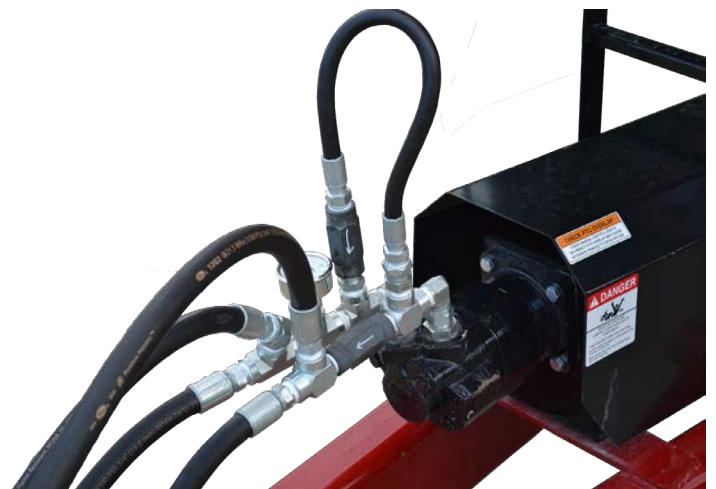


Grain Cart Hydraulic Drive Kit (HD-2SHP)

OPERATORS MANUAL



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General Information


TO THE OWNER:


The purpose of this manual is to assist you in operating and maintaining your Hydraulic Motor in a safe manner. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance and help maintain safe operating conditions. If this machine is used by an employee or is loaned or rented, make certain that the operator(s), prior to operating:


1. Is instructed in safe and proper use.
2. Reviews and understands the manual(s) pertaining to this machine.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.

 This Safety-Alert symbol indicates a hazard and means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

 **DANGER** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

 **WARNING** Indicates a potentially hazardous situation that, if not avoided, will result in death or serious injury, and includes hazards that are exposed when guards are removed.

 **CAUTION** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

IMPORTANT Indicates that failure to observe can cause damage to equipment.

NOTE Indicates helpful information.

Bolt Torque Chart

Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper tool for tightening hardware. Make sure fastener threads are clean and you start thread engagement properly. **Use these values when tightening all bolts and nuts with the exception of wheel nuts.**

SAE Fasteners

Coarse Thread Series				
	Grade 5		Grade 8	
<i>Diameter and Pitch (Inches)</i>	<i>Dry</i>	<i>Oiled</i>	<i>Dry</i>	<i>Oiled</i>
1/4"-20	8 ft-lbs	6 ft-lbs	12 ft-lbs	9 ft-lbs
5/16"-18	17	13	25	18
3/8"-16	31	23	44	33
7/16"-14	49	37	70	52
1/2"-13	75	57	106	80
9/16"-12	109	82	154	115
5/8"-11	150	113	212	159
3/4"-10	267	200	376	282
7/8"-9	429	322	606	455
1"-8	644	483	909	681
Fine Thread Series				
<i>Diameter and Pitch (Inches)</i>	<i>Dry</i>	<i>Oiled</i>	<i>Dry</i>	<i>Oiled</i>
1/4"-28	10 ft-lbs	7 ft-lbs	14 ft-lbs	10 ft-lbs
5/16"-24	19	15	27	20
3/8"-24	35	26	49	37
7/16"-20	55	41	78	58
1/2"-20	85	64	120	90
9/16"-18	121	91	171	128
5/8"-18	170	127	240	180
3/4"-16	297	223	420	315
7/8"-14	474	355	669	502

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be erased by an operator's single careless act. In addition, hazard control and accident prevention are dependent upon the awareness, concern, judgment, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Make certain that the operator(s), prior to operating is instructed in safe and proper use and reviews and understands the manual(s) pertaining to this machine.

Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.

SAFETY

IMPORTANT - Make sure that all power is shut off before installing the hydraulic drive.

Installation work to be performed by qualified servicemen only. Please refer to your operator's manual for additional safety information.

Understand that your safety and the safety of other persons is measured by how you service, and operate this machine. Know the positions and functions of all controls before you try to operate them. Make sure to check all controls in a safe area before starting your work.

Never adjust, service, clean, or lubricate Hydraulic Drive Motor until all power is shut off.

Keep all safety shields in place.

Keep hands, feet, hair and clothing away from moving parts while unit is in operation.

Make sure that everyone is clear of equipment before applying power or moving the machine.

Make sure that the implement is fastened securely to the tractor by using the proper hitch pin, clip and safety chains.

