

Hydraulic Swing Hoist

HS1000 AND HS2000

Instruction and safety information

Read before operating the swing hoist

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Warning

- Do not erect the swing hoist near overhead cables, electrical power lines or wires.
- Erect swing hoist on firm and level roof.
- Tighten all bolts and nuts securely and clip all locking pins or swing hoist failure will occur under load and may cause damage or injury.
- Always keep the instruction manual with the machine for reference.
- Do not exceed the rated capacity of the swing hoist.
- Minimum ballast weight must be kept at 1.25 to 1 ratio (1.25 pounds of ballast for 1 pound of load). Refer to your province / state regulations as some provinces requirement is 1.65 to 1 (1.65 pounds of ballast for 1 pound of load)
- Inspect all joints, cable, brake and connections before each use. Replace if damaged.
- Do not run cable completely out from the drum. Leave at least 4 turns of cable on the drum.
- Do not remove safety covers when engine is running.
- Read the engine manual and follow the instructions and warnings.

Warning labels have been included on the equipment. If the warning labels wear off, please request new ones.

Misuse of the swing hoist may result in injury or damage. SPAR-Marathon provides instructions for its safe use and relies on the purchaser to ensure that these instructions are given to the personnel who will actually be using the equipment.

It is the responsibility of the purchaser to ensure that the personnel operating the swing hoist are trained in the proper operating procedures and all safety regulations.

The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to work environment to control or eliminate any hazards or other exposure to illness or injury

Regulations governing the use, selection and maintenance of personal protective and lifesaving apparatus regulations must be followed.

The SPAR-Marathon swing hoist is designed and manufactured for hoisting material only. Any other use of this equipment will void any warranty or responsibility, expressed or implied, on the part of the manufacturer.

The swing hoist should be operated by experienced personnel only. It is a good idea to barricade the hoisting area and to keep unauthorized persons away from it.

Figure 1

HS2000 SHOWN
HS1000 SIMILAR

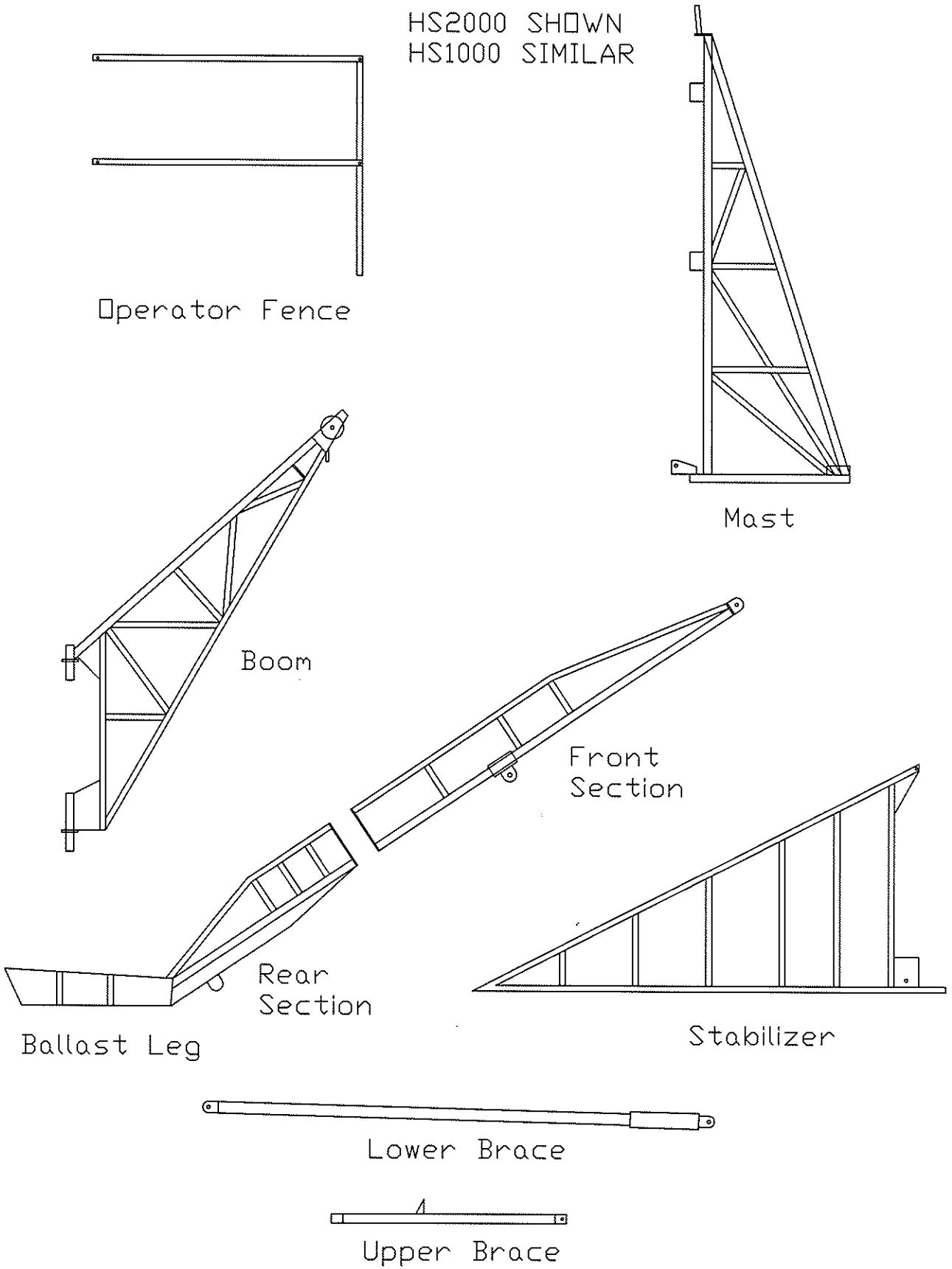
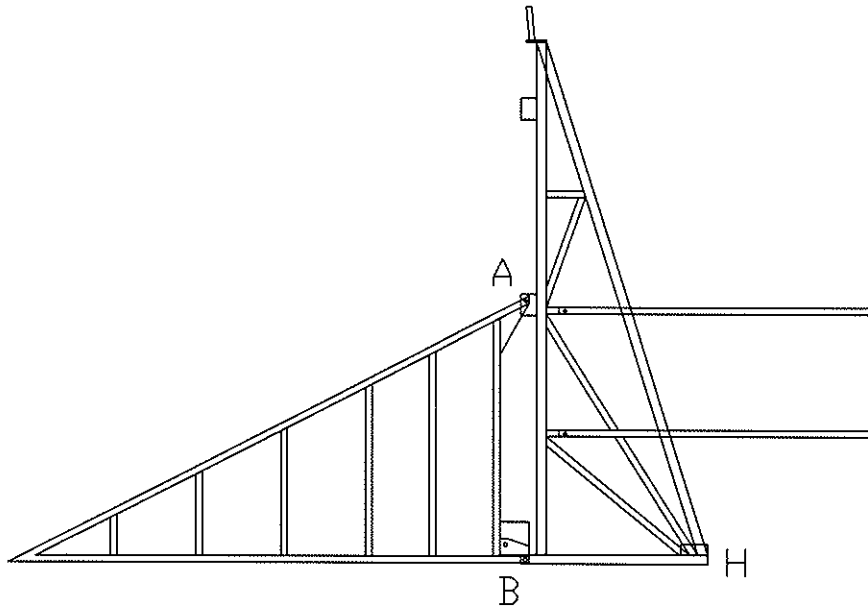
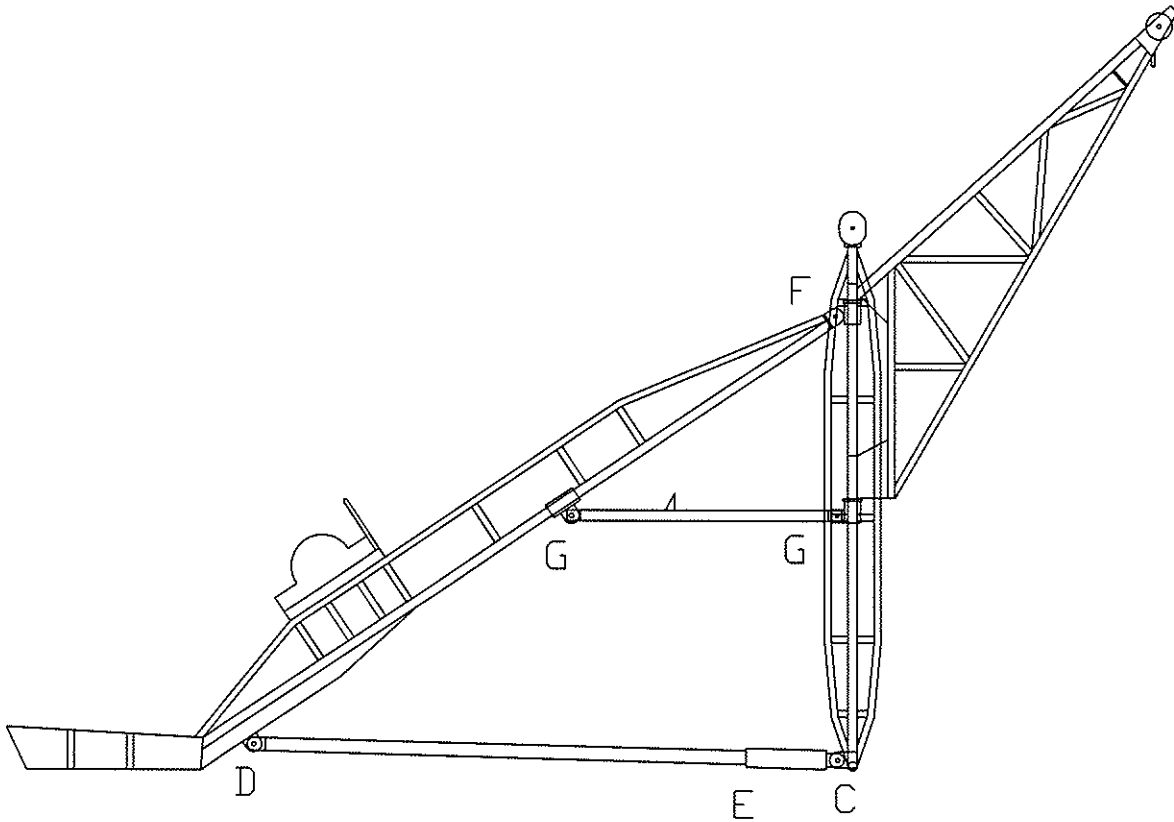


