Machine Model	C4C, C5C	Owners Manual
P/N 6-119873	Rev. 1.3	30 June 2014

Artos Engineering Company
21605 Gateway Court
Brookfield, WI 53045
Phone 262-252-4545 Fax 262-252-4544
www.artosnet.com
service@artosnet.com

Contents

ARTOS C-4 / C-5

CUSTOMER SAFETY NOTICE

It is the responsibility of all operators to and maintenance personnel to read this manual and fully understand it before operating or maintaining this unit.

The C-4/C-5 as supplied to you must only be used with all the guards and safety devices in place and secure to meet the intended requirements. The safety interlocks must not be tampered with or overridden in any way. Should any guards, interlock, or other safety device be found to be damaged or non-operative the machine cannot be used until appropriate repairs have been effected.

All safety guards and interlocks should be tested daily or at the beginning of each shift change. It is recommended that these checks be documented.

SAFETY INTERLOCKS

GUARDS: Opening either guard will immediately remove power to the control and drop all air**.**

EMERGENCY STOP: Depressing the Emergency Stop button will immediately remove power to the control and drop all air

The electrical enclosures must be kept closed and secured. Only authorized persons with appropriate training should access these enclosures. In the event that it is required to access electrical enclosures with main power on, only persons properly trained and familiar with acceptable Safety Regulations may do so.

When performing routine maintenance, adjusting, or cleaning the machine must be electrically isolated from the power supply.

Above all else **" Think Safety"** and insure that the machine is in fact safe.

NEVER: NEVER REACH INTO THE MACHINE TO CLEAR JAMMED OR STUCK MATERIAL IN THE CHUTE OR ROLLERS.

Failure To Comply With This Will Result In Bodily Harm

SAFETY WARNINGS!!

The following explicit directions apply in this manual. **Do not disregard these directions.**

WARNING: personal injury may occur-**Do not disregard.**

CAUTION: Equipment damage may occur.

NOTE: Inconvenience only if disregarded. No immediate danger of damage or personal injury.

WARNING!! The **C-4/C-5** uses sharp cutting tools to perform its function. Great care must be taken to protect the operator and others from harm.

WARNING!!

- ➔ **Never attempt in any way to operate this machine with the guards removed.**
- ➔ **Never attempt in any way to operate this machine with the guards open.**
- ➔ **Never attempt in any way to disable the safety guard switches.**

GENERAL DESCRIPTION

SCOPE

This manual contains information required to install, operate, maintain, and troubleshoot both the Artos C-4 and C-5 Multi-Purpose Measure and Cutoff Machines. All technical data contained herein is based on information effective at the time of printing, and may be revised in future publications to reflect changes.

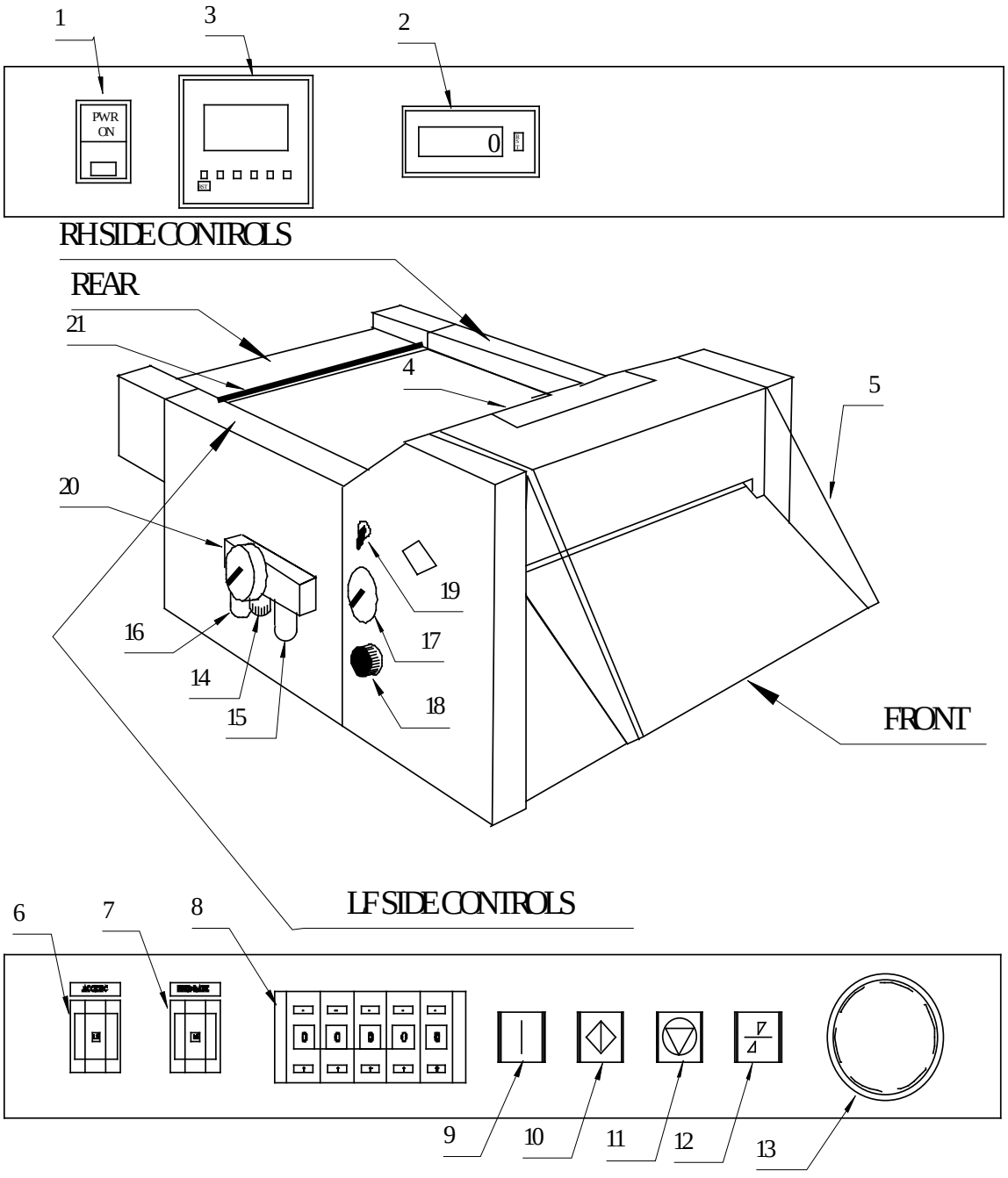
For assistance in installing, operating, and/or maintaining your machine, please call Artos Service department.

SPECIFICATIONS

		C-4 Machine	C-5 Machine
CAPACITY	Material Length (metric)	1mm to 99M	1mm to 99M
	Material Thickness (Max)	½" (12.7mm)	¼" (6.3mm)
	Cutting Width	5-7/8 (150mm)	13-1/2" (343mm)
FEED RATE	6.4 TO 100" (163mm to 2.m/s)		
ELECTRICAL SUPPLY	120VAC 1 phase or 220VAC 1 phase +/-10% 47-63Hz		
	Connection	Detachable Cord	
	Shock Protection	Grounded Metal Case	
	Motor	Stepper	
AIR SUPPLY	9CFM at 80PSI (255 L/min at 5.5 bar)		
DIMENSIONS	LENGTH	25" (635mm)	25" (635mm)
	WIDTH	12" (304mm)	20" (508mm)
	HEIGHT	14" (355mm)	14" (355mm)
	WEIGHT	135 lbs (61.4kg)	160lbs (72.7kg)
ENVIROMENTAL	TEMPERATURE	30% TO 95% (non-condensing)	
OTHER	ALTITUDE	Up to 4000ft MSL (1200m MSL)	
	SOUND LEVEL	42dbA quiescent	78dbA Automatic cycle

This equipment is designed for normal operation in a dry location where it is not likely to be subjected to drip splash or spray of water or other liquid.

