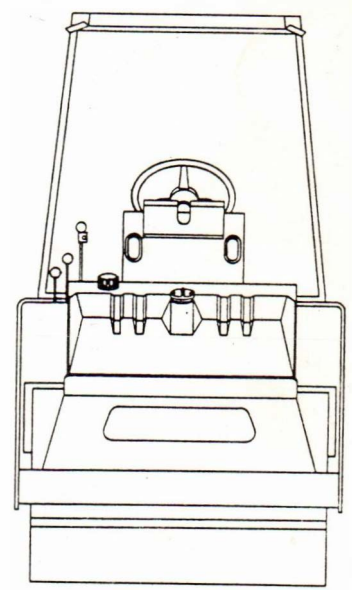
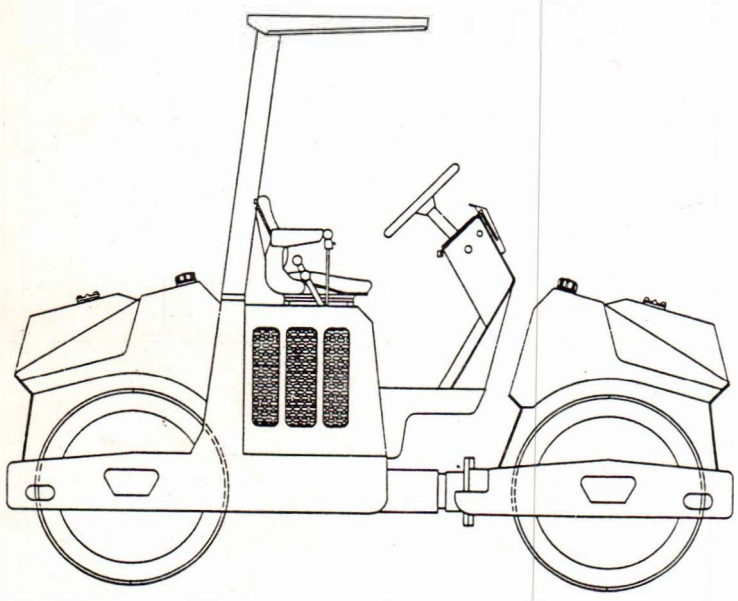


NEW
BEUTHLING

OWNER'S MANUAL

B400
DUAL VIBRATORY

RIDE-ON VIBRATORY COMPACTOR ARTICULATED
SERIAL NUMBER 208 & UP



WARNING! READ THIS MANUAL AND  CIMA ROLLER COMPACTOR SAFETY MANUAL BEFORE OPERATING OR SERVICING YOUR MODEL B400.

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NOTE:

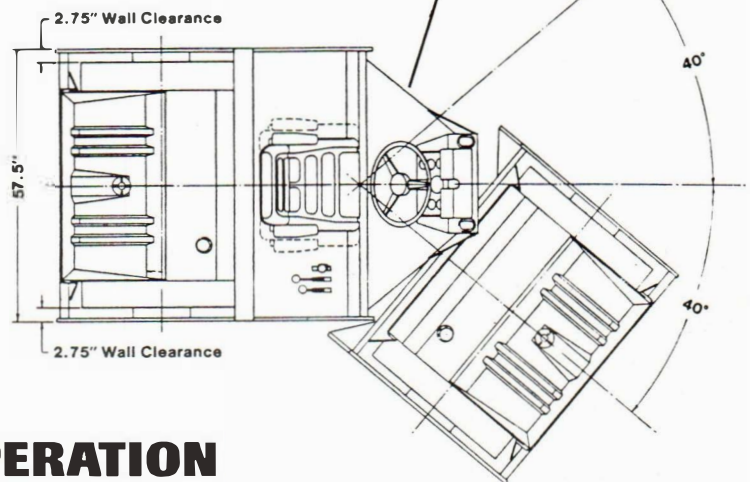
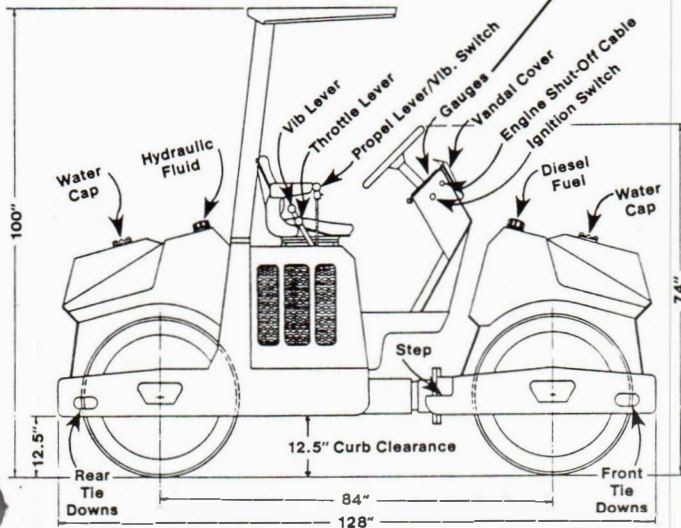
FOR ALL INQUIRES PLEASE INDICATE:

MACHINE MODEL

SERIAL NUMBER

ENGINE TYPE

(MODEL & SERIAL NUMBER PLATE IS LOCATED IN ENGINE COMPARTMENT, LH FRAME)



SAFETY WARNING

- BEFORE OPERATING UNIT, READ AND UNDERSTAND "OWNER'S MANUAL."
- IT IS THE CUSTOMER'S RESPONSIBILITY TO SUPERVISE, TRAIN AND EDUCATE THEIR EMPLOYEES OR ANY OTHER USER OF THIS EQUIPMENT FOR PROPER OPERATION, MAINTENANCE AND SAFETY.
- KEEP HANDS AND FEET CLEAR WHEN UNIT IS RUNNING OR MOVING.

OPERATING OR PARKING THIS UNIT ON INCLINES, HILLS, RAMPS OR NEAR THE EDGE OF A WORK SURFACE MAY BE DANGEROUS AND CAUSE THIS UNIT TO BECOME UNSTABLE OR ROLLOVER.

ALWAYS BE IN CONTROL OF YOUR UNIT

FAILURE TO OBEY SAFETY WARNINGS MAY RESULT IN SERIOUS INJURY TO OPERATOR OR OTHERS.

380-0027 REV

OPERATION



WARNING:

Read this manual and the CIMA "Roller - Compactor Safety Manual", supplied with the machine, BEFORE starting, operating, or servicing the machine.

Before starting engine make certain control lever is in "NEUTRAL" (center) position. The transmission MUST be in the "NEUTRAL" position for the engine to be started. A neutral start switch has been included within the electrical system. The brake toggle switch is located on the console dash panel and is "ON" (or brake applied) when toggle switch is in UP position and "OFF" when toggle switch is in DOWN position.

When brake toggle switch is "ON", red indicator light is LIT and ALARM buzzer is SOUNDING.



WARNING:

The machine MUST NOT move, at ANY time, when the secondary/parking brake toggle switch is in the "ON" (up) position.

DO NOT operate the machine, if the machine will MOVE when the secondary/parking brake toggle switch is "ON".

NEVER drive the machine with the secondary/parking brake toggle switch "ON".

When starting, if so equipped, and not previously done, unlock the locks securing the floor and dash covers. Move the covers to the stowed position.

Continued next page

 **CAUTION:**

Never start the engine with the “amber” vibration system “on” indicator lighted. Damage to the vibrator system and/or engine can occur.

Before starting engine, if so equipped with ROPS, IMMEDIATELY, after being seated, place the seat belt across the lap and securely insert the metal end into the belt buckle. TIGHTEN the belt, AGAINST the body, by pulling on the loose end of the belt. Make sure engine stop cable is pushed in to start/run position. Propel lever is in the neutral position, vibrator control lever, and vibrator switch on the propel lever are in the off position. Set throttle lever to the ¼ position, and parking brake switch in the ON position. Propel lever and vibrator control lever have neutral start switches, and engine will not start unless these levers are in neutral and off positions.

STARTING ENGINE

- (1) Set the fuel cock to “ON”. (at Engine)
- (2) Check that the engine stop cable is in the original pushed in position.
- (3) Place the speed control lever at low RPM.
- (4) Insert the key into the starter switch, and turn it to “ON”.
- (5) Check to see that the oil pressure lamp and charge lamp are on.
- (6) Turn the starter switch counterclockwise to “PREHEAT” to allow the glow lamp to light up. Shown below are the standard preheating times for various temperatures. This operation, however, is not required, when the engine is warmed up.

The glow lamp goes out in about 5 seconds when the lamp timer is up. Refer to this for pre-heating.

Even with the glow lamp off, the glow plug can be preheated by turning the starter switch to the “PREHEAT” position.

Temperature	Preheating Time
Over 0°C (32°F)	About 5 sec.
Below 0°C (32°F)	About 10 to 15 sec.

- (7) Return the key to “START”, and the starter will begin turning, starting the engine. Release the key immediately.
- (8) Check to see that the oil pressure lamp and charge lamp are off. If not, immediately stop the engine, and check the cause (see Engine Manual).
- (9) Warm up the engine at low speed.
- (10) Check to see that the oil pressure lamp is off. If it should stay on, immediately stop the engine and check.
 - * if there is enough engine oil.
 - * if the engine oil has dirt in it.
 - * if the wiring is faulty.

Maintain low R.P.M. for approximately 5 minutes to allow hydraulic system to warm up, move parking brake toggle switch to the off position before moving unit. Travel speed and direction of travel are controlled by the propel lever, next to seat.

Check gauges, instruments and warning lights frequently to assure that they are functioning and their readings are within the operating range.

 **WARNING:**

Do NOT put the engine throttle speed (RPM) control in the “FULL” engine speed position when the machine is being run in a confined area, or is near ANY object.

Check operation of ALL gauges and instruments. Check the operation of ALL other optional equipment, such as the rotating beacon and work lights, if so equipped. The machine is put into motion by moving the control lever in the direction of the travel desired. PUSHING the lever in the FORWARD direction will select a FORWARD direction of machine travel. PULLING the lever in the BACKWARD direction will select the REVERSE direction of the machine travel. If so equipped, note that the back up alarm system sounded when the control lever moved within the REVERSE position. The machine travel speed is proportional to the amount of the control lever movement, UNTIL full lever travel has been reached, in EITHER direction. The control lever should be moved slowly from one direction through neutral to the opposite direction. The procedure utilizes the hydraulic system’s DYNAMIC BRAKING capability to bring the machine’s weight to a complete stop, at neutral, before going in the opposite direction. This procedure allows the transmission system and engine to slow the machine to a stop.

If it is noticed that the engine power decreases when the control lever is fully advanced during a heavy pull, move the control lever back to increase power and decrease “engine lugging”.

 **WARNING:**

Slowing or stopping of machine during LEVEL surface operation is done by moving the directional/speed control lever TOWARD, and then TO the NEUTRAL position. Slow, or stop, the machine on a SLOPE, by moving the directional/speed control lever to the direction OPPOSITE the direction of machine travel.

If the machine speed can NOT be controlled through the use of dynamic braking, use dynamic braking AND the secondary/parking brake system to slow, and then stop the machine.

The secondary/parking brake system MUST be used to hold the machine in a “stopped” condition at ALL times.

STOPPING ENGINE:

- (1) Move speed and direction propel lever to neutral position.
- (2) Move vibrator control lever to off position.
- (3) Set engine throttle lever to idle position.
- (4) Set parking brake switch to on position.

- (5) Pull **stop cable** and hold until engine stops.
- (6) Turn ignition key counter clockwise to off position and remove from switch. Do not turn ignition key to off position until engine stops. Spring actuated brakes will not be applied with ignition switch on.
- (7) Push to return **stop cable** to start/run position for next engine starting.

