



MINI MULTI-CUTTER

Powered by BZ-BOTS

OPERATION & SAFETY MANUAL



WARNING

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

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 moving 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 injuries and chemicals from irritating eyes.



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.



Suitable ear protection to protect against hearing loss.

TRANSPORT, STORAGE & DISPOSAL

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TRANSPORT:

Always transport the Mini Multi-Cutter and accessories in its carrying case.

STORAGE:

Before storing, make sure the equipment is clean and dry.

Store it in dry and constant temperature.

DISPOSAL:

The Multi-Cutter, Control Handle and tool heads can be disposed of as metal waste.

The carrying case can be recycled as plastic waste.

For ALL Disposals: Always follow local, regional, and national waste handling rules and regulations.

CE DECLARATION OF CONFORMITY

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

Mini Multi-Cutter

is of series production and

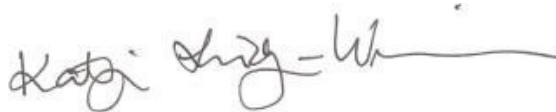
Conforms to the following EU Directive:

2014/68/eu

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

Picote Solutions Oy Ltd, Pienteollisuustie 24
06450 Porvoo, Finland

4th April 2023



Katja Lindy-Wilkinson
C.E.O.

Picote Solutions Oy Ltd
Pienteollisuustie 24, 06450 Porvoo, Finland

GENERAL INFORMATION

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Technical Specifications	
Pipe Diameter	DN100-150 (4-6")
Range	Standard:16m (50') Extended: 26m (82')
Bends	45-90°
Mini Multi-Cutter Weight	2.45 kg / 5.4 lbs
Mini Multi-Cutter w/Tool Case Weight	15.5 kg / 34.2 lbs
Mini Miller +C HD Weight	31.5 kg / 69 lbs
Min/Max Air Pressure*	8/10 Bar (116/145 PSI)
Min. Air Volume (approx.)	150l/min / 5.3CFM

****10 bar / 145 PSI required for camera cleaning.***

GENERAL INFORMATION

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INTENDED USE:

The Mini Multi-Cutter is intended to be used with a Picote Mini Miller +C HD for:

- CIPP reinstatements.
- Concrete and failed liner removal.

MINI MULTI-CUTTER PACKAGE INCLUDES:

