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Revised 06-01 **16-126-101**

OWNER'S MANUAL

BARREL DUMPER • Series BBHDD

Contents

WARNINGS & SAFETY INSTRUCTIONS

Read owner's manual completely before operating unit!

- Not a personnel lift. Keep clear when operating.
- Never go under chute if there is weight on unit.
- Remove weight/disconnect power before working on unit.
- Use only maintenance parts supplied or approved by the manufacturer.
- Do not change pressure relief valve setting.
- Do not clamp hydraulic cylinder in a vise as you may distort the barrel.
- Never operate the dumper unless you are watching it. Do not continue to hold in the UP button if unit is not raising.
- Relieve system pressure by holding in DOWN button after unit has come to rest.
- Consult factory if performing any modification to the original equipment.
- Do not use brake fluids or jack oils. Use AW-32 Hydraulic Oil.
- Make sure all operator safety labels are in place.

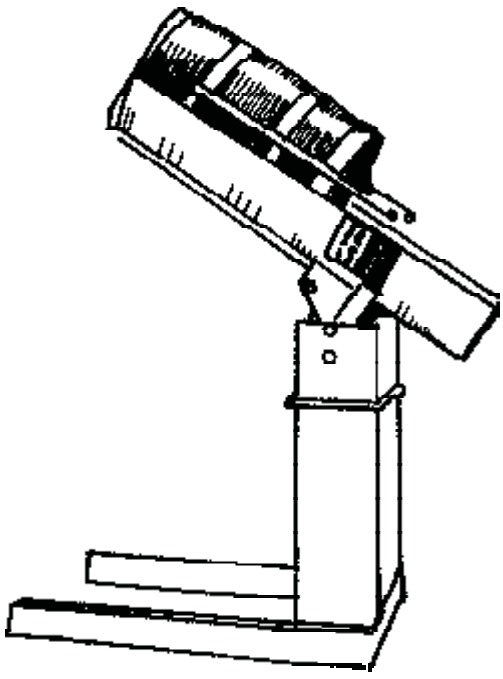
RECEIVING INSTRUCTIONS

Every unit is thoroughly tested and inspected prior to shipment. However, it is possible that the unit may incur damage during transit. If you see damage when unloading, make a note of it on the BILL OF LADING.

Remove all packing and strapping material. Inspect for damage. IF DAMAGE IS EVIDENT, FILE A CLAIM WITH THE CARRIER IMMEDIATELY! Also, check the unit size, type of power unit, etc., to ensure the dumper is correct for the intended application.

MODEL NUMBER AND CAPACITY

The model number, serial number and capacity are inscribed on the nameplate. Please remember to include these numbers in any correspondence with your dealer or the factory.



HYDRAULIC DRUM DUMPER SERIES BHDD

LOADING

The load capacity rating as inscribed on the nameplate of your unit designates the maximum capacity, assuming the load is centered. Exceeding this capacity may result in permanent damage to the equipment and/or injury to personnel.

OPERATING INSTRUCTIONS

This unit is furnished with constant pressure ("deadman" type) push button controls. Depressing the "UP" (or RAISE) button, starts the motor (*see wiring diagram*) which in turn runs the hydraulic pump. The cylinder begins to extend and the chute starts to raise. Stand to the side when operating. Stay clear of moving parts. The chute will rotate as long as the "UP" button is pressed.

On releasing the control, the unit will cease to rise and will remain at that particular elevation. This is because the motor circuit is broken and the motor stops running.

When the "DOWN" (or LOWER) button is depressed, the Down Solenoid Valve is energized. The cylinder starts retracting as the oil returns to the reservoir. Upon releasing the button, the unit will cease to lower and remain at that particular elevation. Be certain all personnel and objects are clear when the unit is descending.

In the event the unit is overloaded, the chute will not rotate because the relief valve will open due to excessive pressure build up. Oil will bypass into the reservoir.

The motor runs only when the "UP" button is depressed. The Down Solenoid Valve is energized only when the "DOWN" button is depressed.

Safety Instructions to the Operator

1.) Always load the unit properly.

2.) Never use the Dumper if it is in need of repairs or in the case of a malfunction.

3.) Notify your maintenance personnel or supervisor in case you notice anything out of ordinary, such as binding, odd pump noises, etc.

4.) Do not continue to depress the "UP" button if the unit is not raising. The motor or pump may be permanently damaged.

Ordering Replacement or Extra Parts

Our company takes pride in using the finest available parts for our equipment. We are not responsible for equipment failure resulting from the use of unapproved replacement parts. To order replacement or extra parts for your equipment, contact Customer Service at the factory. In any correspondence with the factory, please include the **Serial Number** which is inscribed on the nameplate of the piece of equipment. Use only the part numbers provided in this Owner's Manual. When ordering parts for AC power units, please indicate the motor voltage and phase that the equipment is operating on.

Installation Instructions

For proper installation you will need the following:

- A fork truck or hoisting means.
- Lag bolts, masonry drill, masonry bit, wrench for lag bolt, grout, and steel shims.
- A power supply at the specified voltage including fuses or circuit breakers. (*see electrical section*.)

Procedure:

1.) Read all the warning labels on the Dumper.

2.) Check local codes pertaining to your application.

