



**ALL SEASONS
EQUIPMENT**

OWNER'S MANUAL

102103/102107 - 2000

MODEL : Hydraulic Swing Hoist

ENGINE MODEL : _____

SERIAL : _____

ENGINE SERIAL : _____

DATE OF PURCHASE : _____

PURCHASED FROM : _____



Manufactured by GrizzlyASE, 8650 rue du Creusot, Montréal, Qc, H1P 2A7 | 1-888-325-9953 | 514-325-1260

00524

TABLE OF CONTENTS

Job Site Safety Checklist	3
Pre-Hoisting Checklist	4
Pre-Usage Instructions	5
Replacement Safety Decals	5
Obligations and Usage	5
Operator & Jobsite Preparation	5
Hoist Specifications	7
Prior to Setup	10
Setup Instructions	11
Low-Rise Jobs	11
Raising the Power Unit (Using Hand Winch)	11
High-Rise Jobs	11
Frame Assembly	11
Installing/Connecting the Power Unit and Power Pack	12
Running the Hoist with Double Line Cable	13
Safety Considerations	13
General	13
Operating Instructions	14
Hydraulic Power Pack Operation	14
Maintenance	15
Maintenance Chart	15
Check the Hydraulic Fuel Level	15
Changing the Hydraulic Oil	16
Clean Hydraulic Filters	16
Check Hydraulic Lines	16
Check Engine Oil Level (Gasoline Model Only)	16
Change Engine Oil (Gasoline Model Only)	16
Change Engine Oil Filter (Gasoline Model Only)	16
Service Air Cleaner (Gasoline Model Only)	16
Check the Spark Plugs (Gasoline Model Only)	17
Replacing the Fuel Filter (Gasoline Model Only)	17
Check Battery Electrolyte (Gasoline Model Only)	17
Checking the Electrolyte Level	17
Replacing the Hoist Cable	17
Hoist Pulleys	18
Parts Drawings & Certificate	19
Safety & Regulations	27
Stickers/Decals	28



JOB SITE SAFETY CHECKLIST

On Roof:

- 1. Proper Fire Extinguisher.
- 2. Safety Glasses.
- 3. Approved Gas Cans.
- 4. Extension Cords in Good Condition with GCFI.
- 5. First Aid Kit.
- 6. Proper Apparel.

Flat Low-Slope Roofing:

- 1. No mechanical equipment or material within 6ft of an edge without a Guardrail System.
- 2. Warning Lines, Monitor System or Guardrail System.

Tear Off:

- 1. Chute or dump pan used on roofs greater than 20 feet from the ground.
- 2. Safety glasses and dust masks.
- 3. Tear-Off container roped off on ground level.

Special Hazards:

- 1. Electrical lines shut off or roped off.
 - 2. Roof opening guard railed or roped off.
 - 3. Unsafe decking properly covered and roped off to prevent unauthorized access.
- If flammable vapors discharged on roof – See owner.
Radiation hazard on roof – See owner.

Kettle:

- 1. Inspected.
- 2. Operator wearing face shield and proper clothing.
- 3. Fire extinguisher.
- 4. Proper placement of all equipment.
- 5. Propane secured 20 feet away from kettle.
- 6. Guardrails at outlet area.
- 7. Area Roped Off.

On Ground:

- 1. Ground fault box at electrical power source.
- 2. Emergency phone numbers posted.
- 3. Hard hats are being worn.

Steep Roofing – 4 in 12:

- 1. Scaffold, Guardrails, Fence, Catch Platform, or Safety Lines being used.
- 2. Ground area roped or guard railed off to pedestrian traffic.
- 3. Ground level personnel wearing hard hats.

Hoist:

- 1. Inspected.
- 2. Counter Balance weights.
- 3. Lines secured at night.
- 4. Guardrails at hoist area.
- 5. Hard hats are being worn.

Ladder:

- 1. Tied off.
- 2. Safety feet.
- 3. Three feet above roof edge.
- 4. Inspected.
- 5. Secure at night.
- 6. Hard hats are being worn.

Scaffolding:

- 1. Secured to building 30 feet wide, 20 feet high.
- 2. Leveling shoes.
- 3. Planking and plywood.
- 4. Guardrails.
- 5. Inspected.

Hazard Communication:

- 1. Hazard communication policy on site.
- 2. MSDS' for materials on site.
- 3. Workers trained about hazards.



PRE-HOISTING CHECKLIST

- Discuss work plan, personal protective equipment and each new crew member's responsibility before starting setup.
- Ensure OSHA approved roof top barriers are in place.
- Ensure a competent person (Qualified Engineer) has determined the structural deck can support the intended loads in hoisting and material handling.
- Ensure hoisting operation will clear all power lines and obstructions.
- Ensure hoisting area is secured from all unauthorized personnel.
- Ensure that all hoisting accessories such as forks, buckets, and slings are commercially manufactured and are in good condition, and show their load capacity.
- Capacity of slings decreases as the angle increases. Ensure slings have a capacity of at least 2000lbs and are in good condition.
- Inspect the wire rope of slings for wear, damage or pinching. Replace if required.
- Ensure at least three wraps of wire rope remain on the winch drum at maximum travel.
- Ensure bolt securing wire rope end loop to the drum flange is tight and in good condition.
- Ensure the wire rope is unwinding from the bottom, not from the top of the cable drum.
- Ensure there is sufficient weight on the wire rope to maintain 10lbs of tension at all times.
- Ensure that the counterweight frame is bolted together and that all 5 bolts are in place and secure.
- Ensure that the front frame is bolted together and all 4 bolts are in place and secure.
- Ensure the bolt on the lower telescopic stabilizer is secure and in good condition.
- Ensure the lower pin and hairpin between the front frame and stabilizer are connected and are in good condition.
- Ensure the upper pin and hairpin between the front frame and upper counterweight frame are connected and are in good condition.
- Ensure the pin between the cylinder mount and counterweight boom are connected via the sliding tube and are in good condition.
- Ensure the wing bolt on the sliding tube is tightened and doesn't allow the cylinder mount to move.
- Ensure the pin and hairpin between the front frame and cylinder frame are connected and are in good condition.
- Ensure the pin and hairpin connecting the cylinder to the cylinder frame are connected and are in good condition.
- Ensure the pin and hairpin connecting the cylinder to the swing frame are connected and are in good condition.
- Ensure the pin and hairpin between the winch and counterweight frame are connected and are in good condition.
- Check the 4" and 6" steel pulleys for lubrication. The bolts should be greased daily.
- Ensure the Swing Boom is completely seated in the front frame tubes.
- Ensure that the structural members of the hoist are free of defects and damage which may affect the integrity of the hoist.
- Ensure the front vertical frame is vertically plumb.
- Ensure that the ASE approved counterweights totally 1x the load weight are secured in the counterweight container with rope or chain (Check local regulators for differing safety factors).
- Ensure the pivot sheave can rotate freely and is in the rear position, facing towards the hoist winch.
- Ensure the pin through the cable keeper is in good condition and is securely in place.
- Ensure the cable keeper is in the locked position.
- Ensure the swivel hook has a rated capacity of at least 2000lbs and is in good condition.
- Ensure the safety latch on the swivel hook does not support any load.
- Ensure all shackles have a rated capacity of at least 2000lbs and are in good condition.



- Ensure the Power Unit has been properly maintained.
- Ensure the hydraulic hoses are properly connected and are in good operating condition.
- Operate the hoist with a minimum load to test hoisting operations, controls and power unit. A minimum load is 50lbs or less, enough to maintain cable tension.

PRE-USAGE INSTRUCTIONS

Replacement Safety Decals

Worn, damaged or illegible labels should be replaced. New labels may be obtained from GRIZZLY ASE by calling 1888 325-9953 or through your local dealer.

Obligations and Usage

This product is intended to be used under the guidelines of this manual and relevant literature published by GRIZZLY ASE. It is the owner and/or the operator's obligation to ensure this product is operated only for its intended uses. Operation contrary to the guidelines set forth may cause damage to the equipment and create serious safety problems.

Maximum Rated Loads

2000 Single Line Hydraulic Swing Hoist: 2000 lbs Single Line

2000 Double Line Hydraulic Swing Hoist: 2000 lbs Double Line

1500 Double Line Hydraulic Swing Hoist: 1500 lbs Double Line

All ratings are with 200ft of cable on Hoist Winch.

All Seasons Equipment recommends counterweights equaling 1 times the lifting weight of the load.

*Ontario Regulations for Construction Projects (210.d, O.Reg 213/91, s.210) allow for counterweights 1.25 times the lifting weight of the load. Check your local regulations for possible changes in ballast requirements.