C-4/5 FEATURES AND CONTROLS



FEATURES AND CONTROLS

WARNING!!

The guards must be tested daily to insure the operator's hands cannot reach the feed roller or the cutting blades without the guard stopping the machine.

NOTE!!

- Under normal conditions the **"CYCLE STOP"** button should be used to stop the machine before shutting it down via the gaurds or the "**EMERGENCY STOP"**
- Always open the feed rollers before openning a guard or "E-Stopping the machine. This will hold the roller open to aid material loading.
- The machine can be programmed so that the length switches read in mm (whole or tenths) or inches (tenths or hundreds) . See section JUMPER SETTINGS for programming details.

The **C-4/5 Multi Purpose Cut Off Machine** is design for a material flow from back to front. The controls are set-up to be used from the left side. See page 5

1. **POWER SWITCH** This switch is equip with a power on indicator light. This will illuminate when the switch is on and power is present.
2. **PREDETERMINED COUNTER** This counter will count down the quantity entered. When "0" is reached the machine will **"CYCLE STOP'**. Machine will not run at "0" **.(See page 15 for dual function counter)**
3. **TOTALIZING COUNTER** This counter will count every cut the unit makes and will continue until re-set with the re-set button on the counter**.(See page 15 for dual function counter)**
4. **REAR GUARD** This guard protects the operator from the feed roller. When openned the machine will stop and will not resart until closed and the machine is reset. See **WARNING** at left.
5. **FRONT GUARD** This guard protects the operator from the cutting blades. When openned the machine will stop and will not resart until closed and the machine is reset. See **WARNING** at left.
6. **ACC/DEC** This switch adjusts the acceleration and deceleration rate of the feed. There are 16 settings. "0" is the slowest and "15" is the quickest. See "**FEEDING MATERIAL**" page. 8
7. **FEED RATE** This switch adjusts the top rate of feed between acceleration and deceleration. There are 16 settings. "0" is the lowest and "15" is the highest. See "**FEEDING MATERIAL**" page. 8
8. **LENGTH SET** There are 5 "Bi - directional" length set switches with a + and - button on each one to increase or decrease the number. Lengths are set in millimeters. The right digit is "0nes"next is "Tens" then "Hundreds" etc. See **NOTE** at left.
9. **MASTER START** This button will re-set the machine to run after an "**EMERGENCY STOP"** after a guard has been openned, and after power has been interupted.
10. **CYCLE START** This button will initiate production and will continue to cycle until the **"CYCLE STOP"** button is pressed, "**EMERGENCY STOP"** is pressed, or a guard is openned.
11. **CYCLE STOP** This button will stop production at the end of the next cycle but will not shut the machine down, Simply press **"CYCLE START"** to resume poduction.

12. **MANUAL CUT** This button allows the operator to justify the end of the material before running production. Pressing this button will produce one cycle of the blades. No feed is associated with this action. See "**FEEDING MATERIAL**" page. 8
13.
14.
15. **EMERGENCY STOP** This button will stop all action immediately when depressed. All air and power is disabled. Turn the button clockwise until it pops up before pressing the "**MASTER START"** See **NOTE** at left.
16. **MAIN AIR REGULATOR** This regulator with gage sets the main air pressure to the machine. This is the pressure at which the cut is made. Nominaly 80 PSI (5.5bar)
17. **LUBRICATOR** This device meters lubricating oil in to the pnuematic system. **CHECK DAILY** fill as needed.
18. **FILTER / SEPARATER** this device will filter and separate dirt and fluids from the incoming air. **CHECK DAILY** drain as needed.
19. **FEED ROLLER PRESSURE GAGE** This gage displays the pressure being applied to the feed roller system.. See # 18
20. **FEED ROLLER PRESSURE REGULATOR** This regulator adjusts the pressure being applied to the feed roller system.. See #17
21. **FEED ROLLER SWITCH** This switch is used to open and close the feed roller. Up is open and down is closed. See **NOTE** at left.
22. **MAIN AIR INLET** The air supply connection.
23. **MATERIAL RUN OUT SWITCH (OPTIONAL)** His device senses when the material runs out. Not recommended for multi pass use.

OPERATION

FEEDING MATERIAL

Material guides are available in a variety of material thickness sizes. 1/8, 1/4, 3/8, and1/2" (3, 6,3, 10, and 12,6mm). Use the one that fits the closest without causing any drag. C5 has 1/4, only (6,3mm).

Press **MASTER START**, open feed roller, press **E-Stop**. Open the rear guard, loosen the two thumbscrews that hold the material guide in place and pull the guide out to the rear.

ADJUSTING FOR MATERIAL WIDTH

Using the lines milled into the guide plate arrange a front and rear guide along a line. The outer supports can also be used.

Set a piece of the material to be cut flat on the plate and against both guides.

Slide another set of front and rear guides against the side of the material leaving just enough clearance for the material to slide freely.

Multiple passes of material may be run by using additional front and rear guides.

Re-install the guide plate, inspect the machine mounting surface for scrap that may interfere with the guide plate.

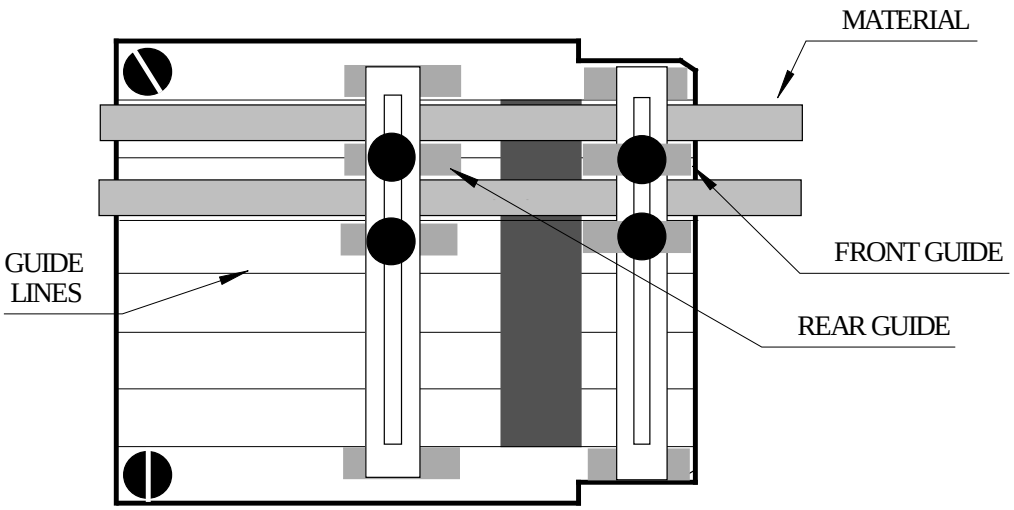


Figure 1

LOADING MATERIAL

With the material guide adjusted and in place insert the material under the material run out sensor (if equipped), between the guides, and out over the cutting blade. A short amount of material should protrude over the blades. This will be trimmed off later.

