

**Volume**

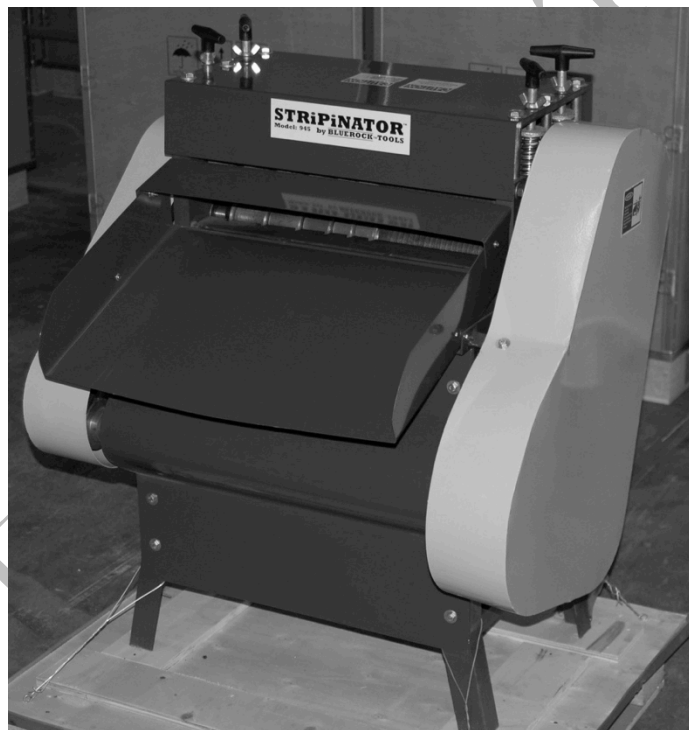
**1.1**

# **OPERATIONAL MANUAL**

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MODEL: **MODEL 945-VS** BLUEROCK ® TOOLS WIRE STRIPPING MACHINE WITH VARIABLE SPEED

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**by BLUEROCK ® Tools**

**MODEL 945-VS WIRE STRIPPING MACHINE**

**UNPACKING THE ITEM**

Caution: This machine is packed together with items that may be sharp, oily and overly heavy objects. Remove the machine from the packaging in a safe manner. Check to ensure all accessories are included with the item while unpacking. If any parts are found to be missing, contact the retailer as soon as possible. Do not throw away the packaging until the item is out of the guarantee period. Dispose of the packaging in an environmentally responsible manner. Recycle if possible. Keep all plastic bags away from children due to risk of suffocation.



WEEE - Waste Electrical & Electronic Equipment. Note this machine should be disposed of as electrical & electronic waste.

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## Table of Contents

<b>SAFETY</b>	<b>1</b>
<b>PRE-OPERATIONAL SAFETY CHECKS</b>	<b>1</b>
<b>OPERATIONAL SAFETY CHECKS</b>	<b>1</b>
<b>SPECIFICATIONS</b>	<b>3</b>
<b>OPERATIONS</b>	<b>4</b>
<b>PURPOSE</b>	<b>4</b>
<b>INSTALLATION</b>	<b>4</b>
<b>OPERATIONAL PRINCIPLES</b>	<b>4</b>
<b>MACHINE COMPONENTS</b>	<b>5</b>
<b>PROCESSING WIRE</b>	<b>7</b>
<b>WIRE TYPE GUIDE</b>	<b>7</b>
<b>WIRE GUIDE DIAGRAM</b>	<b>8</b>
<b>RUNNING WIRE</b>	<b>8</b>
<b>TROUBLESHOOTING</b>	<b>10</b>
<b>MAINTENANCE</b>	<b>11</b>
<b>CHANGING BLADES</b>	<b>11</b>
<b>ELECTRICAL DIAGRAM</b>	<b>13</b>
<b>PARTS LIST</b>	<b>13</b>
<b>BREAKDOWN VIEW</b>	<b>15</b>

