ACCU-CUT

Brockie International®

OPERATOR'S MANUAL

Accu-Cut X-33

Carpet & Vinyl Cutting and Rolling Machine

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INTRODUCTION

Congratulations on the purchase of your **Accu-Cut X-33** carpet and vinyl cutting and rolling machine. Your Accu-Cut machine has been carefully engineered and manufactured to provide you with many years of dependable service and trouble free operation.

Proper operation and maintenance is essential to ensure precise and dependable operation of your Accu-Cut. We encourage you and your employees to read this manual carefully and become familiar with the operating and maintenance procedures for this machine.

This manual is designed to cover all areas of operation, maintenance, and troubleshooting in order to minimize problems. Always follow all safety rules and precautions when operating or performing maintenance work on the machine.

Again, congratulations and thank you for choosing Accu-Cut to provide you with quality equipment and quality service. The confidence you and thousands of others have placed in us has helped to make Accu-Cut the most respected name in floor covering cutting equipment. Should you ever have any questions or concerns regarding your Accu-Cut please do not hesitate to contact us.

SAFETY PRECAUTIONS

In order to avoid personal injury, make sure the operator(s) and/or maintenance person(s) of the machine have been oriented with the machine's operating procedures and are aware of all safety precautions.

1. **Unplug power cord before making any adjustments or repairs.**
2. **A qualified electrician should perform electrical repairs.**
3. **Do not operate machine on a wet floor.**
4. **Use extreme caution when replacing cutter blades.**
5. **Keep hands clear of all moving components while machine is running.**
6. **Keep loose clothing and articles away from all moving components while machine is running.**
7. **Keep machine unplugged while not in use.**
8. **Do not allow children near the machine.**
9. **Keep machine clean of all plastic wrap, carpet fibers, and all other debris.**
10. **Ensure machine is stationary and will not roll on casters.**
11. **Stay clear of moving load side shuttle cradle.**
12. **Do not remove chain covers except for servicing.**
13. **Keep space beside cradles (dumping areas) clear.**

ABOUT THE MACHINE

The **Accu-Cut X-33** cut and roll machine consists of two sets of steel rollers that are referred to as cradles. The side where material is loaded is the ***load side cradle,*** while the opposite side is the ***roll up cradle***. The roll up cradle is designed to run slightly faster than the load side to ensure a tight roll up of material. Each cradle is chain driven by heavy duty UL & CSA approved electric motors.

The X-33 is operated from the ***control panel***, which includes the ***directional controls***, ***variable speed control*** and the Programmable Logic Control or ***PLC Interface display*** which houses the ***foot & inch counter***, ***shuttle cradle control*** as well as other advanced controls.

The **Accu-Cut X-33** measuring system is extremely accurate. It consists of a large diameter, knurled ***measuring wheel*** located in a cutout of the ***inspection table*** below the ***hold down arm***. The measuring wheel is connected to an advanced encoder that emits 600 pulses per revolution. The encoder communicates with the foot & inch counter in the PLC to provide you with an accurate measurement.

The cutter assembly on the X-33 consists of 5 1/2" circular blade positioned within a cutter assembly inside the ***cutting track***. The X-33 also has a ***cutter bar*** that not only covers the blade while making a cut but also holds the material tight. The cutter assembly is chain driven by a dedicated cutter motor.

The circular blade is self sharpening.
(*see sharpening blade on page 12 for details*)

A wrap around ***foot control cable*** is provided to operate the machine "hands free" while inspecting wrapping, unwrapping, or tending the roll. It can be set to be on only when you step on the foot cable or as a toggle so the machine stays in an on position.

The X-33 also includes a ***dumping mechanism*** on both the ***load side cradle*** and ***roll up cradle*** that will quickly and simply offload the material onto the floor allowing another roll to be loaded without removing the goods with a forklift. The ***load side dumping mechanism*** is particularly useful when used in conjunction with a feed table.

OPERATING PROCEDURES

PROCEDURES FOR UNROLLING AND CUTTING

Photo 1A

Loading the material

Place the material on the ***shuttle load cradle***, making sure the leading edge of the material is feeding across the ***inspection table*** from the **bottom of the roll** with the **pile side up and the backing down** – vinyl can be measured pattern up or down. Place the roll in the cradle with the end of the roll just past the last belt on the front end of the cradle

Roll-Improver

This feature is useful to position the roll in the load cradle, as well as squaring the leading edge to the cutting line. In normal operations make sure the roll improver is down at both ends while roll is rotating. By moving either end of the roll improver up and squeezing the roll at the same time you can cause the roll to walk to the front or back of the load cradle, when the roll is positioned ensure that both ends of the roll improver are down. When the leading edge of the material is off square you may adjust this by activating the roll improver as well as the amount of squeeze on the roll in the load cradle. Make sure that the roll improver is back in the lower position after material has traveled several feet

Adjusting the size of the load cradle

The size of the ***load cradle*** can be adjusted by moving the ***load side dumping mechanism*** and altering the position of the outside roller. Adjusting the size of this cradle to a size consistent with the diameter of the material provides the operator with greater control over the material, by squeezing the roll it keeps the roll squared to the cradle.

Adjusting the shuttle cradle

The X-33 is equipped with a ***shuttle cradle*** that can be used to properly line up the material on inspection table. The edge of the material should be within a few inches of the bumper at the front of the inspection table. The shuttle load cradle can be manually adjusted by arrow buttons on the interface.

Photo 1B
Shuttle Cradle Forward Position

Photo 1C
Shuttle Cradle Back Position

OPERATING PROCEDURES

Unwrapping new rolls and tightening loose rolls

After loading the wrapped roll, cut the plastic the full length of the roll and at each end. Position the load cradle ***roller directional switch*** in the reverse position, and then step on the ***foot cable control*** while pulling off the plastic wrapping.

If you have a loose roll, run the ***load cradle*** rollers in reverse by placing the load cradle ***roller directional switch*** in the reverse position and pressing the ***jog button*** or stepping on the ***foot cable control*** to activate the load cradle rollers. Continue to run the rollers in reverse until the roll has tightened.

Positioning the material

Raise the ***hold down arm***, lifting it off the ***measuring wheel***. Set both ***roller directional switches*** to forward. Step on the ***foot cable control*** or press the ***jog button***, advancing the material to the center of the ***cutting track*** *(see photo 3A).* Now lower the ***hold down arm*** via the switch if in manual mode or it will do it automatically if it is in auto mode back on to the ***measuring wheel***. Failure to lower the ***hold down arm*** will result in an inaccurate measurement and the machine will not roll if the counter arm is not lowered.

Photo 3A

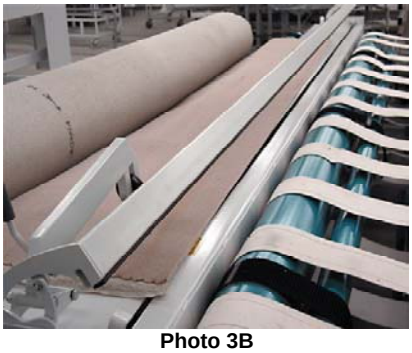


Photo 3B

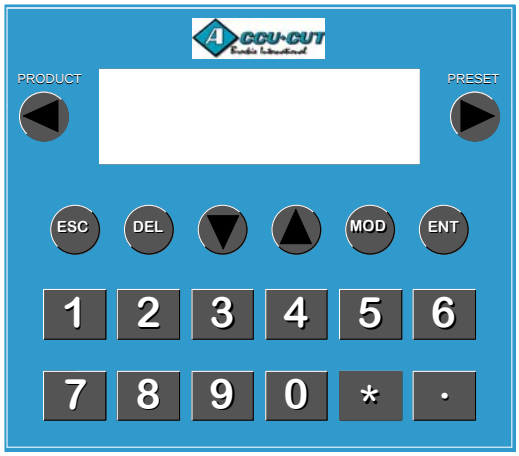
Note*:* If the material is off square, line the trailing edge of the material with the ***cutting track*** *(see photo 3B).*

OPERATING PROCEDURES

COUNTER OPERATING INSTRUCTIONS Ver. 6.02

Congratulations on your purchase from Brockie International. This machine is equipped with an advanced microprocessor P.L.C. unit to ensure accurate measurement. To communicate with this P.L.C. we have provided a user-friendly interface. Simply enter your commands into the keypad and watch the machine do the work for you.

Familiarization



Arrow Keys- Data entry (used for entering numeric data after MOD is pressed
Left / Right Arrow- Moves cursor left/right
Up / Down Arrow- Increments / Decrements value by 1
Product Key/Left Arrow- Scrolls the various products (scale factors)
Preset Key/Right Arrow- Scrolls through various presets (preset lengths)
Mod Key- Press to begin change of data

Password Protection

This unit is equipped with a "Password Protection" feature. Every time the machine is turned off or is unused for a designated time the machine prompts the user to

```
---------------------------------
| ENTER    PASSWORD |
|           ****               |
---------------------------------
```

To enter the password: 1. Press MOD
(all data begins to blink)
2. Press 4,3,2,1 (Factory preset is 4321)
3. Press or decrement the value
Repeat steps 2 & 3 for remaining digits till desired value is displayed

Press ENTER when the 4 digit number is entered

You have now gained access to the machine and may begin to roll, measure and cut the product.

OPERATING PROCEDURES

Setting Preset Length

This unit is equipped with a multi-preset feature that enables the user to enter the required length of material into the machine's memory. This will prompt the machine to automatically slow down the rolling process approximately one foot before the desired length has been reached. It then slowly rolls to the preset length.

```
---------------------------------
| PRESET A     12'03"   |
| CARPET #1          0"   |
---------------------------------
```

To enter a preset length:

Press 

(the following screen appears)

```
---------------------------------
|    ENTER LENGTH      |
|           12.03              |
---------------------------------
```

2. Press 

(all data begins to blink)
3. Press 1,2,.,0,3

Press 

when the numbers are entered

Your desired length is now entered into the counter. You are now ready to roll and cut the product.

