

Thank You for Purchasing a Right Mfg. Systems  
Model 3DH & 4DH Tumbler



Included in this packet:

Quick Reference Manual  
Users Manual  
Limited Warranty  
Motor Users Manual  
Safety Check List

We suggest that you read the Users Manual and Quick Reference  
Guide before operating the machine.



# Attention

## Quick Reference Guide:

1. Turn timer
2. Start motor
3. Initiate drum rotation by pushing rotation lever up. Drum should be turning counter-clockwise (when looking at the open end of the drum) so that material being loaded rotates away from the operator.
4. Adjust drum rotation by motor speed.
5. To load tumbler with bucket, swing chute gates down to loading position and adjust chute to correct angle. (Figure 1)
6. To load Tumbler with pallets swing chute gates down to loading position and lower chute to level position. (Figure 2)

**Chute has maximum capacity of 3500 lbs.**

7. When loading is completed close chute to control noise and dust. This also allows for the operation of tumbler while drum is in level position.

**WARNING: WHEN CLOSING CHUTE, YOU MUST SWING THE CHUTE GATES INTO THE UPRIGHT POSITION. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE CHUTE GATES.**

8. Raise drum for softer materials or leave at an angle for harder materials. You can raise the drum by choosing one of the two pin positions. (Figure 3) Always insert pin for drum height, and then rest the tubular box on the pin.

9. To unload tumbler, undo chain and push chute handle down to lower chute. Once chute is completely down the door will swing open. (Door is automatic and sequences for opening and closing). Lift drum and rotate in either direction for discharge. (Figure 4)

10. When in the unloading position, the posts will automatically go into resting position. Always rest tumbler on top of the post. **If weight is left on the rams, the rams will fail.** (Figure 5) Use the post handle to move posts out of the way for lowering drum.



**FIGURE 1**



**FIGURE 2**



**FIGURE 3**



**FIGURE 4**



**FIGURE 5**



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## Users Manual for Model 3DH & 4DH Tumbler

Thank you for purchasing a Right Manufacturing Systems product. 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 Manufacturing we make short work out of large jobs.

### Purpose:

The purpose of this instruction booklet is to inform the purchaser of operation and maintenance procedures of the MODEL 3DH & 4DH Tumbler.

### Operation:

The operation of the tumbler and all of the options that may be included with the tumbler take place at the control panel located on the side of the tumbler. The pictured control panel is of typical size and shape. Layout will vary depending on the options included with your model

Main Control Panel (Figure 1)



**Drum Rotation-** The tumbler is equipped to rotate in either direction. The lever is positioned in an up and down fashion. The lever is pushed down to rotate the drum clockwise and up to rotate counterclockwise. As a safety precaution, during the loading process the drum should always be turning counter-clockwise (when facing open end of drum) this will ensure material being loaded rotates away from the operator. Drum rotation is also important when unloading the tumbler. The drum rotation is important

because by turning the drum clockwise, half of the loader bucket will be filled; and by turning the drum counter-clockwise, the other half of the loader bucket will be filled. Note: the tumbler will tumble equally as well in either direction clockwise or counter clockwise. For best wear on sprockets and chain it is best to rotate the drum clockwise while tumbling.

### Operation continued:

**Drum Lift-** The lever is positioned in an up and down fashion. The lever is lifted up to raise the drum and pushed down to lower the drum. When the drum is lifted in any case, it **must** be rested on the pins or on the top of the post when the drum is rotating. When the drum is lifted to maximum drum height for unloading, the drum **must** rest on the top of the posts or ram failure will occur. When unloading is complete, move post handle so that the posts will move out of the way and drum can be lowered.

**Chute Lift/Door** -The lever is positioned in an up and down fashion. The lever is pushed down to lower the chute. If lever is held down after chute has been lowered completely, the door will swing open. Undo chain before swinging door open. To close door lift lever up and hold until door swings shut and chute has closed completely. The chute is mounted in such a way that it can be lifted to cap off the end of the drum.

**Drum Elevation** – When tumbling softer materials, (Materials that take longer than forty 40 minutes), the drum can be lifted to one of two positions, when rested on the pins for an even tumbling effect. **If the weight is left on the rams, the rams will fail. This will void your warranty.** When tumbling harder materials the drum can be lowered because of the conic tumbling effect.

Figure2 (loader)



Figure3 (pallet)



Notice the angle of the loading chute when loading with a loader. Lower the chute to the level position when loading tumbler with pallets.

**Never exceed 3500 lb with pallet on loading chute door**

Figure 4 (elevated)

Drum elevated for softer material



**WARNING: WHEN CLOSING CHUTE, YOU MUST SWING THE CHUTE GATES INTO THE UPRIGHT POSITION. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE CHUTE GATES. (Figure 5&6)**



Figure 5  
Chute gates are up to allow chute to close properly



Figure 6  
Chute gates are in down position for loading

**Waste Conveyor** - The lever is positioned in a manner that will only operate the belt in one direction. The conveyors purpose is to rapidly pile the cushioning sand and rock for easy loader pick up to be reused.

Figure 7  
(waste conveyor on finish product conveyor)



Figure 8  
(waste grate & waste conveyor)



**Waste Grate-** The purpose of the waste grate is to remove cushioning sand and rocks for rapid reuse. The grate will also remove the rock chips that were originally on the tumbled stone. The grate is positioned in such a way that it follows the travel of the drum and will never separate and leave gaps during discharge.

**Finish Product Conveyor-**The Lever is positioned in a manner that will only operate the belt in one direction. The purpose of Finish Product Conveyor is to move the tumbled material away from the tumbler for stacking. Finish Product conveyor also comes with a waste conveyor built in. This lever is also positioned in a manner that will only operate the belt in one direction. The 2” spacing between the bars on the finish product conveyor acts as the waste grate.