Operator & Jobsite Preparation

1. Operators must be thoroughly trained before operating this hoist. A trained person is one who is thoroughly familiar with the safety features, design capabilities, use and operation of the machine and this manual.
2. Prior to setting up this hoist, there must be a plan of action outlining the work to be accomplished, individual responsibilities, personal protective equipment and method of communication.
3. A good line of communication must be maintained between the hoist operator and the ground crew. Walkie-Talkies, cell phones or other methods of voice communication should be used whenever possible, at the very least hand signals.
4. Follow the pre-hoisting check list before operating.
5. Use only ASE approved solid steel ballast blocks or factory approved equivalent as counterweights. Never use roof materials or pourable materials as counterweight.
6. Maintain 1lb of counterweight for every pound being lifted by the hoist. This is a general specification; different regions have different regulations which may require higher ballast requirements on the All Seasons Hoist.
7. Wear heavy gloves when handling wire rope.
8. Wear safety footwear and head protection while operating the hoist or working in its vicinity.
9. All personnel are required to be protected by a safety harness and life line or guardrails as required by OSHA or Canadian regulations, when handling loads at the roof edge.
10. Never use the hoist structure to anchor life lines, workers' harnesses or other attachments.
11. The hoist operator must stand behind the operator fence while the hoist is operating.



12. Ensure that the hoisting area is clear of power lines. Consult the power company before hoisting near power lines.
13. The hoisting area is to be kept clear of unauthorized personnel at all times. Place barricades or secure the area in such a manner that if there was equipment failure, no personnel would be injured.
14. Keep out from under a raised load.
15. Never hoist over a doorway.
16. Avoid sudden stops and shock loads.
17. All hoisting accessories such as forks, buckets and slings must be commercially manufactured and show their load capacity.
18. All hooks, slings, shackles and other hoisting accessories must be properly maintained and installed.
19. Secure the load before lifting.
20. Tag lines must be used to control all loads.
21. No person shall be allowed to ride on the hoist.
22. Do not climb the hoist frame, use only a step ladder. Do not use an extension ladder.
23. Check the hoist periodically during operation.
24. Do not disconnect the hydraulic hoses or fittings while the hydraulic Power Pack is running.
25. Do not attempt to make adjustments while the hoist is being operated.
26. Keep all body parts clear of moving parts.
27. At the end of operation, the hoist should be secured to prevent unauthorized use. Never assume you will find the hoist in the same condition in which you left it.
28. Do not weld or otherwise modify the hoist. Such alternations may weaken the structural integrity of the hoist.
29. Only trained personnel are authorized to do repairs.
30. Do not operate the hoist under the influence of drugs, alcohol or medication.
31. Do not exceed the rated capacity of the hoist.
32. Inspect the cable before each use. Never operate the hoist with damaged cable. Use only galvanized aircraft cable as replacement cable. See attached cable specifications.
33. Do not start the engine until after the hydraulic hoses are connected. Make certain all connecting pins and hardware on the frame components are tightened securely before operating the hoist.
34. Use guardrails on each side of access point at the roof edge. Avoid reaching over the roof edge.
35. It is the responsibility of the owner or his representative, to ensure that all safety decals are in place and are legible as well as making this manual available to the machine operator. If any decals become illegible, contact All Seasons Equipment for immediate replacement.
36. Handle only stable or safely arranged loads.
37. Do not wrap hoist cable around load. The load must be attached by lift rings, pallet forks, slings or other approved means.
38. "The load shall be well secured and properly balanced in the sling or lifting device before it is lifted more than a few inches" – OSHA Standards.
39. Use caution when handling fuel. Gasoline is very flammable.
40. Use the cable weight to maintain cable tension when operating without a load.
41. Grease pulleys daily to prevent freeze up and wear. Replace worn or damaged pulleys.
42. Cable end fittings and cable clips are potential problem areas. Inspect them regularly. Repairs should be made by a qualified service person.

**WARNING:**

Use the cable weight to maintain cable tension when operating without a load.



It is recommended that the employer keep records of all safety and health training. Records can provide evidence of the employer's good faith and compliance with OSHA standards. Documentation can also supply an answer to one of the first questions an accident investigator will ask. "Was the injured employee trained to do the job?"

Training in the proper performance of a job is time and money well spent, and the employer should regard it as an investment rather than an expense. An effective program of safety and health training for workers can result in fewer accidents and illnesses, better morale, and lower insurance premiums, among other benefits.

Hoist Specifications

1500 Double Line Hydraulic Swing Hoist

	USA	Canada
Hoist Capacity	1500lbs Double Line 1000lbs Single Line	680kg 454kg
Hoist Speed	80ft/min Double Line 160ft/min Single Line	24mpm 48mpm
Hoist Cable Supplied	200ft ¼" Cable	60m
Hoist Cable – Maximum Capacity	1000ft ¼" Cable	305m
Boom Overhangs Roof	5ft	1.524m
Maximum Height Under Hook to Roof Deck		
Frame Weight:		
Counterweight Boom	170lbs	78kg
Swing Boom	110lbs	50kg
Front Vertical Frame	155lbs	71kg
Lower Telescopic Support	15lbs	7kg
Safety Fence	15lbs	7kg
Cylinder Support Frame	25lbs	12kg
Hydraulic Cylinder	25lbs	12kg
Hydraulic Winch	170lbs	78kg
Hydraulic Power Pack	380lbs	173kg
Required Ballast (1 Times Load*)	Max 1500lbs	Max 680kg



2000 Double Line Hydraulic Swing Hoist

	USA	Canada
Hoist Capacity	2000lbs Double Line 1500lbs Single Line	908kg 680kg
Hoist Speed	80ft/min Double Line 160ft/min Single Line	24mpm 48mpm
Hoist Cable Supplied	200ft ¼" Cable	60m
Hoist Cable – Maximum Capacity	1000ft ¼" Cable	305m
Boom Overhangs Roof	5ft	1.524m
Maximum Height Under Hook to Roof Deck		
Frame Weight:		
Counterweight Boom	170lbs	78kg
Swing Boom	110lbs	50kg
Front Vertical Frame	155lbs	71kg
Lower Telescopic Support	15lbs	7kg
Safety Fence	15lbs	7kg
Cylinder Support Frame	25lbs	12kg
Hydraulic Cylinder	25lbs	12kg
Hydraulic Winch	170lbs	78kg
Hydraulic Power Pack	370lbs	173kg
Required Ballast (1 Times Load*)	Max 2000lbs	Max 907kg



2000 Single Line Hydraulic Swing Hoist

	USA	Canada
Hoist Capacity	2000lbs Double Line	908kg
Hoist Speed	200ft/min Single Line	60m/min
Hoist Cable Supplied	200ft 5/16" Cable	60m
Hoist Cable – Maximum Capacity	500ft+	152m+
Boom Overhangs Roof	5ft	1.524m
Maximum Height Under Hook to Roof Deck	Approx. 115.12"	Approx. 115.12"
Frame Weight:		
Counterweight Boom	170lbs	78kg
Swing Boom	110lbs	50kg
Front Vertical Frame	155lbs	71kg
Lower Telescopic Support	15lbs	7kg
Safety Fence	15lbs	7kg
Cylinder Support Frame	25lbs	12kg
Hydraulic Cylinder	25lbs	12kg
Hydraulic Winch	170lbs	78kg
Hydraulic Power Pack	380lbs	173kg
Required Ballast (1 Times Load*)	Max 2000lbs	Max 907kg



Prior to Setup

1. If the unit is new from factory, cut the banding and separate the parts. Remove the shipping protection and check all members for damage during transport. Do not use the hoist if any frame members are bent or have broken welds.
2. Hoist installation and setup cannot proceed until all necessary parts and equipment have been raised to the roof deck where the hoist operations will be done. Use a hoist beam, swing beam, freight elevator or crane for this purpose.

**WARNING:**

ENSURE ALL STRUCTURAL MEMBERS FOR THE HOIST ARE FREE OF DEFECTS AND DAMAGE THAT MAY AFFECT THE INTERGITY OF THE UNIT.

**WARNING:**

ENSURE THE HOISTING AREA IS SECURED FROM ALL UNAUTHORIZED PERSONNEL. ENSURE THAT OSHA APPROVED ROOF TOP BARRIER ARE IN PLACE.

**WARNING:**

A COMPETENT PERSON MUST DETERMINE THAT THE STRUCTURAL DECK CAN SUPPORT THE INTENDED LOADS IN HOISTING AND MATERIAL HANDLING IN ADDITION TO THE WEIGHT OF THE COUNTERWEIGHT ON THE ROOF DECK. FAILURE TO DO THIS CAN RESULT IN SERIOUS PERSONAL INJURY, EQUIPMENT FAILURE OR DEATH.

**WARNING:**

PRIOR TO SETTING UP THE HOIST, THERE MUST BE A PLAN OF ACTION OUTLINING THE WORK TO BE ACCOMPLISHED, INDIVIDUAL RESPONSIBILITIES, PERSONAL PROTECTIVE EQUIPMENT, AND THE METHOD OF COMMUNICATION. FAILURE TO DO THIS CAN RESULT IN SERIOUS PERSONAL INJURY, EQUIPMENT FAILURE OR DEATH.



SETUP INSTRUCTIONS

Low-Rise Jobs

Lifting the frame onto to roof:

1. Position the frame and Power Unit close to the location where they are going to be raised to the roof top.
2. You need at least three men, on the ground to tie and guide parts and two on the roof top to pull parts up.
3. The frame parts must be placed at least 10ft from the roof edge for assembly.