Figure 2
HS2000 SHOWN
HS1000 SIMILAR

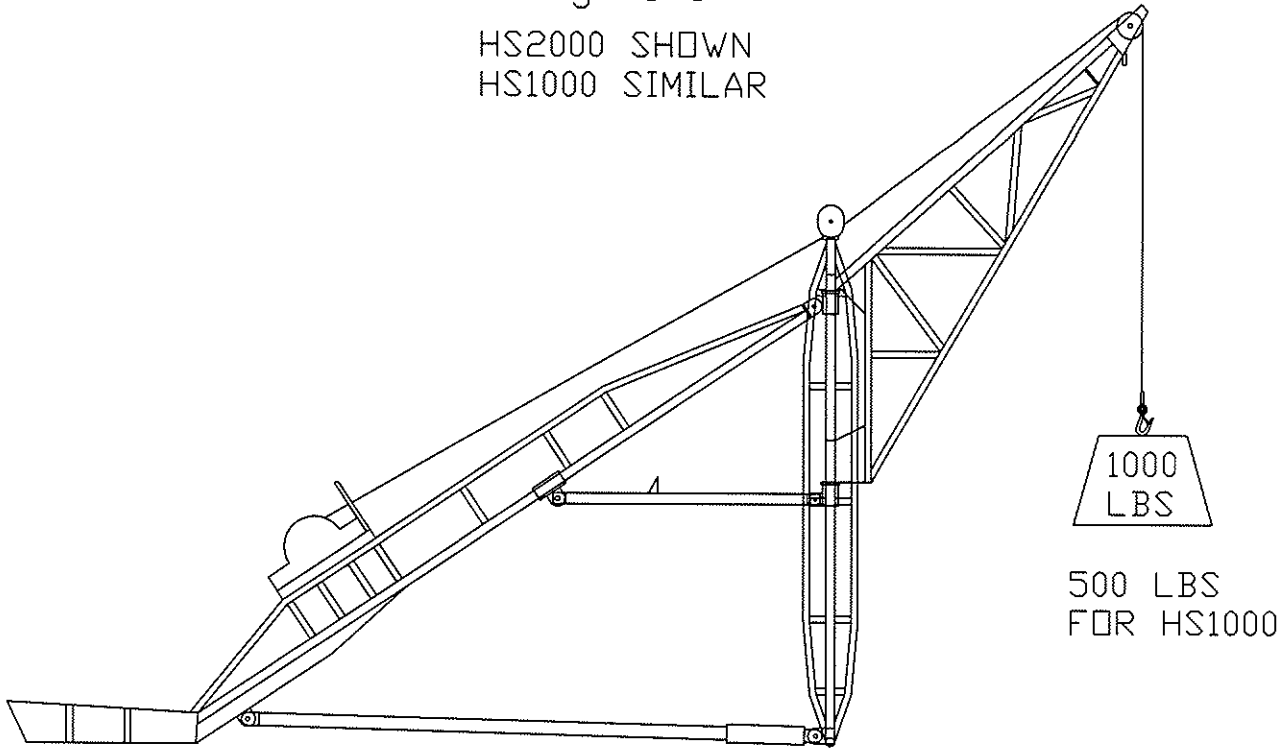


Front Leg Assembly



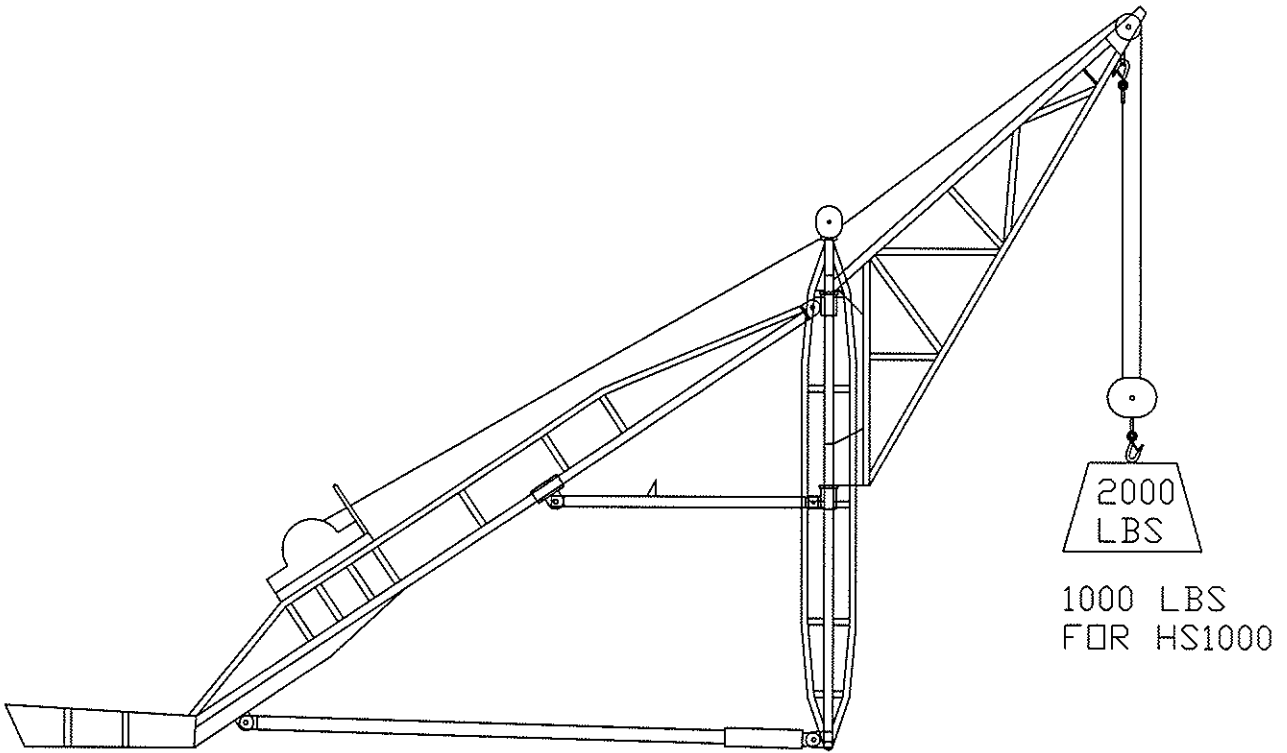
Swing Hoist Assembly

Figure 3
HS2000 SHOWN
HS1000 SIMILAR



500 LBS
FOR HS1000

Single Line



1000 LBS
FOR HS1000

Double Line

Introduction

SPAR-Marathon swing hoist is designed for easy operation, providing excellent lifting performance and easy maintenance. The swing hoist is shipped in sections for ease of transport and can be assembled with no special tools.

Specifications

	<u>HS1000</u>	<u>HS2000</u>
Maximum hoist capacity (double line)	1000 lbs	2000 lbs
Hoist speed (maximum)	150 ft/min	150 ft/min
Cable length supplied	200 ft	200 ft
Overhangs roof	54 in	56 in
Maximum height under hook	88 in	117 in
Boom weight	70 lb	92 lbs
Mast assembly weight	120 lbs	145 lbs
Ballast leg assembly weight	130 lbs	140 lbs
Winch weight	100 lbs	100 lbs
Power unit weight	245 lbs	260 lbs
Ballast weight required	1250*lbs	2500*lbs
Ballast block required (55 lbs each)	23*pcs	46*pcs

*Refer to your province / state regulations

Specifications are subject to change without notice.

Assembly of swing hoist

⚠ Warning Tighten all bolts and nuts securely and clip all locking pins or swing hoist failure will occur under load and may cause damage or injury.

Do not set up hoist over doorway.

Note: All bolts are grade 5 unless otherwise stated.

Raise all the sections to the roof and place them far away from the roof edge.

Attach front and rear sections of ballast leg with five 5/8 x 1 3/4 bolts & nuts (1/2 x 1 1/4 bolts & nuts for HS1000) and tighten securely.

Insert the bottom end of the stabilizer leg completely into base of mast. Attach at point A and B with 3/4 x 2 1/2 grade 8 bolts & nuts (at point B with 3/4 x 2 1/2 grade 8, at point A with 5/8 x 2 1/2 bolt & nut for HS1000). Insert 5/8 x 3 1/2 pin at point H. (Refer to figure 1 and 2)

Hold the front leg mast assembly in vertical position, attach the short portion of lower brace to front leg bottom at point C with 5/8 x 3 1/2 pin.

Attach long portion of lower brace to ballast leg at point D with 5/8 x 3 1/2 pin.

Insert the long portion of lower brace into short portion of lower brace at point E.

Attach the ballast leg to the mast at point F with 3/4 x 3 grade 8 bolt & nut (with 5/8 x 2 1/2 bolt & nut for HS1000)

Attach upper cylinder brace at point G with two 5/8 x 3 1/2 pins.

Tighten all hand screws on upper and lower brace.

Tighten all bolts and nuts and clip all locking pins on the swing hoist.

Insert boom pivots into two pivot joints on mast. For HS 1000 take out the Pulley Block before inserting boom pivots and then assemble it back as shown in Figure 4

