

**Volume**

**1.1**

# **OPERATIONAL MANUAL**

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MODEL: **MWS-83MD** STRIPINATOR ® WIRE STRIPPING MACHINE

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US PATENT # US8839695B2



**by BLUEROCK ® Tools**

#### 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.

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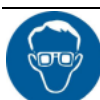
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## Safety

**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.**

### PRE-OPERATIONAL SAFETY CHECKS

- 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.
- DO ensure all non-essential people are clear of the immediate work area.
- DO keep fingers and hands & power cords clear of cutting/rolling channels.
- DO allow machine to reach operating speed before inserting wire.
- DO NOT make side-bolt centering adjustments while the machine is running.
- DO NOT 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.
- DO NOT operate machine outside of machine specifications.
- DO NOT touch moving parts while the machine is turning.

➤	<b>DO NOT</b> remove machine guards while machine is running. Only to be removed for maintenance and oiling by qualified personal and put back on the machine after maintenance is complete.
➤	<b>DO NOT</b> allow children or untrained personal near machine.
➤	<b>DO NOT</b> put cable/wire longer than 1 meter into 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.

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## Specifications

MECHANICAL DATA	
Blades	5 Blades – 5 Channels – 3 Round/2 Square Channels Cuts Top of Wire
Cutting Assembly	Single Cutting And Roller Channel
Cutting Speed	Human/Chuck Drill Dependent
Wire Cutting Range	16 AWG – 1/2" OD Wire (Certain Square/Round Multicore Type Wires)
Drive System	Manual Hand Crank System/User Supplied Drill

SHIPPING DATA	
Shipping Weight	39 Pounds
Shipping Carton	15" x 12" x 9"

## Operations

### Note

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

#### PURPOSE

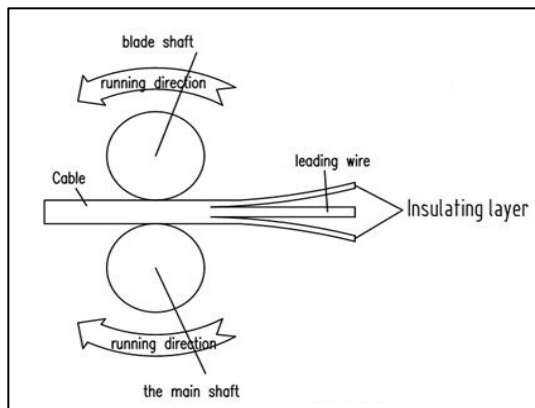
- The purpose of the MWS-83MD is to remove outer and inner jackets from wires and cables in order to separate the inner copper or aluminum. These types of machines are widely used in the recycling industry to extract copper and aluminum for recycling.
- The wire jackets are also able to be recycled by many recyclers so inquire with your local scrap buyers.

#### INSTALLATION

- Install the machine in a dry place.
- Bolt down or secure in some manner so as to be able to have access to both the front wire inlets and the back wire outputs.
- Make certain the machine is firmly secure so it will not tip or fall.

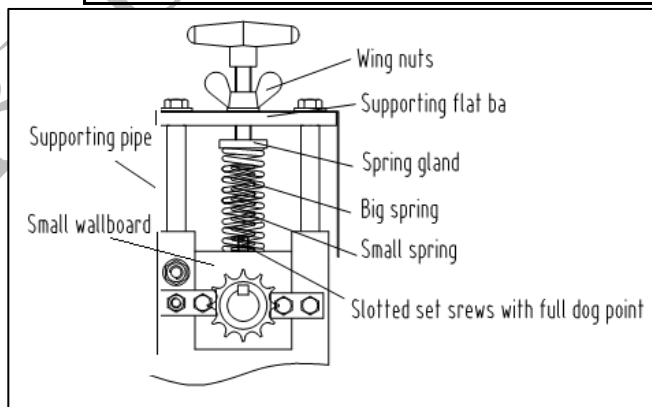
#### OPERATIONAL PRINCIPLES

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



### MACHINE COMPONENTS

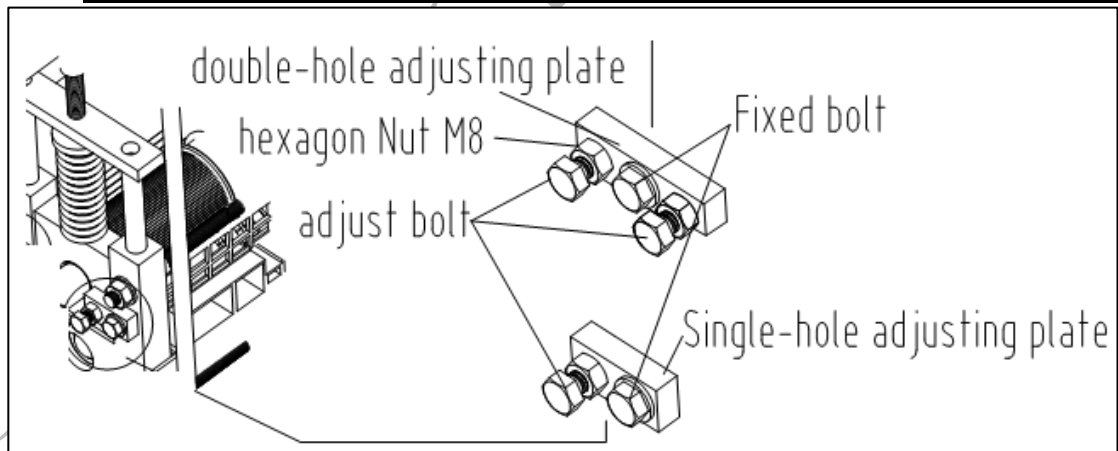
- The main components of the MWS-83MD are the central cutting (top) and rolling assemblies (bottom) which has the drill shaft. These are driven by human power using a hand-wheel and hand-crank or by a user supplied chuck type drill. The safety guards are situated on top of the assemblies as well as in front where the wire guide is situated.
  - The safety components must be not be removed except by a qualified technician.
- **NOTE: The drill shaft is most suitable for continuous smaller/medium size wires. It's not made for continuous large wire operations. It can put excess stress on the shaft over time making it vulnerable to breakage.**
- This machine has one primary adjusting point. The main way is through the two 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 are 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 ½ 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.



