



# BATTERY MINI 8/16

BATTERY MINI MILLER 8/16 | BATTERY MINI MILLER +C 8/16

## 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.***

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SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

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To watch practical demonstration videos, take a course, or to download an electronic copy of these Instructions, please visit [www.picoteinstitute.com](http://www.picoteinstitute.com). Please note that videos and courses are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

# SAFETY INFORMATION

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

### **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, 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 including suitable protective clothing, footwear, plus:



Suitable eye protection to protect against sewage, chemicals or dust from irritating eyes.



Suitable ear protection to protect against hearing loss.



Suitable heat and cut-resistant gloves to help prevent any hand injuries. Any open injuries or skin irritations should always be covered to avoid contact with sewage, chemicals or dust.



Suitable respirator to prevent any dust or fumes being inhaled or consumed, which could cause occupational asthma or dermatitis.

# GENERAL MACHINE SAFETY INFORMATION

## 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.*

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



1. **Always wear eye and ear protection as well as heat and 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 personal protective equipment.**

2. Make sure the pipe has been opened and ventilated to prevent any gases accumulating.
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 manufacturer's 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 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 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 the Cutter or Grinding Chains immediately after use,** they may be hot and could burn your skin.
8. Make sure that the job location is well ventilated before grinding or drilling. Always use a vacuum extraction system in the pipe to remove dust. The operator must wear a dust mask when using dry grinding to clean pipes.
9. Ensure that the ventilation openings are kept clear when working in dusty conditions. If it should become necessary to clear dust, first unplug the machine. Avoid damaging internal parts.
10. **Do not use the machine on any pipes containing asbestos fibres.**
11. **Never touch rotating parts.** Do not stand on the machine.
-  12. Only use this machine with the accessories and spare parts offered by the Picote Solutions. Accessories and spare parts should only be used in the manner intended and as described by Picote Solutions.
13. Only operate the foot pedal or OPC as instructed. Never place anything on it in place of a foot.
14. **Do not extend the shaft by more than one extension.** Use only Picote Solutions shaft extension and connector.



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

### ENVIRONMENTAL

<b>Operational Ambient Temperature Range:</b>	-10 °C to 50 °C (14 °F to 122 °F) frost and condensation free
<b>Storage Ambient Temperature Range:</b>	-20 °C to 60 °C (-4 °F to 140 °F) frost and condensation free
<b>Maximum Altitude:</b>	2000m or 6500 ft. Derate above 1000m or 3280ft: 1% / 100m or 328ft
<b>Maximum Humidity:</b>	95% non-condensing
<b>Camera Maximum Humidity:</b>	90% non-condensing

### TRANSPORT

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

**Never transport the machine with tool attached to the shaft.** Always retract the camera back to it's housing during transport. If using a pick-up or trailer to transport Picote Millers always suitable cover the unit to protect it from the elements

### STORAGE

Battery Millers should be stored indoors to protect them from rain and sunlight, and also in a constant ambient temperature. The best way to store the machines is using the same box that the machine has been shipped in.

**If the Battery Mini Miller or Battery Mini Miller +C has been stored in an environment colder than +10 °C or 50 °F , the machine should be stood at room temperature for 24 hours before use.**

If the Battery Mini Miller or Battery Mini Miller +C has been stored for long periods of time (over 2-3 months), it should be checked and tested according to the maintenance programme before use.

Charge the machine battery to around 80% before storing for long periods. **NEVER leave the battery unit unattended while it is charging.**

Charge the DVR battery fully before storing for long periods. **NEVER leave the DVR unit unattended while it is charging.**

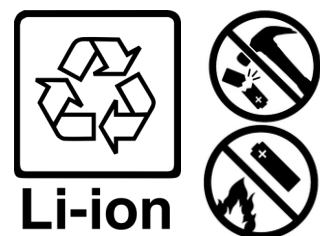
### DISPOSAL

Battery Mini Miller motor, control box, controller box, battery charger, electric wires, axle package including slip ring, camera monitoring box, power supply and camera head can be disposed in Europe at Waste Electrical and Electronic Equipment (WEEE) collection points.

The Miller frame, reel, flexible shaft, camera cable reel and name plate can be recycled in metal waste collection points. Outer casing of the shaft and the camera plastic supports can be disposed of as plastic waste.

