



# Operating Manual

Please Read Before Operating Unit



## MMC71 Multi Material Cutter

Please Call for Service or Spare Parts

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## MMC71 MULTI MATERIAL CUTTER

## SPECIFICATIONS

Maximum cut length .....	99,999" or 99,999 cm
Minimum cut length .....	0.10" (0.25 cm) or less; material dependent
Resolution.....	0.01" or 0.01 cm

### Maximum Material Sizes:

Wire .....14 AWG stranded, 16 AWG solid  
Maximum Material Width .....3.3" (84 mm)  
maximum (material dependent)  
Maximum Material Thickness (or OD\*) ..... 3/16"  
(4.76 mm) OD\* maximum (material dependent)

\* Heat shrink, or other collapsible material, can exceed this outside diameter specification, provided it does not collapse to a width greater than 3.3" and a height greater than 3/16".

## Tolerances

Repeatability ..... +/- 0.005" (0.13 mm) to 5% of total length; dependent on material and dereeling system

## Programming

Batching ..... up to 99 programmable batches  
Kits.....up to 10 kits (depending available memory)

## Power Requirements

Electrical ..... 120V 60Hz  
Consumption ..... 50 Watts  
Usage Rating ..... The MMC71 is rated for continuous use and is protected by one fuse located in the IEC connector housing.

### Ordering Information

AR0071 (MMC71) ..... Multi Material Cutter

### Included Parts

MMC71 ships with the following parts/tools:

(1) TG3028 ..... 5/64" Allen wrench  
(for the removal of Lower Blade)  
(1) TG2498 ..... 1/8" Allen wrench  
(for the removal of Upper Blade)  
(1) IR2825 ..... Standard Upper (Movable) Blade  
(1) IR2823..... Standard Lower (Fixed) Blade  
(1) PR2727 ..... Power Cord

## Optional Accessories

AR3801 (DE400) ..... Vertical Dereeler  
AR0170 (DE700) ..... Compensating Dereeler  
IR2889 ..... Guide Kit (up to three)

## Replacement Parts

IR2825 ..... Standard Upper (Movable) Blade  
IR2823 ..... Standard Lower (Fixed) Blade  
PG0920 ..... Fuse, for IEC Connection  
PR2727 ..... Power Cord

## Environment

Environmental conditions for proper operation should be 40°F - 90°F (5°C - 32°C).

The MMC71 should be operated in a well-ventilated open workspace.

## Performance

Feed rates .....10 selectable feed rates (0-9)  
Cut rates .....10 selectable cut rates (0-9)

Production Rates (in pieces per hour) at Cut Rate 9								Feed Rates		
Feed rate # / Length	1"	2"	4"	6"	10"	20"	100"	Feed Rate	Inches/ sec	cm/sec
0	2,850	1,540	800	560	340	170	30	0	1.0	2.6
1	7,240	4,730	2,790	1,990	1,250	630	130	1	3.6	9.1
2	8,780	6,210	3,880	2,850	1,820	970	200	2	5.3	13.5
3	9,460	7,010	4,620	3,480	2,280	1,250	270	3	6.8	17.4
4	9,920	7,690	5,300	4,050	2,740	1,540	330	4	9.0	22.8
5	10,260	8,610	6,440	5,190	3,700	2,170	500	5	12.6	31.9
6	10,260	9,010	7,120	5,930	4,390	2,680	650	6	17.5	44.4
7	10,260	9,120	7,470	6,380	4,900	2,130	800	7	20.2	51.3
8	10,260	9,120	7,580	6,670	5,360	3,480	930	8	23.5	59.8
9	10,260	9,120	7,580	6,730	5,640	4,270	1,420	9	30.6	77.8

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## IMPORTANT SAFETY INSTRUCTIONS

**IMPORTANT! DO NOT OPERATE MACHINE UNTIL YOU HAVE READ THOROUGHLY, AND UNDERSTAND COMPLETELY, ALL PRECAUTIONS, INSTRUCTIONS AND INFORMATION ON THESE PAGES. THIS MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS. IT SHOULD BE RETAINED WITH THE MACHINE FOR FUTURE REFERENCE.**

### **SAFETY PRECAUTIONS - MECHANICAL**

**! DO NOT OPERATE UNIT WITHOUT GUARDS IN PLACE OR WITH DAMAGED GUARDS.**

**! DO NOT DEFEAT ANY OF THE SAFETY FEATURES.**

**! DO NOT PLACE FINGERS OR APPENDAGES NEAR MOVING PARTS OR IN OR NEAR OPENINGS IN GUARDS.**

### **SAFETY PRECAUTIONS - ELECTRICAL**

**! ALWAYS UNPLUG UNIT FROM POWER SUPPLY PRIOR TO ANY MAINTENANCE.**

**! DO NOT RUN UNIT WITH INCORRECT LINE VOLTAGE.**

**! NEVER RUN MACHINE WITH DAMAGED OR WORN POWER CORD.**

**! NEVER MODIFY THE PLUG PROVIDED. IF IT WILL NOT FIT INTO THE OUTLET, HAVE THE PROPER OUTLET INSTALLED BY A QUALIFIED ELECTRICIAN.**

**GROUNDING INSTRUCTIONS.** Grounding provides a common return path for electric current to reduce the risk of electric shock. This machine is supplied with an electric cord with an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock.

Check with a licensed electrician if in doubt as to whether the machine is properly grounded.

