

**OPERATING INSTRUCTIONS  
TT-1/212-2 TAPER TUBE  
COMBINATION PULLER/CUTTER**

**"CAUTION"  
"DO NOT OPERATE MACHINE WITH GUARD REMOVED"**

**UNCRATE AND INSPECT**

This machine has been carefully crated to assure safe arrival to your plant. It is important that you immediately inspect the equipment upon arrival at your plant and report any possible damage incurred in transit to the trucker.

It is suggested that you uncrate the equipment as soon as possible so that any concealed damage may be discovered.

Compare the packing list with items received and in turn cross check the items with your purchase order and report any discrepancies immediately to RDN MFG. CO., INC. at the address or phone number listed above.

**START-UP PREPARATIONS**

The Cutter/Puller should be aligned with other extrusion accessory equipment and adjusted to the proper center height.

The encoder for the cut-to-length control is mounted on the belt puller with the encoder drive wheel riding on the puller belt. An alternate mounting position is upstream of the puller with the encoder drive wheel riding on the extrudate.

## ELECTRICAL INSTALLATION

All RDN extrusion accessory equipment is generally regarded as portable machinery and therefore, it is not equipped with a fused disconnect switch. If your local electrical code requires fused disconnects, we suggest that you provide one on a wall conveniently located in relation to the equipment. The RDN Cutter is supplied with a twist lock plug and should be plugged into a properly grounded socket.

Make sure that the equipment is properly wired for the voltage phase and cycle supplied at your plant. Should there be any questions regarding the electrical connection, please do not hesitate to contact us.

### Powering Up the Machine

- Check serial tag for correct voltage and Hz
- Plug in the main power cord.
- Turn on the main disconnect, located on the rear door
- If equipped with optional battery backup for Touch-screen computer, turn on backup unit by momentarily depressing the on button.
- Turn on the Touch-screen computer, underneath the Touch-screen is a I/O rocker Switch; momentarily rock it toward the I. Wait for the computer to boot and start the TTP software.

### Powering Down the Machine

- Stop both the cutter & puller.
- Select change tube type, then select -shut down computerø wait until the computer is completely powered down before continuing to the next step.  
You can also flick the power I/O rocker switch located underneath the Touch-screen. This will shut down the RDN software then the computer then power itself down.
- If equipped with optional battery backup, momentarily press the power button.
- Turn off the main disconnect located on the rear door.

## **CUTTER UNIT**

This unit utilizes a cutter blade that rotates to cut in response to a signal from the Touch Screen Controller in THE ON-DEMAND mode or rotates continuously in the CONTINUOUS mode. A resolver transmits pulses to the Touch Screen Controller. When the number of pulses corresponds to the counter setting the counter rotates the cutter blade through one revolution. Cutting occurs between two steel bushings with 0.001 inch clearance on each side of the blade. Bushings are secured in a aluminum bushing holder assembly.

Cutting capacity of the unit is 1 inch diameter thin wall tubing or cross section that can be inscribed in the same diameter. Normal clearance between the extrudate and I.D. of the bushing should be 0.020 inch.

A round bushing may be used to cut profiles, but a shaped bushing may be necessary to prevent distortion.

It is imperative that the cutting edge of the blade is in dead center, or angular cuts may result. The knife may be honed to correct this condition. Blade life may be increased by additional honing.

## **OPERATION**

To change a blade, do the following steps: Cutter blades are very sharp use caution.

1. Stop Cutter.
2. Turn off Cutter switch.
3. Open blade guard.
4. Loosen or remove screws as required.
5. Replace the blade.
6. Reverse procedure.

## **PHOTO CELL MODE**

(Optional)

In this mode a fiber optic through beam photo cell detects the end of the extrudate and causes the cutter to cycle to complete the cut. The fiber optic source and receiver are mounted on a bracket which is positioned to adjust the cut length. To position the fiber optics; loosen the bracket mounting screws, turn the handwheel to position the bracket for the desired cut length and then tighten the mounting screws. Each time the extrudate blocks the light beam, the solid state output of the photo cell amplifier switches the electronic counter output which in turn signals the Touchscreen controller to rotate the knife arm on revolution.

## **PULLER UNIT**

The puller and cutter are mounted on a common base when supplied as a Puller/Cutter Combination Unit. The cutter is mounted on linear rails and bearings. This allows for X, Y, axis positioning of the cutter head, and allows the cutter to be moved away from the puller during the time the line is being set up. After the extrudate is fed through the cutter bushings, the cutter should be moved to its operating position close to the puller. A handwheel locking mechanism hold the cutter in the operating position.

As the operator stands facing the front of the machine the direction of rotation of the bottom belt is counter-clockwise and the direction of the top belt is clockwise for right to left operating machines. The belts are reversed from the above on left to right machines.

Adjustment of belt opening is controlled by a single handwheel located at the top in the top of the puller. Turning handwheel to left will increase the opening between belts and turning handwheel to the right will decrease opening.

This machine was designed to pull plastic rod, tubing and profiles. If you want to test this machine, use the material for which it was designed.

The belts on this machine have positive gripping action and do not slip, but do flex. They are taut on the pull side and slack on the far side. Therefore, if you mark the tube and belt, do not expect these lines to stay aligned.

The machine is mounted on swivel casters for portability. Adjusting the center height is accomplished by raising or lowering the leveling screws at each corner of the machine.

## MAINTENANCE AND LUBRICATION

This puller was designed for continuous operation with a minimum amount of maintenance. Keep the machine cleaned and lubricated, and it will remain in good working condition.

Facilities should be made to remove water from the extrudate before it reaches the puller. Water will corrode the machine and reduce its useful life. Also, water on the belts will reduce traction.

The pulleys are aluminum Poly V groove, which eliminates all tracking problems. If dirt or a piece of plastic should stick to one of the pulleys, it could cause a variation in the precision extrusion. Stop the machine and clean off pulley with knife or scraper.

To obtain good traction, the belts should be kept taut. New belts may stretch a bit. If adjusting of belts is required, this may easily be accomplished by taking up on the bearing block positioning screw, located at the entrance end on each side of the belt frame assembly.

### IF A BELT NEEDS TO BE CHANGED:

- Disconnect the machine from the power source.
- Loosen the idler pulley adjustment screws till shaft is seated in pocket.
- Remove the belt from the drive pulley first (keeping the belt over the idler pulley). Then remove the belt the rest of the way.

### INSTALLING THE NEW BELT

- Put belt fully over the drive pulley (past the aluminum plate)
- Then slide the belt over the idler pulley.
- Align the  $\delta V \delta$  grooves.
- Retighten the idler pulley adjustment screws till the belt is taught.
- Start the puller and run at a slow speed, check the tracking, and let the belt seat.
- Stop the puller, disconnect power and retighten if necessary.

- \* Give ball bearings a shot of grease once a month.
- \* Keep a coating of light oil on all shafting and roller chain.
- \* Follow the manufacturer's suggestions for lubrication maintenance on the speed reducer.

## WARRANTY

Pursuant to RDN MFG. CO., INC. standard Terms & Conditions, the standard 1 year warranty on parts applies to the machine on everything.