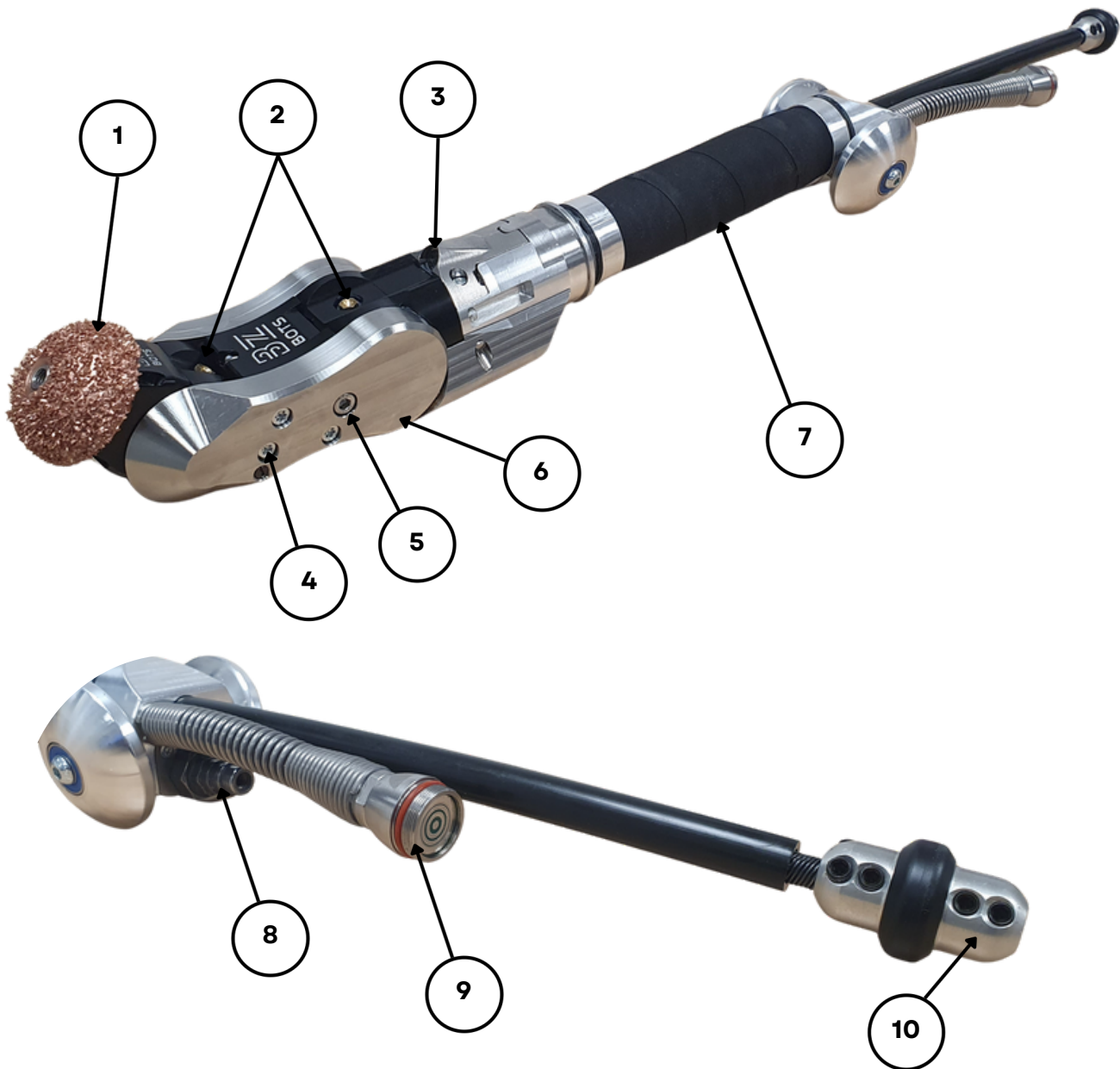
- Mini Multi-Cutter for DN100-150 (4-6")
- Integrated Camera Module
- DN100 (4") & DN150 (6") Centralizers
- Control Handle
- Carbide Ball Milling Head, $\varnothing = 26 \times 29 \text{mm}$ (1x1.14")
- Carbide Half Ball Milling Head, $\varnothing = 30 \times 15 \text{mm}$ (1.2 x.6")
- Carbide Half Ball Milling Head, $\varnothing = 46 \times 32 \text{mm}$ (1.8x1.25")
- Diamond Ball Milling Head, $\varnothing = 36 \text{mm}$ (1.41")
- Diamond Ball Milling Head, $\varnothing = 46 \text{mm}$ (1.8")
- 10mm and 35mm Extension Shafts
- Mini Multi Multi-Cutter Tool Case
- Small Case with Variety of Nuts, Bolts and Washers



GENERAL INFORMATION

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

1. Grinding Head / Tool Head
2. Grease Ports
3. Camera
4. Output Module Angle Adjustment
5. Arm Lift Stop
6. Pneumatic Lifting Arm
7. Flexible Hose
8. Picote Push Rods Connection
9. Picote Mini Miller +C HD Camera Reel Connection
10. Picote Mini Miller +C HD Shaft Connection



GENERAL INFORMATION

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Carbide Ball and Half Ball Milling Heads