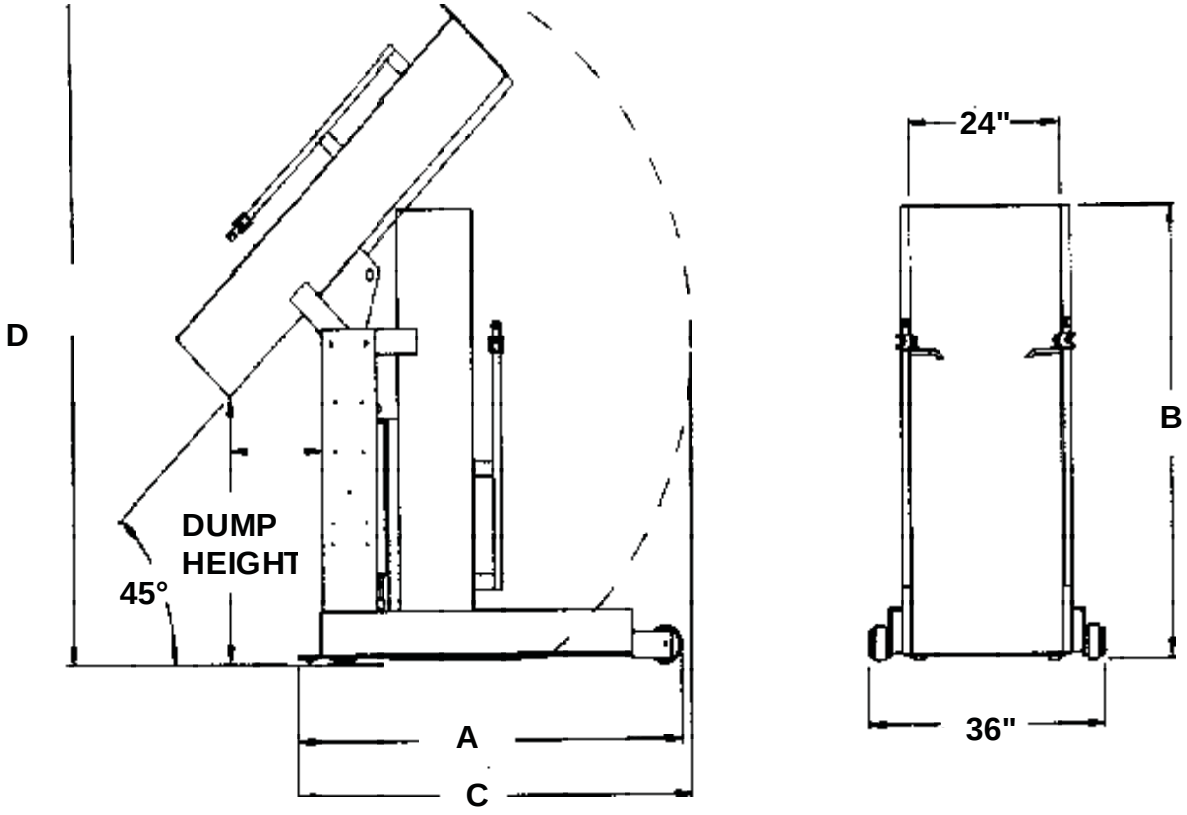
3.) Position dumper so that there will be sufficient clearance to load/unload and dump your drums.

4.) Connect power source as shown in electrical section. You must be a qualified electrician to do the hookup.

5.) Operate lift through a few cycles. Check and add oil if necessary.

6.) Clean up any debris or spilled oil.

DIMENSIONAL DATA



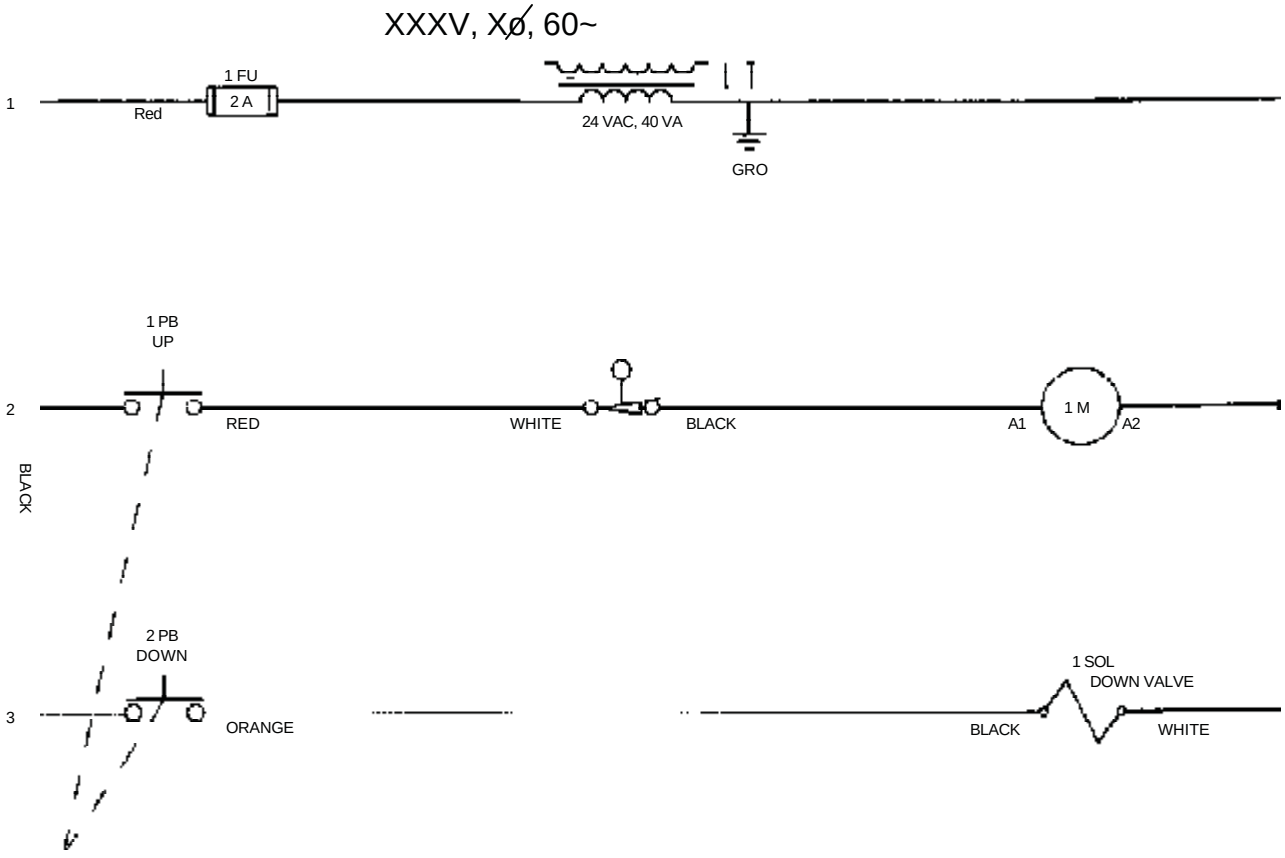
DUMP HEIGHT (In.)	LOAD CAPACITY						DIMENSIONS (In.)							
	750 lb.		1000 lb.		1500 lb.		PORTABLE				STATIONARY			
	DUMP TIME	SHIP WT.	DUMP TIME	SHIP WT.	DUMP TIME	SHIP WT.	A	B	C	D	A	B	C	D
36	25 sec.	722	25 sec.	747	30 sec.	872	59-1/2	60-1/4	58-1/2	93-1/2	53-1/2	60-1/4	58-1/2	92
42	25 sec.	757	25 sec.	752	30 sec.	907	63-1/2	66-1/4	64-1/2	103-1/2	59-1/2	66-1/2	64-1/2	100
48	25 sec.	792	25 sec.	817	30 sec.	942	67-1/2	72-1/4	70-1/2	114	63-1/2	72-1/2	70-1/2	112-1/2
54	25 sec.	837	25 sec.	862	30 sec.	987	76	78-1/4	76-1/2	124	72	78-1/2	76-1/2	122-1/2
60	25 sec.	882	25 sec.	907	30 sec.	1032	76	84-1/4	82-1/2	134-1/2	72	84-1/2	82-1/2	133