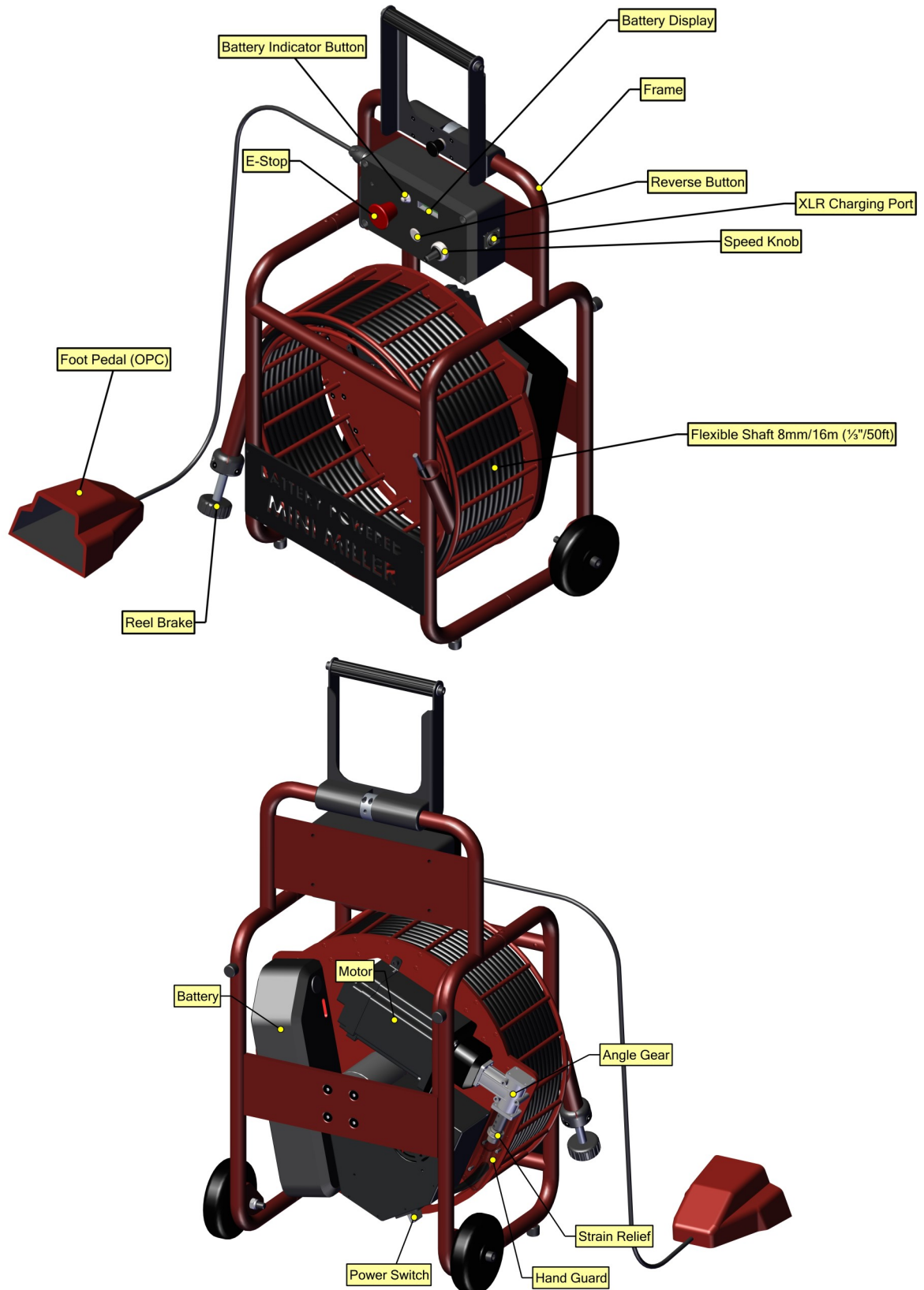
Always follow local waste handling rules and regulations.

Recycle Li-ion batteries according to local regulations. **Do not dispose of in fire! Do not puncture!**



# GENERAL INFORMATION

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE



## **CAUTION**

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

# TECHNICAL DATA

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Size (mm/inches)	Shaft (mm/ inches)	Range (m/ft)	Pipe Diameter (mm/inches)	Rotating Speed (rpm)	Output (W)	Power Source	Weight (kg/lbs)
740x519x404 29"x20"x16"	8 / 1/3"	16 / 50'	DN50-DN100 / 2" - 4" DN50-DN150 / 2" - 6" for cleaning pipes	550-2200	48V:1200	Electric Motor	32 / 60

## INTENDED USE

This machine is intended for the following uses;

1. Cleaning and unblocking pipes, drains and sewers by grinding.
2. Descaling pipes.
3. Opening lateral connections.
4. Internal pipe coating using the Picote Brush Coating™ System and the Mini Coating Pump.

## AVAILABLE TOOLING

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

Original Chains	Cyclone Chains	3D Chains
Smart Cutter™	Nylon Cleaning / Coating Brush	Mini Sweeper
Special Drill Head	Wire Brush	Twister Mini Flexi
Tiger Bore	Tiger Drill Chains	Twister Express
Pipe Cutter		

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

[www.picoteinstitute.com](http://www.picoteinstitute.com)

# VOLTAGE & POWER SUPPLY

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

The Machine is supplied with universal charger with voltage range of 110V AC ~ 240V AC. The charger has a voltage switch at the supply side. Choose voltage based on your location.

Camera power supply can operate with Input: 110V AC ~ 240V AC, Output: 12V DC 1200mA .

The DVR unit has in-built 5200 mAh Li-ion battery (7.4 V).

### CHARGER POWER PLUGS

**220-230V:** EU Schuko 230V 16A.  
UK Plug 230V 13A  
Australia: CEE 16A 230V

**110-125V:** NEMA 5-15 plug.

### SAFETY FEATURES



**The machine is equipped with an Emergency Switch Off Button.** 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 turn off the machine when the machine accessories (e.g. Cutter or Grinding Chains) are not inside a pipe. Always remove the machine battery when performing any maintenance or repairs to the machine.

**The machine is operated by foot pedal (Operator Presence Control or 'OPC').** When the control is not held down, the machine stops. Never place any kind of object on the pedal in place of a foot (such as a brick).

# NOISE LEVELS, VIBRATIONS & EMISSIONS

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE



**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): 90 dB (A)

Sound power level (LWA): 103 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 distance from the tool head to the user and working conditions. The vibration levels below have been measured during normal lining activities at Picote Oy worksites in Finland. Vibration has been determined according to ISO-5349 and EU-directive 2002/44/EG. The table below details the safe daily exposure time for the user depending on tool used.