**CAUTION:** When transporting tumbler with conveyor attached, do not exceed 40 mph.

**Gasoline and 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 (gasoline motor only, and depending on conditions), raise throttle to ½ position turn timer to desired tumbling time and turn key all the way (clockwise).

Figure 8 (timer)



**Electric motor operation-** Make sure that the power is hooked up correctly and that the pump is turning in the correct direction. Then, simply turn on the timer to the desired tumbling time and the motor will automatically work. (start-up only)

**Note-** The motor will not start unless timer is in timing position. The motor can be run continuously if the timer is put in the hold position.

### **Maintenance:**

**Drum:** The drum has a tandem set of main shaft bearings, and also two tandem sets of main ring bearings. Grease the main shaft and ring ends once a week with standard grease. All conveyor bearings should be greased weekly.

Note: The shaft end is the capped (closed) end. The ring is the open end. The ring end has a grease zerk on both sides of the bolt.

Hydraulic Rams- The grease zerk on the hydraulic rams is at the bottom of the ram and should be greased monthly with standard type grease.

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- the chain should *never* be oiled, or it will collect dust. Just let it wear out. (It should last for at least a year.)

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

Hydraulic Oil Filter- should be changed depending upon conditions every 50 to 100 hrs

Conveyor Bearings- Should be greased once a week and replaced upon failure.

Finish Conveyor Gearbox- The gearbox requires special oil (EP 220), follow instructions in the gearbox users manual.

**Tumbler adjustments:**

**THESE ADJUSTMENTS SHOULD BE DONE BY QUALIFIED PERSONNEL.**

**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.

Figure 9 (chain adjustment bolt)



Tighten the main drive plate bolt until all slack is out of chain. Never adjust drive chain while motor is running.

Note: Do not over tighten chain as this will cause excessive wear on chain and sprockets.

**Waste Conveyor adjustment** (optional)- The conveyor should be adjusted while running. All bolts are accessible without removing any guards.

Figure 10 (conveyor bolt adjustment)



It is difficult to explain this process other than explaining that the bolts need to be tightened if the belt is riding close to the bolt that is being adjusted, and if the belt is tracking to the opposite side of the bolt being adjusted the bolt needs to be loosened. The belt needs to run equal distance inside the conveyor rails and needs to be tight but not excessive. Belt failure will occur if belt is not adjusted properly. **KEEP HANDS AWAY FROM CONVEYOR DRUM AND BELT.**

**Finish Conveyor Adjustment-** The belted chain conveyor is tightened using the adjusters located on the end of the drum with the gearbox. The belt should be tightened in a way that it is loose enough so that it does not hit the waste conveyor but tight enough so that it does not drag on the ground. The outside adjustor should be tightened first and then adjust the middle to match the tension on the outside adjustments. No tracking is necessary for this belt, the adjustors are primarily for tightening the belt.

### **Inspection**

Inspection is recommended of all moving parts. This includes any welds, elongation of any drilled holes structural damage etc. It is especially important to check the piano chute hinge and door hinge on the loading end of the machine. These hinges have the wide range of movement and must be inspected daily for separation as well as cracks. The drum pivot hinge welds as well as the lifting ram mount welds should also be inspected daily for separation and cracking. If any cracks or separation are detected a qualified welder must reweld or brace any faulty material immediately.

**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 may void warranty.**

**We have a full line of bearings and replacement parts. Call our sales department for any of your parts needs at 800-600-5669.**

# LIMITED WARRANTY

## **FOR THE MODELS 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.

## **WELDING CHECKS**

- 2" Main Shaft Collar Outside
- 2" Main Shaft Collar Inside
- Drum Pivot to Main Frame Post
- Hydraulic Rams Drum Side, Triple Weld
- Hydraulic Rams Frame Side
- Hydraulic Door Ram Swing
- Upper Door Hinge, Triple Weld
- Piano hinge welded inside/out
- Main Drive Motor Hinge must *have Deep Penetration.*
- Axle Frame Spring Mounts, Post to Frame
- Waste Grate Shafts
- Liner, Complete, Solid, Flux Core
- Outer Thrust on 2" Shaft, 4- 1" Welds
- Double 80ch 14<sup>th</sup> Sprocket, Tack in Place for Correct Alignment
- 1 ½" CR Shaft Tacked in Inside & Outside of 1 ½" Pillow Block Bearing

## **RAM CHECK**

- On the 4 X 8 door opening ram check stops (3collars)
- Check front ram collars
- Tighten all collars

## **NUTS & BOLTS**

- Drum Pivot Plates, Lock Washer w/ Nut & Bolt, on nut side
- Wheels, 85 to 90 lbs. of Torque
- Main Drum Bearing, 3/4" x 4" Bolt, Washer, Lock Washer & Nut
- Main Hydraulic Drive Motor, 4- ½" x 1 ¾" Bolts w/ Lock Washer on Nut Side
- Bearing Bolts, 4- 5/8" x 3 ½", Lock Washer on Nut Side
- Clip On Coupler Chain (50ch) in Place for Main Drive Assembly
- 80 Ch Master Link in Place & Chain Adjusted Properly
- Hydraulic Ram Pins Clipped, Collars Tight
- Trailer Receiver Bolts Tightened
- Safety Chain Secured Properly
- Gasoline Motor Mount Bolts, 3/8" x 1 ¾", w/ Washer, Lock Washer & Nut on Nut Side
- 30W Oil in Motor
- Motor Start & Run Properly
- All Valves & Hydraulic Components Work Properly
- Light & Brakes Work Properly
- All Bearings Greased

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