



Operating & Safety Manual

Leaders



WARNING

These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using any of the Picote Tools range.



We now have resellers in the U.S., Europe & Australasia.

Locate your reseller at picotesolutions.com

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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



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 rotating parts, follow instructions.

Personal Protective Equipment (PPE)

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



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



Always wear suitable ear protection when using the Picote Tools to prevent any hearing loss.



Always wear suitable cut-resistant gloves when using the Picote Tools 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 respirator when using Picote Tools to prevent any resin dust or fumes being inhaled or consumed, which can cause occupational asthma or dermatitis as well as eye irritation.

Always remember



Dust produced can be dangerous to your health, inflammable or explosive.

Make sure the pipe has been **opened** and **ventilated** to stop any gases forming in the lateral pipe where the work takes place.

Before assembly, use, replacement of parts or maintenance, unplug the Picote milling machine or your hand drill from its power socket.

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.*

ENVIRONMENTAL

Storage Ambient Temperature Range: -20...60 °C (-4...140 °F) frost and condensation free

TRANSPORT

Picote tools should be transported in car or other vehicle properly secured to prevent any sudden movements caused by hard braking or accident. Using lidded boxes which are fastened and stored on the bottom of a van is recommended.

Never transport machine with tool attached to the shaft.

If using pick-up or trailer to transport Picote machine or tools, cover the products to protect them from raining water and dust.

STORAGE

It is recommended that tools are stored indoors protected from rain and sunlight and in constant ambient temperature.

If products have been stored for long periods of time (over 2-3 months), it should be checked prior to use in field.

DISPOSAL

Shaft and shaft connector 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.

AVAILABLE SIZES & POWER SOURCES

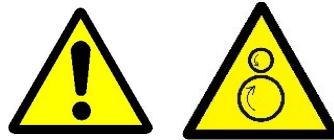
Leaders are pre-build tools which allows the operator to quickly switch between different tooling in field. Using Leaders saves time and extends the lifetime of the flexible shaft. The Leaders are attached to the shaft via the shaft connector, therefore, you are always working with the optimal amount of shaft exposed out from the outer casing. All off the Picote tools can be pre-build in Leaders. It is especially beneficial to create pre-built tools for Original & Cyclone Chains, Smart Cutters™ and Pipe Cutters.

Selecting the correct Leader for the job

Picote offers a Leader model compatible with each shaft size. Depending on the application the operator can shorten the Leader to create a tool that is better suited for the job.