### **SAFETY FIRST - USE BEST PRACTICES**

**ALWAYS USE SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses. Also use face or dust mask if cutting operation is dusty.

**REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from machine before turning it on.

**KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents. Always leave at least 12" (305 mm) of space around all sides and top of unit.

**DON'T USE IN DANGEROUS ENVIRONMENTS.** Do not use or locate machine in high-humidity environments, or expose to rain. Keep work areas well lighted.

**WEAR PROPER APPAREL.** Do not wear loose clothing, such as gloves, neckties, rings, bracelets, necklaces or any other clothing or jewelry that might get caught in moving parts. This is not an all-inclusive list. Wear protective hair covering to contain long hair. Non-slip footwear is recommended.

**DON'T OVERREACH.** Maintain proper footing and balance at all times.

**MAINTAIN BLADES WITH CARE.** Keep blades sharp and clean for optimal performance. Follow instructions for lubricating and changing blades and all accessories.

**DISCONNECT MACHINE FROM POWER SUPPLY.** Unplug the unit before servicing and when changing accessories.

**DO NOT EXCEED THE UNIT'S MAXIMUM MATERIAL SPECIFICATIONS.** Eraser's warranty will be null and void if machine has been used in any manner that is contrary to these instructions.

**CHECK FOR DAMAGED PARTS.** Before continued use of the machine, the guard and all moving parts

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should be carefully inspected to ensure that nothing is damaged.

Ensure proper alignment of moving parts. Check for any binding of moving parts, breakage of parts, and any other condition(s) that may affect operation. Any damaged part(s) should be properly repaired or replaced prior to any continued use of the machine.

**ONLY ALLOW TRAINED AND QUALIFIED PERSONNEL TO OPERATE UNIT.** Always keep these instructions within reach of the machine.

**USE RECOMMENDED ACCESSORIES ONLY.** Consult this operating manual for recommended accessories. Use only parts supplied by The Eraser Company, Inc. Use of improper accessories will void Eraser's warranty and may increase risk of injury.

**ALL REPAIRS SHOULD BE PERFORMED BY AN ERASER COMPANY REPRESENTATIVE ONLY.** Unauthorized disassembly of machines will void Eraser's warranty.

**WHEN USING MACHINERY, ALL SAFETY PRECAUTIONS – INCLUDING, BUT NOT LIMITED TO, THOSE LISTED ABOVE - SHOULD BE FOLLOWED TO REDUCE THE RISKS OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, AND DEATH.**

**IMPORTANT: NO LIABILITY WILL BE INCURRED BY THE ERASER CO. FOR INJURY, DEATH, OR PROPERTY DAMAGE CAUSED BY A PRODUCT WHICH HAS BEEN SET UP, OPERATED, AND/OR INSTALLED CONTRARY TO ERASER'S WRITTEN OPERATING MANUAL, OR WHICH HAS BEEN SUBJECTED TO MISUSE, NEGLIGENCE, OR ACCIDENT, OR WHICH HAS BEEN REPAIRED OR ALTERED BY ANYONE OTHER THAN THE ERASER COMPANY, OR WHICH HAS BEEN USED IN A MANNER OR FOR A PURPOSE FOR WHICH THE PRODUCT WAS NOT DESIGNED.**

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## UNPACKING THE UNIT

The MMC71 is supplied with one fixed, lower blade and one moveable upper blade. Both blades are installed and adjusted prior to shipment. Also supplied are two Allen wrenches; 1/8" & 5/64" and a 120V power cord. Check your shipment to be sure these items have all been included. If anything is missing, please let us know immediately.

**! CAUTION:** The MMC71 comes with the blades completely installed. These blades are intended for use on a variety of materials and are extremely sharp. Caution must be used when setting up the machine, removing or installing blades.

Place the unit on a sturdy workbench. Material collection bins can be placed to collect the cut material as it exits the chute. Insert the power cord into the IEC connector. Plug the unit into the appropriate power supply. Use a properly grounded mains supply.

## OPERATION

**SET UP** (Reference photos on page 14.)

To feed material, first loosen the four (4) thumb screws on the material guides (2 in front of, and 2 behind the feed rollers) and slide all four guides to their outermost position.

Tension for the idler feed roller (the upper, rubber coated roller) is variable and may be increased by turning the idler roller tension knob on the far side of the top plate clockwise (or counter-clockwise to reduce tension). Before feeding material between the idler and drive (lower) rollers, minimize the idler roller tension. Feed material through the rectangular material guide on the left end of the top plate, then pull the idler roller lever to the left. This will raise the idler roller from the drive roller. Feed the material under the idler roller so it is past the contact point of the idler & drive rollers, then release the idler roller lever. Increase idler roller tension as appropriate for the material.

Once the appropriate tension has been set, move the 4 material guides inward toward the material, to the desired cutting location on the blade. The material should be guided closely, without restriction. Tighten the material guide thumb screws.