EMERGENCY SHUTDOWN PROCEDURE:

- (1) Move Speed and Direction Lever to neutral position.
- (2) Stop engine by pulling engine stop cable.
- (3) Turn ignition key counter clockwise to Off Position and remove from switch. Emergency Brakes are spring actuated when engine is stopped and Ignition Switch is turned off.

See Kubota Engine Owners Manual for additional details on engine operation.

DYNAMIC BRAKING

Hydrostatic drive motors on both drums provide hydraulic dynamic braking when the speed and direction propel control lever is moved to neutral.

SECONDARY / PARKING BRAKES:

Failsafe, mechanical disc brakes in the hydrostatic drive motors are spring actuated when engine is stopped. They are hydraulically released when engine is started. Manual parking brake switch on console controls solenoid hydraulic valve which actuates, and releases parking/emergency brake when engine is running. Manual switch in "OFF" position releases brakes, and in "ON" position actuates brakes.

 **WARNING:**

Do Not try to move machine with secondary parking brakes engaged. Backup pressure of hydraulic system with low engine RPM's may have adverse affects on engine and hydraulic system if this happens.

This unit is equipped with a transmission by-pass valve and brake release tools to allow the unit to be moved up to 100 feet without the engine running. This feature **is not** designed for long distance or high speed highway towing.

When towing this compactor a short distance without the engine running, the following procedure must be carefully followed:

- (1) Connect towing vehicle to compactor, make sure towing vehicle is headed uphill if compactor is located on an inclined surface, and parking brakes are set. One roller on compactor should be blocked on both sides to prevent any movement of compactor when crawling under machine to open transmission by-pass valve.
- (2) Open transmission by-pass valves as follows:

The transmission by-pass valve is located on the bottom of the propel pump, item (4) on the Hydraulic Diagram page 14. This valve is opened for free wheeling by turning the round shaft with two $\frac{3}{8}$ " diameter cross holes

180° counter clockwise (CCW). Use $\frac{1}{4}$ " diameter rod or $\frac{3}{16}$ " hexagon allen wrench. To close by-pass valve for normal operation turn shaft 180° clockwise (CW).

- (3) Release brakes manually on both hydraulic drive motors as follows:

Use two Brake Tools, part No. 0004195, shown on page 8 as item (28). Tool mounted on item (2) when not being used.

- a. Move the hexagon nut as close to bolt head as possible.
- b. Hold washer against nut and insert bolts thru slot in left hand side of frames on drive motors side.
- c. Thread bolt into tapped hole in each drive motor end plate by hand until it bottoms.
- d. Hold bolts in place and turn nut clockwise against washer until motor end plate is pulled toward frame enough to disengage brakes. About $\frac{1}{2}$ turn after bolt starts to pull motor end plate.
- e. Remove tools to return brakes to operating position before moving compactor by its engine.

 **WARNING:**

DO NOT OPERATE UNIT WITH HYDRAULIC MOTOR BRAKES MANUALLY RELEASED.

 **CAUTION:**

To prevent the compactor from moving accidentally, do not release the hydraulic motor brakes manually until:

- (1) Compactor is connected to towing vehicle.
- (2) Compactor drum is blocked.
- (3) Transmission by-pass valve must be opened before releasing the hydraulic motors brakes manually. Opening the transmission by-pass valve will remove hydraulic fluid braking force. This will permit the compactor to move when the hydraulic motor brakes are manually released.
- (4) Tow compactor at speeds under 2 miles per hour, short distance only.
- (5) After compactor has been towed, remove brake tools from hydraulic motors to activate brakes on motors.
- (6) Block both sides of one compactor drum to prevent any movement of compactor when crawling under machine to close the transmission by-pass valve.
- (7) Disconnect from towing vehicle.

 **CAUTION:**

BEFORE and AFTER towing **APPLY** the secondary/parking brake. Return the towing by-pass valve to the "normal operation" (closed) position. Always block drums when machine is stationary with a by-pass valve in **FREEWHEEL (OPEN)** position.

WATER SPRAY SYSTEM

This unit is equipped with a pressurized water spray system having a switch located on the control panel which activates the front and rear spray bars.

VIBRATION SYSTEM

The B400 features Dual Drum Drive and Dual Drum Vibration. The vibratory system has a single level for frequency settings from 0 to 3000 vpm's. One selector switch allows 3 compaction modes: vibration on rear drum only (rear), vibration on both drums (dual) and static on both drums (OFF).

MACHINE TRANSPORT

Be sure steering locking bar, Item (20) (page 10), is installed between front & rear frames when the machine is being moved by truck or trailer. Use SOLID wood blocks in front, and at the rear, on EACH side of EACH drum. Four (4) tie-down areas are provided and are to be used, with the blocking, to secure the machine to the truck or trailer bed when transporting the machine. EXCESSIVE tie down tension on outer frames can cause damage to drum rubber mounts. Secure all fill caps and covers before transporting.

**CAUTION:**

Disconnect steering locking bar before attempting to move or steer this machine. Be extremely careful when pinning locking bar into position.

MAINTENANCE**WARNING:**

DO NOT operate machine if any part is not in proper operating condition or is missing. Always remove key from switch when performing maintenance (engine off), leaving equipment unattended or when equipment is not in use.

ENGINE

Daily check the engine lubrication oil level in the crankcase. The engine lubrication oil MUST be kept at a level ABOVE the "ADD" mark but NOT ABOVE the "FULL" mark on the engine lubrication oil dipstick. Check the engine inlet air cleaner condition and remove and replace as needed.

**CAUTION:**

See the "Engine Operation and Maintenance Instruction Manual", published by the Kubota Engine, for approved, correct engine component inspection and maintenance periods and/or procedures.

HYDRAULIC SYSTEM**CAUTION:**

After a new unit has run for five (5) hours, the hydraulic filters for the propulsion and vibratory systems should be changed. This is to rid the systems of any trapped contaminations from factory assembly. The filters should be changed every 200 hours thereafter.

**CAUTION:**

ANYTIME the filter has been changed, IDLE engine for three (3) minutes with control lever in NEUTRAL. At the end of this running period SLOWLY engage forward to reverse. This allows fluid to replace the air in the pump area introduced into the system with the filter change. IF THIS PROCEDURE IS NOT FOLLOWED, partial or complete failure of the pump can result.

Check hydraulic fluid daily, change fluid every 200 hours or sooner if conditions warrant, i.e. extreme dust or condensation. This unit is equipped with a 19.0 gallon oil reservoir - when changing or adding fluid, use H.D. 32 HYD. To prevent any foreign matter from entering the tank, extreme care should always be used when removing filler cap. Fluid is at the proper level when seen at the bottom of the screen in the fill neck - never fill reservoir to overflowing.

DIRECTIONAL CONTROL LEVER

Lubricate the directional control lever and cable assembly exposed, and pivoting part areas, with EP-2 chassis grease. NO zerk fitting is found on the directional control lever and/or cable assembly. Inspect the mechanical condition of the control lever and cable assembly. It must NOT be loose, damaged, or bind within the lever, or cable. Repair, or replace, the direction control lever and/or cable assembly if any damage is noted.

ELECTRICAL SYSTEM

This system is 12-volt, during engine and other system maintenance inspections, check the electrical wiring for correct routing and support. Inspect the wires for loose terminal connections, cracks or wear in the wiring insulation and for corrosion.



WARNING:

BATTERY EXPLOSION CAN OCCUR IF A BATTERY IS SHORTED. ALWAYS disconnect BOTH the positive (+) AND the negative (-) battery cables from a battery, BEFORE ANY repair procedures are done to the electrical wiring or components. DO NOT weld on machine unless battery is disconnected.

See Kubota engine manual. Starting the engine is done with a spring loaded key switch located on the right hand side of the steering column. Stopping the engine is done with a control cable, be certain to shut off key switch after stopping engine. A green charge indicator is located at the top right hand side of the dash panel. This light will be on when engine is running and charging system is working properly. A red light is located directly below on the dash panel. This light is on when the electrical parking brake is on. The brake is controlled by a switch located directly below the red light. An alarm located on the panel below the dash will also sound when parking brake is engaged. A pulsating alarm located on the left hand rear engine cover will sound when the unit is in reverse. Two neutral start switches are located below the control panel weldment. They are wired in series to assure the unit is in neutral and vibs are off before the unit will start.

A 30 AMP circuit breaker has been placed in the circuit for safety. The circuit breaker will reset automatically every 10 seconds or until problem has been located and resolved. The circuit breaker is located on the inside of the upper right hand gusset of the steering column.

Seven functions are monitored by gauges on the dash panel. These functions are; ENGINE OIL PRESSURE, ENGINE WATER TEMPERATURE, HYDRAULIC FLUID TEMPERATURE, FUEL GAUGE, VOLTMETER, TACHOMETER, and HOURMETER.

Do not run engine with 12V battery disconnected to prevent electrical damage from the alternator.

Do not weld on unit unless battery is disconnected. Always remove cable from negative (-) side of battery for electrical safety.

The machine is equipped with an hourmeter. NEVER attempt to disconnect the hourmeter. Engine and machine operating hours are essential for proper machine maintenance.

LUBRICATION (See Chart Page 6)

L.H. and R.H. vibrator shaft bearings should be greased every 100 hours with EP-2 chassis lubricant. A/R.

Oscillating tube should be greased every 100 hours with EP-2 chassis lubricant. A/R.

Pivot Pin should be greased every 100 hours with EP-2 chassis lubricant. A/R.

Drum Bearings should be greased every 100 hours with EP-2 chassis lubricant. A/R.

Check engine oil daily. Change engine oil and filter after the first 35 hours and every 100 hours thereafter. See Kubota engine manual.

Engine Air cleaner should be checked daily. Dust cap should be removed and cleaned once a week, sooner if conditions warrant. If red signal on the dust indicator attached to the air cleaner is visible, the air cleaner has reached the service level. Clean element immediately, and reset the signal with the "RESET" button. See engine manual.

Fuel filter should be replaced every 100 hours to assure clean fuel and to prolong injector systems life. After changing filter, bleeding of the system is required. See engine manual.

Radiator coolant should be checked daily and replenished with a 50/50 mixture when low. See engine manual

Hydraulic Oil Reservoir should be checked daily. Fluid is at proper level when seen at the bottom of the screen in the fill neck. RECOMMENDED HYDRAULIC FLUID H.D. 32 HYD. OR EQUIVALENT.

Hydraulic Oil Filters should be changed after first five (5) hours and every 200 hours thereafter.

Battery should be checked every 100 hours and cells filled with distilled water if low.