## 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 guide 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:  $\leq 0.55''$  (14mm) x  $0.31''$  (8mm) WxH
- Twisted flat cable:  $\leq 0.31''$  (8mm) x  $0.23''$  (6mm) WxH
- Single-core cable: Dia.  $\Phi 0.07''$  (2mm) ~  $\Phi 1''$  (25mm)

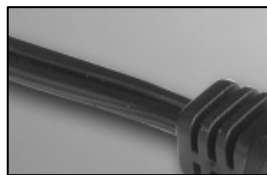
**Round cable**



**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.
- Securing the machine and installing the hand-wheel and hand-crank or using a user supplied chuck type drill to the 12mm drill shaft.
- Have your wires ready to process, by separating them by type and cutting them into 3-4' lengths.
- Select a wire to strip.
- Decide on which guide is the correct guide input.

<p>➤ If using the hand crank- run the wire through while turning the hand-crank until the wire is all the way through. You can also partially run the wire through with the hand-crank and go to the output of the machine and pull the wire through the remainder of the way.</p>
<p>➤ If using a drill and the drill shaft, slowly turn the drill forward causing the drill to turn the lower roller shaft. After a comfortable speed is reached (slowly enough to have power over the drill and control inputting wire safely) put a piece of wire in the machine. Be cautious in the beginning to only use your drill as slowly as possible to get a feel for how quickly the drill pulls the wire in. When in doubt, take your finger off the power of your drill and regroup.</p>
<p>○ If the wire did not cut through the complete jacket, run it through again through a smaller channel.</p>
<p>○ If there are no smaller channels, tighten the T-bolt half/full turn closest to the channel you're attempting to use.</p>
<p>➤ Separate the wire from the jacket</p>
<p>○ On smaller wire this will be done by pulling the wire out of the jacket.</p>
<p>○ 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.</p>

## Troubleshooting

Problem	Solution
Wires get jammed in the machine	<p>There are a few possible fixes for this:</p> <p>1: Loosen the top hand cranks to take pressure off springs to allow more room for the springs to depress.</p> <p>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.</p> <p>3: Only use the 1st two channels for running Romex®. They have the Rectangular Guides.</p> <p>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.</p>
For smaller wire, the cut in the wire jacket is not in the center of the wire	<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>
The machine is excessively loud and makes grinding noise	<p>These machines are generally on the noisier side as they use a gear drive system. Firstly make sure the gears are greased. This can help with the noise. You can also 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/right. The cutting blades should be centered in the middle of every roller especially those on the left. 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>
The machine is not cutting through the entire jacket	<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>

## Maintenance

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

## 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. |



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| 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. |
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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 4 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.**

## Parts List

Number	Code Number	QTY	Material	Name
1	MWS-83MD-0001	2	HT200	Siding board
2	MWS-83MD-0002	2	45#	Gear
3	MWS-83MD-0003	1	45#	Main shaft
4	MWS-83MD-0004	1		Spacer
5	MWS-83MD-0005	9	65Mn	Blade
6	GB/T5780-2000	4	A3	Hex nut M10x90
7	MWS-83MD-0006	2		T shape handle
8	GB/T62-1988	2	ZL102	Wing nut
9	GB/T95-1985	16		Washer Φ10
10	MWS-83MD-0007	1		Top shield
11	MWS-83MD-0008	2	A3	Iron plate
12	MWS-83MD-0009	2	HT200	Pressure cap
13	MWS-83MD-0010	2	65Mn	Big spring
14	MWS-83MD-0011	2	65Mn	Small spring
15	MWS-83MD-0012	4		Support tube
16	MWS-83MD-0013	1		Shovel
17	MWS-83MD-001/f	1	45#	Blade shaft
19	GB/T5781-2000	4	A3	Hex bolt M8x30
19	MWS-83MD-0015	4	A3	Stopper plate -2 holes
20	GB/T5781-2000	6	A3	Hex bolt M8x30
21	GB/T95-1985	6	A3	Washer Φ8
22	GB/T41-2000	6	A3	Hex nuts M8
23	GB/T41-2000	12	A3	Hex nuts M10
24	GB/T93-1987	6	A3	Spring washer Φ10
25	GB/T95-1985	12	A3	Washer Φ10
26	MWS-83MD-0016	2	30x30	Angle iron base
27	MWS-83MD-0017	3	A3	Tie rod m10
28	MWS-83MD-0018	1		Feed inlet
29	MWS-83MD-0019	2	A3	Fasten bar



## Breakdown View