Recommended for Liner Removal



1270000010
Carbide Ball Milling Head,
 $\varnothing = 26 \times 29 \text{mm}$ (1x1.14")



1270000011
Carbide Half Ball Milling Head,
 $\varnothing = 30 \times 15 \text{mm}$ (1.2 x 0.6")



1270000012
Carbide Half Ball Milling Head,
 $\varnothing = 46 \times 32 \text{mm}$ (1.8x1.25")

Diamond Ball Milling Heads

Recommended for Concrete Removal



1270000013
Diamond Ball Milling Head,
 $\varnothing = 36 \text{mm}$ (1.41")



1270000014
Diamond Ball Milling Head,
 $\varnothing = 46 \text{mm}$ (1.8")

Output Extensions



900004378
MC Extension Shaft 10mm



900004379
MC Extension Shaft 35mm

GENERAL INFORMATION

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To use the Mini Multi-Cutter you will need all the following equipment:

MINI MULTI-CUTTER



PUSH RODS



To connect the Mini Multi-Cutter to the Control Handle

MINI MILLER + C HD



CONTROL HANDLE



To control and orientate the Mini Multi-Cutter

AIR COMPRESSOR

Small compressor:

- 10 bar / 145 PSI
- 150l/h



OPERATING INSTRUCTIONS

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BEFORE OPERATION:

Check the Mini Miller Speed setting is adequate for the job being performed.

Do not go above speed level 5!

For detailed Mini Miller operating instructions, refer to the Mini Miller User Manual.

MINI MULTI-CUTTER CAMERA:

NOTICE! The integrated camera in on the Multi-Cutter requires CVBS D1 setting to be set from the camera display unit.

To change the resolution setting:

- Press **MENU** button to open the menu view.
- Open Camera Head menu by pressing **OK** button.
- Select **CVBS D1** for Mini Multi-Cutter Camera by pressing **OK**.
- For Mini Miller +C HD Camera, select the **AHD 1080P** setting by pressing **OK**.
- Camera will reboot after selection.

ATTACHING OUTPUT EXTENSIONS & TOOL HEADS

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⚠ WARNING

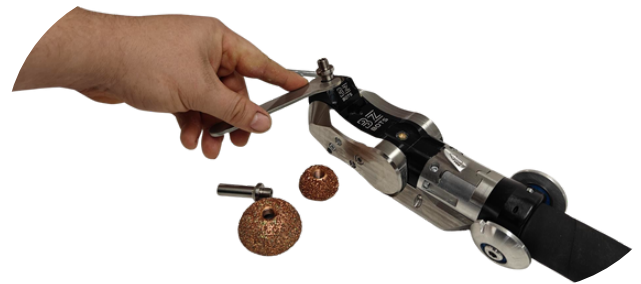
This section contains important safety information.
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ATTACHING OUTPUT EXTENSIONS AND TOOL HEADS:

Be sure Miller is fully turned off and air input is disconnected!

Use the supplied cone wrench and 5mm HEX key to swap the output extensions as needed.

To tighten/loosen the tool head to the output extension, hold it with a HEX key while using your hand to tighten/loosen the tool head.



NOTICE! Never allow the tool extension to protrude beyond the toolhead. This will damage the tool extension irreversibly.

ADJUSTING TOOL ANGLE

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ADJUSTING TOOL ANGLE:

To adjust the angle, remove the screw circled in red. Adjustment is made in steps of 22.5° up to a 90° angle. Tighten the screw back in when you are at the desired angle.



When facing a tight or difficult bend, remove the screw shown in blue. This lets the arm lift higher and move freely, making it easier to navigate the bends. Be aware that this will slightly reduce stability during milling.

SELECTING & ADDING CENTRALIZERS

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SELECTING & ADDING CENTRALIZERS:

The Mini Multi-Cutter can be equipped with two different centralizers:

- DN100-125 (4-5"): Use the Centralizer **BZL-AC-011** (Centralizer for DN100 / 4").
- DN150 (6"): Use the Centralizer **BZL-AC-020** (Centralizer for DN150 / 6").