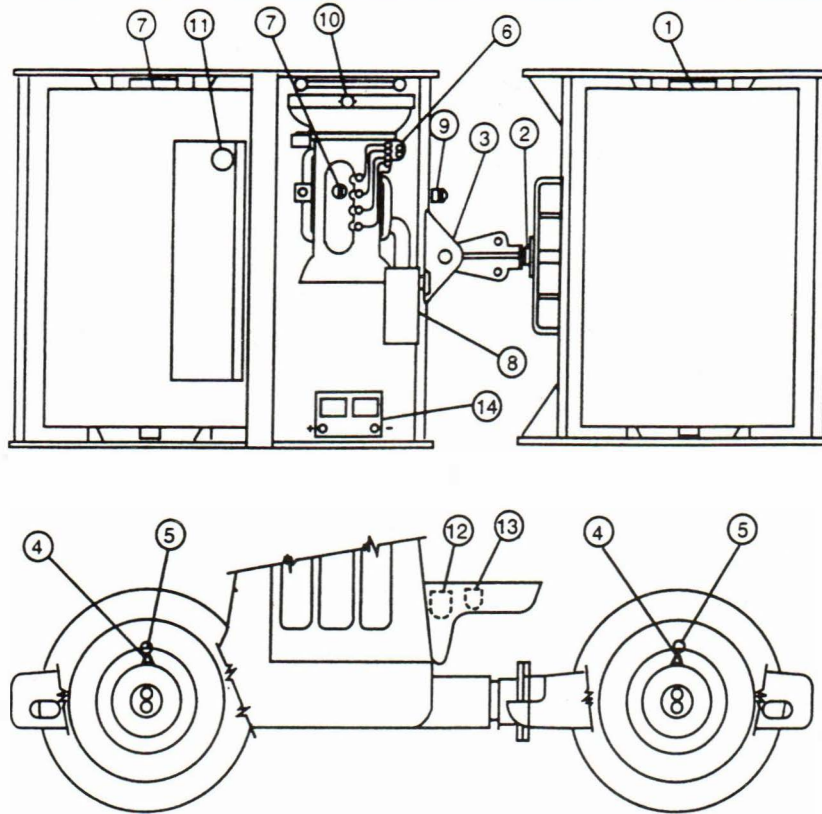
WATER SPRAY SYSTEM

The water system should be drained when freezing temperatures are expected as follows: Remove strainer body Item 9 to drain Pump and Filter. Open petcocks on front and rear spray bars. Remove Outlet Hoses Items (1) and (6) at Tank Connections. See Water Spray System Diagram page 18.

DRUM SCRAPERS / COCOA MATS

Check the condition and adjustment of all four (4) rubber scrapers, if worn beyond adjustment replace with new. NOTE: Rubber scrapers can be removed and flipped to opposite side to extend life. Check and replace both cocoa mats when worn or damaged. Never allow steel cocoa mat pans to come in contact with drum.

Front and rear cocoa mat pans are designed to pivot away from drum when not in use.

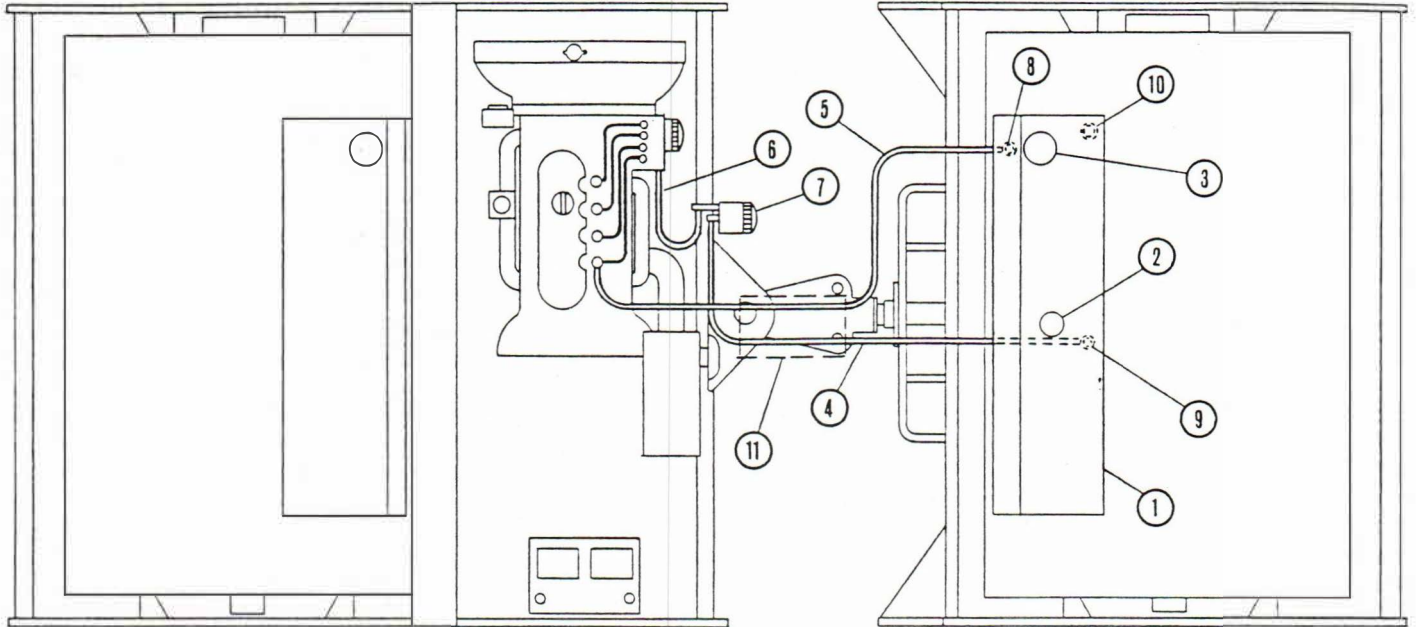


MODEL B350 & B400 LUBRICATION CHART

Ref.	Lubrication Point					Type of Lubricant	Lub. Fitting
		Daily	First	100 Hrs.	200 Hrs.		
1	Vib. Shaft L.H. Side				●		Yes
2	Oscillating Tube				●		Yes
3	Pivot Pin				●	EP-2 Chassis Lube	Yes (2)
4	Drum Bearing				●		Yes
5	Vib. Shaft R.H. Side				●		Yes
6	Engine Oil Filter		▲		●		No
7	Engine Crankcase	✓	▲	●			No
8	Engine Air Cleaner	✓				See Engine Manual	No
9	Fuel Filter			●			No
10	Radiator	✓					No
11	Hydraulic Oil Reservoir	✓			●	Sunco TH Fluid or Equivalent	No
12	Propel Filter		*		●		No
13	Vib. Filter		*		●	Change Filter Element	No
14	Battery			✓		Water, distilled	No

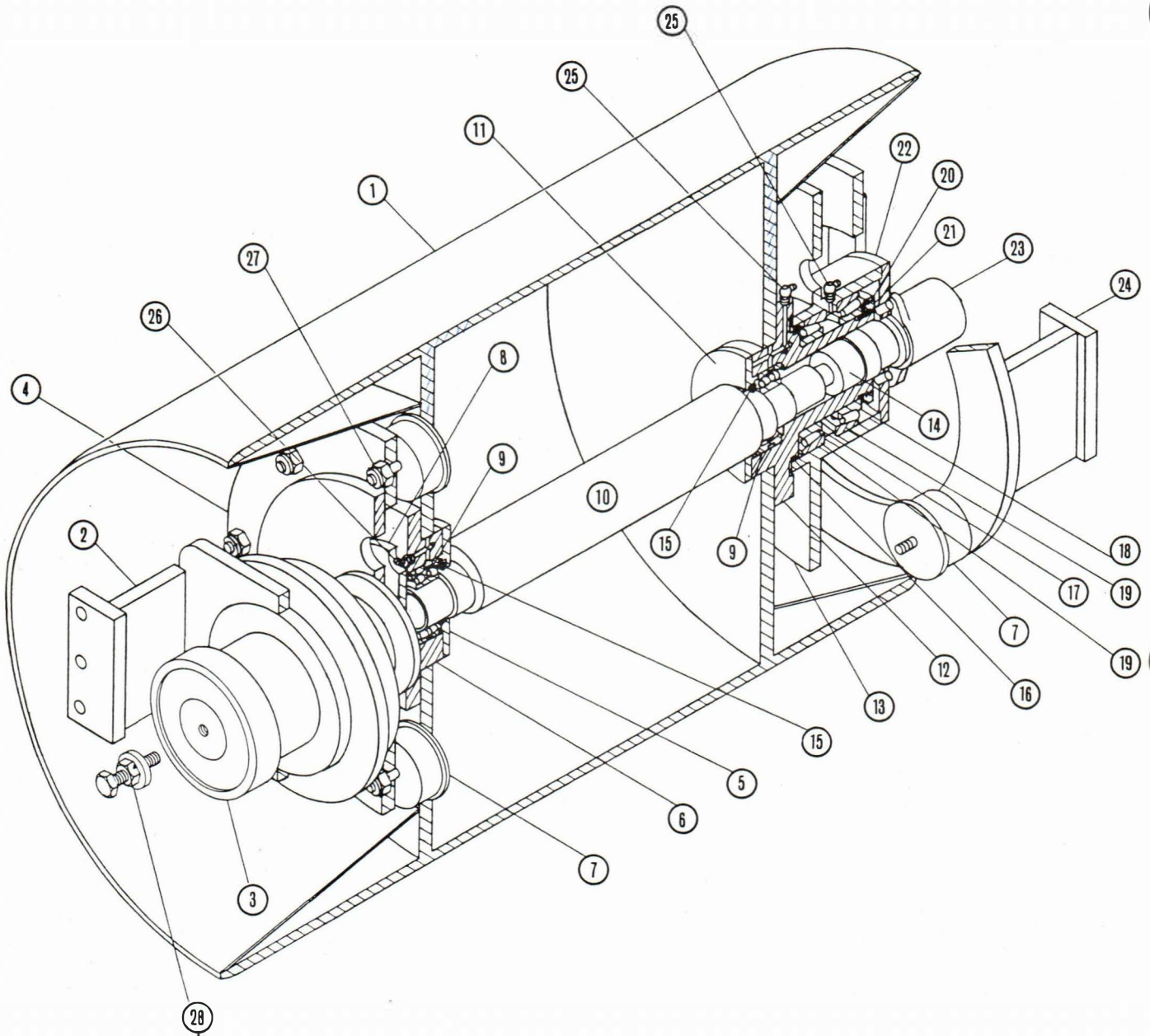
★ 1st Element Change 5 Hrs. ▲ 1st Crankcase Change 35 Hrs. ● Lub. Or Change ✓ Check
 HYDRAULIC SYSTEM ENGINE

See Owner's Manual For Further Details



FUEL SYSTEM (DIESEL)

Item No.	Part No.	Description	Qty.
1	000-4115	Fuel Tank, (Integral w/Front outer Support Frame)	1
2	375-0022	Fuel Sending Unit	1
3	350-0028	Fill Cap, with Screen	1
4	432-0001-55	Fuel Line 5/16 x 55" Lg. (SAE Approved)	1
5	420-0001-68	Fuel Line 3/16 x 68" Lg. (SAE Approved)	1
6	432-0001-9	Fuel Line 5/16" x 9" Lg. (SAE Approved)	1
7	205-0154	Fuel Filter V2203 Kubota	1
8	500-0015	Barb Insert 3/16 x 1/4 NPT	1
9	502-0021	Adapter 1/4 NPT x 5/16 Barb 90°	1
10	526-0004	Pipe Plug 1/2 NPT	1
11	385-0042	4" Protective Sleeve 18" Lg.	1



MANUAL BRAKE RELEASE
SEE OWNERS MANUAL FOR
PROPER TOWING PROCEDURE
BEUTHLING MFG. CO.

