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EZ Series



Thank you for purchasing a Right Mfg. Systems Inc. EZ Series Portable Batch Plant. You have joined a team of professionals who strive to create a quality product and provide exceptional customer service that will, in turn, create a sense of customer satisfaction and loyalty. At Right Mfg. Systems Inc. we make short work out of large jobs.

Purpose: The purpose of this instruction booklet is to inform the purchaser of operation and maintenance issues of the EZ Series models of Portable Batch Plants.

Operation: The EZ Series are equipped with two main control panels. The main control panel (Figure 1) has the 920i Auto Control System, Emergency Stop, and switches for the manual operation of ROCK and SAND conveyors, CHARGE conveyor, SILO (if equipped) and WATER dispensing. The second control panel (Figure 2) are hydraulic valve levers of the manual use of DRUM ROTATION, DRUM LIFT and controls for motor control.

Main Control Panel (Figure 1)



Motor and Hydraulic Control Panel (Figure 2)



The pictured control panel is of typical size and shape depending upon the options your model has; the layout will vary.

Auto Control: See 920i manual. If the auto controls become inoperable the whole system can be overridden with the switch controls for manual operation.

Start Up Procedure, EZ Series

1. Remove transportation bolts on hopper bins to insure weight is on the load scales. Transportation bolts are 1" all thread located next to the load scales.
2. Start all engines. (Gas, Diesel, Water Pump, and Silo (if equipped)).
3. Insure engines are running at specified RPM. (2,500 RPM for diesel, 3600 RPM for gasoline, 1800 RPM for electric).
4. Load bins appropriately (rock, sand). Strobe alarm light will flash if there is not enough material in hopper bins to complete batch requirements.
5. Check water tank (should be full)
6. Turn on "Main Power" on control panel and allow 920i batching computer to load software. Turn on pump inverter. Switch is located on right side of control panel.
7. Install desired program on 920i batching computer. Refer to Rice Lakes Manual ELS# 14738. **Do not push start**
8. Enter the desired yardage. **Do not push start**
9. Start drum rotation with hydraulic lever.
10. **Push start on 920i**
11. Water should begin dispensing, and the Charge Conveyor will come on.
12. Sand and gravel will usually have a delayed discharge depending on how you program the 920i.
13. When desired weights and water measurements are achieved the computer will shut off the rock, sand, water and cement.
14. It is common practice to run water short and then manually add water for final water addition.
15. Check mix - adjust water content accordingly.
16. **When proper mix is achieved, Stop drum rotation.**
17. Lift drum to discharge concrete for desired quantity. Begin drum rotation and mix will begin to discharge. Stop drum rotation to stop mix from discharging.
18. When drum has been completely discharged lower drum back to load position.
19. Press the "REPEAT" to begin another batch using the same criteria, or repeat from step 4 if mix modifications are required.

***Warning, always return the Drum Lift hydraulic lever to the neutral position when not raising or lowering drum. Holding lever after it has reached final position will cause damage to the Hydraulic Rams.**

***12 Volt Battery must be fully charged or computer will not work.**

***Turn off Pump Inverter after when job is complete. Failure to do so will drain battery.**

Drum Rotation- The EZ Series are equipped to rotate the drum in one direction. Engage the lever to begin drum rotation, and disengage to stop rotation. Some models may have a Drum Rotation switch located on the main control panel. Simply turn the switch to the “ON” position to engage the drum, and “OFF” to stop rotation. It is important to note the materials will only be discharged when the drum is elevated. The drum rotation must be in neutral to start the motor.

Drum Lift- The lever is positioned in an up and down fashion. The motor must be started. The lever is lifted up to raise the drum and pushed down to lower the drum. The amount of product discharged can be regulated by how high the drum is raised. The rotation of the drum must stop to elevate the drum. Once the proper elevation has been achieved, the rotation can be engaged to discharge the materials. If the drum is empty the motor must be turned off to lower the drum. **Because of the high center of gravity, always empty drums on relatively flat ground. When the drum is lifted the center of gravity is even higher and the mixer could tip over.**

Warning: When drum is lifted to its highest or lowest position, always let the lever handle return to the neutral position. If handle is kept engaged after reaching maximum position this will allow excess pressure on the Hydraulic Rams and will cause series damage.