Multi-Cutting

This unit is equipped with up to five pre-programmed lengths. You now have your first preset selected. To change to another preset press 

. This will change your preprogrammed length. To program all 5 presets simply repeat the procedure described in "Setting Preset Length". Once you have completed this, the lengths are stored in the memory of the machine and remain present even when the machine is unplugged. This feature is very useful when cutting a series of same size pieces for a given house plan for example.
This unit also has a "no stop" setting. During this process if the counter preset is set to no stop (accessed by pressing 

) the unit will never stop nor slowdown. This is useful if the customer want to measure entire rolls or a length that is undetermined.

OPERATING PROCEDURES

Cutting the Carpet

Now that you have accurately measured the carpet you are ready to proceed with a cut.

To make a cut:

1. Press the ***GREEN CUTTER BUTTON***
   -the machine will beep indicating a cut is to be performed
   (should you wish to cancel the cut press the ***RED CUTTER BUTTON***)
2. Press the ***Green CUTTER BUTTON*** a second
   -the cutter blade guard will lower and the cutter blade will travel once the blade guard is lowered into place
   -the blade will stop automatically when the cut is complete
   -(should you wish to stop the cutter press the ***RED CUTTER BUTTON.*** If you want the cut to continue in the same direction press the ***GREEN CUTTER BUTTON***. If you want to reverse the cutter direction press the ***RED CUTTER BUTTON***.)

NOTE: *Ensure that the cutter track is free of any obstructions before activating the cutter*
NOTE: *Keep hands free from the cutter and its track at all times*
NOTE: *It may be necessary to return the cutter assembly to the control end for wider material so the cutter will not obstruct the material*
NOTE: *Return the cutter to the control when the machine is not in use*

Multiple Scale Factors

Sometimes different products grip the count wheel differently due to their adhesive nature. We have taken this into consideration by allowing this machine to retain three separate scale factors to accommodate a variety of materials.

Different product may be selected at any time by pressing 

. This changes the screen to display another product.

Examples of different presets measuring differently:

Scroll product once:

```
-----------------------------------
| PRESET A      12'03"   |
| CARPET 1      12'03"   |
-----------------------------------
```

Scroll product twice:

```
-----------------------------------
| PRESET A      12'03"   |
| CARPET 2      12'04"   |
-----------------------------------
```

Scroll product thrice:

```
-----------------------------------
| PRESET A       12'03" |
| VINYL          12'03"   |
-----------------------------------
```

The user is responsible to verify the accuracy of the count for the product sold and to arrange required certification. The manufacturer or its agents cannot be held responsible for any inaccuracies in cut lengths.

OPERATING PROCEDURES

Master User's Menu

This counter may be tailored to better suit the user of the machine. When 2 fingers are depressed on the PRODUCT  and  the MASTER PASSWORD is brought up.

```
-----------------------------------
| MASTER  PASSWORD  |
|          XXXX              |
-----------------------------------
```

To enter the master password :
1. Press MOD (all data begins to blink)
2. Press 4,3,2,1
3. Press ENTER

Upon entering the correct password you now have gained access to the Master Users Menu.

Use the PRODUCT  to scroll left and the PRESET  to scroll right and see the various features.

Changing the Password

The four-digit security code is changeable for your convenience.

```
----------------------------------------
|   ENTER NEW PASSWORD   |
|              XXXX              |
----------------------------------------
```

To enter a new password :
1. Press MOD (all data begins to blink)
2. Press 4,3,2,1 (whatever 4 digits you wish your password to be)
3. Press ENTER

Changing the Timer:

There is and adjustable timer which disables the machine when it is left unused for a pre-determined length of time. It is adjustable for your convenience.

```
----------------------------------------__-
|   NEW PASSWORD TIMER    |
|        XXX SECONDS           |
----------------------------------------__
```

OPERATING PROCEDURES

To enter a new timer value :

1. Press MOD (all data begins to blink)
2. Press 1,2,0 (or whatever timer value between 30s and 999s)
3. Press ENTER

NOTE: *If the password is set to 0 the counter no longer asks the user for a password upon startup.*
NOTE: *Always unplug the machine when not in use!*

Blade Sharpening:

The X-33 is equipped with an automatic blade sharpener. The blade will need to be sharpened periodically. The number of times and the duration of which the blade needs to be sharpened depends on the type of product you are cutting. It is vital to keep a sharp blade in order to maintain clean cuts.

```
-----------------------------------------__-
|  BLADE SHARPENING          |
|   # CUTS   50              |
|    TIME    35              |
************************************
-----------------------------------------
```

To change the number of cut before the blade sharpens itself:

1. Press MOD (# of cuts begins to blink)
2. Press 5,0
3. Press ENTER when the number is entered

To change the time:

1. Press MOD (# of cuts begins to blink)
2. Press MOD (time begins to blink)
3. Press 3,5
4. Press ENTER when the number is entered

NOTE: *The time value is in tenths of a second. A value of 35 is 3.5 seconds.*

Imperial or Metric

Your carpet cutting machine is also capable of measuring in either metric or imperial units

```
-----------------------------------------__
|     1 IMPERIAL 2 METRIC      |
|                1             |
-----------------------------------------__-
```

To change the setting:

1. Press MOD (all data begins to blink)
2.. Press either 1 or 2
3. Press ENTER

Slow down

Your machine slows before it comes to a stop to avoid rolling to much carpet. The length at which it does this is adjustable.

SLOW DOWN
228

To change the setting:

1. Press MOD (all data begins to blink)
2. Press 2,2,8
3. Press ENTER

NOTE: *Factory default is 228 which is approximately 1 ft or 30 cm. This should be suitable for the majority of applications.*

FS Auto / FS Link

The purpose of FS Auto is that the foot switch can enable the auto run feature described earlier or it may act like the jog button. When the number is set to 1 it acts like the jog button. When the number is set to 2 it acts like the auto run button but when you step on it a second time the rollers stop.

FS AUTO 1NO 2 YES *
FS LINK 1 NO 2 YES *

To change the FS Auto setting:

1. Press MOD (all data begins to blink)
2.. Press 1 or 2
3. Press ENTER

NOTE: *The auto run will only begin once you remove your foot from the foot switch. The foot switch must be held down for 2 seconds to avoid accidental tripping.*
The purpose of FS link is to give the end user the option of running the load rollers via the load foot switch independent from the table rollers and the take up rollers via the take up foot switch (the table rollers always run in conjunction with the take up rollers). If you would like the rollers to run only when their footswitch is pressed set the number to 1. If you would like all the rollers to run from either footswitch set the number to 2.

To change the FS Link setting:
1. Press MOD (all data begins to blink)
2. Press 1 or 2
3. Press ENTER

Calibrating the Machine

The calibrate CARPET 1, CARPET 2, VINYL are all designed in case one finds out that their machine is measuring inaccurately.

```
-----------------------------------------
|    CALIBRATE CARPET  1   |
|                228000          |
-----------------------------------------
```

To change the calibration:
1. Press MOD (all data begins to blink)
2. Press 2,2,8,0,0,0
3. Press ENTER

NOTE: *Factory setting is 228000 and is right for majority of applications.*

Floating Reset:

The purpose of the floating reset is to provide the "reset point" of the machine. Whenever the first eye on the table is covered it resets the machine to approximately 11" or 28cm. This can be adjusted by increasing or deceasing this number. Factory default is approximately 211.

NOTE: *The floating reset is set at the factory on this machine. Please do not attempt to adjust it before contacting Accu-Cut.*

Auto Run Menu

The Timers and set points that are used to automate the auto run process are set in this menu. (use the ▼ and ▲ buttons to see the full menu)

Open Timer 1 — This is the timer value (in tenths of a second) that opens the take up cradle fully when it crosses the first eye on the table during the auto run process. The reason for this is to ensure that the take up cradle is open to accept carpet.

Close Timer — This is the timer value (in tenths of a second) that closes the cradle fully when it stops in the middle of the take up cradle during the auto run process.

Open Timer 2 — This is the timer value (in tenths of a second) that opens the cradle during the various "Open Length settings". The reason for this is that as product rolls up in the take up cradle the amount of product accumulates and becomes larger. The take up cradle must open to accommodate the increasing amount of product.

Mid Cradle Stop	This is the distance in pulses at which the product stops rolling in the middle of the take up cradle during the auto run process
Auto Run	These are the lengths in pulses at which the cradle is “pulsed open” by open timer 2. Menu Length

NOTE: *The Auto Run Menu is set at the factory on this machine. Please do not attempt to adjust it before contacting Accu-Cut.*

PROCEDURES FOR REVERSE ROLLING

Rolling up the material

After setting the **counter**, either press the ***jog button*** or step on the ***foot cable control.*** Place the paper tube in the roll-up cradle and advance the leading edge of the material until it reaches the second. big roller on the roll-up cradle *(see photo 14A).* Position the material on top of the tube.

Leave the load cradle ***roller directional switch*** in the forward position but place the *roll-up cradle* ***roller directional switch*** *in the reverse position.*

Close the ***roll-up arm*** and engage the rollers by stepping on the ***foot cable control*** or pressing the ***jog button***. The ***roll-up arm*** will cause the material to begin rolling in reverse around the cardboard tube and start the roll-up procedure. *(see photo 14B*). After the material has made several revolutions open the roll-up arm. *(see photo 14C).*

NOTE: If the material is walking up on the inspection table momentarily shut off the roll-up cradle to allow load cradle to catch up.

