PICOTE
LIFE FOR PIPES

HAMMERHEAD TRENCHLESS

Distributed by HammerHead Trenchless
www.hammerheadtrenchless.com
www.hammerheadshop.com

MAXI MILLER

MODELS:

MAXI MILLER 12/30

MAXI MILLER 12/30 PLUS

OPERATION & SAFETY MANUAL

⚠WARNING

These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using the machinery.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

Table of Contents

To watch practical demonstration videos, or to download an electronic copy of these Instructions, please visit www.picotesolutions.com. Please note that videos are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

SAFETY INFORMATION

WARNING *This section contains important safety information. Failure to comply could result in serious injury.*

Safety Symbols

Safety symbols are used throughout this manual to draw attention to potential hazards.

Danger risk of serious injury or death by electrocution, follow instructions.

Danger risk of serious injury, follow instructions.

Danger risk of serious injury from rotating parts, follow instructions.

Danger risk of serious injury from hot parts, follow instructions.

Danger do not touch. Risk of injury, follow instructions.

Personal Protective Equipment (PPE)

Always use Personal Protective Equipment when using the Maxi Miller, including suitable overalls / protective clothing & footwear and the following:

Always wear suitable eye protection when using the Maxi Miller to prevent sewage, chemicals or other dust from irritating your eyes.

Always wear suitable ear protection when using the Maxi Miller to prevent any hearing loss.

Always wear suitable cut-resistant gloves when using the Maxi Miller to prevent any hand injuries. Any open injuries or skin irritations should be covered at all times to avoid contact with sewage, chemicals or dust.

Always wear a suitable ventilation mask when using the Maxi Miller to prevent any resin dust or fumes from being inhaled or consumed, which can cause occupational asthma or dermatitis as well as eye irritation.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

GENERAL MACHINE SAFETY WARNING

⚠WARNING *This section contains important safety information. Failure to comply could result in serious injury.*

Always read all safety warnings and instructions. Failure to follow warnings and instructions may result in electric shock, fire and/or serious injury.

SAFETY REQUIREMENTS

⚠WARNING *This section contains important safety information. Failure to comply could result in serious injury.*

1. **Always wear eye and ear protection as well as cut-resistant gloves.** Other personal protective equipment, such as dust mask, gloves and overalls should be worn when necessary. Dust produced when working can be dangerous to your health, inflammable or explosive. Always wear appropriate protective equipment.
2. Make sure the pipe has been opened and ventilated to stop any gases forming in the lateral drain where the work takes place.
3. Always ensure that the machine is fully turned off and unplugged before inspection, maintenance, or installing any accessories to the machine. Always follow the instructions in the Picote Solutions manual.
4. **Before each use** inspect the machine carefully for any potential break or damage. Change damaged parts immediately. It is especially important to check the end of the flexible shaft for any signs of wear and tear, and repeat the process for the outer casing.
5. When in use, it is very important that the machine is stable, laying on its back and on an even surface at all times.
6. **Never leave the machine running unattended**. Always hold the cable when operating the machine.
7. Do not touch tools immediately after use; they may be hot and could burn your skin.
8. If the working environment is extremely hot and humid, or badly polluted by conductive dust, use a GFCI-enabled power outlet to ensure the safety of the operator.
9. Make sure that the job location is well ventilated. Always use a vacuum extraction system in the pipe to remove dust. The operator must wear a dust mask. Water may also be run through the pipe to keep dust under control.
10. Ensure that the ventilation openings on the motor are kept clear when working in dusty conditions. If it should become necessary to clear dust, first unplug the machine. Avoid damaging internal parts.
11. Do not use the machine on any pipes containing asbestos.
12. Never touch rotating parts. Do not stand on the machine.
13. Only use this machine with the accessories and spare parts offered by Picote Solutions. Accessories and spare parts should only be used in the manner intended and as instructed by Picote Solutions.
14. Only operate the foot pedal or OPC as instructed. Never place anything on it in place of a foot.
15. Do not change or touch the controls or wirings of the motor or frequency transformer.
16. Do not extend the shaft by more than one extension (10m/33ft). Only use shaft extensions and connectors manufactured by Picote Solutions.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

⚠WARNING *This section contains important safety information. Failure to comply could result in serious injury or death.*

TRANSPORT

Maxi Miller should be transported in car or other vehicle laid down and secured with ratchet straps to prevent any sudden movements or accidents caused by hard braking or accident.

Never transport machine with tool attached to the shaft.

If using pick-up or trailor to transport Picote milling machines, cover the unit to protect it from raining water and dust.

STORAGE

Maxi Miller should be strored under cover in between +10 °C to +40 °C (50 °F to 104 °F). It is recemmended that milling machines are stored indoors protected from rain and sunlight and in constant temperature. Best way to store the machines is in the same box that the machine has been shipped.

If Maxi Miller will be stored in colder environment than +10 °C (50 °F), the milling machine should be stood at room temperature for 24hours before use.