#### Safe daily exposure time for user:

Exposure Action Value (EAV) 2,5 m/s<sup>2</sup>

Exposure Limit Value (ELV) 5,0 m/s<sup>2</sup>

Tooling	Working Distance m/ft	EAV	ELV
Mini Twister DN50 / 2"	2m / 6.6ft	10h 14min	Over 24h
Mini Twister DN50 / 2"	10m / 32.8ft	Over 24h	Over 24h
Original Cleaning Chain DN50 / 2"	0-2m / 0-6.6ft	9h 42min	Over 24h
Original Cleaning Chain DN50 / 2"	0-15m / 0-49.2ft	16h 42min	Over 24h

# CE DECLARATION OF CONFORMITY

**SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE**

We Picote Solutions Oy Ltd as the responsible manufacturer, declare that the following Picote Solutions Oy Ltd drain cleaning machine:

**Battery Mini Miller**

**Model No: 8/16**

and

**Battery Mini Miller +C**

**Model No: 8/16**

are of series production and

**Conform to the following EU Directive:**

**2006/42/EY**

And is manufactured in accordance with the following standards or standardised documents:

**EN62841-1**

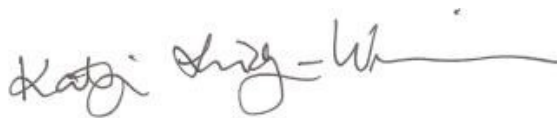
**EN62841-13**

**ISO-5349-1:2001**

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

Picote Solutions Oy Ltd, Pienteollisuustie 24  
06450 Porvoo, Finland

**30th March 2021**



Katja Lindy-Wilkinson  
C.E.O.

Picote Solutions Oy Ltd  
Pienteollisuustie 24, 06450 Porvoo, Finland

# OPERATING INSTRUCTIONS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

## Before operation:

**⚠ WARNING**



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

**⚠ CAUTION**

**Danger**  
Electric shock risk

- Always round off the sharp edges of the shaft to avoid cuts and to make it easier to insert the shaft into the tool or for a leader 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 operating manuals (cutters & grinding chains) for detailed information.**

## 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 drain to remove dust.

## STARTING & USING THE MACHINE

**⚠ WARNING**

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

1. 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 gear to "O" or by removing the battery.
2. Check the rotational speed of the shaft before powering up. The rotational speed control is located on the control box. The rotational speed can be set at speed levels from 1 to 10.
3. Place the tool inside the pipe.
4. Turn on the power switch.
5. Release the Red Emergency Switch Off Button.
6. The machine starts when the OPC foot pedal is pressed down. Always hold the flexible shaft with both hands firmly while operating the machine.
7. Rotating the tool slowly makes it easier to move the tool forward inside the pipe.
8. The lifespan of the shaft outer casing can be prolonged by using a Sleeve Bearing designed for the outer casing.

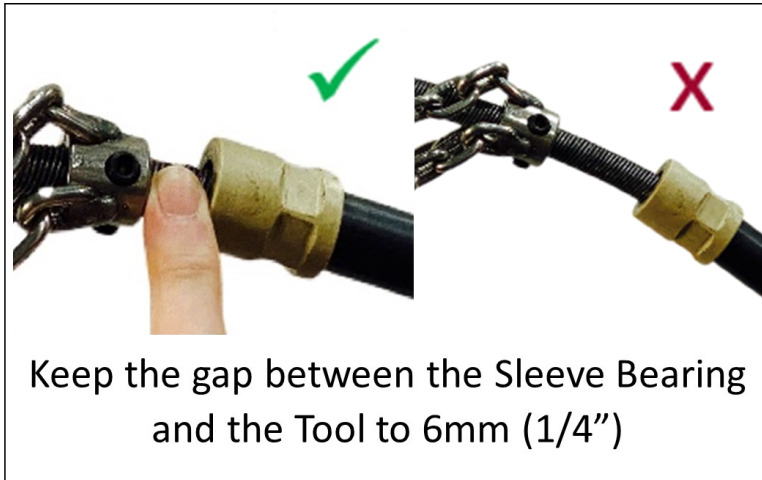
There is an electrical safety clutch in the Battery Mini Miller and Battery Mini Miller +C. If the machine is overloaded the safety clutch stops the motor. The user will notice a "flashing" red light when the motor is becoming overloaded. The light turns solid when the clutch engages. Release the foot pedal, pull the shaft back a little bit and continue working.

**Avoid overloading the motor!**

# OPERATING INSTRUCTIONS

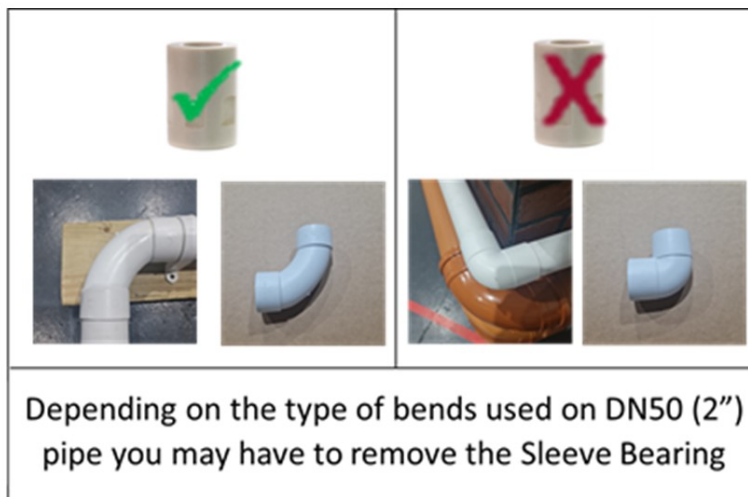
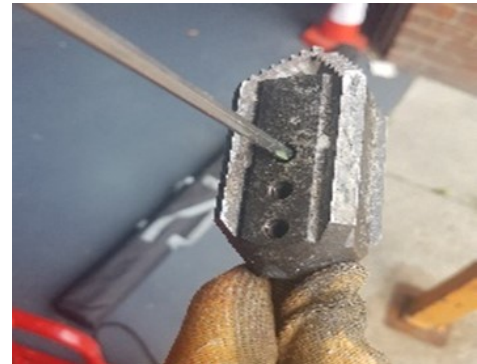
SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

## ATTACHING TOOLS



## TIGHTENING THE SET SCREWS

When you add a tool always tighten the screws starting from the screw furthest away from the end of the flexible shaft (where applicable).