Close the guards and press the **MASTER START**. Lower the feed roller.

Feed roller pressure is nominally 40 PSI (2.7bar) however the material being run and the type of prefeed will affect the pressure required.
HINT: Use the lowest air pressure setting you can to successfully run product. Excessive pressure will only damage material and exert unneeded strain on the drive.

ACC/DEC SETTING

This feature is designed to aid material feed management. Depending on the supply and prefeeding method used the rate at which the material feed is started (acceleration) and stopped (deceleration) can be controlled. Non-prefed materials on spools will require a much lower rate than prefed or barrel type supplies.

There are 16 settings. “0” is the slowest and “16” is the quickest. Acceleration and Deceleration rates are equal.

FEED RATE SETTING

This feature again is designed to aid material feed management. Not all materials can be fed at the same rate. Column strength, elasticity, and surface conditions are a few of the factors that will affect fed rate settings.

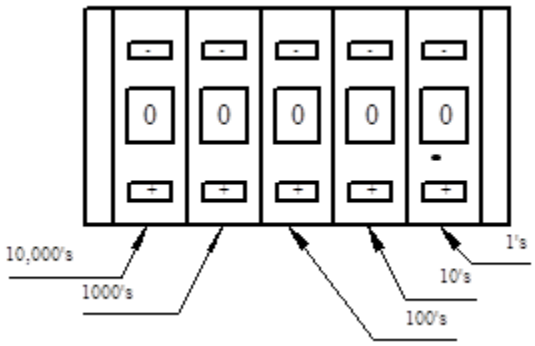
There are 16 settings. “O” is the slowest “16” is the fastest. The feed rate is the rate of feed to which the acceleration section of feed cycle will climb.

Certain combinations of ACC**/DEC** rates, **FEED RATE**, and length may not attain the feed rate level. I.E. Low **ACC/DEC** rates, high **FEED RATE** settings, and short lengths.

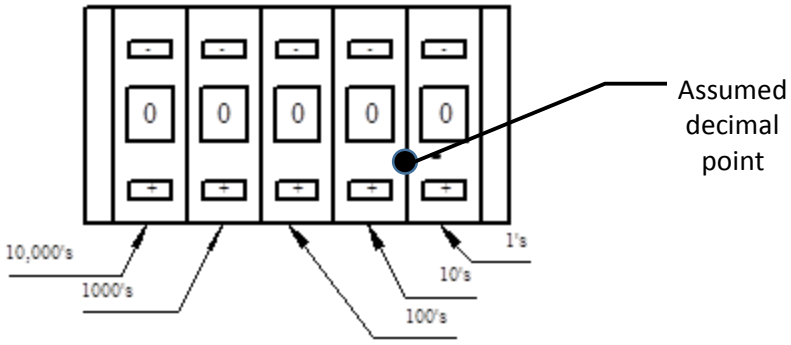
SETTING THE LENGTH

The controller can be programmed for one of four modes. Use the mode below that corresponds to what the controller is setup for. See section JUMPER SETTINGS for programming information.
The length setting is entered by means of the 5 Bi-Directional switches in the left side control panel.
Different materials will react differently when fed between rollers. The length set may have to be adjusted to attain the desired length.

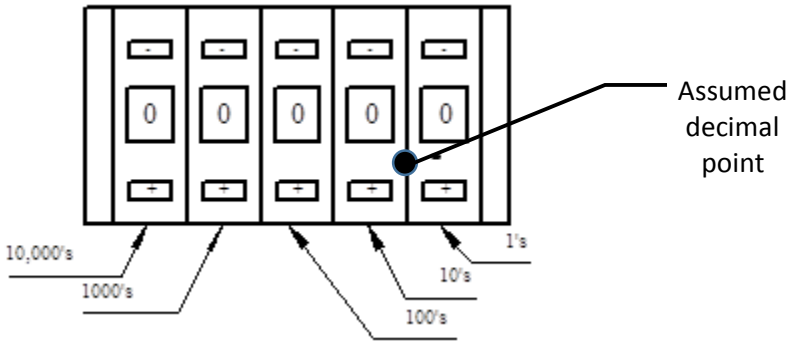
Mode 1 Whole mm 1mm to 99999mm



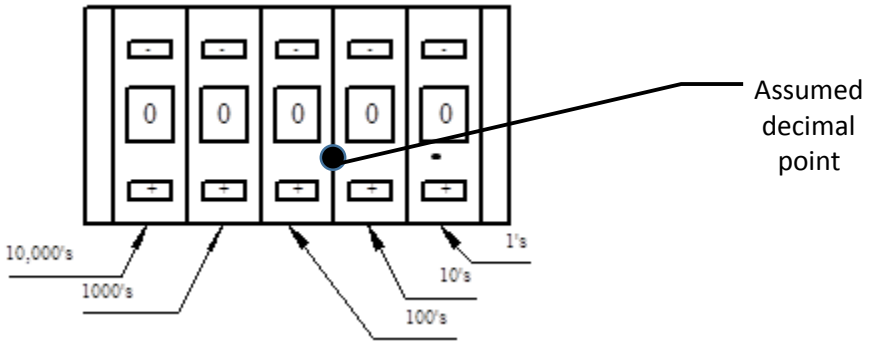
Mode 2 Tenths of mm 0000.1mm to 9999.9mm



Mode 3 Tenths of inches 0000.1in to 9999.9in



Mode 4 Hundreds of inches 000.00in to 999.99in



MAKING A TEST PART

To produce a single piece for inspection the material end has to be justified. Do this by pressing the **MANUAL CUT** button. This will cut off the piece that was left protruding over the blade.

Press **CYCLE START** then **CYCLE STOP** as soon as the feed starts. This will produce one piece for inspection

RUNNING PRODUCTION

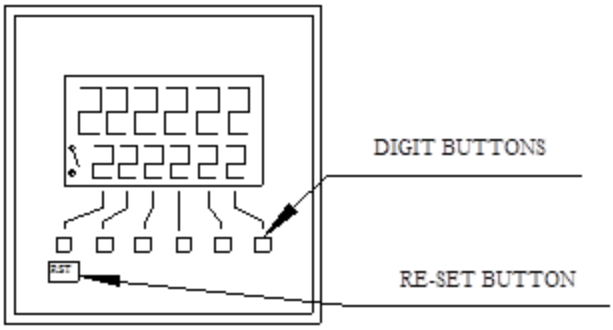
With an acceptable test piece the counters can be set for the production run. The counters can be used in conjunction with each other for a "Batch and Total" method or they can be used to run a continuous quantity by entering the total quantity in the **PREDETERMINED COUNTER**.

NOTES

- The machine **will not** cycle if the **Predetermined Counter** is at **"0".**
- The digital displays on the LCD version of the predetermined counter are battery powered. The battery life is approximately 10 years or 1 million counts.
- The LED version of the counter is line powered and does not contain a battery.

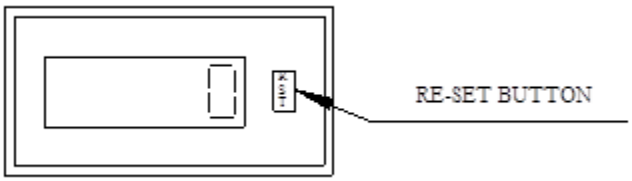
BATCH QUANTITY

The **PREDETERMINED COUNTER** can be set to the desired batch quantity. Simply press the digit buttons to set the desired quantity on the bottom line. Press re-set (**RST**). This is now displayed on the top and bottom lines of the counter The counter will count down on the top line to "0". The machine will stop and the " top line will re-set to the original quantity. To start the next batch press **CYCLE START.** See the maintenance section "**Counters**" for alternate operation.