Raising the Power Unit (Using Hand Winch)

1. Install the Hand Winch in place of the Hydraulic Winch on the hoist frame. Always ensure that sufficient ballast is installed on the hoist frame before lifting the Power Unit.
2. Unwind enough cable to go under the Guide Pulley on the Vertical Boom and over the Swing Pulley.
3. Slide the frame to the edge of the roof.
4. Lower the cable to ground level and attach the Power Pack or Winch to the end of the hoist cable.

NOTE: Make sure that there are at least 400lbs of counterweights installed on the hoist counterweight base before listing the Power Unit.

5. Hoist up Power Pack or Winch using the Hand Winch.
6. To swing the load in, remove Pin #15 from the swing cylinder and swing the boom in manually.

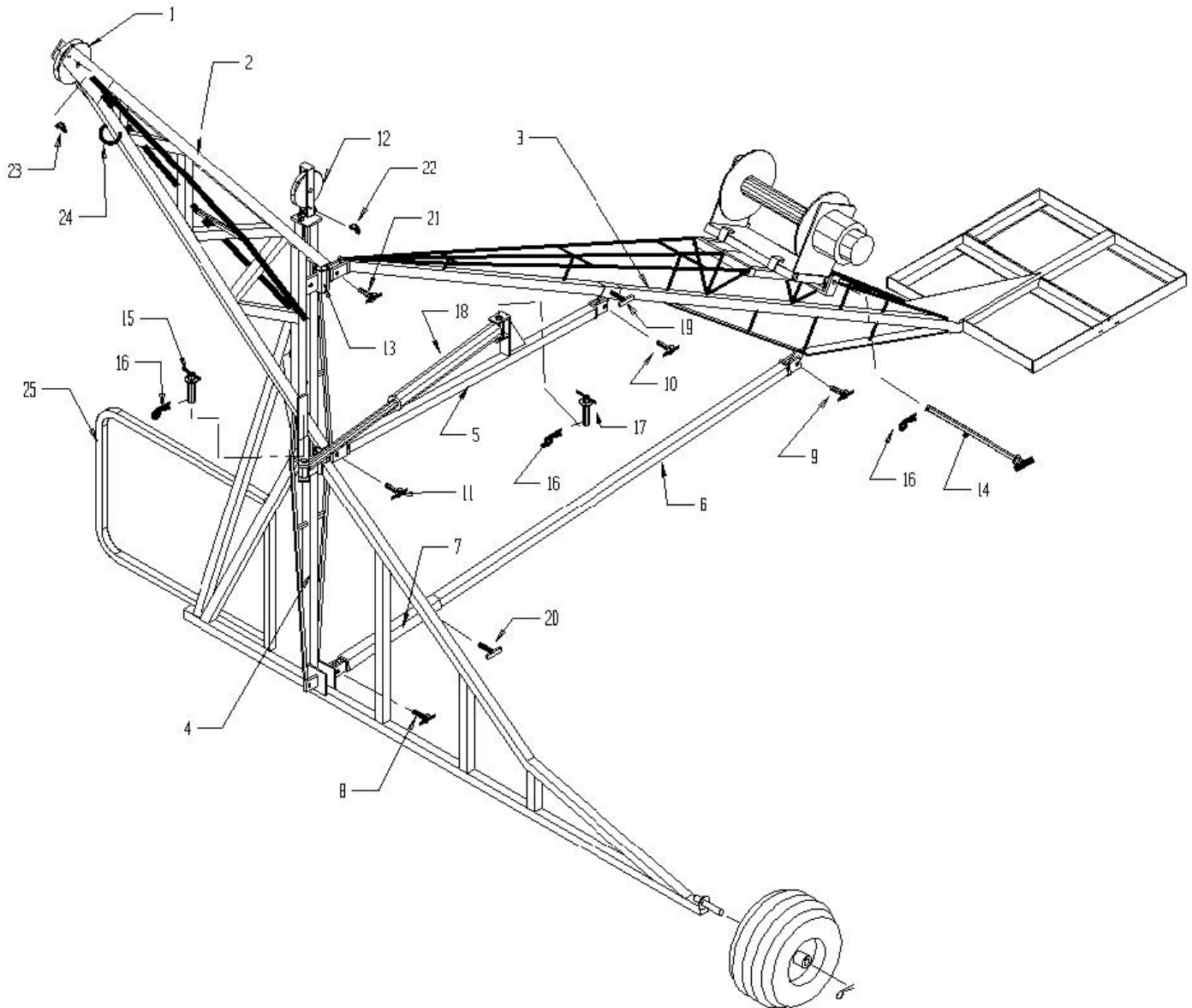
High-Rise Jobs

The frame of the ASE Swing Hoist can be disassembled to fit into elevators for quick and safe transportation to the roof deck.

Frame Assembly

1. Attach the two parts of the Rear Frame (#3) together using the bolts and welded nuts provided.
2. Attach the two parts of the Vertical Frame (#4) together using the bolts and welded nuts provided.
3. Lay the Vertical Frame (#4) down to the deck. Insert the two axles of the Swing Boom (#2) into the tubes (#13) on the Vertical Frame.
4. Lift the Vertical Frame and Swing Boom into an upright position. While two men hold this frame upright, another will attach the Rear Frame (#3) to bracket on the top tube (#13) and insert pin (#21) and lock pin (#16).
5. Install the bottom telescopic tubes (#6 + #7) into the brackets at the bottom of the vertical boom (#2) and insert pins (#8 + #9). Also insert locking pins into (#16).
6. Place the Hydraulic Swing Cylinder Arm (#5) on the bottom Swing Tube Bracket and insert pins (#10 + #11) and lock pin (#16). Slide Tube may be adjusted by sliding up or on rear leg (#3).
7. Place the Swing Cylinder (#18) on arm (#5) and insert pin (#17 + #16). The hydraulic cylinder shaft rod end is inserted into the Swing Boom (#2). Bracket and pins are inserted to keep it in place.
8. Install the Safety Fence (#25) on the Vertical Frame.





Installing/Connecting the Power Unit and Power Pack

1. Position the Hydraulic Winch into the retainer brackets on Rear Frame Leg #3.
2. Insert pin (#14) through the Rear Frame Brackets and tubes at the back of the Winch. Then insert hitch pin (#16).
3. Our Gas Power Pack comes equipped with four 9ft hoses which have quick connect couplers on one end. The three larger quick connects are to be attached to the Hydraulic Winch Unit.

NOTE: The Quick Connect Couplers are all different sizes. It is impossible to connect them in the wrong position.

4. There are two remaining hoses to connect. These are the hoses with the two smallest quick connect couplings. These connect to the Hydraulic Cylinder (#18).

NOTE: When the Hydraulic Hoist is not in use or being transported, the Hydraulic Cylinder Shaft should always be retracted to prevent damage to the shaft.



5. After all hoses are connected, start the gas engine. (Following the starting procedures enclosed in the engine manual).
6. Accelerate the engine slightly above idle.
7. Unwind some cable from the Winch, approximately 30 feet so that it can be placed it in the pulleys. To unwind the cable, push the lever on the right hand side of the Power Unit backwards slowly. This will unwind the cable (Have a person help with the unwinding to prevent the cable from tangling).
8. Remove the safety pin (#22) from the guide pulley (#12) and run the cable under the pulley and replace safety pin (#22).
9. Now remove safety pin (#29) from swing frame pulley (#13) and run the cable over the pulley. Insert safety pin (#29).
10. Use the Cable Counterweight on the end of the cable just above the hook.

Running the Hoist with Double Line Cable



WARNING:

These instructions are to be used ONLY for the 1500 Double Line and 2000 Double Line Hydraulic Swing Hoists. If these instructions are used on the 2000 Single Line Swing Hoist then the lifting capacity will exceed the designed safety factors of the hoist frame and could result in frame failure.

1. Remove the pulley, cable counterweight and shackles from the end of the cable block.
2. Reeve the cable through the horizontal cable block, and reattach hook.
3. Fasten the hook to the loop (#24) on the Swing Hoist boom.
4. Use the hook located on the bottom of the horizontal cable block for all lifting. The hoist will now lift an increased amount of weight at approximately half of the lifting speed.



WARNING:

Always inspect the cables, hoist pulleys and cable blocks for damage before lifting any kind of weight. The cable should be free of any broken strands or unraveling. Cable blocks and pulleys should roll freely without cable slipping over.

SAFETY CONSIDERATIONS

General

1. After the hoist is assembled, make sure that all pins on the Frame and Power Unit are properly placed and the locking pins are in place.
2. **IMPORTANT:** Verify that all nuts and bolts on the frame are properly fastened. If loose, for your safety and that of others, make sure they are all tightened before operating the hoist.



WARNING:

Always be sure to have enough counterweights on the rear weight base. Use at least 1 times the weight you are lifting. EX: if you are lifting 1500 lbs, use 1500 lbs of counterweight on the base. Also make sure the counterweight blocks are properly placed and fastened on the base so that they are not accidentally removed or fall off. Always use proper counterweights and not building materials when operating any hoist.





WARNING:

Always keep in mind the maximum rated load on the hoist you are using.