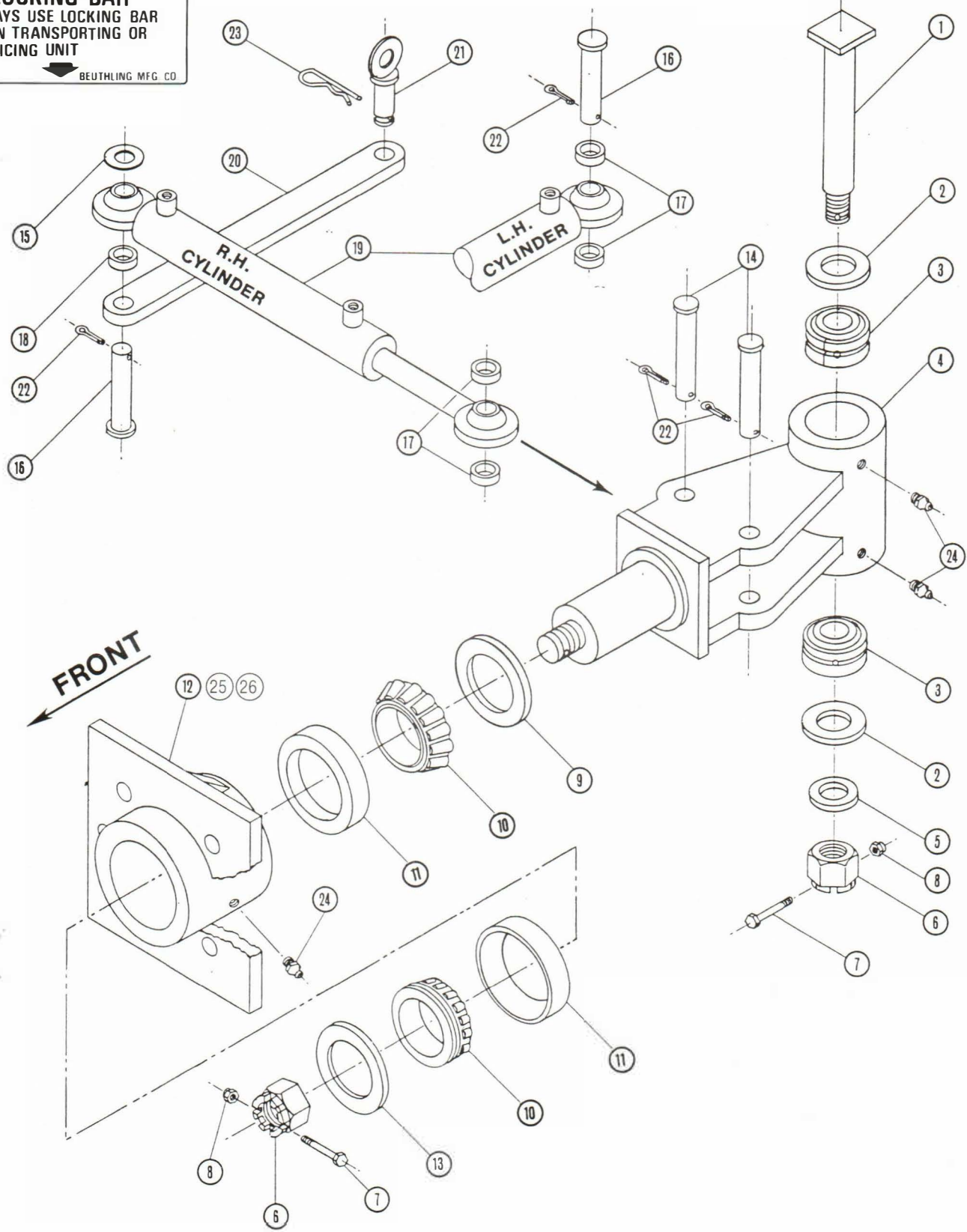
DRUM ASSEMBLY

Item No.	Part No.	Description	Qty.
1	000-4007	Drum	1
2	000-4012	Drive Motor Bracket	1
3	105-0025	Drive Motor w/Brake (Front Drum).....	1
3	105-0026	Drive Motor w/Brake (Rear Drum)	1
4	000-4015	Drive Plate	1
5	000-4024	Seal Cap - Drive Side	1
6	000-4030	Bearing Housing - Drive Side.....	1
7	325-0011	Rubber Mount (Qty. 8 driveside) (Qty. 4 vib. motor side)	12
8	000-4025	Bearing Cap.....	1
9	300-0009	Double Row Spherical Bearing	2
10	000-4027	Vibrator Shaft.....	1
11	000-0423	Seal Cap Vibrator Side	1
12	000-4029	Spindle Casting	1
13	000-4018	Hub	1
14	230-0038	Coupling, Vibratory (Between vib. shaft and vib. motor)	1
15	365-0002	Seal	2
16	365-0003	O-Ring	1
17	300-0011	Bearing Cone	1
18	300-0010	Bearing Cone	1
19	300-0012	Bearing Cup.....	2
20	300-0016	Lockwasher Ring (mounts on item 21)	1
21	300-0015	Lock Nut for Bearing Cone.....	1
22	000-4022	Mounting Plate - Vib. Motor	1
23	105-0029	Motor, Vibratory	1
24	000-4021	Ring - Rubber Mount	1
25	370-0004	Grease Fitting 90° x 1/8 NPT	2
26	370-0007	Grease Fitting 45° x 1/8 NPT	1
27	607-0019	Flexloc Nut FH x 1/2-20 NF	12
28	000-4195	Drive Motor Brake Release Tool (Found mounted on Item #2)	2

**ARTICULATED STEERING
LOCKING BAR**

ALWAYS USE LOCKING BAR
WHEN TRANSPORTING OR
SERVICING UNIT

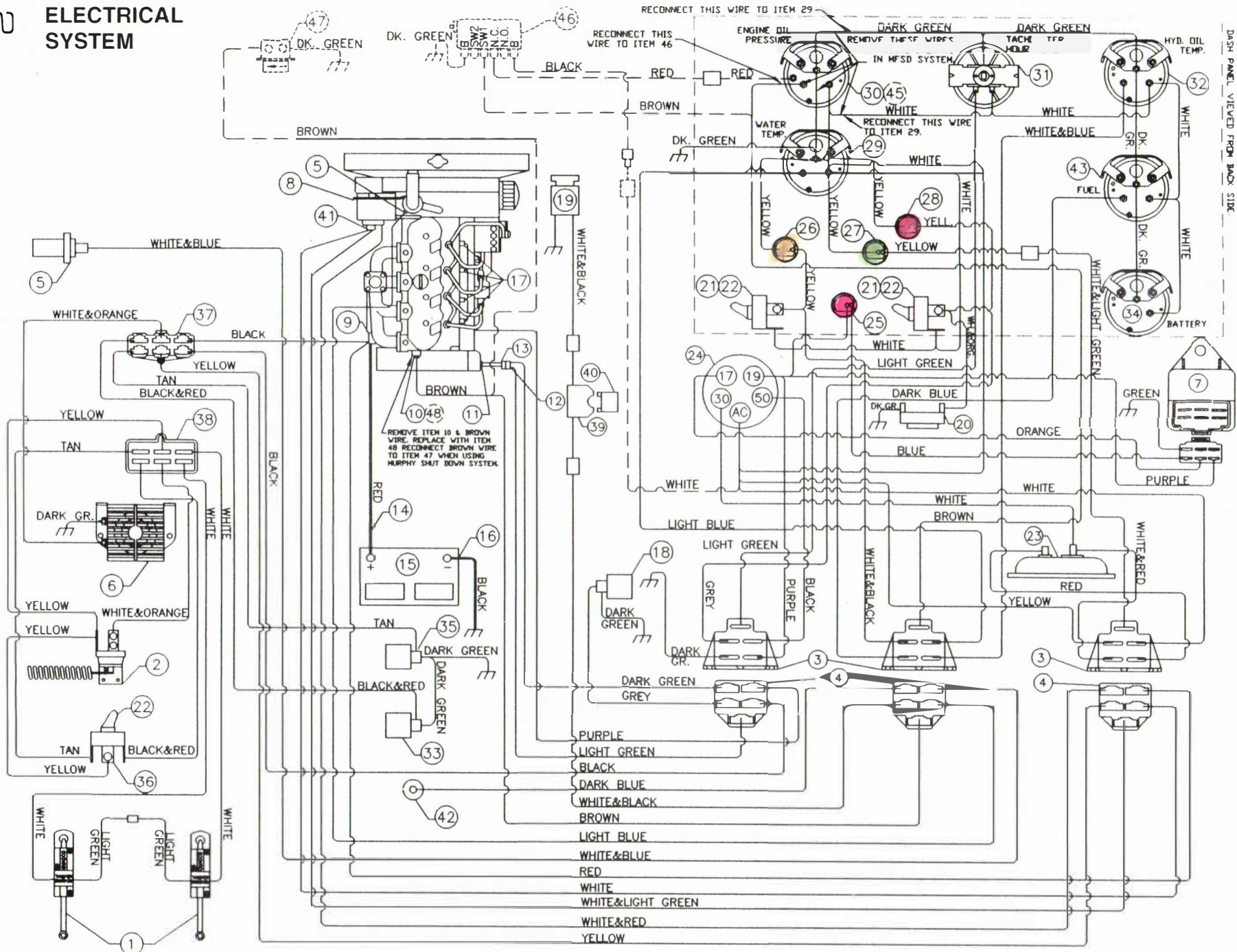
BEUTHLING MFG CO



FRAME CONNECTOR ASSEMBLY

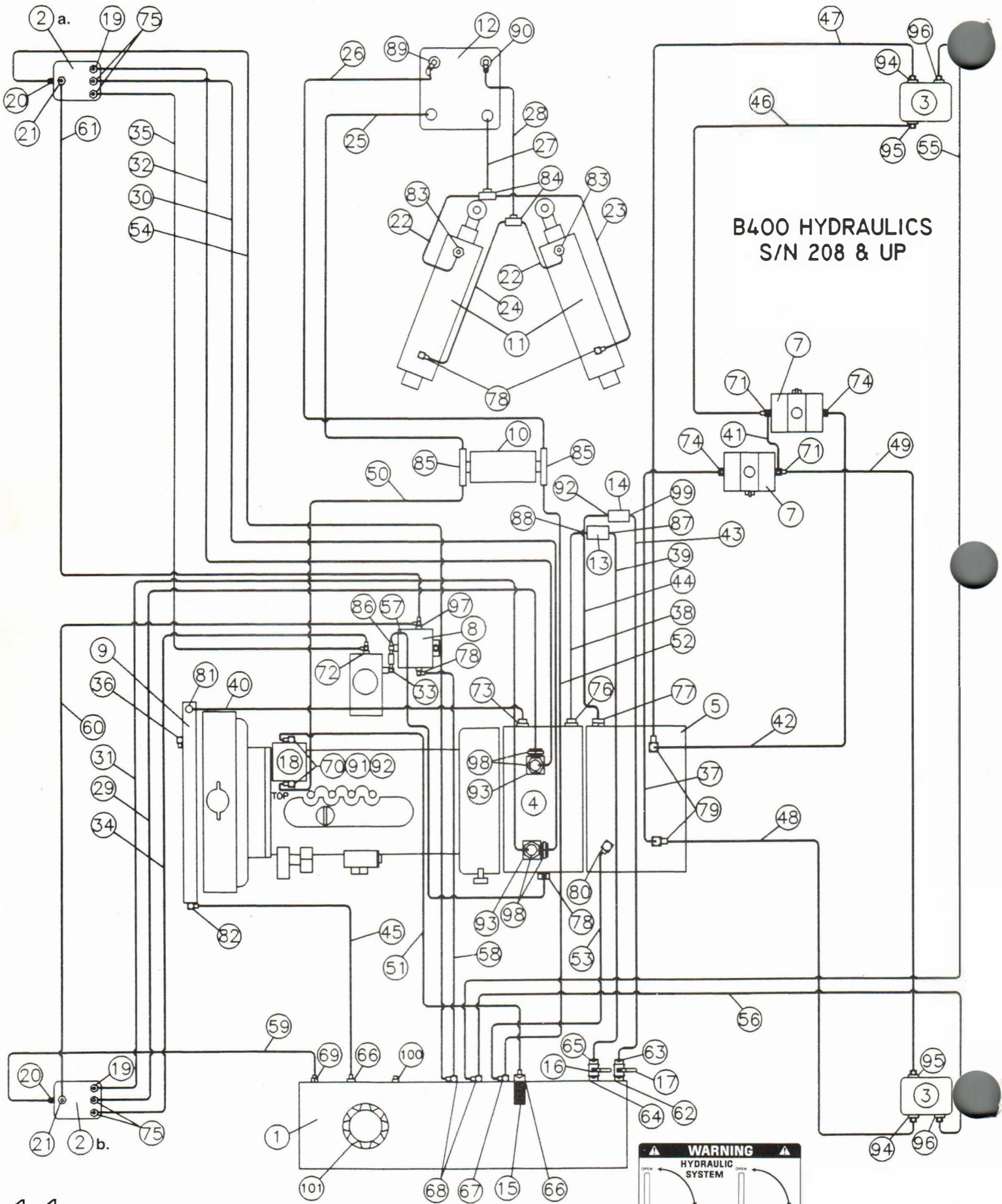
Item No.	Part No.	Description	Qty.
1	000-4078	Pivot Pin.....	1
2	000-4067	Pivot Tube Grease Seal Washer.....	2
3	300-0017	Torrington Bearing.....	2
4	000-4066	Frame Connector.....	1
5	000-4079	Pivot Pin Nut Washer.....	1
6	609-0027	Nut, Castle 1 1/2 - 12 NF.....	2
7	600-2011	Bolt 5/16 x 2 1/2 NC.....	2
8	607-0002	Nut, Flexlock 5/16 NC.....	2
9	000-4068	Oscillating Tube Inner Grease Washer.....	1
10	300-0013	Bearing Cone.....	2
11	300-0014	Bearing Cup.....	2
12	000-4059	Oscillating Tube.....	1
13	000-4069	Oscillating Tube Outer Grease Washer.....	1
14	000-4125	Pin, Steering Cylinder - Long.....	2
15	000-1292	Cotter Pin Washer.....	1
16	000-4150	Pin, Steering Cylinder - Short.....	2
17	000-4187	Spacer Cylinder Pivot - Long.....	6
18	000-4188	Spacer, Cylinder Pivot - Short.....	1
19	115-0001	Cylinder, Steering.....	2
20	000-4126	Locking Bar - Articulated Steering.....	1
21	000-4179	Locking Bar Clevis Pin.....	1
22	630-0016	Cotter Pin.....	4
23	630-0007	Hairpin Clip.....	1
24	370-0006	Grease Fitting, 1/8 NPT.....	3
25	600-9003	7/8 x 3" Bolt - NOT SHOWN.....	6
26	607-0009	Nut, Flexlock 7/8 - NC - NOT SHOWN.....	6