Photo 14A

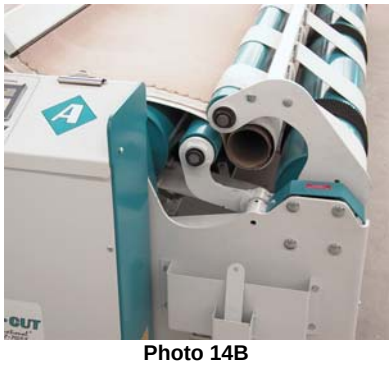


Photo 14B

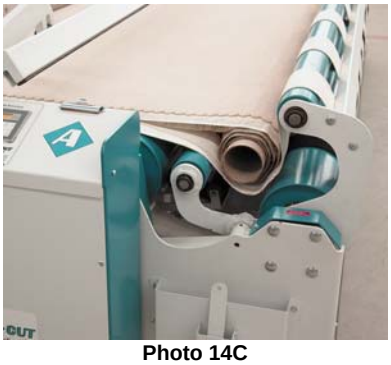
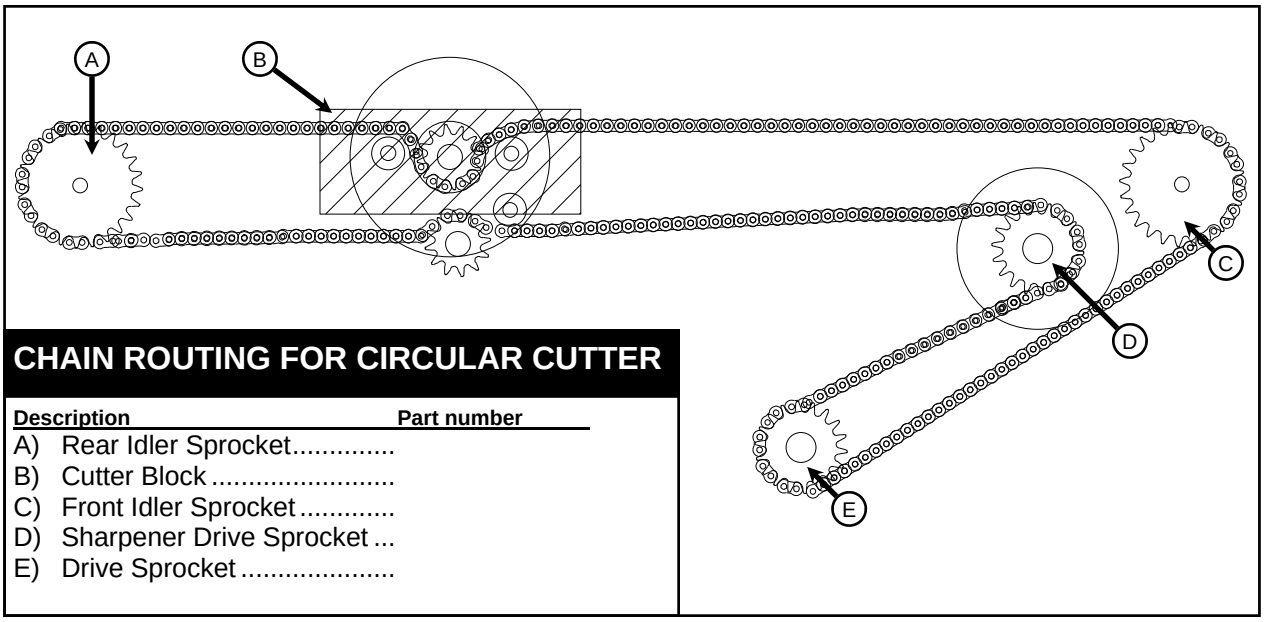


Photo 14C

MAINTENANCE

- Drain water from water separator regularly.
- Keep cutting blade sharp. Replace sanding disks as needed.
- Check chain tensions periodically and tighten as needed. To check cutter chain tension, bring cutter 2 ft. from end of machine. Sag in the chain should not be more than 1” (25mm).



CHAIN ROUTING FOR CIRCULAR CUTTER

Description	Part number
A) Rear Idler Sprocket.....	
B) Cutter Block	
C) Front Idler Sprocket	
D) Sharpener Drive Sprocket ...	
E) Drive Sprocket	

PREVENTIVE MAINTENANCE

Weekly:

1. **Check conditions of belts and belt lacing**. Repair, if possible, any damaged belt lacing contact Accu-Cut for replacement belts.
2. **Check control switches** for proper operation.
3. **Check operation of counter assembly**.
    - Check that measuring wheel is secure and does not have any cracks or excessive wobble.
    - Check the “grooves” or “knurls” on the measuring wheel. Ensure the wheel does not have smooth or bald spots.
    - Make sure wheel is at proper height above opening in the table. Wheel must be at least a credit card thickness above opening or the pads on either side of the opening.
    - Check condition of measuring wheel shaft and its connection to the counting device. Make sure the shaft is secure and not bent.
4. **Clean machine** of debris and/or carpet fibers, particularly on or around the motor areas, chains, sprockets and cutting track.
5. **Check tension on all cables and chains**. Adjust as necessary for proper operation.
6. **Check calibration of counter**. Follow the Test Strip Instruction sheet in this manual to check your calibration. Contact your Accu-cut Service Representative before attempting re-calibration.

Monthly:

1. **Check the alignment** of all sprockets, pulleys and rollers for proper operation.
2. **Check allen screws** on all sprockets, pulleys and locking collars.
3. **Check condition of the electrical outlet** on machine. Ensure outlet is secure.
4. **Check gearboxes** for proper oil level. Use 90-weight gear oil, if needed.
5. **Lubricate all drive chains** with light oil.

Yearly:

1. **Lubricate all roller bearings** with grease gun
2. **Lubricate all bearings for cutter drive assembly** with grease gun.
3. **Lubricate counter shaft bearings** with grease gun.
4. **Lubricate swivel castor wheels** with grease gun.

CIRCULAR CUTTER MAINTENANCE

How to perform maintenance on your cutter:

1. Remove blade from cutter assembly. Flush cutter block assembly and clutch mechanism, (white metal piece attached to bottom of the blue cutter block assembly), with an aerosol spray such as WD-40 or similar product. Run the cutter up and down table a few times to remove excess cleaner. Wipe dry as much as possible.

2. Use a Silicone or Teflon based spray to lubricate all moving parts of the cutter assembly. Avoid spraying Silicone into the bronze bushings of the clutch mechanism.

3. Clean blade and spray with silicone or Teflon spray.

4. Inspect pulleys and drive belt on cutter motor. Make sure the belt is in good condition, (no cuts, fraying or glazed look on its sides), and is kept tight at all times. Make sure there is no foreign matter on the pulleys or drive belt.

This procedure only takes about 10-15 minutes to complete. Depending on the amount of cuts you make a day will determine how often this procedure should be repeated.
Example: 50 or more cuts a day – once a week.

***Do not over tighten the cutter chain or clutch assembly. Over tightening of these may cause failure of assembly and / or cutting operation. The cutter chain should be tight enough so the chain will not slip off of the sprockets but also, not so loose that the upper and lower part of the chain "slaps" together as the cutter moves down the cutting track. If after maintenance of the cutter assembly and chain adjustment, the cutter is still not cutting correctly, make ¼ turn on each of the tension bolts on the "legs" of the clutch mechanism. Ensure that each spring on those bolts are compressed equally. Again, please do not over tighten clutch mechanism**.

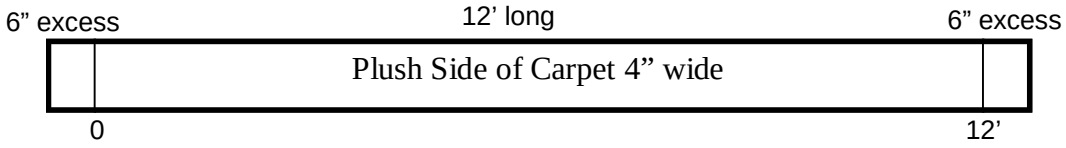
***Depending on the amount of cuts you make per day, the blade should be flipped over to ensure proper sharpening of the cutter blade. If you make over 50 cuts per day, you should flip the blade over at least once a week. Do not forget to use a Silicone or Teflon spray on the blade to help prevent latex build up on the blade.**

In following these procedures you will find that your cutter will operate to its fullest capabilities and prolong the life of your cutting assembly. If you have any questions concerning these procedures contact the Accu-Cut Service Department at 1-800-222-8288.

TEST STRIP INSTRUCTIONS

How to make a test strip:

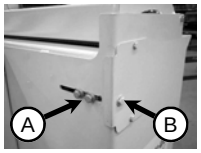
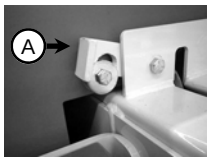
1. Cut a strip of carpet that is 4 “ wide by 13’ long.
2. Center your tape measure on strip of carpet.
3. Draw a line at 0 and a line at 12’.
4. DO NOT cut off excess material.



How to use a test strip:

1. Unwind test strip plush side up, line up the black hold down arm over wheel with 1st black line on test strip.
2. Reset counter to zero.
3. Slowly pull test strip across the measuring wheel.
4. Stop at 2nd black line, counter should read 12 feet.
5. Repeat the test 3 or 4 times.
6. If measurement is off contact your Accu-Cut Service Representative.