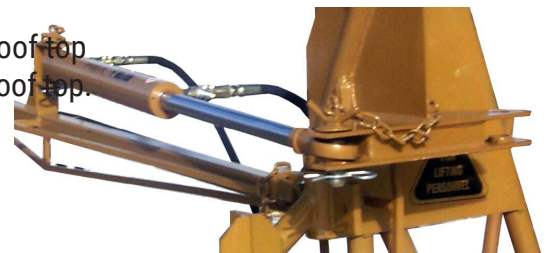
3. The fence on the Vertical Frame must be swung outward to protect the operator from accidentally walking off the roof edge while operating the hoist.
4. Check the hoist cable for broken strands. If any are found, the cable should immediately be replaced before operating the Hoist.
5. Check the hoist braking system for proper operation. Always test the hoist with a small amount of weight before lifting heavy objects.
6. Grease all moving parts on the hoist frame regularly. Failing to grease bearings and pulleys is the leading cause of machine failure.
7. The hydraulic oil level must be checked every day before operation. If the oil level is too low, top it up with 10W40 Motor Oil.
8. If the hydraulic oil is repeatedly low, check for leaks in the system and repair immediately.
9. Engine oil should be checked daily before starting. For all other engine maintenance, refer to engine manual.

	2000 Single	2000 Double	1500 Double
Double Line Capacity with 200ft Cable.	-----	2000 lbs	1500 lbs
Single Line Capacity with 200ft Cable.	2000 lbs	1600 lbs	1000 lbs

OPERATING INSTRUCTIONS

Hydraulic Power Pack Operation

1. Lever #1: Lifting and Lowering Load Control
 - Push lever forward to position B to lift material (Or wind cable)
 - Pull lever backwards into position A to lower material (Or unwind cable)
2. Lever #2: Swing Cylinder Control
 - Push lever forward to position B to swing lift boom in towards the roof top
 - Pull lever backwards into position A to swing lift boom out over the roof top.



WARNING: Operate all controls slowly for safety and to increase the life of the machine.

3. Lifting Hook – Attach cable here when lifting Power Pack.
4. Return Hydraulic Filter
5. Hydraulic Tank Filler Tube
6. Fluid Level Gauge



MAINTENANCE

Maintenance Chart

	Each Use	8 Hours	25 Hours	50 Hours	100 Hours	200 Hours	400 Hours
Check Hydraulic Fluid Level	Initial		X				
Change Hydraulic Fluid							X
Change Hydraulic Oil Filter			X				
Check Hydraulic Lines					X		
Check Engine Oil Level (Gasoline)	X						
Change Engine Oil (Gasoline)			X				
Change Engine Oil Filter (Gasoline)			X				
Grease Frame	X						
Service Air Cleaner (Gasoline)				X			
Replace Air Filter (Gasoline)						X	
Check Spark Plugs (Gasoline)					X		
Replace Spark Plugs (Gasoline)						X	
Check Battery Electrolyte (Gasoline)			X				
Charge Battery (Gasoline)	Initial						
Replace Fuel Filters (Gasoline)						X	
Inspect Hoist Pulleys	X						
Inspect Hoist Cable	X						
Check Engine Rotation	X						

Check the Hydraulic Fuel Level

The hydraulic tank is located at the end of the Power Pack. Fluid levels are monitored with an level gauge. This Level Gauge is located on the side of the hydraulic tank.

Before the engine is first started, and after 25 hours of operation, check the hydraulic fluid level.

This machine is designed to use high quality 10W40 oil. In high temperature situation 20W50 oil can be used to increase machine performance.

Hydraulic Tank Capacity is: 20 Gallons (75.7 Litres)

Before checking the fluid level, ensure that the unit is parked on a level surface with the lift arms lowered, the engine off and the key removed.



Changing the Hydraulic Oil

Change the Hydraulic Oil after 400 operating hours.

1. The Unit should be parked on a level surface, unloaded, with the engine off and the key removed.
2. Place a drain pan under the drain plug that will hold at least 20 gallons (75.7 L)
3. Reinstall the drain plug.
4. Fill the hydraulic tank with approximately 18 gallons of 10W40 oil. It is very important to use high quality oil with few impurities.

NOTE: Dispose of used oil at a certified recycling centre.

Clean Hydraulic Filters

The Hydraulic Swing Hoist oil return filter element should be replaced after 100 hours of operation. There is also a steel suction strainer that should be blown out with compressed air, or washed with light oil every 100 hours of operation.

Check Hydraulic Lines

Check the hydraulic lines after every 100 hours of operation. Inspect for wear, cracks, loose connections, leaks, etc. If hydraulic component requires service, remove all loads, stop the engine, and move all hydraulic controls in both directions to release any hydraulic pressure before any disassembly. Repair hoses as needed. Hydraulic hoses should be replaced as wear dictates.



WARNING: HYDRAULIC FLUID UNDER PRESSURE CAN PENETRATE SKIN AND CAUSE SEVERE BURNS THAT CAN RESULT IN DEATH OR SERIOUS ENJURY.

ALWAYS keep body and hands away from the pin holes or nozzles which eject hydraulic fluid under pressure. ALWAYS use paper or cardboard and not hands to search for leaks.

KNOW that all hydraulic fluid connections and all hydraulic hoses and lines are in good condition BEFORE applying pressure to the system.

Foreign fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

Check Engine Oil Level (Gasoline Model Only)

Check engine oil level before each use. See engine manual for detailed instructions.

Change Engine Oil (Gasoline Model Only)

Change oil after every 25 operating hours. Change more frequently when operating conditions are extremely dusty. See engine manual for detailed instructions.

NOTE: The engine has a drain hose permanently attached to the engine.

Change Engine Oil Filter (Gasoline Model Only)

Replace the oil filter after the first 25 hours and every 50 hours thereafter. See the Engine Manual for detailed instructions.

Service Air Cleaner (Gasoline Model Only)

The foam element should be cleaned after every 50 operating hours.

The paper element should be replaced after every 200 operating hours.

Under extremely dusty or sandy conditions, the elements should be serviced several times a day, see the engine manual for detailed instructions.



Check the Spark Plugs (Gasoline Model Only)

Inspect the spark plugs after every 100 operating hours. Refer to the engine manual for spark plug service.

Replacing the Fuel Filter (Gasoline Model Only)

Replace the fuel filter once every year or after 200 operating hours, whichever occurs first. Never re-install a dirty filter. See the Engine Manual for detailed instructions.

Check Battery Electrolyte (Gasoline Model Only)

External Contact, flush with water.





EYES: Flush with water for at least 15 minutes and get medical attention immediately.

INTERNAL CONTACT: Drink large quantities of water. Follow with beaten egg or vegetable oil.

GET MEDICAL ATTENTION IMMEDIATELY.

WARNING: In case of internal contact, do NOT induce vomiting.

Checking the Electrolyte Level

 <p>WARNING: ELECTRICAL SHOCK may result in injury and/or damage to the unit. DO NOT allow tools or other objects to come into contact with both terminals at the same time.</p> <p>ALWAYS remove the Negative (-) cable first to reduce the risk of sparks when removing the battery. ALWAYS connect the Positive (+) cable first, then connect the Negative (-) cable.</p>	 <p>WARNING: EXPLOSIVE GASES can result in serious injury or death. ALWAYS keep open flames, sparks, or smoking materials away from the battery. POISONOUS BATTERY FLUID contains sulfuric acid and its contact with skin, eyes or clothing can cause severe chemical burns. ALWAYS wear safety glasses and protective gear near the battery. DO NOT TIP any battery beyond 45 angle in any direction. ALWAYS KEEP BATTERIES OUT OF REACH OF CHILDREN.</p>
 <p>WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.</p>	 <p>WARNING: RESERSE CONNECTIONS may result in sparks which may cause injury. ALWAYS connect. Disconnect cables in the proper order.</p>

Replacing the Hoist Cable

The hoist cable should be checked for broken or twisted strands before operating. The operator should also maintain a watch on the cable throughout the day, stopping the unit if broken strands are detected.

1. Spool the cable completely off the hoist drum.
2. Remove the bolt attaching the cable to the side of the drive drum.
3. Attach the new cable using the same mounting bolt.
4. Check to make sure that the bolt is screwed in properly. If the bolt head is sticking out too far it can interfere with the winch frame or bearing causing damage to the unit and presenting a safety hazard.
5. When spooling the cable onto the hoist, ensure that the cable is being spooled in the correction direction. The cable should come off the bottom of the drum and up the frame.



**WARNING:**

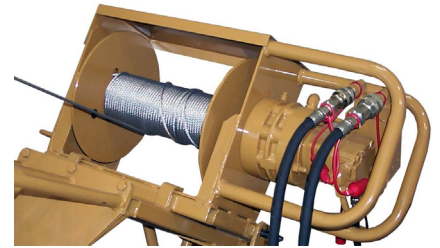
If the cable is installed in the incorrect direction, the unit braking system will not operate properly; posing a significant risk to the machine and people in the work area.

For 1500 Double Line and 2000 Double Line Hydraulic Swing Hoists: ¼" – 7x19 galvanized aircraft cable should be used. Please see attached mill certification for exact specification on the cable used by All Seasons Equipment.

For 2000 Single Line Hydraulic Swing Hoists: 5/16" – 7x19 construction galvanized aircraft cable should be used. Please see the attached mill certification for the exact specifications on the cable used by All Seasons Equipment.

