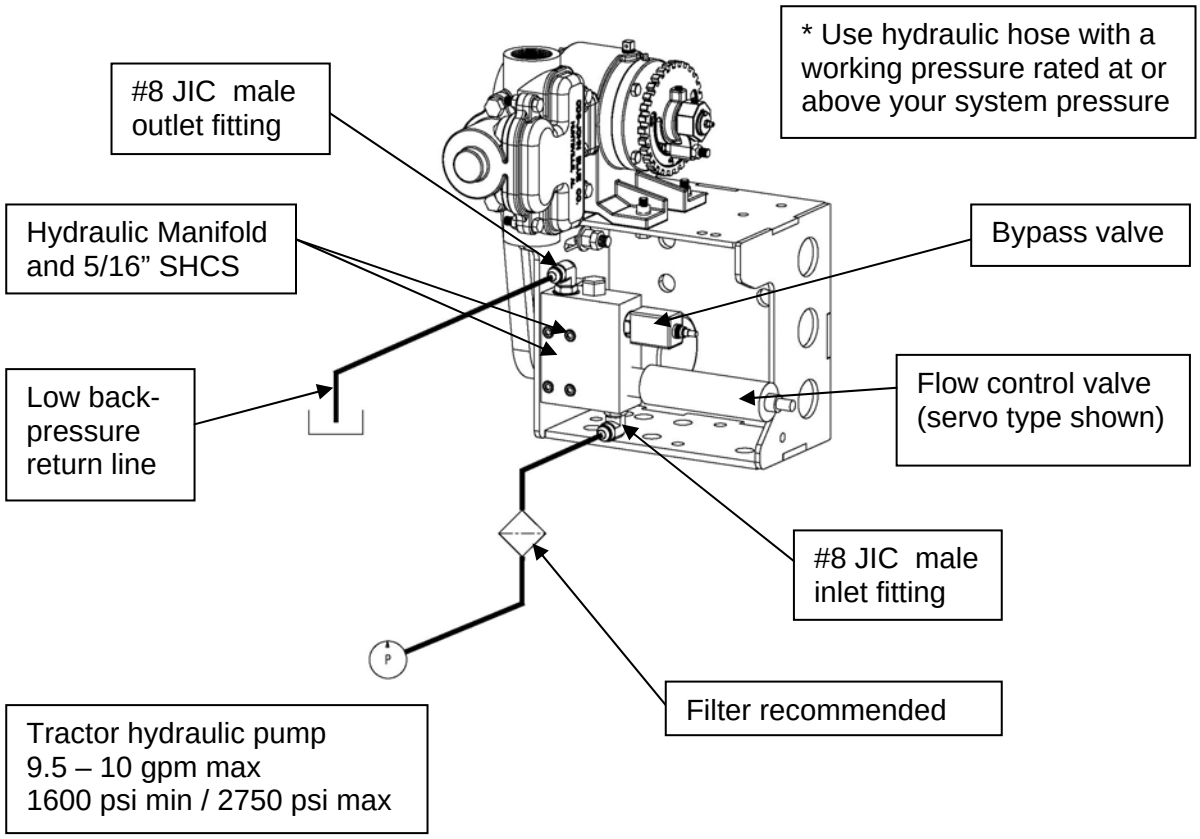
B.) Ensure that the o-rings are in place in each port.

C.) Then install the manifold by using the four 5/16” x 2” Lg. socket head cap screws.

D.) Install the 90 degree elbow fittings (provided with the kit) into the inlet (bottom) and outlet (top) ports.
(The fittings adapt from #8 SAE o-ring ports on the manifold to #8 JIC male 37degree.)

E.) Have hose assemblies made (using hydraulic hose with a working pressure rated at or above your system pressure) to fit your specific installation.

F.) It is recommended that a hydraulic filter be used in the inlet line for the motor.



G.) Finishing the Installation:

Please refer to the specific installation manual for your control for instructions on how to connect the flow control valve and bypass valve harnesses, and how to configure the control to work with these components.

2.) Assembly for Manual Speed Control units (*which do not have a manifold*) -

A.) Connect your hydraulic hoses to the ½" female NPT ports on the motor (the lower port is the inlet). The hoses should be rated as specified in the previous section, and the hydraulic supply requirements are also the same as previously stated.

