

BH600



## TABLE OF CONTENTS

Introduction, General Information, Serial Number .....	2
Owner and Operator and Safety Information .....	3-6
Definitions of Safety Terms and Symbols, Accident Prevention .....	3
Safety Instructions .....	4-5
Safety Signs .....	6
Power Unit Specifications .....	7
Installation Instructions .....	7
Hydraulic Instructions .....	7
Operation .....	8-9
Maintenance .....	10
Service .....	10
Mounting Locations.....	11
Parts Illustrations .....	12-13
Grease Zerk Locations .....	14
Selector Valve Diagram .....	14
Hydraulic Parts List .....	15
Hydraulic Plumbing .....	16
Specifications .....	17
Troubleshooting .....	18
Warranty Policy.....	19

### ***HLA Attachments***

8082 Rd 129

RR# 3

Listowel ON N4W 3G8

Canada

1-866-567-4162

[sales@horstwelding.com](mailto:sales@horstwelding.com)

[www.horstwelding.com](http://www.horstwelding.com)

## INTRODUCTION

Thank you for purchasing your new **HLA Big Arm**! Your Big Arm was carefully designed and manufactured to give you many years of dependable service. You or any other person, who will be assembling, operating, maintaining or working with this product, are required to read and completely understand the information and instructions contained in this manual. If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting HLA at the telephone number or address listed on the previous page of this manual. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators.

This manual covers model **BH600**.

## GENERAL INFORMATION

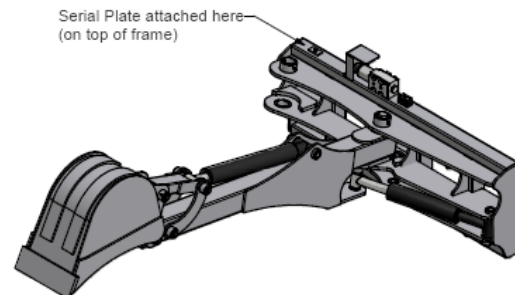
The purpose of this manual is to assist you in safely assembling, mounting, operating and maintaining your Big Arm. Read this manual carefully to obtain valuable information and instructions that will help you achieve safe and dependable service. The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. HLA reserves the right to redesign and/or change components as necessary without notification.

Throughout this manual, references may be made to:

Power Unit	The engine-driven machine to which this product must be attached.
Right, Left, Front, Rear	Directions which are determined in relation to the operator of the equipment when seated in the normal operating position.
<b>IMPORTANT</b>	Precautions that must be followed to prevent damage to equipment.
<b>NOTICE</b>	Precautions that must be followed to prevent substandard performance.


## SERIAL NUMBER LOCATION

Always refer to the model and serial number when ordering parts or requesting information from your dealer. The serial number plate for this product is located on the upper right rear portion of the loader attachment plate of your Big Arm.



## DEFINITION OF SAFETY TERMS AND SYMBOLS

Throughout this manual, the terms **DANGER, WARNING and CAUTION** are used to indicate the degree of hazard to personnel if proper safety procedures are not followed. These words will be used in conjunction with the Safety Alert Symbol: a dark triangle containing a white exclamation mark.

	The Safety Alert Symbol means: - <b>ATTENTION!</b> - <b>BECOME ALERT!</b> - <b>YOUR SAFETY IS INVOLVED!</b>
<b>DANGER</b>	Indicates an imminently hazardous situation, which, if not avoided, <b>WILL result in death or serious injury.</b>
<b>WARNING</b>	Indicates a potentially hazardous situation, which, if not avoided, <b>Could result in death or serious injury.</b>
<b>CAUTION</b>	Indicates a potentially hazardous situation, which, if not avoided, <b>May result in minor or moderate injury;</b> <b>OR</b> May also be used to alert against unsafe practices, which <b>may result in damage to property.</b>

The safety information given in this manual does not replace any safety codes, insurance needs, federal, state and local laws.

### ACCIDENTS CAN BE PREVENTED WITH YOUR HELP!

The best safety device is a careful operator. HLA and your dealer ask that YOU be that careful, responsible equipment operator.

Pay attention to the job at hand. Do not let your mind lose concentration on what you are doing. No accident prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

If accidents are to be prevented (*and accidents can be prevented*), that prevention will come from equipment operators who accept their complete responsibility and anticipate the results of their actions.

The designer, the manufacturer, and the safety engineer all help create a safe product, but their combined efforts can be wiped out with a single careless act by the operator of that product.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

YOU ARE THE KEY TO SAFETY BECAUSE:

YOU are responsible for the SAFE operation and maintenance of YOUR Backhoe.

YOU are responsible to familiarize yourself, and anyone else who will assemble, operate, maintain, or work around this product, with the safety information contained in this manual.

YOU are responsible to read ALL information contained in this manual to any operators or maintenance personnel who are not fully able to read the written English language. Whether YOU read the manual as written or translate it into another language, YOU must make certain that all operators and maintenance personnel have complete understanding of the full and exact contents of this manual.

YOU can reduce the risk of injury or death by following all safety precautions and by using good safety practices.

## SAFETY INSTRUCTIONS

### WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS!!

#### **SECTION 1** **WARNING SECTION**



**WARNING**  
Obey all safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

BEFORE ATTEMPTING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT.

- **READ AND COMPLETELY UNDERSTAND THIS MANUAL.**
- **READ AND COMPLETELY UNDERSTAND THE MANUALS PROVIDED WITH YOUR POWER UNIT, LOADER AND QUICK-ATTACH.**
- Read and understand all safety signs on this product and on your power unit, loader and quick-attach.
- Know all your controls and know how to quickly stop all power unit movements, the backhoe movement, and the engine in case of emergency.
- Know and obey all applicable government rules, O.S.H.A regulations, local laws and other professional guidelines for your operation.
- Make sure that anyone who will be assembling, mounting, maintaining, repairing, removing and/or storing this product:
  - has been instructed in the safe operation of this product and of the power unit and the quick-attach to which this product is attached.
  - is physically and mentally capable of the safe operation of this type of equipment.
  - is not under the influence of drugs or alcohol.
  - is carefully supervised from a safe distance, especially if such person is inexperienced.
  - wears personal protective equipment (i.e. hardhat, safety glasses, work gloves, protective shoes, respirator, ear protection, etc.)
  - does not wear loose fitting clothes, loose or uncovered hair or any accessories (jewelry, necktie, scarf, wrist watch, etc.) that can catch and entangle on moving parts.
  - has annually reviewed all safety instructions.
- Know and follow good work practices when assembling, mounting, maintaining, repairing, removing and storing this product:
  - Work on a level surface in a well lit area.
  - Keep the area clean and dry.
  - Use properly grounded electrical outlets and tools.

- Use the right tool for the job at hand.
- Make sure that your tools are in good condition for performing the desired function.
- When using tools, wear the protective equipment specified by the tool manufacturer (i.e. hardhat, safety glasses, work gloves, protective shoes, etc.).