## START UP

Turn the MMC71 on using the I/O switch on the rear face of the unit. When the unit is turned on, the splash screen will display briefly:

```
*****
THE ERASER COMPANY
MMC71 [firmware revision date]
*****
```

**! NOTE:** Do not turn the unit on and off repeatedly without waiting 5 seconds.

The main *BATCH SELECT* screen is displayed:

```
DO ONE OF THESE: 0
0 FOR NO BATCH SAVE
ENTER . FOR KIT
NEXT NEW BATCH #1
```

## MANUAL MODE (for batch processing)

Manual Mode allows for semi-automatic feeding and cutting of material. It may be helpful to use this mode when preparing material for processing. To access Manual Mode, press the **<JOG>** key from the *BATCH SELECT* screen. This will display the *MANUAL PROCESS* screen:

```
MANUAL PROCESS
LENGTH: 0.0

ABORT -ESC
```

Material can now be fed through the rollers semi-automatically by pressing the **<+>** key. The **<+>** key jogs the material forward (toward the cutter) and the **<->** key reverses this movement (backs material out of the machine). The amount of material fed and the LENGTH displayed will increase or decrease variably, dependent on how long the **<+>** or **<->** keys are pressed.

After material has been fed at least 1/4" past the blade, press the **<CUT>** key to eliminate the additional material length on the first piece of a programmed batch. Pressing **<CUT>** will also zero the LENGTH display.

Press the **<ESC/PAUSE>** key to return to the *BATCH SELECT* screen. The unit is now ready for programming.



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## BATCH PROGRAMMING

### EXPLANATION OF BATCH PROGRAMMING

A “batch” is a program, or a set of parameters for a quantity of a specified length to be cut (i.e. the unit of measure, the cut length, length adjustment [compensation], quantity, cut rate and feed rate). Referring to the *BATCH SELECT* screen above, the number on the first line will be the last batch run, or in this case, 0, since no processing has occurred after power-up. The number on the last line (NEXT NEW BATCH #) is the next available batch that has not yet had parameters stored (i.e. it is a clean memory location and is the location of the next batch to be programmed). The system requires that batches be created in sequence, so numbers higher than the number on the last line will not be accepted. As batches are created, the number on the last line of the *BATCH SELECT* screen will increase, until the maximum of 99 batches is reached. **Parameters entered while using batch 0 are never stored.** The “0” batch is a “scratch pad” memory location. Parameters for all other batches (1-99) are stored, so the next time that particular batch is called, those parameters will be presented as entered.

### KEYPAD LEGEND

**<ENTER>** key: Advances to next parameter within a screen. When editing an existing batch parameter, an **<ENTER>** key press is necessary to re-write a new value for a parameter into memory.

**<RUN>** key: Advances to the next screen/menu without over writing existing values.

**<ESC/PAUSE>** key: Returns to the previous screen. Also pauses batch & kit processing.

### PROGRAMMING A BATCH

Enter the number on the last line of the *BATCH SELECT* screen, using the above example (and for all new machines) this will be Batch # 1, then press the **<ENTER>** key. The *BATCH EDIT* screen will appear:

```
UNITS in #1
CUT LENGTH .0
LENGTH ADJUST 0
QUANTITY 0
```

The current batch number is shown beside the # at the top right. It is also displayed on the top lines of

the *CUT RATE* and *FEED RATE* screens (below). The cursor will be flashing in the “i” in “in” (inches), indicating that the field is currently editable. The line being edited will display a blinking cursor.

**UNITS parameter:** Press the **<ENTER>** key to accept the default of inches, or press the **<+>** or **<->** key to toggle to “cm”, for centimeters, then press the **<ENTER>** key to store the selected unit of measure.

**CUT LENGTH parameter:** Enter a value for the length parameter. If the **<ENTER>** key is pressed accidentally before a value is entered, the unit will sound a long beep, to prompt the entry of a number greater than zero (CUT LENGTH and QUANTITY fields). If a mistake is made prior to pressing the **<ENTER>** key, press the **<BACKSPACE>** key to back space over the entry. If the **<ENTER>** key has been pressed after an incorrect entry, a long beep is heard and an error code is displayed (see DATA ENTRY ERROR CODES & SOUNDS section below). The cursor then returns to the field where the entry error was made. The CUT LENGTH parameter requires a value between .01 and 99,999 to be entered. The limitation here is that the value can be a maximum of 6 characters – including the decimal point - if a decimal point is used. The maximum decimal value is two places (hundredths of a unit). For example, 123.45 and 1234.5 are permissible but the value 1234.56 isn’t allowed. If a decimal is not used, the maximum number of characters is 5 for this field.

After running a batch, it is recommended to measure the length of the cut piece(s). If the cut length(s) are consistent with each other, the machine requires no further adjustment to either the pre-feed system (if applicable), idler roller tension or feed rate.

**NOTE:** Due to variations in materials, pre-feed systems, idler roller tension or feed rate, actual cut length may vary from the inputted length by a proportional amount.

**LENGTH ADJUST parameter:** The MMC71 incorporates a length compensation feature to provide an easy adjustment in these cases. The length can be compensated in increments of 1%, from -10% to +10% of the value entered into the CUT LENGTH field. The length compensation display will show (-) for a negative value. Example: If 10” is entered as the desired length, but the actual average cut piece measures 9.8”, a length compensation of +2% will increase the cut length by

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.200 to the desired 10". The <+> or <-> keys may be used to add or decrease the length compensation value.

**NOTE:** Often it will not be known if length compensation is needed until after a trial run is completed. When programming a batch, it is recommended to leave the LENGTH ADJUST field at 0 and edit this field later if necessary to incorporate length compensation. Once a value has been entered, or if the default of 0 is to be used, press the <ENTER> key.