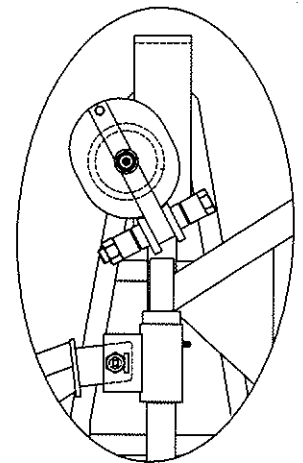


Figure 4

Move swing hoist to roof edge.

Place required counter weight as per your province / state requirements on the ballast tray and secure ballast blocks with rope to the tray

Mount cylinder to upper brace with two 1 x 3 1/2 pins and clips. Cylinder rod eye attaches to boom and cylinder body mounting attaches to bracket at brace.

Swing down and position operator fence and lock with clip pin.

Attach winch to ballast leg with two 5/8 x 3 1/2 pins and two 5/8 x 1 3/4 bolts & nuts.

Move power unit close to operator fence.

For new power unit, read and follow separate engine manual procedure to prepare for engine operation.

Connect hoses from power unit to winch and cylinder. (Refer to figure 5)

Winch control valve

3/8" female quick connect is on top (port A)

3/8" male quick connect is on bottom (port B)

Connect 1/2" hoses from winch control ports to motor ports on winch.

Boom cylinder control valve

1/4" female quick connect is on top (port C)

1/4" male quick connect is on bottom (port D)

Connect 1/4" hoses from boom cylinder control valve to boom cylinder.

Start power unit and operate boom control lever to bring boom in. Operate winch control lever to unwind enough cable to reeve the swing hoist.


Reeve cable through cable guide on winch, through bottom side of pulley block on mast, then through sheave on top of boom. Rotate cable keeper at top of boom back into boom. (Refer to figure 3)

For single line operation, attach shackle and safety hook to cable end.

For double line operation, reeve cable through pulley block, attach shackle and safety hook, and then attach to the hook at boom.

Operate the swing hoist with no load a few times to check the operation.

Operation

 Warning Do not operate the engine before reading and understanding the engine instruction manual for proper operation.

Do not remove safety covers when engine is running.

Check the swing hoist condition each time before using the equipment.
Repair or replace components if they are damaged or in bad condition.

Operation of the swing hoist should be done on the operator fence side.
Always stay clear of the path of swinging load.

Note: Each engine in the power pack is filled with engine oil at the factory and power pack is tested before delivery. Check engine oil level each time before use.

First time using the hoist:

- Hoses are shipped empty; fill up the hydraulic fluid reservoir with Hydrex AW 32 hydraulic fluid after running the hoist for a minute. Fluid level should be 1 1/2" from top of the reservoir. Fluid will be lower in the tank since fluid has been used up to fill the hoses.