B.) Install the supplied flow control valve in the inlet line.

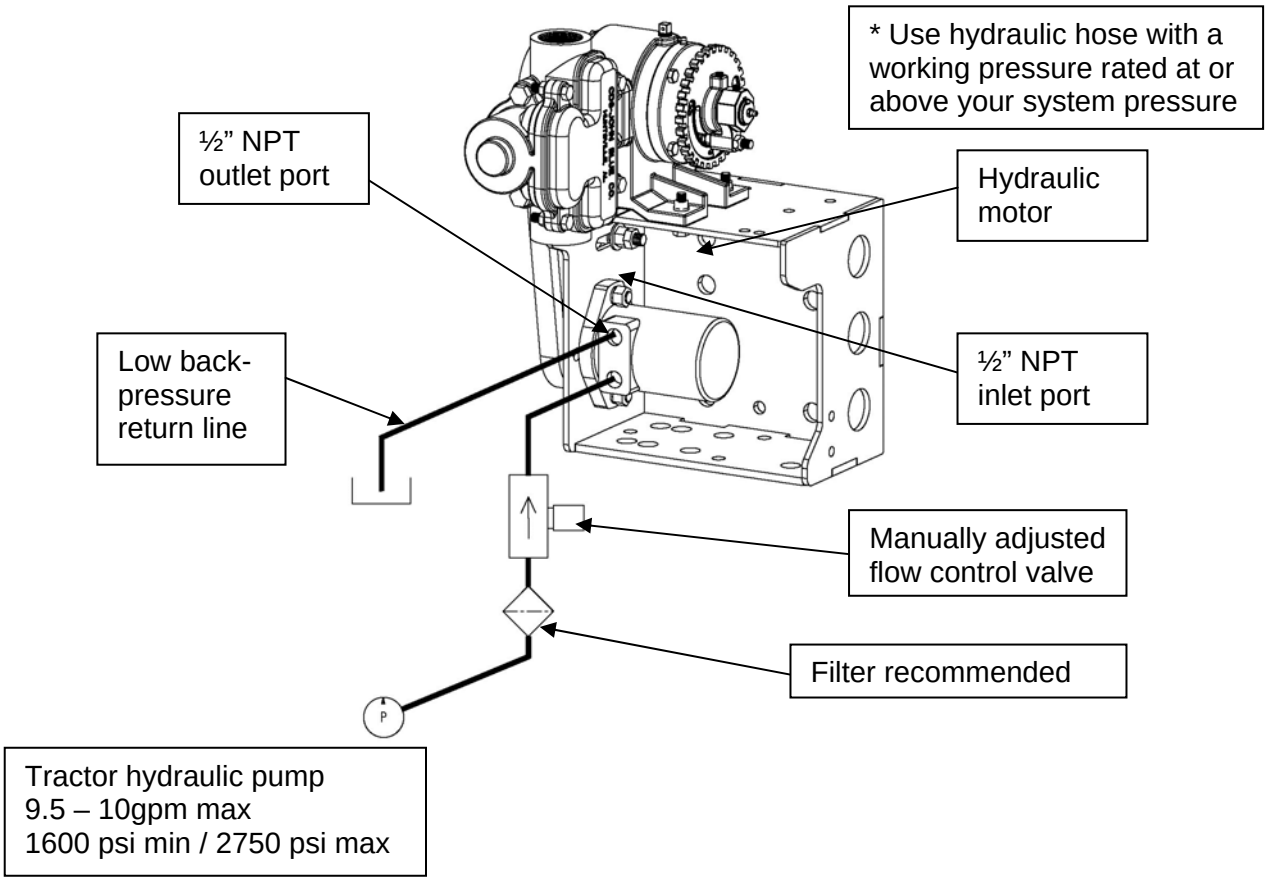
C.) It is recommended that a hydraulic filter be used in the inlet line for the motor

D.) Use the supplied optical tachometer to determine the speed of the pump by placing a piece of the reflective tape on the pump sprocket. Pump output in GPM can be calculated with the following formula: GPM = RPM x (pump displacement) x (scale wheel setting)/10