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## Safety

**DO NOT USE THIS MACHINE UNLESS YOU HAVE READ THE OPERATING INSTRUCTIONS**



**Safety glasses must be worn at all times in work areas.**



**Long and loose hair must be contained.**



**Appropriate footwear must be worn.**



**Close fitting/protective clothing must be worn.**



**Gloves, rings and jewelry must not be worn as wire could catch on the item and bring hands towards the machine.**



**Hearing protection should be worn when using this machine.**

### PRE-OPERATIONAL SAFETY CHECKS

- Examine the power cord, extension lead, plugs, sockets and power outlet for damage.
- Ensure the safety guards are secure and correctly fitted.
- Secure and support the work piece using clamps, bench vices, bolts, etc.

### OPERATIONAL SAFETY CHECKS

- ONLY to be operated by qualified personal who have read instructions.
  - NOTE: Failure to read and follow instructions could result in electrical shock, fire, property damage and/or serious injury!
- DO ensure all non-essential people are clear of the immediate work area.
- DO keep body parts, clothing & power cords clear of turning/cutting pieces. Stay alert and use common sense when using this tool.
- DO allow machine to reach operating speed before inserting a wire.
- DO keep fingers and hands & power cords clear of cutting/rolling channels.
- DO NOT make adjustments to machine while the machine is running.

**MODEL 945-VS WIRE STRIPPING MACHINE**

➤ <b>DO NOT</b> make side-bolt centering adjustments while the machine is running.
➤ <b>DO NOT</b> wear loose clothing or gloves as death or dismemberment can occur. When feeding wire/cable, gloves can snag on scrap wire and bring hand towards machine.
➤ <b>DO NOT</b> touch moving parts while the machine is running.
➤ <b>DO NOT</b> put cable/wire longer than 1 meter into machine.
➤ <b>DO NOT</b> switch off the machine when it is under load, except in an emergency.
➤ <b>DO NOT</b> remove or modify grounding plug. Only to be used on a properly grounded circuit.
➤ <b>DO NOT</b> leave the machine running when not in use.
➤ <b>DO NOT</b> operate machine outside of machine specifications.
➤ <b>DO NOT</b> touch moving parts while the machine is running as death or dismemberment could occur.
➤ <b>DO NOT</b> remove machine metals panels while machine is connected to a power source. Only to be removed for service by qualified personal and put back on the machine after service is complete.
➤ <b>DO NOT</b> allow children or untrained personal to operate machine.
➤ <b>DO NOT</b> use this machine in the rain, if peeling wet cable/wire, keep the blades dry, oil the machine often, test the blades and machine for oxidation.
➤ <b>DO NOT</b> operate in the presence of explosive materials as power tools create sparks which may ignite dust or fumes.
➤ <b>DO NOT</b> operate this machine on the same work surface where welding is being performed. This could result in severe damage to the machine or personal injury to the user.
➤ <b>DO NOT</b> operate this machine on a lower voltage as it may result in the motor being at a reduced power level and limit the motor life.
○ <b>NOTE:</b> Use of long small gauge power extension cords can result in decreased voltage. As local voltages can vary, it may be a good idea to test the voltage at the end of the extension cord to ensure proper voltage requirements are met. You might also consult an electrician to make sure the length of cord matches up with the proper wire gauge for this size motor. Make sure to use outdoor cords when operating outdoors.

**Specifications**

<b>ELECTRICAL DATA</b>	
Voltage	230V, 60Hz
Current	10 Amps
Motor Size	2.2 KW, 3HP, Three Phase Motor (but converts to single phase power input though the variable speed inverter).
Inverter (Variable Speed Switch)	SAJ Inverter (8000B-2S2E2GB)
Motor Starter	230V TECO HUPB-18K Magnetic Starter
O/P	18 Amp Overload Protection (Set at 17A)
Power Connection	Customer Provides Cord