Figure 1

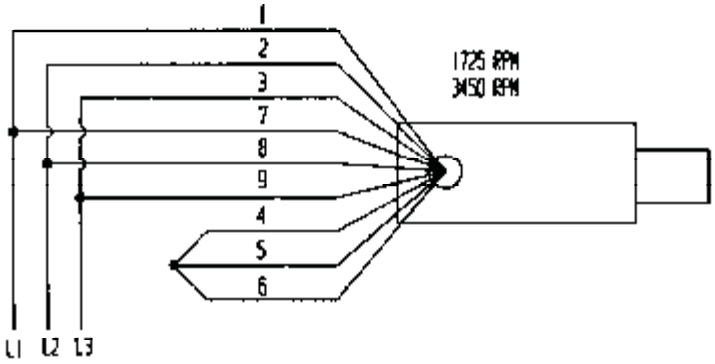
ELECTRICAL SCHEMATIC

24V CONTROL CIRCUIT

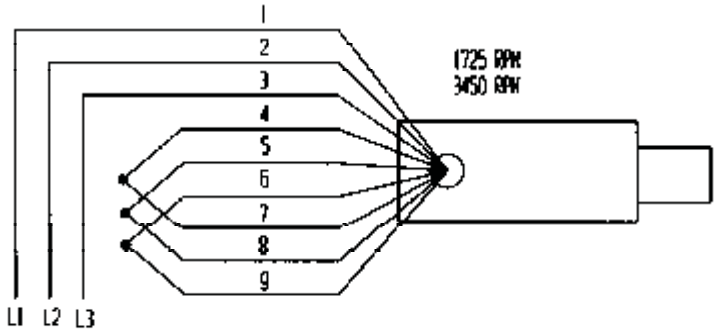
See p. 5-7 for power conversion.



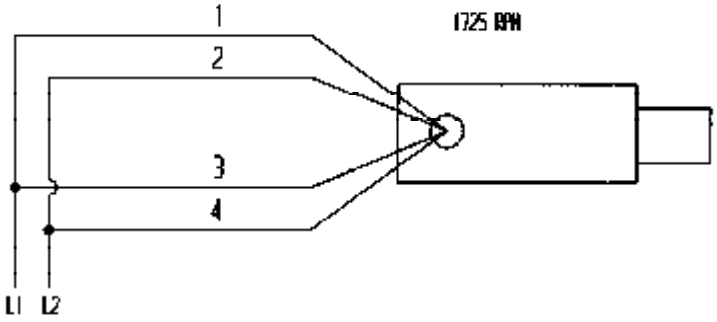
208-230 Volt 3-Phase



208-230 Volt 3-Phase



115 Volt 1-Phase



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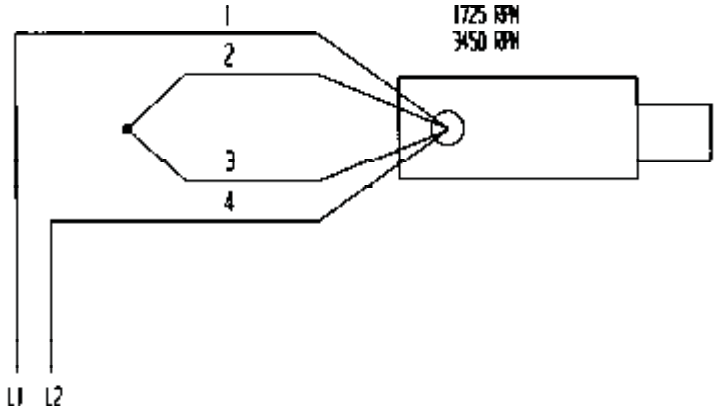
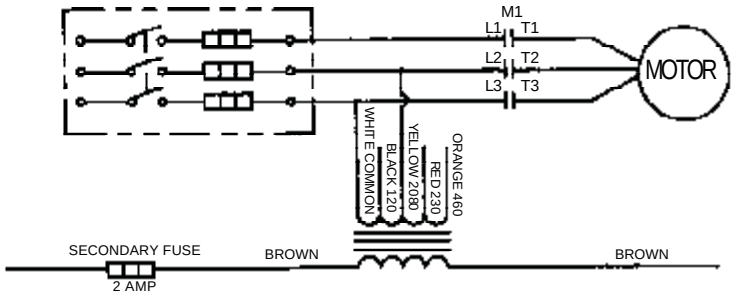
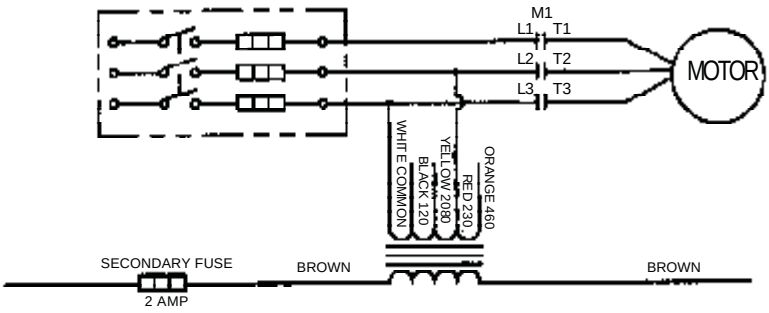