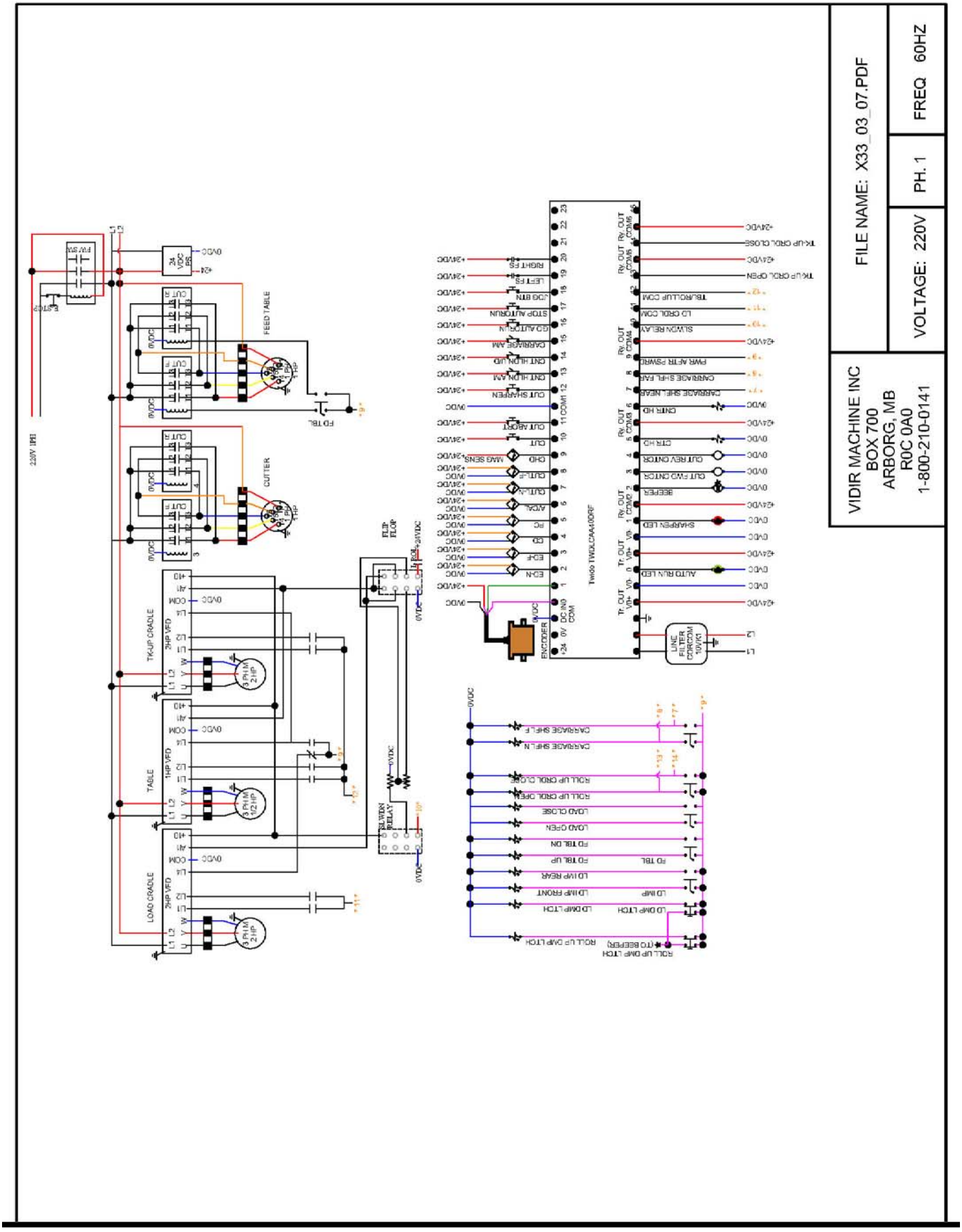
TROUBLE SHOOTING

Problem	Solution
Machine will not run at all	♦ Is the emergency shut off button down? Lift button and try running machine again ♦ Check extension cord connections ♦ Check breakers in electrical panel in the building
PLC lit up, but machine will not run	♦ Enter password
Cutter stops or moves very slowly part way into the cut	♦ Sharpen blade ♦ Tighten the 2 springs on the cutter unit Use 7/16 wrench. ♦ Note: if too tight blade will not spin for sharpening. ♦ Check cutter drive belt. To tighten, loosen motor mount bolts and tighten cutter drive belt with adjusting bolt. Retighten motor mount bolts. 
Cutter makes excessive noise at either end	♦ Tighten cutter chain. Use 9/16" wrench. Loosen both lock bolts (A) and tighten chain tension bold (B). Retighten lock bolts (A). ♦ Loosen the 2 springs on the cutter unit. 
Blade is not sharpening	♦ Replace sanding disk ♦ Move sanding disk closer to blade. Loosen 2 set screws, (Use 5/32" allen wrench), slide hub in and retighten set screws.
Cutter does not run at all	♦ Cutter safety bar must be down for cut to be performed ♦ Control panel must be latched in place (A). 
Roll up arm moves slowly	♦ Check air pressure at compressor, should be 110 PSI ♦ Check for air leaks Make sure flow control adjusting screw is unscrewed fully
Carriage movement is too slow or too fast	♦ Adjust flow controls of 4th air valve.
Drive Chain noise	♦ Tighten chain: Load side: Loosen bolts of the gearbox and slide gearbox down. ♦ Rollup Side: Adjust chain tightener sprocket. Check for sprocket alignment. Align and tighten sprocket set screws.
Roll up arm is not closing evenly	♦ Check chain tension front and back. Tighten chains by loosening bolts on bracket . Using bolt on bottom, pull chain tight, retighten bracket bolts. ♦ Add or remove spacer washer on back sprocket.

TROUBLE SHOOTING

Foot control is not working	♦ Ensure control panel is latched in place ♦ Tighten foot cable.
Starting the roll up process is difficult	♦ Roll up cradle closes too far. Minimum of 3/4" gap between rollers. ♦ Adjust gap at clevis. 

ELECTRICAL DIAGRAM



X33 Parts—Load Cradle

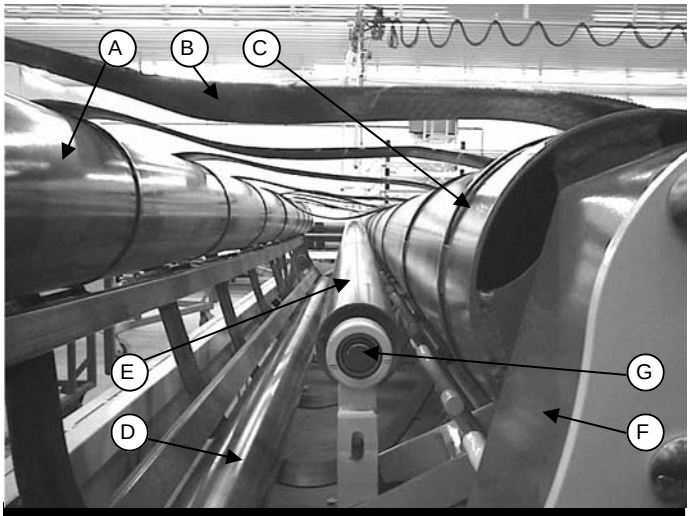


Photo 1

Load Cradle—Photo 1

Ref	Description	Part Number
A	Left Roller #1	8-44671
B	Load Side Belt	8-54166
C	Left Roller #4	8-44672
D	Left Roller #2	8-44255
E	Left Roller #3	8-44261
F	Left Side Chain Cover	8-4230
G	Bearing	006-0044

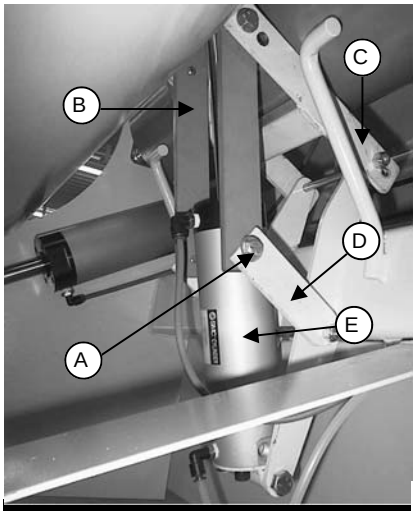


Photo 2

Load Cradle—Photo 2

Ref	Description	Part Number
A	Hinge Bolt	001-0114
B	Roll Improver Main Link	8-4751
C	Roll Improver Top Link	8-4781
D	Roll Improver Bottom Link	8-4811
E	Roll Improver Cylinder	100-0005

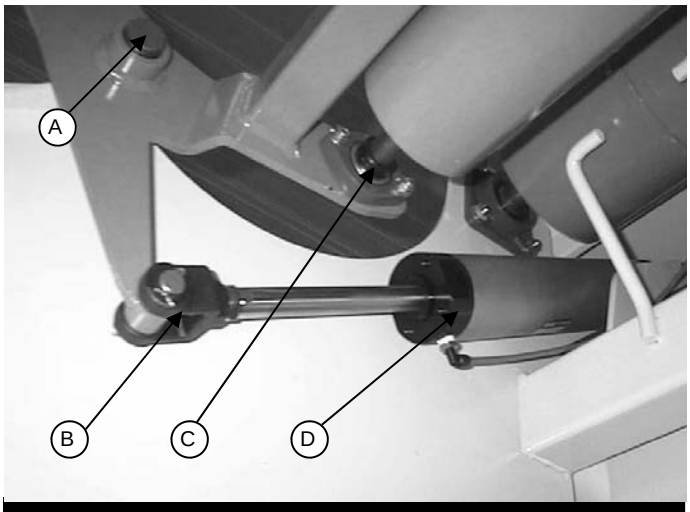


Photo 3

Load Cradle—Photo 3

Ref	Description	Part Number
A	Dump Pivot Point	8-3420
B	Clevis	NY325
C	Bearing	006-0044
D	Load Dump Cylinder	100-0002

X33 Parts—Load Cradle

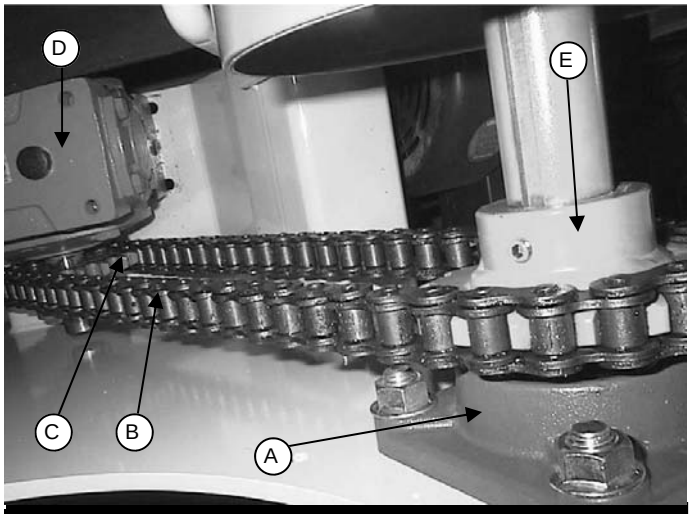


Photo 4

Load Cradle—Photo 4		
Ref	Description	Part Number
A	Bearing	006-0048
B	Left Drive Chain	8-54171
C	Drive Sprocket #6017	8-5390
D	Model 70 30:1 Gearbox	107-0005
E	Left Roller Sprocket #6017	8-5400