<b>MECHANICAL DATA</b>	
Blades	20 Blades – 14 Channels – cuts top/bottom of wires
Reverse Function	Yes
Cutting Assembly	Double Cutting And Roller Channel
Cutting Speed	Variable Speed 0-125 Feet Per/Minute
Wire Cutting Range	14 AWG – 1-3/4" OD Wire (Certain Square/Round Multicore Type Wires)
Drive System	Transfer Case, Gear/Sprocket System, Pulley and Belt

<b>SHIPPING DATA</b>	
Shipping Weight	310 Pounds
Shipping Carton	35" x 31" x 30"

## Operations

**Note**

**THOROUGHLY READ THROUGH THE ENTIRE MANUAL BEFORE OPERATING THIS MACHINE!**

### PURPOSE

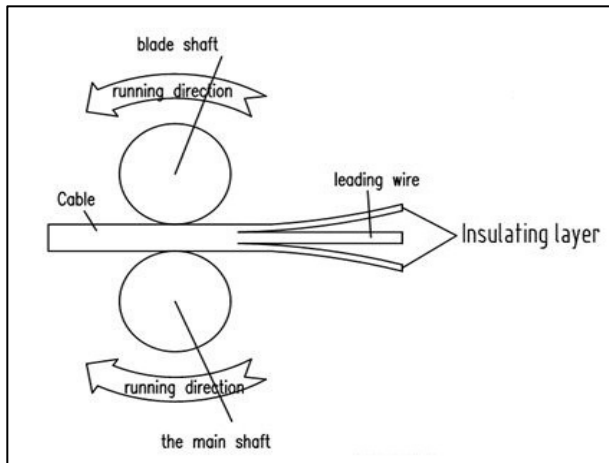
- The purpose of the 945VS is to remove outer and inner jackets from wires and cables in order to separate the inner copper or aluminum. These types of machines are widely used in the recycling industry to extract copper and aluminum for recycling.
- The variable speed function on this machine allows for certain larger wires with denser jackets to be stripped that other machines on the market can not strip. Pulling the wire through slower allows for the blade to fully cut into the wire. This is key in cutting softer/thicker rubber jacketed type wires.
- The 945 has the ability to cut the top and bottom of larger wires, and the tops of smaller wires.
  - Note: These wire jackets can also to be recycled by many recyclers so inquire with your local scrap buyers.

### INSTALLATION

- Install the machine in a dry place.
- Set up in a manner so the user has access to both the front wire inlets and the back wire outputs.
- Make certain the machine is firmly secure and stable so it will not tip or fall.

### OPERATIONAL PRINCIPLES

- This machine pulls wire into the machine across an assembly of a set of four cutting channel and rolling channels.
- The main cutting blade shafts and main rolling shafts run inversely to create a mechanism that pulls the wire into front of the machine.



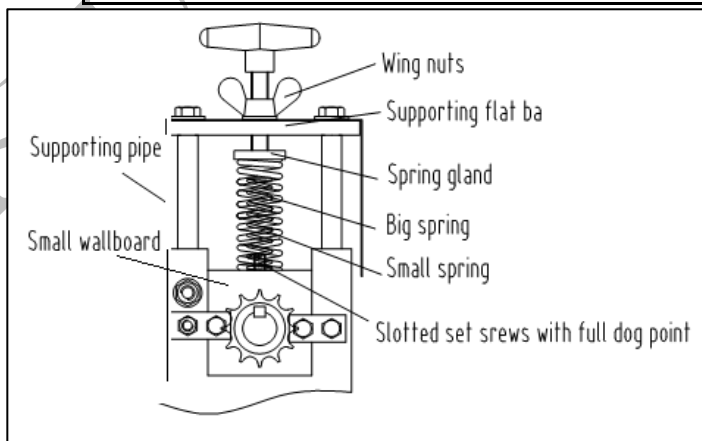
### MACHINE COMPONENTS

➤ The main components of the 945VS are the central cutting and rolling assemblies. These are driven by a system of pulleys and belts, gears, sprockets, chains and motor. The safety guards are situated on top of the assemblies as well as in front where the wire guide is situated. There are also safety guards on top of the main drive gear as well as on the sides of the assembly bearing housings on the left and right extending down over the system of belts and pulleys.