## SLEEVE BEARING INSIDE

### DN50 / 2" BENDS

Depending on the type of bend you may not be able to easily navigate a DN50 / 2" bend unless you first remove the Sleeve Bearing. This is usually the case for tight bends (see examples to the left).

# ROTATION SPEED DIAL

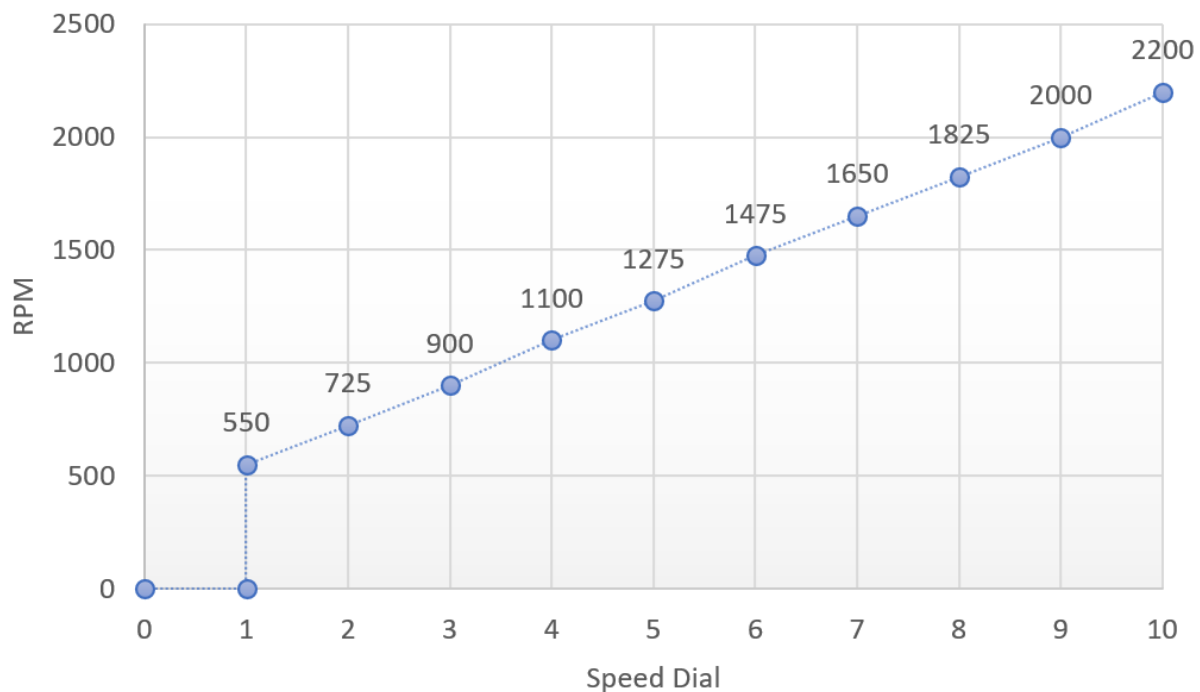
## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

### **⚠ WARNING**

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**Optimal rotation speed of the Battery Mini Miller or Battery Mini Miller +C is dependent on the workload.** Minimum rotation speed is normally best when moving the tool around tight bends. When beginning to work, adjust the speed up to the level which seems to work the best.

The speed dial can be found on the control box (see below image). Set the speed by rotating the knob. Check the corresponding rotation speed from table below.



# MAINTENANCE PROGRAMME & WARRANTY PERIODS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Maintenance task	Months			
	3	6	12	24
Tightness of motor fixing			I	I
Condition of frame			I	I
Condition of wheels & rubber bushes			I	I
Condition of control box			I	I
Vacuum the dust filter on the control box	P	P	P	P
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 Oy Ltd grants limited warranty for certain machines, equipment & components. Read more detailed information on page 28 (Picote Warranty Policy and Procedure).

Service Period	3 months	6 months	1 year
A			
B			
C			

A Milling machine & spare parts, except:

B Electric motors and battery

C Service Centre repair work

### **! WARNING**



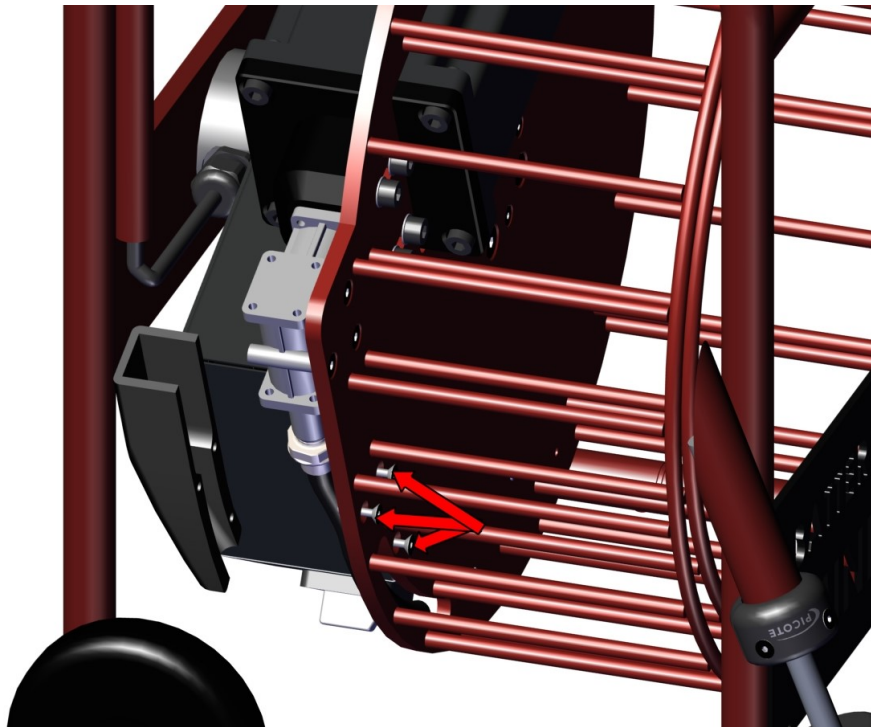
1. Before performing any maintenance always check that the machine is **fully turned off and battery removed**.
2. Always inspect the flexible shaft before each use. If there are potential weak points, or the shaft is damaged, cut off the damaged length using a band saw or replace the entire shaft as needed.
3. For safety and efficiency always keep the machine and its motor, drive unit, ventilation and cooling slots clean.
4. Remove handguard and check that the screws for the shaft socket are securely tightened (weekly check).
5. Check that all the bolts and screws on the machine are securely tightened.

### **CLEANING THE MACHINE**

**Do not pour or spray water on the machine!** Use a damp cloth with mild soap solution to clean the surfaces.

### **REPLACING THE FLEXIBLE SHAFT**

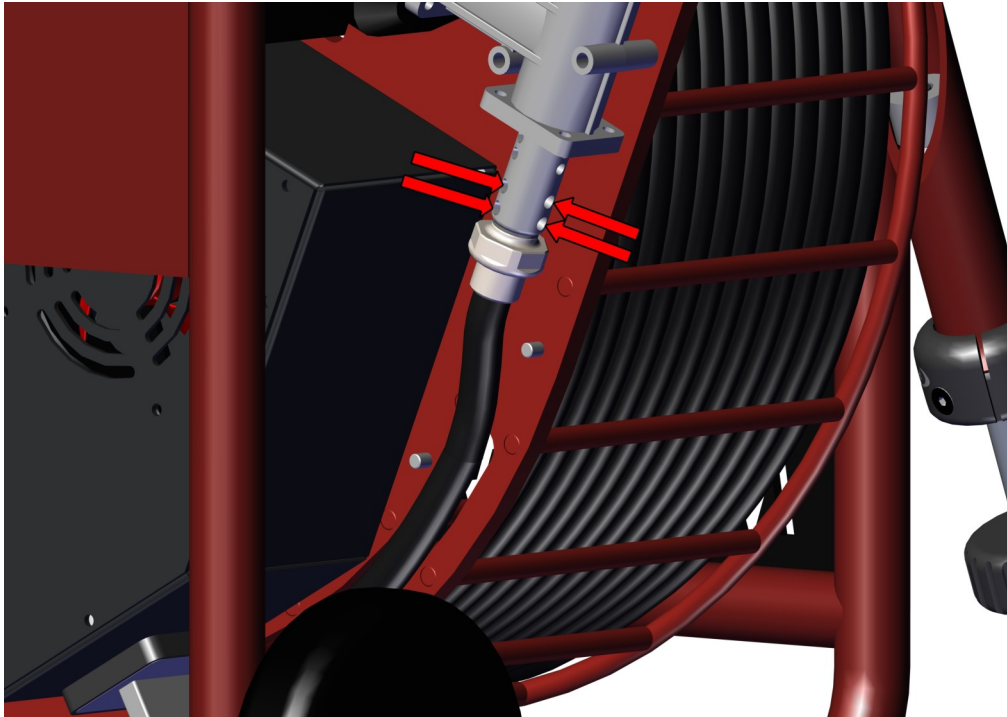
To replace the flexible shaft on the Battery Mini Miller or Battery Mini Miller +C pull out the shaft from the reel and remove hand guard.