WHEN YOUR POWER UNIT IS USED DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT:

- Before leaving the operator's station or before beginning any type of work on this product, lower this product to the ground, apply your power unit's parking brake, stop the engine, remove the starter key, wait for all moving parts to stop and then relieve all pressure in the hydraulic lines. Refer to your power unit's operator's manual for instructions on how to relieve hydraulic pressure in lines.
- Know your loader's safe lifting and operating capacity and the weight of this product. See the specifications in this manual for the weight of this product and refer to your power unit's and loader's operator's manuals for safe operating limits. Lift capacity may be reduced if using a quick-attach.
- Never allow anyone, except the operator, to be around the power unit or this product when either is in motion.
- Do not start up unless others are clear of the work area.
- Do not allow riders on this product or the power unit.
- Do not stand or climb on this product when raised.
- Do not place any part of your body under any part of this product unless this product is securely resting on adequate blocking or on the ground.
- Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Do not use wood or steel blocking that shows any signs of material decay. Do not use wood blocking that is warped, twisted or tapered.
- Never operate controls from the ground. Operate the controls only from the operator's station.
- Never leave the equipment unattended with the engine running or with this product raised on the loader.
- Be aware of the added weight and width of this product. Reduce travel speeds accordingly, especially when traveling over rough ground.
- Keep this product close to the ground and under control when transporting.
- When transporting, be sure backhoe does not block view of vehicle lights or road.

## SAFETY INSTRUCTIONS

WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS!!

### WARNING SECTION [Continued]



#### WARNING

**Obey all safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.**

#### WHEN DEALING WITH HYDRAULICS DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT.

- Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible!
- If any fluid penetrates the skin, GET IMMEDIATE MEDICAL ATTENTION!!
- Wear safety glasses, protective clothing and use a sound piece of cardboard or wood when searching for hydraulic leaks. DO NOT USE YOUR HANDS!
- Before connecting or disconnecting hydraulic hoses, read your tractor or power unit's operator's manual for detailed instructions on connecting and disconnecting hydraulic attachments.
- Make certain that all parts meet the specifications for this product when installing or replacing hydraulic hoses or fittings.
- After connecting hydraulic lines:
  - Slowly and carefully raise the loader and cycle the rollback / dump cylinders to check hose clearances and to check for any interference.
  - Operate the hydraulics on this product to check hose clearances and to check for any interference.
  - Make certain that the hoses cannot interfere with or actuate the quick-attach mechanism.
  - Make certain that hoses will not be pinched, or get tangled, in any equipment.
- Do not lock the auxiliary hydraulics of your power unit in the "ON" position.
- Refer to your power unit's operator's manual and this manual for procedures and intervals, then inspect and maintain the entire hydraulic system to insure that the fluid remains clean, that all devices function properly and that there are no fluid leaks.

#### WHEN MOUNTING THIS PRODUCT TO YOUR POWER UNIT:

- Refer to the operator's manuals of your power unit, your loader and your quick-attach for special or detailed mounting instructions.
- This product should fit onto the quick-attach or loader arms of your power unit the same as the original products that were designed by your loader / quick-attach manufacturer.
- If this product does not fit properly, contact HLA before operating.

- Never place your finger into the mounting plate or 3-point hitch or loader holes. A slight movement of the power unit or this product could cause serious injury.

#### BEFORE EACH USE, THOROUGHLY INSPECT THIS PRODUCT AND:

- Make certain that all safety signs are in place and legible. Refer to the safety sign page in this manual for the placement of safety signs for this product.
- Replace all damaged or excessively worn parts and hardware only with genuine HLA parts or with properly rated fasteners, hydraulic hoses or fittings.
- Make certain that all locking pins, latches and connection devices are properly installed and secured.
- Make certain that all protective guards, canopies, doors, etc. are in place and secure.

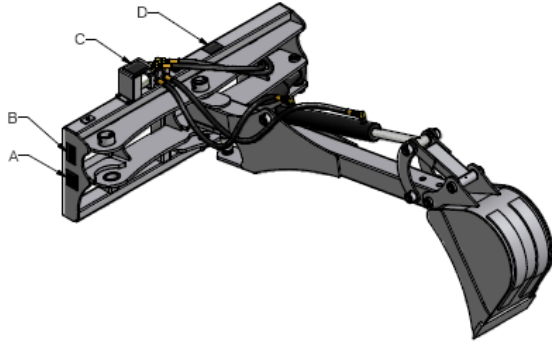
#### WHEN OPERATING THIS PRODUCT IN ACCORDANCE WITH DESIGN INTENTIONS:

- Contact utility companies before digging. Know your digging area! Avoid hitting underground cables and pipes, overhead wires and other hazards.
- Never use backhoe on a power unit that is not equipped with a cab or ROPS, and operator restraints (seat belts or equivalent devices).
- Use your Big Arm only for digging. Do not use it to pull things, as a battering ram or attach chains, ropes, etc. to it.
- Do not use your Big Arm to dislodge overhead objects. Objects could fall and cause injury.
- Do not attach a jack hammer to the backhoe.
- Be careful when raising loaded bucket. Objects could fall from bucket toward bystanders or operator.
- Know your loader's safe operating weight limit and the weight of your loader attachment.
- Never dig close to the loader's wheels or under the loader; this can cause a cave in and vehicle overturn.
- Do not drive near the trench. Always back away from the trench before turning.
- Always dump loaded bucket on uphill side of backhoe to minimize possibility of upset.
- Use caution when working close to fences and ditches, or on uneven ground.

#### WHEN ADJUSTING, SERVICING OR REPAIRING THIS PRODUCT:

- Make no modifications to you backhoe.
- When making repairs, use only genuine HLA parts or, for fasteners, hydraulic hoses or hydraulic fittings, use only properly rated parts.
- Replacement parts, for parts with safety signs attached, must also have safety sign attached.

## SAFETY SIGN LOCATIONS



### PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

1. Clean the area of application with non-flammable solvent, then, wash the same area with soap and water.
2. Allow the surface to fully dry.
3. Remove the backing from the safety sign, exposing the adhesive surface.
4. Apply the safety sign to the position shown on the diagram above and smooth out any bubbles.

ITEM	QTY	PART#	DESCRIPTION
A	1	BHW01	Injury warning
B	1	BHW02	Backhoe damage
C	1	BHW03	Hydraulic
D	1	BHW04	Pinch point

### INSTRUCTIONS

- Keep all safety signs clean and legible.
- Replace all missing, illegible or damaged safety signs.
- Replacement parts for parts with safety signs attached must also have safety signs attached.
- Safety signs are available free of charge from your dealer or from Horst Welding.

*Item A*



**TO PREVENT SERIOUS INJURY OR DEATH**

- Do not operate or work on this machine without reading and understanding Operators Manual.
- Avoid unsafe operation or maintenance.
- Do not operate machine with guards and covers removed.
- This machine was designed to be operated by one operator. Do not carry passengers on unit.
- Never use backhoe as manlift.
- Before operating backhoe check for underground Electrical or other Hazards.

*Item B*

### IMPORTANT

**TO PREVENT BACKHOE DAMAGE:**

- DO NOT ATTACH TOW CHAIN DIPPER OR BUCKET.
- DO NOT REPEATEDLY SLAM SWING POST INTO SWING STOPS.

### PREPARATION FOR STORAGE

- LUBRICATE ALL GREASE POINTS.
- LEAVE AS MANY CYLINDERS IN CLOSED POSITION AS POSSIBLE.
- COVER ALL EXPOSED CYLINDER RODS WITH A LIGHT COAT OF GREASE.

*Item C*



*Item D*





## POWER UNIT SPECIFICATIONS

### IMPORTANT

Exceeding any of the recommended power unit specifications

- **CAN** result in damage to your power unit and/or this product and
- **WILL** void all HLA warranties.