Hoist Pulleys

The grease fittings in the pulley bolts should be greased daily. When this greasing is being done, the operator should also inspect the pulleys for wear. A typical sign of dangerous wear is a flat spot being worn into one edge of the pulley, this indicates that the pulley had stopped rotating and the cable has run over the surface.



During a lift, the cable is under a large amount of stress and is extremely tight. By running over a pulley without it rotating it can easily cut the pulley in half. The operator should keep an eye on the pulleys while operating the hoist. If a pulley ceases to rotate, the unit should be stopped immediately and the pulley should then be inspected.



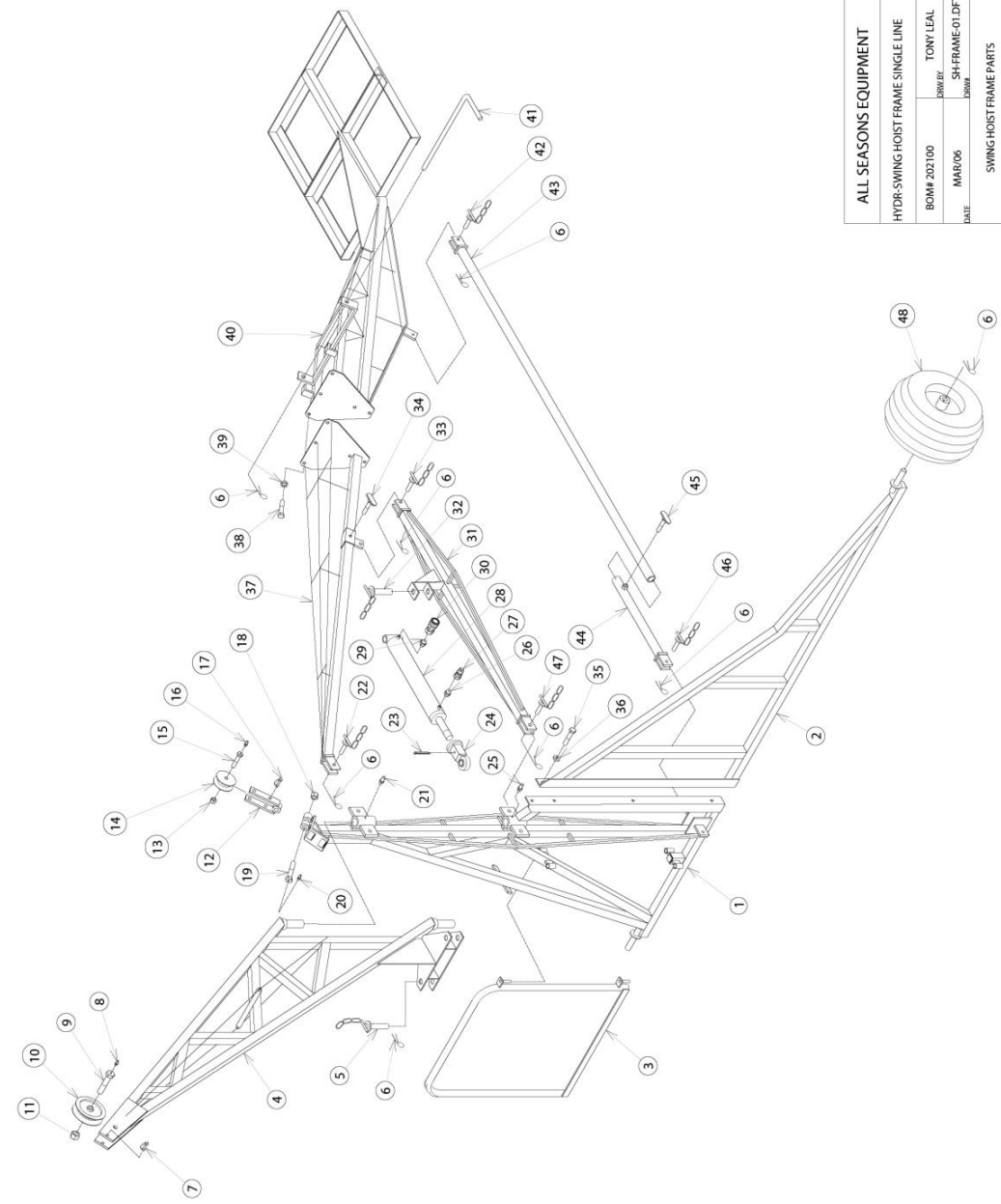
PARTS DRAWINGS & CERTIFICATE





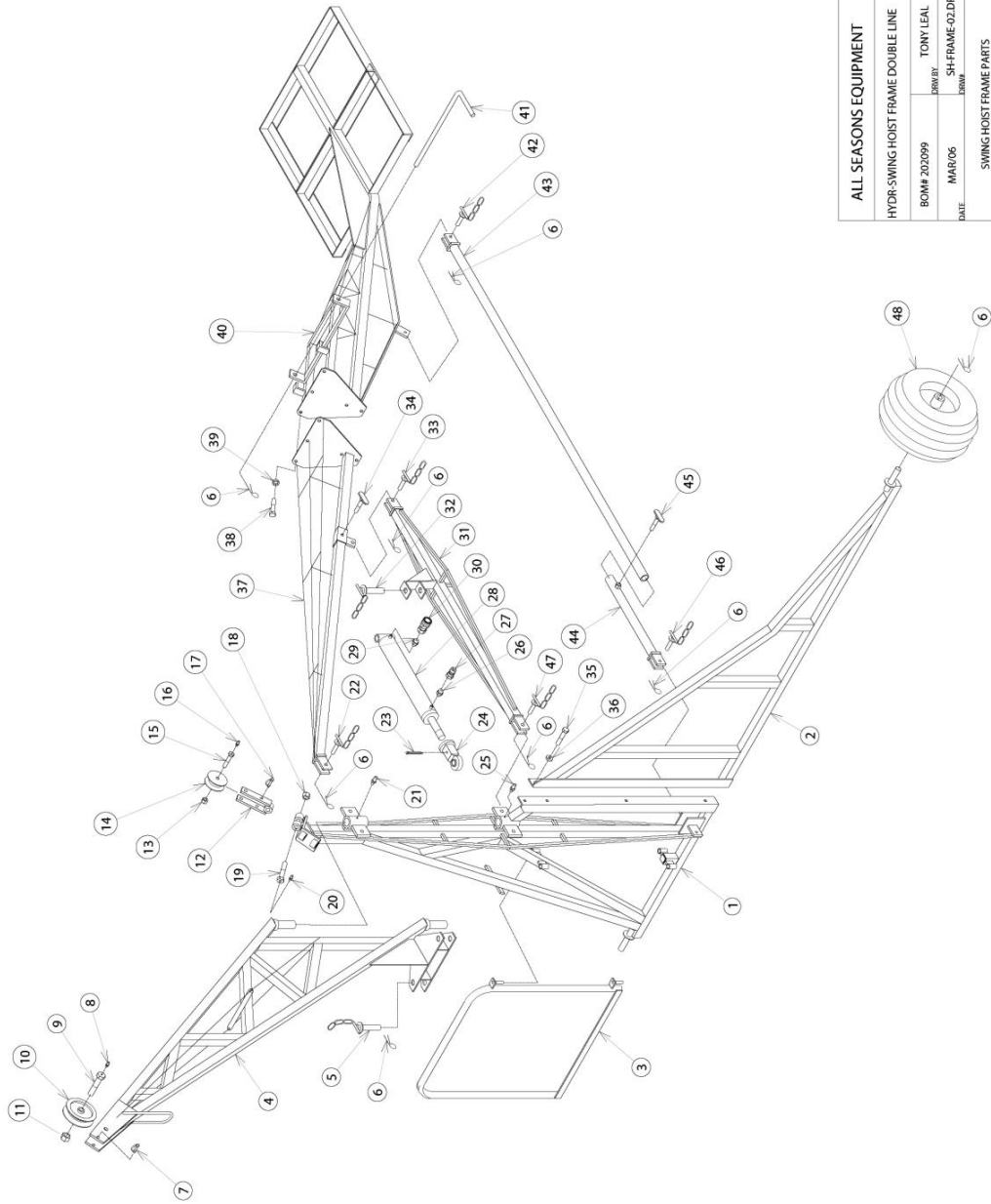


INDEX	NO.	DESIGNATION	REFERENCE
1	1	main vertical frame-c/w side extension	202101
2	1	vertical frame-side extension	202109
3	1	safety gate	202106
4	1	swing boom-single line hoist	202102
5	1	pin-front connection swing cylinder	202115
6	8	hitch pin	910465
7	1	safety spring lock pin-long	910421
8	1	grease nipple-straight	910001
9	1	bolt c/w grease nipple	202154
10	1	cable pulley	202151
11	1	nylon lock nut	915550
12	1	swing bracket-vertical frame	202153
13	1	nylon lock nut	915510
14	1	cable pulley	202150
15	1	bolt c/w grease nipple	202152
16	1	grease nipple	910001
17	1	safety spring lock pin-long	910421
18	1	nylon lock nut	915545
19	1	bolt c/w grease nipple	202157
20	1	grease nipple-straight	910001
21	1	grease nipple-straight	910001
22	1	pin c/w chain	202108
23	1	cotter pin	915985
24	1	rod-end	206224
25	1	grease nipple-straight	910001
26	1	hydraulic adaptor c/w #4000-G oring	912448
27	1	quick disconnect male	912331
28	1	hydraulic cylinder-swing	202201
29	1	hydraulic adaptor c/w #4000-G oring	912448
30	1	quick disconnect-female	912330
31	1	swing cylinder support boom	202104
32	1	pin c/w chain	202120
33	1	pin c/w chain	202108
34	2	wing bolt	202640
35	4	lock washer	915655
36	4	lock washer	915655
37	1	winch & weight support upper boom	202125
38	5	lock washer	915655
39	5	lock washer	915655
40	1	winch & weight support lower boom	202130
41	1	pin-winch	202107
42	1	pin c/w chain	202108
43	1	lower support arm-c/w telescopic	202105
44	1	telescopic lower support arm	202640
45	1	wing bolt	202135
46	1	pin c/w chain	202108
47	1	pin c/w chain	202108
48	2	optional wheel	910314



