



## **WILS-MATIC ELECTRIC SELF FEED TUBE CLEANER**

**MODEL WAM-5000-375**  
**MODEL WAM-5000-500**

**1 HP 1725 RPM**  
**1 HP 1725 RPM**



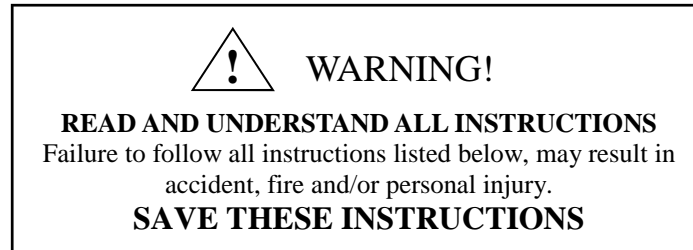
### **OPERATING INSTRUCTIONS & SERVICE MANUAL**

TO REDUCE THE RISK OF INJURY AND EQUIPMENT DAMAGE  
USER MUST READ AND UNDERSTAND OPERATOR'S MANUAL.

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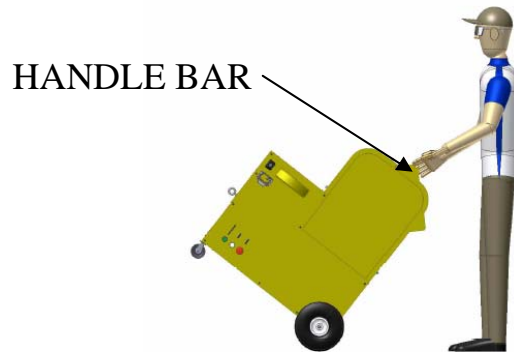
## SAFETY INSTRUCTIONS



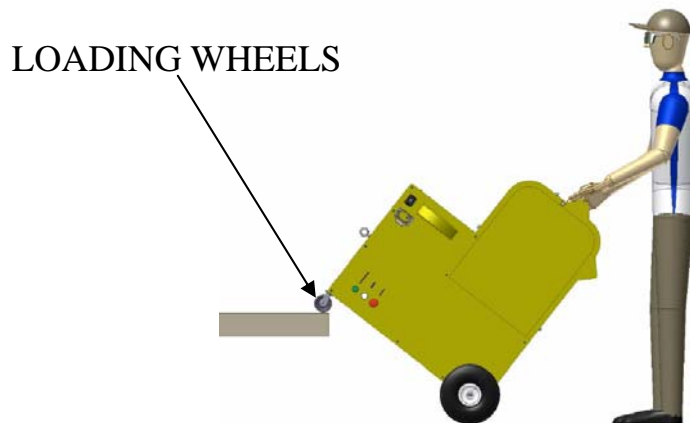
1. **KNOW YOUR POWER TOOL.** Read this service manual carefully.
2. **GROUNDING INSTRUCTIONS.** This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.
3. **KEEP GUARDS IN PLACE** and in working order.
4. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
5. **AVOID DANGEROUS ENVIRONMENT.** Keep work areas well lit.
6. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, high or locked-up place – out of reach of children.
7. **DON'T FORCE TOOLS.** It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOLS.** Don't force small tool or attachment to do the job of a heavy-duty tool.
9. **WEAR PROPEL APPAREL.** No loose clothing or jewelry to get caught in moving parts. Rubber gloves and footwear are recommended when working outdoors.
10. **USE SAFETY GLASSES** with most tools. Also face or dust mask if cutting operation is dusty.
11. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
12. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hands to operate tool.
13. **DON'T OVERREACH.** Keep proper footing and balance at all times.
14. **MAINTAIN TOOL WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **DISCONNECT TOOLS:** When not in use; before servicing; when changing accessories such as blades, bits, cutters, etc.
16. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking that keys and adjusting wrenches are removed from tool before turning it on.
17. **AVOID ACCIDENTAL STARTING.** Don't carry plugged-in tool with finger or switch.
18. Remove the plug from the socket before carrying out any adjustment, servicing or maintenance.
19. Do not use unit with combustible fluids or where combustible fluids or fumes may be present.

## CARRYING & LOADING POSITION

The WILS-MATIC can be either pushed or pulled when holding from the handle bar and the unit tilted on its pneumatic wheels.