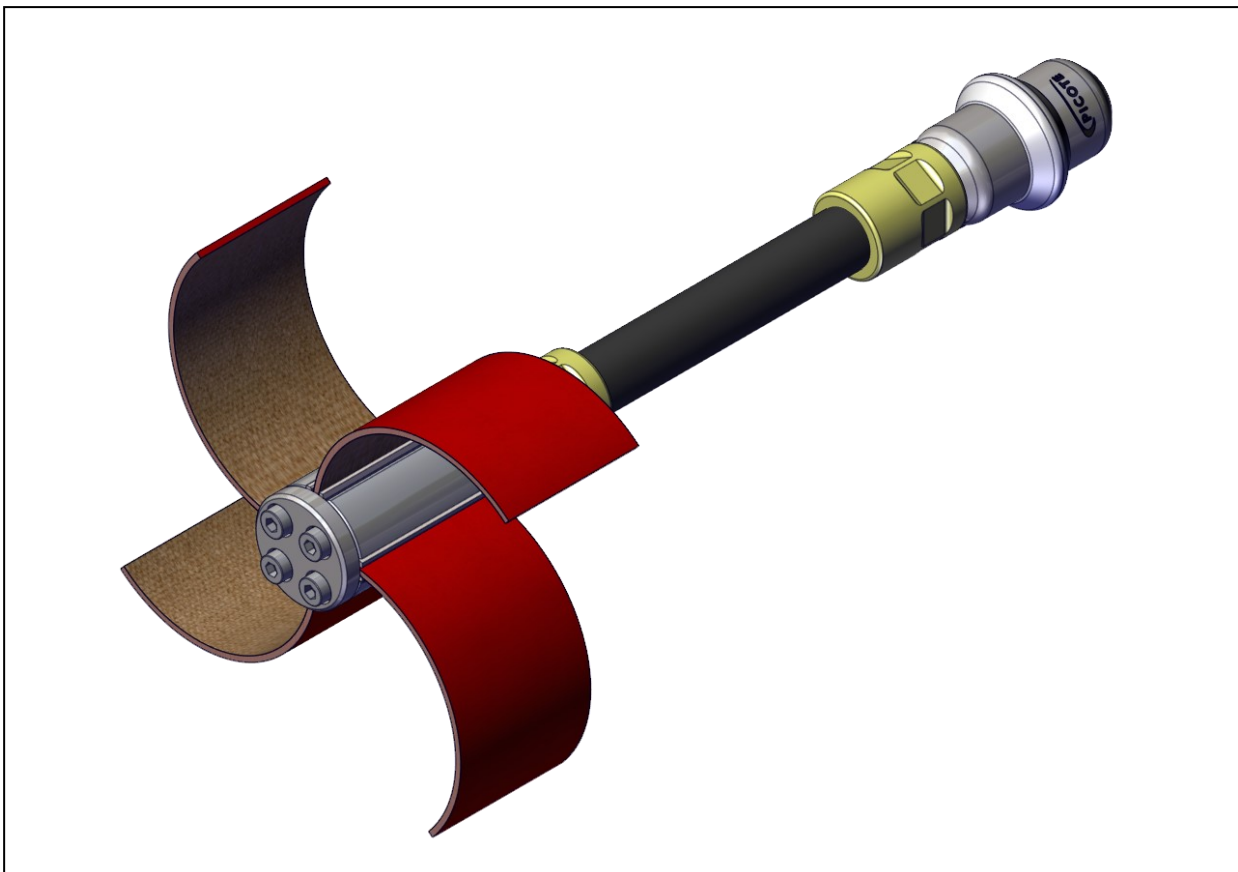
Always refer to relevant tool manual which is attached to the Leader before creating and using the tooling.

! WARNING



CHOOSING YOUR POWER SOURCE

The Leaders have been designed and can be operated with the **Picote Micro & Mini Miller** with 8mm ($\frac{1}{3}$ ") shaft or **Midi & Maxi Miller** with 12mm ($\frac{1}{2}$ ") shaft or **Maxi Miller Power+** with 18mm ($\frac{3}{4}$ "). Leaders with 8mm ($\frac{1}{3}$ ") and 12mm ($\frac{1}{2}$ ") shafts can be also operated with hand drill for lengths less than 10m (32ft).



LEADERS RANGE & USE



Please read safety information on page 3 before assembly and use.