LOADER DESCRIPTION	MAXIMUM BUCKET SIZE
LESS THAN 25 HORSEPOWER	DO NOT USE MINI-HOE
25 – 35 HORSEPOWER	12" BUCKET
35 – 45 HORSEPOWER	18" BUCKET
45 OR GREATER HORSEPOWER	20" BUCKET
POWER UNIT'S TILT CIRCUIT HAS NO PORT RELIEF	INSTALL RELIEF VALVE FOR POWER UNIT'S TILT CIRCUIT

### BACKHOE INSTALLATION INSTRUCTIONS



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS** (*pages 3-6 of this manual*) **BEFORE BEGINNING ANY BACKHOE MOUNTING**

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your power unit and all workers involved in the mounting process.
2. Be sure all connection points are properly secured.
3. Refer to the operator's manual(s) for your power unit, loader and quick-attach and follow the mounting instructions contained therein.
4. Carefully raise the loader arms and cycle the tilt cylinders to check clearances and to verify that all mounting procedures have been successfully completed.
5. All power units **MUST** have a port relief installed on its hydraulic tilt circuit.

### BACKHOE HYDRAULIC CONNECTION



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS** (*pages 3-6 of this manual*) **BEFORE BEGINNING ANY BACKHOE HYDRAULIC CONNECTION**

1. Disconnect the hydraulic hose quick couplers from one another and attach the quick couplers to your power unit as per the instructions in your power unit's operator's manual.
2. Carefully raise the loader arm and cycle the tilt cylinders to check hose clearances and to check any interference.



**WARNING**

**Do not lock the auxiliary hydraulics of your tractor or power unit in the "ON" position. Failure to obey this warning could result in death or serious injury.**

## BACKHOE OPERATION



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTION** (*pages 3-6 of this manual*) **BEFORE BEGINNING ANY BACKHOE OPERATION.**



### **DANGER**

**Failure to obey the following procedures will result in death or serious injury.**

- **Avoid contacting overhead wires and underground pipes or cables. Failure to heed may result in electrocution or explosion.**



### **WARNING**

**Failure to obey the following procedures could result in death or serious injury.**

**Never lift this product:**

- **above the operator's eye level OR**
- **to a height where visibility is obstructed, whichever is lower.**

**Use caution when raising loaded bucket. Objects could fall from bucket toward bystanders or operator.**

**NOTICE** Refer to your power unit's operator's manual for safe **operating limit** and use of **counterweights**.

### TO DIG:

1. Be sure the loader is on solid ground before digging or lifting load.
2. With the loader arms partially raised and the bucket cylinder partially extended, slowly curl the dipper stick toward the loader (using the loader's tilt control). The loader arms may need to be lowered or raised and/or the bucket cylinder extended to allow the bucket to penetrate the soil.
3. As the bucket fills, extend the bucket cylinder and extend the dipper or raise the loader arms to lift the bucket clear of the hole.
4. The depth of the hole will be controlled by the amount the dipper is extended and the height of the loader arms.
  - Use extreme care when working on hillsides. Always dump loaded bucket on uphill side of backhoe to minimize possibility of upset.
  - Exercise caution when working close to fences, ditches or on uneven ground.

### DO NOT:

- Dig close to the loader's wheels or under the loader. This could cause a cave-in and vehicle overturns.

### TO DUMP ON GROUND:

- With the bucket raised clear of the hole, slowly pivot the dipper stick sideways (*right or left*). This will swing the bucket away from the trench and to the side to dump.
  - Keep loads close to the ground while transporting.

### TO CUT A SHALLOW TRENCH:

1. With the loader arms partially raised and the bucket cylinder partially extended, slowly curl the dipperstick toward the loader (using the loader's tilt control). The loader arms may need to be lowered or raised to allow the bucket to penetrate the soil.
2. When the bucket is positioned at the desired depth, slowly back up the loader, keeping the bucket height constant to cut a shallow amount of soil.

## BACKHOE OPERATION *(continued)*



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTION** *(pages 3-6 of this manual)* **BEFORE BEGINNING ANY BACKHOE OPERATION.**



### **DANGER**

Failure to obey the following procedures will result in death or serious injury.

- Avoid contacting overhead wires and underground pipes or cables. Failure to heed may result in electrocution or explosion.



### **WARNING**

Failure to obey the following procedures could result in death or serious injury.

Never lift this product:

- above the operator's eye level OR
- to a height where visibility is obstructed, whichever is lower.

Use caution when raising loaded bucket. Objects could fall from bucket toward bystanders or operator.

**IMPORTANT** The tilt circuit of your power unit must be protected with a port relief; ignoring this precaution

- **CAN** result in damage to your power unit and/or this product and
- **WILL** void all HLA warranties.



### **WARNING**

**Always back away from trenches before turning.**

**Failure to obey this warning could result in death or serious injury.**

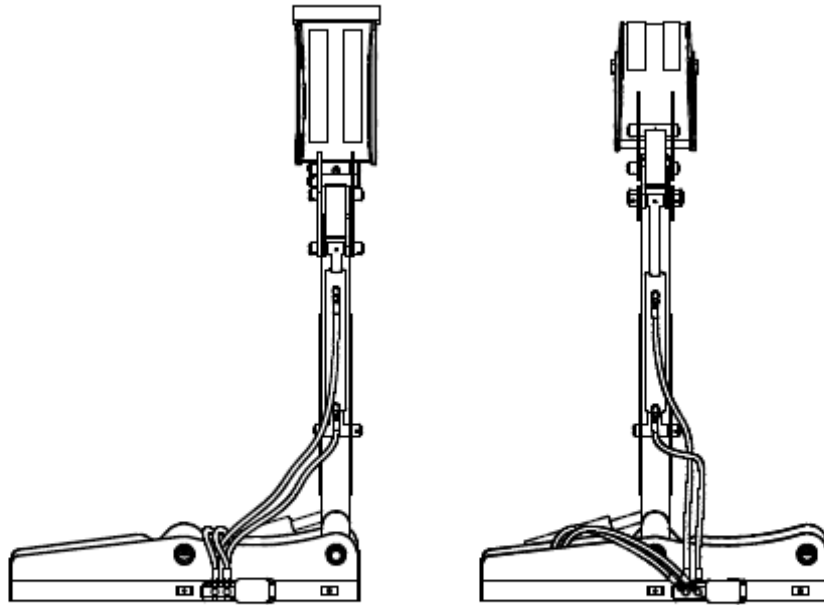
### TO FILL A TRENCH:

1. With the loader arms partially raised, curl the dipper stick (attachment mainframe) forward with the bucket cylinder extended and the bottom of the bucket flat on the ground. The entire height of the bucket should be visible.
2. Use the loader's tilt cylinder only to raise the bucket above the material pile.
3. Pivot the loader to reach over the pile and tilt the backhoe downward so the bottom of the bucket is approximately 12" below the top of the pile.
4. Pivot the loader toward the trench, using the side of the bucket to move the material into the trench. Repeat this process, lowering the bucket 6" at a time.
5. Move your power unit forward and repeat the above steps to continue filling the trench.

