



**ECONOMY CUT-TO-LENGTH
WITH BATCH COUNT
OPERATING INSTRUCTIONS**

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ECONOMY CUT TO LENGTH WITH BATCH CONTROL

The Cut-To-Length Control when coupled with a Rapid-Air feed and cutter assembly can be put into production with a minimum of adjustments.

The control is completely self contained and requires only 2 interface points, which are provided on the outside of the electrical enclosure.

1. A cable connection that should be connected to the solenoid of the air feed.
2. A cable connection that should be connected to the solenoid of the cutter.

FEED SIGNAL OUTPUT:

The feed signal output should be connected, as intended, to a Rapid-Air feed solenoid. The amperage of this output is 0.5 amp. at 120 amp. The output is labeled on the electrical enclosure to avoid any confusion when connecting the cables.

The diagram, 85500212, illustrates the proper interface connection of the switch to the controller at position (S2).

CUTTER SIGNAL OUTPUT:

The cutter signal output should be connected as intended, to a Rapid-Air cutter solenoid. The amperage of this output is 0.5 AMP. at 120 VAC. The output is labeled on the electrical enclosure to avoid any confusion when connecting the cables.

The diagram 85500212, illustrates the proper interface connection of the switch to the controller at position (S1).

WARNING — THE CUT-TO-LENGTH CONTROLLER WAS NOT DESIGNED TO WORK WITH ANY DEVICES OTHER THAN A FEED CUTTER COMBINATION. IF CONNECTED TO OTHER THAN A FEED CUTTER COMBINATION, RAPID-AIR WILL NOT BE RESPONSIBLE FOR WARRANTEE OR INJURY SUSTAINED BY THIS ACT.

The front of the multi-stroke unit has (9) components.

1. START/STOP POWER BUTTON:

Depressing the "START" button activates the unit.
Depressing the "STOP" button deactivates the unit.

2. STOP/RUN/START SELECTOR SWITCH:

In the STOP mode there should be motion or reset signal recognized by the circuitry. If the unit is cycling and the switch is turned to stop, the cycle in process will finish before stopping.
In the RUN, mode, the multi-stroke can be started by turning the selector to start and then releasing it.

3. FEED STROKES PER CYCLE SELECTOR SWITCH:

The position of the selector switch determines how many feed cycles are completed before the solid state relay is energized to allow the work cycle to begin. The minimum cycles is (1) and the maximum is (9).

4. FEED/CUT DELAY POTENTIOMETER

This potentiometer is used to synchronize the timing of the feed to the cutter. As the electrical controller is based on timing and there are numerous combinations of feeds and cutters, the potentiometer adjustment will fine tune the timing of the feed stroke to the cutter stroke.

5. CUTTER DWELL POTENTIOMETER

Due to the wide range of materials that can be used in the cutter, Rapid-Air built in a cutter forward delay through the use of a potentiometer. By tuning the potentiometer, the fastest cycle time can be achieved

while still being able to cut through the material. Transversely, if a job is being run and the cutter is getting dull, the potentiometer can be adjusted to slow the cutter down to get the job finished before changing or sharpening the cutter blades.

6. FEED RATE POTENTIOMETER:

The feed rate potentiometer is a single-turn potentiometer. By turning the knob clockwise the cycle time will be shortened causing more strokes per minute. By turning the knob counter-clockwise the cycle time will be lengthened resulting in fewer cycles per minute. If the rate is too high (trying to cycle the feed at 200 SPM when the feed is only capable of 160 SPM) severe misfeeding will result. Cycling the feed too slow will simply reduce the parts per minute produced. Once the best setting is determined, note the setting for future reference.

There is a formula to calculate the maximum parts per minute (PPM) for a given feed. The formula is $PPM = X(2N - 1)$.

- X=The maximum recommended cycles per minute of the feed, (listed in the Rapid-Air catalog) at the required progression.
- N=The required number of feed cycles per part.

Example:

If it is desired to produce a 24" long part, having the feed adjusted to an 8" progression, the counter would be set for 3 progressions and the maximum recommended number of cycles per minute is 100, the maximum number of parts per minute would be $100 / (2 \times 3 - 1)$ or 20 parts per minute (PPM).

7. SINGLE/BATCH CYCLE SWITCH:

When the cycle switch is set on "SINGLE", the controller will allow (1) complete cycle and then stop. This is used for set-up purposes. When the cycle switch is set on "BATCH", the controller will cycle until the batch complete has signaled the controller to stop or the "STOP-RUN-START" selector switch is turned to stop.

8. PRESET BATCH COUNTER

The batch counter must be preset with at least (1) digit to have the controller run in the batch mode. To accomplish this task the following steps have to be performed.

- A. Locate and depress the "P&E" pushbuttons at the same time on the face of the batch counter.
- B. At this time a digit should be flashing. If this is the digit that should be changed at this time, depress the "E" pushbutton until the correct digit appears.
- C. When item #2 is finished or a different digit is wanted, depress the "P" pushbutton until the digit to be changed is flashing. Redo item #2.
- D. When the correct batch count has been entered then depress the "P" pushbutton until there are no digits flashing.
- E. Depress the "RESET TO PRESET" pushbutton located above the batch counter. The "R" pushbutton on the face of the batch counter is defeated and will not function as a reset.

9. RESET TO PRESET PUSHBUTTON:

Depressing this pushbutton will reset the batch counter to the preset count as entered previously.

Warranty

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WARRANTY - The Company warrants, for a period of one year from date of shipment by the Company, that the product shipped is free from defects in material and workmanship. THIS WARRANTY IS EXCLUDING AND IN LIEU OF ALL IMPLIED WARRANTIES IN LAW, INCLUDING MERCHANT - ABILITY. The Company obligation under this warranty is limited to repairing or replacing, F.O.B. Madison, SD, any part or parts proved to have been defective when shipped. In no event shall the Company be liable for special or consequential damages. Provisions set forth in specifications are descriptive and subject to change and are not intended as warranties.