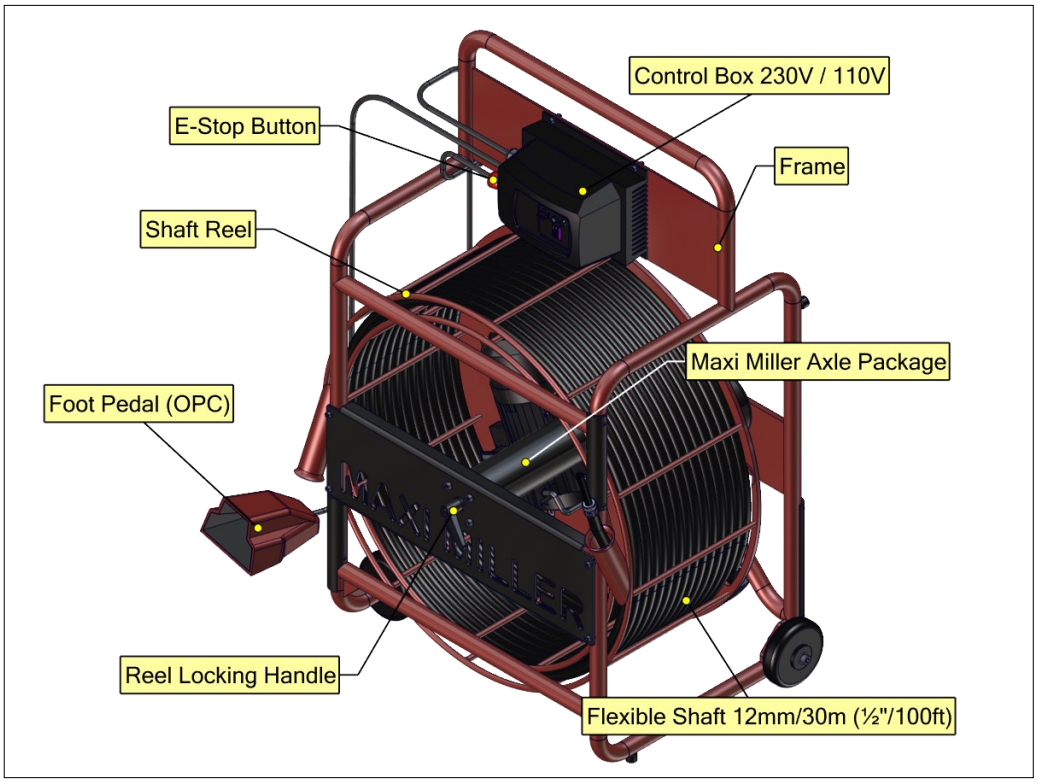
If Maxi Miller has been stored for long periods of time (over 2-3 months), it should be checked and tested according to maintence program before use.

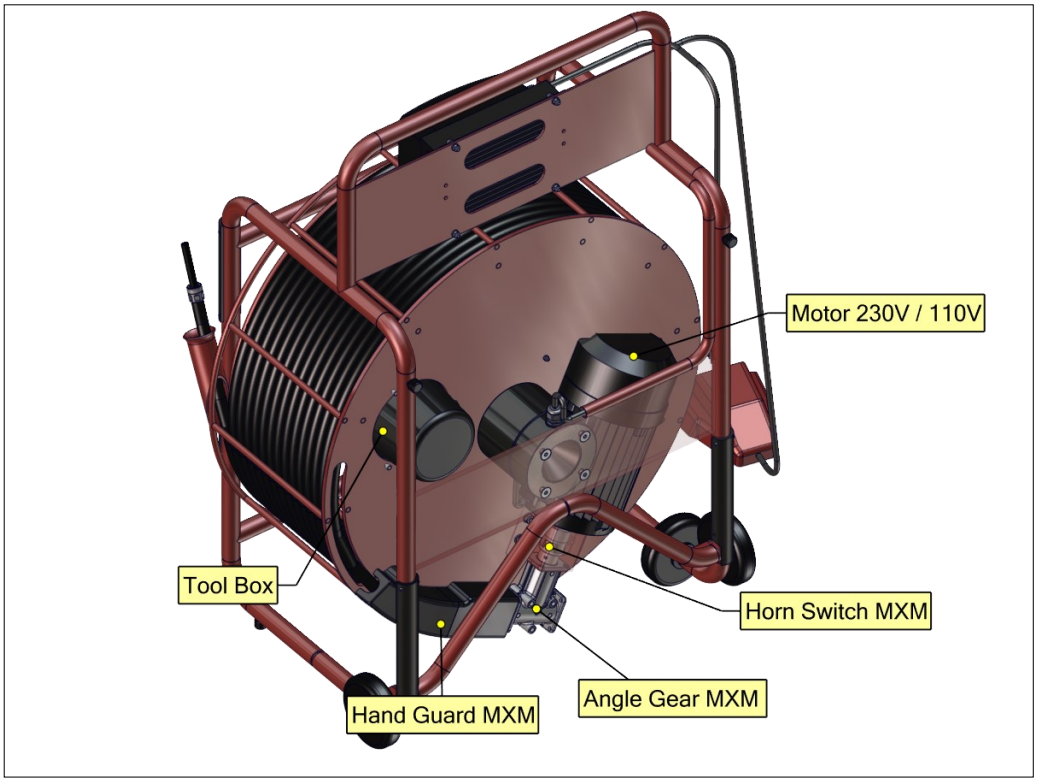
DISPOSAL

Maxi Miller motor, control box, electric wires and axle package including slip ring can be disposed in Europe at Waste Electrical and Electronic Equipment (WEEE) collection points. Miller frame, reel and shaft can be recycled in metal waste collection points. Outer casing of the shaft can be disposed of as plastic waste.

Always follow the local waste handling rules and regulation.

GENERAL INFORMATION





When in use, always lay the machine down horizontally on the floor. When not in use some non-hazardous Picote Flexible Shaft Lubricant might leak from the hand guard.

Picote Maxi Miller 12/30

TECHNICAL DATA

Size (mm/inches)	Shaft (mm/inches)	Range (m/feet)	Diameter (mm/inches)	Rotating speed (rpm)	Output (w)	Power Source	Weight (kg/lb)	IP Class
1150x854x489 45x34x19	12/½" with thick casing*	30/100	*DN75-250 *3-10	500-1500	120V: 1.13kW 230V: 1.5kW	Electric Motor	89/196	54

*diameter with 12mm/½" thick outer casing

Note: The Maxi Miller Model 12/30 Plus is supplied with a separate control panel, which is detached from the machine and can be positioned up to 5 metres away from the machine.

INTENDED USE

This machine is intended for the following uses;

1. Cleaning and unblocking pipes, drains and sewers by grinding.
2. Descaling pipes
3. Reinstating branches in sewers and drains by drilling and grinding.
4. Cutting excess length of cured linings.
5. Removing concrete deposits.
6. Removing metallic inserts.
7. Removing deformed or collapsed CIPP linings.
8. Internal pipe coating using the Picote Brush Coating System™ and the Maxi Coating Pump.