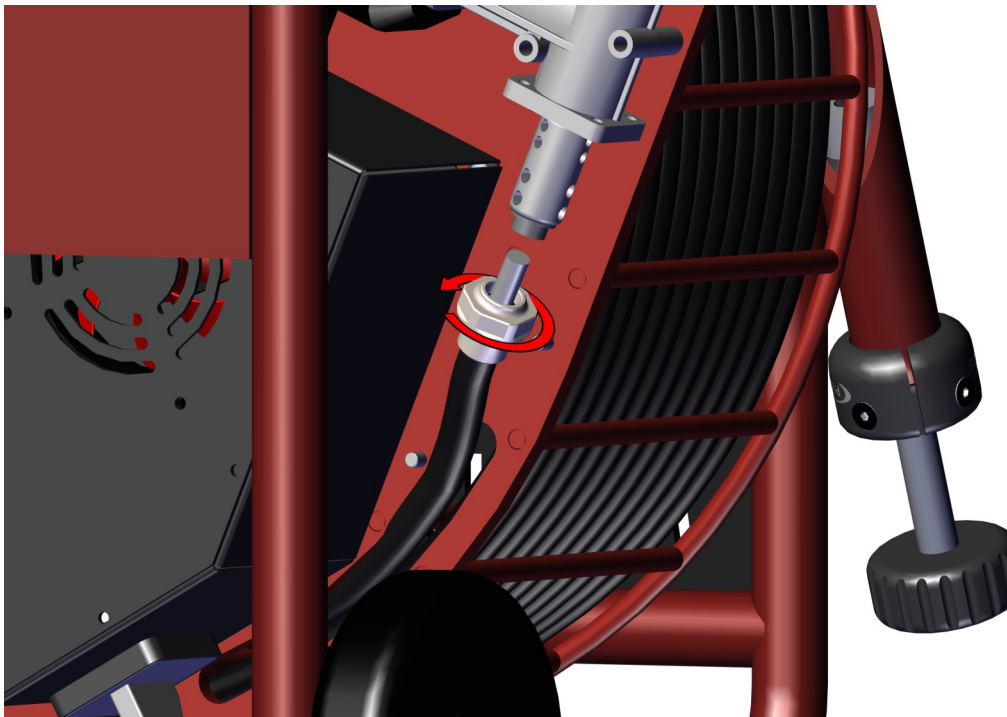
# MAINTENANCE

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Next loosen the set screws on the shaft socket. Pull out the shaft from the socket.



Unscrew the strain relief from the outer casing.



Remove the shaft completely. Reassemble in reverse order.

### 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 once a week that the shaft is well 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 attached to the machine. To add lubricant the shaft has to be disconnected from the clutch and removed from the reel. Around 1 -1.5m (3-5ft) of shaft should be removed from the outer casing, with the lubricant applied to the inside of the casing. No more than **20ml/20g/1oz** will be required for the entire shaft. Too much lubricant can cause a strain on the shaft. After the lubricant has been 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 on a low rotation speed so that the shaft will push excess lubricant to the 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 while it turns round. Lower friction will decrease the burden caused to 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)

### FLEXIBLE SHAFT EXTENSION

Flexible shaft extensions are available for the Battery Mini Miller and Battery Mini Miller +C in lengths of 10 metres (32ft).

**Do not** extend the shaft by more than **one** extension and only use a Picote 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.

**Note:**

*For vertical pipes connect the extension onto the existing flexible shaft **before** pushing the extension down the pipe.*

# ACCESSORIES & SPARE PARTS

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

### **WARNING**

Only use Picote Solutions accessories and attachments with the machine described in this operation 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, and always follow Picote Solutions instructions.

### BATTERY MINI MILLER

3540000817	Battery Mini Miller G8/16	3540001817	Battery Mini Miller +C 8/16 EU
3540000817US	Battery Mini Miller G8/16 110V US	3540001817US	Battery Mini Miller +C 8/16 US
3540000817UK	Battery Mini Miller G8/16 110V UK	3540001817UK	Battery Mini Miller +C 8/16 AU

### SPARE PARTS

1312030085017	Mini Miller / 8mm Shaft Thick Casing / 17.5 metres (57.4ft)
1312030085010	Flexible Shaft 8mm Thick Casing / 10 metres (32ft)
9123050001	Shaft Connector 8mm/8mm
93212321085	Sleeve bearing 8mm
9530000134	Strain Relief Micro/Mini 9/13mm casing
9540004014S	Angle Gear for Battery Mini Miller/Cleaner
9540004013EU	Spare Charger EU for Mini Cleaner & Mini Miller Batteries
9540004013US	Spare Charger US for Mini Cleaner & Mini Miller Batteries
9540004013UK	Spare Charger UK for Mini Cleaner & Mini Miller Batteries
9540004022S	Shaft Socket for Battery Mini Miller/Cleaner
9540004020S	Hand Guard for Battery Mini Miller/Cleaner
9540003015S	Battery Miller Control Box
9540001049S	Electric Motor for Battery Mini Miller/Cleaner
9540004005S	Lower Axle Package for Battery Mini Miller/Cleaner (Inc. Slip Ring)
9590001108S	Foot Pedal with Quick Coupling
9540004012S	Battery Dock for Battery Mini Miller/Cleaner
9990600024PIC	Hand Guard Special Screws
9540003011	Controller Mini Miller
9540004035	Spare High Output Battery
9540004011	Spare Standard Battery
1350000020	Picote Flexible Shaft Lubricant 0.5 liters
1350000021	Picote Flexible Shaft Lubricant Package, includes 6 bottles

# ACCESSORIES & SPARE PARTS

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## ADDITIONAL TOOLS

1350000005	Pliers
1350000018	Shaft Rounder
1350000006	Sheath Cutter 1
1350000011	Sheath Cutter 2 (Shaft inside outer casing)
1350000013	Combo Hex Key 1-6mm
1350000012	Cutter for Side Grinding Panels
1350000008	Hex Key 4mm
1350000009	Hex Key 3mm
1350000010	Hex Key 2.5mm

# PRACTICAL TIPS & SAFETY ADVICE

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

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. Run the machine briefly in a clockwise direction to allow the shaft to return to its resting position. If there are potential weak points or the shaft is damaged, cut off the damaged length using a band saw. For most tools, the shaft should extend approximately 40mm (1 ½") past the outer casing.

NOTE: Hubs and Original chains without a leader require more exposed shaft.

### CUTTING THE OUTER CASING



Always inspect the shaft outer casing before each use. The easiest and safest way to shorten the outer casing to the correct length is using a Sheath Cutter.

Only the necessary amount of bare shaft should be exposed at any time.



### SHAFT ROUNDER



The Shaft Rounder smooths the end of the flexible shaft, preventing the user from being cut by the otherwise sharp metal edge.