The WILS-MATIC can be easily loaded on to a truck bed or a cargo van's back by first dropping the loading wheels on to it and then by lifting the unit by its handle and at the same time by pushing it forward. This way the unit will easily roll on its four wheels.

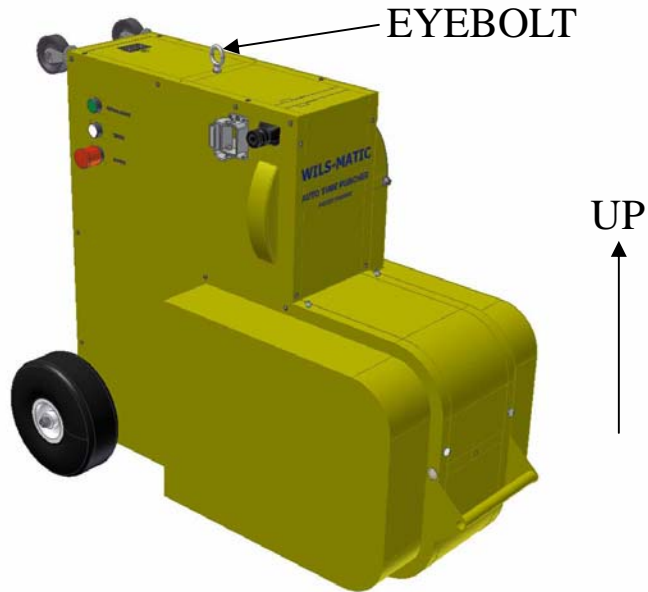


**CAREFUL!**

**OTHER THAN THE NECESSARY LOADING  
AND UNLOADING DO NOT ROLL THE WILS-  
MATIC ON FOUR WHEELS.**

## OPERATING POSITION

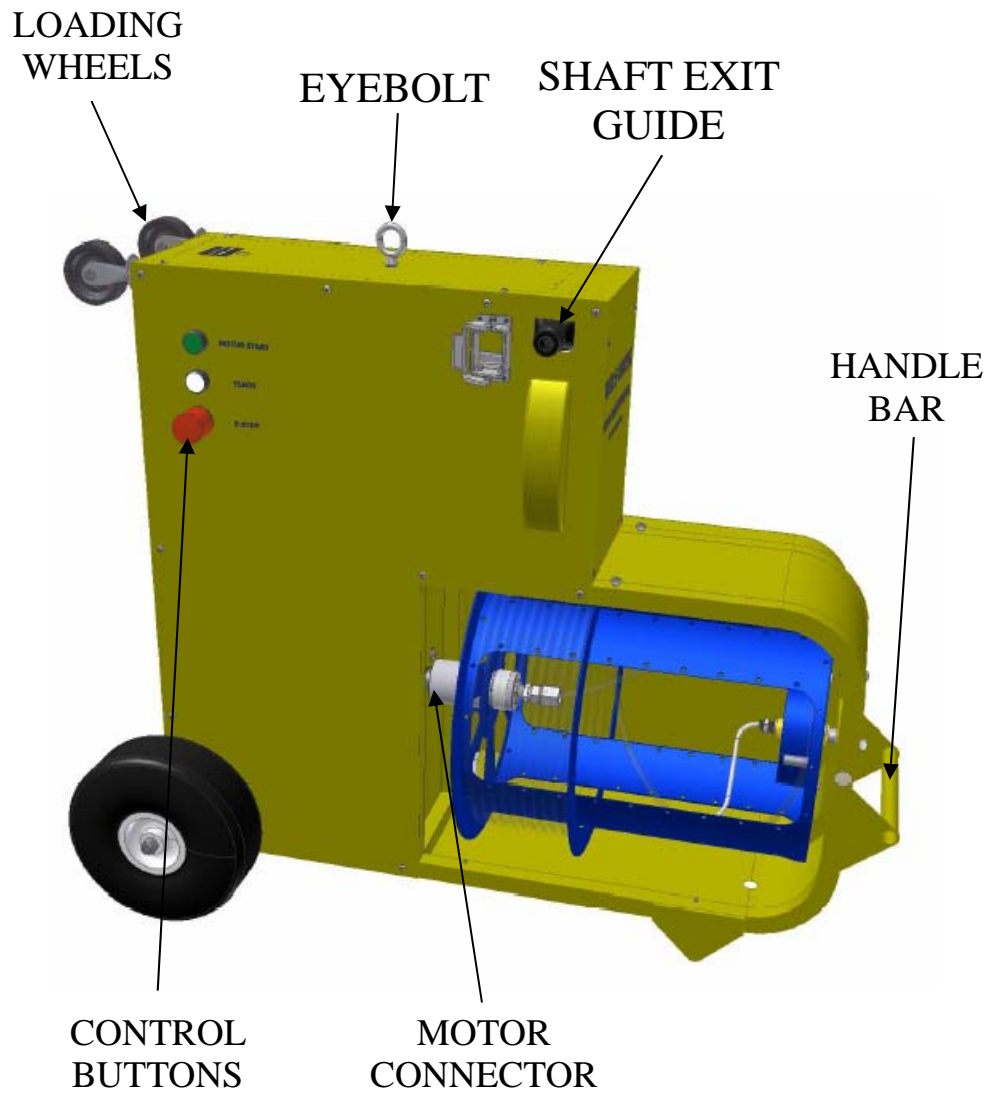
The WILS-MATIC tube cleaner at all times should be operated with the safety covers in place. In addition, it should be operated only with the top side (side with eyebolt) up, as illustrated below:



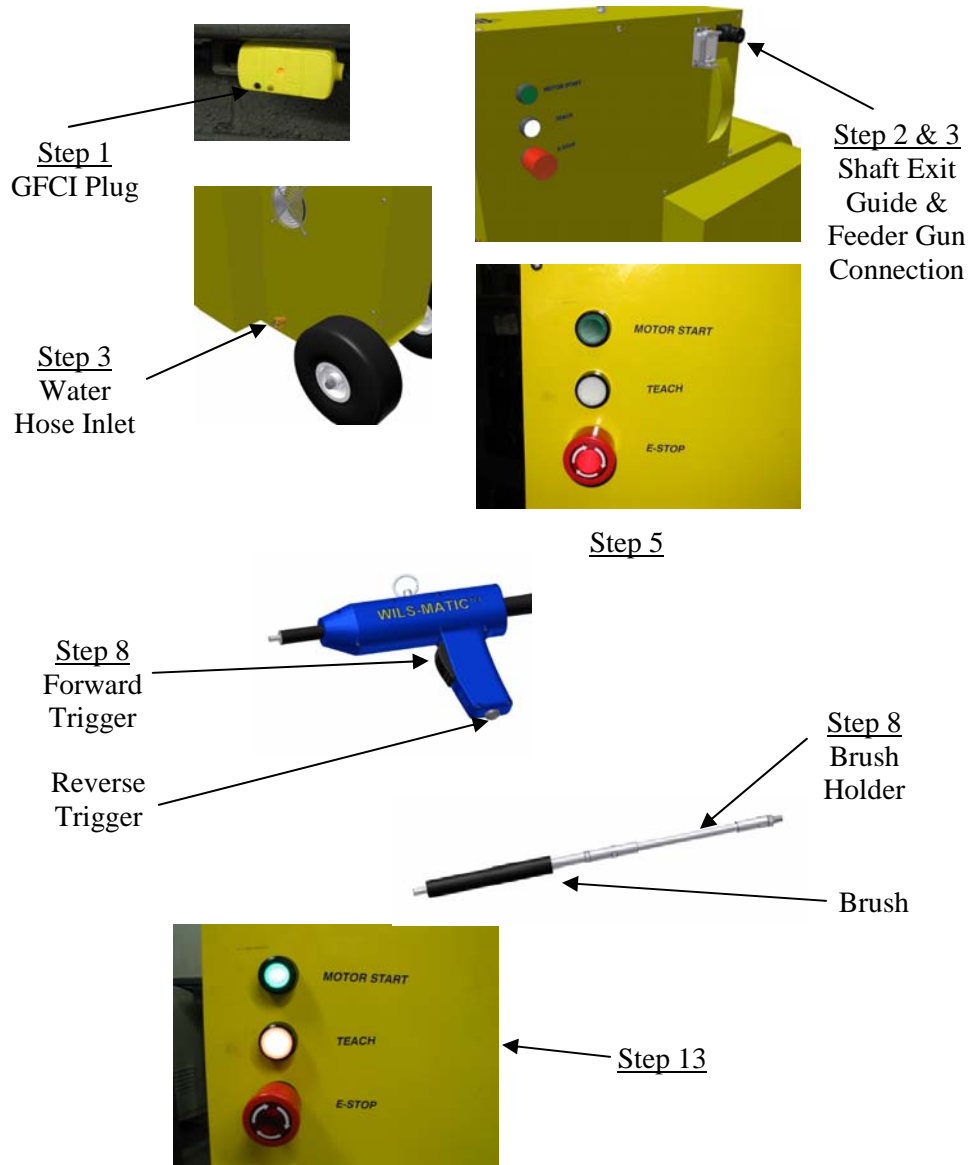
**DANGER!**

**IF YOU ARE OPERATING THE UNIT  
WITHOUT THE SAFETY COVERS,  
SERIOUS RISK OF INJURY MAY RESULT**

## GETTING ACQUAINTED WITH WILS-MATIC



# OPERATION 1



**MINIMUM GAUGE OF EXTENSIONCORD REQUIRED:  
USE ONLY 10 AWG UP TO 100 FT.**

## OPERATION 2

Action	Manual Mode	Teach Mode
<b>Forward Trigger</b>	<ul style="list-style-type: none"> <li>Will send the brush forward, until max limit of the shaft &amp; casing is reached.</li> <li>Will spin the brush clockwise</li> </ul>	<ul style="list-style-type: none"> <li>Will send the brush forward, until taught distance and pull back the brush, until home position. If let go anytime and then re-pressed it will continue from the point it was stopped.</li> <li>Will spin the brush clockwise and then counter-clockwise on the pull back.</li> </ul>
<b>Reverse Trigger</b>	<ul style="list-style-type: none"> <li>Will pull back the brush, until home position is reached. (Home Position = Brush tip sticking out of the gun about 2-3 inches)</li> <li>Will spin the brush counter-clockwise</li> </ul>	<ul style="list-style-type: none"> <li>No matter in what motion the brush is (Forward or Reverse) it will always reverse the brush, until home position.</li> <li>Will spin the brush counter-clockwise</li> </ul>

Action	Lights On	Mode	Usage
<b>Neither the motor start or teach is pressed</b>	None	Initial start-up mode	Do not operate the unit in this mode. Just use this mode when e-stop is released and initially setting up the brush. (See: Operation 3, Item 5)
<b>Motor Start button is Pressed</b>	Solid Green	Manual mode	In this mode the brush can be moved forward with the forward trigger until shaft & casings max limit and reversed with the reverse trigger until home position. In this mode the user can clean the tubes by going forward until desired distance and then reversing it until brush comes back in to home position.
<b>Teach button is pressed</b>	Solid Green & White	Auto mode	In this mode the brush can be moved forward and reversed with only holding the forward trigger. In this mode the user will hold the forward trigger and the brush will be sent until the taught distance and then come back until the home position.
<b>Teach button and Motor Start button is presses and released at the same time</b>	Flashing Green & White	Shaft & Casing Load / Re-Load mode	The triggers will move the brush in small increments, either forward or reverse. There is no max limit or backup limit. So remove any brush extension and brush before reversing all the way back.