- The safety components must not be removed except by a qualified technician. Power must be disconnected prior to any service.

➤ This machine has one primary adjusting point. The main way is through the four T-bolts. These are the black bolts on the top of the machine that have a locking wing nut. These T-bolts are used to tighten or loosen the springs that control the upper cutting assembly. Essentially these are used to cut deeper or shallower into wire jackets. If you are not able to put a piece of wire in a channel (and have already tried to run it through larger channels), it may be necessary to loosen the T-bolt.

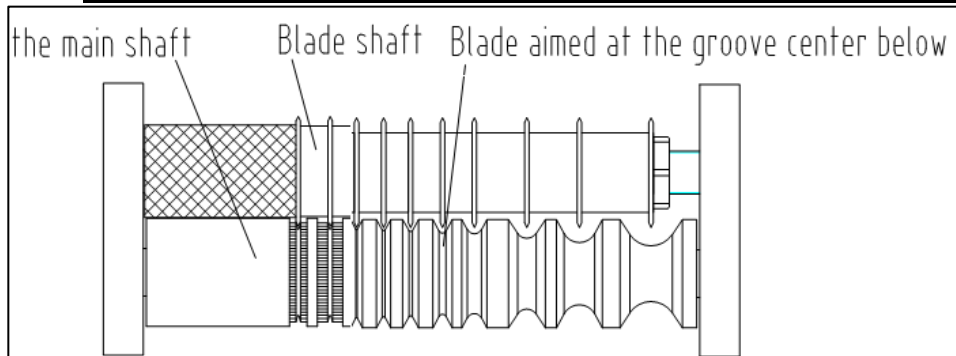
- It is not uncommon for users to over-tighten these T-bolts thinking they need more spring tension, when in reality they just needed to strip down a cutting channel.
- Generally if you're cutting in the right channel a full turn of the T-bolt (either tighter or looser) is all that is needed.



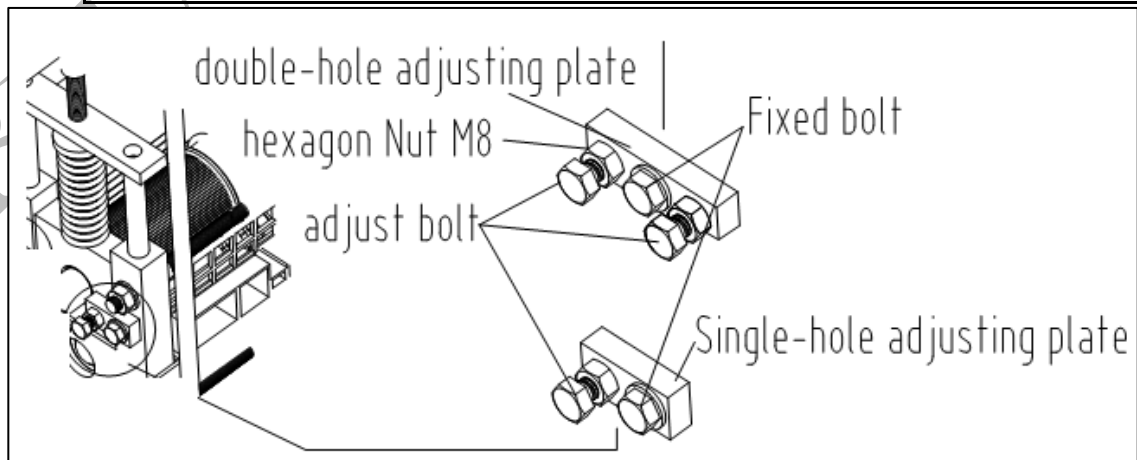


➤ The secondary adjusting point on this machine is the side centering bolts. These are the bolts with lock nuts on them located on the side of both bearing housings that adjust the top cutting assembly from right to left.