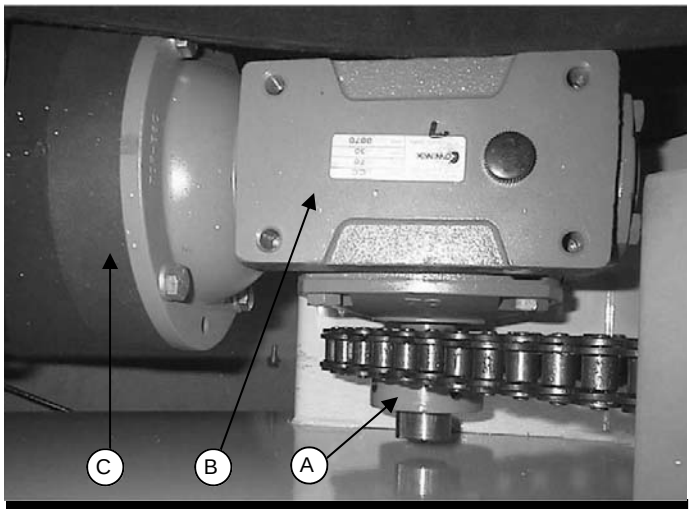


Photo 5

Load Cradle—Photo 5		
Ref	Description	Part Number
A	Drive Sprocket #6017	8-5390
B	Model 70 30:1 Gearbox	107-0005
C	Drive Motor	407-0007

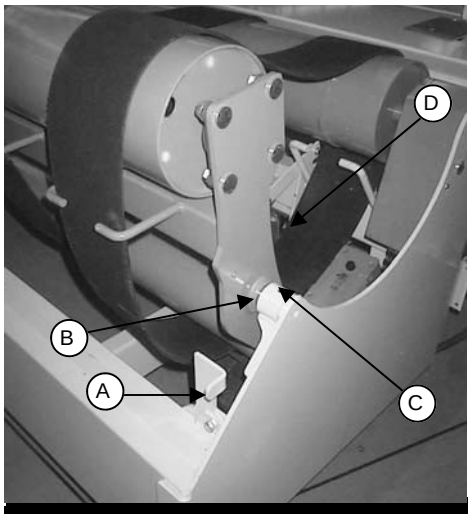


Photo 6

Load Cradle—Photo 6		
Ref	Description	Part Number
A	Dump Latch	8-5410
B	1 3/8” Bushing	007-0032
C	1/4” x 1 1/2” Roll Pin	113-0036
D	4” Fixed Caster	104-0016

X33 Parts—Cutter

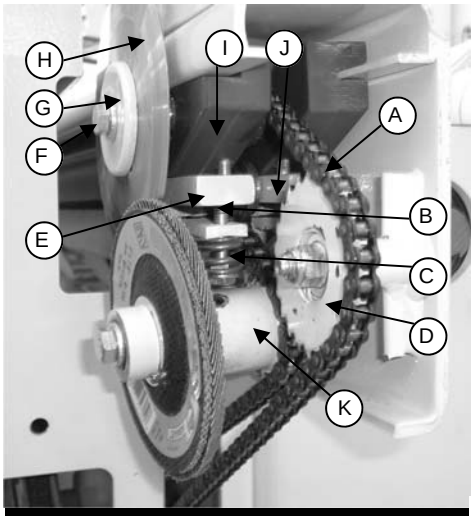


Photo 1

Cutter—Photo 1

Ref	Description	Part Number
A	#35 Cutter Chain	8-54175
B	1/4” x 2 Bolt	001-0089
C	Clutch Spring	119-0010
D	End Sprocket #3523	120-0067
E	Clutch Clamp	8-8120
F	3/8” x 3/4” Blade Bolt	001-0113
G	Blade Cap	8-8080
H	Blade 5 1/2”	103-0002B
I	Guide Block Left	8-8030
	Right	8-8020
J	Chain Idler	8-8100
K	Sharpener Sprocket	120-0012

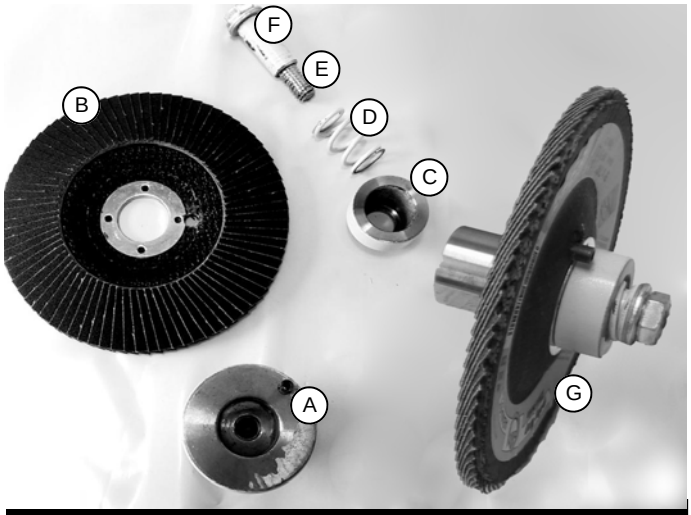


Photo 2

Cutter—Photo 2

Ref	Description	Part Number
A	Sharpener Base Hub	8-43419
B	5” Sharpener Disk	8-44692
C	Sharpener Hub Insert	8-43492
D	Sharpener Spring	119-0014
E	Sharpener Bolt 3/8 x 2	001-0119
F	Sharpener Sleeve	8-43421
G	Complete Sharpener	8-53788

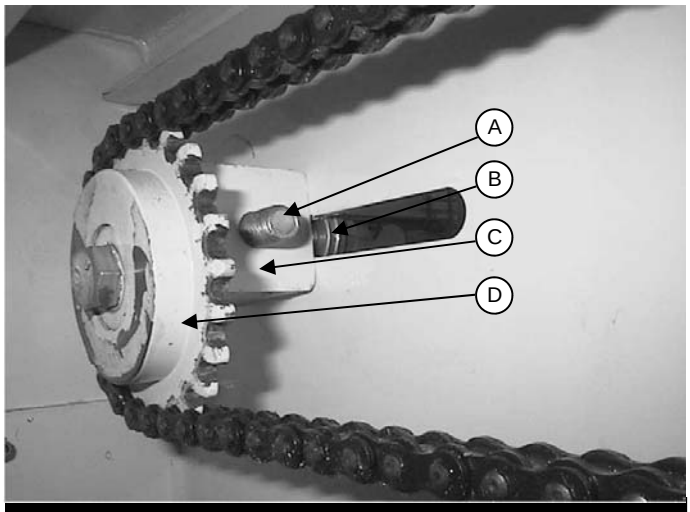


Photo 3

Cutter—Photo 3

Ref	Description	Part Number
A	Tightener Bolt	001-0255
B	3/8” x 3/4” Bolt	001-0113
C	Cutter Tightener Block	8-5330
D	End Sprocket #3523	120-0067

X33 Parts—Cutter

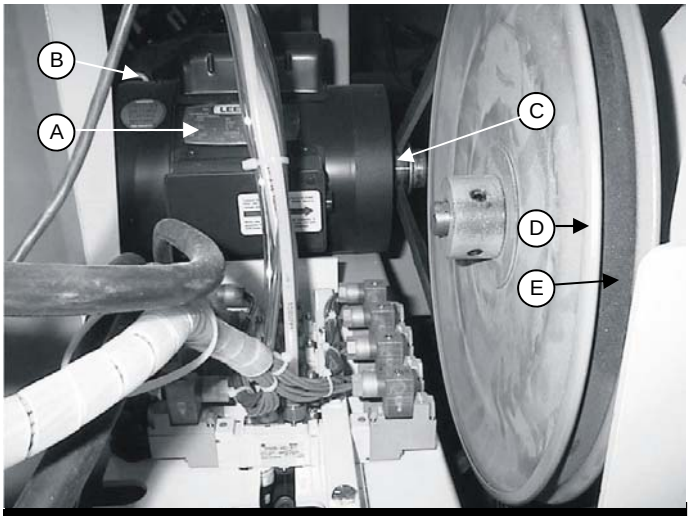


Photo 4

Cutter—Photo 4

Ref	Description	Part Number
A	3/4 HP Cutter Motor	407-0003
B	Carriage Safety	8-3721-P01
C	Motor Pulley 2 x 5/8”	115-0070
D	Cutter Big Pulley	8-44690
E	V Belt—A47	102-0039

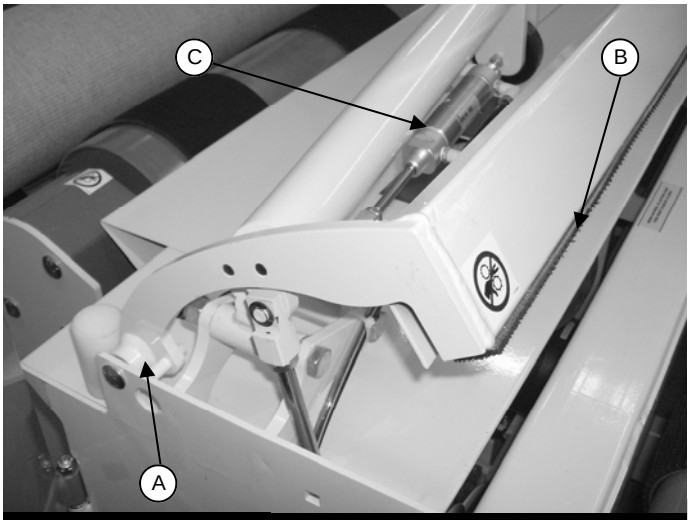


Photo 5

Cutter—Photo 5

Ref	Description	Part Number
A	Bushing	007-0019
B	Hold down belt 1” x 16’1” RT	8-54183
C	Pneumatic Cylinder Kit	X33CYLKIT