Charge Conveyor - The Charge Conveyor will only operate the belt in one direction. The conveyor belts purpose is to rapidly move the material into the mixer. The 920i Auto Control Computer will automatically start and stop the conveyor when running a program. You may run the Charge Conveyor manually by locating the Charge Conveyor switch on turning it to the “ON” position. This will start the conveyor. Charge Conveyor belts will need adjustment from time to time (see maintenance). **Never stand in Hopper or on belts when belts are in operation serious injury will occur.**

Hopper Bins- The ROCK and SAND hopper conveyors will only operate the belt in one direction. The conveyor belts purpose is to move the material on to the main conveyor. The 920i Auto Control Computer will automatically start and stop the conveyors when running a program. You may run the ROCK or SAND conveyors manually by locating the ROCK or SAND switch on turning it to the “ON” position. This will start the conveyor. The gate is to be moved up or down for desired flow control. If load scales are used check with your sand and gravel supplier for correct specific weights before for correct mixture content. Hopper belts will need adjustment from time to time (see maintenance). **Never stand in Hopper or on belts when belts are in operation serious injury will occur.**

EZ Series ROCK and SAND bins are labeled always place correct material in the correct bin or mix designs will be wrong. See attached 920i manuals.

Hopper bin with load scale option- **Traveling hardware must be installed when transporting equipment.** Severe damage will be done to load cells if transportation bolts are not installed. All load must be taken off “load” bolt, by feeling the loose washer under the load cell or a 1/16 air gap must be seen when load is taken off.

When all the jacks have been placed firmly on the ground bolts can be taken out and all load must be put on the load cells for proper operation. All load cells must have equal weight in order to insure a proper mix.

Gasoline/Diesel motor operation- Place all hydraulic levers in the neutral positions so all devices are not in operational mode. Turn fuel petcock to the **on** position, pull choke out (depending on conditions), raise throttle to ½ position and turn key all the way (clockwise). **Bring gas engine to maximum throttle and diesel to 2500 rpm.**

Pallet Table – This is used to place pallets on for easy bag breaking. The pallet table is constructed in a manner to be put up for mobilization and put down on jacks for pallet use. Make sure pins are inserted in the jacks. Pallet table must be placed in the up position when transporting. Make sure it is securely attached.

Pallet Table (Figure 3)



Note: When using the combo mixer, ensure that all jacks are placed firmly on the ground. The weight of the frame and of the sand and other materials require that all jacks must be in place for use.

Jacks- All jacks must be placed firmly on hard ground or sinking will occur. Square 2 ft X2 ft metal plate may need to be placed under the jacks for stability. **Never operate machine without jacks down and enough pressure to insure stability.**

Silo Operation- The silo can be discharged either onto belt or directly onto drum. It is recommended that a weight scales be used on the silo for accurate weight control with auto control. Please refer to 920i operation manual for computer operation.

7SL Silo Discharging directly into drum (Figure 4)



Safety:

The procedures for operation of the combo mixer are to be followed strictly or serious injury will occur.

Always wear approved eye and hearing protection.

Ball -The EZ Series can be attached to the truck with several different hitches 2", 2 5/16, or pendal hitch. The ball or pendal must be hitched completely on the ball before the main latch can be securely locked. The safety pin must be attached and locked for towing.

Safety chains- Safety chains must be attached securely to the frame of the vehicle.

Lights- The lights must be inspected and plugged in a working plug on the vehicle.

Tires- The tires must be inspected for proper air pressure (60 psi.) and road damage before each use. A 225ST 15-load range E must be used for replacement when replacement is necessary.

Inspect trailer structure in general for road damage.

Always obey and consider all traffic laws in your region.

Only go the posted speed limit with the trailer attached.

Always use blinkers and taillights during appropriate hours.

If conditions are a hazard to others always use emergency flashers.

Always give yourself enough stopping distance.

Never crawl under while in operation, all motor must be turned off.

Never remove safety guards.

Always stay clear of moving parts.

Maintenance

Drum: There are 4 sets of main ring bearings. Grease once a week with standard grease. Always clean after use. Concrete build up in drum will result in poor concrete mixing.

Hydraulic Rams- Do not over pressurize

Main Drive- these bearings are sealed and should be replaced upon failure of the bearing.

Main Drive Sprocket- the sprocket should be replaced upon failure.

Main Drive Chain- 210" inch, the chain should not be oiled. **Let it wear out.** Oil attracts dust.

Motor oil- Motor oil should be changed as per manufacture specification.

Hydraulic Oil Filter- should be change depending upon conditions every 50 to 500 hrs Shell 32 weight or equivalent. Dirty or worn hydraulic fluid is the main reason for hydraulic component failure.

Hopper Belt adjustment- Tighten belts evenly at non drive end. Belts will stretch and need replacement at 100 hours.

Conveyor Belt adjustment- The belts do elongate overtime and will need to be adjusted. Turn all adjuster bolts out the same with no variance or the belt will misalign and tear.

Water system- all water must be drained or pipes and motors will break due to freezing, drain all water from system after each use. Put air through system to remove all water from water meter.