ALL SEASONS EQUIPMENT	
HYDR-SWING HOIST FRAME SINGLE LINE	
BOM# 202100	TONY LEAL
DATE	REV BY
MAR/06	SH-FRAME-01.DFT
	DATE
	SWING HOIST FRAME PARTS

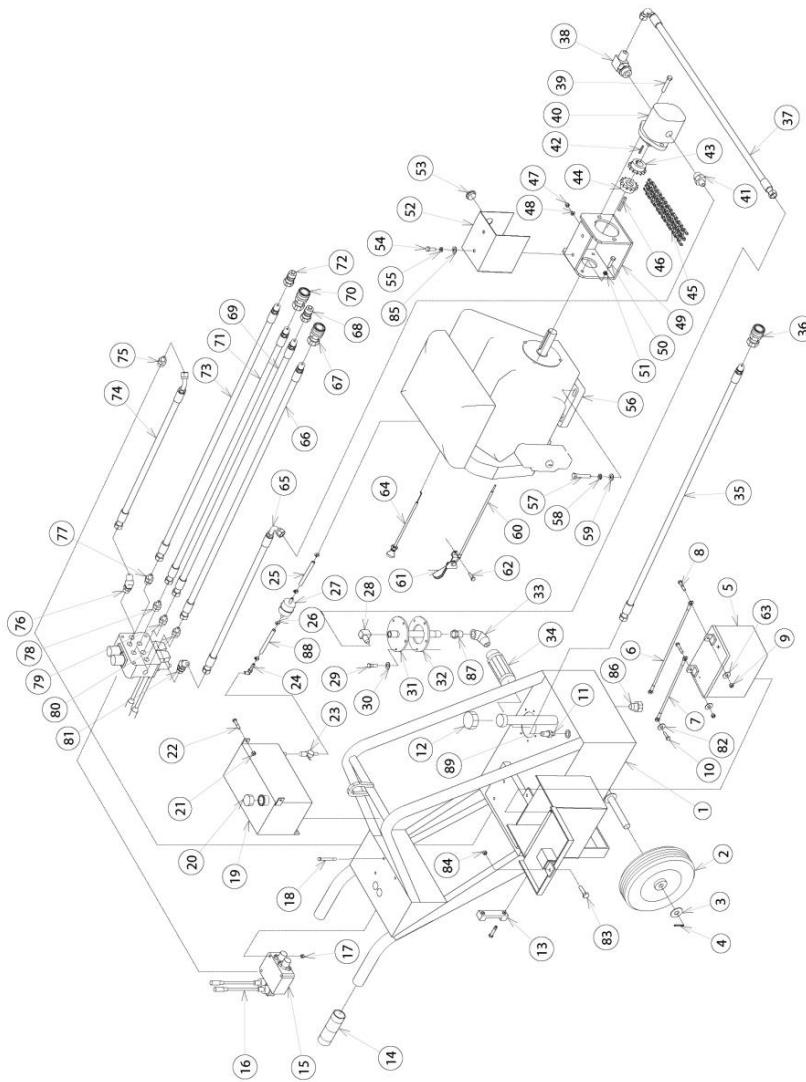




ALL SEASONS EQUIPMENT	
HYDR-SWING HOIST FRAME DOUBLE LINE	
BOM# 202099	TONY LEAL
MAR/06	2000/01
DATE	SH-FRAME-02.DFT
	2002
SWING HOIST FRAME PARTS	

INDEX	NO.	DESIGNATION	REFERENCE
1	1	main vertical frame c/w side extension	202101
2	1	Vertical frame -side extension	202109
3	1	Safety gate	202106
4	1	Swing boom-Double line hoist	202112
5	1	Pin-front connection swing cylinder	202115
6	8	Hitco pin	910405
7	1	Safety spring lock pin-long	910421
8	1	Grease nipple-straight	910001
9	1	Bolt c/w grease nipple	202154
10	1	Cable pulley	202151
11	1	Nylon lock nut	915550
12	1	Swing bracket-vertical frame	202153
13	1	Nylon lock nut	915510
14	1	Cable pulley	202150
15	1	Bolt c/w grease nipple	202152
16	1	Grease nipple	910001
17	1	Safety spring lock pin-long	910421
18	1	Nylon lock nut	915545
19	1	Bolt c/w grease nipple	202157
20	1	Grease nipple-straight	910001
21	1	Grease nipple-straight	910001
22	1	Pin c/w chain	202108
23	1	Center pin	915805
24	1	Rod-end	206224
25	1	Grease nipple-straight	910001
26	1	Hydraulic adaptor c/w #4000-6 o-ring	912448
27	1	Quick disconnect male	912331
28	1	Hydraulic cylinder-swing	202201
29	1	Hydraulic adaptor c/w #4000-6 o-ring	912448
30	1	Quick disconnect female	912330
31	1	Swing cylinder support boom	202104
32	1	Pin c/w chain	202120
33	1	Pin c/w chain	202108
34	1	Wing bolt	202640
35	4	Bolt	915205
36	4	Lock washer	915655
37	1	Winch & weight support upper boom	202125
38	5	Bolt	915205
39	5	lock washer	915655
40	1	Winch & weight support lower boom	202130
41	1	Pin-Winch	202107
42	1	Pin c/w chain	202108
43	1	Lower support arm-c/w telescopic	202105
44	1	Telescopic lower support arm	202135
45	1	Wing bolt	202640
46	1	Pin c/w chain	202108
47	1	Pin c/w chain	202108
48	2	Optional wheel	910314