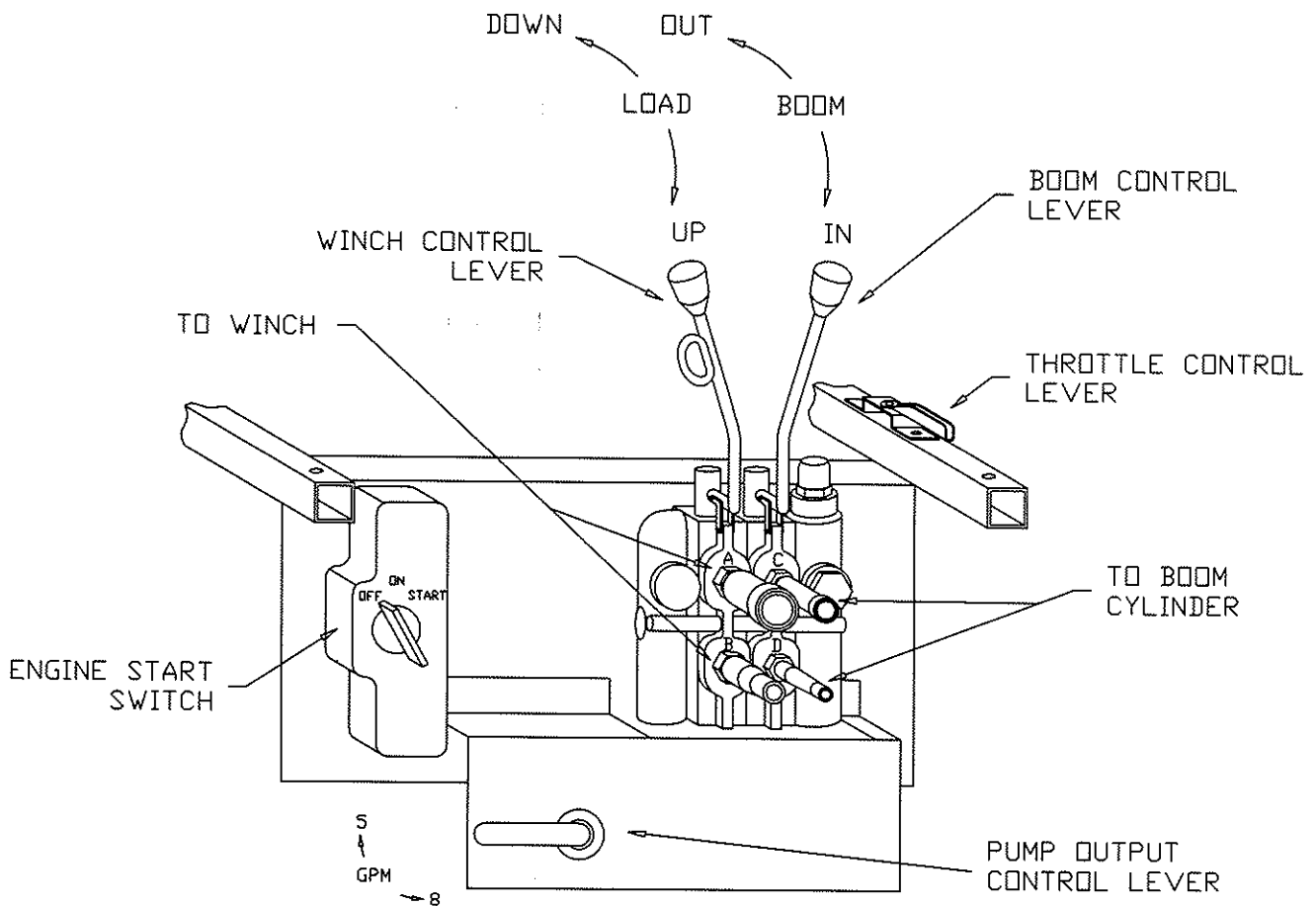


FIGURE 5
CONTROL PANEL

Feathering control feature: the speed of movement can be controlled by moving the control handle slowly and smooth movement can be achieved. Do not pull or push the control handle all the way too fast in one shot.

Start the engine as per the engine instruction and let it warm up a few minutes.

For HP2000 - select pump output (5 gpm or 8 gpm) by turning the ball valve lever. Select 5 gpm for hoisting load. Select 8 gpm for fast rewinding of cable only. It is not intended for hoisting full load.

Adjust to desired operating engine speed by turning the throttle control lever.

For lifting the load, pull down on winch control lever.

For lowering the load, push up on winch control lever.

For swinging in the boom, pull down on boom control lever.

For swinging out the boom, push up on boom control lever.

If power failure occurs and load is stuck in the mid-air, release the brake manually by pulling down the cable on the brake assembly on the winch to release the brake. The load will lower slowly by gravity. Do not adjust or remove any component from the hydraulic system or the load will be free fall and may cause damage or injury.

Maintenance

Change hydraulic fluid and filter after first 50 hours of use, then change hydraulic fluid and filter after every 250 hours of use. Use Hydrex AW 32 hydraulic fluid or compatible hydraulic fluid to suit the operating condition.

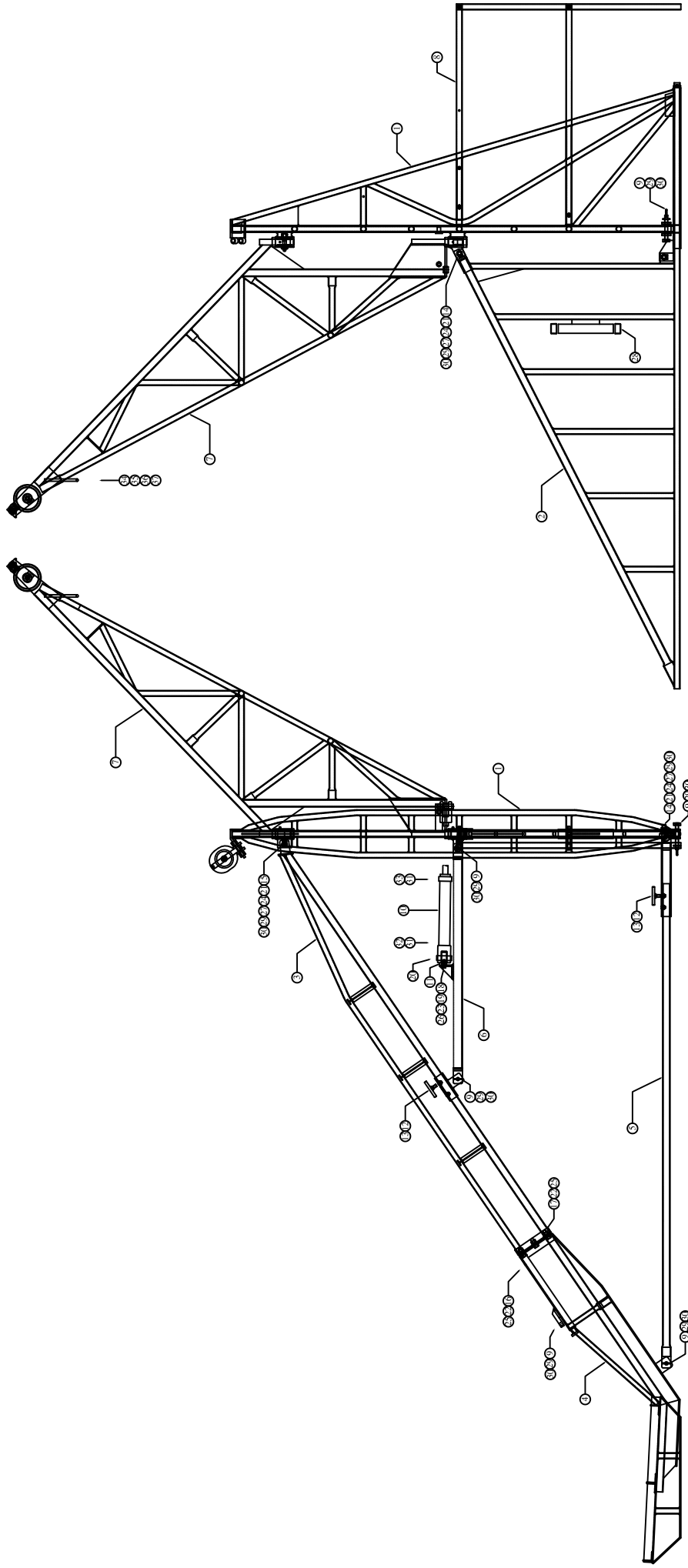
Grease the pivot points at the boom once a week or after each assembly of swing hoist.