B400 ELECTRICAL SYSTEM



ELECTRICAL SYSTEM

Item No.	Part No.	Description	Qty.
1	335-0090	Switch, Neutral Start	2
2	335-0094	Switch, Back Up Alarm	1
3	335-0075	Connector, Female Line - 5 Way	3
4	335-0074	Connector, Male Line - 5 Way	3
5	375-0010	Sender, Temperature	2
6	335-0084	Back Up Alarm	1
7	207-0028	Lamp Timer	1
8	207-0036	Alternator 40 AMP, Kubota	1
9	207-0006	Solenoid	1
10	375-0006	Sender, Oil Pressure	1
11	375-0012	Magnetic Pulse Source	1
12	335-0068	Connector, Female	1
13	335-0045	Connector, Male.....	1
14	335-0002	Cable, Positive Battery (Red).....	1
15	335-0076	Battery, 12 Volt	1
16	335-0020	Cable, Negative Battery (Black).....	1
17	207-0015	Glow Plug.....	4
18	110-0012	Brake Valve	1
19	338-0014	Water Pump.....	1
20	335-0121	Brake Alarm	1
21	335-0071	Toggle Switch (ON-OFF)	2
22	335-0067	Rubber Boot.....	3
23	335-0063	Circuit Breaker	1
24	207-0008	Key Switch	1
25	207-0030	Timer Indicator Lamp	1
26	335-0007	Indicator Light, Amber	1
27	335-0019	Indicator Light, Green	1
28	335-0105	Indicator Light, Red	1
29	375-0003	Gauge, Water Temperature.....	1
30	375-0005	Gauge, Oil Pressure	1
31	375-0011	Tachometer/Hourmeter	1
32	375-0008	Gauge, Oil Temperature	1
33	110-0023	Vibrator Valve	1
34	375-0013	Voltmeter	1
35	110-0020	Vibrator Valve	1
36	335-0184	Toggle Switch (ON-OFF-ON).....	1
37	335-0189	Connector, Male Line - 6 Way	1
38	335-0190	Connector, Female Line - 6 Way	1
39	335-0177	Fuse Holder	1
40	335-0178	Fuse, 10 Amp, Spade Type	1
41	205-0007	Plugs, Alternator & Regulator	1
42	375-0022	Sending Unit, Fuel	1
43	375-0009	Gage, Fuel Level	1
44	335-0100	Murphy Fuel Shut Down System, Consisting of Items 45, 46, 47, 48 - OPTIONAL	1
45	375-0015	Gage, Oil Pressure - Replaces Item 30	1
46	375-0016	Switch, Magnetic	1
47	375-0017	Shut Down Solenoid Valve	1
48	375-0018	Oil Line Kit Replaces Item 10.....	1



**B400 HYDRAULICS
S/N 208 & UP**

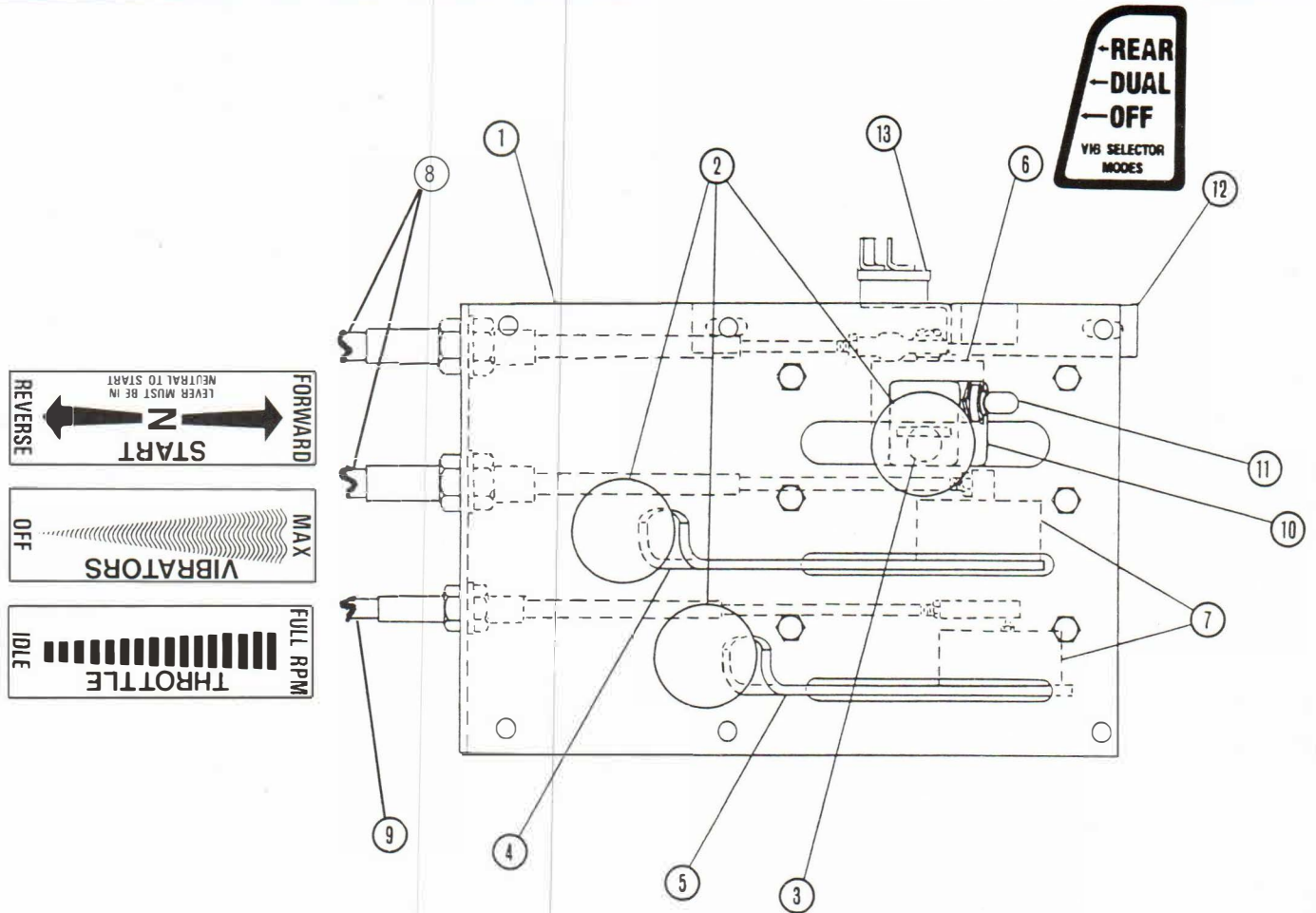
WARNING
HYDRAULIC SYSTEM
DO NOT START engine with valves closed. Serious DAMAGE to hydraulic system will occur.

HYDRAULICS

Item No.	Part No.	Description	Qty.
1	000-4120	Reservoir, Hydraulic Oil (Integral w/Rear outer Support Frame)	1
2 a.	105-0025	Drive Motor w/Brake (Front Drum)	1
2 b.	105-0026	Drive Motor w/Brake (Rear Drum)	1
3	105-0029	Motor, Vibratory (1) Front Drum (1) Rear Drum	2
4	100-0022	Pump, Propel	1
5	100-0025	Pump, Vibratory	1
7	110-0039	Control Valve Package, Vibratory	1
8	110-0012	Valve, Brake	1
9	125-0002	Heat Exchanger	1
10	110-0011	Relief Valve, Steering	1
11	115-0001	Cylinder, Steering	2
12	105-0008	Motor, Steering Orbital	1
13	130-0010	Filter Head, Propel (Large)	1
14	130-0003	Filter Head, Vibratory (Small)	1
15	130-0006	Strainer, Suction (in Hydraulic Reservoir)	1
16	110-0015	Ball Valve, 1" (on Hydraulic Reservoir)	1
17	110-0014	Ball Valve, 3/4" (on Hydraulic Reservoir)	1
18	100-0018	Pump, Power Steering (on Engine)	1
19	500-0065	Adapter, Straight	4
20	500-0001	Adapter, Straight	2
21	500-0003	Adapter, Straight	2
22	403-0001	Hose Assembly, 3/8 I.D. x 18 1/2" Lg.	2
23	403-0033	Hose Assembly, 3/8 I.D. x 26 1/2" Lg.	1
24	403-0034	Hose Assembly, 3/8 I.D. x 28 1/2" Lg.	1
25	404-0033	Hose Assembly, 1/2 I.D. x 32 1/2" Lg.	1
26	404-0034	Hose Assembly, 1/2 I.D. x 36" Lg.	1
27	403-0031	Hose Assembly, 3/8 I.D. x 37 1/4" Lg.	1
28	403-0032	Hose Assembly, 3/8 I.D. x 37 3/8" Lg.	1
29	406-0029	Hose Assembly, 3/4 I.D. x 79 1/2" Lg.	1
30	406-0030	Hose Assembly, 3/4 I.D. x 92" Lg.	1
31	404-0047	Hose Assembly, 1/2 I.D. x 88 1/2" Lg.	1
32	404-0031	Hose Assembly, 1/2 I.D. x 99 1/2" Lg.	1
33	502-0049	Adapter, 90 Degree	1
34	404-0030	Hose Assembly, 1/2 I.D. x 74 1/2" Lg.	1
35	404-0032	Hose Assembly, 1/2 I.D. x 76 3/4" Lg.	1
36	502-0037	Adapter, 90 Degree	1
37	404-0045	Hose Assembly, 1/2 I.D. x 17 1/4" Lg.	1
38	408-0019	Hose Assembly, 1 I.D. x 32 3/4" Lg.	1
39	408-0018	Hose Assembly, 1 I.D. x 32 3/4" Lg.	1
40	406-0034	Hose Assembly, 3/4 I.D. x 48 1/2" Lg.	1
41	404-0043	Hose Assembly, 1/2 I.D. x 19 3/4" Lg.	1
42	404-0040	Hose Assembly, 1/2 I.D. x 16 1/2" Lg.	1
43	406-0032	Hose Assembly, 3/4 I.D. x 39 1/2" Lg.	1
44	406-0033	Hose Assembly, 3/4 I.D. x 24 1/4" Lg.	1
45	406-0031	Hose Assembly, 3/4 I.D. x 22" Lg.	1
46	404-0042	Hose Assembly, 1/2 I.D. x 85" Lg.	1
47	404-0041	Hose Assembly, 1/2 I.D. x 96 1/4" Lg.	1
48	404-0038	Hose Assembly, 1/2 I.D. x 42 1/2" Lg.	1
49	404-0039	Hose Assembly, 1/2 I.D. x 42" Lg.	1
50	404-0044	Hose Assembly, 1/2 I.D. x 13 3/4" Lg.	1
51	404-0037	Hose Assembly, 1/2 I.D. x 38 1/2" Lg.	1
52	404-0036	Hose Assembly, 1/2 I.D. x 36" Lg.	1
53	404-0035	Hose Assembly, 1/2 I.D. x 27 3/4" Lg.	1