**IMPORTANT** Make sure the portion to the trench to be driven on is full before moving forward.

Moving on an unstable surface

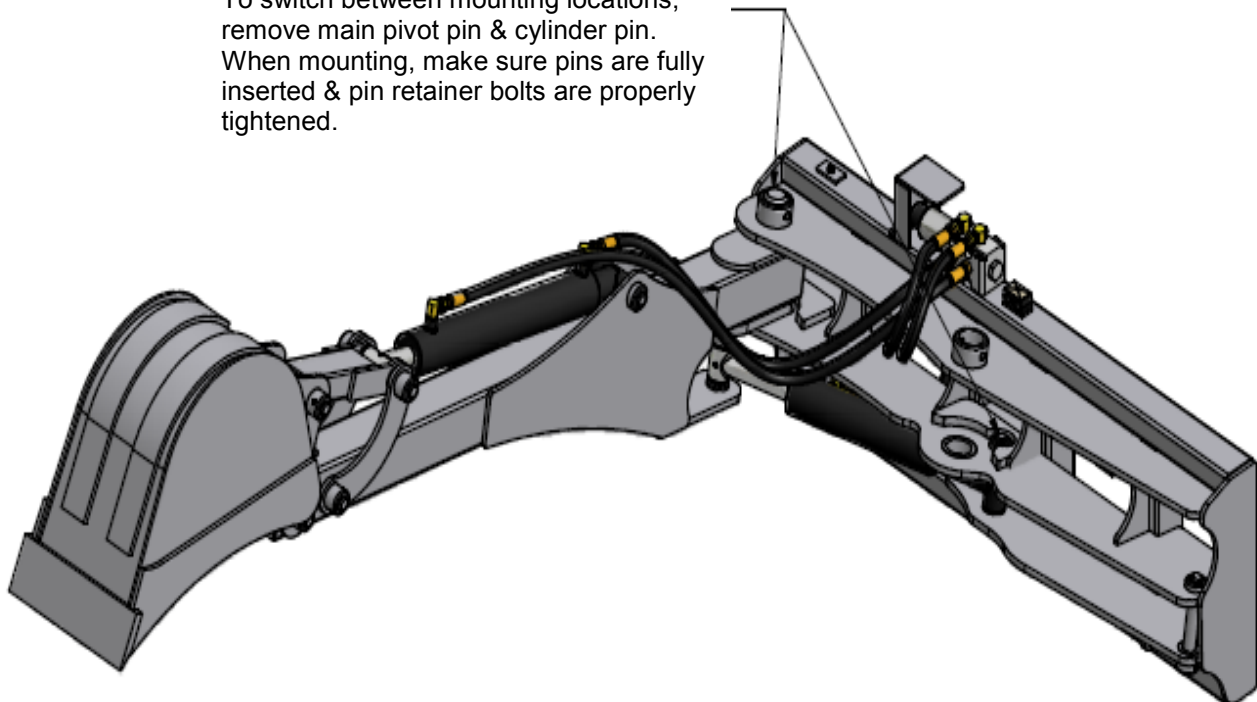
- **CAN** result in damage to your power unit and/or this product and
  - **WILL** void all HLA warranties.
- 
- Always lower the bucket to the ground, set the parking brake, stop the engine, remove ignition key and wait for all moving parts to stop before leaving the operator's seat.



**Dipperstick can be mounted to center or right side of frame.**

- Center mount is recommended for digging in an open area.
- Side mount is recommended for digging beside a wall. (**DANGER! Increased roll-over hazard**)

To switch between mounting locations, remove main pivot pin & cylinder pin. When mounting, make sure pins are fully inserted & pin retainer bolts are properly tightened.



## BACKHOE MAINTENANCE

Regular maintenance is the key to long equipment life and safe operation. It is very important that these maintenance functions be performed as described below.



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTION** (*pages 3-6 of this manual*) **BEFORE BEGINNING ANY BACKHOE MAINTENANCE OPERATION.**

### BEFORE FIRST USE

- Inspect the attachment for shipping damage. If damage does exist, do not operate until the damaged parts have been replaced or repaired.

### BEFORE EACH USE

- Make sure that all nuts and bolts are in place and properly tightened.
- Make sure that all other fasteners are in place and are performing their specified function.
- Make sure that all hydraulic fittings are tightened and that there are no leaks in any fittings or hoses.
- Make sure that all safety signs are in place, are clean and are legible.

SEE THE SAFETY SIGN SECTION

- Replace any damaged parts and excessively worn parts.
- Grease all (8) lubrication points. (refer to page 15 for diagram)

### AFTER EVERY 8 HOURS OF OPERATION

- Grease all (8) lubrication points. (refer to page 15 for diagram)

## BACKHOE SERVICE



**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTION** (*pages 3-6 of this manual*) **BEFORE BEGINNING ANY BACKHOE SERVICE.**



### WARNING

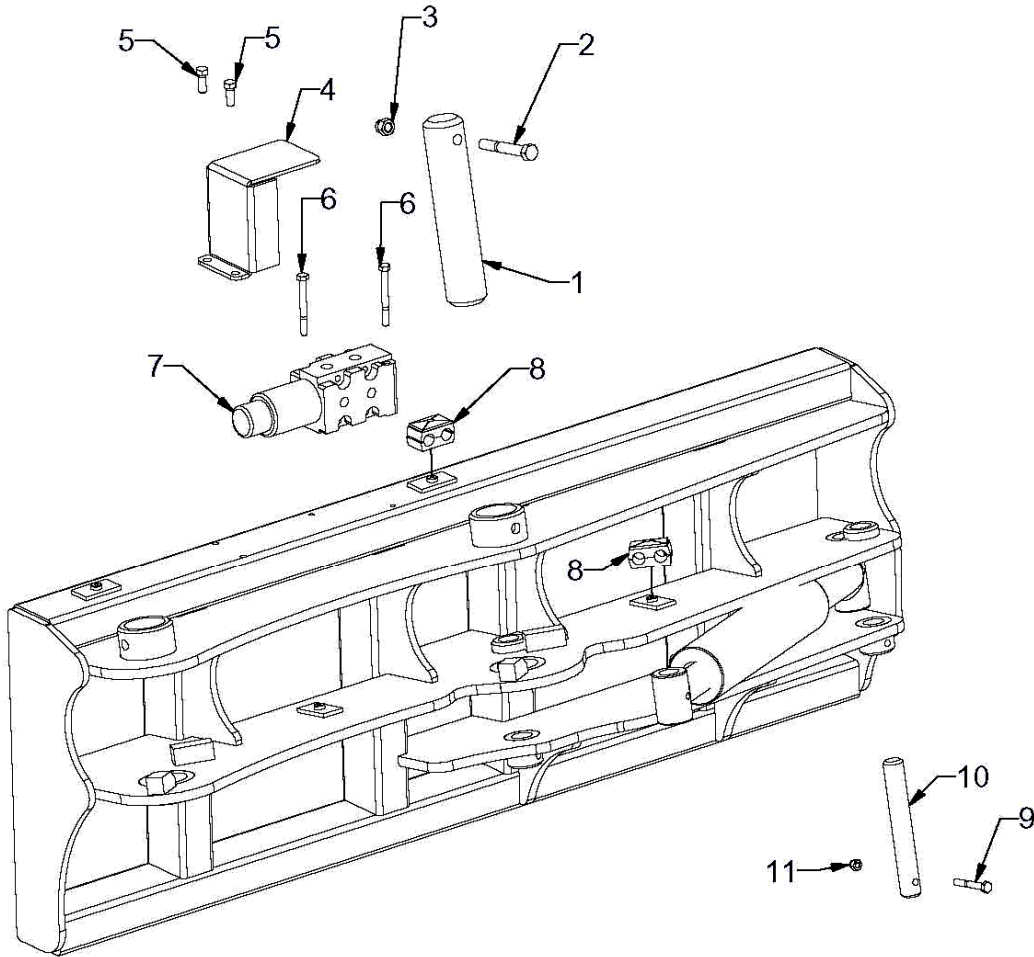
**Hydraulic fluid under pressure can penetrate skin, resulting in serious injury or death. Always relieve hydraulic pressure before disconnecting lines.**

- Shut off engine, set parking brake and relieve hydraulic pressure before connecting or disconnecting hydraulic lines. Refer to your power unit's manual for instruction on how to relieve hydraulic pressure in lines.
- Before applying pressure to the system, be sure that all connections are tight and be sure there are no damaged hoses, lines or fittings.
- Wear safety glasses and use metal or wood when searching for leaks. Do not use your hands.