**QUANTITY parameter:** Enter a quantity from 1 to 99,999. Only integers (no decimals) will be accepted for this field.

After the quantity is entered, the *CUT RATE* screen appears:

```
CUT RATE 1 #1
-MAX SPEED 2.0
-MAX ACCEL 21.0
-MAX DECEL 21.0
```

The Cut Rate is the rate at which the blade cuts material. The default cut rate is 1, as shown above.

**NOTE:** Cutting force is reduced as the cut rate is increased. Therefore, the unit has the *least* amount of cutting force at CUT RATE 9.

The Cut Rate can be changed at this point by entering a number (from a minimum rate of 0 through a maximum rate of 9) or by pressing the <+> or <-> keys. As the value is changed, the maximum speed, acceleration & deceleration rate values are updated to show what values are active for the selected cut rate. Input the desired cut rate and press the <ENTER> or <RUN> key.

After the cut rate is entered, the *FEED RATE* screen now appears:

```
FEED RATE 3 #1
-MAX SPEED 1.57
-MAX ACCEL 20.0
-MAX DECEL 40.0
```

The Feed Rate is the rate at which material will travel through the feed rollers prior to the cut cycle.

**NOTE:** The slower the feed rate, the more accurate in length the cut pieces will be. It is recommended to start with a middle-range feed rate (3 or 4) and check results, then adjust the feed rate up or down

as needed. The *FEED RATE* screen has the same appearance as the *CUT RATE* screen, except with different values. The default feed rate is 3, as shown above.

As with the *CUT RATE* screen, the FEED RATE can be changed at this point by entering a number (from a minimum rate of 0 through a maximum rate of 9) or by pressing the <+> or <-> keys. Input the desired feed rate and press the <ENTER> or <RUN> key.

**NOTE:** For both the *CUT RATE* and the *FEED RATE* screens, the MAX SPEED, MAX ACCEL & MAX DECEL parameters are not editable.

Once the feed rate is entered, press the <ENTER> or <RUN> key to advance to the *BATCH START* screen:

```
JOG          - JOG
CUT           - CUT
MAIN MENU    - ENTER
START        - RUN
```

This menu allows several options:

- to run a test piece (<JOG> & <CUT> keys);
- to cut a piece (<CUT> key);
- to enter the newly created batch parameters into memory without running the batch (<ENTER> key);
- or to simply run the batch as programmed (<RUN> key).

To run a test piece:

<JOG> key: If the operator chooses to run some test pieces before commencing the batch, press the <JOG> key to display the *MANUAL PROCESS* screen:

```
MANUAL PROCESS
LENGTH: .0

ABORT      -ESC
```

**NOTE:** While this screen is the same *MANUAL PROCESS* screen as described in the Manual Mode section, the feeding process is different. When the <+> key is pressed, material will be fed in increments as defined by the CUT LENGTH parameter of the current batch. The same is true for the <-> key. For example, for a batch with a length of 5.0", each <+> key press would advance the material 5 inches, adding 5.0 to the previous length

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displayed. A <-> key press would subtract 5.0 inches from the length displayed.

**<CUT>** key: The cut mechanism activates and the length is reset to zero.

To save a batch into memory, press the **<ENTER>** key at the *BATCH START* screen.

## RUNNING A BATCH

**<RUN>** key: (START option): The *BATCH RUN* screen is displayed during material processing:

```
PIECES XXXX #1
PIECES LEFT XXXX
ESC TO STOP/BREAK
RUN TO CONTINUE
```

The first line indicates the quantity parameter and the current batch number and the second line displays a running count of the pieces left to process. The PIECES LEFT count is decremented after each piece is cut.

## PAUSING A BATCH

Pressing the **<ESC>** key during batch processing stops the machine and displays the *BATCH ESCAPE* screen:

```
JOG          - JOG
CUT          - CUT
ABORT        - ESC
CONTINUE     - RUN
```

This menu allows the operator to continue the batch by pressing the **<RUN>** key. The operator may also remedy the current piece (if necessary) by a manual feed with a **<JOG>** or **<+>** key press, and/or a **<CUT>** key press to cut the material. To discontinue the batch, press the **<ESC>** key (ABORT command). Pressing **<ESC>** brings the operator to the *BATCH COMPLETE* screen (below) with the number of pieces remaining to be cut displayed in the PIECES LEFT parameter.

When a batch is successfully completed, the *BATCH COMPLETE* screen appears:

```
RUN COMPLETE      #1
PIECES LEFT       0

PUSH ANY KEY
```

This screen indicates a successful completion of a batch and the batch number completed. Any key press brings the user back to the *BATCH SELECT* screen.

## RUNNING AN EXISTING BATCH

Once a batch has been created, it may be started with as little as three key presses: After running a batch, it remains the default batch number until another batch is run or edited. To run the batch again, press any key at the *BATCH COMPLETE* screen (above), press the **<RUN>** key at the *BATCH SELECT* screen and press the **<RUN>** key again at the *BATCH START* screen to start the batch again.

## RUNNING ANOTHER BATCH

Alternatively, a different batch may be selected and run by pressing any key from the *BATCH COMPLETE* screen, then entering the batch number (i.e. selecting a batch number that already exists in memory) at the DO ONE OF THESE prompt, then pressing the **<RUN>** key twice.