TOTAL QUANTITY

The **TOTALIZING COUNTER**, if re-set (**RST**) at the start of the production run, will count up the total pieces run. The operator can monitor this counter to see when the batches run equal the total pieces desired.



MAINTENANCE

The **C-4/5 Multi Purpose Cut Off Machine** has been designed for a minimum of maintenance. Main intention of this section is to help you maintain and operate a safe and efficient machine.

DAILY MAINTENANCE

- Check the filter/separator and drain if needed.
- Check the pneumatic lubricator and fill as needed.
- Check the condition of the cutting blades and replace as needed.

DAILY SAFETY CHECKS

WARNING

Failure to perform these daily checks can lead to bodily harm including amputation.

The **Front** and **Rear Guards** and the **Emergency Stop** must be tested daily to insure the operators hands can not reach the feed roller or the cutting blades without the guard stopping the machine. The **Emergency Stop** must stop the machine immediately when pressed.

If this is found not to be the case **DO NOT** run the machine until the condition has been corrected. Contact ARTOS for assistance if required.

COUNTERS

WARNING

- **Disconnect air and electrical power before performing any maintenance function**
- These counters have in them or are powered by replaceable lithium batteries. **Do Not** attempt to cut into the counter. **Do Not** dispose of the counter or batteries in fire or expose them to temperatures outside of - 4° F to 140° F (-20° C to 60° C)

If the **predetermined counter** has a LCD display (5-138806) it is a battery powered unit.

The battery life in this **Predetermined Counter** is about 10 yr. or 1 million relay cycles. The batteries are replaceable. Unplug the connector from the end of the counter. Sliding a piece of thin flat stock up along both sides of the counter at once. This will release the counter from the bezel latch. Push the counter up out of the machine. Note, the bezel latch will become a loose part after the counter is out. Open the battery compartment. Remove the old batteries and install the new ones. Note the polarity marked inside of the counter.

Replace with 2 ½ AA 3V lithium battery.

After the batteries have been replaced the counter will have to be re-programmed. See "**PROGRAMMING**" on the next page.

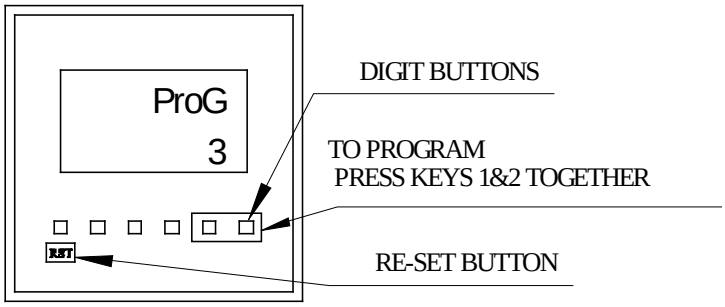
The **Totalizing Counter** has a non-replaceable lithium battery with an approximate life of 10 yr.

5-138806 Counter with LCD display. Factory settings.

The **Predetermined Counter** can be programmed in two different methods of operation.

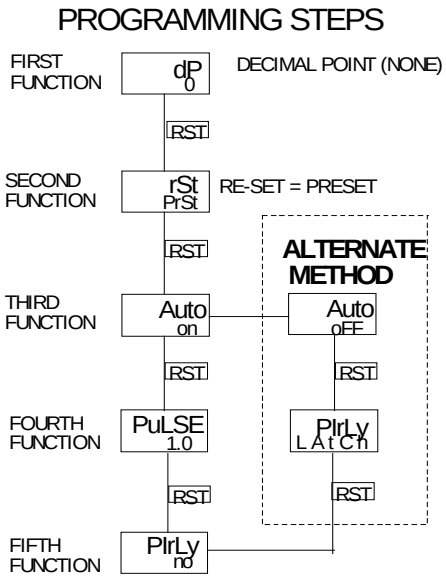
The **Normal Method** (as shipped) counts down to "0" stops and then will return the counter to the predetermined quantity automatically. This requires only a press of **Cycle Start** to run another batch.

The alternate method counts down to "0" and stays at "0" until the re-set **[RST]** button is pressed. Then the **Cycle Start** can de-pressed for the next batch



To enter the program mode hold down the first and second digit keys together. Hold them for 3 seconds and **ProG will** appear during a countdown.

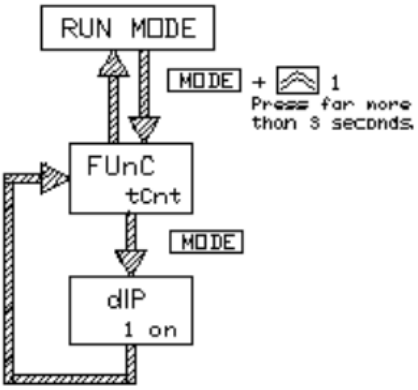
A series of programming windows will appear. To enter a value in a window press the digit keys as needed. To select the next window press **[RST]** To exit the mode press **[RST]** through the cycle of windows with out any changes.

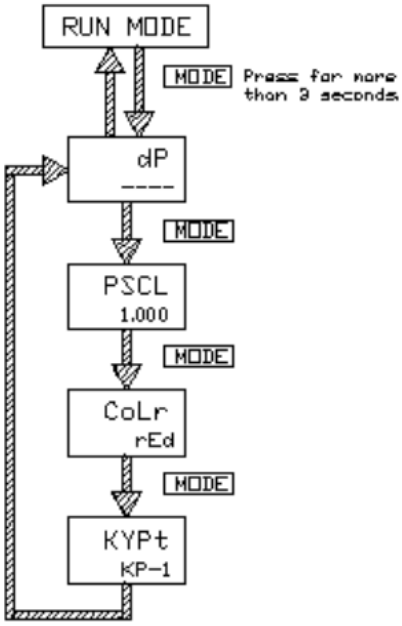


5-143901 Counter with LED display (Dual Function). Factory settings.

To enter the program mode hold down the mode and first digit keys together. Hold them for 3 seconds and then you will enter the first programming screen.

A series of programming windows will appear. To enter a value in a window press the digit keys as needed. To select the next window press **[MODE]** To exit the mode press **[MODE]**





NOTE:
CHANGE OPTIONS USING THE KEY.

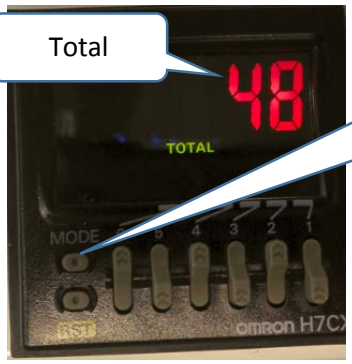
Remaining

Desired count

Use the re-set button to re-set desired count

Set desired quantities

Predetermine



Total

Use the Mode button to toggle between predetermined to totalizing

Totalizing

BLADES

There are many different kinds of blades available. The choice of blade depends on the type of material you are running.