Grease the bearings on the cylinder, winch, lead pulley and boom sheave every month.

For engine maintenance, refer to the engine instruction manual.

Trouble shooting

<u>Symptom</u>	<u>Possible cause</u>	<u>Solution</u>
System not functioning	Fluid level low	Add hydraulic fluid
	Hose kinked	Straighten hose
	Hose quick connect not connected properly	Connect hose properly
	Engine to pump coupling break	Replace coupling
Hoist speed slow	Fluid level low	Add hydraulic fluid
	Hose Kinked	Straighten hose
	Engine speed slow	Increase engine speed
	Hose too long	Use only enough hose length for the job
	Filter clogged	Replace filter
	Pump damaged	Repair/replace pump
Oil foaming	Fluid level low	Add hydraulic fluid
	Water in fluid	Replace hydraulic fluid
	Improper oil type used	Use only appropriate hydraulic fluid
System overheated	Fluid level low	Add hydraulic fluid
	High ambient temperature	Turn off engine and let system cool down
	Extended duty cycle	Reduce duty cycle time



ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
37	FASTER 1/4 M QD SLEEVE		1	
38	FASTER 1/4 F QD PLUG		1	
39	CABLE WEIGHT		1	1509
40	PULLEY BLOCK WITH HOOK	NW271R	1	N/A
41	1-TON SWIVEL EYE-HOOK		1	N/A
42	SCREW PIN ANCHOR SHACKLE	3/8	2	N/A
43	QD FEMALE ADAPTER	1/4 NPTF X 1/4 NPTF	1	N/A
44	QD MALE ADAPTER	1/4 NPTF X 1/4 NPTM	1	N/A
45	3/8 NPTM X 1/4 NPTM ELBOW 90°		2	N/A
46	COPPER OVAL SLEEVE	1/8	20	N/A
47	AIRCRAFT CABLE	1/8 X 24 LG	10	N/A
48	END CAP FOR 2" TUBING		2	N/A
49	HEX NUT	5/16 UNC	3	N/A

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
26	HEX NUT	3/8 UNC	2	N/A
27	HEX NUT	5/8 UNC	7	N/A
28	HEX NUT	3/4 UNC	3	N/A
29	LOCK WASHER	3/8	2	N/A
30	LOCK WASHER	3/4	7	N/A
31	FLAT WASHER	5/16	3	N/A
32	HEX BOLT	3/8 UNC X 1 1/2 LG GR 5	2	N/A
33	HEX BOLT	5/8 UNC X 1 3/4 LG GR 5	2	N/A
34	HEX BOLT	5/8 UNC X 1 1/4 LG GR 5	2	N/A
35	HEX BOLT	3/4 UNC X 2 1/2 LG GR 8	2	N/A

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
13	BUTTON HEAD SOCKET SCREW	1/2 UNC X 1 LG	4	N/A
14	R/B 1/2 X 4 LG		4	N/A
15	BLOCK BEARING 1"		1	N/A
16	HYD CYLINDER		1	N/A
17	SHORT HOIST LOCK PIN	5/8 X 3 1/2 LG	7	N/A
18	SAFETY GATE		1	1508
19	BOOM SUB ASSY		1	1507
20	UPPER BRACE		1	1506
21	CW LOWER FRAME SUB ASSY		1	1505
22	CW UPPER FRAME SUB ASSY		1	1504
23	SIDE STABILIZER SUB ASSY		1	1503
24	CENTRE STABILIZER SUB ASSY		1	1502

SPAR-MARATHON ROOFING SUPPLIES

FOR THE MARATHON HOIST FRAME ASSEMBLY

DATE: JAN 14, 2008

REV: 0

150

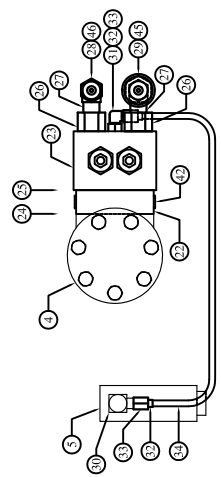
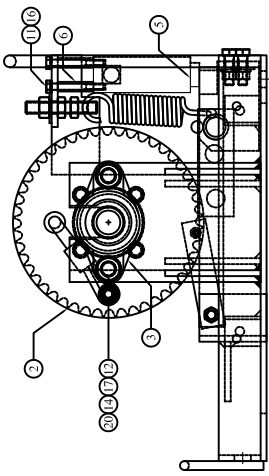
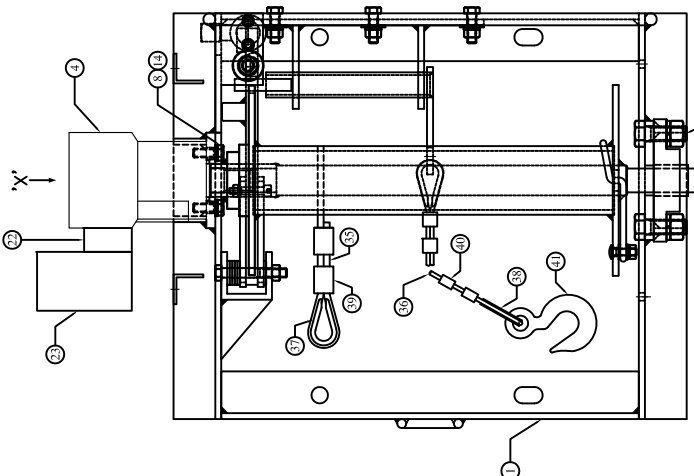
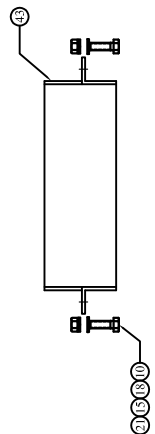
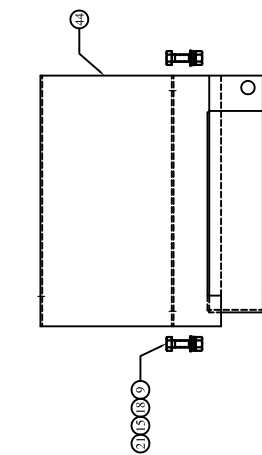
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HS 2000 HOIST