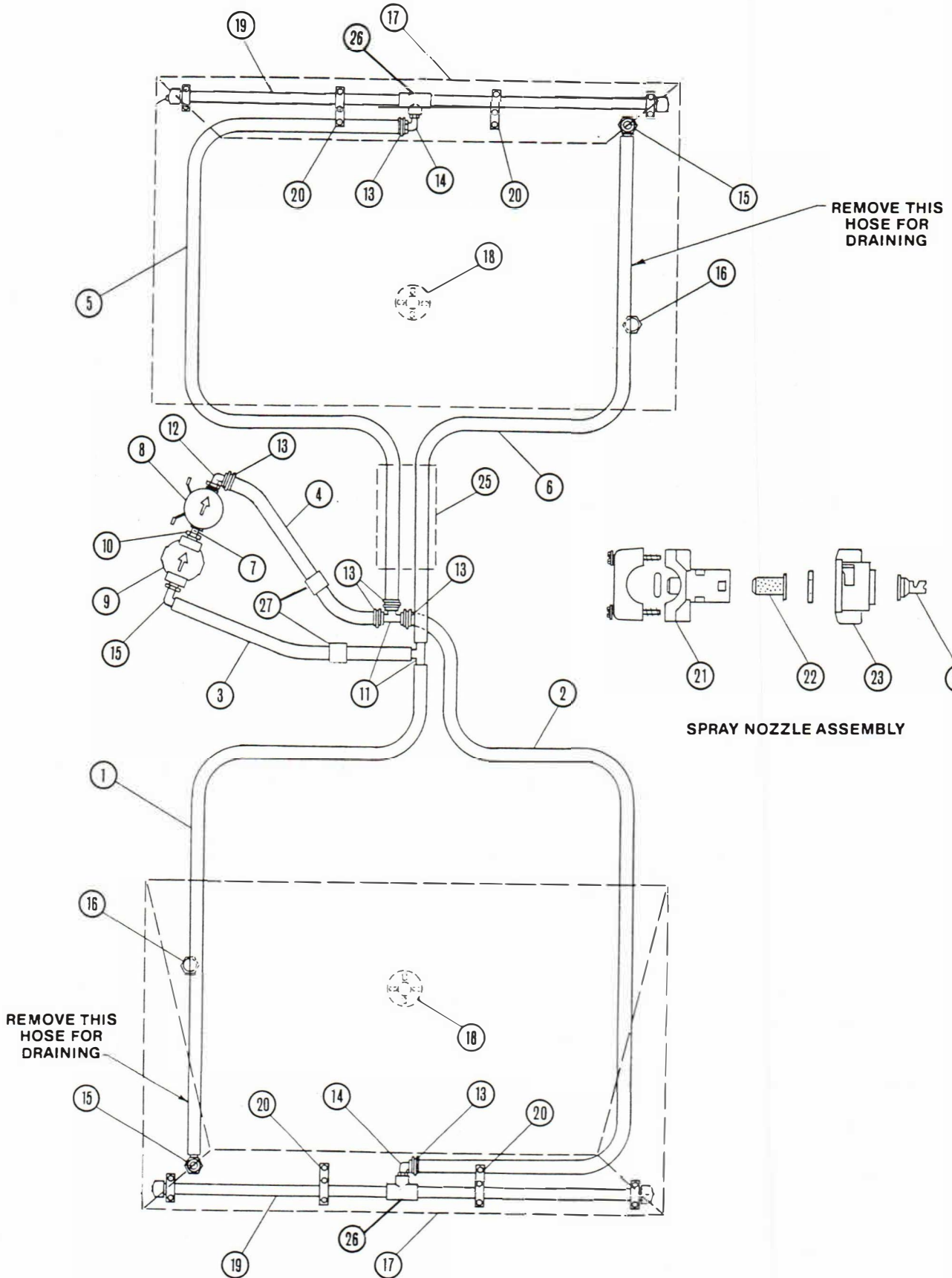
HYDRAULICS (Continued)

Item No.	Part No.	Description	Qty.
54	403-0030	Hose Assembly, 3/8 I.D. x 120" Lg.	1
55	403-0037	Hose Assembly, 3/8 I.D. x 104" Lg.	1
56	403-0038	Hose Assembly, 3/8 I.D. x 57" Lg.	1
57	403-0040	Hose Assembly, 3/8 I.D. x 22 1/2" Lg.	1
58	403-0036	Hose Assembly, 3/8 I.D. x 23 3/4" Lg.	1
59	403-0035	Hose Assembly, 3/8 I.D. x 66" Lg.	1
60	403-0029	Hose Assembly, 3/8 I.D. x 63 3/4" Lg.	1
61	403-0039	Hose Assembly, 3/8 I.D. x 73" Lg.	1
62	501-0018	Adapter, 3/4 Standard Hex Close Nipple	1
63	501-0017	Adapter, 90 Degree	3
64	501-0015	Adapter, 45 Degree	1
65	501-0011	Adapter, 45 Degree	1
66	501-0017	Adapter, 90 Degree	2
67	503-0008	Adapter, Tee	1
68	503-0009	Adapter, Tee	2
69	500-0035	Adapter, Straight	1
70	502-0024	Adapter, Straight	2
71	503-0017	Adapter, Tee	4
72	503-0018	Adapter, Tee	3
73	502-0025	Adapter, Straight	2
74	502-0031	Adapter, 90 Degree	1
75	500-0037	Adapter, Straight	5
76	502-0026	Adapter, 90 Degree	1
77	500-0068	Adapter, 90 Degree	1
78	502-0027	Adapter, 90 Degree	3
79	503-0018	Adapter, Tee	3
80	502-0031	Adapter, 90 Degree	1
81	500-0041	Adapter, Straight	1
82	502-0030	Adapter, 90 Degree	1
83	500-0003	Adapter, Straight	3
84	503-0002	Adapter, Tee	2
85	503-0015	Adapter, Tee	2
86	500-0005	Adapter, Straight	1
87	501-0011	Adapter, 45 Degree	1
88	500-0049	Adapter, Straight	1
89	502-0031	Adapter, 90 Degree	1
90	502-0034	Adapter, 90 Degree	1
91	000-4124	Flange, Power Steering Pump	1
92	365-0014	O-Ring	1
93	503-0019	Adapter, Tee	2
94	500-0031	Adapter, 90 Degree	2
95	502-0031	Adapter, 90 Degree	2
96	502-0016	Adapter, 90 Degree	2
97	503-0014	Adapter, Tee	1
98	500-0069	Adapter, Straight	1
99	501-0022	Adapter, 90 Degree	1
100	375-0010	Sender, Oil Temperature	1
101	350-0028	Fill Cap with Screen	1



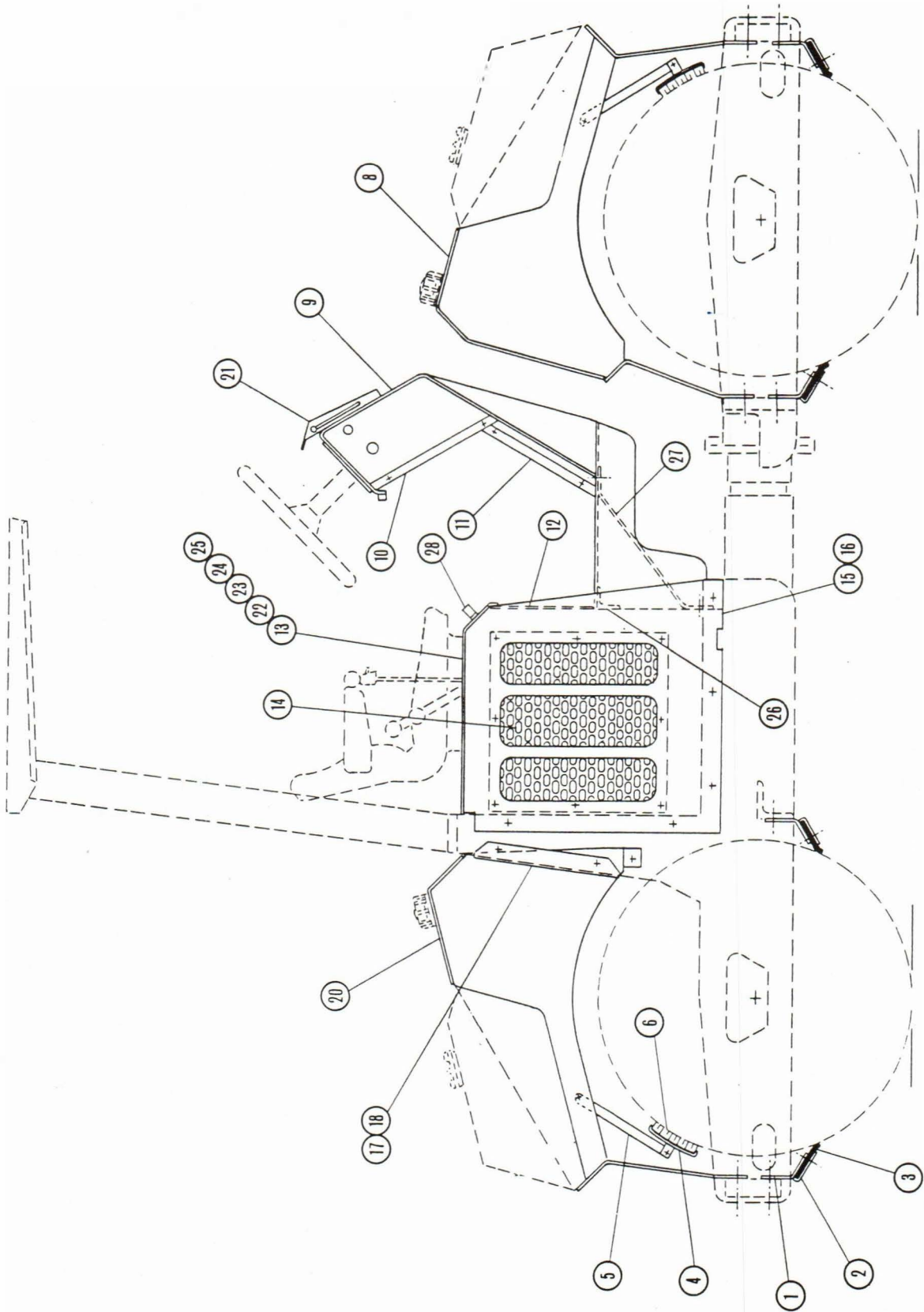
CONTROL LEVERS & CABLES

Item No.	Part No.	Description	Qty.
1	000-4142	Control Panel	1
2	350-0009	Black Plastic Knob	3
3	000-5105	Control Lever, Propel (Forward & Reverse).....	1
4	000-4146	Control Lever, Vibratory (VPM's)	1
5	000-4147	Control Lever, Throttle (Engine RPM)	1
6	310-0006	Control Forward & Reverse	1
7	310-0007	Control, Vibrator & Throttle	2
8	315-0011	Cable, Pump Control (1) Propel (1) Vibrator	2
9	315-0015	Cable, Throttle	1
10	000-3013	Housing, Vibrator Switch	1
11	335-0184	Switch, Vibrator Control	1
12	000-4171	Bracket, Back Up Alarm Switch	1
13	335-0094	Switch, Back Up Alarm	1