Always follow the Picote Solutions instructions when installing and using the machine with accessories.

AVAILABLE TOOLS:

Original Chain	Cyclone Chain	Original PVC Chain
Cyclone PVC Chain	Smart Spider	Mini Sweeper
Twister Mini	Twister Express	Twister
Special Drill Head	Twister Metal Grinder	Twister Liner Remover
Twister Concrete Remover	Smart Cutter™	Wire Brush
Coating Brush	Twister Cleaner	

Please check Picote Solutions Quick Cleaning Guides and Tool Manuals for more detailed information.

DIGITAL CONTROL BOX

<u>Parameters of your Maxi Miller have been pre-set by the manufacturer</u>.

Picote Solutions accepts no liability for failures or accidents caused by tampering with or changing of the manufacturer settings. The control box has been pre-programmed and requires no additional adjustments.

Opening the box or changing the factory settings may cause damage and will void the warranty.

The Navigate button (2) can be pressed to see the rotational speed (rpm), the amount of current sent to motor (A), power generated in motor (kW) and power frequency of motor (Hz).
Do not hold the button down continually.

TROUBLE SHOOTING

The control box of the Maxi Miller will show fault codes according to different problems which the machine may encounter during use. **Please check from the list below the most common fault codes of the Maxi Miller control box. If a code other than those shown below is received, or if the fault does not correct, please write down the error code and contact your reseller.**

Fault Code	Description	Suggested Cause
no-F$_L$t	No Fault	Not required
0-1	Output over current	Instantaneous over current on the drive output. Excess load or shock load on the motor. Note: Following a trip, the drive cannot be immediately reset. A delay time is inbuilt, which allows the power components of the drive time to recover to avoid damage.
1 _t-trP	Motor thermal overload	The drive has tripped to prevent damage to the motor. Try not to overload motor. Ensure sufficient cooling air is free to circulate around the motor and that the entry and exit vents are not blocked or obstructed.
P5-trp	Power stage trip	Check for short circuits on the motor and connection cable.
0-volt	Over voltage on DC bus	Check the supply voltage is within the allowed tolerance for the drive.
U-volt	Under voltage on DC bus	The incoming supply voltage is too low. This trip occurs routinely when power is removed from the drive. If it occurs during running, check the incoming power supply voltage and all components in the power feed line to the drive.
0-t	Heatsink over temperature	The drive is too hot. Check the ambient temperature around the drive is within the drive specification (+50°C/+122F) . Ensure sufficient cooling air is free to circulate around the drive. Increase the panel ventilation if required. Ensure sufficient cooling air can enter the drive, and that the bottom entry and top exit vents are not blocked or obstructed.
U-t	Under temperature	Trip occurs when ambient temperature is less than -10°C/+14F. Temperature must be raised over -10°C/+14F in order to start the drive.
E-trip	External trip	Normally closed contact has opened for some reason. Check if the motor is too hot.
FLt-dc	DC bus ripple too high	Check incoming supply phases are all present and balanced.
P-L055	Input phase loss trip	Check incoming power supply phases are present and balanced.
h 0-1	Output over current	Check for short circuits on the motor and connection cable. Note: Following a trip, the drive cannot be immediately reset. A delay time is inbuilt, which allows the power components of the drive time to recover to avoid damage.
dAtA-F	Internal memory fault (IO)	Press stop-key. If fault persists, consult Picote Solutions.
dAtA-E	Internal memory fault (DSP)	Press stop-key. If fault persists, consult Picote Solutions.
Fan-F	Cooling Fan Fault	Consult Picote Solutions.
0-hEAt	Drive internal temperature too high	Drive ambient temperature too high, check adequate cooling air is provided. Increase the panel ventilation if required. Ensure sufficient cooling air can enter the drive, and that the bottom entry
Out-F	Output fault	Indicates a fault on the output of the drive, such as one phase missing, motor phase currents not balanced. Check the motor and connections.

VOLTAGE & POWER SUPPLY

Ensure that the supply voltage is correct. The voltage of the power source must match the value given on the nameplate of the machine. Machines with a 230V plate can be used in 220V mains and 110V machines in the 120V grid. The machine should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. The machine has been double sealed according to European standards. The power source has to be grounded. The frequency transformer of the motor can cause residual current device to go off. If this happens frequently, change the power source to one without residual current device.

Power plugs

For safety purposes, this machine may be equipped with a specialty plug. If the plug does not fit securely or match the outlet, do not force it — contact an electrician to determine required power supply. Never alter the plug in any way. Use the plug with an extension cord only if it can be fully inserted into the cord's socket. Use the Maxi Miller with a heavy duty extension cord only.

If a power generator is used, insure power rating is sufficient.

220-230V: EU Schuko 230V 16A. Power cable lead minimum thickness 2.5mm^2

110-125V: The Maxi Miller is equipped with a 30 amp (125V) twist-lock type plug. Power cable lead minimum thickness 4mm^2 / 10 AWG. The Maxi must be supplied with sufficient power and proper current rating. A minimum of 30 amps are needed to operate it safely and efficiently. When used with an extension cord, the cord must be a 3 prong, 30amp (125V). If power generator is used, minimum 3 kW required. Adapters may be necessary for generator connections. Contact your reseller or Picote technical support for more information.

AUSTRALIA/UK: Maxi Millers in these regions have specialty plugs.

Australia: CEE 16A 230V colour blue. Power cable minimum lead thickness 2.5mm^2.

UK: UK Plug BSEN 60309 32A 110V colour yellow. Power cable lead minimum thickness 4mm^2. Maxi requires a transformer to comply with the site power regulations and safe usage in UK. For example: 3.3KVA Site Transformer 1 X 32AMP outlet 110V.