PRIMARY WIRING FOR CONTROL TRANSFORMER AND MOTOR CONTACTOR

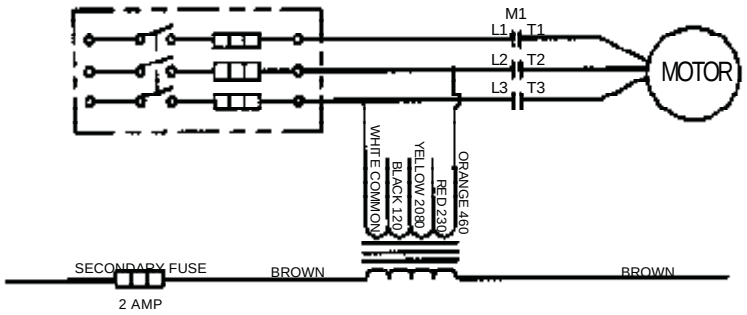
208 3 PHASE
PROTECT AND
DISCONNECT
BY OTHERS

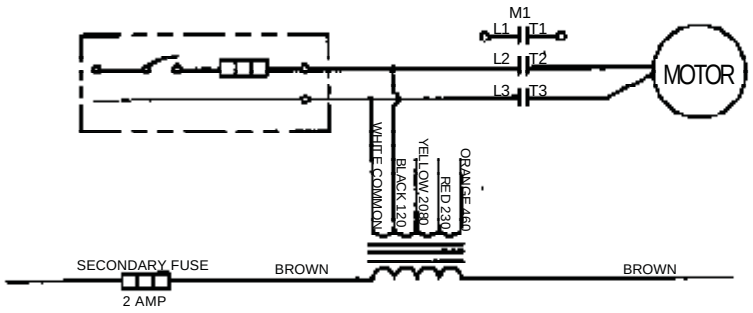


230 3 PHASE
PROTECT AND
DISCONNECT
BY OTHERS

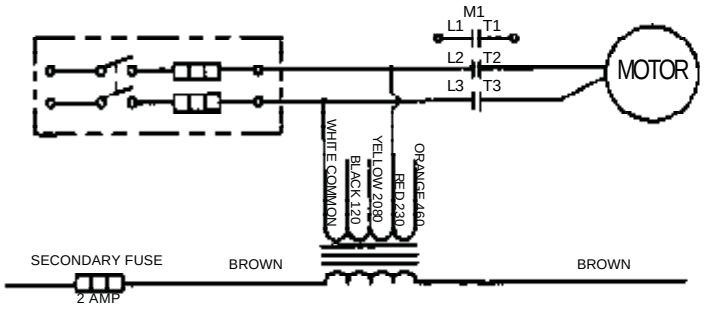


460 3 PHASE
PROTECT AND
DISCONNECT
BY OTHERS





115 1 PHASE
PROTECT AND
DISCONNECT
BY OTHERS



230 1 PHASE
PROTECT AND
DISCONNECT
BY OTHERS

HYDRAULIC OPERATION

When the operator wants to tilt the unit to the horizontal position, he depresses the "UP" button. This starts the electric motor (Item 3) which runs the hydraulic pump (Item 4). Oil from the reservoir (Item 1) is drawn in through the suction filter (Item 2) and into the pump. The pump delivers the pressurized oil through the check valve (Item 6) before entering the cylinder.

The function of the check valve is to allow the oil to flow in one direction, i.e. towards the cylinders. It also prevents the flow of oil back into the pump circuit when the pump stops running. This holds the oil in the cylinder and maintains the desired elevation.

If the load exceeds the maximum capacity, and the "UP" button is still depressed, pressure will build up in the circuit between the pump and the cylinder. This forces the "ball" or "poppet" in the relief valve (Item 5) to unseat and the pump output returns into the reservoir through the return pipe.

When the operator desires to lower the unit, he depresses the "DOWN" button. This energizes the down solenoid valve (Item 7). The poppet in the solenoid valve is unseated and oil now returns from the cylinder through the flow control valve (Item 8), return filter (Item 9), the solenoid valve, oil return pipe, and into the reservoir.

The flow control valve (Item 8) controls the down speed of the chute. It is preset and cannot be changed.

Releasing the "DOWN" control will de-energize the solenoid, closing the valve poppet. This prevents the oil from returning to the reservoir and the cylinder will stop retracting. The unit is now maintained at that particular elevation.

Cartridge Valves

The lowering valve, as discussed above, is of cartridge construction and is virtually maintenance-free. If you suspect the valve to be faulty, check Trouble Shooting Section (p. 12-13). To clean the cartridge valve, follow this procedure:

1.) Use a sharp object and push poppet in from the bottom to open the valve.

2.) Repeat several times while valve is immersed in kerosene or mineral spirits. Blow dry.

3.) Inspect "O" rings and the teflon extrusion washer.

4.) Re-install. The valve should be tightened to approximately 30 ft.