SEE PARTS LIST

DATE: JAN 14, 2008

REV: 0

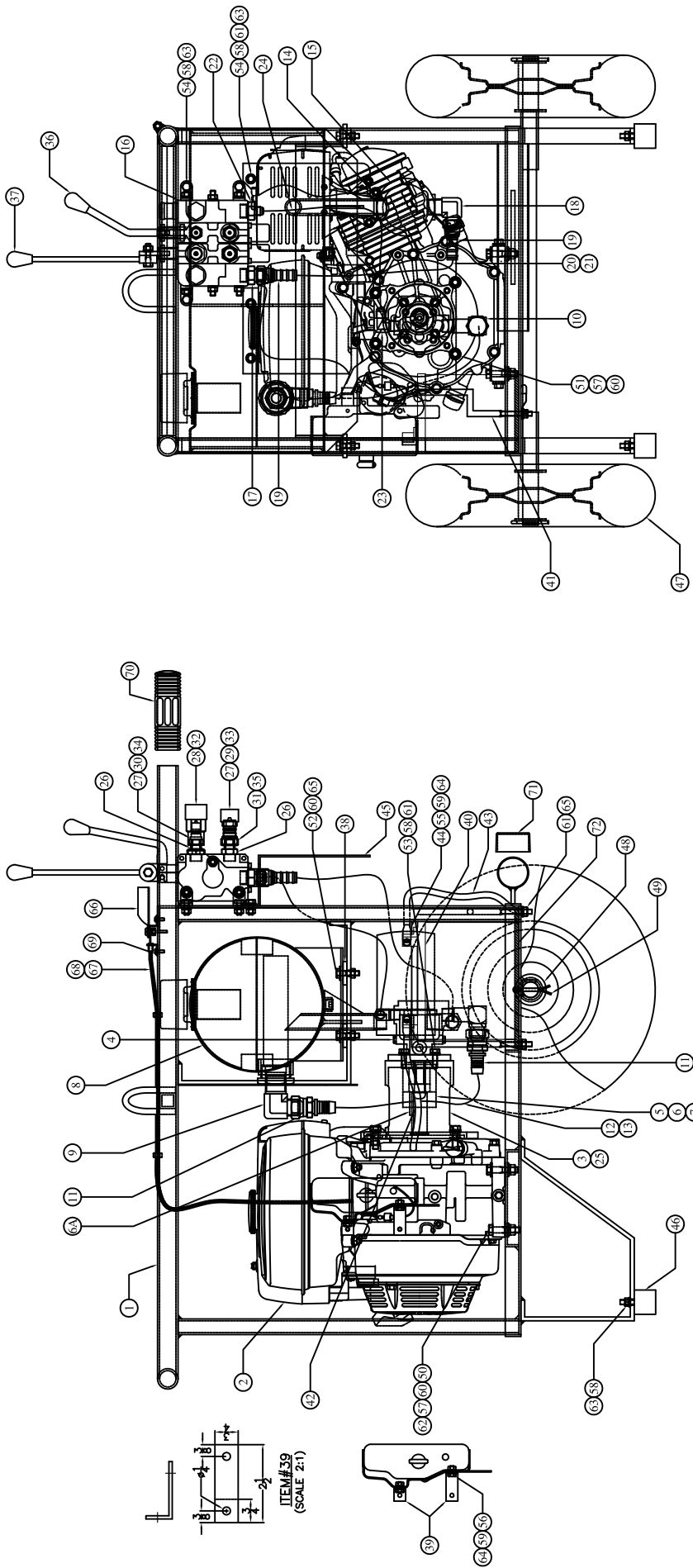


VIEW 'X'
(FOR HYDRAULIC FITTINGS)

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
46	FASTER 3/8 M OD SLEEVE	N/A	1	N/A
45	FASTER 3/8 F OD PLUG	N/A	1	N/A
44	MOTOR GUARD	SEE DRG 1 905	1	N/A
43	BEARING GUARD	SEE DRG 1 904	1	N/A
42	PLUG 1/4 NPT	STD	2	N/A
41	1/2 TON EYE HOOK	N/A	1	N/A
40	COPPER OVAL SLEEVE 5/32	STD	4	N/A
39	COPPER OVAL SLEEVE 1/4	STD	3	N/A
38	CABLE THIMBLE 1/8	STD	2	N/A
37	CABLE THIMBLE 1/8	STD	1	N/A
36	AIRCRAFT CABLE 5/32 X 40 LG	STD	1	N/A
35	AIRCRAFT CABLE 1/4 X 200 LG	STD	1	N/A
34	HYD TUBE 1/4 OD X 16 LG	STD	2	N/A
33	TUBE NUT 1/4	STD	2	N/A
32	SLEEVE 1/4	STD	2	N/A
31	FITTING # 6801-4-4	STD	1	N/A
30	90° ELBOW 1/4 JICM X 3/8 NPTM	STD	1	N/A
29	FASTER 3/8 NPTF X 3/8 F OD	STD	1	N/A
28	FASTER 3/8 NPTF X 3/8 M OD	STD	2	N/A
27	90° ELBOW 3/8 NPTM X 3/8 NPTM	STD	2	N/A
26	ST FITTING 10-6	STD	2	N/A
25	O RING 3/32 X 9/16 ID	STD	2	N/A
24	O RING 3/32 X 1/2 ID	STD	2	N/A

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
23	COUNTER BALANCE VALVE (21MH6130178001)	SEE DRG 1 903	1	N/A
22	MOTOR ADAPTER	STD	4	N/A
21	HEX NUT 5/16 UNC	STD	1	N/A
20	HEX NUT 3/8 UNC	STD	2	N/A
19	HEX NUT 5/8 UNC	STD	2	N/A
18	FLAT WASHER 1/4	STD	4	N/A
17	FLAT WASHER 3/8	STD	2	N/A
16	LOCK WASHER 1/4	STD	4	N/A
15	LOCK WASHER 5/16	STD	5	N/A
14	LOCK WASHER 3/8	STD	2	N/A
13	LOCK WASHER 5/8	STD	1	N/A
12	CARRIAGE BOLT 3/8 UNC X 1 LG	STD	2	N/A
11	HEX BOLT 1/4 UNC X 2 1/4 LG	STD	2	N/A
10	HEX BOLT 5/16 UNC X 1 LG	STD	2	N/A
9	HEX BOLT 5/16 UNC X 3/4 LG	STD	4	N/A
8	HEX BOLT 5/8 UNC X 1 LG	STD	2	N/A
7	HEX BOLT 5/8 UNC X 1 3/4 LG	STD	2	N/A
6	PIPE 1/8 X 1 1/2 LG	STD	2	N/A
5	CYLINDER HYDRAULIC PRESS	STD	1	N/A
4	HYDRAULIC MOTOR	STD	1	N/A
3	FLANGE LOCKING BEARING	STD	1	N/A
2	CABLE DRUM SUB ASSLY	STD	1	N/A
1	WINCH FRAME	STD	1	N/A

SPAR-MARATHON ROOFING SUPPLIES
 HYDRAULIC WINCH
 DRAWING NO. 10000/2000 HOIST
 DATE APR 25, 2006
 DRAWING NUMBER 90
 REV. 0