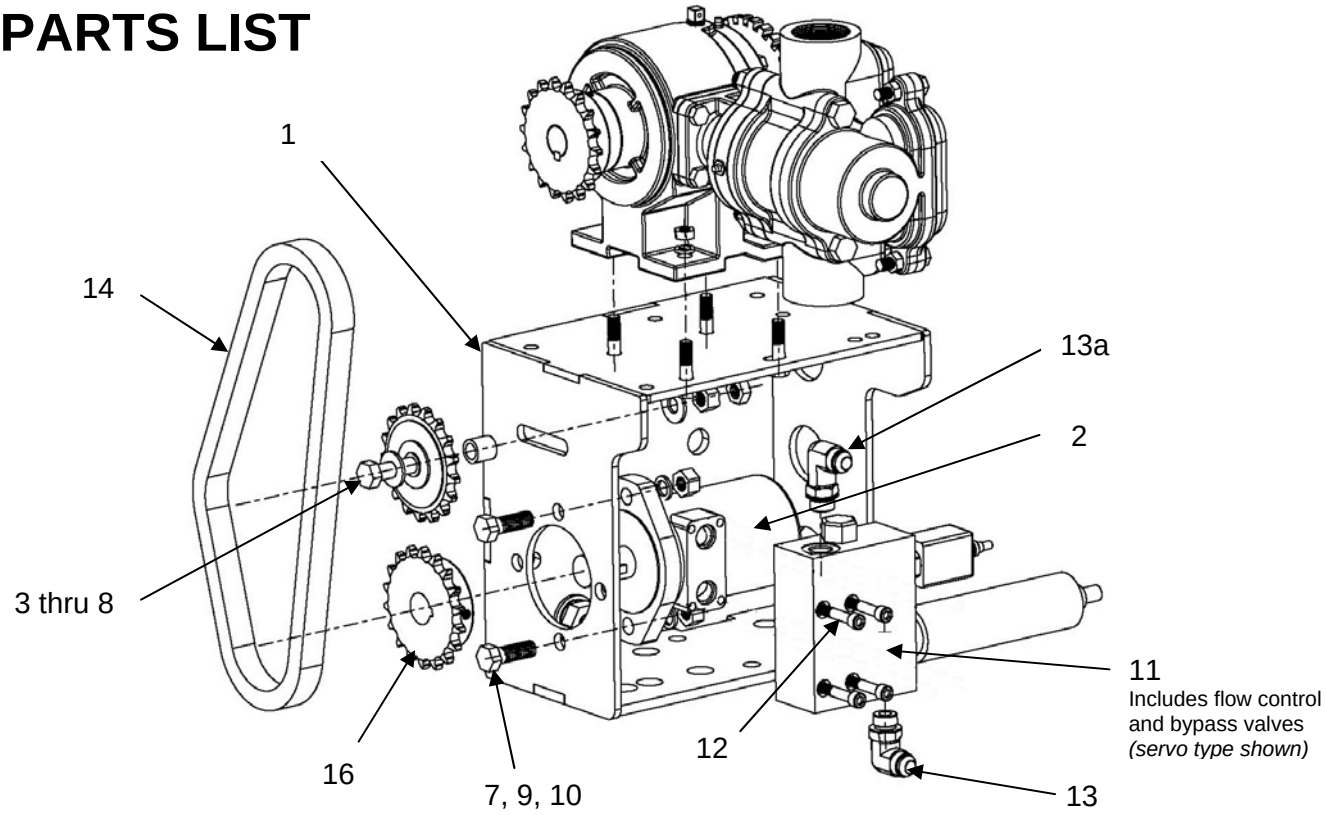
Pump Series:	NGP-6050	NGP-7050	NGP-8050	NGP-9050	
Pump Displacement (max at 10)	.047	.076	.093	.152	Gal/Rev
Max Operating Speed:	450	450	450	450	RPM
Output Volume (max)	21.0	34.2	42.0	68.4	Gal/Min

Alternatively, pump output can be monitored with a flowmeter and a digital readout. An example of this setup would be Micro-Trak's FM270 and Flo-Pro™ control/readout.

E.) Adjust the pump speed with the hydraulic flow control valve.