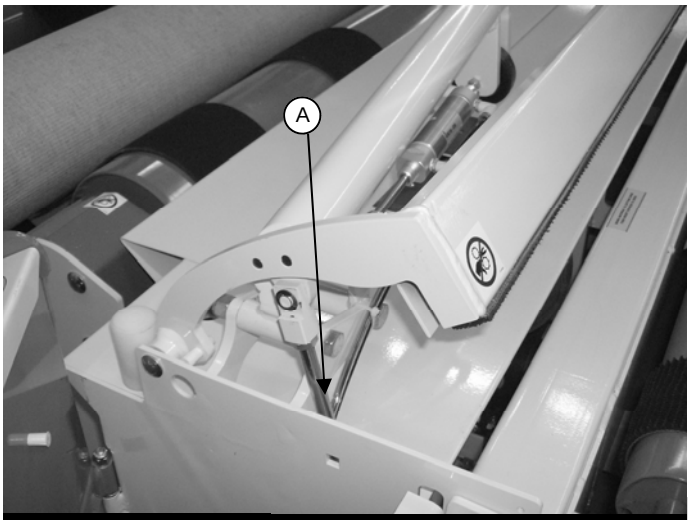


Photo 6

Cutter—Photo 6

Ref	Description	Part Number
A	Cutter Hold Down Cylinder Assy	8-55474

X33 Parts—Air Valves

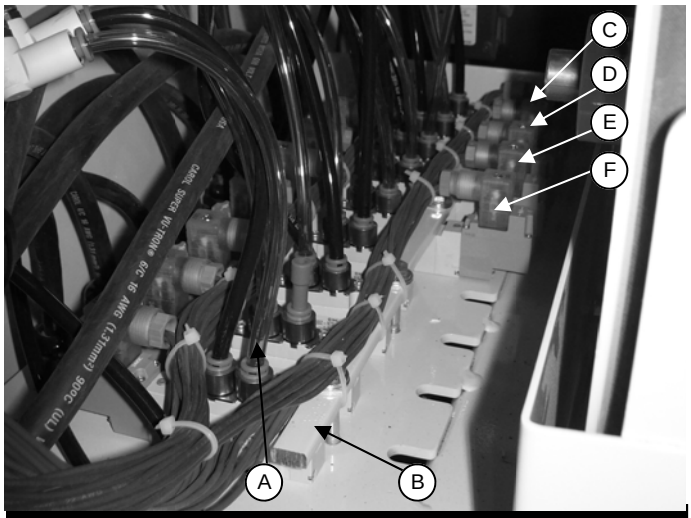


Photo 1

Air Valves—Photo 1		
Ref	Description	Part Number
A	1/4” Air Hose	
	Blue	101-0022
	Black	101-0023
B	Valve Hold Down Flat	8-5080
C	Carriage Valve	101-0011
D	Load Side Dump Valve	101-0011
E	Roll Improver Valve	101-0011
F	Roll-up Valve	101-0011

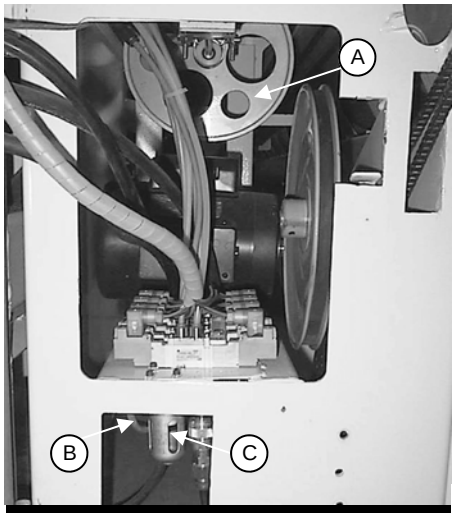


Photo 2

Air Valves—Photo 2		
Ref	Description	Part Number
A	Counting Wheel	402-0030
B	Air Hose Coupler	ACF1
C	Air Filter	111-0400

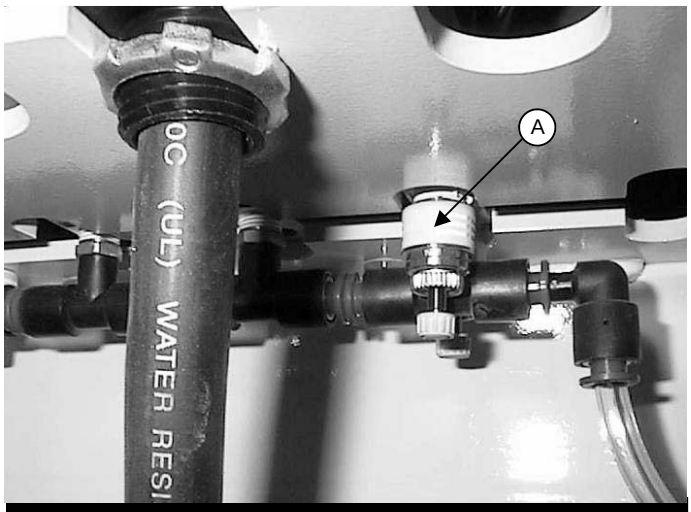


Photo 3

Air Valves—Photo 3		
Ref	Description	Part Number
A	Speed Control Muffler	101-0013

X33 Parts—Foot Control

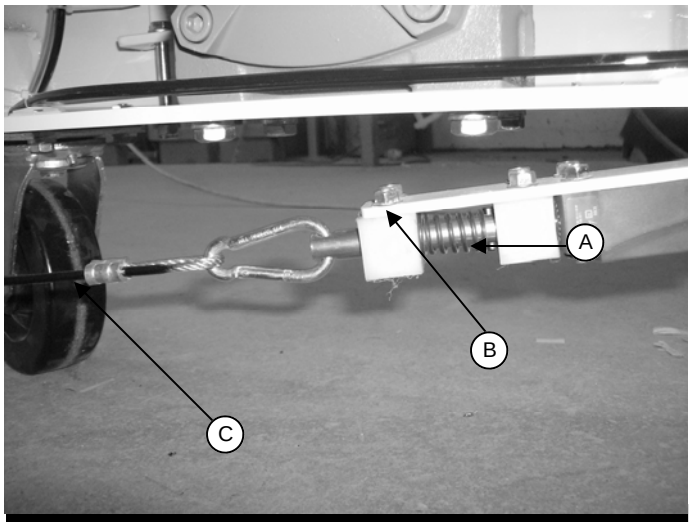


Photo 1

Foot Control—Photo 1

Ref	Description	Part Number
A	Foot Control Spring	119-0014
B	Foot Control Switch Assy	8-44970
C	Foot Cable X33 Load Side	8-59211
	Foot Cable X33 Rollup Side	8-59212

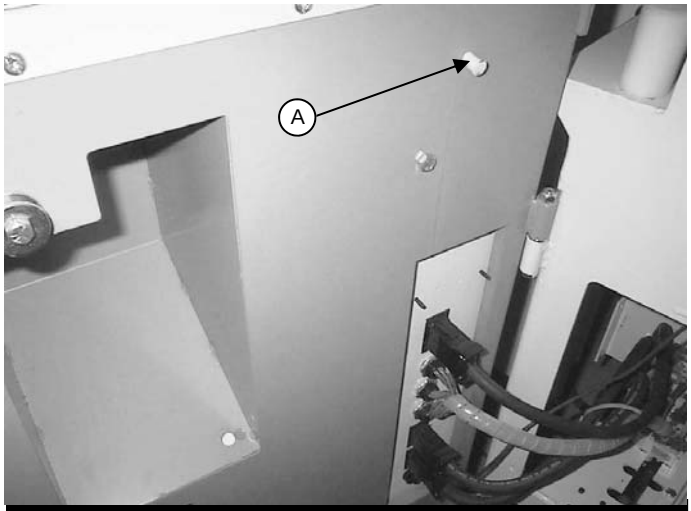


Photo 2

Foot Control—Photo 2

Ref	Description	Part Number
A	Cutter Safety Sensor	410-0006

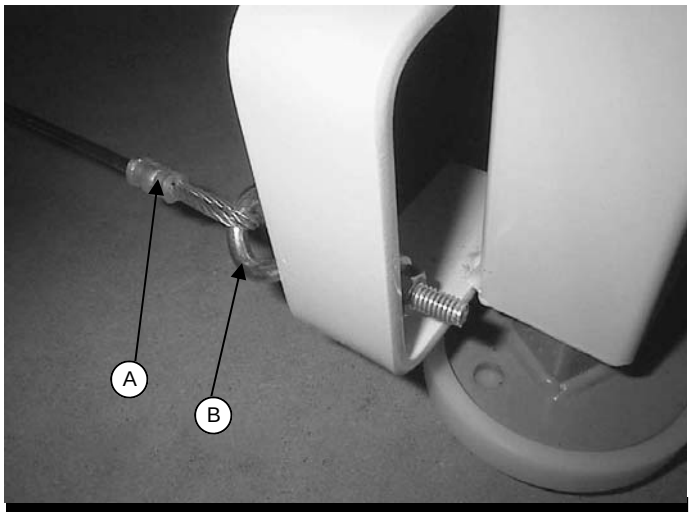


Photo 3

Foot Control—Photo 3

Ref	Description	Part Number
A	Foot Cable Rollup Side	EF15
B	Foot Cable Rollup Switch	NME5163