## GUARD INTERLOCK

If the guard is removed during a running batch, or prior to pressing **<RUN>** to begin a batch, the following message appears:

```
GUARD OPEN!
```

If the guard is removed during processing, the machine will stop immediately. When the guard is replaced, the *BATCH ESCAPE* screen appears (refer to the Pausing A Batch section above)

## DATA ENTRY ERROR CODES & SOUNDS

If an incorrect key is pressed for a given parameter input (e.g. a number key is pressed at the prompt for a unit of measure or for the length correction factor), a long beep will sound that is distinctly longer than the confirmatory beep heard after each key press. Also, if the value entered is out of range or isn't acceptable as an input for that parameter (e.g. entering more than 99,999 as a length, or using more than 2 decimal places, etc.) a letter appears in the lower right corner of the display ('R' as highlighted in the example below) indicating the error:



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```

UNITS in #1
CUT LENGTH      .0
LENGTH ADJUST  0
QUANTITY        0 R

```

## BATCH INPUT ERROR LEGEND

ERROR INDICATOR	EXPLANATION
R	Data out of range
D	An extra decimal point
W	A decimal only was entered as an input
N	Nothing to delete. Backspace key pressed too many times
L	Length out of range
F	Too many decimal places

## KIT PROGRAMMING

### EXPLANATION OF KITTING

The MMC71 also has a Kitting feature. A Kit allows a collection (or set) of batches to be run sequentially. A Kit can be defined, for example, to be Batches 4 (one 6.0" piece), 5 (three 8.0" pieces) and 6 (one 2.0" piece). The MMC71 will then process all pieces in batch number 4, then batch 5, then batch 6. However, batches do not need to be programmed in sequential (batch-numbered) order within a Kit.

First, a Kit is programmed by assigning batches to it, and then the quantity of Kits to be processed is entered prior to Kit processing. Kit quantities are not saved or stored within Kit programming.

### PROGRAMMING A KIT

Kit programming is initiated by pressing the **< . >** (decimal) key at the default *BATCH SELECT* screen:

```

DO ONE OF THESE: 0
0 FOR NO BATCH SAVE
ENTER . FOR KIT
NEXT NEW BATCH #1

```

After the **< . >** (decimal) key is pressed, the *KIT SELECT* screen appears:

```

SELECT KIT: 1
NEXT NEW KIT #2

```

At this point, the operator has 3 options:

- 1) The operator can define a new kit.
- 2) The operator selects an existing kit number, if previously programmed. To run a kit, enter the kit number, then press the **<RUN>** key to go directly to the *KIT QUANTITY* screen (shown on the next page).
- 3) The operator can return to the *BATCH SELECT* screen by pressing the **<ESC>** key.

For kit programming, we'll follow option #1 above. Press the **<ENTER>** key at the *KIT SELECT* screen above, using the default of '1' as the kit to be programmed. The *KIT EDIT* screen displays:

```

INDEX  #0      F  KIT#1
SELECT BATCH: 0  A
LENGTH      .0
QUANTITY    0

```

Position Indicator

Allowable Action Indicator

INDEX is the "place holder" within the kit that stores the batch. The first batch in any kit is stored at Index #0, the second batch position in the kit is Index #1, and so forth. Therefore, Batch position = [Index #] + 1. The cursor is now at the SELECT BATCH: parameter of the *KIT EDIT* screen (above). The Position Indicator (see legend below) displays an "F", meaning that this is the "First" batch in this kit. In addition, the Allowable Action Indicator (see legend below) displays an "A", meaning that a batch may be "added".

## KIT INDICATOR LEGENDS

POSITION INDICATOR	
Symbol	Definition
F	First batch in kit (index #0)
M	Middle batch
L	Last batch (last index in kit, can be deleted)
N	New batch (this status is temporary until this index is saved)

ALLOWABLE ACTION INDICATOR	
Symbol	Definition
E	Edit - Can change batch # at current index
D	Delete - Remove batch from current index (only possible for the last index in the kit), also implies an edit if it is necessary
A	Add - Add batch and index location to kit

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To continue with the example outlined above, Batch 4 will be the first batch to be run in this kit so it will be entered at INDEX #0. The operator presses the **<4>** key, then the **<ENTER>** key, to enter Batch #4 as INDEX #0 of the kit. The *KIT EDIT* screen displays:

```
INDEX #0      F   KIT#1
SELECT BATCH: 4   D
LENGTH       6.0
QUANTITY     1
```

Since the first batch is numbered INDEX #0, the Position Indicator displays an “F” (Indicating the “First” batch position in the kit). The batch number, length and quantity are displayed for the entered batch and the Allowable Action Indicator changes to a “D”, meaning that this batch number can be “deleted” from the kit. When the operator has chosen the correct batch, press the **<+>** or **<ENTER>** key to enter the next batch in the Kit’s sequence. The *KIT EDIT* screen displays:

```
INDEX #1      N   KIT#1
SELECT BATCH: 0   A
LENGTH       .0
QUANTITY     0
```

The second batch is numbered INDEX #1 (the counting for indexes starts at zero), the Position Indicator displays an “N” (indicating a “new” index position) and the Allowable Action Indicator displays an “A”, meaning that a batch number can be “added” to this location. Following our example, the operator then presses the **<5>** key, then the **<ENTER>** key to place Batch 5 into the second sequence in this kit. The *KIT EDIT* screen displays:

```
INDEX #1      L   KIT#1
SELECT BATCH: 5   D
LENGTH       8.0
QUANTITY     3
```

The Position Indicator now displays an “L” (the “last” batch in this kit so far) and the Allowable Action Indicator displays a “D”, meaning that this batch can be “deleted” from the kit. Only the last batch in a kit may be deleted. When the “D” is displayed, the operator can delete the batch from the kit by pressing the **<CUT>** key. When the operator has chosen the correct batch, press the **<+>** or **<ENTER>** key to enter the next batch in the Kit’s

sequence. The *KIT EDIT* screen displays:

```
INDEX #2      N   KIT#1
SELECT BATCH: 0   A
LENGTH       .0
QUANTITY     0
```

The Position Indicator displays an “N” (indicating a “new” index position) and the Allowable Action Indicator displays an “A”, meaning that a batch can be “added” to this location. To enter the last batch in this example kit, the operator presses the **<6>** key and then the **<ENTER>** key. The *KIT EDIT* screen displays:

```
INDEX #2      L   KIT#1
SELECT BATCH: 6   D
LENGTH       2.0
QUANTITY     1
```

With this last batch, the example kit is completely defined as indicated by the “L” Position Indicator. When the kit is fully defined, the operator presses the **<RUN>** key to run the kit, or the **<ESC>** key to go back to the *KIT SELECT* screen. A **<RUN>** key press displays the *KIT QUANTITY* screen:

```
QUANTITY: 0      KIT#1
```

```
ENTER 0 FOR MANUAL  ← For Single Kit Processing
OR # FOR AUTOMODE   ← For Multiple Kit Processing
```

## RUNNING A KIT

### AUTOMODE OPERATION (Running a Kit with a Quantity > 1)

Kit quantities must be entered each time a kit is called up and processed, they are not stored in the kit’s program or from the last run. The cursor is now at the QUANTITY: parameter. For our example, we’ll process a quantity of ten (10) kits, as programmed (Kit #1). When a kit quantity is entered, the machine will output kits continuously until the entered quantity of kits has been processed. The operator presses the **<1>** key, the **<0>** key, then the **<ENTER>** or the **<RUN>** key. The *KIT START* screen displays:

```
JOG          - JOG
CUT           - CUT
SAVE         - ENTER
START        - RUN
```

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## MANUAL MODE (for Kit processing)

A <+> key press at the *KIT START* screen will advance material through the feed rollers for as long as the key is held. A <-> key press will reverse material for as long as the key is held. A <CUT> key press will cycle the blade once.

**NOTE:** When using any of the manual mode features in either kit mode (automode or manual), the *KIT START* screen will be displayed.

## SAVING A KIT INTO MEMORY

An <ENTER> key press saves the kit and brings the operator back to the *BATCH SELECT* screen.

## RUNNING A KIT IN AUTOMODE

Continuing our example of 10 kits of Kit #1, the operator presses the <RUN> key at the *KIT START* screen (above). As soon as the <RUN> key is pressed, kit processing begins, and the *AUTOMODE KIT RUN* screen is displayed during material processing:

```
# OF KITS 10    KIT #1
KITS LEFT      X
CURRENT BATCH  Y
PIECES LEFT    Z
```

During Automode Kit Processing (running a quantity of kits) the *AUTOMODE KIT RUN* screen (above) displays the quantity of kits programmed and the kit number on the first (top) line. This line is static – it will not change during kit processing. The second line (KITS LEFT) counts down the number of kits left to be processed. The third line (CURRENT BATCH) displays the current batch being processed. The fourth (bottom) line (PIECES LEFT) displays the number of pieces left in the current batch (not the kit) being processed.

## PAUSING A KIT

When the *AUTOMODE KIT RUN* screen (above) displays, the operator can press the <ESC> key to stop kit processing and display the *KIT ESCAPE* screen:

```
JOG          - JOG
CUT           - CUT
ABORT        - ESC
CONTINUE     - RUN
```

At this point the operator can jog or cut material manually (see the Manual Mode section above),

or continue kit processing by pressing the <RUN> key. The kit will resume processing from the point at which it was paused.

## Aborting an Automode Kit

Pressing the <ESC> key from the *KIT ESCAPE* screen (ABORT command) brings the operator to the *AUTOMODE KIT COMPLETE* screen (below), with the number of kits remaining to be cut displayed in the KITS LEFT parameter.

When all kits have been processed, the *AUTOMODE KIT COMPLETE* screen displays:

```
RUN COMPLETE      KIT #1
KITS LEFT  0

PUSH ANY KEY
```

Pressing any key will bring the operator back to the *BATCH SELECT* screen. To return to kit processing/programming from the *BATCH SELECT* screen, press the < . > (decimal) key.

## MANUAL (SINGLE) KIT OPERATION (Using the default kit quantity of '0')

In Manual (Single) Kit Mode, one (1) kit is processed per <RUN> key press, even though '0' is entered as a quantity on the *KIT QUANTITY* screen.