SAFETY FEATURES

There is a safety gear with a Lock/Emergency Switch Off Button on the machine. The power supply to the motor is cut off when the Emergency Switch Off Button is pushed. Always make sure the Emergency Switch Off Button is pressed or completely unplug the machine when the machine accessories (e.g. Cutter or Grinding Chains) are not inside the drain. It is advisable to lock the machine when accessories are being changed or the machine is going through maintenance.

The machine has an operator presence control or 'OPC'. When the control is not held down, the machine stops. OPC is the most important safety device of the Miller machines. Never place anything on the place of a foot (for example a brick).

NOISE LEVEL & EMISSIONS

⚠WARNING *This section contains important safety information. Failure to comply could result in serious injury or loss of hearing.*

The typical A-weighted noise level determined according to EN60745:

WEAR EAR PROTECTION

Sound pressure level (LpA): 85 dB (A)

Sound power level (LWA): 98 dB (A)

Emissions during actual use of the machine can differ from declared values depending on the ways that the machine is used. Safety measures to protect the operator should be determined by actual conditions, taking into account all aspects of the operating cycle (such as when the machine is switched off and when it is running idle).

Due to continuing product development, the specifications herein are subject to change without notice.

VIBRATION

Hand vibration levels depend on the tool head distance to user and working conditions. Vibration levels in here have been measured during normal lining work activities at working site in Finland. Vibration has been determined according to ISO-5349 and EU-directive 2002/44/EG. In table above are shown safe daily exposure time for user.

Exposure Action Value (EAV) 2,5 m/s^2

Exposure Limit Value (ELV) 5,0 m/s^2

Tooling	Working Distance	EAV	ELV
Twister DN100 / 4”	2m / 6.6ft	Over 24h	Over 24h
Twister DN100 / 4”	12m / 39.4ft	13h 25 min	Over 24h
Original Cleaning Chain DN150 / 6”	0-2m / 0-6.6ft	1h 33min	6h 11 min
Original Cleaning Chain DN150 / 6”	10m / 32.8ft	3h 14min	12h 57min

CE DECLARATION OF CONFORMITY

We Picote Solutions Oy Ltd as the responsible manufacturer, declare that the following Picote Solutions Oy Ltd machines:

Maxi Miller. Model No: MXM 12/30

Maxi Miller Plus. Model No: MXM12/30 PLUS
are of series production and

Conforms to the following EU Directive:

2006/42/EC

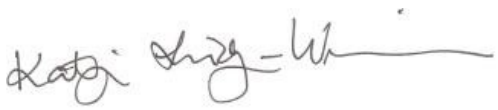
And are manufactured in accordance with the following standards or standardized documents:

EN60745

The technical documentation is kept by our authorised representative in Europe who is:

Picote Solutions Oy Ltd, Urakoitsijantie 8
06450 Porvoo, Finland

1st June 2017



Katja Lindy-Wilkinson
C.E.O.
Picote Solutions Oy Ltd
Urakoitsijantie 8, 06450 Porvoo, Finland

OPERATING INSTRUCTIONS

Before operation:

⚠WARNING

- Before installing Picote tools, always make sure that the machine is fully turned off and unplugged.

- Always round off the sharp edges of the shaft to avoid cuts and to make it easier to insert the shaft into the tool to be used.

- Check that there is the correct length of flexible shaft (without its plastic casing) at the end of the flexible shaft and that all screws have been loosened so that the shaft can be easily inserted inside the tool. Position the shaft inside the tool, as far as it will go, and tighten the screws. **Consult accessory manuals (for example cutters & grinding chains) for detailed information.**

Always check that the tool is set to rotate in the **clockwise direction**. Due to its fabrication, the natural & intended rotational direction of the shaft should be clockwise so that the torque is at its optimum.

DO NOT ROTATE THE CABLE IN REVERSE UNDER LOAD!

While in operation:

- Always lay the machine down horizontally on the floor. During drilling, grinding and cutting processes, always use a separate vacuum extraction system or run water in the pipe to remove dust.

STARTING & USING THE MACHINE

⚠WARNING *This section contains important safety information. Failure to comply could result in serious injury.*

1. Check the rotational direction of the shaft and the rpm. The rotational direction is checked in the control box (forward or reverse). The control of the rotational speed is also located in the gear box. The rotational speed increases when the speed control is turned clockwise.
2. Place the tool inside the pipe.
3. Turn on the power switch.
4. Release the Red Emergency Switch Off Button.
5. The machine starts when the OPC foot pedal is pressed down. Always hold the flexible shaft firmly while operating the machine.
6. Rotating the tool makes it easier to move the tool forward inside the pipe.
7. The machine has an operator presence control or 'OPC'. When the control is not held down, the machine stops. The machine can also be stopped by pushing the Emergency Stop Button down, rotating the power switch to **O** or unplugging the machine.
8. The lifespan of the shaft outer casing can be prolonged by using a Sleeve Bearing designed for the outer casing.

Display messages

There is a display on the frequency transformer. The following messages may occur:

Stop The Maxi Miller is ready and waiting for OPC activation

. . . . The Maxi Miller is using more current than nominal current

E-trip The Maxi Miller is overloaded to the point that the power will be cut off momentarily. Lift your foot off the pedal and press the pedal down again to continue. Avoid overloading the motor.

MAINTENANCE PROGRAM

	Months			
Maintenance task	3	6	12	24
Tightness of motor fixing			I	I
Alignment of motor & gear box			I	I
Condition of frame			I	I
Condition of wheels & rubber bushes			I	I
Condition of control box			I	I
Condition of electric cables	I	I	I	I
Condition of electrical connections	I	I	I	I
Lubricate Shaft	P	P	P	P
Operation of E-Stop	I	I	I	I

I: Inspect, fix or replace if needed.
P: Perform, replace if needed.
R: Replace

WARRANTY PERIODS

Picote Solutions grants limited warranty for certain machines, equipment & components. Read more detailed information on page 20 Picote Warranty Policy and Procedure.