- It is generally not recommended to adjust these bolts unless the smallest channel cutting blades are not centered in the cutting channel. To access this, the user will look down the smallest left channels and visually gauge if the blades are centered. If these centering bolts have too much play in them, the entire cutting channel can move too much from right to left during running wire.



- If the blades are not centered or have too much play, they can be adjusted. You really only need the entire cutter assembly (from bearing housing on right to bearing housing on left) to have about 1/16" of play. Essentially, you just need enough room for the centering bolts to allow the entire assembly to raise when a piece of wire goes through the channel and pushes up the entire cutter assembly. It is generally recommended to set the centering bolts by unscrewing the centering bolts on both sides of the assembly a few turns. Then looking down the left (small wire) cutting channels, tap the housing right or left to get the blades in the center of the channel. Screw the bolts in evenly from both sides (right and left bolts). Be careful here not to move the entire assembly. When they are tight against the housings, take another look down the left channel guides making sure the cutters are still in the center of the channel groove. If they are not, readjust. Next loosen the centering bolts by about 1/2 a turn on both the right and left side. This leaves just enough of an air gap to allow the cutting assembly to raise, but not travel too much from right to left. Next tighten the lock nuts. Make sure not to tighten or loosen the centering bolt on this step by using another wrench to ensure it doesn't spin.



➤ The last main adjusting point on this machine are the lower mandible t-bolts. These are the bolts with lock nuts on them located on the bottom of all bearing housings. These adjust the top cutting assembly manually. Generally, do not adjust these lower T-bolts unless you are running oversized wire. If you do adjust them, only adjust the T-bolts on the right side (the large wire channel side). Make certain to adjust them back to their lowest point after so as to use the machine in standard mode later.

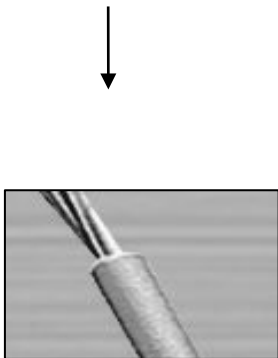
**PROCESSING WIRE**

- There is a wire guide in front of the main shaft and blade shaft where the cables will be manually inserted. See wire input guide diagram below for a general understanding of what wires can go in certain cutting channels.
- The wire input guide will be used as a general starting point for processing wire. Before processing, it is recommended to collect similar wire types to assist in wire processing efficiency.
- Selecting the correct input to run the wire through can take some time and experience. The general rule is to start in a much larger wire guides than the wire in question, run the wire, check the wire. If not cut, step down to a smaller input guide and try it again. It is a general misconception that the user should put a wire in the hole that is the exact same size of the wire. This is rarely the case. After a while the user will know from experience which guide is right for certain wire types.

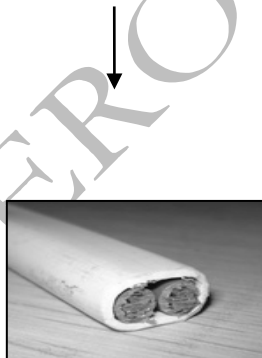
**WIRE TYPE GUIDE**

- Sheathed flat cable: ≤ 0.55" (14mm) x 0.31" (8mm) WxH
- Twisted flat cable: ≤ 0.31" (8mm) x 0.23" (6mm) WxH
- Single-core cable: Dia. Φ0.07" (2mm) ~ Φ1.75" (45mm)