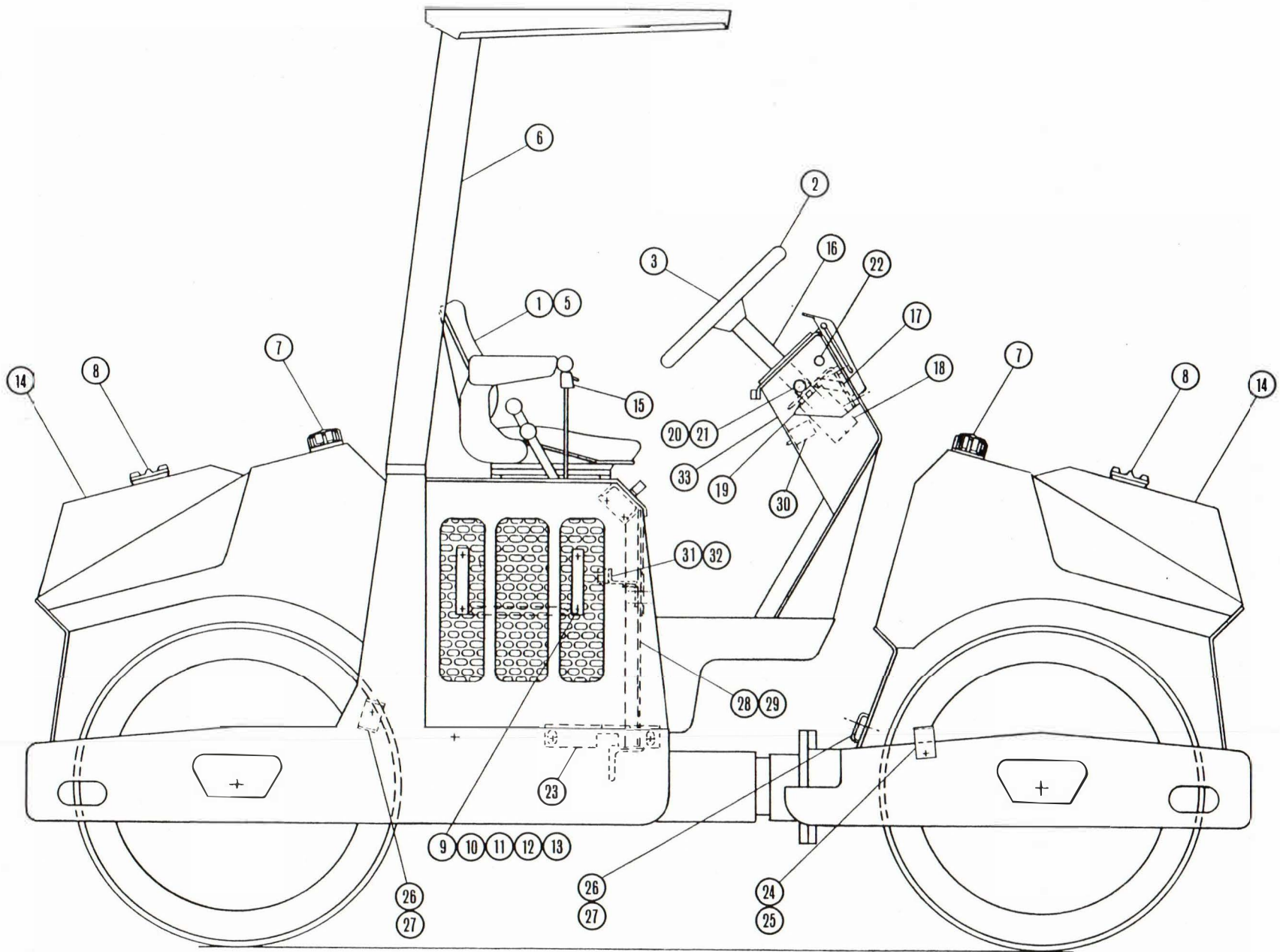
WATER SPRAY SYSTEM

Item No.	Part No.	Description	Qty.
1	424-0003	Water Hose 1/2" I.D. x 89" Lg. (Blue)	1
2	424-0003	Water Hose 1/2" I.D. x 89" Lg. (Blue)	1
3	424-0003	Water Hose 1/2" I.D. x 20" Lg. (Blue)	1
4	424-0003	Water Hose 1/2" I.D. x 23" Lg. (Blue)	1
5	424-0003	Water Hose 1/2" I.D. x 98" Lg. (Blue)	1
6	424-0003	Water Hose 1/2" I.D. x 85" Lg. (Blue)	1
7	520-0020	Nipple, Close 3/8	1
8	338-0014	Water Pump	1
9	338-0020	Strainer, system	1
10	520-0021	Steel Bushing	1
11	543-0003	Adapter, Barb Tee, Poly	2
12	542-0004	Adapter, 90° Poly	1
13	645-0040	Uni-Clamp	6
14	542-0002	Adapter, 90° Poly	2
15	542-0003	Adapter, 90° Poly	3
16	546-0002	Plug, 3/4" Poly	2
17	000-1402	Water Tank 36 U.S. Gal. (each) (1) Front (1) Rear	2
18	350-0020	Water Cap w/Chain	2
19	000-4221	Spray Bar, PVC	2
20	000-5111	Bracket, Spray Bar	4
21	338-0011	Base, Spray Nozzle	8
22	338-0013	Strainer, Spray Nozzle	8
23	338-0012	Cap and Gasket, Spray Nozzle	8
24	338-0010	Spray Tip (Brass)	8
25	385-0042	Protective Sleeve - Same as Item 11, Page 7	1
26	338-0016	Petcock, Drain - Spray Bar	2
27	338-0009	Check Valve, Inline (Obsolete)	2



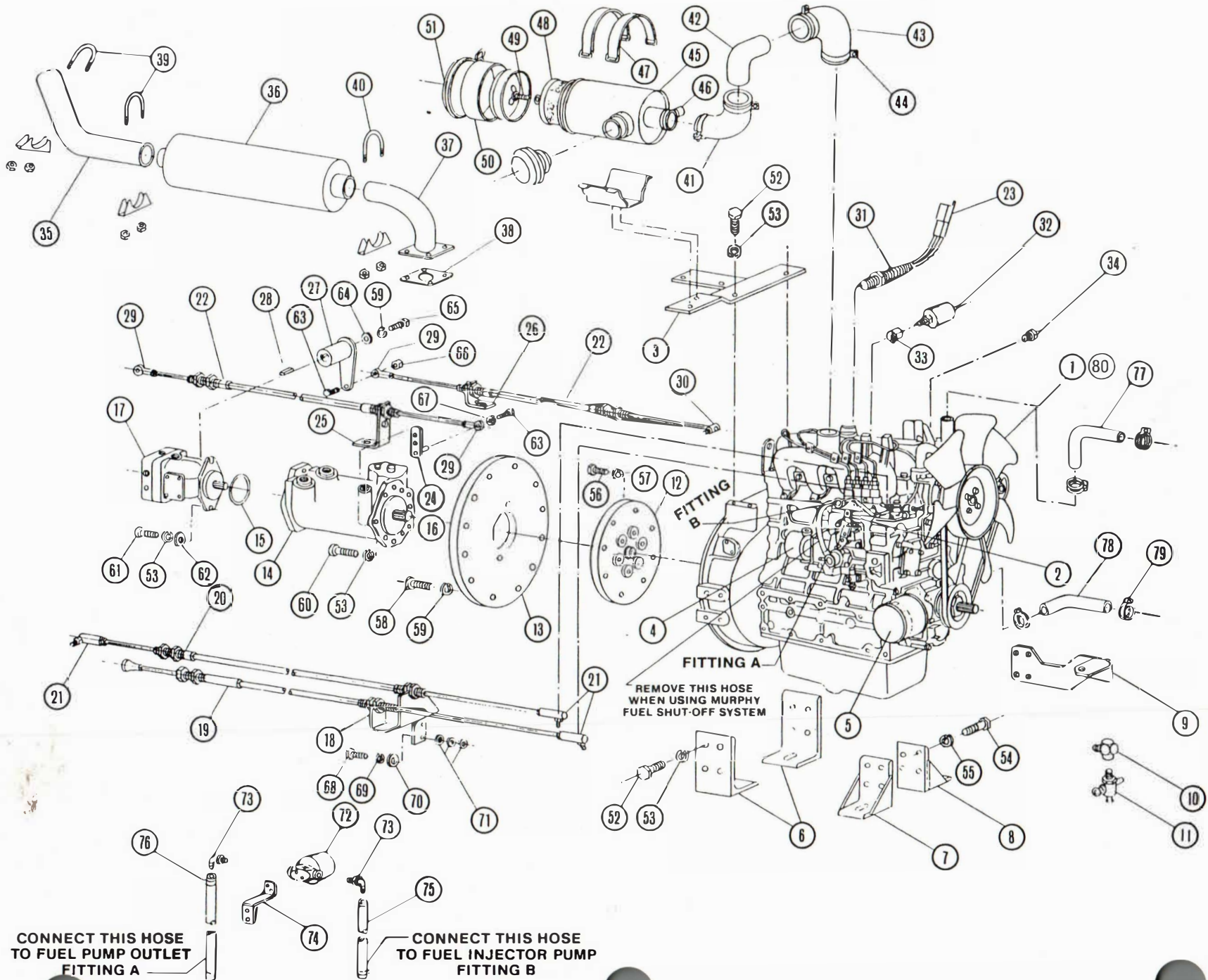
COVERS, SCRAPERS AND COCOA MATS

Item No.	Part No.	Description	Qty.
1	000-4097	Bracket, Scraper Bar	4
2	000-4098	Bar, Scraper Follower	4
3	000-4099	Rubber Scraper	4
4	000-4185	Pan, Cocoa Mat	2
5	000-4203	Bar, Support.....	4
6	355-0008	Cocoa Mat	2
8	000-4115	Fuel Tank (Integral w/Front outer Support Frame)	1
9	000-4085	Console, Steering	1
10	000-4086	Upper Cover - Console	1
11	000-4087	Lower Cover - Console	1
12	000-4127	Cover, Front Engine.....	1
13	000-4131	Cover, Top Engine	1
14	000-4161	Grill Plate	1
15	000-4192	Side Plate, L.H.	1
16	000-4193	Side Plate, R.H.	1
17	000-4167	Cover, R.H. Rear Engine	1
18	000-4177	Cover, L.H. Rear Engine	1
20	000-4120	Reservoir, Hydraulic Oil (Integral w/Rear outer Support Frame)	1
21	000-4207	Vandal Cover, Dash Panel w/Latch	1
22	360-0003	Gas Shock - NOT SHOWN (for Top Engine Cover)	2
23	360-0004	Stud for 360-0003 - NOT SHOWN.....	4
24	360-0005	Clip for 360-0003 - NOT SHOWN	4
25	645-0057	Hood Latch, Lockable w/Key, Rivet mtg. - NOT SHOWN (for Top Engine Cover)	1
26	000-4099 4246	Floor Support Angle.....	1
27	000-4093	Floor Bracket	2
28	350-0013	Grab Handle.....	2