Service Period	3 months	6 months	1a
A			
B			
C			

A Milling machine & spare parts, except
B Electric motors
C Service Centre repair work

MAINTENANCE

⚠WARNING **Before performing any maintenance always check that the machine is fully turned off and unplugged.**

1. Carefully inspect the flexible shaft and its casing on a regular basis to ensure that there are no signs of wear and tear. Change the flexible shaft and casing as and when required.
2. For safety and efficiency, always keep the machine and its motor, drive unit, ventilation and cooling slots clean.
3. Check that the screws for the shaft socket are securely tightened.
4. Check that all the bolts and screws on the machine are securely tightened.
5. It is recommended that the oil in the motor and angle gear should be changed about every 12 months. Only use regular oil developed for gearboxes. See oil change instructions on page 13.

SERVICING THE FLEXIBLE SHAFT & ITS OUTER CASING

The flexible shaft is pre-treated with Picote Flexible Shaft Lubricant and the casing replaced prior to shipping. Always inspect the condition of the shaft and its outer casing regularly. Also, inspect at least every fifth working day that the shaft is properly attached under the hand guard at the machine end. If the shaft appears to have gaps between the windings from the beginning to the end, the entire shaft will need to be replaced.

Lubricant can be added between the flexible shaft and its outer casing when the shaft is removed from the machine. In order to add lubricant the cable needs to be removed from the reel. The shaft needs to be taken out from outer casing about 1–1,5m (3-5ft) and oil needs to be added on the other side inside the cavity. No more than 50ml/50g/1.5oz will be required for the entire shaft. Too much lubricant can cause strain on the cable. After lubricant is poured, the free shaft end should be pushed through the outer casing. The shaft will push the lubricant evenly inside the outer casing. Connect the shaft to the machine and rotate with low rotation speed so shaft will push excess lubricant outside. Use a mat to protect the work area under the machine to prevent damage to floors.

Keeping the shaft well lubricated will prolong its lifespan and decrease the friction caused by the shaft when it turns around. Lower friction will decrease the load on the motor.

If preferred, the shaft can be taken out of its outer casing for lubrication.

Appropriate oil to use: Picote Flexible Shaft Lubricant (available from your reseller)

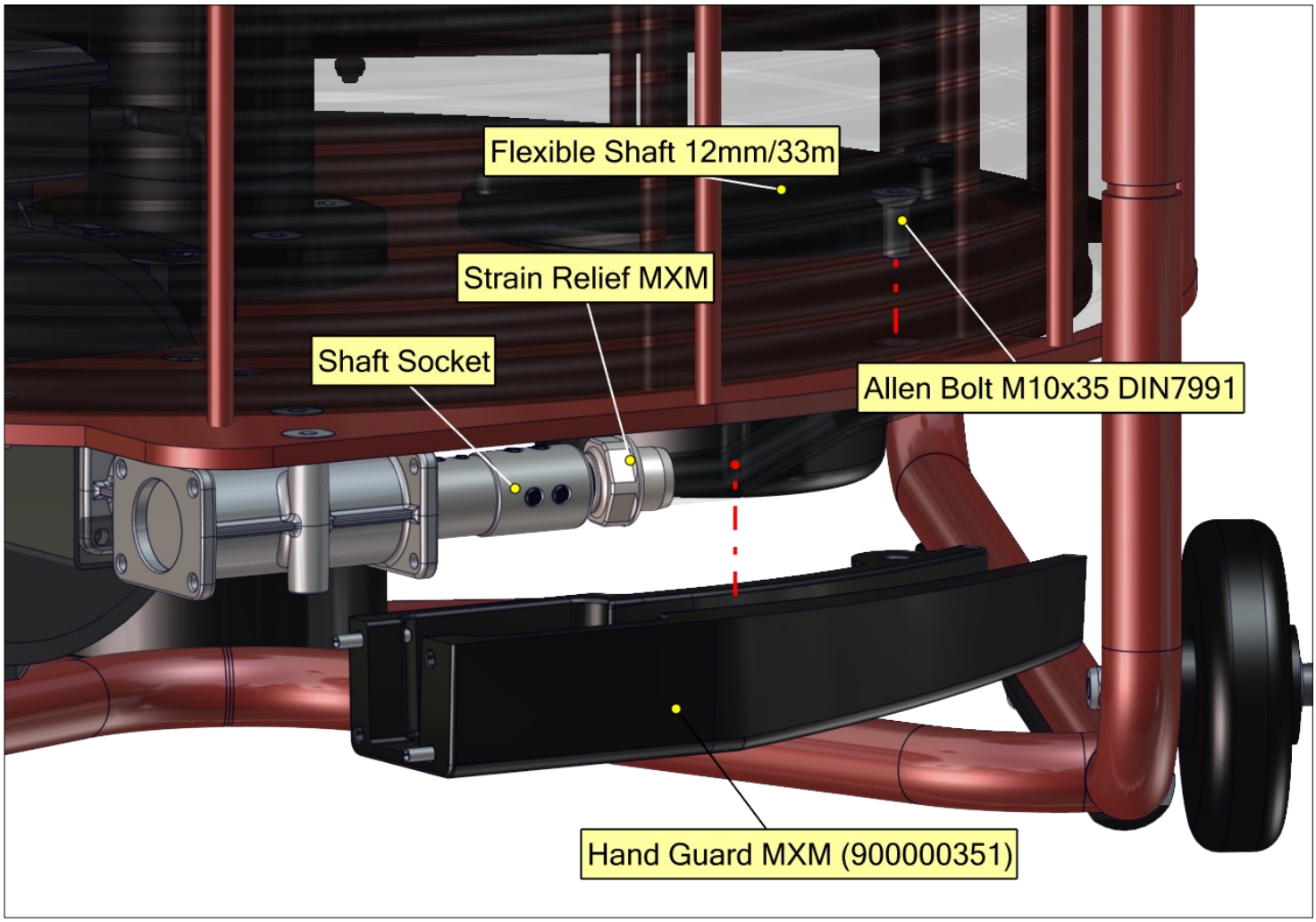
CHANGING THE FLEXIBLE SHAFT

Only use the shaft and its outer casing specified by Picote Solutions. Order the replacement shaft from your reseller. The flexible shaft is pre-treated with Picote Flexible Shaft Lubricant and the casing replaced prior to shipping.