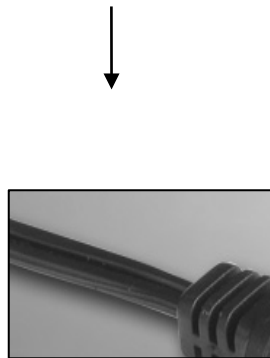
**Round cable**



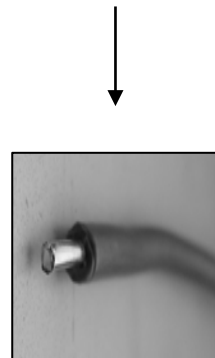
**Sheathed flat cable**



**Twisted flat cable**



**Single-core cable**



WIRE GUIDE DIAGRAM



RUNNING WIRE

- Do all pre-operational and operational safety checks from Chapter 1.
- After securing the machine, plug the machine into power source.
- Have your wires ready to process, by separating them by type and cutting them into 3-4' lengths.
  - This is primarily for safety, but also to protect the motor from torque created by pulling heavy wires into the machine.
- Go through the on/off functions to make sure they are operating correctly. Start the machine by pressing the green "on" switch. Stop the machine by pressing the red "off" switch.
  - Once the green motor starter switch is on, the inverter will activate and the motor fan will start and the inverter will start blinking.
  - Press the run button and the machine will start turning.
    - NOTE: if you need the machine to stop quickly in an emergency, press the red "stop" button on the TEKO motor starter (not the inverter). If you press the inverter stop button, it will stop slowly.
  - Turn the knob on the inverter to speed up or slow down the speed.
    - If stripping larger, thicker, or rubbery jacketed wire, it is recommended to slow the machine down to assist cutting through the entire jacket.
- Select a wire to strip.
- Decide on which guide is the correct guide input.
- Run the wire through.
  - If the wire did not cut through the complete jacket, run it through again through a smaller channel.

- If there are no smaller channels, tighten the T-bolt half/full turn closest to the channel you're attempting to use.

➤ **Separate the wire from the jacket**

- On smaller wire this will be done by pulling the wire out of the jacket.
- For larger wires with thicker jackets, if you are not able to pull the wire out of the jacket, you may need to run the wire through again cutting into the opposite side of the wire jacket.

BLUEROCK® TOOLS

**Chapter**  
**4**

**Troubleshooting**

Problem	Solution
<p>Wires get jammed in the machine</p>	<p>There are a few possible fixes for this:</p> <ol style="list-style-type: none"> <li>1) Loosen the top hand cranks to take pressure off springs to allow more room for the springs to depress.</li> <li>2) Check to make sure you are running the wire through the right channel. This takes some time to figure out. Be patient when clearing the machine. Try the step down method. Start in a larger hole than you think. Work your way down to a smaller hole until ideal cut is made.</li> <li>3) Only use the 1st two channels for running Romex®. They have the Rectangular Guides.</li> <li>4) The jacket on the wire you are trying to run is too thick. This machine will not strip some wires where the jacket is too thick or the materials are too dense, such as some underground plastics.</li> </ol>
<p>For smaller wire, the cut in the wire jacket is not in the center of the wire</p>	<p>The side adjustments could be out of alignment on the cutter rollers. The cutter rollers on the top of the cutting assembly can adjust right to left. The cutting blades should be centered in the middle of every roller. You can look down the middle of every roller from front and back of the machine to see if the cutters are in the center. If they are not, you can adjust the top cutter and rollers by adjusting the side bolts (with the lock nut) to slightly shift the cutter/roller. Make sure you do not tighten the bolts too much so the top cutter/roller assembly cannot raise and lower as wire passes through. Think of these bolts as side stops only, just to keep the assembly inline, so leave about 1mm gap in-between bolt and cutter/rollers.</p>
<p>The machine is excessively loud and makes grinding noise</p>	<p>These machines are generally on the noisier side as they use gear drive system. You can however check the side adjustments as they could be out of alignment on the cutter rollers. The cutter rollers on the top of the cutting assembly can adjust right to left. The cutting blades should be centered in the middle of every roller. You can look down the middle of every roller from front and back of the machine to see if the cutters are in the center. If they are not, you can adjust the top cutter and rollers by adjusting the side bolts (with the lock nut) to slightly shift the cutter/roller. Make sure you do not tighten the bolts too much so the top cutter/roller assembly cannot raise and lower as wire passes through. Think of these bolts as side stops only, just to keep the assembly inline, so leave about 1mm gap in between bolt and cutter/rollers.</p>
<p>The machine is not cutting through the entire jacket</p>	<p>Increase the tension on the top hand cranks. It is also possible that either you are cutting wire that has too thick of a wire jacket or too dense a jacket. These jackets may not be able to cut with this machine.</p>
<p>Wire will not fit in the channel to start cutting.</p>	<p>The wire could be too big. If it's within the wire range, you can try letting some tension off the top T-bolt. If that still doesn't work, try setting the right sided lower mandible T-bolt up. This will raise the upper assembly about a 1/2" inch. This might help the wire get started.</p>