Avoid high pressure fluids. Escaping fluid under pressure can penetrate the skin causing serious injury. Always relieve pressure before disconnecting hydraulic lines. Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. Keep all components in good repair.

Before operating the hydraulic drive, make sure that your tractor hydraulic system does not exceed the max flow shown in the table on page 7.

CAUTION - The maximum pressure on the hydraulic motor is not to exceed 3,000 PSI.

Operation

Be sure to use SAE 10W40 or SAE 5W30 oil or tractor hydraulic fluid with high levels of zinc anti-wear additives (see your tractor owner's manual).

IMPORTANT - Type A, F or Dextron transmission fluid must NOT be used. Hydraulic oil must never exceed 180 Degrees Fahrenheit. For optimum performance use 5 to 25 micron filtration on system.

Break In Period - Before placing the hydraulic motor into service, be certain to run the system at 1/2 speed under no load for 15 minutes.

See page 10 for initial set-up instructions specific to the SAI Hydraulic Motor.

⚠ CAUTION - Before operating the hydraulic drive, make sure that everyone is clear of the equipment before applying power. Operate the hydraulic drive from a safe distance. Always keep hands, feet, and clothing away from moving parts while the unit is in operation.

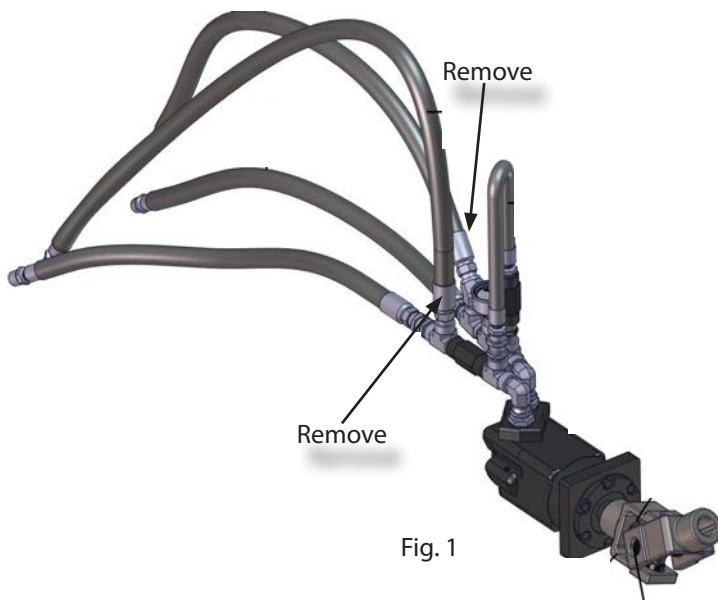
Loading and Unloading

- Before filling the grain cart, make certain that the gate indicator is in the closed position.
- Fill the grain cart with grain.
- After the cart is filled and ready for unload, position the auger to the upright position (follow the instructions in the grain cart owner's manual).
- Engage the hydraulic drive (start at idle speed and increase to operating speed).
- Slowly open the inner gate while checking the pressure gauge on the hydraulic motor. Once the pressure gauge reading is between 1800 and 1900 PSI, discontinue opening the gate (pressure is low under no load).

NOTE - The size of the gate opening allowed and the unloading time will vary as to the type of grain, moisture content, quality of the grain and the GPM delivery of the tractor.

- Follow your owner's manual for details on complete clean out. Once the grain has been unloaded from the tank of the grain cart, disengage the hydraulic drive and return the auger to the lowered position.

Note: If only one outlet is available, remove two 3/4" x 66" hydraulic hoses and plug the two tee fittings. This will reduce the performance of the Hydraulic Drive. Figure 1