MISCELLANEOUS COMPONENTS

Item No.	Part No.	Description	Qty.
1	395-0005	Seat w/Arm Rests	1
2	330-0011	Steering Wheel	1
3	330-0012	Steering Wheel Cap	1
4	380-0030	Complete Decal Set	1
5	395-0006	Seat Belt Assembly - NOT SHOWN, used with Rops only	1
6	390-0002	ROPS / FOPS (Roll Over Protection Structure)	1
7	350-0028	Fill Cap, w/Screen	2
8	350-0020	Water Cap, w/Chain	2
9	000-1405	Battery Tray	1
10	000-4222	Battery Tray Back Up Strip (Obsolete)	1
11	335-0076	Battery	1
12	385-0074	Battery Hold Down	1
13	385-0008	Battery Hold Down Bolt (Obsolete)	1
14	000-1402	Water Tank	2
15	000-3013	Housing, Vibrator Switch	1
16	330-0014	Steering Column	1
17	000-4202	Mount, Steering Orbital	1
18	105-1008	Motor, Steering Orbital	1
19	000-1256	Washers, Heavy	12
20	207-0008	Ignition Switch	1
21	335-0133	Spare Keys	2
22	315-0017	Cable, Engine Shut Off	1
23	000-4149	Bracket, Propel Valve Block	1
24	000-4209	Hose Clamp - Propelled Side	1
25	000-4210	Hose Clamp - Vibrator Side	1
26	000-4121	Hose Clamp - Propelled Side	2
27	000-4122	Hose Clamp - Vibrator Side	2
28	000-4096	Channel, Cover Frame	1
29	000-A003	Alteration to 000-4096 for Murphy Fuel Shut Down System - OPTIONAL	1
30	375-0016	Switch, Murphy Fuel Shut Down System Magnetic - OPTIONAL	1
31	000-A004	Alteration to OOOKD518 Bracket for Murphy Fuel Shut Down Valve - OPTIONAL	1
32	375-0017	Murphy Fuel Shut Down System Solenoid Valve - OPTIONAL	1
33	000-A005	Alteration to 000-4086 Upper Cover - Console For Murphy Fuel Shut Down System - OPTIONAL	1



CONNECT THIS HOSE
TO FUEL PUMP OUTLET
FITTING A

CONNECT THIS HOSE
TO FUEL INJECTOR PUMP
FITTING B

REMOVE THIS HOSE
WHEN USING MURPHY
FUEL SHUT-OFF SYSTEM

FITTING
B

FITTING
A

KUBOTA V2203 DIESEL ENGINE & RELATED COMPONENTS

Item No.	Part No.	Description	Qty.
1	205-0085	Fan Blade.....	1
2	000-4182	Shut-off Offset Lever	1
3	000-4156	Bracket, Air Cleaner.....	1
4	100-0018	Pump, Power Steering.....	1
5	205-0044	Filter, Engine Oil	1
6	000-4070	Bracket, Rear Engine Mounting.....	2
7	000-4073	Bracket, R.H. Front Engine Mounting	1
8	000-4075	Bracket, L.H. Front Engine Mounting.....	1
9	205-0048	Radiator Support	1
10	502-0037	Adapter, 90 Degree	1
11	205-0049	Drain Cock, Radiator	1
12	230-0034	Coupling w/Rubber Mounts Complete (Obsolete)	1
12	230-0044	Nylon Flange, on Engine Flywheel (Not Shown)	1
12	230-0045	Hub, on Propel Pump (Not Shown)	1
13	230-0043	Mounting Plate, Bell Housing.....	1
14	100-0022	Pump, Propel	1
15	000-4248	Adapter Plate (Between Pumps)	1
16	101-0023	Control Lever Handle - Pump to Bracket (Not Shown)	1
17	100-0025	Pump, Vibratory	1
18	000-4181	Bracket, Throttle & Shut Off.....	1
19	315-0017	Cable, Shut Off	1
20	315-0015	Cable, Throttle	1
21	645-0026	Ball Joint	3
22	315-0011	Cable, Pump Control (1) Propel (1) Vibrator	2
23	335-0068	Connector, Male.....	1
24	000-4138	M46 Pump Control Bracket	1
25	000-4133	Bracket, Propel Control Cable	1
26	000-4134	Bracket, Vibrator Control Cable	1
27	000-4153 4254	Lever, Vibratory Pump Speed Control	1
28	645-0050	Key x 3/4 Lg.	1
29	645-0022	Ball Joint	3
30	645-0026	Ball Joint	1
31	375-0012	Magnetic Pulse Source for Tac	1
32	375-0006	Sender, Oil Pressure	1
33	501-0012	Adapter, 45 Degree	1
34	375-0010	Sender, Temperature.....	1
35	000-4217	Tail Pipe, Exhaust	1
36	205-0056	Muffler	1
37	000-4210	Exhaust Elbow, 90 Degree KD 548	1
38	205-0057	Gasket, Exhaust Flange	1
39	397-0002	Exhaust Clamp.....	2
40	397-0003	Exhaust Clamp.....	1
41	205-0058	Hose, Lower Air Cleaner	1
42	397-0009	Elbow, 90 Degree	1

Continued Next Page

KUBOTA V2203 DIESEL ENGINE & RELATED COMPONENTS (Continued)

Item No.	Part No.	Description	Qty.
43	205-0059	Hose, Upper Air Cleaner	1
44	205-0060	Pipe Clamp	4
45	205-0050	Air Cleaner Body	1
46	205-0051	Dust Indicator, Air Cleaner.....	1
47	205-0052	Band - Air Cleaner	2
48	205-0015	Air Filter	1
49	205-0053	Wing Bolt	1
50	205-0054	Cover, Air Cleaner	1
51	205-0055	Band Assembly	1
52	600-5001	Bolt, 1/2 NC x 1 1/4	10
53	625-0007	Lock Washer, 1/2	14
54	610-1004	Bolt, Metric	8
55	610-1018	Lock Washer, Metric	8
56	600-2000	Bolt 5/16 NC x 3/4 Lg.	8
57	625-0004	Lock Washer, 5/16	8
58	600-3000	Bolt, 3/8 NC x 1 1/4 Lg.	12
59	625-0005	Lock Washer, 3/8	13
60	600-5014	Bolt, 1/2 NC x 1 1/2 Lg.	2
61	600-5013	Bolt, 1/2 NF x 1 3/4 Lg.	2
62	620-0007	Flat Washer, 1/2.....	2
63	600-1002	Bolt, 1/4 NC x 1 Lg.	2
64	620-0005	Flat Washer, 3/8.....	1
65	600-3013	Bolt, 3/8 NF x 2 1/4 Lg. HHCS	1
66	607-0001	Flexloc Nut, 1/4	1
67	625-0003	Lock Washer, 1/4	1
68	610-1008	Bolt, Metric 8MM x 1.25 x 60MM	2
69	610-1017	Lock Washer, 8MM	2
70	620-0003	Flat Washer, 1/4.....	2
71	620-0004	Flat Washer, 5/16.....	6
72	375-0017	Solenoid, Shut Down - OPTIONAL	1
73	502-0021	Adapter, 90 Degree	2
74	000-A004	Bracket.....	1
75	432-0001	Fuel Line, 5/16 x 12" Lg. (SAE Approved)	2
76	645-0031	Clamp.....	4
77	205-0061	Hose, Upper	1
78	205-0062	Hose, Lower	1
79	205-0063	Clamp.....	4
80	205-0128	Radiator, Kubota (Not Shown)	1

SPECIFICATIONS

WEIGHTS

Shipping Weight 9,150 lbs.
Operating Weight (Full Ballast + Operator) .. 10,050 lbs.

DIMENSIONS

Overall Length 128 in.
Height without ROPS..... 74 in.
Height with ROPS 100 in.
Width 58 in.
Wheelbase 84 in.
Curb Clearance (each side) 12.5 in.
Wall Clearance (each side) 2.75 in.

CAPACITIES

Fuel..... 19 gal.
Hydraulic Fluid 19 gal.
Engine Oil 8 qts.
Water Tank 72 gal.

FRONT AND REAR DRUMS

Width 52 in.
Diameter 34 in.
Shell Thickness625 in.

STEERING

Type Hydraulic Center-Pivot Articulated
Turning Radius (outside) 12 ft. 4 in.
Turning Radius (inside) 8 ft.
Oscillation +/- 15°

DRIVE

Drive System Dual Drum Hydrostatic
Controls..... Single Lever, Infinitely Variable
Travel Speed 0-7 MPH
Engine Kubota Diesel, water cooled, 4 cylinder
Model V2203B, 51 HP @ 2800 RPM, 134.08 Cu. In. Disp.

BRAKES

ServiceHydrostatic drive provides dynamic braking
Parking/EmergencyFailsafe, Spring applied, hydraulically released, manual switch on console

VIBRATION SYSTEM - Dual Drum

TypeHydraulic Drive Direct
ControlSingle lever for variable VPM setting, 3 position switch, (1) Dual Drum Vib "on", (2) Single Drum Vib "on", (3) All Modes Vib "off"
Frequency 0 - 3000 VPM (each drum)
Centrifugal Force ..7200 Lbs. @ 3000 VPM (each drum)
Dynamic Force Per Linear Inch
Front - 231 PLI • Rear - 239 PLI
Static Force Per Linear Inch
Front - 93 PLI • Rear - 100 PLI
Total Applied Force per Drum
Front - 12,025 lbs • Rear - 12,425 lbs.
Total Applied Force of Complete Unit 24,450 Lbs.

WATER SPRAY SYSTEM

Type Pressurized w/control switch, spray bar with quick disconnect brass spray nozzles & strainers. Also, Spin ON System Strainer
TankBeuthling polyethylene, front & rear, 72 Gal. total
Drum Scrapers.....Four adjustable, neoprene rubber
Drum Cocoa Mats One each drum, pivoting

STANDARD EQUIPMENT

- Dual Drum Drive
- Dual Drum Vibration
- GaugesFuel, Oil Pressure, Water Temp., Hydraulic Fluid Temp., Voltmeter, Tachometer, Hourmeter
- Seat.....High back, Bucket type w/Arm Rests, Adjustable Front to Back, Seat Belt
- Safety Devices Neutral Start Switches, Back-up Alarm, Articulated, Steering Lock
- Vandal Protection Instrument Vandal Cover, Locking Fuel & Hydraulic Fluid Caps, Lockable Engine Cover
- ROPS/FOPS Rollover Protection Structure and Seat Belt, Canopy with Noise Reduction Liner
(Meets SAE Requirements J1040C)

OPTIONAL EQUIPMENT

- *Special Paint*
- *Work Lights, Rotating Beacon*

NOTES.....

NOTES.....



B400

MACHINE IDENTIFICATION INFORMATION

MACHINE SERIAL NUMBER: _____

ENGINE MAKE, MODEL & SERIAL NUMBER: _____

PURCHASE DATE: _____

DEALER: _____

MACHINE SERVICE INFORMATION