



INSTRUCTION MANUAL



**MODELS: EL5-1224
EL7-1530
EL7-1536
EL20-2142**

**WASTE EQUIPMENT
SYSTEM**

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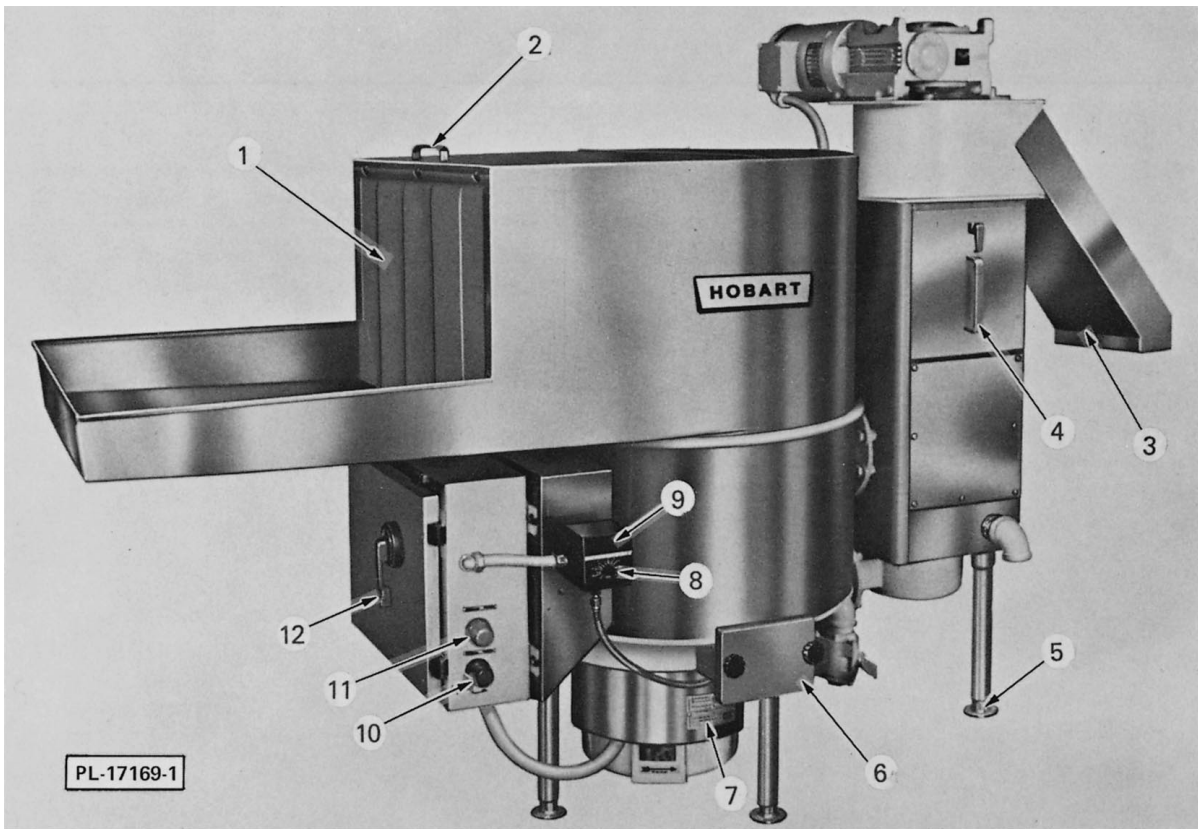


Fig. 1

GENERAL

The Ecolo-Line pulping system reduces solid wastes to a uniform, moist pulp. The pulping action takes place by the rotation of a pulping disc submerged in water. The spinning water creates a whirlpool action continuously pulling waste material into the cutting surfaces of the pulping disc. As waste material is reduced sufficiently, it passes through a sizing ring and is pumped to the water press. The water press squeezes and conveys the pulp upward causing water to drain away. The pulp is dumped through the discharge chute and discarded. The water pressed from the pulp returns to the pulper through a flow back connection or recirculating pump. Water loss is automatically replenished.

All pulper tank covers and the discharge chute are equipped with interlock devices. Interlocked components must be in closed position to start machine.

INSTALLATION

CAUTION: Plumbing and electrical connections must be made by qualified workmen who will

observe all applicable sanitary codes, safety codes and the National Electrical Code.

LOCATION PREPARATION

The machine should be located near a floor drain or where adequate floor drainage is available.

Permanent three phase electrical service, with an approved disconnect switch should be located as close as convenience will allow.

Hot and cold water supply lines should be brought to a convenient location in the machine area and terminate at hose bibs. The cold water supply is for machine operation and hot for cleaning. Each should be fitted with gate type shut-off valves.