Velocity Fuse

There is a brass velocity fuse with a stainless steel spring in the base of each cylinder (Item 10). In the event of a hydraulic hose failure, the chute starts to rotate down at a fast rate. As soon as the descent speed exceeds the preset speed, the Velocity Fuse will shut off the oil flow and the chute will remain stationary until pressure is re-applied. This safety feature reduces the possibility of accidental personal injury or damage to the dumper or its contents. To reset the velocity fuse, just activate the pump by depressing the "up" button.

Air Bleed Procedure

If your chute descends very slowly or will not descend at all, air is likely trapped in the hydraulic circuit and must be "bled" from the system. To bleed air form the hydrauic circuit, follow these directions.

1.) Remove the drum from the chute and completely lower the unit.

2.) Remove the cylinder from the unit.

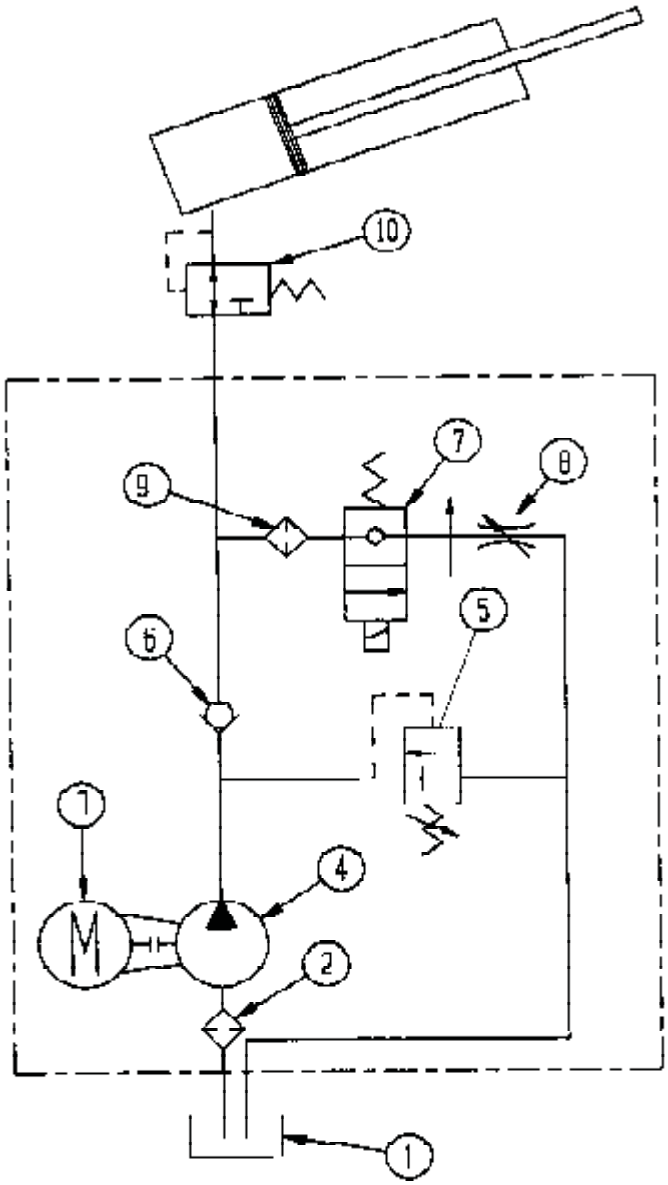
3.) Rotate the cylinder so that the end with the pressure hose connector is "up."

4.) Loosen the hose connection approximately 1/4 to 1/2 turn which will allow trapped air to escape.

5.) "Jog" the power unit to force trapped air from cylinder.

6.) When the cylinder is free of air, tighten the hose connector and reinstall the cylinder.