## Maintenance

- |   |
|---|
| ➤ Inspect electrical cords and electrical connections.                      |
| ➤ Keep machine clean and free of debris.                                    |
| ➤ Grease internal gears with red grease or Molybdenum grease as needed.     |
| ➤ Spray antirust oil on spindle and blade shaft as needed.                  |
| ➤ Inspect blades occasionally to ensure they are sharp for optimal cutting. |
| ➤ Check and tighten up the belts occasionally.                              |

## Changing Blades

- |   |
|---|
| 1. Remove upper cutter/roller tensioners and the springs below them.            |
| 2. Use 11/16" socket to remove top bolts, and the spacers below them.           |
| 3. Take the top guard off.  |
| 4. Take the cutter assembly out.  |
| 5. Use adjustable large puller to pull bearing housing off the cutter assembly. |



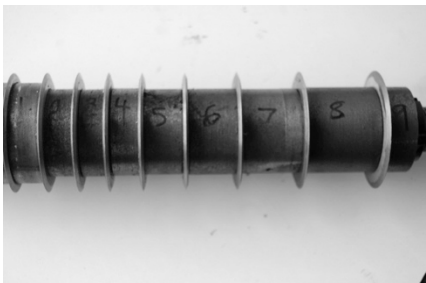
- |  |
|--|
| 6. Use puller to pull bearing from cutter assembly. Make sure to mark the bearings position on the steel rod to assure the correct position upon reassembly. |
|--|



7. Unscrew spanner nut clockwise. If you do not have a spanner nut wrench, it is possible to use a pair of vice grips.



8. MAKE SURE YOU MARK THE SPACERS 1 THROUGH 5 (OR 1 THROUGH 9 FOR THE TOP ASSEMBLY), SO THAT THEY GO BACK ON IN THE SAME ORDER THAT YOU TOOK THEM OFF.