## OPERATION 3

1. Un-coil electrical cord from the hook and plug it in a properly grounded outlet. Press the reset button on the GFCI plug.
2. Attach the brush holder piece & the appropriate brush onto the shaft that is sticking out of the shaft exit guide..
3. Un-coil Feeder Gun Assembly and connect it to the unit using the shaft connector and electrical connector.
4. Connect water hose to water inlet with strainer within. Turn water supply on. Solenoid valve only opens to allow water through when the motor is running.
5. At this point the E-Stop will be lit.
6. Release the “E-STOP” button, by turning it Clockwise.
7. At this point none of the buttons will be lit.
8. Press the “Forward Trigger” until the tip of the Shaft & Casing is 5 feet beyond the tip of the Gun.
9. Press the “Motor Start” button. **“CAUTION” After 5 seconds the brush will immediately pull back in to the gun. This is the Home Position.**
10. Hold the end of the Feeder Gun at the tube mouth; making sure it is held away from your body.
11. Press the “Forward Trigger” on the Gun to go forward. Thus extend the brush until the desired length (Length of the Tube to be cleaned). Make sure to achieve this with the minimum pulsing on the trigger.
12. Once you extend the brush until the end of the tube. Press the “Teach” button **“CAUTION” The brush will immediately retract until Home Position.**
13. At this point the two buttons “Motor Start” and “Teach” should be lit.
14. Now, by just pressing & holding the “Forward Trigger” you can start the tube cleaning cycle. Holding the “Forward Trigger” will feed the brush forward until the taught position and come back. Once its back, release the forward trigger, switch tube and repeat cycle.
15. Observe the following operation guidelines:
  - Do not force cleaning head within tube. If any resistance is felt, back off two inches or so and re-feed shaft until it moves easily through the tube. If this fails, use a smaller cleaning head or one intended for plugged tube application.
  - During the reversing of the brush if the brush doesn't stop at home position. As a backup it will stop half way inside the gun assembly. At this point the auto mode will be turned off and the user will be in manual mode. At this point just hit forward and go to the home position, then start from Operation 3, Step 10.
  - Only allow one inch to three inches of the brush to come out of other end of tube.
  - In Case of Emergency, hit the “E-Stop”. Once the “E-Stop” is pressed. You must first release the “E-Stop” by turning Clockwise and then recycle the power and restart from Step 5.



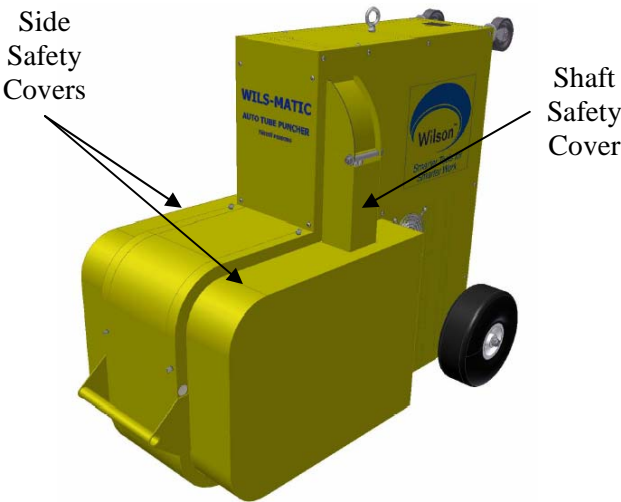
## SHAFT & CASING REPLACEMENT

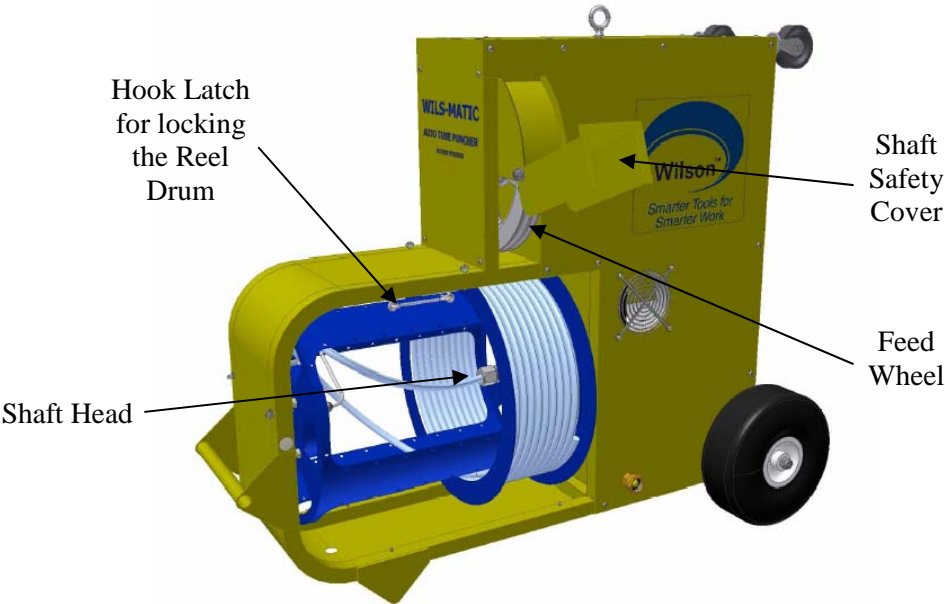
In order to replace the shaft and casing you first have to be in “load mode”. You can do this by first pressing and releasing the e-stop and then by pressing teach button and then the motor start button at the same time. At this moment both motor start and teach buttons will flash, meaning that you are in “load mode”. When in load mode, the triggers will control the forward or reverse motion in increments.