Leader 8mm



Leader 12mm



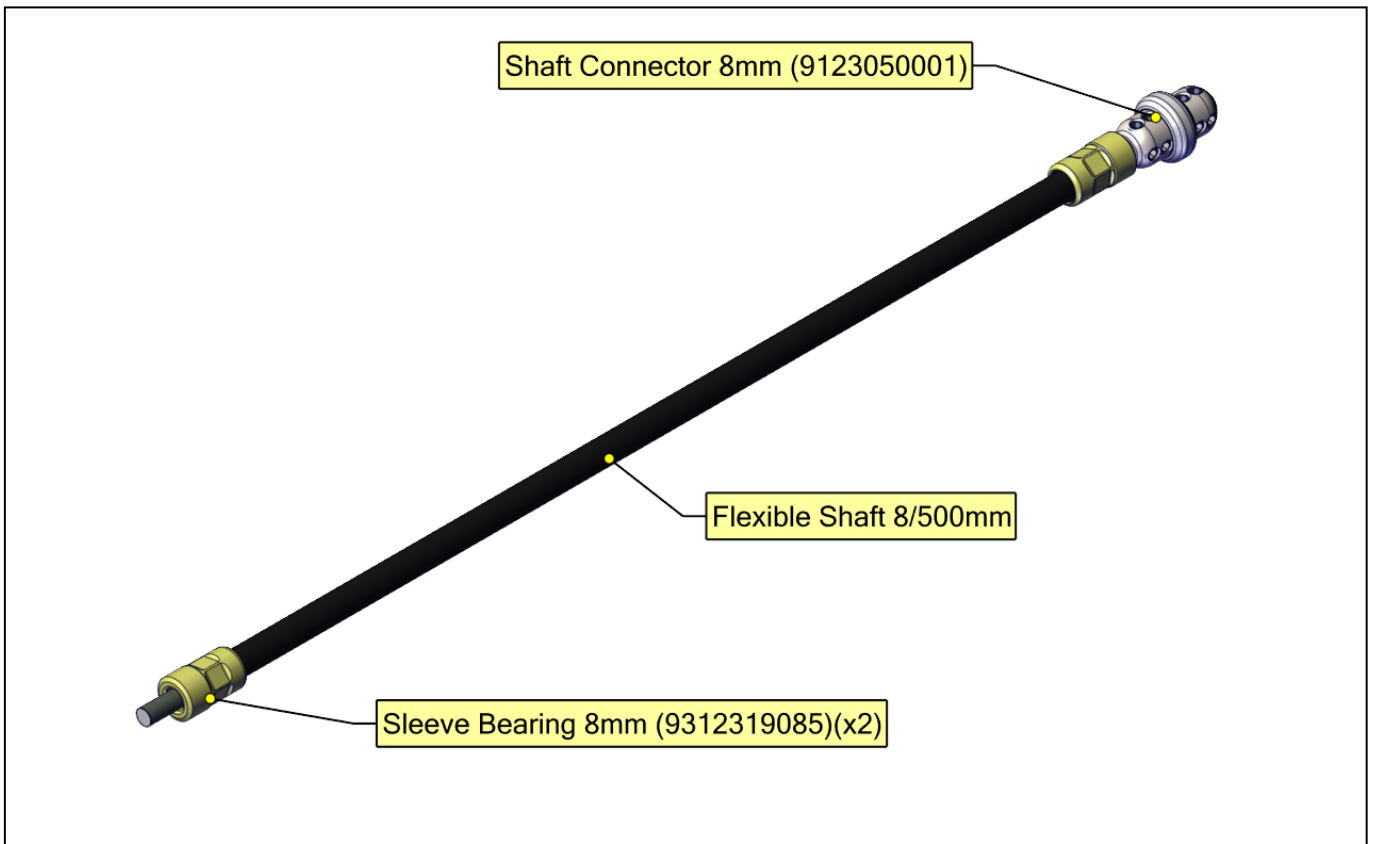
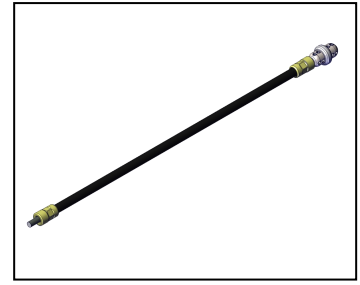
Leader 18mm