Make sure to use the appropriate centralizer. It improves movement through bends and enhances milling ease and precision.

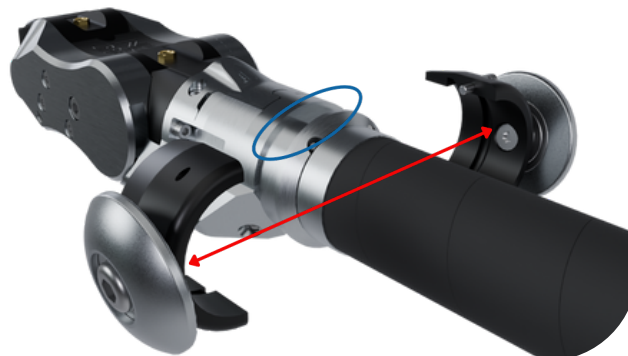
DN100-125 (4-5"):



1. Unscrew the two screws with their washers.



2. Join the two parts together, using the surface marked by the blue circle to align them. Then, screw the two screws back in.



To remove the centralizer perform the assembly steps in reverse

SELECTING & ADDING CENTRALIZERS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

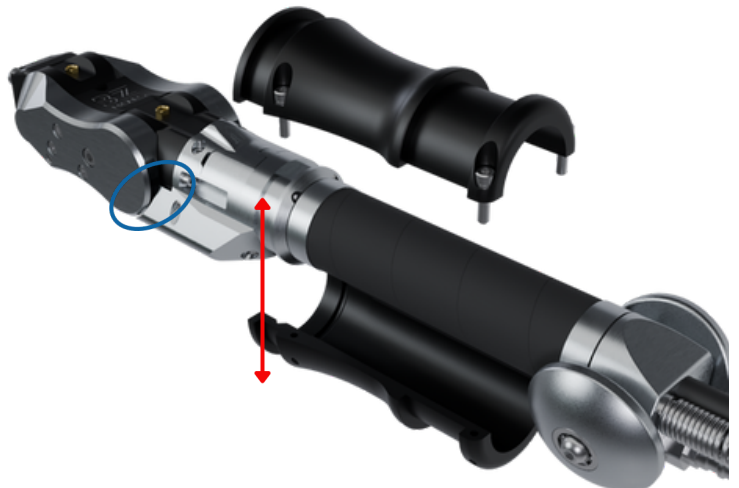
DN150 (6"):



1. Unscrew the four screws with their washers.



2. Join the two parts together, using the surface marked by the blue circle to align them. Then, screw the 4 screws back in.



SELECTING & ADDING CENTRALIZERS

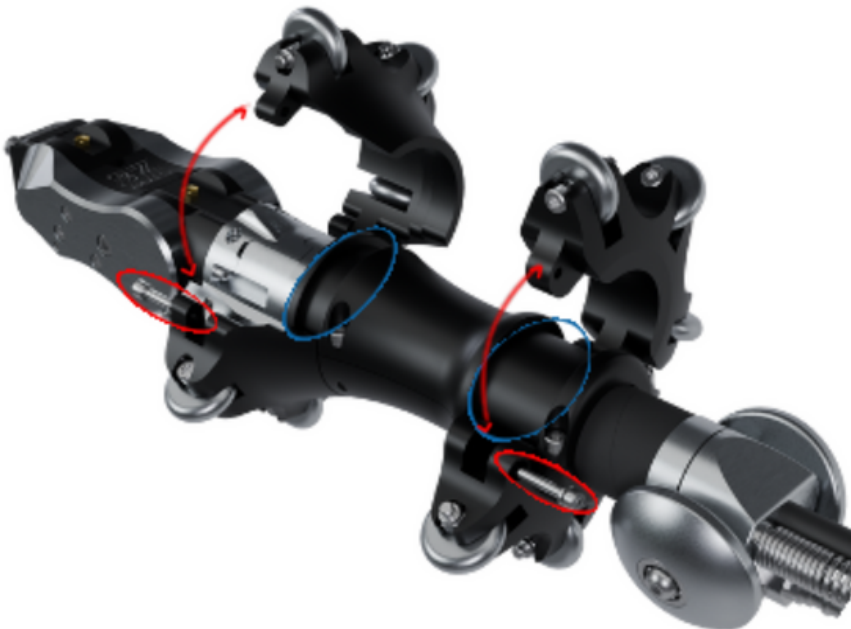
SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