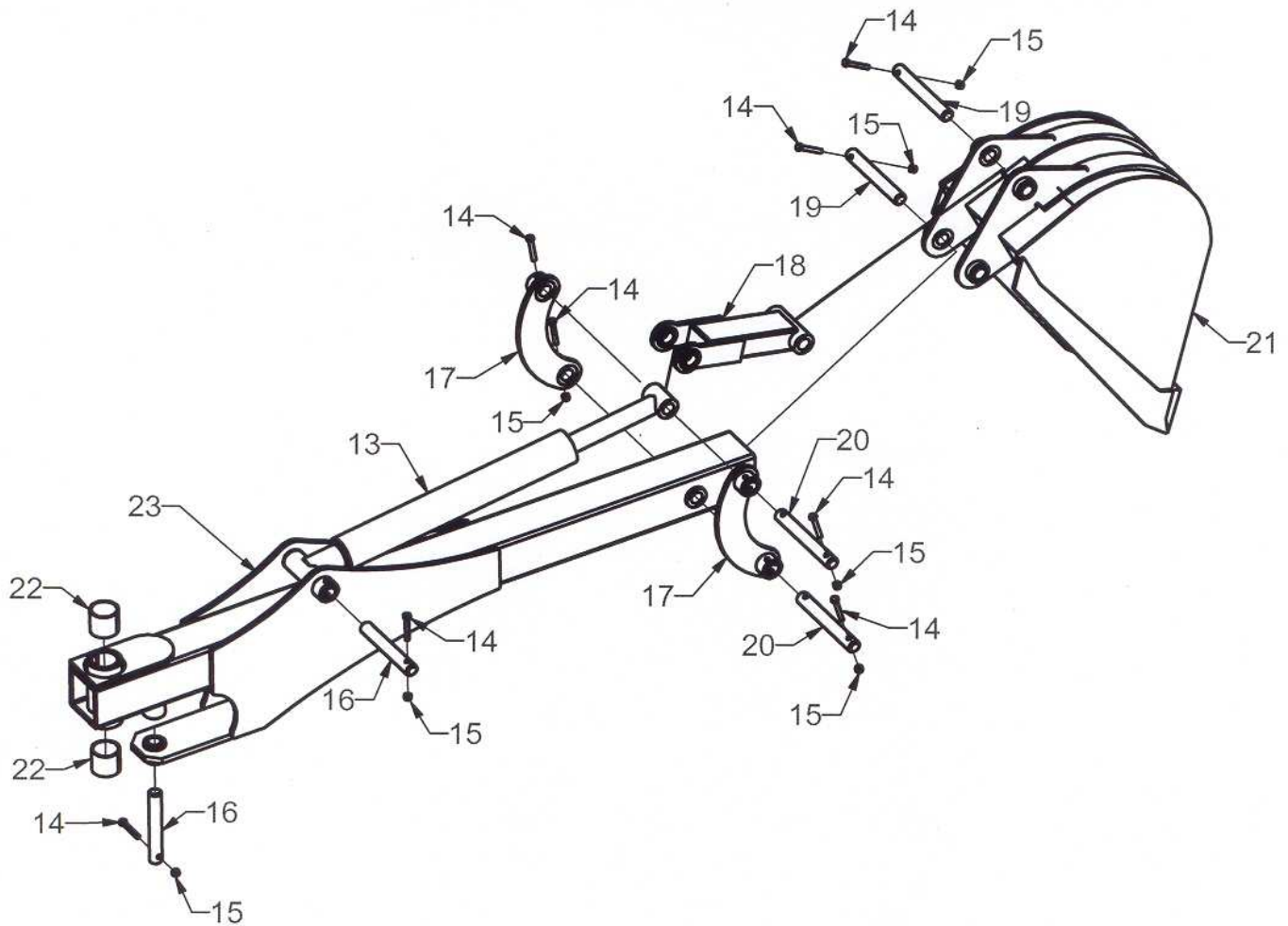


### WARNING

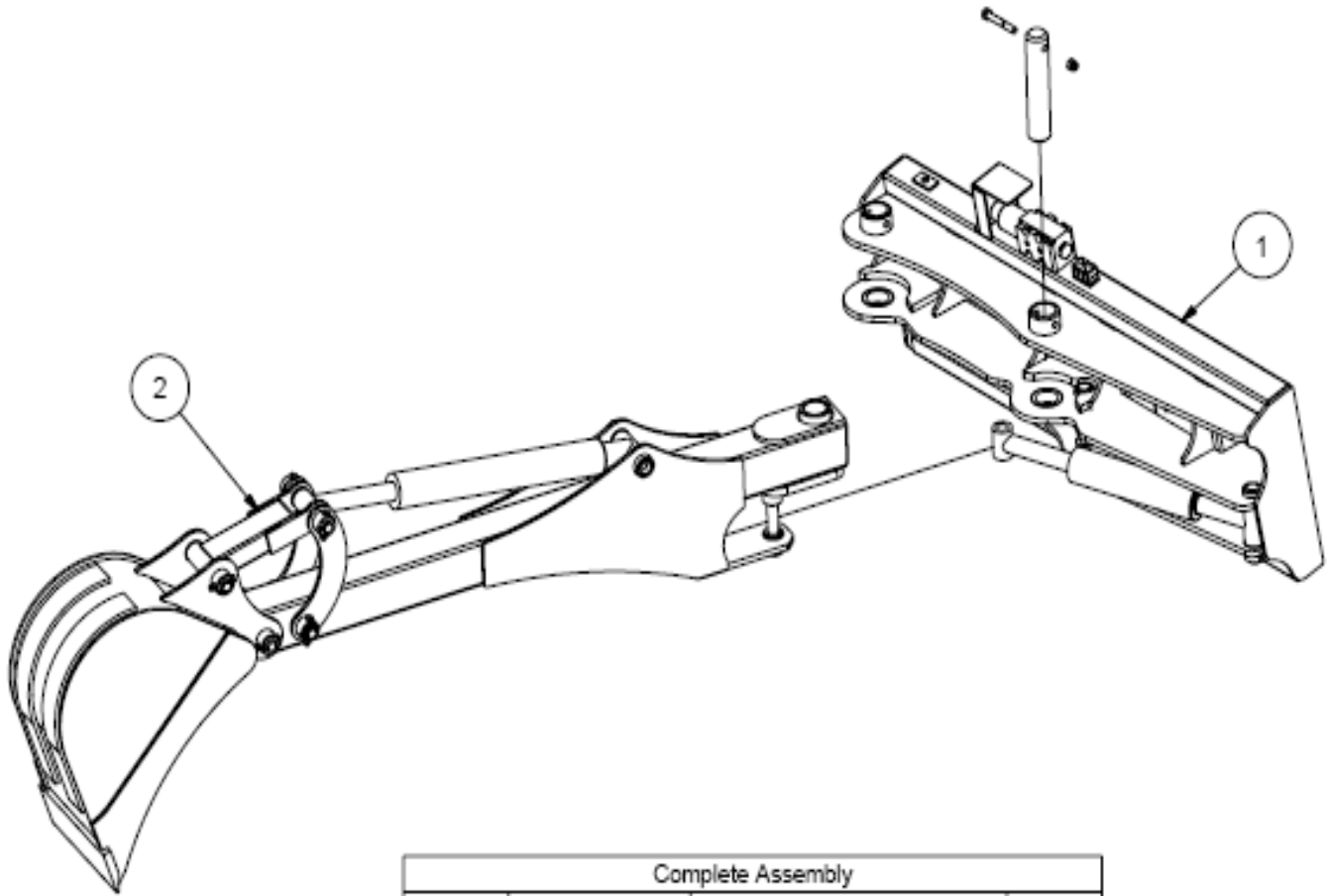
**Before servicing the loader, remove the attachment and make certain the lift arms are lowered to their lowest position or that the arms are supported by the mechanical lock up devices (if the machine is so equipped).**