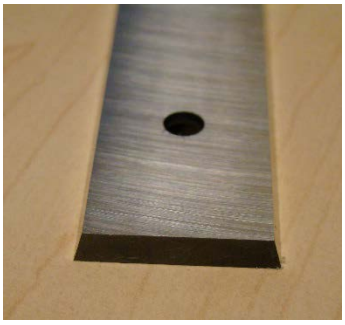
C4 Upper blade

52620-500 Knife Assy-Upper Standard Steel

52620-501 Knife Assy-Upper High Strength Steel

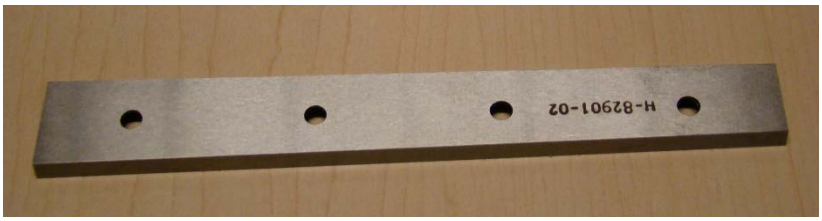
52620-502 Knife Assy-Upper High Strength Steel, Narrowed edge. The ground angle is much steeper and the cutting edge is 1/3 the size of the standard blade. This blade will pass through thicker materials with less deformation. The disadvantage is that the cutting edge will not stay sharp as long as the standard blade.

C4 Lower blade



H-15452-1 Knife-Lower Standard Steel

H-15452-2 Knife-Lower High Strength Steel



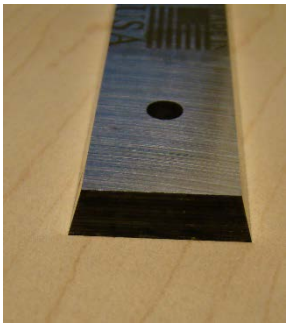
82901-2 Knife- Lower standard steel, inclined cutting edge. This is a special for heavy cutting. The disadvantage is that you can only use ½ of the cutting edge and you cannot flip it over to use the other edge like on the standard blade.

C5 Upper blade

52586-500 Knife Assy-Upper Standard Steel

52586-501 Knife Assy-Upper High Strength Steel

C5 Lower blade



G-3092-1 Knife-Lower Standard Steel

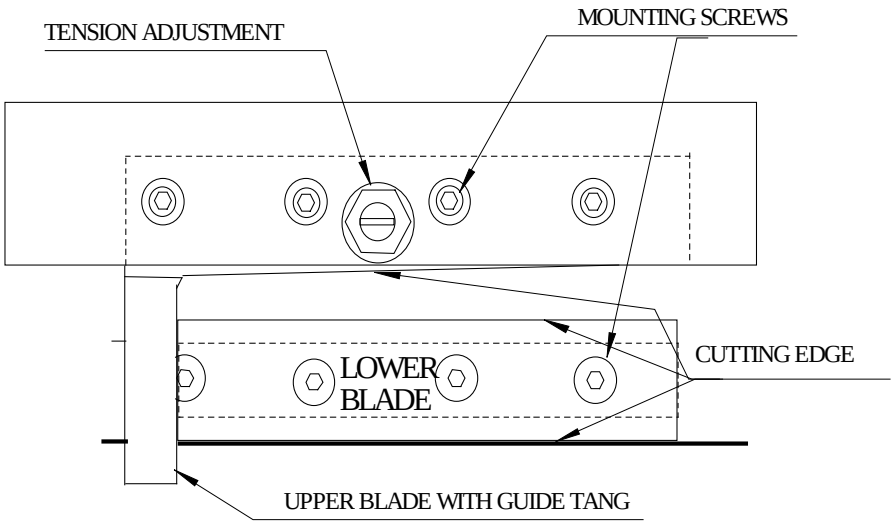
G-3092-2 Knife-Lower High Strength Steel

BLADE REPLACEMENT

WARNINGS

- **Remove all air and power from the machine when dealing with the cutting blades.**

- **The cutting blades are very sharp and must be handled with utmost care.**
- **Do not remove the protective coating until ready to install.**
- **<u>Never try to catch a falling blade</u>.**
- **Failure to heed these warnings can lead to bodily harm including amputation.**



NOTE

When renewing the lower blade it is a good idea to use a new 3mm hex wrench and replace the mounting screws when replacing the blade.

To remove the cutting blades:

1. Loosen the tension adjustment nut and back out the adjustment screw until the tension between the upper and lower blades is released.

2. Remove the mounting screws from the blade to be remove (hold the tang of the upper blade when removing it so it does not drop)

3. Replace the blade. Hold the upper blade up against the blade holder and tighten the mounting screws

4. When replacing the lower blade remember that there are two cutting edges for most blade options. Turn the blade over before replacing it.

ADJUSTING BLADE TENSION

To restore the blade tension, turn the Tension Adjustment screw in until there is tension between the lower blade and the upper blade tang. Enough tension should be applied so the blades will cut standard copier bond paper. Additional tension may be needed for tougher applications.

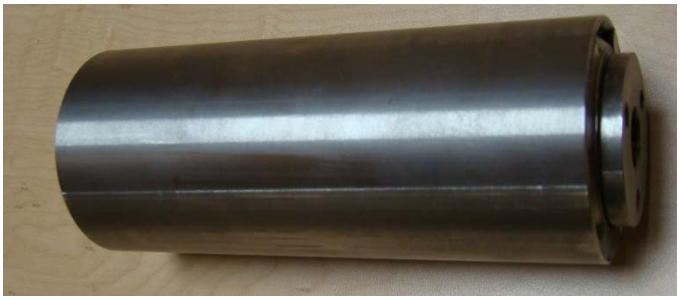
Never tighten the adjustment to bottom of the spring tension. There should always be some movement between the lower blade and the upper blade tang.

FEED ROLLERS

There are many different kinds of rollers available. The choice of roller depends on the type of material you are running. The difference between the upper and lower rollers is the size of the shaft hole through the center of the roller. The hole through the top roller is .5 inch the lower roller is .625 inch.

C4 Upper rollers

AG-775-500 Upper roller, neoprene



56460-500 Upper roller, smooth steel

56460-501 Upper roller, straight line knurl
56460-502 Upper roller, grit surface

C4 Lower rollers

52556-500 Lower roller, smooth steel

64086-500 Neoprene
52556-501 Lower roller, straight line knurl
52556-502 Lower roller, grit surface

C5 Upper rollers

52701-500 Upper roller, neoprene

C5 Lower rollers

3-121415 Lower roller, neoprene

52561-500 Lower roller, smooth steel

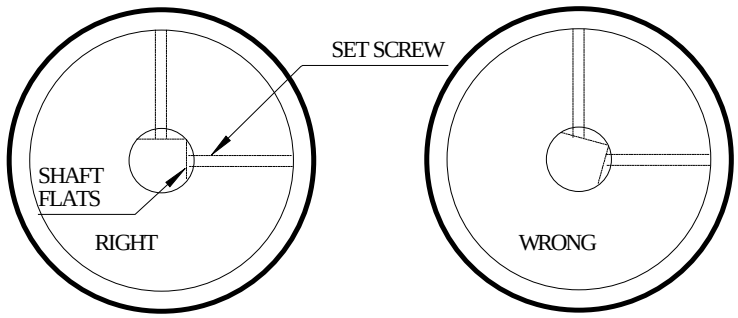
FEED ROLLER REPLACEMENT

To replace a feed roller it will be necessary to first remove the side guards. Then:

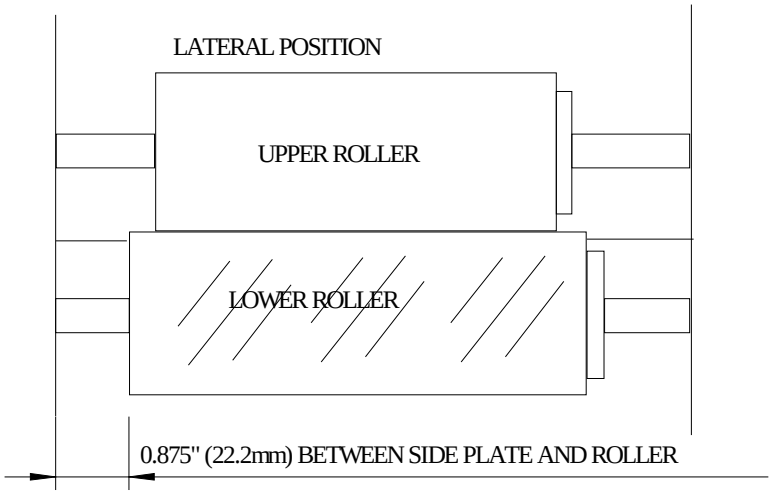
1. Remove the guide plate.
2. Using a prying tool pull the tension roller back and remove the belt.
3. Remove the snap rings at the ends of the shaft.
4. Loosen the set screws at the end of the rollers. Turn them about 4 full turns to insure they clear the shaft.
5. Remove the shaft from the pulley end. It May be necessary to use a soft (brass) drift to tap it out.

Reverse the procedure to replace the roller.

When tightening the set screws Be sure they are at the center of the flats on the shaft. Failure to do this will result in a loose roller and length variation. **Error! Reference source not found.**



The lower roller must be place 7/8TH " (22.2mm) from the inside of the left side plate. The upper is centered on the lower roller.



JUMPER SETTINGS FOR C4A

Different options can be selected on the C4 by inserting a shorting jumper in the proper location of HD3. HD3 is located on the top edge of the control board. This board can be accessed by removing the top stainless steel plate of the machine. Jumpers are Artos Number 911-707

HD3-1 Decimal place selection.
- If in Metric mode (See HD3-6)
  - Jumper not inserted - No decimal
  - Jumper inserted – 0.5 on length switches (Max motor resolution on C4A is 0.5mm)
- If in Inch mode (See HD3-6)
  - Jumper not inserted - No decimal
  - Jumper inserted – 0.02 on length switches (Max motor resolution on a C4A is .02in)

HD3-2 Half acceleration rate – Required for C5 machine
HD3-3 Half feed rate – optional
HD3-4 No jumper for C4A
HD3-5 Disable cutter time out. Software version 2.03 and higher. This is used in special applications were the cutter is inhibited by an external device.
HD3-6 Jumper not inserted– Metric mode.
Jumper inserted – Inch mode. Software version 2.04 and higher.
HD3-7 Spare – Jumper or no jumper does not change anything
HD3-8 Spare - Jumper or no jumper does not change anything

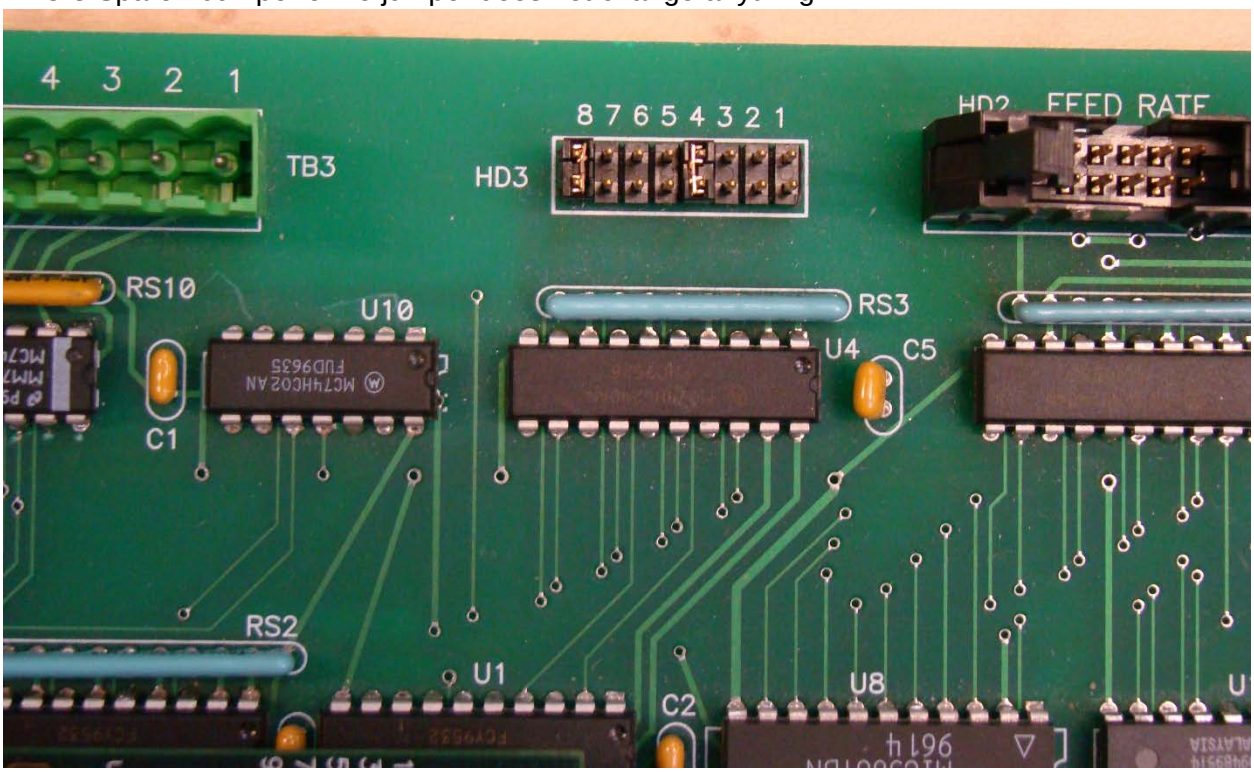
JUMPER SETTINGS FOR C4B, C4C

Different options can be selected on the C4 by inserting a shorting jumper in the proper location of HD3. HD3 is located on the top edge of the control board. This board can be accessed by removing the top stainless steel plate of the machine. Jumpers are Artos Number 911-707