1400800500	Leader 8mm 500mm
1401200500	Leader 12mm 500mm
1401800500	Leader 18mm 500mm

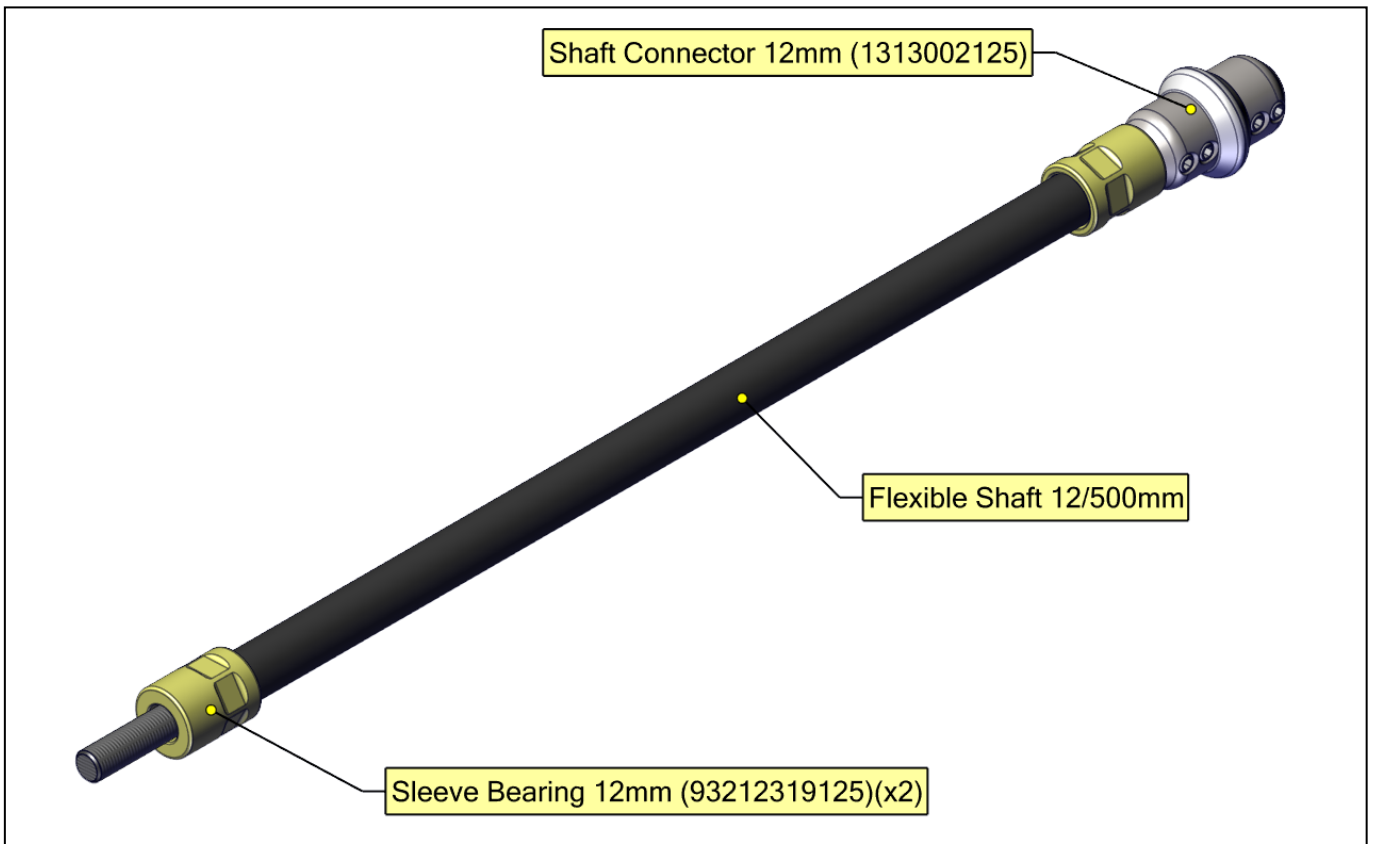
User Guide—Leader Part List for 8mm (1/3”) flexible shaft

The Leaders are bodies of pre-built tools created by the operator. Leader length can be varied to suite the Picote tool or job site application.