1. Remove the Side Safety Covers and lift up the Shaft Safety Cover.
2. Remove the Brush Holder and the Brush attachment from the Shaft & Casing.
3. Lock the Reel Drum with Hook Latch. (See next page for diagram)
4. Reverse the Shaft & Casing so it does come out of the Feed Wheel.
5. Unlock the Reel Drum and at the same time pull on the Shaft & Casing so it does uncoil from the Drum. (Careful the reel drum is spring loaded so as soon as its unlocked it will try to pull the shaft & casing.) When most of the shaft & casing is out of the reel drum lock the Reel Drum.
6. Unscrew the shaft head, cut the tie straps and remove the old Shaft & Casing.
7. Re-guide a new Shaft & Casing as previously, tie down with straps and screw the head back onto motor drive.
8. Unlock Reel Drum and slowly let go of the shaft & casing so it coils the new Shaft & Casing onto the Drum.
9. Guide the Shaft & Casing tip thru the Feed Wheel, lower the Shaft Safety Cover and press the forward trigger. Bring the brush 5 ft. past the gun and follow the initial set up procedures.

**Note:** In case the reel drum spring load is lost, follow the steps mentioned below:

1. Untangle any shaft & casing.
2. Let the reel drum loose so it will spin until its stops by it self.
3. Wrap the shaft & casing around the reel drum quite tightly without turning the blue reel drum.
4. Turn the reel drum 8 times in the feed direction. This will load up the spring. (The further you are among the turns the more it will get harder to turn.)
5. Guide the Shaft & Casing tip thru the Feed Wheel, lower the Shaft Safety Cover and press the forward trigger. Bring the brush 5 ft. past the gun and follow the initial set up procedures.