Frame Assembly			
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	SSBH - 001	Boom Pivot Pin	1
2	SSBH - 002	1/2-13 x 3 1/2 Bolt	1
3	SSBH - 003	1/2-13 Lock Nut	1
4	SSBH - 004	Divertor Valve Shield	1
5	SSBH - 005	3/8-16 x 1 Bolt	2
6	SSBH - 006	5/16-18 Bolt	2
7	SSBH - 007	Divertor Valve	1
8	SSBH - 008	Hose Clamp Kit	2
9	SSBH - 009	5/16-18 x 2 1/4 Bolt	1
10	SSBH - 010	Frame Cylinder Pin	1
11	SSBH - 011	5/16 Lock Nut	1
12	SSBH - 012	8" Stroke Cylinder	1

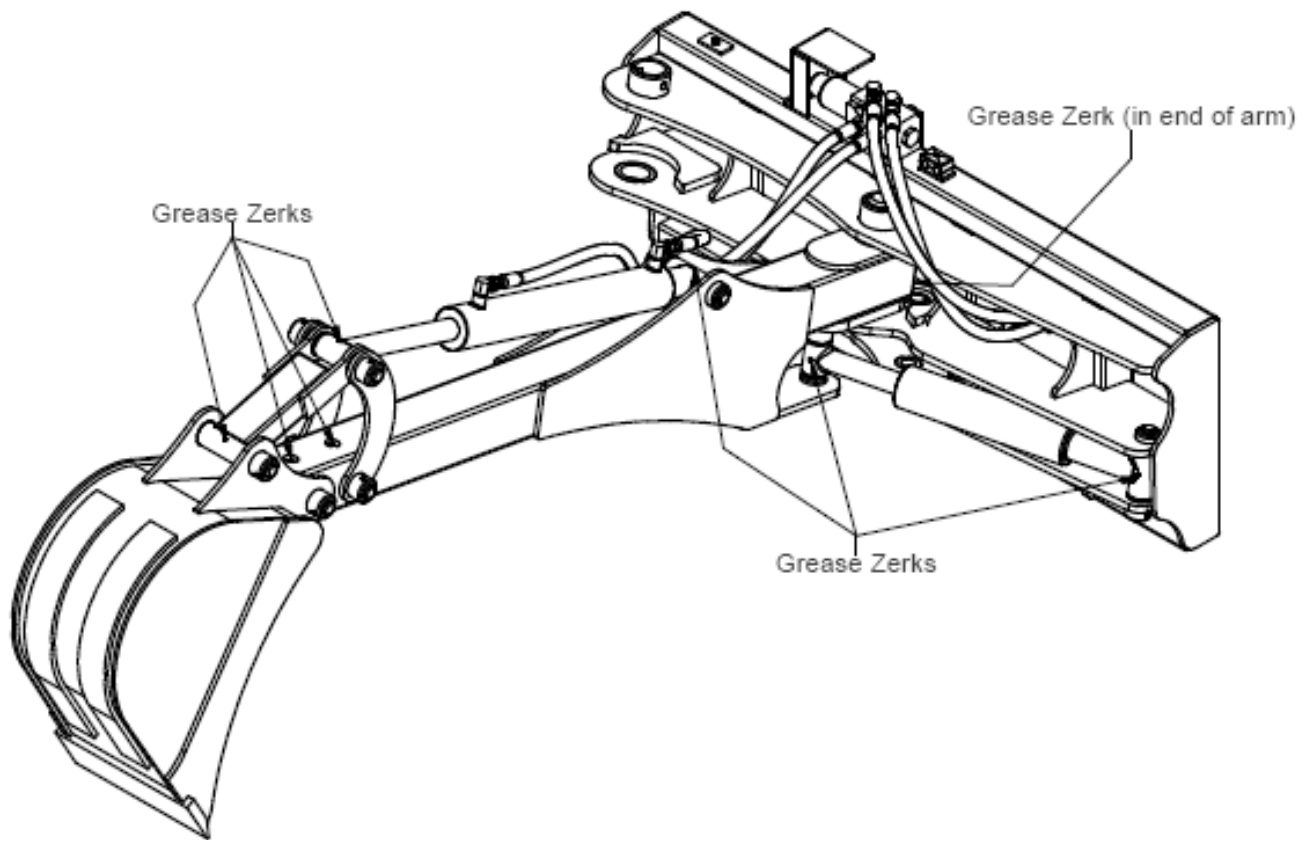


Boom Assembly			
REF. NO.	PART NO.	DESCRIPTION	QTY
13	SSBH - 013	16" Stroke Cylinder	1
14	SSBH - 014	5/16-18 x 2 1/4 Bolt	8
15	SSBH - 015	5/16-18 Lock Nut	8
16	SSBH - 016	Boom Cylinder Pin	2
17	SSBH - 017	Cylinder Mount Linkage	2
18	SSBH - 018	Bucket Mount Linkage	1
19	SSBH - 019	Bucket Pin	2
20	SSBH - 020	Cylinder Mount Linkage Pin	2
21	SSBH - 021	Bucket	1
22	SSBH - 022	Boom Pivot Hardened Bushing	2
23	SSBH - 023	Boom	1

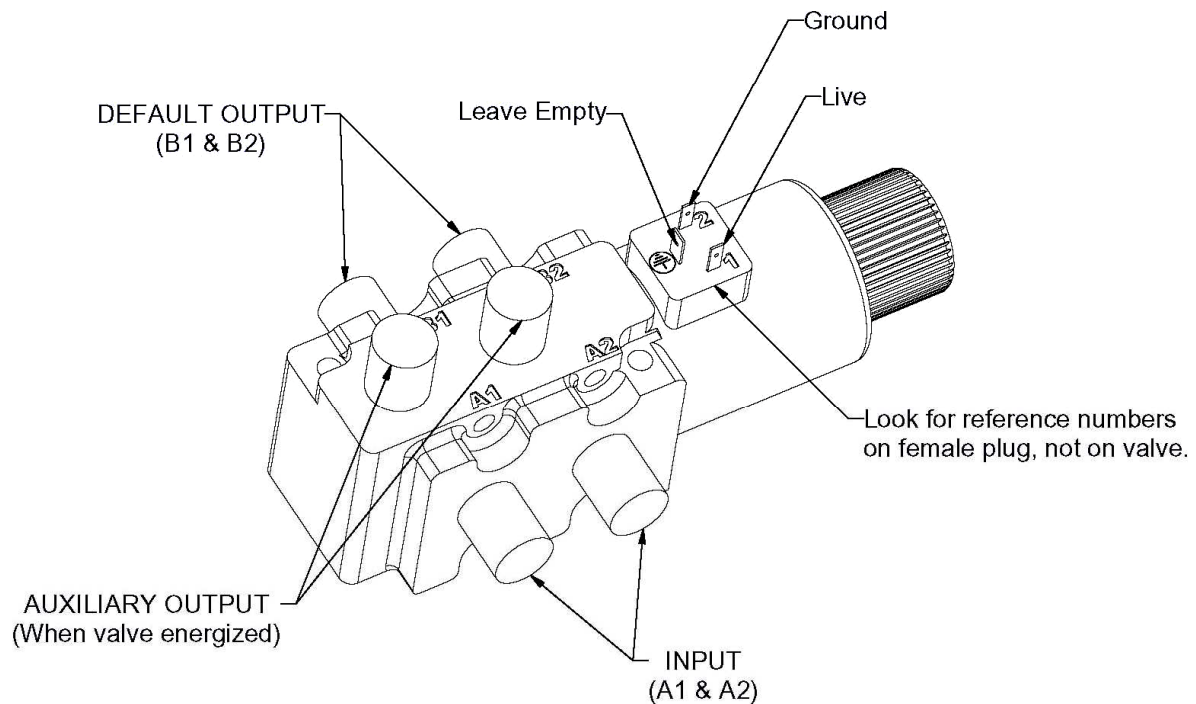


Complete Assembly			
REF NO.	PART NO.	DESCRIPTION	QTY
1	SSBH - 024	Attachment Frame	1
2	SSBH - 025	Dipper Stick	1

