

OPERATING INSTRUCTIONS
SC 2, 3, 4,5,6 A SmartCut®
COMBINATION PULLER AND SERVO CUTTER

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 unit should then be aligned with other extrusion accessory equipment and adjusted to the proper center height.

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 Puller/ Cutter is supplied with a 4 prong 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.

PULLER INFORMATION

This machine is equipped with a AC Flux Vector Drive.

Adjustment of belt clearance is controlled by a single handwheel located in the center of the machine. 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.

OPERATION:

1. Turn on Disconnect switch.
2. Pull out the Emergency Stop button and press Power On button.
3. Press Start button.
4. Select the desired power speed by turning the speed control Potentiometer clockwise, this will increase motor speed.
5. To change speed repeat Step 4.

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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

Before any maintenance to machine, stop operation by pushing the stop button, and unplugging the machine from main power.

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.

Note: AC vector and AC Servo motors are designed to run hot. It is not uncommon for the motor temperature to reach 180-200f, depending upon ambient temp.

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.
- Check motor brushes for wear every 3 months or 500 hours of operation.
- Keep a coating of light oil on all shafting.
- Give ball bearings a shot of grease once a month.

CUTTER INFORMATION

MOTOR ROTATION CHECK

The motor rotation is set at the factory. The blade arm rotation will be counter clockwise for a right to left machine or blade motion should be downward through the extrusion.

GENERAL INFORMATION

This unit utilizes a cutter blade that rotates to cut in response to a signal from the electronic counter. An encoder driven by a 12" circumference wheel transmits pulses to the electronic counter. When the number of pulses corresponds to the counter setting the counter sends a signal to the servo amplifier which 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 an all steel bushing holder assembly.

Cutting capacity of the model (see below) is thin wall tubing or cross section that can be inscribed in the same diameter. Normal clearance between the extrudate and ID of the bushing should be 0.020 inch.

SC 2A is 2 inch diameter,

SC 3A is 3 inch diameter,

SC 4A is 4 inch diameter.

SC 5A is 5 inch diameter.

SC 6A is 6 inch diameter.

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.

START UP

- 1) Install bushings in bushing holder. The bushing holder is equipped with a metal detecting interlock in each side. The motor power is disabled when either bushing is not installed.
- 2) Make sure that you have adjusted the blade to the bushings and you have no product in the bushings before powering up.
- 3) Close the blade guard. The guard is equipped with an electrical interlock. The motor is disabled if guard is opened.
- 4) Connect the electrical plug to the proper voltage outlet.
- 5) Turn the main power switch on.
- 6) Press **START**, this will pull in the motor power and immediately home the knife arm. Then every time the length counter reaches its value the cutter will cycle. To turn this mode. Turn the auto cut selector switch to off. Once the cutter is enabled the manual cut button will cycle the cutter also
- 7) To turn the cutter off the cutter press the **STOP** push button.

To change the value of SP-1, Press **PAR**, at SP-1 Press **RST** to shift the cursor left, then Press **F1*** or **F2** to change the value to the new #, Press **PAR**. To enter the new #
If the new # is lower that the old # the count may go past the new #, if so press **RST** to reset count to -0.000

OPTIONAL TIMER UNIT

To change length time; press arrow up or down buttons to desired value then press enter to lock in that value. (enter button = oval key with an arrow at the bottom.)

The **PRODUCT COUNTER** records the total number of cuts. There is an **ON-OFF** switch for the counter. The **PRODUCT COUNTER** is re-settable with a push-button on the face of the counter.

OPTIONAL BATCH COUNTER

The **Batch Counter** has two set points it will count up to **SP-1** turn on output 1 and continue to **SP-2** turn on output 2 and reset to zero.

To change batch values SP-1 & SP-2. Press **PAR**, to get to **SP-1**, Press **PAR** again to get to **SP-2**. Press **RST** to shift the cursor left. Press **F1** or **F2** to change the value to the new #.

Note: **SP-2** must be greater than **SP-1** because the count will reset to -00 at **SP-2**.

If the new value is lower that the old value the count may go past the new value, if so press **RST** to reset the count to -00

The **MANUAL CUT** button cycles the knife arm one time, it does not advance the product counter.

CUTTER MAINTENANCE INSTRUCTIONS

1. All bearings are sealed and do not require lubrication.
2. High Torque Option - Periodically inspect timing belt for tension and wear. Tighten by moving motor or replace as necessary.

PREVENTIVE MAINTENANCE

These machines require little preventive maintenance. However, because they do vibrate, it is advisable to check all fasteners and wire terminals on a quarterly basis.