HYDRAULIC SCHEMATIC

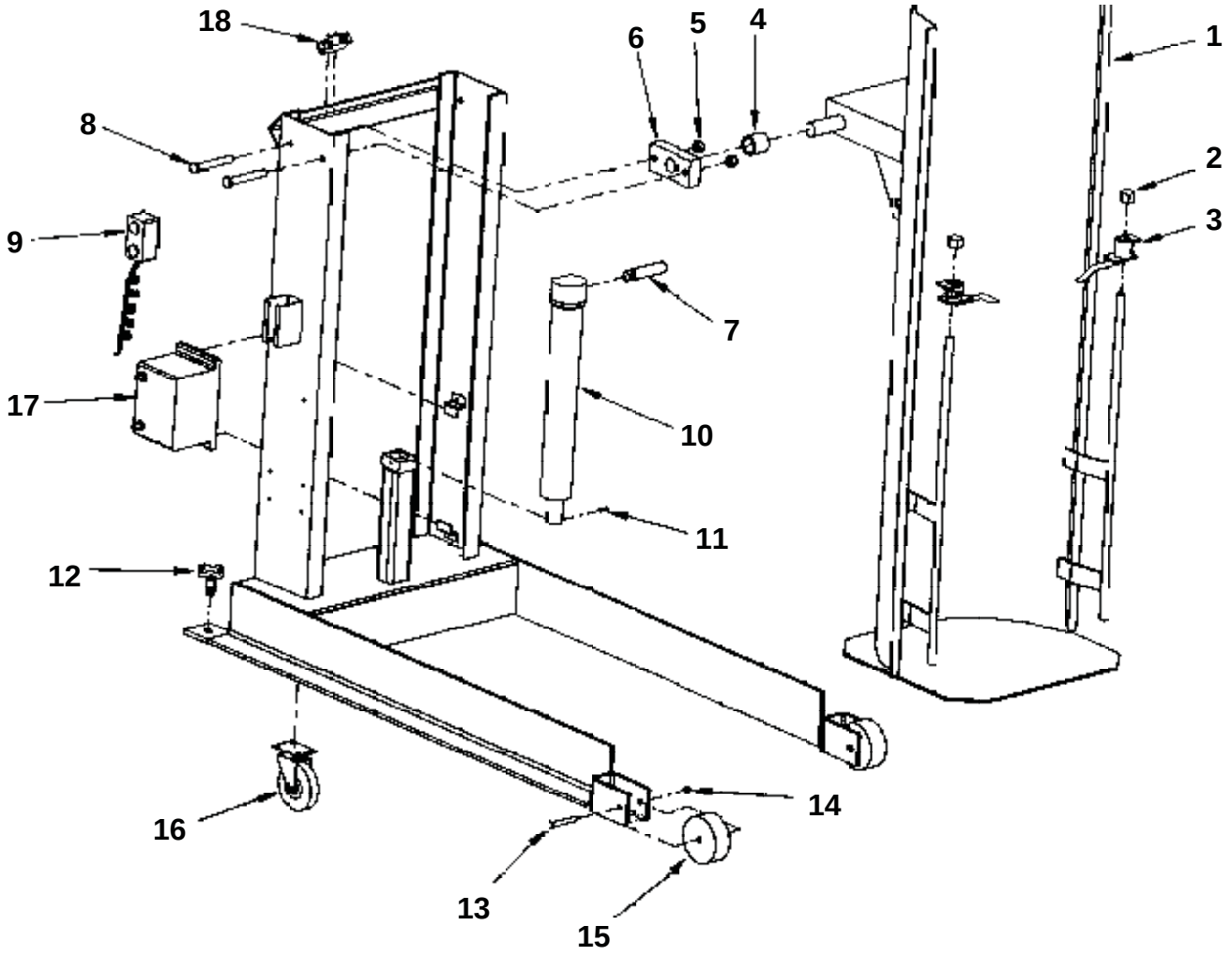


NOTES:

- 1 G.P.M. PRESSURE-COMPENSATED FLOW CONTROL IN LOWEREING CIRCUIT STANDARD
- 1 TO 2.4 G.P.M. PUMP FLOW STANDARD
- INTERNALLY-MOUNTED POWER UNIT, W/ PLASTIC RESERVOIR

1.) Oil Reservoir
2.) Suction Filter
3.) Electric Motor
4.) Hydraulic Pump
5.) Pressure Relief Valve
6.) Check Valve
7.) Down Solenoid Valve
8.) Flow Control Valve
9.) Return Filter
10.) Velocity Fuse

PARTS INDENTIFICATION



SERIES BBHDD

Hydraulic Barrel Dumper

ITEM NO.	DESCRIPTION	ENGINEER NO.	PART NO.	QTY.
1	Dump Chute Assembly (Specify chute length)	CALL	CALL	1
2	3/4" Pipe Cap	B09-145-004	BHDD-CAP	2
3	Height Adjustment Clamp	B09-537-004	BHDD-HAC	2
4	Spacer 1-1/2" SCH 40 x 2-11/16" long)	B09-113-008	BHDD-SPCR	2
5	3/4" - 10 Nylock Nut	B37039	BHDD-NUT-1	4
6	Bearing Block	B09-516-012	BHDD-BBK	2
7	Upper Cylinder Pin	B01-112-001	BHDD-UCP	1
8	Bearing Bolt (3/4" - 10 unc long Hex Head cap Screw)	B12365	BHDD-BLT-1	4
9	Pendant Hand Control	B01-522-022	BHDD-BTN	2
10	Hydraulic Cylinder (2-1/2" x 18")	B09-021-007	BHDD-CYL	1
11	Cylinder Rod Retainer Bolt	B01-118-001	BHDD-RBLT	1
12	Level Adjustment Knob	BBH-0917-01	BHDD-LKB	2
13*	Bolt (1/2" - 13 x 4" long Hex Head Cap Screw)	B11219	BHDD-BLT-2	2
14*	Nut (1/2" - 24 Nylock Nut)	B37030	BHDD-NUT-2	2
15*	5" x 2" Polyurethane Wheel	B16-132-020	BHDD-WHL	2
16*	5" x 2" Swivel Caster (Welding required)	B06-132-023	BHDD-CSTR	2
A	Cylinder Seal Repair Kit (Not Shown)	B21629-9500	BHDD-KIT-A	1
B	Caster Kit (includes items 13-15)	B09-154-001	BHDD-KIT-B	1
C	Hydraulic Cylinder Kit (includes items 7, 10, 11)	B09-154-002	BHDD-KIT-C	1
D	Bearing Kit (includes items 4, 5, 6, 8)	B09-154-003	BHDD-KIT-D	1

***** Not applicable on stationary models

ITEM NO.	DESCRIPTION	ENGINEER NO.	PART NO.	QTY.
-	Motor Pump Combo 1 phase	-	BHDD-MPA-1	1
-	Motor Pump Combo 3 phase low speed	-	BHDD-MPA-3A	1
-	Motor Pump Combo 3 phase high speed	-	BHDD-MPA-3B	1
-	Manifold Block	B99-127-901	BHDD-MAN	1
-	Pressure Relief Assembly	B01-154-019	BHDD-PRZ	1
-	Check Valve Assembly	B01-154-020	BHDD-CVA	1
-	Solinoid Valve Assembly	BSU08-20.5-O-N-24AG	BHDD-SVA	1
-	Cartridge Valve Only	BSU08-20.5-S-B-N	BHDD-CVO	1
-	Coil Only	B6316024	BHDD-CO	1
-	Manifold Assembly	B99-127-001	BHDD-MANASSY	1
-	Motor 1 phase low speed	B01-135-032	BHDD-MO-1	1
-	Motor 3 phase low speed	B01-135-029	BHDD-MO-3A	1
-	Motor 3 phase high speed	B01-135-030	BHDD-MO-3B	1
-	Pump Only 0.06 Displacement	B01-143-905	BHDD-PO-5	1
-	Pump Only 0.073 Displacement	B01-143-906	BHDD-PO-6	1
-	Pump Only 0.122 Displacement	B01-143-907	BHDD-PO-7	1
-	Pump Only 0.153 Displacement	B01-143-908	BHDD-PO-8	1
-	Junction Box	BAB664JS	BHDD-JB	1
-	Motor Contactor	BE9.10-24AC	BHDD-MC	1
-	Control Transformer	B01-129-001	BHDD-CT	1
-	Pendent Control Only	BUCB-2-2	BHDD-PWO	1
-	Up Travel Limit Switch	BMJI-6101	BHDD-LSW	1