1. Loosen the bolts holding the hand guard and remove the hand guard.
2. Loosen the screws in the shaft socket that hold the shaft. Remove strain relief. Pull the old shaft out of the machine.
3. Insert new shaft. Before inserting the shaft inside the shaft socket, add strain relief. Verify that the shaft goes all the way to the end. Tighten the screws.
4. Mount the hand guard. Tighten the bolts.

Look at the assembly under hand guard from below.

ASSEMBLY UNDER HAND GUARD



FLEXIBLE SHAFT EXTENSION

Flexible extension shafts are available for the Maxi Miller in lengths of 10 metres (33ft). **Do not** extend the shaft by more than **one** extension and **only** use a Picote Solutions shaft extension and connector.

Before attaching or removing the shaft extension always make sure that the machine is fully turned off and unplugged.

1. Machine as far as possible with the flexible shaft before fitting the extension.
2. Remove the flexible shaft from the pipe.
3. Push the extension down the pipe and then connect onto the existing flexible shaft using a shaft connector.
4. You can then carry on working.

Note: for vertical pipes connect the extension onto the existing flexible shaft before pushing the extension down the pipe.

CHANGING OIL IN THE ANGLE GEAR

The oil should be changed after every 3000 hours of use or 12 months.

1. Dismount the gear guard and the hand guard.
2. Take the shaft socket off of the shaft.
3. Loosen the bolts holding the angle gear.
4. Pull the angle gear away from the motor following the axle of the motor.
5. When the angle gear has been dismounted, loosen the oil screw (there is only one screw on the gearbox).
6. Pour the old oil out and add the new oil.
7. Reassemble the bevel gear by repeating the previous steps in reverse order.

Appropriate oils to use: Shell omala 100 or Agip blasia 100 or Tamoil ep 100

Amount of oil: 0,042 kg / 1.4815 oz

Window of change: after every 3000 hours of use or 12 months.

In case there is problem that you cannot solve using this manual, please consult your reseller or Picote Solutions.

ACCESSORIES

⚠WARNING You must use only the Picote Solutions accessories and attachments with the machine described in this operations manual. The use of other accessories or attachments could present a risk of injury or death. The accessories or attachments should only be used in the proper and intended manner. Always follow Picote Solutions' instructions.

MAXI MILLER

3560032012	Maxi Miller 12/30
3560042012	Maxi Miller 12/30 Plus, control box with 5m cord. Special order only with longer lead time.
3560032012US	Maxi Miller12/30 110V
3560042012US	Maxi Miller 12/30 Plus, control box with 5m cord. Special order only with longer lead time.

MAXI COATING PUMP

2220200000	Maxi Coating Pump 230v - includes 10x Pumping Hose with Hose Connectors, 10x Resin Cup & 2x Hose Clamp 16mm
2220200001	Maxi Coating Pump USA 110V - includes 10x Pumping Hose with Hose Connectors, 10x Resin Cup & 2x Hose Clamp 16mm

SPARE PARTS

1312021125033	Maxi Miller / 12mm Shaft Thick Casing / 33 metres
1312021125010	Flexible Shaft 12mm Thick Casing / 10 metres
1313002125	Shaft Connector 12mm/12mm
93212322125	Sleeve 2 Plastic 12mm thick
9560000034	Strain Relief Maxi Miller
1350000020	Picote Flexible Shaft Lubricant 0.5 liters
1350000021	Picote Flexible Shaft Lubricant Package, includes 6 bottles

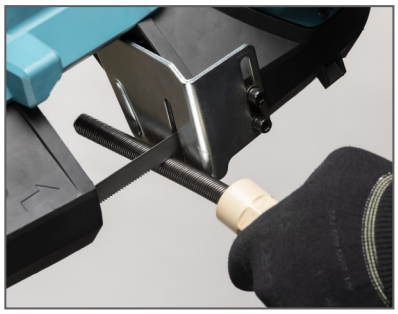
ADDITIONAL TOOLS

1100400001	Bearing Cleanser
1350000005	Pliers
1350000007	Cutter for Steering Wire
1350000018	Shaft Rounder
1350000006	Sheath Cutter 1
1350000011	Sheath Cutter 2 (Shaft inside outer casing)
1350000012	Cutter for Side Grinding Panels
1350000008	Hex Key 4mm
1350000009	Hex Key 3mm
1350000010	Hex Key 2.5mm
1350000013	Combo Hex Key 1-6mm
1350000001	Wrench 8mm

PRACTICAL TIPS & SAFETY ADVICE

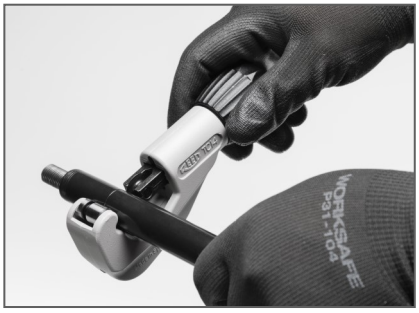
Here are some useful tips on how to get the most out of your Picote system. Always use the recommended tools for maintenance to avoid personal injury.

CUTTING THE FLEXIBLE SHAFT



Always inspect the flexible shaft before each use. If there are potential weak points or the shaft is damaged, cut off the damaged length using a band saw.

CUTTING THE OUTER CASING



Always inspect the outer casing before each use. Easiest and safest way to shorten the outer casing to the correct length is using sheath cutter. Only the needed amount of bare shaft should be exposed in all times.