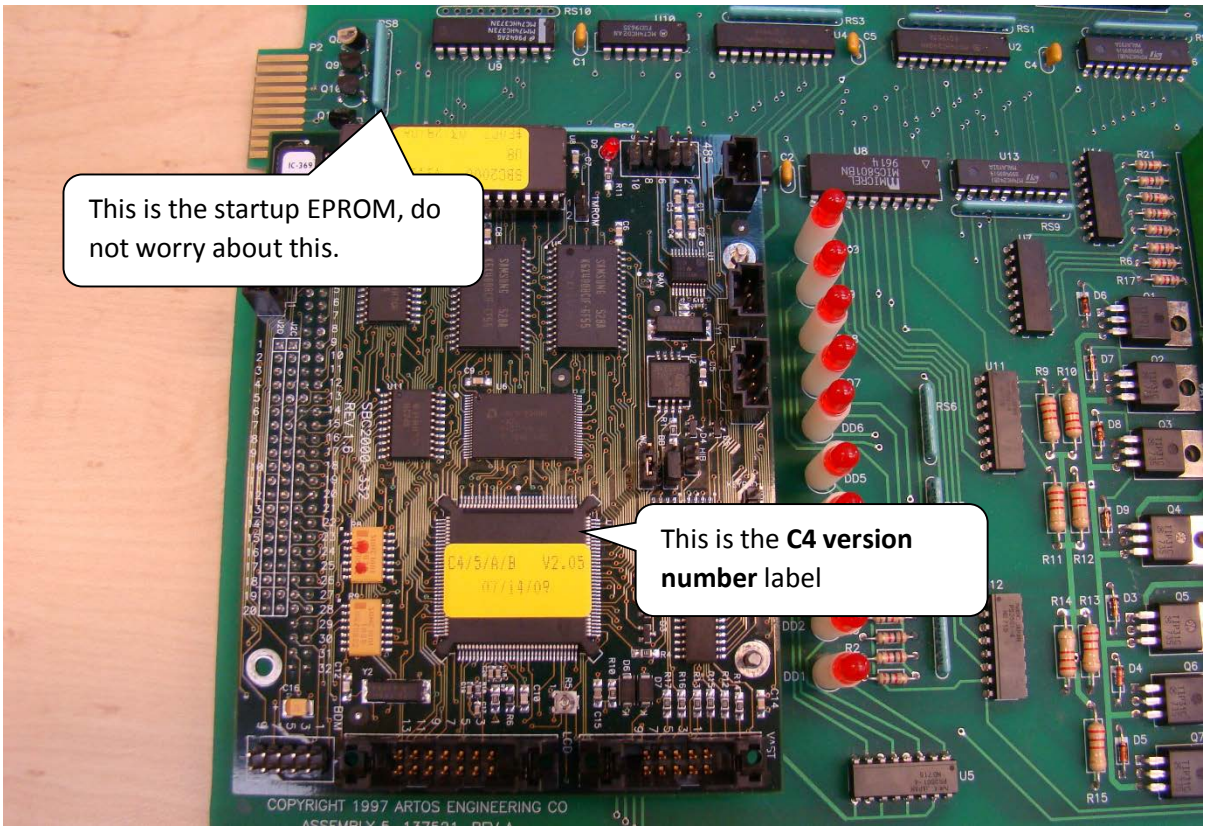
HD3-1 Decimal place selection.
- If in Metric mode (See HD3-6)
  - Jumper not inserted - No decimal
  - Jumper inserted – 0.1 on length switches
- If in Inch mode (See HD3-6)
  - Jumper not inserted - No decimal
  - Jumper inserted – 0.01 on length switches

HD3-2 Half acceleration rate – Required for C5 machine
HD3-3 Half feed rate – optional
HD3-4 Must have jumper inserted for C4B and C4C
HD3-5 Disable cutter time out. Software version 2.03 and higher. This is used in special applications were the cutter is inhibited by an external device.
HD3-6 Jumper not inserted– Metric mode.
Jumper inserted – Inch mode. Software version 2.04 and higher.
HD3-7 Spare - Jumper or no jumper does not change anything

HD3-8 Spare - Jumper or no jumper does not change anything



View of HD3 header on control board. Positions 4 and 8 have the jumpers installed.

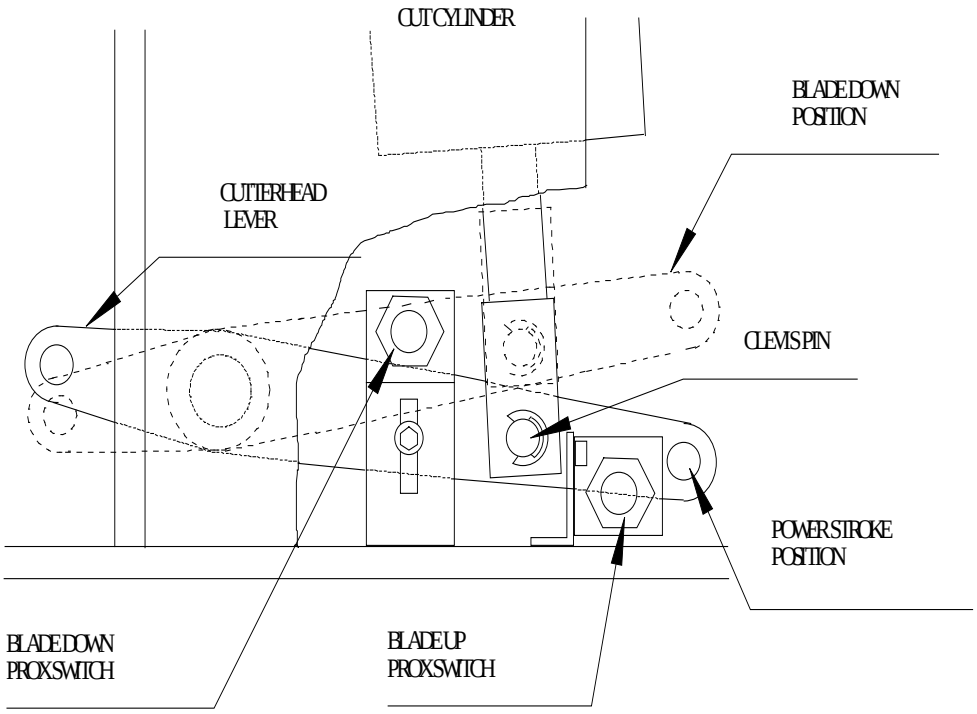


Special inputs for C4A, C4B, C4C

Inhibit feed input. When input TB5-6 is shorted to DC Common the current feed will finish and then machine will pause until this short is removed. This is only valid for software version 2.05 and higher.

Material run out input. When input TB5-8 is shorted to DC Common the current feed will finish and then machine will stop. The same as if the stop button had been pressed.

POWER STROKE



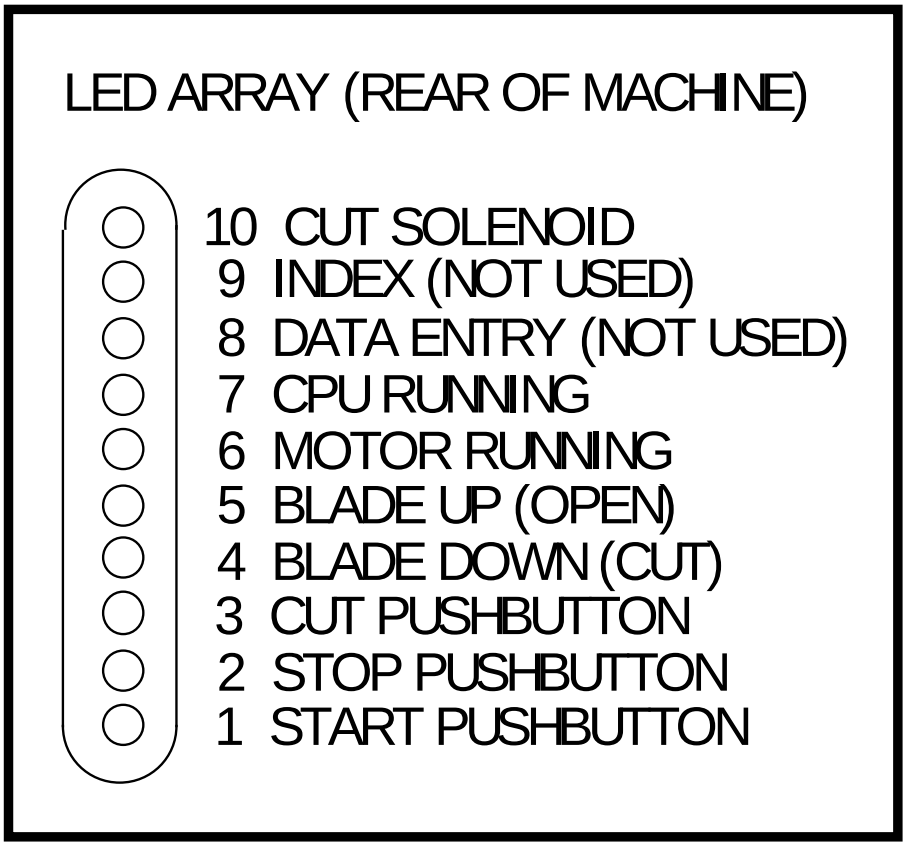
CUTTER CYLINDER, LEVER, AND SWITCHES AS VIEWED FROM RIGHT SIDE (CUT AWAY)