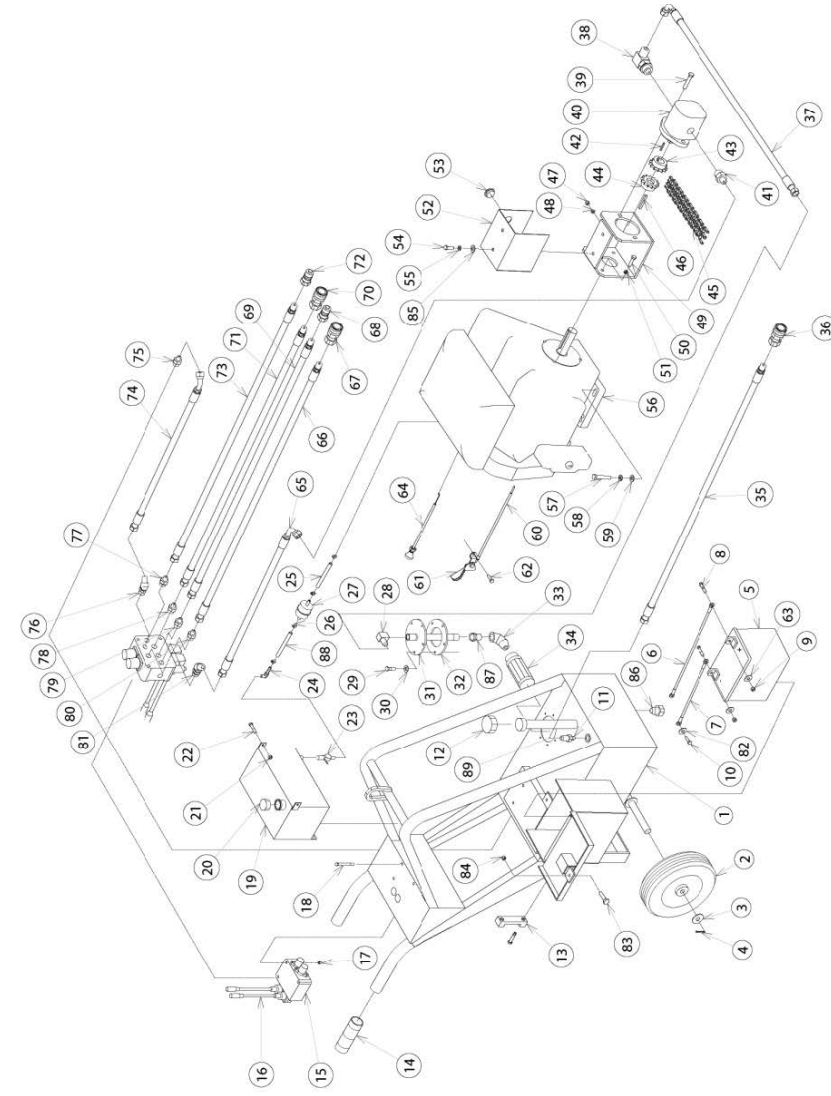




INDEX NR.	DESIGNATION	REFERENCE	INDEX NR.	DESIGNATION	REFERENCE
1	Power pack frame only	202159	46	1 key	911361
2	wheel	910327	47	2 nut	915485
3	flat washer	915575	48	2 lock washer	915655
4	Cotter pin	913800	49	1 pump mount bracket	915651
5	Battery	910410	50	4 Bolt	915653
6	battery cable Power x 16"	202185	51	4 Lock washer	915655
7	battery - cable ground x 6"	202190	52	1 Cover - pump mount bracket	912047
8	Carriage bolt	915030	53	1 Hole plug	910450
9	nylon lock nut	915455	54	2 Bolt	915035
10	nylon lock nut	915455	55	2 Lock washer	915635
11	Hydraulic adaptor	915450	56	1 Hydraulic adaptor	915450
12	Hydraulic adaptor	915450	57	4 Bolt	915135
13	Filler cap	912100	58	4 lock washer	915640
14	Site level gauge	912111	59	4 flat washer	915562
15	2 plastic grips	909052	60	1 Accelerator cable	202170
16	Hydraulic valve	912203	61	1 Accelerator lever	910400
17	levers-hydraulic valve	912213	62	2 Self tapping screw	915660
18	nylon lock nut	915455	63	2 Self tapping screw	915660
19	Fuel tank c/w filler cap	915070	64	1 Choke cable	202165
20	Filler breather cap	202196	65	1 Hydraulic hose assembly	202293
21	nylon lock nut	915455	66	1 Hydraulic hose assembly	202290
22	4 bolt	915035	67	1 Quick disconnect female	912330
23	Fuel tap	912280	68	1 Quick disconnect male	912331
24	Ballend fitting	912275	69	1 Quick disconnect female	912331
25	Fuel hose	915060	70	1 Quick disconnect female	912320
26	4 hose clamps	909050	71	1 Hydraulic hose assembly	202291
27	Fuel filter	909003	72	1 Quick disconnect male	912321
28	Hydraulic adaptor	912430	73	1 Hydraulic hose assembly	202291
29	7 Bolt	915050	74	1 Hydraulic hose assembly	202297
30	washer flat	915560	75	1 Hydraulic adaptor	912454
31	Suction tube	202158	76	1 Hydraulic adaptor	912454
32	Gasket-suction tube	912115	77	1 Hydraulic adaptor	912454
33	Street elbow	500258	78	1 hydraulic adaptor	912454
34	Suction strainer	912120	79	1 hydraulic adaptor	912454
35	Hydraulic hose assembly	202192	80	1 hydraulic adaptor	912454
36	Quick disconnect	912325	81	1 hydraulic adaptor	912454
37	Hydraulic hose assembly	202295	82	1 lock washer	915600
38	2 Bolt	912422	83	1 bolt	915455
39	1 Plug	500312	84	1 nylon lock nut	915560
40	1 Reducer bushing	500993	85	2 flat washer	915560
41	1 Fuel hose	202175	86	1 Plug	500312
42	1 Hydraulic adaptor	912454	87	1 Fuel hose	202175
43	1 Hydraulic adaptor	912454	88	50 liters oil for hydraulic tank	202273
44	1 Sprocket	911353			
45	1 Chain	911351			

ALL SEASONS EQUIPMENT	
HYD-SWING 2000 SINGLE LINE	
BOIM102127	TRW REV. TONY LEAL
DATE: MAR/2006	SHI POWERPRINT 01 LEFT
	DSM





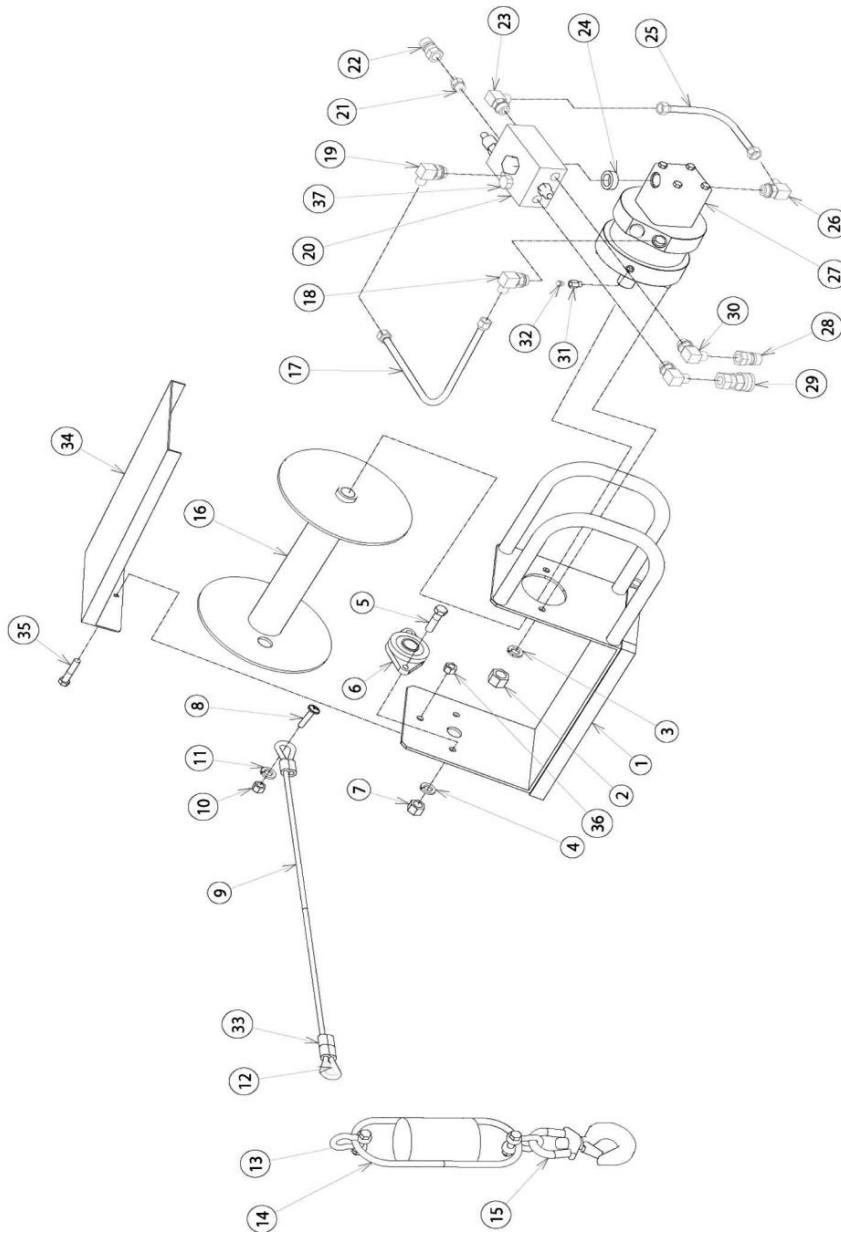
INDEX	NO.	DESIGNATION	REFERENCE	INDEX	NO.	DESIGNATION	REFERENCE
1	1	Power pack frame only	202159	46	1	Key	911361
2	2	wheel	910327	47	2	nut	915485
3	3	filr washer	915575	48	1	lock washer	915485
4	4	Cutter pin	915800	49	1	lock pin	912841
5	5	Battery	910410	50	4	Bolt	915033
6	1	battery cable Power x 16"	202185	51	4	Lock washer	915640
7	1	battery cable ground x 6"	202190	52	1	Cover-pump mount bracket	912647
8	2	Carriage bolt	915230	53	1	Hole plug	910450
9	1	lock nut	915485	54	2	Bolt	915035
10	1	lock nut	914890	55	1	lock washer	915485
11	1	Hydraulic adaptor	917515	56	1	Hydraulic adaptor	100705
12	1	Filter cap	912100	57	4	Bolt	915135
13	1	Site level gauge	912111	58	4	lock washer	915640
14	2	plastic cups	909672	59	4	filr washer	915562
15	1	Hydraulic valve-	912203	60	1	Accelerator cable	202170
16	2	levers hydraulic valve	912133	61	1	Accelerator lever	910400
17	3	nylon lock nut	915455	62	1	lock pin	912841
18	3	bolt	915070	63	2	filr washer	915560
19	1	Fuel tank c/w filler cap	202156	64	1	Choke cable	202165
20	1	Filler breather cap	912100	65	1	Hydraulic hose assembly	202293
21	4	nylon lock nut	915455	66	1	Hydraulic hose assembly	202290
22	4	bolt	915035	67	1	Quick disconnect female	912330
23	1	Fuel tap	912800	68	1	Quick disconnect male	912331
24	1	Barbed fitting	912275	69	1	Quick disconnect female	912330
25	1	Fuel hose	202180	70	1	Quick disconnect female	912320
26	4	Hour clamps	909005	71	1	Hydraulic hose assembly	202291
27	1	Hydraulic adaptor	912430	72	1	Quick disconnect male	912321
28	7	Bolt	915050	73	1	Hydraulic hose assembly	202291
29	7	washer fit	915560	74	1	Hydraulic hose assembly	202297
30	1	Suction tube	202158	75	1	Hydraulic adaptor	912225
31	1	Gasket-suction tube	912115	76	1	Hydraulic adaptor	912454
32	1	Street elbow	500258	77	1	Hydraulic adaptor	912454
33	1	Suction strainer	912120	78	1	Hydraulic adaptor	912454
34	1	Hydraulic hose assembly	202192	79	1	Hydraulic adaptor	912454
35	1	Quick disconnect	912325	80	1	Hydraulic adaptor	912454
36	1	Hydraulic hose assembly	202295	81	1	Hydraulic adaptor	912454
37	1	Hydraulic hose assembly	912421	82	1	Hydraulic adaptor	912454
38	2	Bolt	915220	83	1	Hydraulic adaptor	912454
39	1	Hydraulic pump	912010	84	1	Hydraulic adaptor	912454
40	1	Hydraulic adaptor	912010	85	2	Hydraulic adaptor	912454
41	1	Hydraulic adaptor	912010	86	1	Hydraulic adaptor	912454
42	1	Hydraulic adaptor	912010	87	1	Hydraulic adaptor	912454
43	1	Hydraulic adaptor	912010	88	1	Hydraulic adaptor	912454
44	1	Hydraulic adaptor	912010	89	1	Hydraulic adaptor	912454
45	1	Hydraulic adaptor	912010				