A hose of sufficient length must be furnished to reach all areas for cleaning. It should be equipped with a good quality, lever operated nozzle.

Uncrate the equipment. Carefully slide the machine off the skid as close to the final location as possible. Install vibration pads (optional) under each leg. Level the machine by threading the adjustable feet (5, Fig. 1) up or down as necessary.

PLUMBING

The Ecolo-Line has three drains: a pulper drain (2, Fig. 2) with a 1-1/2" drain valve; a water press drain (3, Fig. 2) with a 1-1/2" drain valve; and 2" overflow drain (1, Fig. 2). All three may be joined to a common connection and routed to a single floor drain. The common drain should be at least 2" in diameter and fitted to at least a 3" floor drain.

It is RECOMMENDED that a shut-off valve (not supplied) be installed in the fresh water supply line. Connect the fresh water line with a union (not supplied) to the assembly connection provided on the side of the pulper tank.

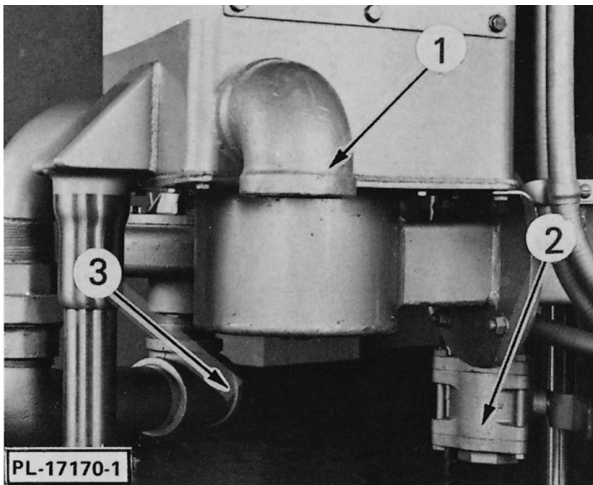


Fig. 2

ELECTRICAL

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AT THE FUSED DISCONNECT SWITCH AND PLACE A TAG INDICATING CIRCUIT IS BEING WORKED ON.

Before making electrical connection, check the specifications on the data plate (7, Fig. 1) to assure they agree with those of your electrical service.

Machine	Voltage	Minimum Conductor Ampacity	Maximum Time Delay Fuse
EL5-1224	200/60/3	35	40
	230/60/3	30	35
	460/60/3	15	15
EL7-1530/ EL7-1536	200/60/3	50	60
	230/60/3	45	55
	460/60/3	25	25
EL20-2142	200/60/3	100	125
	230/60/3	85	105
	460/60/3	45	55

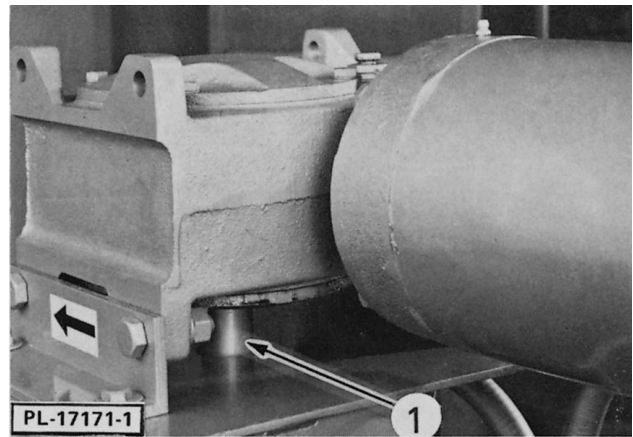


Fig. 3

Install conduit and wiring from the electrical supply fused disconnect switch to the input of the power disconnect switch inside the NEMA 12 control panel. If the control panel location is remote, additional conduit and wiring (not supplied) from control panel to machine junction box will be required. Refer to the wiring diagram on inside of control panel door.

Motor Rotation

The direction of motor rotation must be verified. Each motor is identified with an arrow to indicate the correct direction of motor rotation. If the unit is installed with the control panel attached to the machine, only one motor need be checked as all motors are wired correctly at the factory. If the unit is installed with the control panel in a remote location, all motors must be verified.

The pulper motor must rotate counterclockwise and may be checked by looking down at the pulping disc. The water press motor must rotate clockwise and may be checked by looking down between the gear box and the discharge housing (1, Fig. 3). The recirculating pump (optional) must rotate clockwise and may be checked by looking down at the motor coupling connection (1, Fig. 4).