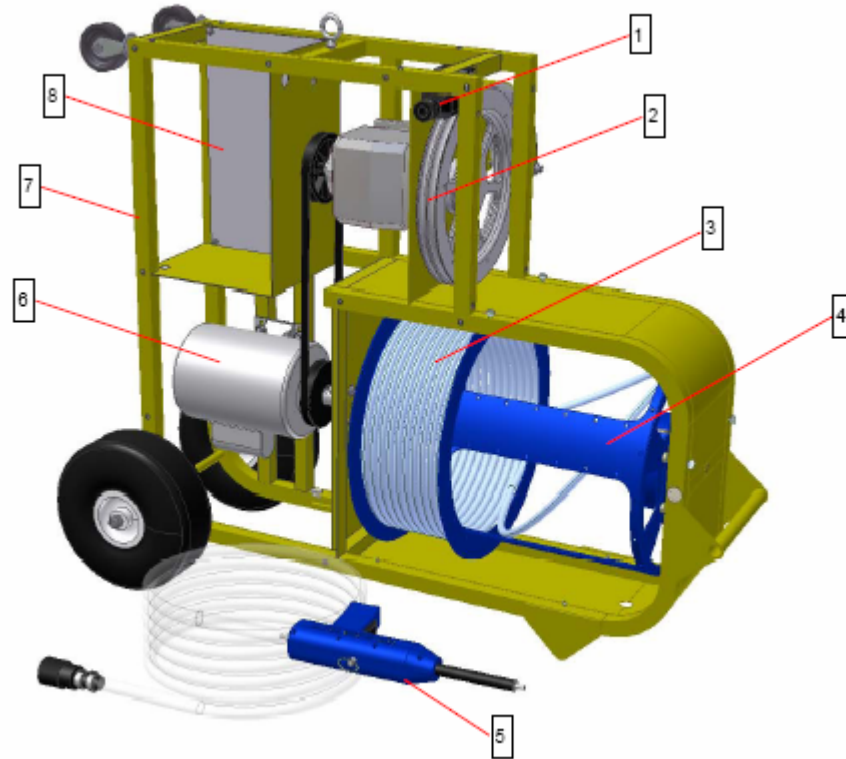




**MAINTENANCE**

- Note: Remove the plug from the power outlet before carrying out any adjustment service or maintenance.
- Safety coupling replacement: A 80 in-lb Safety Coupling (#9600-0102) is supplied within the motor connection assembly as standard. This will break if the shaft is overloaded by forcing cleaning tool within the tube. A hook type removal tool (#9600-0055) is supplied for removing this broken unit. Engage the far end of the broken coupling with this tool and pull the coupling out.
- Storage: To store, disconnect water supply hose and gun assembly. Disconnect flexible shaft from machine. Dry out the shaft with an air blast through a hose fitting (optional #9614) attached to large aluminum coupling. Store the tube cleaner in a dry, heated place.
- Lubrication: Periodically, grease ball bearing inside motor connector housing through grease fitting, usually every 200 hours of services.
- Replacement of cords or electrical components: If supply cord is damaged, it must be replaced by a special cord or an assembly available from the factory.

## PARTS LIST



Key	Description	Part No.	Qty
1	Shaft Exit Guide	9992-1180	1
2	Feed Unit Assembly	9992-5200	1
3	Shaft & Casing	9724-9045	1
4	Reel Drum Assembly	9992-4200	1
5	Feeder Gun Assembly	9992-3100	1
6	Drive Unit Assembly	9992-5100	1
7	Frame Assembly	9992-1100	1
8	Control Cabinet	9992-2100	1

## TROUBLE-SHOOTING

PROBLEM	CAUSE & SOLUTION
<b>No power or E-Stop (when pressed) not lit up when unit is first plugged into power outlet</b>	E-Stop not activated (not Pressed) —press E-Stop to activate GFCI Plug not reset —press reset button on GFCI GFCI Plug defective Power cord defective
<b>Power up but motor not turning when activated</b>	E-Stop is activated (Pressed) —release E-Stop by turning it Blown Fuse —replace fuse #1 Defective motor Defective wiring in unit
<b>Motor running but Flexible Shaft not turning</b>	Broken Safety Coupling Broken Shaft Cable