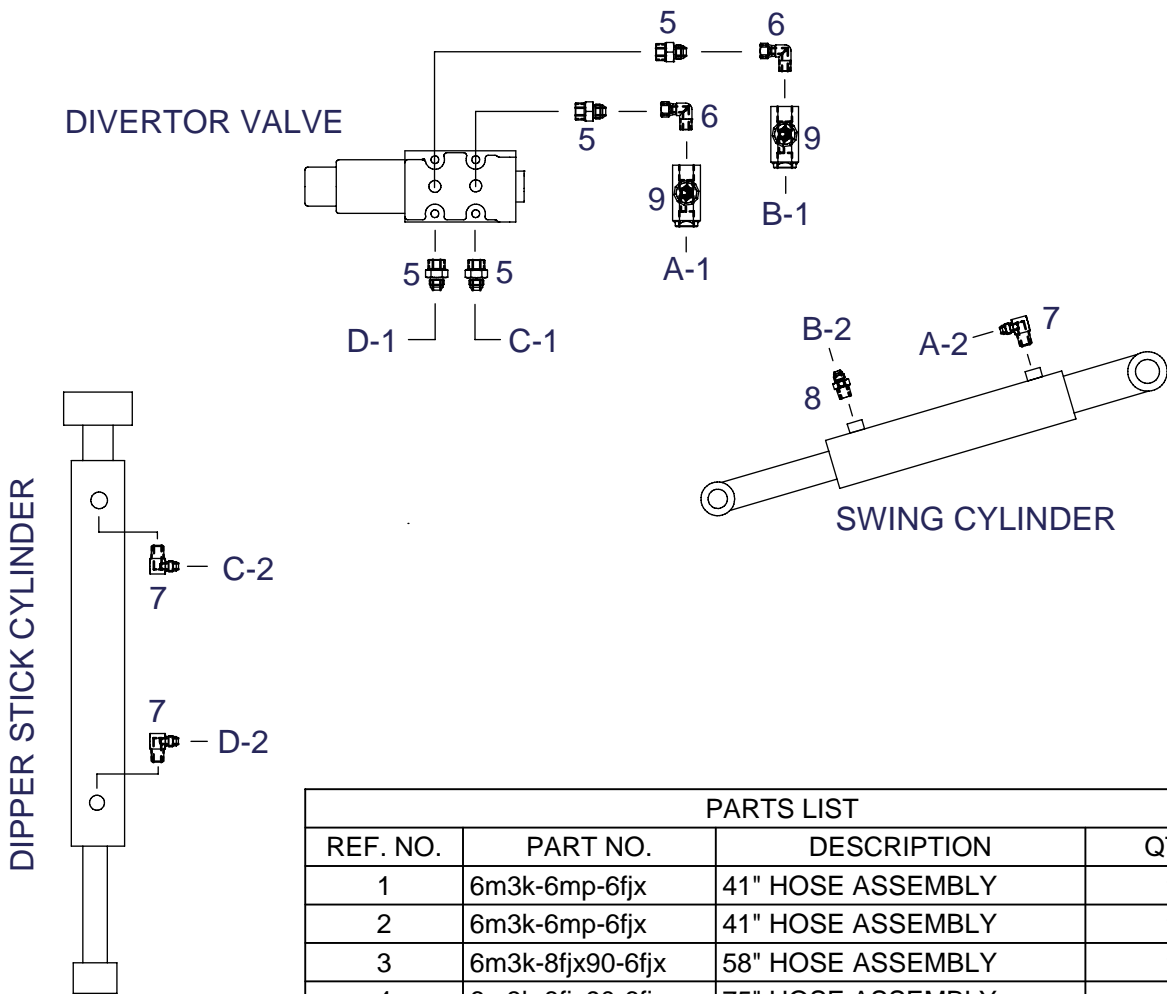
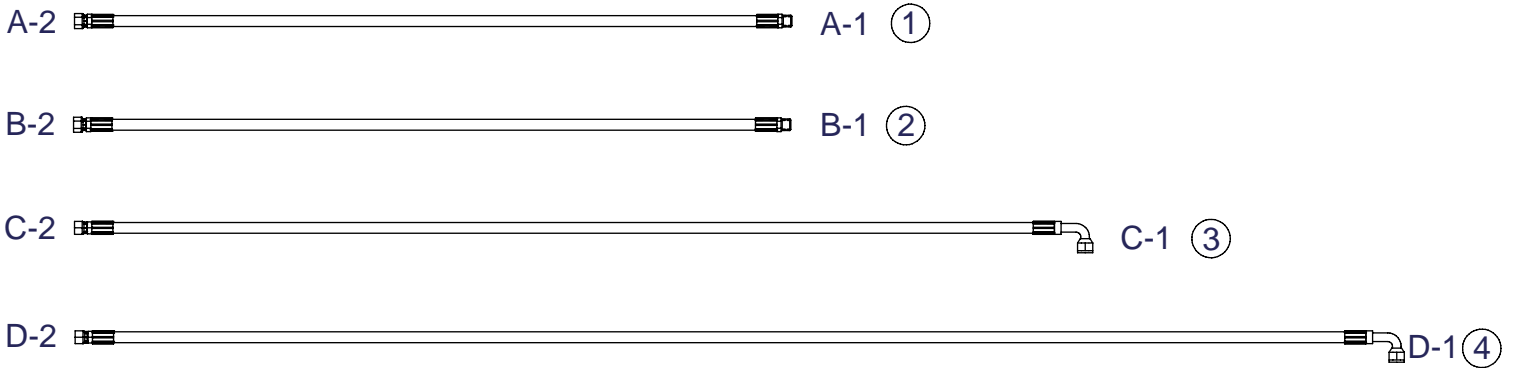