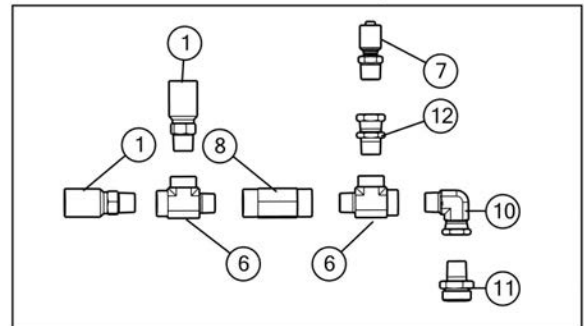
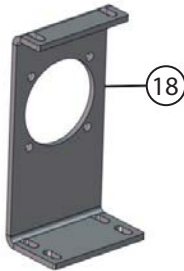
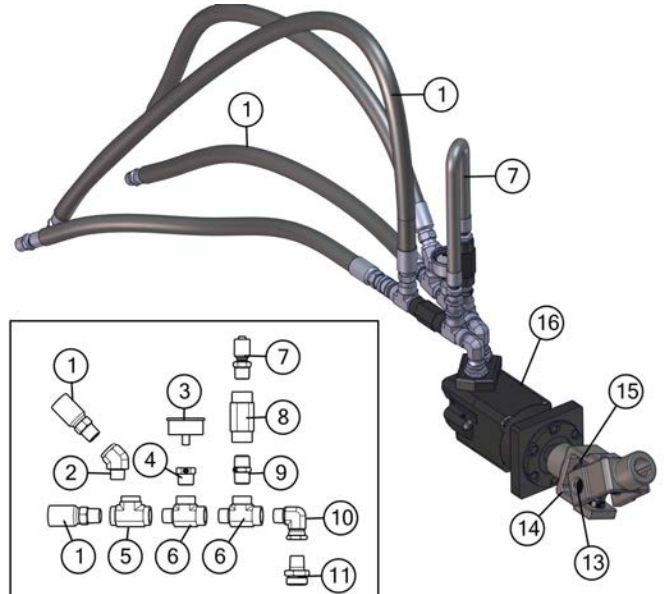
Hydraulic Drive Kit Information

Motor Size	Cart Driveline	Min GPM	Max GPM
21 Cu. Inch Motor	1-3/4"	50	70

NOTE - Running the motor at a lower Gallon Per Minute Rate than the minimum GPM from above will NOT hurt the motor. It will only slow the unload rate.

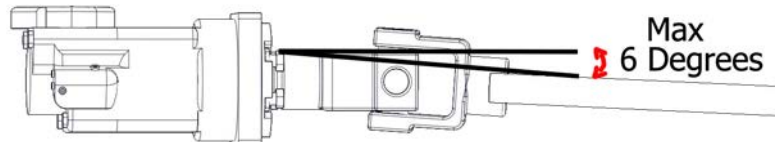
Parts List - HD-2SHP Hydraulic Motor

#	Description	Part. No.	Qty.
1	3/4" x 66" Hydraulic Hose	JM0020521	4
2	3/4" Male NPT x 3/4" Female NPT 45 Degree Elbow	JM0010139	1
3	PSI Gauge (4000PSI)	JM0010158	1
4	3/4" Male NPT x 1/4" Female NPT Reducer	JM0010136	1
5	3/4" Female NPT Tee	JM0010138	1
6	3/4" Male NPT x 3/4" Female NPT x 3/4" Female NPT	JM0010140	4
7	1/2" x 24" Hydraulic Hose	JM0031188	1
8	Check Valve 3/4" 5PSI	JM0010153	2
9	3/4" Male NPT x 3/4" Male NPT Nipple	JM0010137	1
10	3/4" Male NPT x #12 Female JIC x 90 Deg	JM0010135	2
11	#12 Male JIC x #16 Male O-Ring Straight	JM0010144	2
12	3/4" Male NPT x 3/4" Female NPT Swivel	JM0010152	2
13	U-Joint Cross Member (44R) (19, 20, 21 Cubic Inch Motor)	JM0017958	1
14	U-Joint 1-1/2" to 1-3/4" (19 & 20 Cubic Inch Motor)	JM0026841	1
15	3/8" x 1/2" Set Screw	JM0019044	2
16	50 GPM Eaton Motor 19 Cu In (112-1066-006)	JM0026850	1
18	Universal Mount	JM0029820	1
18	Seal Kit for 21 Cubic Inch Hydraulic Motor, 50 gpm	JM0020636	1



Mounting The Hydraulic Motor

1. Remove the Drive-line Shield
2. Remove the PTO.
3. Place the Universal Mount into position.



NOTE - Rotate the motor mount to the position which will give the Hydraulic Motor drive-shaft, and the grain cart's drive-line a less than 6 degree difference.

4. Using (2) 1/2" x 1" hex bolts and (2) 1/2" lock nuts attach the motor mounts to the grain cart.

NOTE - For all of the motor mounts the bend needs to go to the inside.

5. Attach the motor to the drive-line. Tighten the two set screws on the u joint.
6. Attach the motor to the motor mounts. Use (2) 1/2" x 1" hex bolts and (2) 1/2" lock nuts.
7. Double check all of the hardware used to install the hydraulic motor. Make sure all the hardware is tightened.
8. Reinstall the drive-line shield.