PARTS LIST



Item	Part Number	Description	VR Kit Qty	Manual Kit Qty
1	116029-91	Mounting bracket	1	1
2	116039-01	Hydraulic motor – manifold mount	1	-
2a	116042-01	Hydraulic motor – pipe thread ports	-	1
3	116036-01	Idler sprocket	1	1
4	90698	½-13 NC x 3” lg hex head bolt – plated	1	1
5	116038-01	Spacer tube	1	1
6	93012	Flat washer	2	2
7	92029	½” Hex nut - plated	3	3
8	92031	½” Jam nut - plated	1	1
9	90689	½-13 NC x 1-1/2” lg hex head bolt – plated	2	2
10	93004	½” Lockwasher	2	2
11	116040-01	Manifold with Servo Motor type flow control valve	1	-
11a	116041-01	Manifold with PWM type flow control valve		
12	90994	5/16-18NC x 2” lg socket head cap screw	4	-
13	116047-01	Fitting – #8 SAE to #8 JIC adjustable elbow	1	-
13a	116097-01	Fitting – #8 SAE to #8 JIC Long adjustable elbow	1	-
14	116037-01	Chain – 55 links of RC50	1	1
15	A-415	Offset Link (used for NGP-705x and NGP-905x pumps)	2	2
16	106532-01	Sprocket assembly – RC50-18	1	1
-	14-9021	(not shown) Manually adjusted flow control valve	-	1
-	116081-01	(not shown) Optical tachometer for manual system	-	1
-	115907-01A	OPTIONAL – ¾” U-bolt, 7x7 Bar (2 required per unit)		
	115907-01B	OPTIONAL - ¾” U-bolt, 4x4 Bar (2 required per unit)		
	115907-01C	OPTIONAL - ¾” U-bolt, 4x6 Bar (2 required per unit)		
	115907-01D	OPTIONAL - ¾” U-bolt, 6x6 Bar (2 required per unit)		
-	116035-01	OPTIONAL - 9” u-bolt mounting strap (2 required per unit)		

Notes

LIMITED WARRANTY

THIS WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR EXPRESS WARRANTIES AND REPRESENTATIONS. ANY IMPLIED WARRANTIES INCLUDING MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO THIS WRITTEN WARRANTY. CDS-JOHN BLUE COMPANY SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES.

Use of this product for any purpose other than its original intent, abuse of the product, and/or any modification to the original product is strictly prohibited by the manufacturer, CDS-John Blue Company. Any modification to the product should be approved by CDS-John Blue Company prior to use. CDS-John Blue Company will deny Warranty claims and liability in any situation involving misuse, abuse or modification.

Each new machine or component manufactured by CDS-John Blue Company through original buyer is warranted by CDS-John Blue Company to buyer and to any party or parties to whom buyer may resell, lease or lend the equipment to be free from defects in material and workmanship under normal use and service. This obligation of CDS-John Blue Company under this warranty is limited to the repair or replacement of defective parts or correction of improper workmanship of any parts of such equipment which shall within one year from the date of CDS-John Blue's original delivery thereof, be returned to CDS-John Blue's factory, transportation charges prepaid and which CDS-John Blue Company shall determine to its satisfaction upon examination thereof to have been thus defective. When it is impractical to return the defective parts of such equipment to CDS-John Blue's factory, then CDS-John Blue shall have no liability for the labor cost involved in repairing or replacing any such parts and shall be liable solely for supplying the material necessary to replace or repair the defective parts, provided that prior thereto CDS-John Blue Company shall have determined to its satisfaction that any such parts are thus defective.

This warranty shall not apply to any equipment which shall have been repaired or altered outside CDS-John Blue's factory in any way so as to affect its durability, nor which has been subjected to misuse, abuse, negligence or accident, or operated in any manner other than in accordance with operating instructions provided by CDS-John Blue Company. This warranty does not extend to repairs made necessary by the use of inferior or unsuitable parts or accessories, or parts or accessories not recommended by CDS-John Blue Company.

CDS-John Blue Company makes no warranties in respect to parts, accessories or components not manufactured by CDS-John Blue Company, same ordinarily being warranted separately by their respective manufacturers.

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