DN150 (6"):

3. For each Centralizer, remove one screw with its washer as circled in red.



4. Place the centralizers to their places circled in blue, close them and screw them back in.



ATTACHING PUSHRODS & MILLER SHAFT

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Be sure Miller is fully turned off and air input is disconnected!



ATTACHING PUSHRODS AND MILLER SHAFT:

Use a 4mm HEX key to attach the Miller shaft to the Mini Multi-Cutter.



ATTACHING PUSHRODS & MILLER SHAFT

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Connect Picote Push Rods to the Mini Multi-Cutter by pushing them in place until they lock.
Use the locking ring on the female connector to secure the connection.



ATTACHING THE CAMERA

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ATTACHING THE CAMERA:

Rotate the camera connector on the Multi-Cutter to connect it to the camera rod.

Tighten as far as it goes.

The red o-ring should **not** be visible.



ATTACHING THE CONTROL HANDLE

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ATTACHING THE CONTROL HANDLE:

1. Connect the female coupling to a Picote Push Rod.
2. Connect the male air coupling to the air compressor line.



OPERATING INSTRUCTIONS

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OPERATION:

Navigating Bends:

If there are bends in the pipe, use the control handle to rotate the Multi-Cutter inside the pipe as needed. If needed, use the **GREEN** and **RED** buttons on the control handle to lift or lower the control arm a bit.

Milling:

To start the Multi-Cutter, press the Mini Miller foot pedal (OPC).

Use moderate force and pressure so the tool cuts the material without bouncing.

Use the air flow control to adjust the arm movement position adjustment speed.



MAINTENANCE

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WARNING

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Be sure Miller is fully turned off and air input is disconnected before performing any maintenance!
Ensure all Tool Heads and equipment has been allowed to cool off after operation prior to any maintenance tasks.



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



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

Maintenance Task	Each Use	Monthly
Cleaning	X	
Greasing the Rods	X	
Greasing the Gears		X
Lubricate Shaft		X

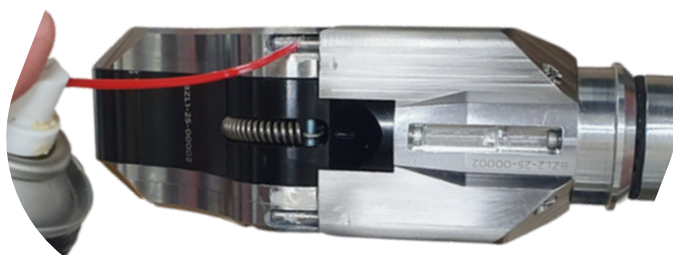
CLEANING:

- Use compressed air to blow out any loose dirt.
- Using a clean rag wipe the tool clean.
- Spray the Multi-Cutter with **lithium grease** and blow off excess with compressed air.
- Wipe excess residue with a clean rag.

GREASING THE RODS:

To grease the rods, first apply some pressure to lift the arm (around 1.5-2 bar or 22-29 PSI). Then lift the arm manually so that the rods are fully extended, as shown below.