ITEM #	DESCRIPTION	QTY	DRAWING #	ITEM #	DESCRIPTION	QTY	DRAWING #	ITEM #	DESCRIPTION	QTY	DRAWING #
74	HOSE ASSLY 1/4NPTM X 1/4NPTM X 178LG	2	N/A	49	COTTER PIN 3/16 X 2	2	N/A	18	FITTING #PAR2103-12-10	1	N/A
73	HOSE ASSLY 3/8NPTM X 3/8NPTM X 178LG	2	N/A	48	FLAT WASHER 1" SAE	2	N/A	17	CONNECTOR 5/8	1	N/A
72	RUBBER 1/4 X 4 7/8 X 8 7/8	1	N/A	47	WHEEL 400 X 480 X 1	2	N/A	16	2 SPOOL BRAND VALVE D/A SAE	1	N/A
71	END CAP FOR 2" OD TUBING	2	N/A	46	BUMPER FTH3535	2	N/A	15	FILTER ELEMENT	1	N/A
70	VINYL HANDLE GRIP 1 1/4 X 5	2	N/A	45	CONTROL COVER	1	N/A	14	FILTER HEAD 3/4 NPT	1	N/A
69	SELF TAPPING SCREW 10-24 X 1/2	2	N/A	44	STARTER LUG #4	4	1703	13	HOSE CLAMP 1.125 (29-31)	2	N/A
68	ENGINE CONTROL INNER WIRE-35 LG	1	N/A	43	BATTERY CABLE BLACK 4 GA X 16 LG	1	N/A	12	SUCTION HOSE 3/4 X 16 LG	2	N/A
67	ENGINE CONTROL OUTER WIRE-32 LG	1	N/A	42	BATTERY CABLE RED 4 GA X 10 LG	1	N/A	11	#12 HOSE BARB & JICF SWVL	2	N/A
66	THROTTLE CONTROL LEVER	1	N/A	41	BATTERY HOLDER	1	1704	10	FITTING #2501-L-12-B	1	N/A
65	NYLOCK NUT 5/16 UNC	6	N/A	40	BATTERY	1	N/A	9	FITTING #16 NPTM X #12 JICM 90°	1	N/A
64	HEX NUT 1/4 UNC	4	N/A	39	12 GA X 3/4 X 2 1/2	2	N/A	8	HYDRAULIC FLUID TANK	1	1702
63	HEX NUT 5/16 UNC	8	N/A	38	RUBBER WASHER 1 1/2 ODX5/16 DX1/4	4	N/A	7	SPIDER LO95	1	N/A
62	HEX NUT 3/8 UNC	4	N/A	37	HANDLE #BR34HY	1	N/A	6A	KEY 1/4 X 1/4 X 1 1/2 LG	1	N/A
61	PLAIN WASHER 5/16	9	N/A	36	HANDLE #BR34HX	1	N/A	6	JAW COUPLING LO95 1" BORE 1/4 KW	1	N/A
60	LOCK WASHER 1/4	14	N/A	35	FASTER 3/8 M OD SLEEVE	1	N/A	5	JAW COUPLING LO95 9/16 BORE 1/8 KW	1	N/A
59	LOCK WASHER 5/16	12	N/A	34	FASTER 1/4 M OD SLEEVE	1	N/A	4	HYD PUMP #DAN-163W1068	1	N/A
58	LOCK WASHER 3/8	8	N/A	33	FASTER 1/4 F QD PLUG	1	N/A	3	BELL HOUSING (#HYDRAM300-402-500)	1	N/A
57	HEX BOLT 1/4 UNC X 1/2 LG	2	N/A	32	FASTER 3/8 F QD PLUG	1	N/A	2	9" HP HONDA ENGINE WITH ELECTRIC START	1	N/A
56	HEX BOLT 1/4 UNC X 3/4 LG	2	N/A	31	FASTER 3/8 NPTF X 3/8 M QD	1+2	N/A	1	FRAME ASSLY	1	1701
55	HEX BOLT 5/16 UNC X 3/4 LG	2	N/A	30	FASTER 1/4 NPTF X 1 1/4 M QD	1+2	N/A				
54	HEX BOLT 5/16 UNC X 1 LG	4	N/A	29	FASTER 3/8 NPTF X 1 1/4 F QD	1+2	N/A				
53	HEX BOLT 5/16 UNC X 1 1/4 LG	4	N/A	28	FASTER 3/8 NPTF X 3/8 F QD	1+2	N/A				
52	HEX BOLT 3/8 UNC X 1 1/4 LG	4	N/A	27	#8 ORBM X #4 NPTM FITTING	2	N/A				
51	HEX BOLT 3/8 UNC X 1 1/4 LG	4	N/A	26	#8 ORBM X 3/8 NPTM FITTING	2	N/A				
50	HEX BOLT 3/8 UNC X 1 3/4 LG	4	N/A	25	INSECT FOR BELL HOUSING	2	N/A				