Inside the main control panel (Figure 1) is supply with a desiccant pack to reduce moisture in the main control panel. Desiccant pack must be recharge per instructions on pack at least once a month. Desiccant pack should be replaced if recharging becomes ineffective.

Inspection

Inspection is recommended of all moving parts. This includes any welds, elongation of any drilled holes, structural damage, etc. The drum pivot hinge welds as well as the lifting ram mount welds should be inspected daily for separation and cracking. If any cracks or separation are detected a qualified welder must repair the weld with reinforcement or brace any faulty material immediately.

Mixer adjustments:

(THESE ADJUSTMENTS SHOULD BE DONE BY QUALIFIED PERSONNEL ONLY).

Drive chain adjustment- Turn off gas motor and put drum rotation in neutral position. Remove the front main drive guard and locate the main drive plate bolt. Tighten the main drive plate bolt until all slack is out of chain. Never adjust drive chain while motor is running. Do not over tighten chain this will cause excessive wear on chain and sprockets.

The main drive assembly is not to be altered it is built to automatically tighten in the clockwise direction (mix). The assembly tightens automatically with an out or round drum.

The exact length of **210"** inches replacement chain should be used or proper chain geometry will not be achieved.

Figure 5 (chain adjustment bolt)



All guards must be kept in place while in operation. Observe all warnings and follow decal instructions. Failure to follow operational procedures and maintenance procedures will void warranty.

Right Mfg. Systems only uses mixing procedure as guide lines always check with professional engineers for correct mix designs. All speeds of components with respect to the machine are set at the factory any alteration with respect to your specific needs will void all warranty.

We have a full line of bearings and replacement parts. Call our sales department for your parts needs at 801-796-9641.

LIMITED WARRANTY

FOR THE MODELS 2DH-CL, 2DH-4CL, 2DH-4CL-2 Bach Plants, EZ Series, 3DH, 4DH ROTARY TUMBLERS, 5VE VIBRATORY TUMBLERS, PORTABLE MIXERS, AND FINISH PRODUCT CONVEYORS MANUFACTURED BY RIGHT MFG. SYSTEMS INC.

Right Mfg. Systems Inc warrants to the original purchaser (“Owner”) of this equipment to be free of defects in materials and workmanship and for structural integrity, under normal use, with reasonable care and maintenance, for one (1) year from the date of purchase (the “Warranty Period”), subject to the exclusions given below.

Coverage Provided

Within the Warranty period, Right Mfg. Systems Inc. is obligated to repair or replace any part covered by this warranty proven defective. In the event of such an occurrence, the Owner should contact the selling dealer for a service appointment. If it is not possible to return to the selling dealer, call Right Mfg Systems factory service department, and they will provide you with the location of the nearest authorized dealer or repair facility. The cost of transporting the equipment to the dealer or service center shall be incurred and paid for by the owner.

This is the only warranty given with the purchase of the equipment other than express or implied warranties given by the component manufactures. Any warranties implied by law are limited to the Warranty Period. Any other warranty, express or implied, not provided for in this Limited Warranty is waived by the Owner.

Owner’s Obligation

The Purchaser must notify Right Mfg. Systems of any defect promptly upon discovery. **Warranty repairs by a non-Right Mfg. Systems dealer or service center must be approved by Right Mfg. Systems prior to any work being started.**

Exclusions

The scope of this warranty is expressly limited to only items actually constructed by Right Mfg. Systems. Right Mfg. Systems therefore makes no warranty with respect to component parts constructed or assembled by other manufactures, including, but not limited to, Diesel Motors, Electric Motors, bearings, hydraulic pumps, rams, valves, hoses, jacks etc. Such component parts may be warranted by their manufacturers, and copies of such warranties are included with the equipment.

No payment or other compensation will be made for incidental expenses, including , but not limited to, towing , telephone, transportation, lodging, travel, gasoline, loss of pay or indirect or consequential damage including, but not limited to, loss of use of the equipment, inconvenience, damage or injury to person or property, or loss of revenue, which might be paid, incurred or sustained by reason of manufacturer’s defect covered by this warranty. Right Mfg. Systems is not responsible to any purchaser of the equipment for any undertaking, representation or warranty made by dealers during the course of selling the equipment beyond those herein expressed.

This warranty does not cover damage caused by or related to (1) normal wear and tear, (2) accidents, abuse, misuse, or negligence (3) failure to comply with instructions contained in Owner’s Manual, (4) any alteration or modification of the equipment, (5) environmental conditions.

This limited warranty is intended to comply with the requirements of both State and Federal laws. Any part of this limited Warranty in conflict with any law shall be ineffective to the extent of any such conflict. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.