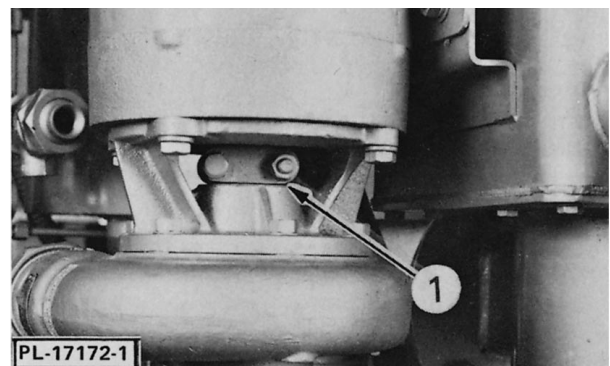


Fig. 4

To check direction of rotation: Apply power to control box; move power disconnect handle (12, Fig. 1) to ON; place interlocked components in closed position (2 & 3, Fig. 1); and push START button (11, Fig. 1).

Push STOP button (10, Fig. 1) , turn power disconnect handle (12, Fig. 1) to "OFF" and **DISCONNECT ELECTRICAL POWER SUPPLY.**

If incorrect motor rotation is found on an installation where the control panel is mounted to the machine, interchange any two incoming leads at the power disconnect switch inside the control panel.

If incorrect motor rotation is found on any motor in an installation where the control panel is remote, interchange any two power supply leads for that motor at the terminal block inside the control panel.

Momentarily energize the machine to verify correct motor rotation.

OPERATION

CONTROLS

The control panel and switches, for selecting modes of operation, may be located on the machine, a nearby wall or other convenient location.

A power disconnect switch is located on the door of the control panel (12, Fig. 1). This switch furnishes power to the motor control circuits and locks the control panel door in the closed position.

The START button (11, Fig. 1) energizes the water supply solenoid valve, pulper motor, water press and optional recirculating pump.

The STOP button (10, Fig. 1) de-energizes the water supply solenoid valve, pulper motor, water press and optional recirculating pump.

An optional Automatic Shutdown Timer is available. When HAND is selected, the machine will operate, once started, until STOP is pushed. When AUTO is selected, the machine, once started, will operate for a pre-set period of time. The timed operation may be adjusted by qualified service personnel from a minimum of 0-minutes to a maximum of 60-minutes.

The water control switch (9, Fig. 1) is factory adjusted for average operating conditions. The

proper water level is determined during machine operation. The top edge of the vortex should be approximately even with the return connection. The water level would then be about 1/2" below the circular return connection at the front of the pulper tank when the machine is off. If water make-up changes are necessary, make only small adjustments at a time and check level change. Turning the adjusting knob (8, Fig. 1) clockwise increase, and counterclockwise decreases, the water make up.

The pressure switch light is ON when fresh water is not being supplied.

RUNNING

Close the drain valves. Open the fresh water shut-off valve. Close the discharge chute (lowered position). Place the pulper tank cover in position. If machine is equipped with feed hood or cover plate, revolve until it hits its stop. Turn the disconnect handle (12, Fig. 1) to ON and press START button (11, Fig. 1). The machine will begin filling with water. Allow the machine to completely fill before beginning to feed waste.

Feeding Waste

Waste material should be fed to the pulper at a reasonably uniform rate, at or near the rated capacity of the machine. Overloading the pulper will actually decrease the output of the machine. A good gauge for correct feed rate is to feed waste as fast as possible, provided the material continues to rotate in the pulping tank. If the rotation of the vortex is stopped by a "log jam" due to over-feeding, wait for a few minutes until rotation resumes. Production can be improved by mixing the waste whenever possible. Corrugated boxes, for example, can be mixed with food service waste that would come from a typical dining area. During normal operation, there should be a strong flow of water returning to the pulper from the water press. This flow is a clue to the performance of the machine since a sharp reduction in this flow indicates the pulper is overloaded. If this occurs, stop feeding for a few minutes until return water resumes its normal flow.

Avoid slugging the machine with greasy swill or overloading the pulper with bread or pastry. Mix these items with bulky waste such as corrugated boxes. The pulper will always perform better with clean, cold water. It is good practice to drain the machine of dirty water periodically if it becomes foamy or concentrated with food waste.

The receptacle used to catch pulp should never be taller than the bottom of the discharge chute. DO NOT allow pulp to back up inside chute. Empty pulp receptacle as necessary to maintain a constant pulp flow.

Special Feeding Instructions

Certain applications require specific feeding techniques to utilize the equipment to its maximum efficiency. Heavy printed matter such as computer cards, service bulletins, tab runoff sheets, and catalogs should be fed gradually to avoid shock loading.