X33 Parts—Roll Up Cradle

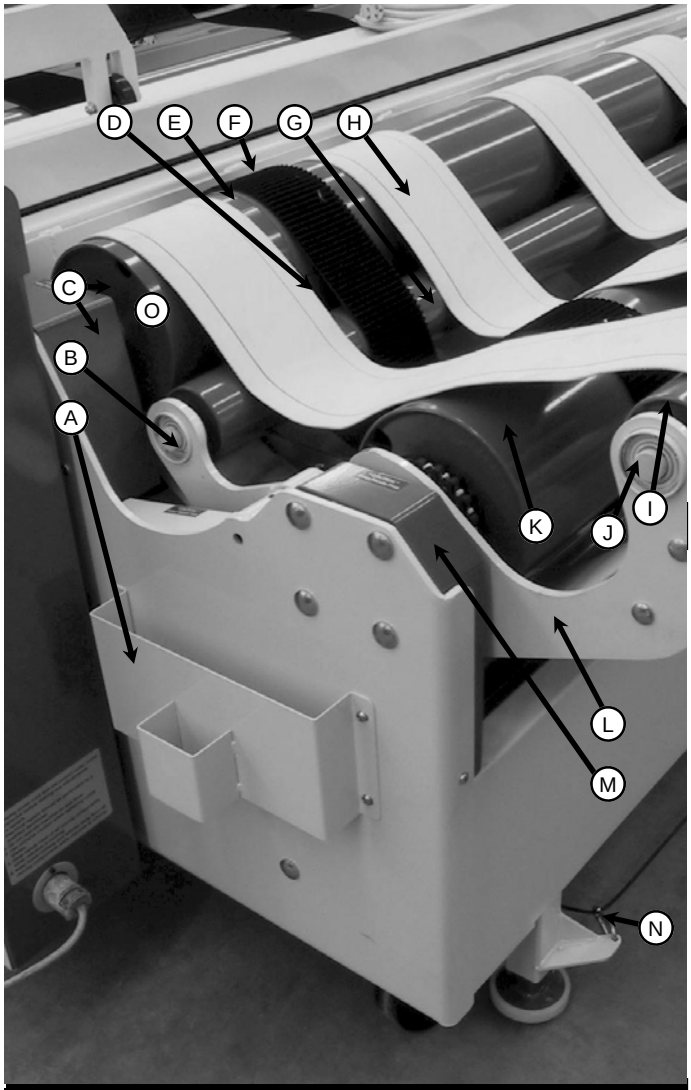


Photo 1

Roll Up Cradle—Photo 1

Ref	Description	Part No.
A	Tray	8-46952
B	Rollup Inner Arm	8-4650
C	Inner Chain Cover	8-4920
D	4”x11 1/16 Safety Walk	8-53804
E	4”x25.25 Safety Walk	8-54170
F	4”x38.25 R.T. Belting	8-54168
G	3 1/2” Roller	8-44260
H	6” Wide x 84” Cloth Belts	102-0078
I	3 1/2” Roller	8-44260
J	205 Bearing	006-0057
K	8” Roller	8-44251
L	Outer Arm	8-4382
M	Outer Chain Cover	8-4040
N	Foot Cable Link	105-0029
O	8” Inner Roller	8-44252
	Inner Roller Arm Back	8-4660
	Outer Arm Back	8-4381

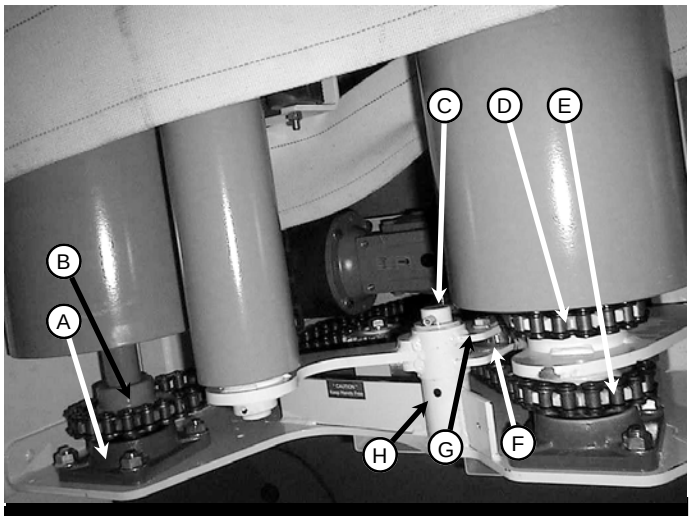


Photo 2

Roll Up Cradle—Photo 2

Ref	Description	Part No.
A	207 Bearing	BSF207
B	#6017 Roller Sprocket	8-5400
C	1/4 x 1 1/2 Roll Pin	113-0036
D	#60 Roll up Arm Chain 47”	8-54173
E	#60 Drive Chain 93”	8-54172
F	5/8” x 2” Bearing	006-0017
G	Cam Follower Pin	8-4430
H	1/4 x 1 1/2 Roll Pin	113-0036
I	#6015 idler sprocket 5/8	120-0046

X33 Parts—Roll Up Cradle

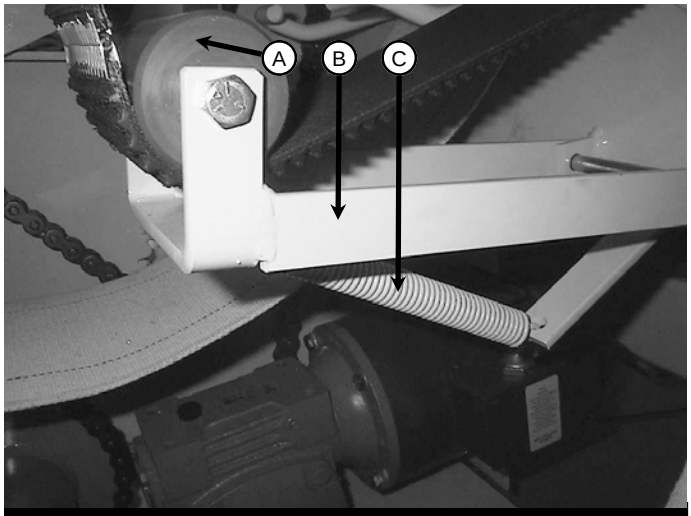


Photo 3

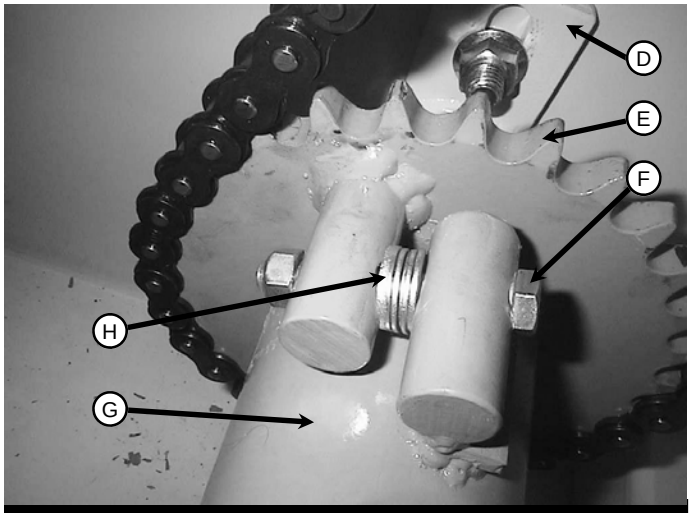


Photo 4

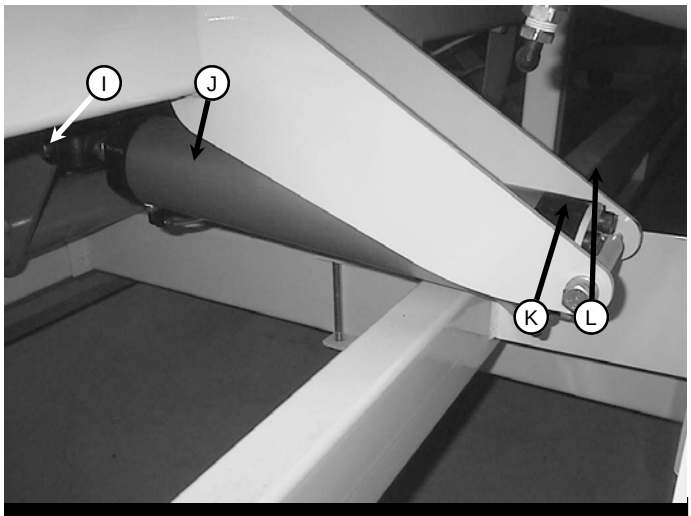


Photo 5

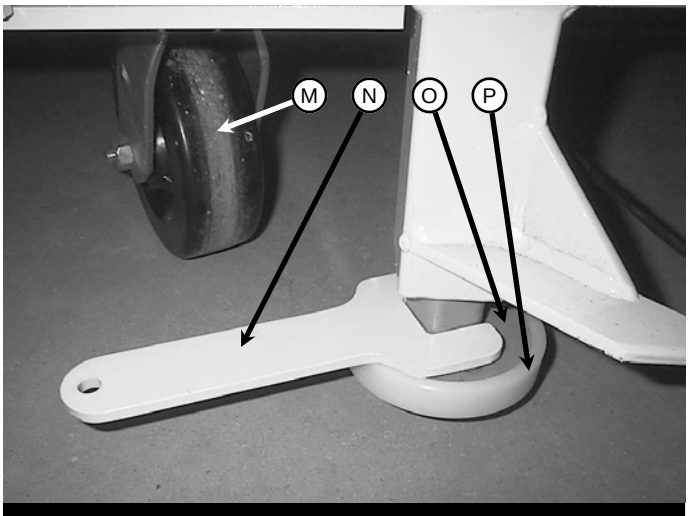


Photo 6

Roll Up Cradle—Photo 3, 4, 5, 6

Ref	Description	Part No.
A	Belt Tightener Roller	8-5070
B	Belt Tightener	8-4930
C	Spring	119-0021
D	End Bracket	8-44977
E	Sprocket	8-4461
F	Pin Bolt 3/8” x 3”	001-0122
G	Lower Pipe	8-44978
H	Spacer Washers 3/8”	NWM38
I	Bolt 1/2’ x 5 1/2”	001-0155
J	Air Cylinder	100-0003
K	Bolt 1/2” x 5 1/2”	001-0155
L	3 1/4” Clevis	8-5210
M	Caster Wheel 6”	104-0018
N	Wrench (Brake)	8-5200
O	Brake Leg	8-4121
P	Brake Leg Boot	8-3210