ALL SEASONS EQUIPMENT
HYD-SWING 2000 DOUBLE LINE
 BOM# 102126
 DATE: MAR/2006
 DRAWN BY: TONY LEAL
 DESIGNED BY: SH-POWERBENT CO/DP
 HYDRAULIC POWER PACK FOR 2000 SWING HOIST DOUBLE LINE



INDEX	NB.	DESIGNATION	REFERENCE
1	1	Winch frame	202256
2	2	Nut 12mm 1.25	-
3	2	lock washer 12mm	-
4	2	lock washer	915655
5	2	bolt	915215
6	1	Bearing	911211
7	2	nut	915485
8	1	Carriage bolt	915210
9	200	Cable	202062
10	1	nut	915485
11	1	Flat washer	915565
12	1	thimble	202086
13	2	Shackle	202075
14	1	Cable counterweight	202155
15	1	Swivel hook	202068
16	1	Cable drum+winch	202254
17	1	Hydr-tubing assembly	202240
18	1	Hydraulic adaptor x 90 deg	912415
19	1	Hydraulic adaptor x 90 deg	912413
20	1	Hydraulic manifold assembly	912270
21	1	Hydraulic adaptor-straight	912452
22	1	Quick disconnect male	912376
23	1	Hydraulic adaptor-90deg	912414
24	1	Spacer tube	202235
25	1	Hydraulic tubing assembly	202245
26	1	Hydraulic adaptor x 90deg	912416
27	1	Hydraulic motor-brake	912017
28	1	Quick disconnect male	912371
29	1	Quick disconnect female	912320
30	2	hydraulic adaptor x 90deg	912595
31	1	Hydraulic adaptor	912441
32	1	Hydraulic breather plug	912440
33	3	Aluminum oval	202096
34	1	Cover- winch	202259
35	1	Bolt	915050
36	1	Nylon lock nut	915455
37	1	Hydraulic adaptor- plug	912506

ALL SEASONS EQUIPMENT	
HYDR-WINCH 2000 SINGLE	
BOM# 202252	TONY LEAL
MAR/06	SH-WINCH-02.DFT
DATE	DRAWN
HYDR-WINCH PARTS	



SAFETY & REGULATIONS

For rules governing the use of guard rail in the United States, please refer to:
U.S. Department of Labor Occupational Safety & Health Administration Part 1926 - Safety and Health Regulations
for Construction www.osha.gov

For rules governing the use of roofing equipment in Canada, please refer to:
Canadian Centre for Occupational Health and Safety www.ccohs.ca/oshanswers/information/govt.html
Contacts for Provincial Offices for Occupational Health and Safety:

Alberta

Web Site: <http://www.gov.ab.ca/hre/whs/>

British Columbia

Worker's Compensation Board of British Columbia: <http://www.worksafebc.com/> Contact List/Regional Offices:
http://www.worksafebc.com/contact_us/regional_locations/default.asp WCB Publications: <http://www.worksafebc.com/Publications/default.asp>

Manitoba

Manitoba Labour: <http://www.gov.mb.ca/labour/safety/> Contact List: <http://www.gov.mb.ca/labour/safety/contactus.html>

New Brunswick

Regional Offices: http://www.whscc.nb.ca/index_e.asp

Newfoundland and Labrador

Occupational Health and Safety: <http://www.gs.gov.nl.ca/ohs/> Contact List/Regional Offices: <http://www.gov.nl.ca/gsohs/locations.stm>

Northwest Territories and Nunavut

Web Site: <http://www.wcb.nt.ca/default.asp>

Nova Scotia

Occupational Health and Safety: <https://www.gov.ns.ca/enla/contact/default.asp?div=gen&pg=dept&bk=/enla/ohs/Default.asp>

Ontario

Ministry of Labour (OHS): <http://www.labour.gov.on.ca/english/hs/> Contact List/Regional Offices: http://www.labour.gov.on.ca/english/about/reg_offices.html

Prince Edward Island

Workers' Compensation Board: <http://www.wcb.pe.ca>

Quebec

CSST Internet address: <http://www.csst.qc.ca/portail/fr/>

Saskatchewan

Saskatchewan Labour: <http://www.labour.gov.sk.ca>

Yukon

WCHSB: <http://wcb.yk.ca>



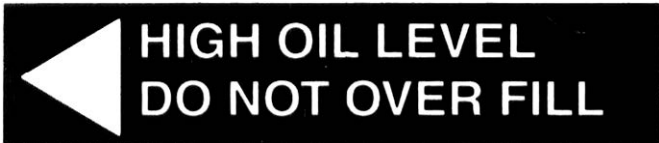
STICKERS/DECALS

INSTRUCTION MANUAL ENCLOSED



**ALL SEASONS
EQUIPMENT**

1-888-308-4763 www.asequip.com



**HYDRAULIC
FLUID**

**Use MOTOR OIL
as Hydraulic Fluid.**

SUMMER - Above 32° F / 0° C
Use - 10W40 Low detergent

WINTER - Below 32° F / 0° C
Use - 10W30 Low detergent

*** SAFETY FIRST ***

ALWAYS READ YOUR MANUAL BEFORE OPERATING THIS MACHINERY. INJURY OR DEATH MAY RESULT IF THIS PRODUCT IS MISUSED IN ANY WAY.

ALL SEASONS EQUIPMENT, Div. of ESKO Mfg. Ltd., relies upon the purchaser to see that the manual instructions are made clear to the persons who are operating this machine.



WHEN WORKING WITH HOISTS OR WINCHES OR HOOKING AND ARRANGING LOADS KEEP OUT FROM UNDER THE LOAD OR OUT OF THE LINE OF FORCE OF ANY LOAD. THIS PRODUCT IS NOT DESIGNED FOR LIFTING PEOPLE NOR LIFTING THINGS OVER PEOPLE. DO NOT WRAP HOIST ROPE AROUND THE LOAD. LOAD MUST ATTACH TO LINE BY LIFT RINGS, PALLET FORK SLINGS OR OTHER SUITABLE MEANS. ON LOADS OF 1200LBS OR MORE, USE FOLD OUT LOCK EXTENSION ON A-FRAME TOWER. BE CERTAIN PIN IS INSERTED TO LOCK.

WARNING

HOIST CABLE IS TO RUN OFF OF BOTTOM OF CABLE DRUM

2000 HYDRAULIC SWING HOIST

- a) Make sure all pins on track and power unit are properly placed and locked.
- b) **IMPORTANT VERIFY THAT ALL NUTS, BOLTS AND PINS ON FRAME ARE PROPERLY FASTENED!!! IF NUTS & BOLTS ARE LOOSE, FOR YOUR OWN SAFETY MAKE SURE THEY ARE TIGHTENED!!!**
- d) Fenest on Frame must be swung outwards, to protect operation from accidentally walking off roof edge while operating Hoist.
- e) Now you must place counter weights on rear weight base. Use 1/2 of the weight you are lifting.
Example: If you are lifting 800lb., place 1200pounds of counter weights.

WARNING: KEEP IN MIND THAT THE MAXIMUM RATED LOAD ON THE HOIST IS 2000 POUNDS!!!

- f) Check hoist cable for broken strands. If any are found cable should be replaced.
- g) Grease all moving parts on the hoist power unit (drum, bearings and pulleys) etc.
- h) Check hoist braking system for proper operation.
- i) Engine oil level should be checked before starting. For any other engine maintenance, please refer to the engine manual.
- j) **You are now ready to start engine**

WARNINGS
ALWAYS TEST HOIST LIFTING WITH SMALL AMOUNT OF WEIGHT, BEFORE YOU LIFT VERY HEAVY OBJECTS.

WARNING

PLACE BALLAST HERE