<b>Motor running but no water output at end of Flexible Shaft</b>	Water supply not turn on Defective Solenoid Valve
<b>Flexible Shaft turning but not feeding out</b>	Jamming at feed wheel Broken belt Brush head is jamming inside the gun
<b>Motor running and water drips inside unit</b>	Worn Teflon seal inside Motor Connector Leakage in tube or tube fittings
<b>Unit running rough and/or noisy</b>	Lack of lubrication in Motor Connector —grease ball bearings inside Motor Connector through grease fitting through access hole in bottom of unit —replace worn or corroded ball bearings in Motor Connector
<b>Brush goes over the taught distance</b>	To many pulsing while teaching —Come out of teach mode, go back to home position and re-teach.
<b>Brush pulls back into gun and teach light comes off</b>	Sensor is skipping the brush head —Make sure the brush attachment is in place —Make sure no wires coming into the gun is cut or broken
<b>Shaft feeds out when motor start is pressed during the initial set-up</b>	Brush is not far enough from the gun's tip —Feed the flexible shaft out 5ft after the gun

**SPECIFICATIONS**

<b>MODEL</b>	<b>WAM-5000-375</b>	<b>WAM-5000-500</b>
<b>VOLTAGE</b>	115	115
<b>FREQUENCY</b>	60	60
<b>HORSEPOWER</b>	1	1
<b>RPM</b>	1725	1725
<b>SELF FEED RATE</b>	4 FT PER SECOND	4 FT PER SECOND
<b>SHAFT &amp; CASING</b>	3/8" O.D.	1/2" O.D.
<b>DIMENSION</b>	41 in x 33 in x 18 in	41 in x 33 in x 18 in
<b>WEIGHT</b>	150 LBS	150 LBS

**LIST OF ACCESSORIES**

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
• Brush Holder	9992-6100	For 3/8" Shaft & Casing
•	9992-6150	For 1/2" Shaft & Casing
• Flexible Shaft Lubricator	9675-0000	
• Safety Shaft Coupling	9600-0102	includes removal tool
• Flexible Shaft & Casing	9722-9045	Shaft & Casing, 3/8in OD, 45ft
•	9724-9045	Shaft & Casing, 1/2in OD, 45ft
• Spiral Brushes	61746-x0xx	(Max. Speed = 1725/min.)
•	62501-x0xx	(Max. Speed = 1725/min.)
• Water Collection Attachment	9992-7000	

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