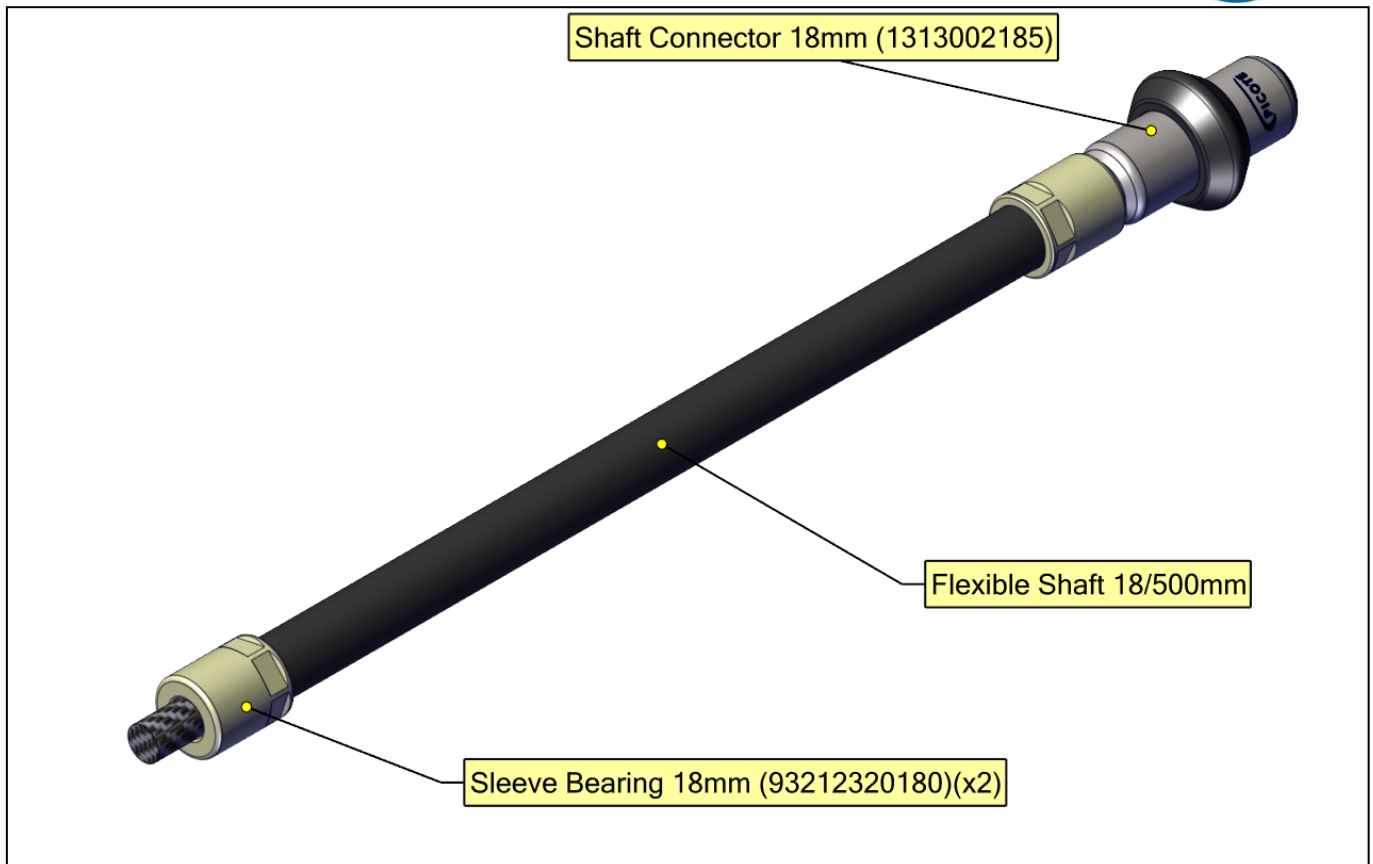
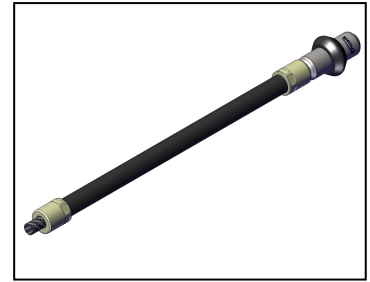
User Guide—Leader Part List for 12mm (1/2") flexible shaft

The Leaders are bodies of pre-built tools created by the operator. Leader length can be varied to suite the Picote tool or job site application.