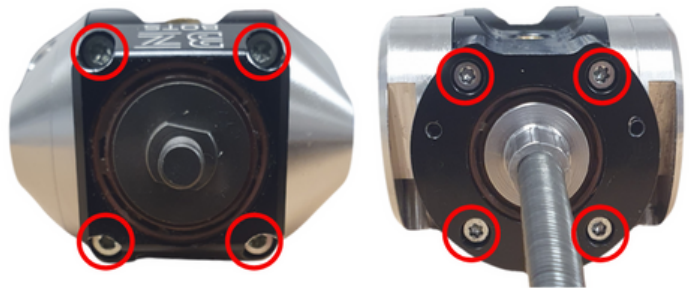
Spray **lithium grease** onto the rods, then move the arm up and down several times manually to ensure the grease is distributed throughout the system.



GREASING THE GEARS:

1. To check if the grease is still viable, first remove the screws circled in red. This allows you to remove the input and output modules of the Milling Module.
2. Inspect the grease. If it appears darker than the reference picture, or if it is liquid, dry, or grainy, it must be replaced.
3. Remove all old grease by cleaning the components with a cloth.
4. Apply approximately 5 g / 0.17 oz of Rocol Sapphire Premier R12471 grease to each of the two gearboxes.

Always use the grease recommended by the manufacturer. Using any other type of grease may cause overheating, excessive consumption, and even system failure. The recommended grease is RCOL SAPPHIRE PREMIER R12471

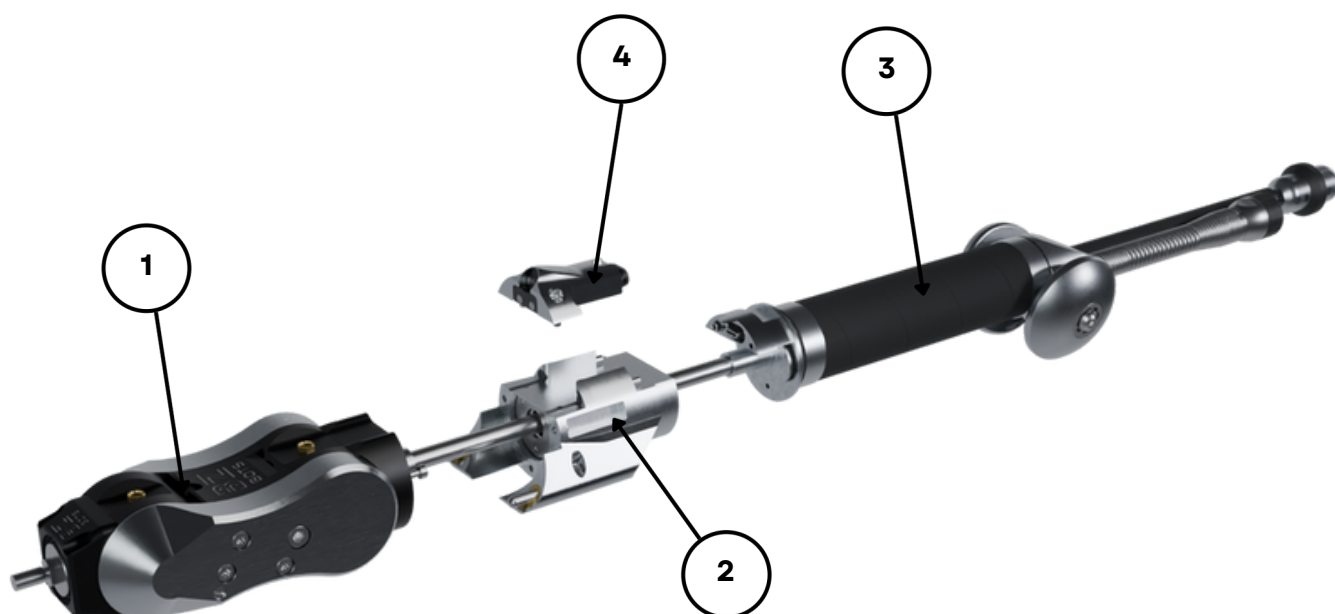


MAINTENANCE

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The cutter comprises four interchangeable modules for easy and independent replacement:

1. MMC Milling Module
2. MMC Piston Module
3. MMC Back Module
4. MMC Camera Module



MAINTENANCE

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DISSEMBLING THE MILLING MODULE:

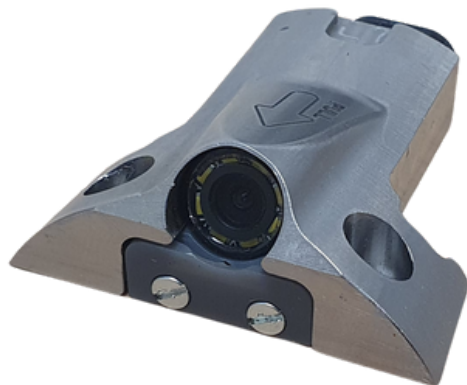


1. Remove the Picote adapter and the Picote cable shaft.
2. Unscrew the 3 screws with their washers.
3. Pull the Milling Module out and replace it if needed.



To reassemble the module, perform the disassembly steps in reverse.

DISSEMBLING THE CAMERA MODULE:



1. Remove the Milling Module according to previous instructions.
2. Unscrew the two screws with their washers.
3. The Camera Module can be pulled out manually. If removal is difficult, a screwdriver can be inserted into the blue circle to assist.

⚠ Pull module only in the direction of the arrow. Any other movement may severely damage Cutter.



To reassemble the module, perform the disassembly steps in reverse.

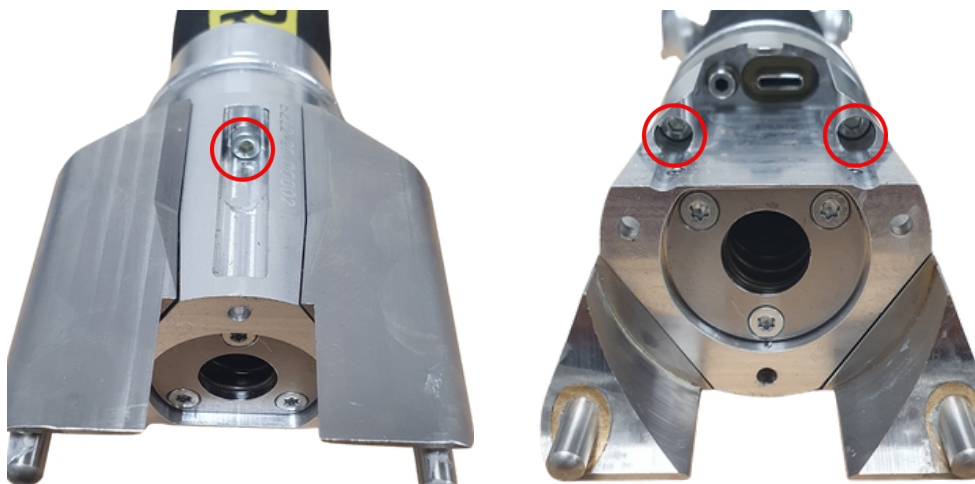
MAINTENANCE

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

DISSEMBLING BACK MODULE:



1. Remove Milling Module and Camera Module according to previous instructions.
2. Unscrew the 3 screws with their washers.
3. Now the Piston Module can be separated from the Back Module.



To reassemble the module, perform the disassembly steps in reverse.

WARRANTY POLICY & PROCEDURE

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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 and batteries 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. Regular periodic maintenance of Products,
3. Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,
4. 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;
5. 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, NON INFRINGEMENT, 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.

TRAINING

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TRAINING CENTERS:

- Phoenix, Arizona, **USA**
- Porvoo, **Finland**
- Sandhurst, England, **UK**



Visit our website at www.picotegroup.com or contact us at training@picotesolutions.com to find out about course offerings, pricing, and scheduling.





Latest Revision Date: October 15, 2025
Revision number: 1



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