SPAR-MARATHON ROOFING SUPPLIES

JIS 1000 POWER PACK

DRAWING NUMBER: 1701

DATE: NOV 13, 2008

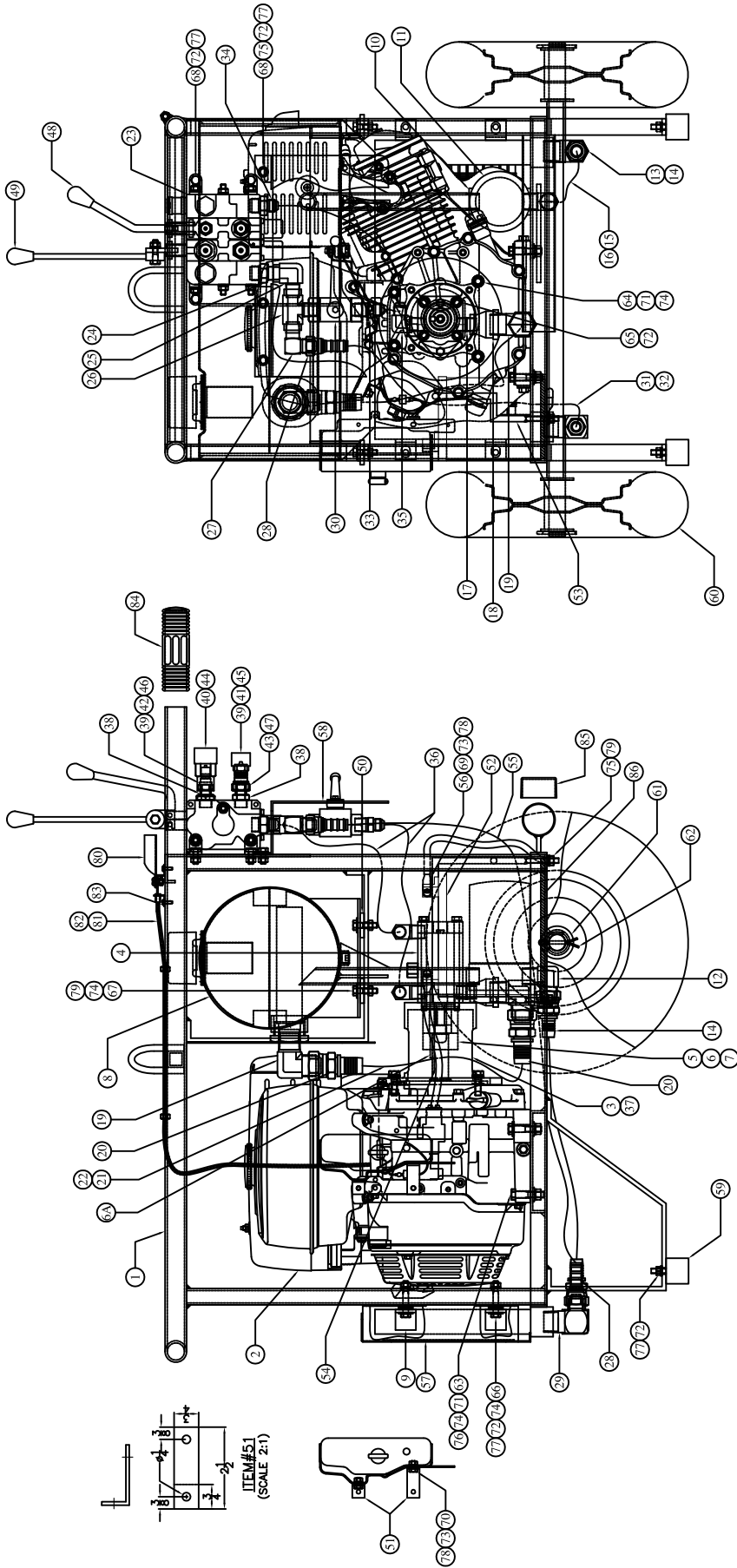
ISSUE: 1

SCALE: 1:5

SEE PARTS LIST

TOTAL QTY: 1701

TOTAL PRICE: 170A



ITEM #	DESCRIPTION	QTY	DRAWING #
88	HOSE ASSY 1/4 NPTM X 1/4 NPTM X 178 LG	2	N/A
87	HOSE ASSY 3/8 NPTM X 3/8 NPTM X 178 LG	2	N/A
86	RUBBER 1/4 X 4 7/8 X 8 7/8 STD	1	N/A
85	END CAP FOR 2" OD TUBING	2	N/A
84	VINYL HANDLE GRIP 1 1/4 X 5	2	N/A
83	SELF TAPPING SCREW 10-24 X 1/2	2	N/A
82	ENGINE CONTROL INNER WIRE-35 LG	1	N/A
81	ENGINE CONTROL OUTER WIRE-32 LG	1	N/A
80	THROTTLE CONTROL LEVER	1	N/A
79	NYLOCK NUT 5/16 UNC	6	N/A
78	HEX NUT 1/4 UNC	4	N/A
77	HEX NUT 5/16 UNC	12	N/A
76	HEX NUT 3/8 UNC	4	N/A
75	PLAIN WASHER 1/4	5	N/A
74	PLAIN WASHER 3/16	30	N/A
73	LOCK WASHER 1/4	4	N/A
72	LOCK WASHER 5/16	16	N/A
71	LOCK WASHER 3/8	8	N/A
70	HEX BOLT 1/4 UNC X 1 1/2 LG	2	N/A
69	HEX BOLT 1/4 UNC X 3/4 LG	4	N/A
68	HEX BOLT 5/16 UNC X 3/4 LG	6	N/A
67	HEX BOLT 5/16 UNC X 1 1/4 LG	4	N/A
66	HEX BOLT 5/16 X 2 LG	4	N/A
65	HEX BOLT 5/16 UNC X 5 1/2 LG	4	N/A
64	HEX BOLT 3/8 UNC X 1 1/4 LG	4	N/A
63	HEX BOLT 3/8 UNC X 1 3/4 LG	4	N/A
62	COTTER PIN 3/16 X 2	2	N/A
61	FLAT WASHER 1" SAE	2	N/A
60	WHEEL 400 X 480 X 1	2	N/A
59	BUMPER #1H5535	2	N/A
	MATERIAL		

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
58	CONTROL COVER	SEE DRG	1	1703
57	OIL COOLER COVER	SEE DRG	1	1705
56	STARTER LUG #4	PARTS	4	N/A
55	BATTERY CABLE BLACK 4 GA X 16 LG	PARTS	1	N/A
54	BATTERY CABLE RED 4 GA X 10 LG	PARTS	1	N/A
53	BATTERY HOLDER	SEE DRG	1	1704
52	BATTERY	PARTS	1	N/A
51	12 GA X 3/4 X 2 1/2	HRS	2	N/A
50	RUBBER WASHER 1 1/2 ODX/5/16 DX1/4	PARTS	4	N/A
49	HANDLE #BR3434H	PARTS	1	N/A
48	FASTEN 3/8 M OD SLEEVE	PARTS	1	N/A
47	FASTEN 1/4 M OD SLEEVE	PARTS	1	N/A
46	FASTEN 3/8 F OD SLEEVE	PARTS	1	N/A
45	FASTEN 1/4 F OD PULG	PARTS	1	N/A
44	FASTEN 3/8 F OD PULG	PARTS	1	N/A
43	FASTEN 3/8 NPTF X 3/8 M OD	PARTS	1+2	N/A
42	FASTEN 1/4 NPTF X 1/4 M OD	PARTS	1+2	N/A
41	FASTEN 1/4 NPTF X 1/4 F OD	PARTS	1+2	N/A
40	FASTEN 3/8 NPTF X 3/8 F OD	PARTS	2	N/A
39	#8 ORBM X #4 NPTM FITTING	PARTS	2	N/A
38	#8 ORBM X 3/8 NPTM FITTING	PARTS	2	N/A
37	INSERT FOR BELL HOUSING	PARTS	2	N/A
36	HOSE ASSY 1/4" OBEJ X 20 LG	PARTS	2	N/A
35	#8 NPTM X #8 JICM 90°	PARTS	2	N/A
34	STRAIGHT FITTING 8-10	PARTS	1	N/A
33	STRAIGHT FITTING 8-8	PARTS	1	N/A
32	HOSE CLAMP 1 (23-25)	PARTS	2	N/A
31	SUCTION HOSE 5/8 X 39 LG	PARTS	1	N/A
30	1/2 HIGH PRESSURE BALL VALVE	PARTS	1	N/A
29	FITTING 10-16 X 90°	PARTS	1	N/A
	MATERIAL			

ITEM #	DESCRIPTION	MATERIAL	QTY	DRAWING #
28	#10 JICF X 5/8 M HOSE BARB BRASS	PARTS	2	N/A
27	FITTING 10-8 X 90°	PARTS	1	N/A
26	#8 NPTF X #8 NPTF X #8 NPTM TEE	PARTS	1	N/A
25	1/2 NPTM X 1/2 NPTF FITTING 90°	PARTS	1	N/A
24	CONNECTOR 5/8 X 1/2	PARTS	1	N/A
23	2 SPOOL BRAND VALVE D/A SAE	PARTS	1	N/A
22	HOSE CLAMP 1.25 (32-35)	PARTS	2	N/A
21	SUCTION HOSE 1 X 16 LG	PARTS	1	N/A
20	FITTING #16 HOSE X #16 JICF	PARTS	2	N/A
19	REDUCER 1 X 1/2	PARTS	1	N/A
18	SHORT NIPPLE 1/2	PARTS	1	N/A
17	HOSE CLAMP 1.125 (29-31)	PARTS	2	N/A
16	SUCTION HOSE 3/4 X 16 LG	PARTS	1	N/A
15	#12 HOSE BARB & JICF SWVL	PARTS	2	N/A
14	#16 NPTM X #12 JCM 90°	PARTS	1	N/A
13	90 DEGREE ELBOW 3/4 FLAIR	PARTS	1	N/A
12	FILTER ELEMENT	PARTS	1	N/A
11	OIL COOLER	PARTS	1	N/A
9	HYDRAULIC FLUID TANK	SEE DRG	1	1702
8	SPIDER LO95	PARTS	1	N/A
6A	JAW KEY 1/4 X 1 1/2 LG	PARTS	1	N/A
6	JAW COUPLING LO95 1" BORE 1/4 KW	PARTS	1	N/A
5	SPUR GEAR DOUBLE PUMP #GPV053534X	PARTS	1	N/A
4	BELL HOUSING (#HYDRAM300-402-500)	PARTS	1	N/A
3	11 HP HONDA ENGINE WITH ELECTRIC START	PARTS	1	N/A
2	FRAME ASSLY	SEE DRG	1	1701
	MATERIAL			

SPAR-MARATHON ROOFING SUPPLIES
 10000 WILSON AVENUE, SUITE 100, WILSON, CA 94094
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JIS 2000 POWER PACK
 1700
 1:5
 SEE PARTS LIST
 DATE: NOV. 13, 2008
 DRAWING # 170
 QTY 0