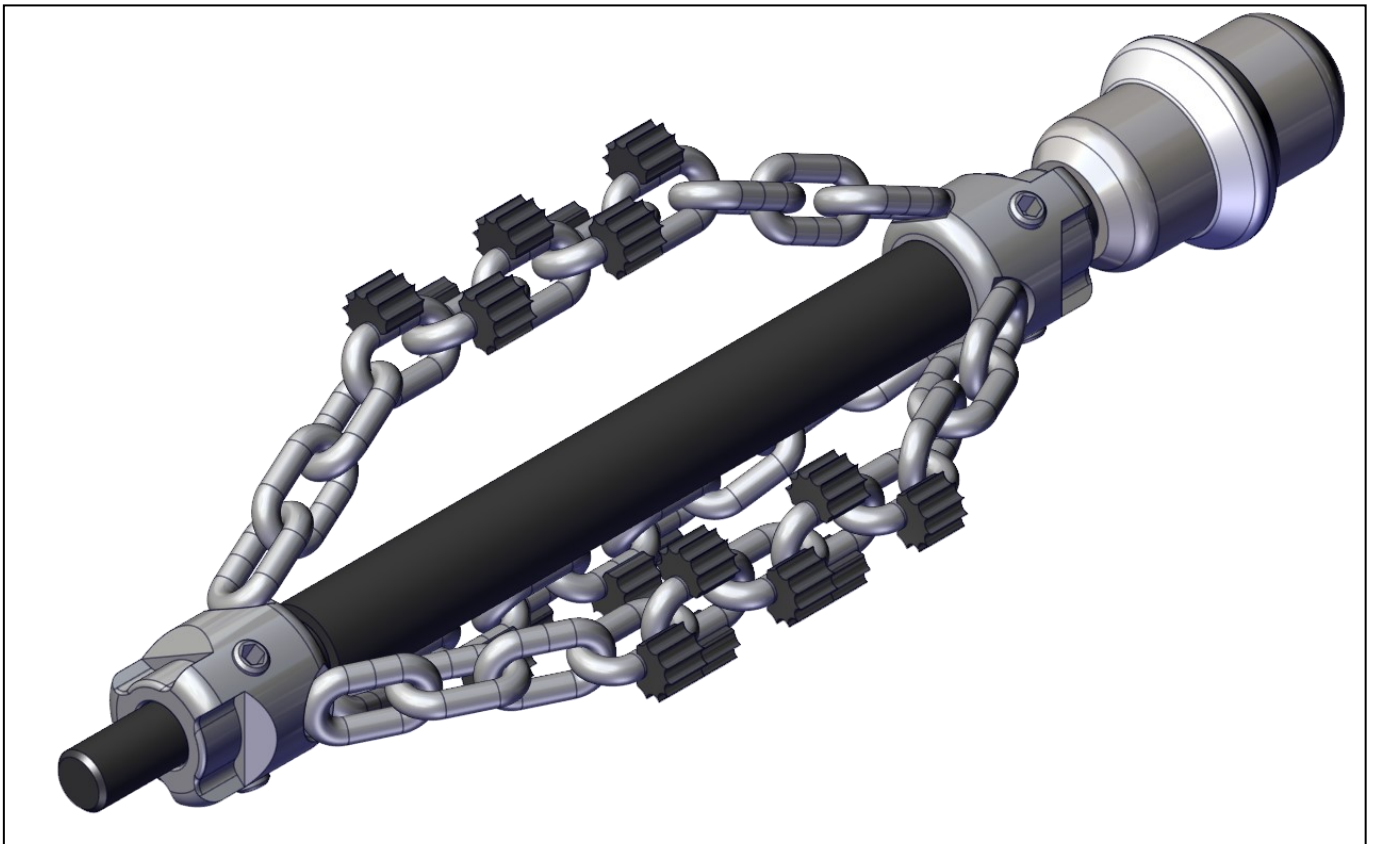
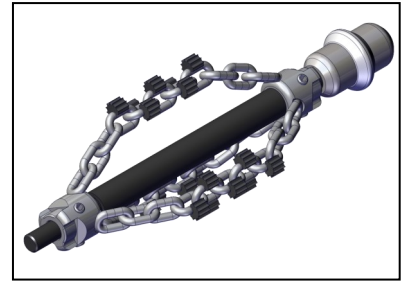
User Guide—Leader Part List for 18mm (3/4") flexible shaft

The Leaders are bodies of pre-built tools created by the operator. Leader length can be varied to suite the Picote tool or job site application.