****** Please specify motor phase and voltage when ordering

HYDRAULIC EQUIPMENT

Trouble Shooting Quick Reference Guide
(For further information, refer to the owners manual, or contact the factory)

Observation	Possible Cause	Remedy
1.) Dumper does not raise but pump is running or humming.	a. Motor may be single phasing (humming) if three phase unit.	a. Check wiring and overloads, fuses, etc. Ensure that all 3 phase lines are present at the motor.
	b. Voltage at motor terminals may be too low to run pump at existing load.	b. Measure voltage at motor terminals or as near as possible, while pump is running under load. If voltage is sufficient, check for inadequate or incorrect wiring as this can starve the motor. (Refer to chart in Owner's Manual for recommendations.) Correct as necessary.
	c. Hose or hydraulic line is leaking.	c. Correct as necessary.
	d. Fluid level in reservoir is low.	d. Add fluid. Refer to Owner's Manual for proper fluid levels.
	e. Load exceeds capacity requirements. Relief Valve is bypassing the fluid back into the reservoir.	e. DO NOT CHANGE RELIEF VALVE SETTING. Instead, reduce the load to rated capacity.
	f. Suction filter is clogged, starving pump.	f. Remove and clean.
	g. Suction line may be leaking air, due to loose fittings.	g. Inspect all fittings for proper fit.
	h. Filler/Breather cap on tank may be clogged.	h. Remove and clean.
	i. Down Valve may be energized by faulty wiring or stuck open.	i. Remove Solenoid Valve. Check and clean. (Refer to Hydraulic Section of Owner's Manual.)
	j. Hydraulic pump may be inoperative.	j. Disconnect hydraulic line at power unit. Put pressure line in a large container and cycle pump. If no output, check the pump motor coupling, which may be defective, and correct as necessary. If pump is worn, consult factory for replacement parts service.
2.) Dumper raises too slowly.	a. Foreign material stuck in Down Solenoid, causing some fluid to bypass back into tank.	a. Lower the platform. Remove the Solenoid Valve and clean. (Refer to Hydraulic Section of Owner's Manual.)
	b. Foreign material clogging suction filter, breather cap, or a pinched hose.	b. Correct as necessary. (See also, 1(f), (h).
	c. Low motor voltage.	c. See 1(b).
	d. Table overloaded.	d. See 1(e).
	e. Pump is inoperative.	e. See 1(j).
3.) Motor labors, or is excessively hot.	a. Voltage may be low.	a. See 1(b).
	b. Incorrect wiring.	b. Check that one leg of the motor lines is not connected to ground.
	c. Oil starvation causes pump to bind. High internal heat is developed. If this occurs, pump may be permanently damaged.	c. See 1(d), (f), (g), (h), (j).
	d. Binding cylinder.	d. Align cylinder correctly.

4.) "Spongy" or "Jerky" dumper operation.	a. Fluid starvation.	a. See 1(d), (f), (g), (j).
5.) Dumper lowers too slowly when loaded.	a. Down Valve filter clogged.	a. Remove Solenoid Valve and clean filter.
	b. Pinched tube or hose.	b. Correct as necessary. (In case of pipe, check for obstruction in line.)
	c. Foreign material in Flow Control Valve.	c. Remove and clean Flow Control Valve. (Refer to Hydraulic Section of Owner's Manual.)
	d. Binding cylinder.	d. Align cylinder correctly.
	e. Foreign material in Velocity Fuse.	e. Remove and clean Velocity Fuse. (Refer to Hydraulic Section of Owner's Manual.)
6. Dumper lowers too quickly.	a. Leaking hoses and/or cracked fittings.	a. Correct as necessary.
	b. Check valve is stuck open. (The combination of a stuck Check Valve and open Solenoid Valve will cause excessive speeds.)	b. Remove and clean Check Valve. (Refer to Hydraulic Section of Owner's Manual.
	c. Foreign material stuck in Flow Control Valve. (In this case, chute lowers initially at a normal rate then speeds up as the platform descends.)	c. Remove Flow Control Valve from the Valve Block and clean. (Refer to Hydraulic Section of Owner's Manual.)
7. Dumper raises then lowers slowly.	a. Down Solenoid Valve may be incorrectly wired or is stuck open due to dirt.	a. See 2(a).
	b. Check Valve may be stuck open.	b. Remove and clean Check Valve. (Refer to Hydraulic Section of Owner's Manual.)
	c. Check for leaking hoses, fittings, pipes.	c. Correct as necessary.
	d. Cylinder packings may be worn or damaged.	d. Replace packings. (Refer to Hydraulic Section of Owner's Manual. Consult Factory for replacement parts.)
8. Dumper has raised, but does not lower.	a. Blown electrical fuse.	a. Check and replace.
	b. Incorrect Down Solenoid Valve wiring.	b. Correct as necessary. (Refer to Electrical Section of Owner's Manual.)
	c. Down Solenoid Valve is stuck.	c. Lightly tap down the Solenoid Coil body to seat it properly. (DO NOT hit coil hard as it will permanently damage the internal stem). DO NOT remove the Solenoid Valve from the Block as the unit will come down at a dangerous speed.
	d. Faulty Down Solenoid Coil.	d. Remove and replace. (Refer to Electrical Section of Owner's Manual.
	e. Binding cylinder	e. See 2(e).
	f. In case of excessive down speeds, the Velocity Fuse will become operative and shut off the oil flow from the cylinders, thus the platform will remain stationary.	f. To unlock, re-pressurize the hydraulic system.
	g. Check if the Limit Switch is inoperative and the chute has raised all the way so that the mechanical stops are engaged. If mechanical stops are engaged, the Velocity Fuse has been locked up.	g. Refer to Velocity Fuse Section of the Owner's Manual.
9. Erratic or uncontrolled operation.	a. Low battery (DC units only).	a. Adequately charge battery before further operation. (Refer to Charging Section of Owner's Manual.)