X33 Parts—Counter

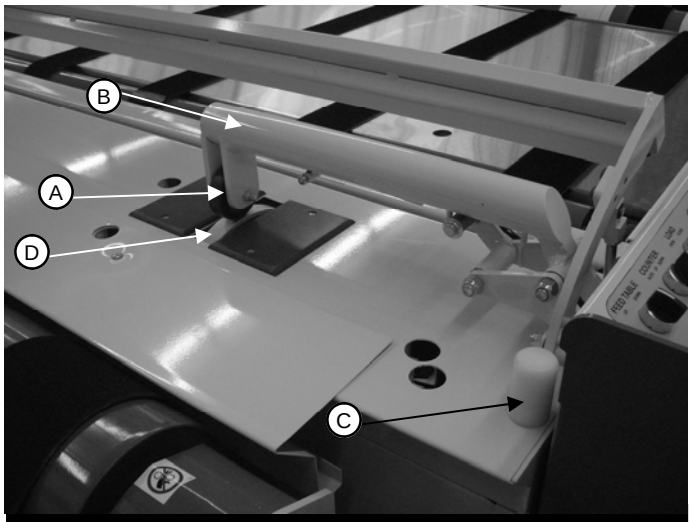


Photo 1

Counter—Photo 1		
Ref	Description	Part No.
A	Hold Down Wheel	104-0002
B	Counter Hold Down Arm	8-47503
C	Carpet Stop Post	8-3080
D	10” Counter Wheel	7-40099

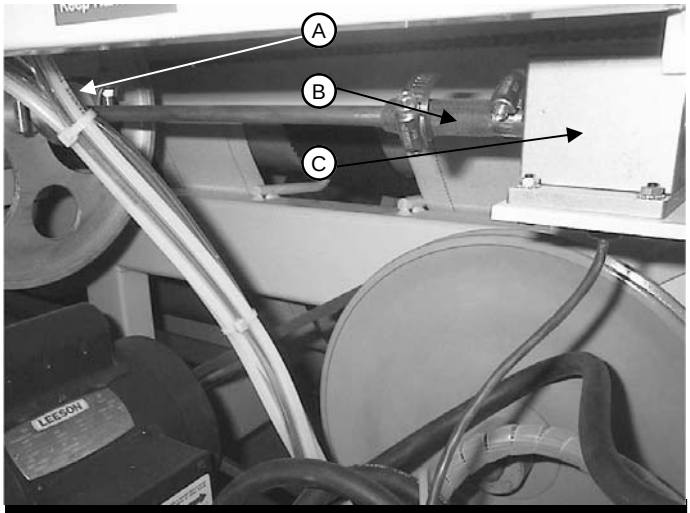


Photo 2

Counter—Photo 2		
Ref	Description	Part No.
A	Counter Wheel Bearing	8-52907
B	Coupler Hose	402-0005
C	Encoder	402-0042

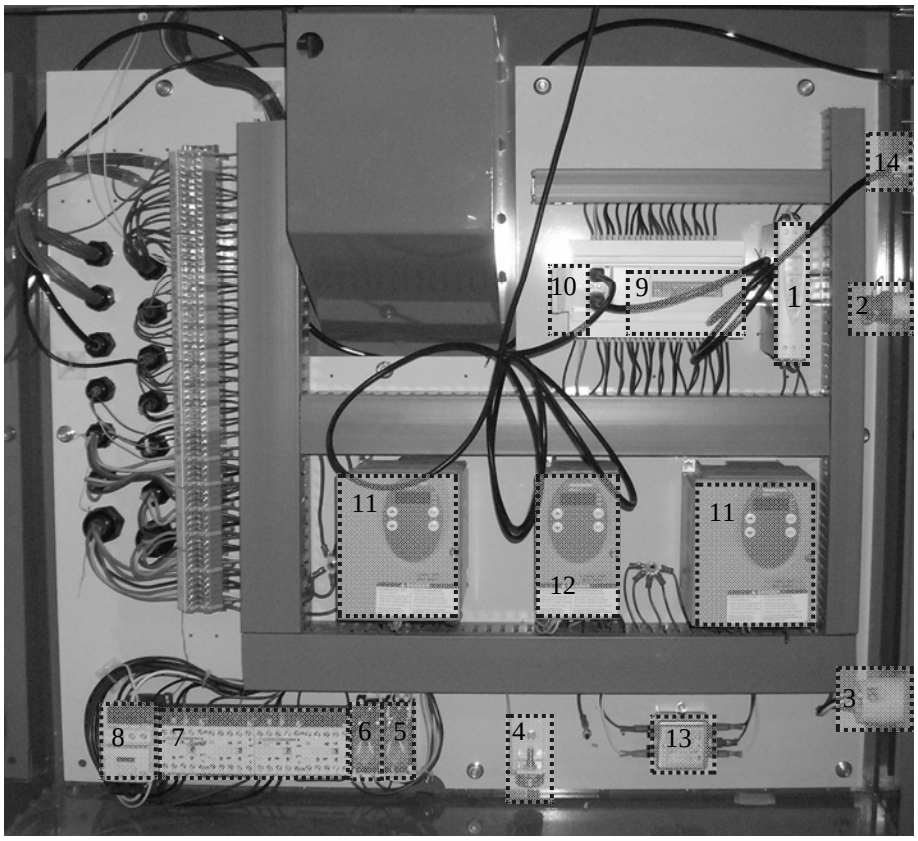
X33 Parts—Electrical

Photo 1

Electrical—Photo 1

Ref	Description	Part No.
A	Interface Terminal	409-0042

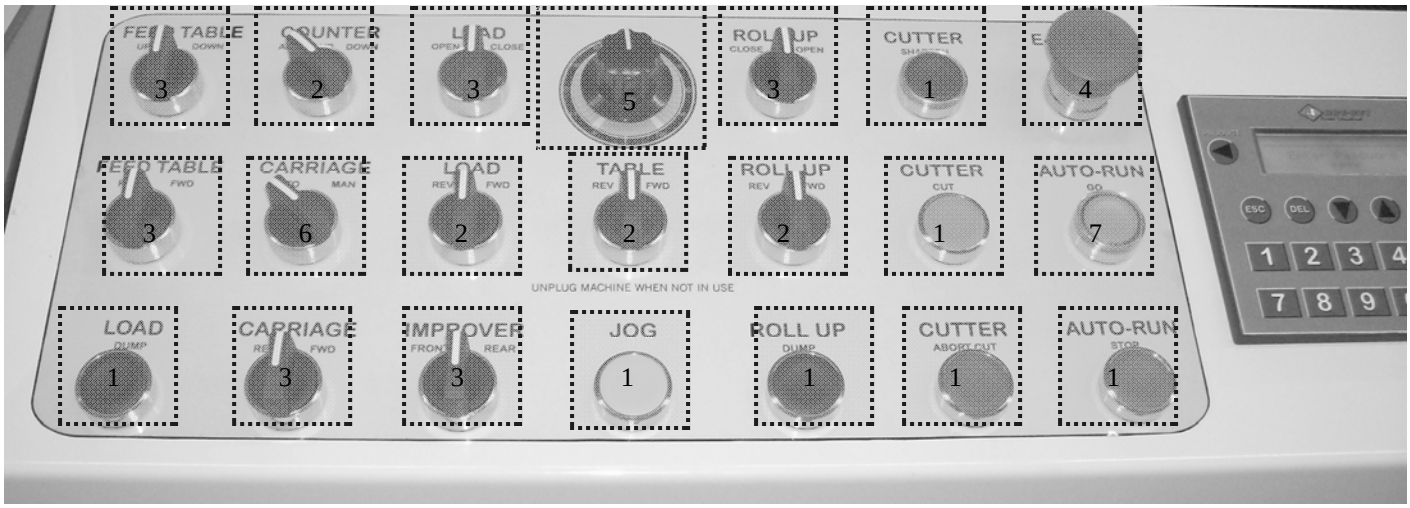
X33 Parts—Electrical



Main Electrical Box

Ref	Description	Manufacturer	Manufacturer Part #	Part No.
1	Power Supply 2.1A	Telemecanique	ABL7RE2402	406-0014
2	Beeper	Telemecanique	XB5KSB	406-0002
3	Flanged Inlet	Hubbel	HBL5678C	408-0002
4	Speed Pot	Precision	RVNAYSD103A	410-0013
5	Ice Cube Relay (24 VDC)	Omron	LY2DC24	409-0021
6	Ice Cube Base	Omron	PTF08A-E	409-0022
7	Reversing Contactor (24 VDC)	Telemecanique	LP2K0910BD	409-0031
8	Contactor (220 VAC)	Telemecanique	LC1D25M7	409-0054
9	PLC	Telemecanique	TWPLCAA40DRF	409-0048
10	RS 232 Port	Telemecanique	TWDNAC232D	409-0083
11	Drive AC 2HP 220V 1 PH	Telemecanique	ATV31H415M2	409-0084
12	Drive AC 1HP 220V 1 PH	Telemecanique	ATV31H075M2	403-0016
13	Line Filter	Corcom	10VK1	403-0015
14	Cable X-33 mini din 8 to RJ11	Vidir		406-0007
N/S	Interface PLC Cable	Telemecanique	XB4Z9780	409-0109
N/S	Battery	Telemecanique	TSXPLP01	409-0080

X33 Parts—Electrical



Control Panel

Ref	Description	Manufacturer	Manufacturer Part #	Part No.
1	Push Button (Various Colors)	Telemecanique	ZB4BA0	410-0054
2	Selector Switch (3 pos maintained)	Telemecanique	ZB4 BD3	410-0057
3	Selector Switch (3 pos momentary)	Telemecanique	ZB4 BD5	410-0058
4	Emergency Stop Button	Telemecanique	ZB4 BT4	410-0056
5	Speed Knob	Ohmite	5150	410-0009
6	Selector Switch (2 pos maintained)	Telemecanique	2B4BD2	410-0078
7	Push button (green illuminated)	Telemecanique	ZD4BW333	410-0206
8	Interface	Telemecanique	XBTR400	409-0063
9	Green LED	Telemecanique	2BVB3	410-0206
10	NO Contact Block (green)	Telemecanique	ZBE 101	410-0060
11	NC Contact Block (Red)	Telemecanique	ZBE 102	410-0061
12	Mounting Collar	Telemecanique	ZB4BZ009	410-0059
13	Speed Pot	Precision	RV4NAYSD103A	410-0013

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Tavares, Florida 32778
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