The **C-4 Multi Purpose Cut Off Machine** has an option called “Power Stroke”. This provides for more cutting power. How ever the use of the Power Stroke will limit the blade opening to about ½ of the standard opening. Use of the Power Stroke on the C-5 is not recommended. The blade opening will narrow as well as become lower. To enable the Power Stroke remove the clevis pin and clevis to the Power Stroke position. The blade down prox may have to be raised when in Power Stroke.

LED ARRAY

There is an array of LED's behind a window in the back panel of the C-4/C-5 These LED's will be referenced in the troubleshooting section. Following is a description of the information they provide.

. 10 Cut Solenoid output signal
. 9 Index (Not Used)
. 8 Data entry (Not Used)
. 7 CPU is running when flashing (pauses during feed)
. 6 Motor run command is being executed
. 5 Cutter blade is up, prox switch is made
. 4 Cutter blade is down, prox switch is made
. 3 Manual Cut button is depressed
. 2 Cycle Stop button is depressed
. 1 Cycle Start is depressed



PROX SWITCH ADJUSTMENT

The cutter blade has two proximity switches (prox switch) associated with it.

The **“Blade up”** prox senses the cutter lever when the blade is open. It should be adjusted so the switch is made at the maximum down travel of the cutter lever. There is a LED on the switch to indicate the switch is made. The switch is mounted on a two-piece bracket to facilitate this adjustment.
See Figure 10

If the prox is set too low the machine may not feed. Number 5 LED not being illuminated would indicate this.

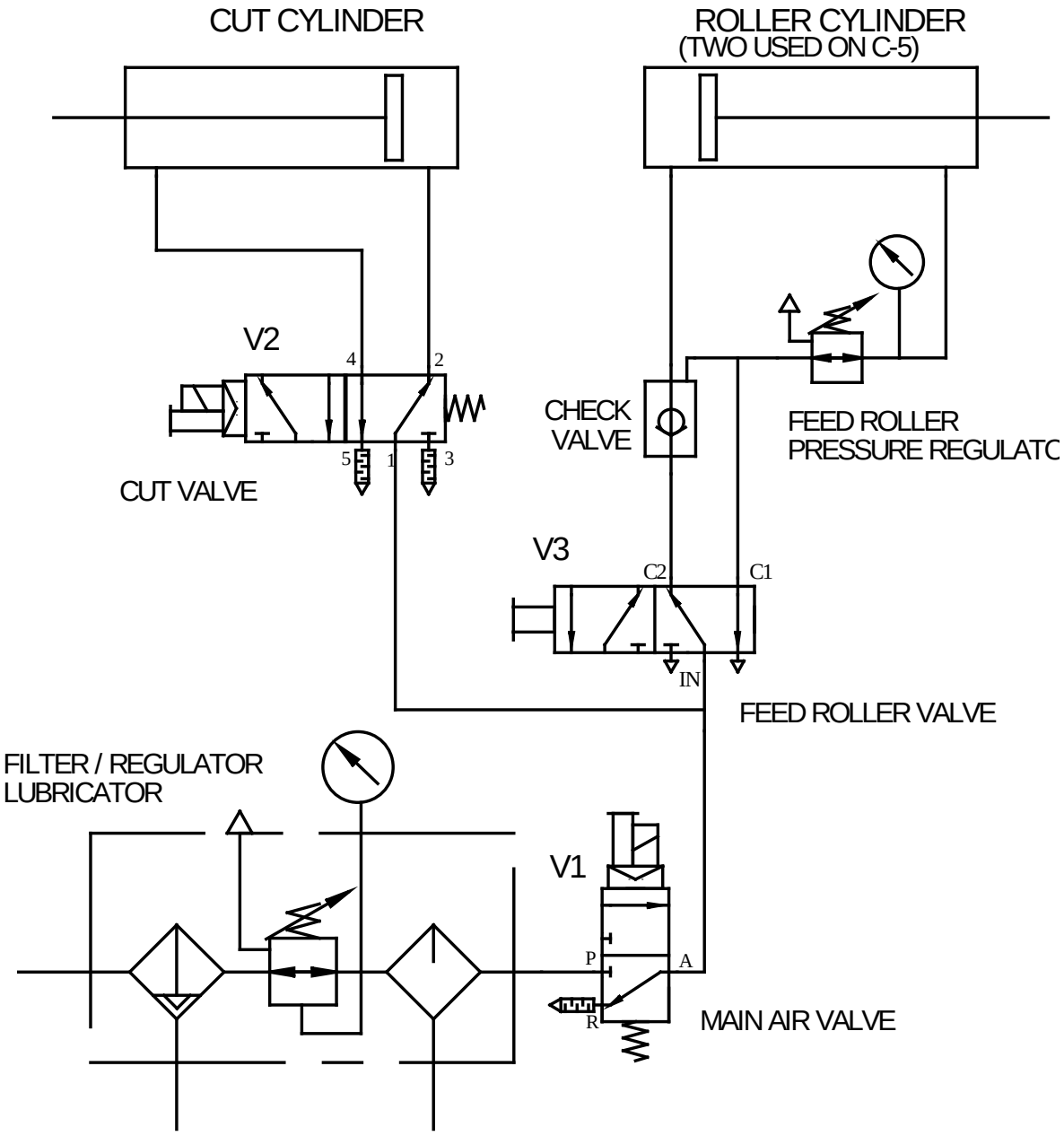
If the prox is too high it will be made too early and may allow the material to feed into the back of the partially open blade.

The **“Blade Down”** prox senses the cutter lever when the blade is fully closed. It should be adjusted so the switch is made at the maximum up travel of the cutter lever. There is a LED on the switch to indicate the switch is made. The switch is mounted on a two piece bracket to facilitate this adjustment.
See Figure 10.

If the prox is set too low the machine may not complete the cut stroke. This would be indicated by the lack of a full width cut.

If the prox is too high the blade will go down and not return causing the machine to stop. The number **4 LED** will be off

PNEUMATIC DIAGRAM



C-4/C-5 PNEUMATIC DIAGRAM

Cylinder Repair Kits:

907-314 for Roller Cylinder 907-153
917-479 for Cut Cylinder 907-154