```
QUANTITY: 0      KIT#1

ENTER 0 FOR MANUAL
OR # FOR AUTOMODE
```

On this screen, QUANTITY: 0 designates Manual/Single Kit Mode. After pressing the <ENTER> or <RUN> key to accept the default Quantity of '0' in the *KIT QUANTITY* screen, the *KIT START* screen displays:

```
JOG          - JOG
CUT           - CUT
SAVE         - ENTER
START        - RUN
```

For an explanation of the JOG, CUT & SAVE commands, see the Manual Mode (for kit processing) & Saving a Kit into Memory sections, above.

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Now press the **<RUN>** key. The *MANUAL KIT STATUS* screen displays:

```
# OF KITS 0      KIT#1

PRESS ESC TO BREAK
PRESS RUN TO PROCEED
```

(NOTE: Pressing the **<ESC>** key from the *MANUAL KIT STATUS* screen brings the operator to the *BATCH SELECT* screen)

## **RUNNING A KIT IN MANUAL MODE**

Pressing the **<RUN>** key will begin kit processing. The *MANUAL/SINGLE KIT RUN* screen displays during kit processing, showing # OF KITS 0 before any kits have been processed:

```
# OF KITS    0      KIT#1
CURRENT BATCH X
PIECES LEFT Y
```

On this screen, the top line (# OF KITS) keeps a running count of kits completed, updating after each manual kit is processed. After the first kit has been completed, the *MANUAL KIT STATUS* screen displays:

```
# OF KITS    1      KIT#1

PRESS ESC TO BREAK
PRESS RUN TO PROCEED
```

(NOTE: Pressing the **<ESC>** key from this screen brings the operator to the *BATCH SELECT* screen)

In our example kit (Kit#1), a kit consists of one 6.0" piece, three 8.0" pieces and one 2.0" piece. Therefore, 5 total pieces would output. Pressing **<RUN>** again from the *MANUAL KIT STATUS* screen will process another single kit, and the *MANUAL KIT STATUS* screen would display '# OF KITS 2', increasing by 1 each time an additional single kit is processed.

(NOTE: Manual/Single Kit processing may be paused in the same way as Automode Kit - refer to the Pausing a Kit section above)

## **Aborting a Manual Kit**

A manual kit can be aborted by pressing the **<ESC>** key twice during a kit run (or once from the

*KIT ESCAPE* screen). Pressing the **<ESC>** key twice during a kit run brings the user to the *KIT QUANTITY* screen.

## **NOTES ON KIT PROGRAMMING & EDITING**

- Batches need to be defined prior to being entered into a kit.
- During Kit programming, you can use the **< + >** key to advance to the next batch; or the **< - >** key to return to the previous batch.
- During Kit programming, you can use the **<. >** (decimal) key to advance to the First batch ("F" Position Indicator) in the kit, or the **<BACKSPACE>** key to return to the last batch in the kit ("L" Position Indicator).
- Only the last batch (highest-numbered Index location) may be deleted.
- To delete the last batch in a kit, first display the batch within the kit, then press the **<CUT>** key. The SELECT BATCH parameter will change to "0" and the Allowable Action Indicator will change to "A", indicating that a batch can be added.
- A total of 10 kits may be entered into memory, depending on memory usage.

## **BLADE REPLACEMENT/ ADJUSTMENT**

Refer to the MMC71 Blade Replacement and Adjustment Procedure at [www.eraser.com](http://www.eraser.com).

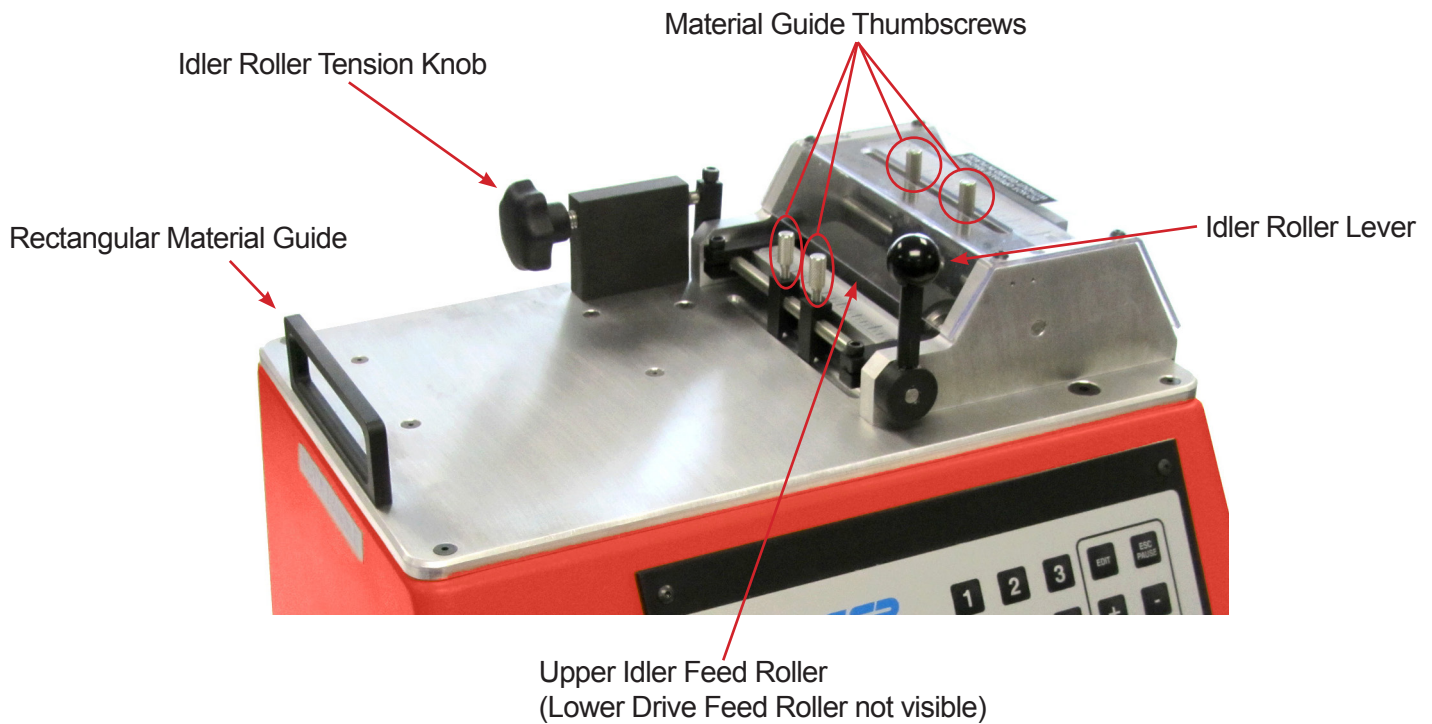
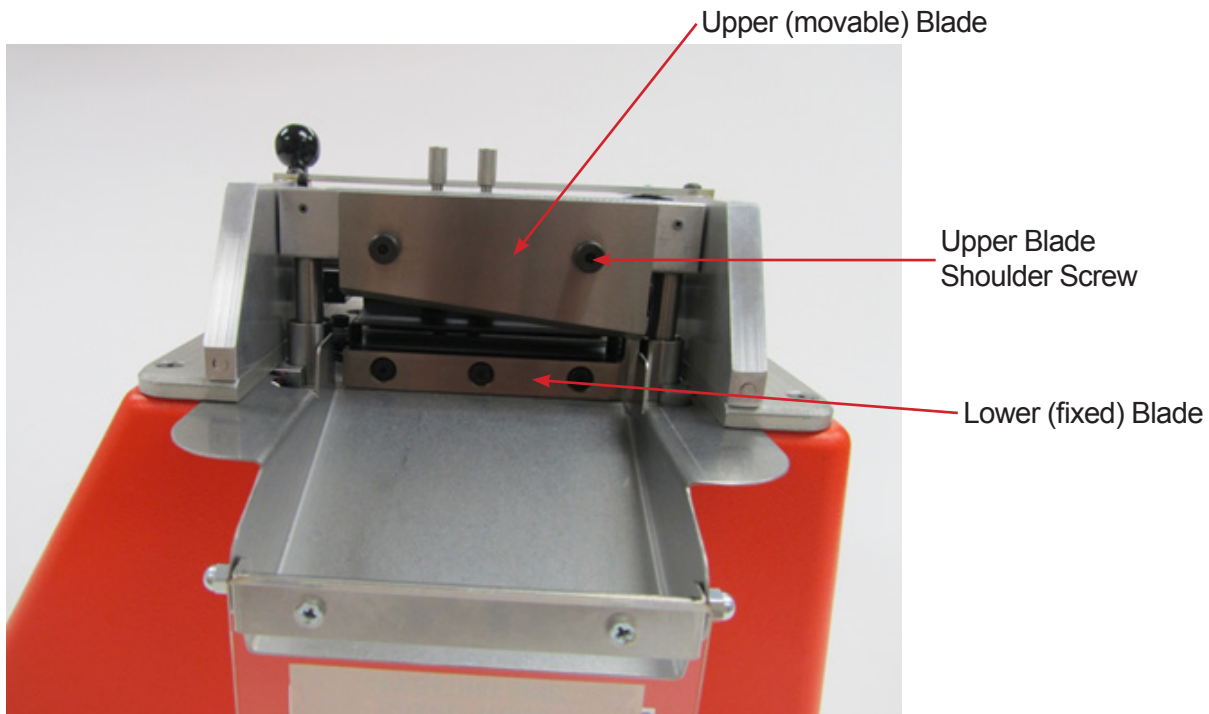
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## TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Blade stuck in down position.	Machine powered off during cut cycle.	Ensure the guard is closed. Power machine back on and it will automatically home itself.
GUARD OPEN! (message on display screen).	Guard is open.	Reinstall guard & resume operation
Display not functioning.	Blown Fuse.	Replace with recommended fuse. Note: if fuse blows more than once, contact factory.
	Unit not powered.	Turn power switch on in the rear of the unit.
	Incorrect voltage supplied.	Make certain the incoming voltage is correct and is not being influenced by large equipment.
Material does not cut	Material is jammed.	Check machine for material jam and clear.
	Insufficient cutting force.	Reduce speed of cut to increase blade force.
	Material is outside specification range.	Check specification for maximum material size
Poor Cut	Dull or Chipped Blades.	Replace with recommended blades.
	Blades are not adjusted properly.	Follow blade adjustment procedure until paper will cut along all edges.
	Insufficient cutting force.	Reduce speed of cut to increase blade force.
	Material is outside specification range.	Check specification for maximum material size
Erratic Cut Lengths	Not enough Idler roller tension.	Adjust idler roller tension with knob.
	Feed rate not appropriate for material.	Adjust feed rate.
	Uneven dereeler tension.	Make sure at high speeds, a power assisted dereeler is used.
	Too much tension on dereeler/straightener.	Reduce feeding/dereeling tension.
Material does not fit	Material is outside specification range.	Check specification for maximum material size
Blades out of Adjustment.	Blades were installed/adjusted improperly.	See Blade adjustment procedure.



# MMC71 MULTI MATERIAL CUTTER



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