SHAFT ROUNDER

The shaft rounder smooth's the end of the flexible shaft, preventing the user from being cut by the otherwise sharp metal edge .

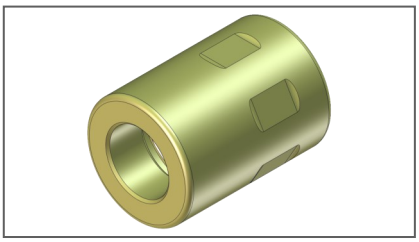
ATTACHING A SHAFT SOCKET

Feed the shaft through the socket to the end and **securely fasten**. The outer casing should reach all the way to the base of the shaft socket to protect the shaft.

PRACTICAL TIPS & SAFETY ADVICE

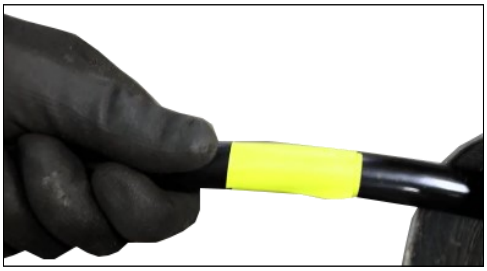
Here are some useful tips on how to get the most out of your Picote system.
Always use the recommended tools for maintenance to avoid personal injury.

SLEEVE BEARING



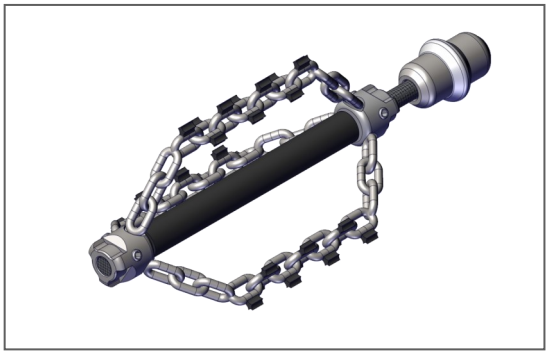
Always use Sleeve Bearing when using Maxi Miller. It prolongs the lifetime of the flexible shaft and prevents the outer casing from melting in the tool end. Sleeve bearings can be re-used when outer casing is shortened.

ADDING A VISUAL MARKER FOR SAFETY



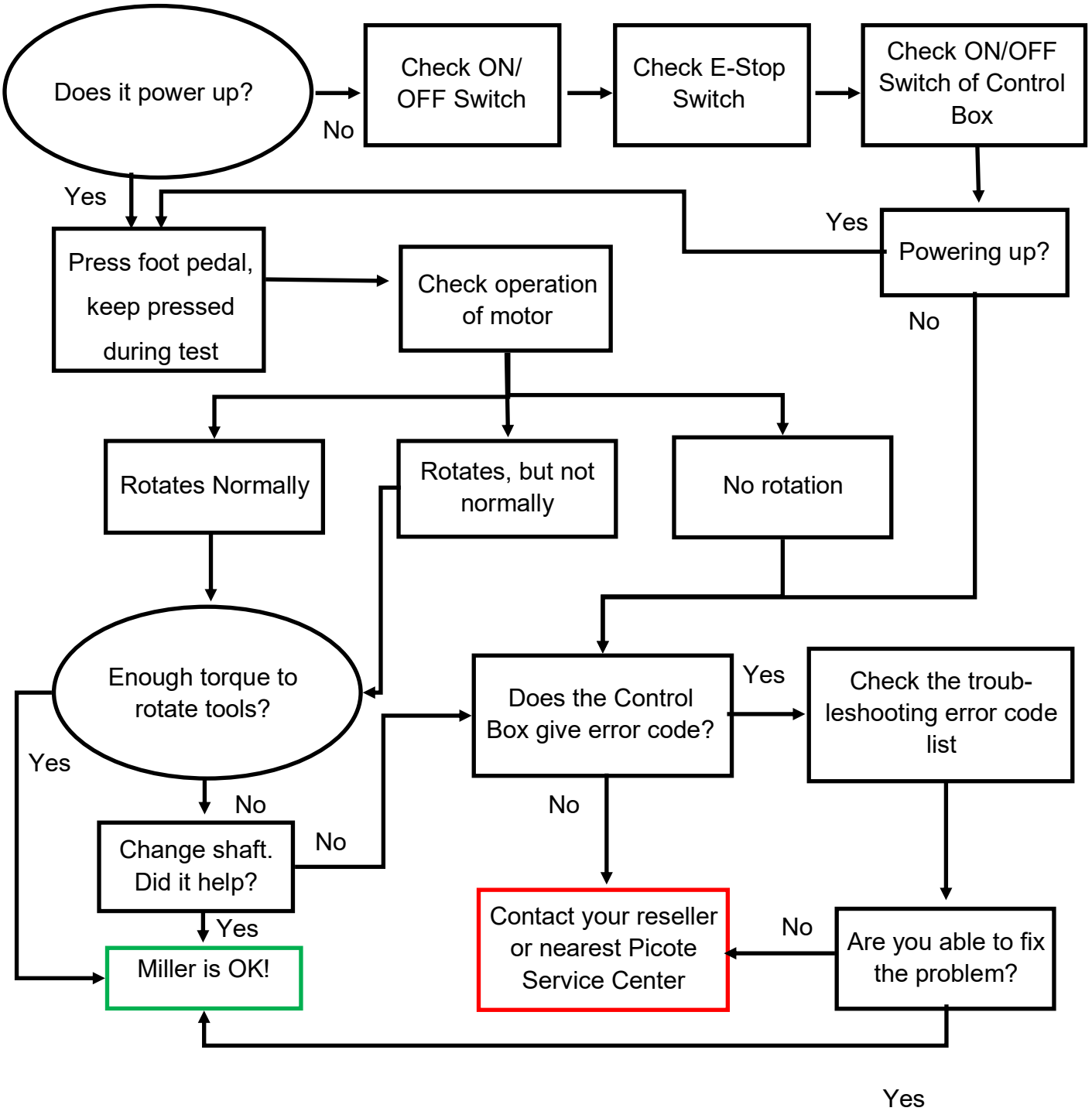
Attach a visual marker (tape) to the outer casing of the flexible shaft. Place it around half a meter from the end point of the shaft. The mark will indicate the tools location and prevent possible injuries when the tool is removed from the pipe, including injury by rotating parts.