If waste material is delivered in large plastic bags, it is recommended that the bags be dumped and disposed of separately. Large plastic bags may conceal glass or metal containers which should be sorted out. Bags also have a tendency to fill with air and float.

Glass and metal are highly abrasive and accelerate the wear on both the pulper and water press. These items should be disposed of in a conventional can and bottle crusher. Large quantities of rags, mop heads, wooden crates, and heavy uncooked bones should be avoided. The reduction in volume of these items is negligible in comparison with the reduced efficiency of the equipment.

Foaming

Certain waste materials such as glossy finished paper and paper with a high glue content, tend to create foam in the pulping tank. If the pulper foams excessively, it can interfere with the pulping process. Special anti-foam chemicals, as well as metering pumps to inject the chemicals at a uniform rate, are available through private suppliers.

CLEANING

Cleaning the machine requires only a few minutes daily, but it must be done on a regular basis and the proper facilities must be available. If daily cleaning schedules are not followed the machine will become unsightly and odors will develop. It is essential that a hose be available and fitted with a good quality, lever operated nozzle. Hot water is recommended for clean up. In addition to cleaning the machine, it is important to wash down the floor in the area of the machine which requires adequate floor drains and properly pitched floors. After all waste has been fed into the machine, allow about ten minutes to assure that all waste has gone through the system.

PRESS THE "STOP" BUTTON (10, Fig. 1), MOVE THE DISCONNECT HANDLE (12, Fig. 1)

TO "OFF" AND DISCONNECT POWER SUPPLY TO THE MACHINE. MAKE CERTAIN PULPER DISC HAS STOPPED ROTATING BEFORE CONTINUING WITH PROCEDURE.

Open the feed hood hinged cover (2, Fig. 1) and skim off any plastic that may be floating on the water. Open drain valves and drain the machine.

Every pulper is equipped with a trash box (6, Fig. 1) in which nonpulpables such as metal and glass settle out. The boxes are built into the side of the pulper tank and should be emptied and hosed out daily.

Scoop any loose trash remaining in the pulper into the trash box, remove the cleanout cover, and dump the contents in a container. With a high pressure hose, wash the inside of the pulping tank and feed hood. Remove the flexible splash curtain (1, Fig. 1) and hose it down, or run it through a commercial dishwasher.

After the insides of the pulper tank, feed hood, and trash box have been thoroughly washed down, remove the access door (4, Fig. 1) on the side of the water press housing. Using the high pressure hose, wash down the interior of the housing and the separator screen. Remove any loose pulp remaining in the pulp discharge chute (3, Fig. 1) and at the top of the water press screw. Flush lightly with the hose.

NOTE: It is not necessary to dig out the plug of pulp remaining at the top of the screw. If there is any concern about leaving this stand overnight, make it a practice to save several boxes to run through the machine at the end of the operating period. A plug of paper pulp will then displace any food waste remaining in the plug area, minimizing any possibility of odors.

After the machine has been cleaned, wash down the floor, close the drain valve, and dispose of any objects removed from the trash box.

MAINTENANCE

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AT FUSED DISCONNECT SWITCH AND PLACE A TAG INDICATING CIRCUIT IS BEING WORKED ON BEFORE BEGINNING ANY MAINTENANCE PROCEDURE.

MOTORS

Motors should be kept free of dirt and ventilation openings must not be restricted.

WATER PRESS DRIVE

The water press drive consists of a close coupled motor and speed reducer. The motor requires no lubrication maintenance. The speed reducer is oil lubricated and the level should be checked every two or three months. With the machine stopped, remove the oil level plug. If the oil level is not high enough to drain out of the case, add a small quantity of Mobil Extra Hecla until it just starts to run out of the hole.

TROUBLESHOOTING

SYMPTOM – Machine Will Not Start

POSSIBLE CAUSE:

1. Fused disconnect switch tripped at power supply.
2. Power handle on control box in "OFF" position.
3. Discharge chute or pulper tank cover open.
4. Pulper or water press jammed causing an overload.

SYMPTOM – No Water or No Water Make Up

POSSIBLE CAUSE:

1. Water supply line valve off.
2. Drain valve open or leaking.
3. Water control improperly set.
4. Sensing line at pulper plugged.
5. Strainer plugged.

SYMPTOM – Pulper Jammed

POSSIBLE CAUSE:

1. Pulper overloaded.
2. Pulping disc jammed with scrap metal.
3. Accumulation of metal, glass or china in pulper.

SYMPTOM – Water Press Jammed

POSSIBLE CAUSE:

1. Discharge chute blocked off.
2. Pulp too dry.

NOTE: If, after consulting this troubleshooting chart the symptom persists, contact a Hobart Service Office.