PERIODIC MAINTENANCE INSTRUCTIONS

(A) Before Each Use Check For The Following :

1.) Frayed wires
2.) Oil leaks
3.) Pinched or chafed hoses
4.) Structural deformation of arms, frame, and chute
5.) Unusual noise or binding

Do not use if there are any of the above!

(B) Monthly Inspections

1.) Check oil level. Oil should be 1" to 1 1/2" below the top of the tank with the chute in the fully lowered position. Add as necessary.

2.) Check for oil leaks. (See trouble shooting section).

3.) Check clevis and pivot points for wear.

4.) Check for worn or damaged hydraulic hoses, electrical wires, and cords. Repair as necessary.

5.) Inspect barrel hold-down clamps for proper operation.

6.) Check retaining rings at all pivot points and clevis.

7.) Check for unusual noise. (see trouble shooting section.

8.) Make sure all warning labels are in place and in good condition.

9.) Clean off dirt and debris.

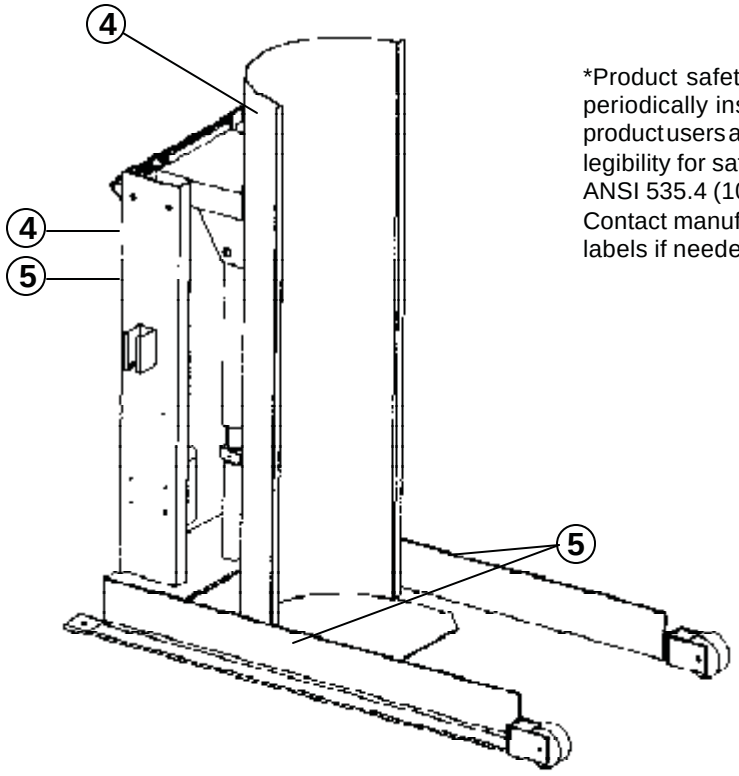
(B) Yearly Inspection

Hydraulic oil should be changed at least once a year, or sooner if the oil darkens or becomes gritty. Presence of water is indicated if the oil turns milky. The factory recommends purity AW-32 Hydraulic fluid or equal.

All maintenance work must be performed by qualified personnel with training in the repair of electrical and hydraulic components.

WARNING LABEL IDENTIFICATION

MAKE SURE ALL WARNING LABELS ARE IN PLACE!



*Product safety signs or labels should be periodically inspected and cleaned by the product users as necessary to maintain good legibility for safe viewing distance . . . ANSI 535.4 (10.21)
Contact manufacturer for replacement labels if needed.

Label 1,2,3 are located on power unit.

1

NOTICE	NOTA	AVIS
POWER SUPPLY: 115 Volt/1 Phase/60 HZ CONTROL VOLTAGE: 24 VOLT AC		
CORRIENTE: 115 Volt/1 Fase/60 HZ VOLTAJE DE CONTROL: 24 VOLT CA		
ALIMENTATION ÉLECTRIQUE: 115 Volt/1 Phase/ 60 HZ VOLTAGE DE CONTRÔLE: 24 VOLT AC		

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ON HYDRAULIC TANK (NOT SHOWN)

2

ISO AW-32

HYDRAULIC OIL OR EQUIVALENT
ACEITE HIDRÁULICO O EQUIVALENTE
HYDRAULIQUE OU ÉQUIVALENT

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3

DANGER ⚠	SHUT POWER OFF AND CONSULT OWNERS MANUAL BEFORE WORKING ON THIS EQUIPMENT
PELIGRO ⚠	CORTE LA CONSULTE Y CONSULTE EL MANUAL DEL PROPIETARIO ANTES DE TRABAJAR EN ESTE EQUIPO
DANGER ⚠	COUPER LE COURANT ET CONSULTER LE MANUEL D'UTILISATION AVANT DE TRAVAILLER SUR CET ÉQUIPEMENT

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4

⚠ WARNING	⚠ AVISO	⚠ AVERTISSEMENT
KEEP CLEAR WHEN IN USE	MANTENGASE ALEJADO CUANDO SE ESTA OPERANDO	SE TENIR À DISTANCE LORS DU FONCTIONNEMENT

220

5

⚠ WARNING	⚠ AVISO	⚠ AVERTISSEMENT
KEEP CLEAR OF **PINCH POINT**	MANTENGASE ALEJADO DE **PUNTO DE CORTE**	SE TENIR À DISTANCE DU **POINT DE PINCEMENT**

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