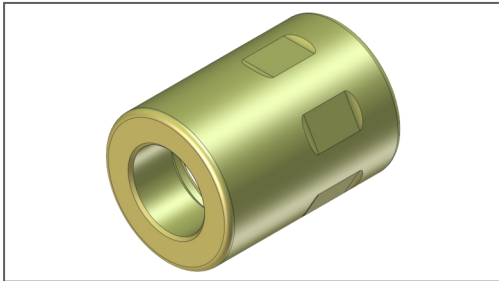
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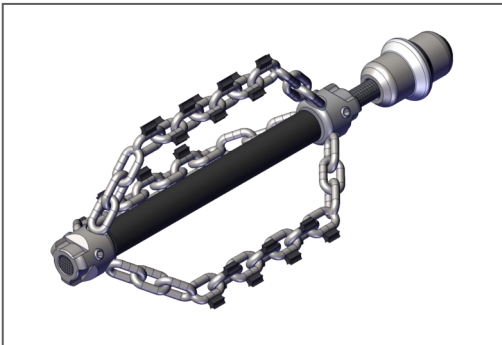


### SLEEVE BEARING



Always use a Sleeve Bearing when working with the Battery Mini Miller or Battery Mini Miller +C. It prolongs the lifetime of the flexible shaft and prevents the outer casing from melting in the tool end. Sleeve bearings can be reused when outer casing is shortened.

### 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 can easily and quickly switch between tools. **Leaders should always be used if the situation permits it.**



### ADDING A VISUAL MARKER FOR SAFETY



If not using a leader, attach a visual marker (tape) on the outer casing of the flexible shaft. Place it around 500mm (20") from the end of the shaft. The marker will indicate the tool location and help prevent possible injury from the rotating parts by alerting you when the tool is about to exit the pipe.



# BATTERY MINI MILLER +C 8/16

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE



**This machine is intended for the following uses:**

1. Tool for inspecting pipes before, during and after work (Navigates through DN50 (2") bends)
2. Working inside pipes; the CCTV is fitted with an integrated Sonde (512hz)

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

### **⚠ CAUTION**

*This section contains operating instructions only for Battery Mini Miller +C camera kit*

### BEFORE OPERATION

1. Before using the +C camera kit, install an SD card into SD card slot.
2. Connect DVR to camera reel with included cable



### STARTING & USING THE MACHINE

#### DVR Icons:

1. SD Card
2. Battery level
3. Image Reverse
4. Image Reverse & Mirror
5. Image Mirror
6. Timestamp
7. LED Brightness
8. Record
9. Meter Counter








# CAMERA FUNCTION GUIDE

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE








## 1. Live video

- Press  to turn on/off the DVR
- Press  to start/stop recording
- Press  to mirror or/and reverse the image
- Press  to adjust the brightness of the camera LEDs
- Press  to take a picture

## 2. Video settings menu

- Press  to enter settings menu
- Use  and  to navigate in the menu
- Press  to confirm the selection
- Press  to exit to exit the settings menu



## 3. Playback menu

- Press  to enter playback mode
- Use  and  to browse through the files
- Press  to confirm the selection and preview media files
- Use  and  to preview previous/next file
- Press  to playback video
- Press  to enter the play settings

## 4. Playing video

- Press  to play/pause the video
- Press  to stop playing the video
- Press  to rewind
- Press  to forward
- Press  to change rewind/forward speed

## 5. DVR settings menu

- Press  to enter video settings,
- then press  to enter DVR settings

# CAMERA TECHNICAL DATA

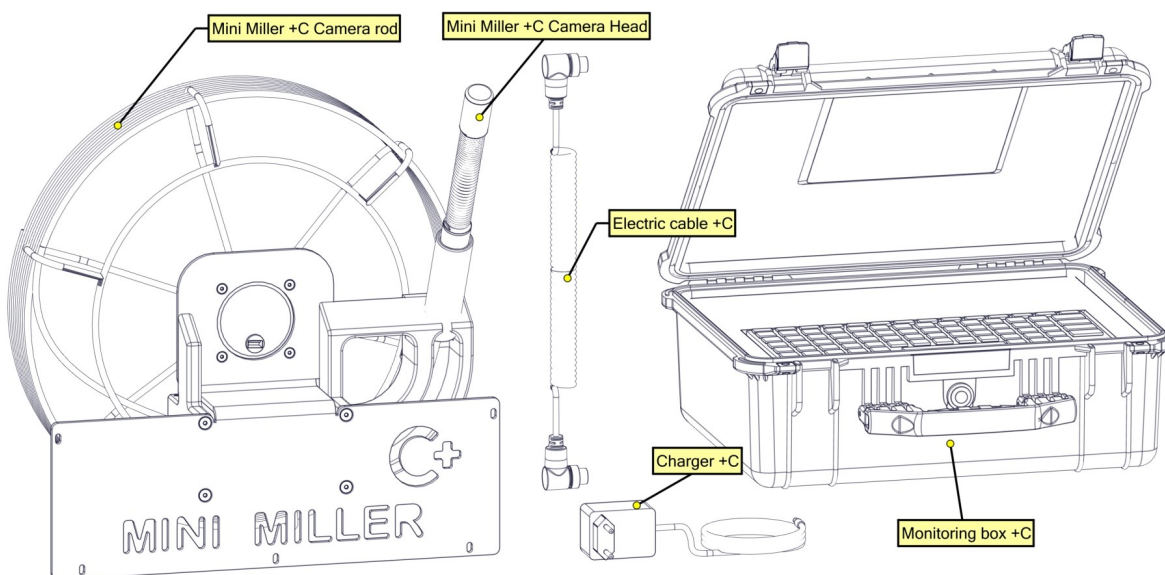
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	ITEM	PARAMETER
General	Unit Weight	14 Kg or 31 lb
Camera	Camera Size	Φ23mm×45mm (Main body)
	Video Resolution	PAL 720×576 25FPS Max. NTSC 720×488 30FPS Max
	Front Lens	Sapphire
	Shell Material	304# Stainless Steel
	Lighting	Built-in 12xLED (White)
	Water-Proof	20 m or 65 ft Water
	Power Consumption	70 mA (LED OFF), 140 mA (LED ON)
DVR	Screen	7-inch 16:9 color LCD screen
	Screen Resolution	800x480 RGB
	Features	Sonde, self-levelling, image mirror, image flip
	External Memory	SD Memory Card up to 32GB
	Cable Length	30 m or 100 ft
	Meter Counter	Yes
	Single Charge Work Time	6 Hours
	Charging time	8 Hours
	Language	English, German, French, Spanish, Italian, Chinese, Japanese, Russian, Portuguese
Tool Box	Size	380x260x150 mm (15x10x6 in.)(L x W x H)