CREATING LEADERS



You can extend the life of the flexible shaft and increase productivity on site by making individual leaders for the most commonly used tools. This way you easily and quickly switch between tools.

Trubleshooting Flowchart—Maxi Miller



Write down the Error Code flashing on the screen of Control Box if needed to contact the Picote Service Centre. The Error Code narrows down the list of possible problems with your Miller unit.

If there is problem that you cannot resolve with this manual, please consult your Picote Reseller or Picote Solutions.

WARRANTY POLICY AND PROCEDURE

Limited Warranty:

Picote warrants to the original End User that the Product purchased by such End User will operate in accordance with and substantially conform to their published specifications when shipped or otherwise delivered to the End User and for a period of one (1) year, except electric motors for which the warranty period shall be six (6) months, provided, however, that Picote does not warrant any claim or damage under this

Warranty if such claim or damage results from:

1. Consumable parts or normal wear and tear resulting from use of the Products,

2. Product overload or overheated motor,

3. Regular periodic maintenance of Products,

4. Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,

5. Products that have been altered, modified, repaired, opened or tampered with by anyone other than Picote or an authorized Picote Service Centre, or unsuitable or unauthorized spare parts, accessories or third party products when using the Products or;

6. the use of the Products not in compliance with their respective Documentation, user manuals, safety and maintenance instructions, and any usage restrictions contained therein, or

7. accident, fire, power failure, power surge, or other hazard.

Otherwise, the Products are sold AS IS. End User is responsible for using the Products within their specifications and instructions as contained in the Documentation.

EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose.

Revision number: Rev. 4

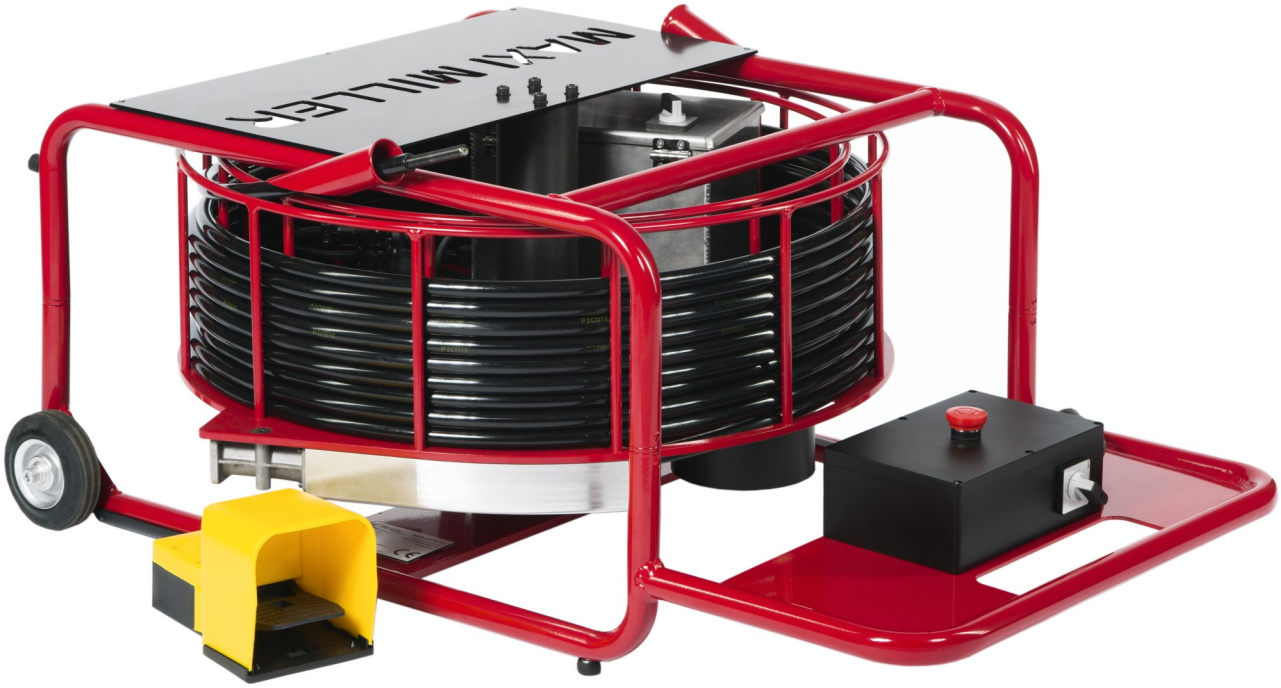
Date: 20 SEPT. 2019

Author: Mikko Långvik

Accepted: Dawn Greig

Please Contact:
Your Reseller / Salesperson or Picote

www.picotesolutions.com



International Offices

Finland. United Kingdom. USA.

Dawn Greig
Global Business Development & Creative Director
+44 7585116508
dawn@picotesolutions.com

Anthony DeCavitch
Global Sales Director
+1 219 440 1404
tony@picotesolutions.com

Technical Support

Jake Saltzman
World Wide Technical Director
+1 706 436 1892
jake@picotesolutions.com

Richard Swan
Head of Technical Client Services
+44 (0)7827 223237
richard@picotesolutions.com

Production & R&D

Raudoittajantie 4
06450 Porvoo, Finland
support@picotesolutions.com

Distributed by HammerHead Trenchless
www.hammerheadtrenchless.com
www.hammerheadshop.com