User Guide—Combining Grinding Chains to the Leader

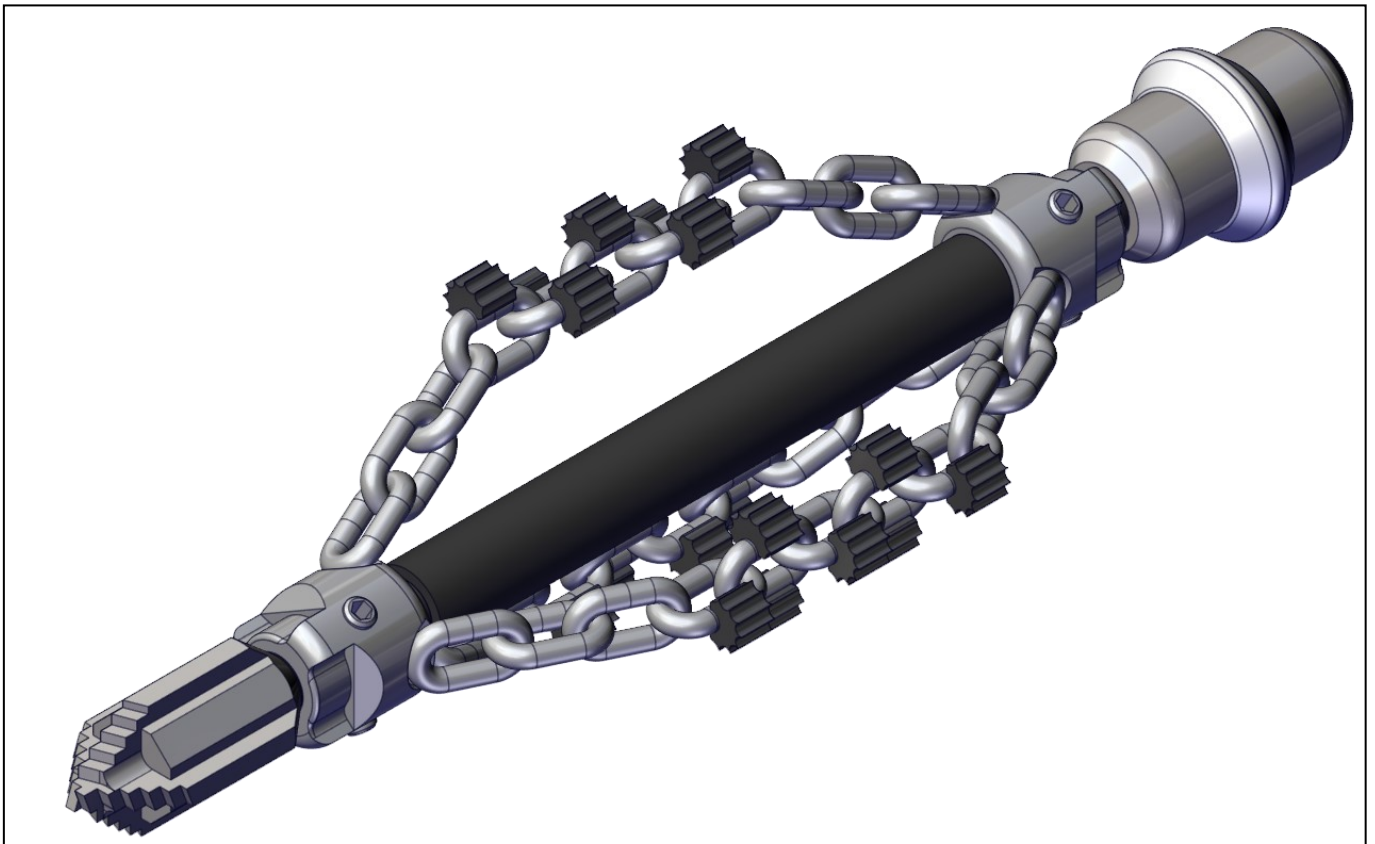
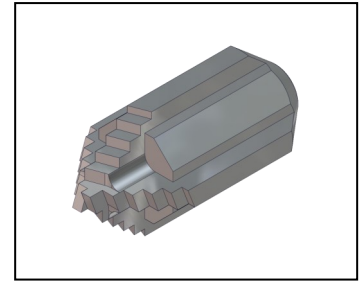
Using pre-built Original Chains extends the lifetime of your flexible shaft and enables fast tool changes as you do not need to constantly cut and trim the flexible shaft to correct size. You can always have the same length of bare shaft protruding from the outer casing.