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## SPARE PARTS

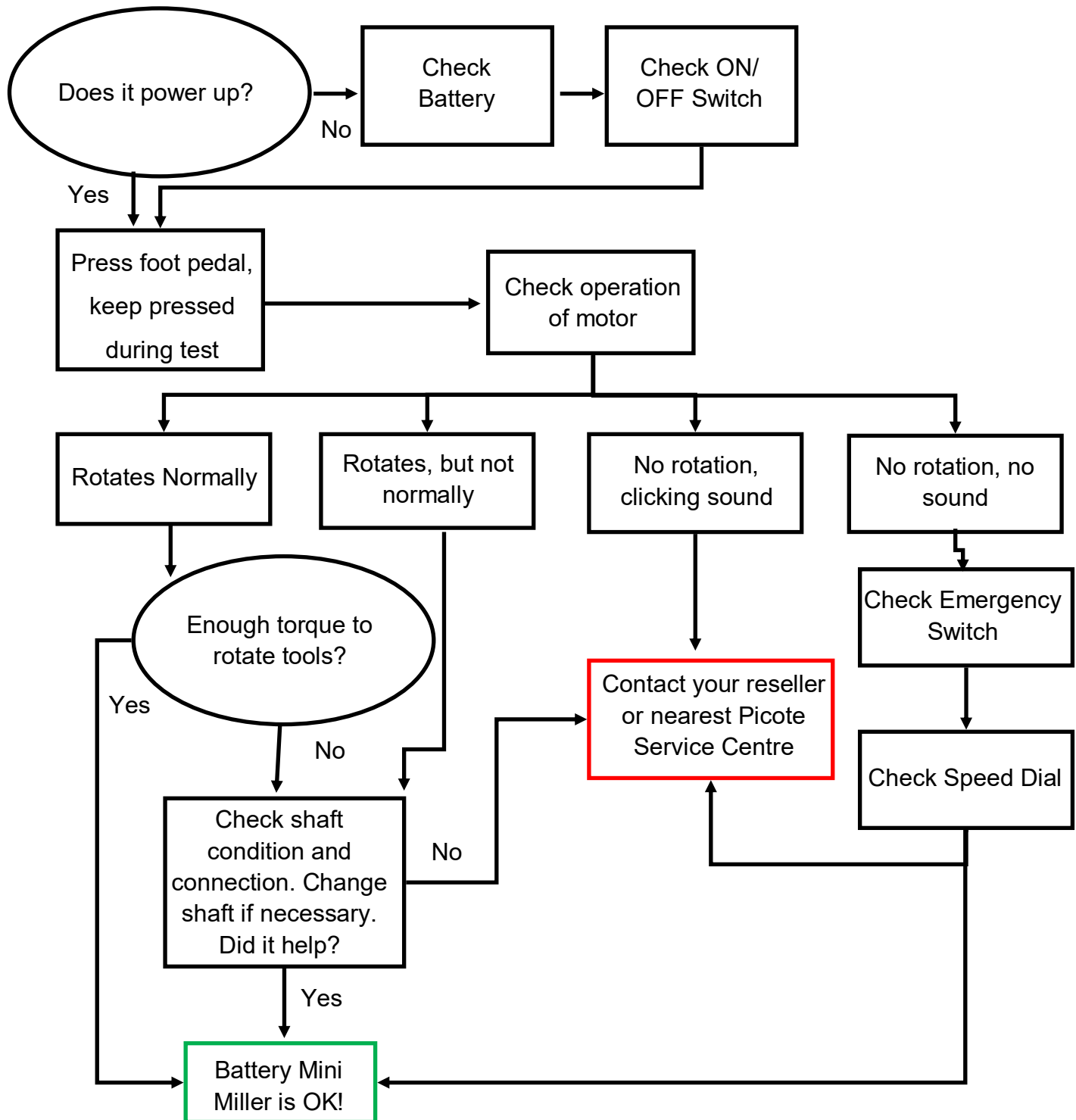
900001754	Battery Mini Miller +C Camera Head
900001688	+C Charger EU
900001691	+C Charger US
900001689	+C Charger UK
900001804	Battery Mini Miller +C Camera Rod
900001758	Electric cable +C
900001755	Monitoring Box +C



Number (config)	Description (config)	Qty
900001758	Electric cable +C	1
900001804	Mini Miller +C Camera rod	1
900001688 (EU), 900001691 (US), 900001689 (UK)	Charger +C	1
900001754	Mini Miller +C Camera Head	1
900001755	Monitoring box +C	1

# TROUBLESHOOTING FLOWCHART

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**If there is problem that you cannot resolve with this manual, please consult your Picote Reseller or Picote Solutions at [claims@picotesolutions.com](mailto:claims@picotesolutions.com).**

# WARRANTY POLICY & PROCEDURE

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

### 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.

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Your Reseller / Salesperson or Picote

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