## Selector Valve Plumbing & Electrical Directions

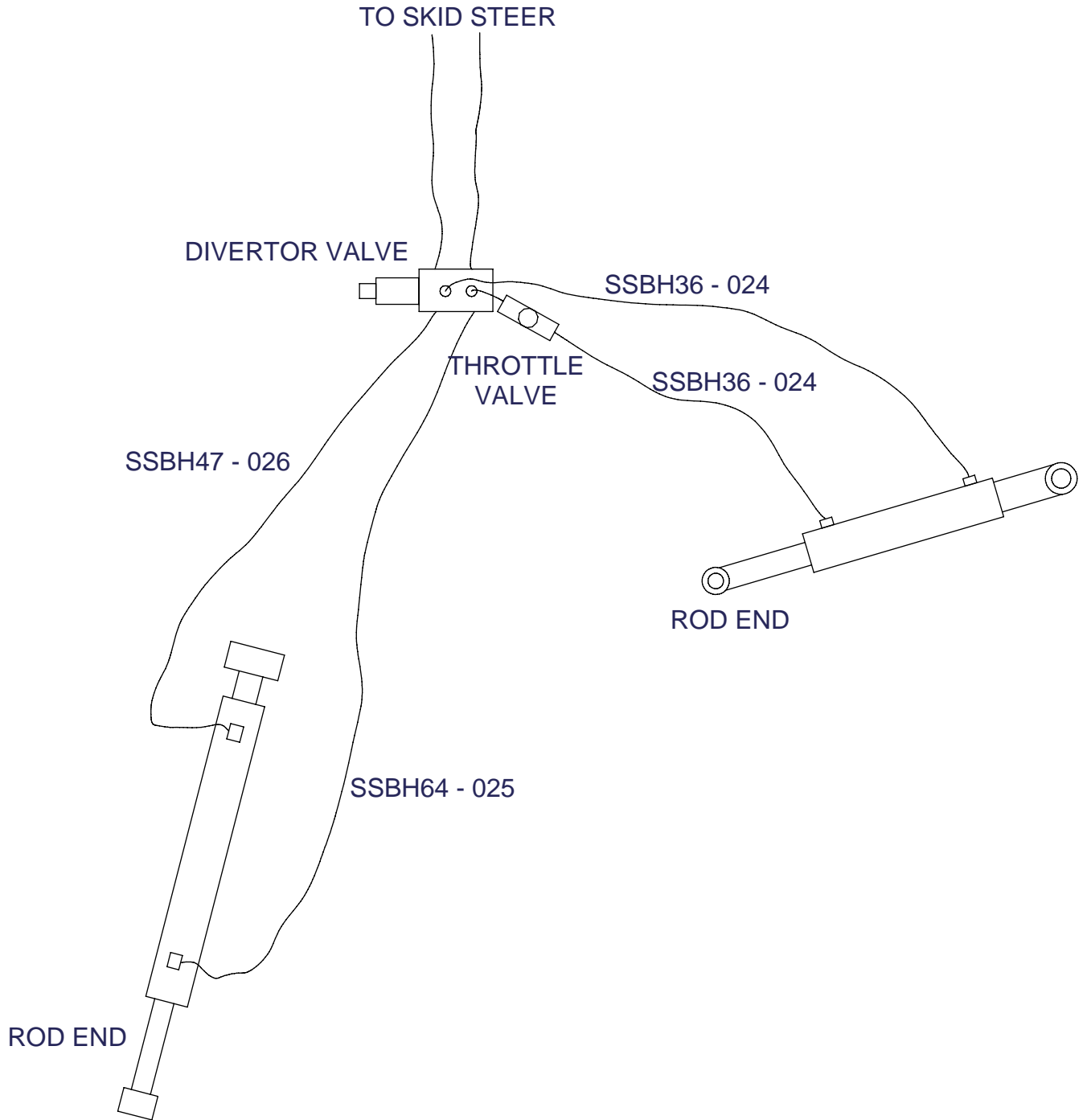


# SSBH HYDRAULICS



PARTS LIST			
REF. NO.	PART NO.	DESCRIPTION	QTY
1	6m3k-6mp-6fjx	41" HOSE ASSEMBLY	1
2	6m3k-6mp-6fjx	41" HOSE ASSEMBLY	1
3	6m3k-8fjx90-6fjx	58" HOSE ASSEMBLY	1
4	6m3k-8fjx90-6fjx	75" HOSE ASSEMBLY	1
5	6400-8-10	8mj-10mb STRAIGHT	4
6	6501-6-8	8fjx-6mp90	2
7	2501-6-6	6mj-6mp90	3
8	2404-6-6	6mj-6mp STRAIGHT	1
9	FT-03-NPT	THROTTLE VALVE	2

# HYDRAULIC SCHEMATIC



### BACKHOE SPECIFICATONS

PART#	NAME	APPROX. WEIGHT LBS.
BH600	BACKHOE LESS BUCKET	435
SHBT09	9" BUCKET W/ TEETH	92
SHBT12	12" BUCKET W/ TEETH	101
SHBT15	15" BUCKET W/ TEETH	110
SHBT18	18" BUCKET W/ TEETH	119
SHBT20	20" BUCKET W/ TEETH	125
SHB09	9" BUCKET W/O TEETH	80
SHB12	12" BUCKET W/O TEETH	89
SHB15	15" BUCKET W/O TEETH	98
SHB18	18" BUCKET W/O TEETH	107
SHB20	20" BUCKET W/O TEETH	113

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Bucket and Swing Boom cylinder malfunctioning	Low hydraulic fluid level	Check and replenish hydraulic fluid.
	Improper hose hookup	Check and correct hydraulic hose connections.
	Broken hydraulic line	Check for leaks and replace line.
	Jammed swing linkage	Remove interference.
	Bent piston rod	Replace or repair cylinder.
	Swing speed control completely closed	Open swing speed control valve (turn counterclockwise).
	Quick disconnect coupler(s) are not connected or "Flow Check"	Check coupler connections. Replace coupler(s) if necessary.
	Hydraulic hose blockage	Check for evidence of damage to hoses that would block flow of oil between cylinders and control valve.
	Hydraulic fluid leaking past packing or seals	Replace packing or seals.
Cylinders operate in wrong directions relative to control valve lever position	Hydraulic hoses connected incorrectly	Correct hydraulic hose connections.
Aeration of hydraulic fluid <i>(generally indicated by foamy appearance of fluid).</i>	Low hydraulic fluid level	Check and refill hydraulic system to proper level.
	Hydraulic fluid foaming due to improper hydraulic oil usage	Refer to Power Unit's manual and replace hydraulic oil using recommended hydraulic oil.
Hydraulic oil heating	Dirty oil	Drain and refill oil, replace filter.
	Partially plugged inlet filter	Clean filter element.
	Oil too light in hot weather	Use recommended oil.
	Damaged oil lines	Replace oil lines.
External hydraulic fluid leakage	Cylinder seals damaged	Repair cylinder.
	Broken oil lines	Replace hose and check for leaks.
	Loose hydraulic connection	Tighten loose connections.
Hydraulic pump capacity inadequate	Cold hydraulic fluid	Allow hydraulic fluid to warm up to operating temperature.
	Engine R.P.M. too slow	Increase engine R.P.M.
	Low hydraulic fluid supply	Refer to Power Unit's manual for service recommendations.
	Hydraulic hose restriction	Check for evidence of restriction in hydraulic hoses.



## Horst Welding Warranty Policy

All equipment is sold subject to mutual agreement that it is warranted by the company to be free from defects of material and workmanship. But the company shall not be liable for special, indirect, or consequential damages of any kind under this contract or otherwise. The company's liability shall be limited exclusively to replacing or repairing without charge, at its factory or elsewhere, at its discretion, any material or workmanship defects that become apparent within one year from the date on which the equipment was purchased. The company shall have no liability for related damages of any kind. The buyer by the acceptance of the equipment will assume all liability for any damages that may result from the use or misuse by his employees or others.

Distributor/dealer must notify Horst Welding of the defect by phone, fax or email. Recommended repairs and cost are to be discussed with, and agreed on, by an authorized Horst Welding representative. Repair and labor (*at an agreed rate*) will be performed by a dealer for Horst Welding or a repair shop designated by Horst Welding.

All claims **must** be discussed with a representative of Horst Welding prior to any repairs or warranty will be **void**.

All claims must be accompanied by a photograph of the defective product.

All defective products must be returned to Horst Welding in Listowel, Ontario unless directed otherwise by a representative of Horst Welding.

### **Horst Welding Warranty will not apply to:**

- Product that in the judgment of Horst Welding has been misused by the user.
- Product not sold or manufactured by Horst Welding.
- Alterations or repairs not authorized by a representative of Horst Welding.