9. Blades are ready to come off and be replaced.

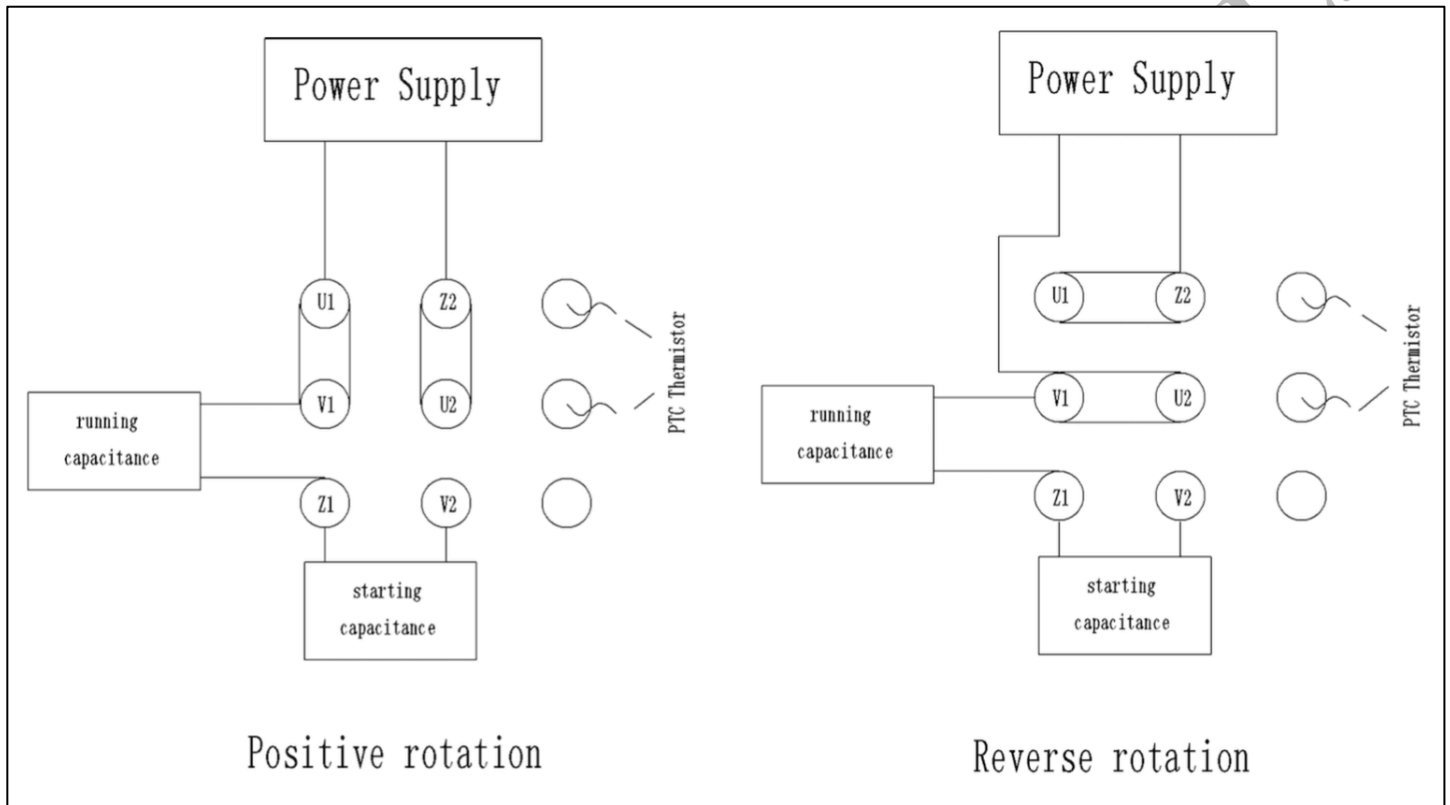


10. When re-assembling put the bearing back into the bearing housing before attaching the housing to the cutter/roller.

11. Follow all other steps in reverse order to reassemble.

Chapter  
**6**

**Electrical Diagram**



**Parts List**

1	Big side shield	27	Caster
2	Output hopper	28	Frame
3	Iron plate	29	Motor
4	Hex bolt M10X110	30	Hex bolt M8X20
5	Washer $\Phi$	31	T screw
6	Iron plate	32	B type pulley $\Phi$ 70
7	Galvanized support	33	B type Belt L=864



**MODEL 945-VS WIRE STRIPPING MACHINE**

	tube		
8	T shape handle M12	34	B type Belt L=940
9	Wing nut M12	35	B type pulley $\Phi$ 100
10	Small side shield	36	B type pulley $\Phi$ 208
11	Pressure cap	37	Bridge axis
12	Small spring 65Mn	38	Bearing base
13	Big spring 65Mn	39	Pulley
14	Top shield	40	Geared linkage
15	Small siding board	41	Gear with beading hole
16	Spacer	42	Gear inner $\Phi$ 24
17	Front upper shaft	43	Blade shaft
18	Deep groove ball bearing	44	Single row chain wheel -12-tooth
19	Blades	45	08A chain
20	Main shaft	46	Tie rod
21	Lower blade shaft	47	2 holes adjusting board
22	B type belt L=1092	48	3 holes adjusting plate
23	B type pulley $\Phi$ 160	49	Single siding board
24	Feed inlet	50	Hex bolt M8X30
25	Switch	51	Hex bolt M8
26	Panel for switch	52	Gear shaft
		53	Siding board

### Breakdown View