User Guide—Combining Special Drill Head & Grinding Chains to the Leader

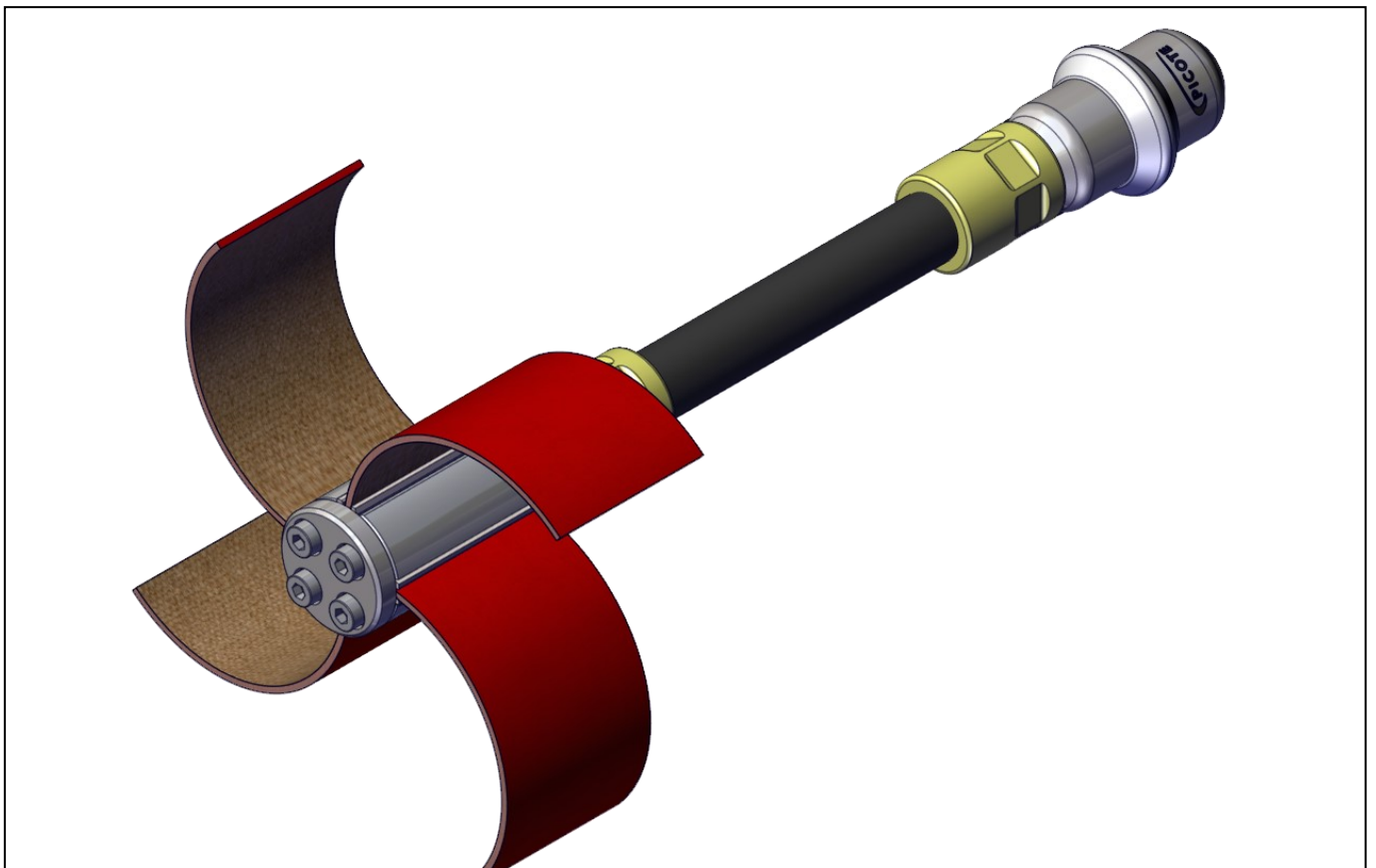
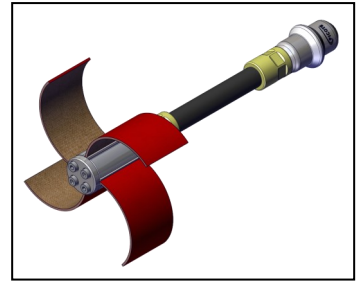
The Special Drill Head Cutter can be used in the front of Original chains to create a tool which can progress forward through even in badly corroded or heavily scaled pipes. This combination is also very effective in removing tree roots.

Operate carefully as the combination makes the cleaning work much more demanding to the Millers!



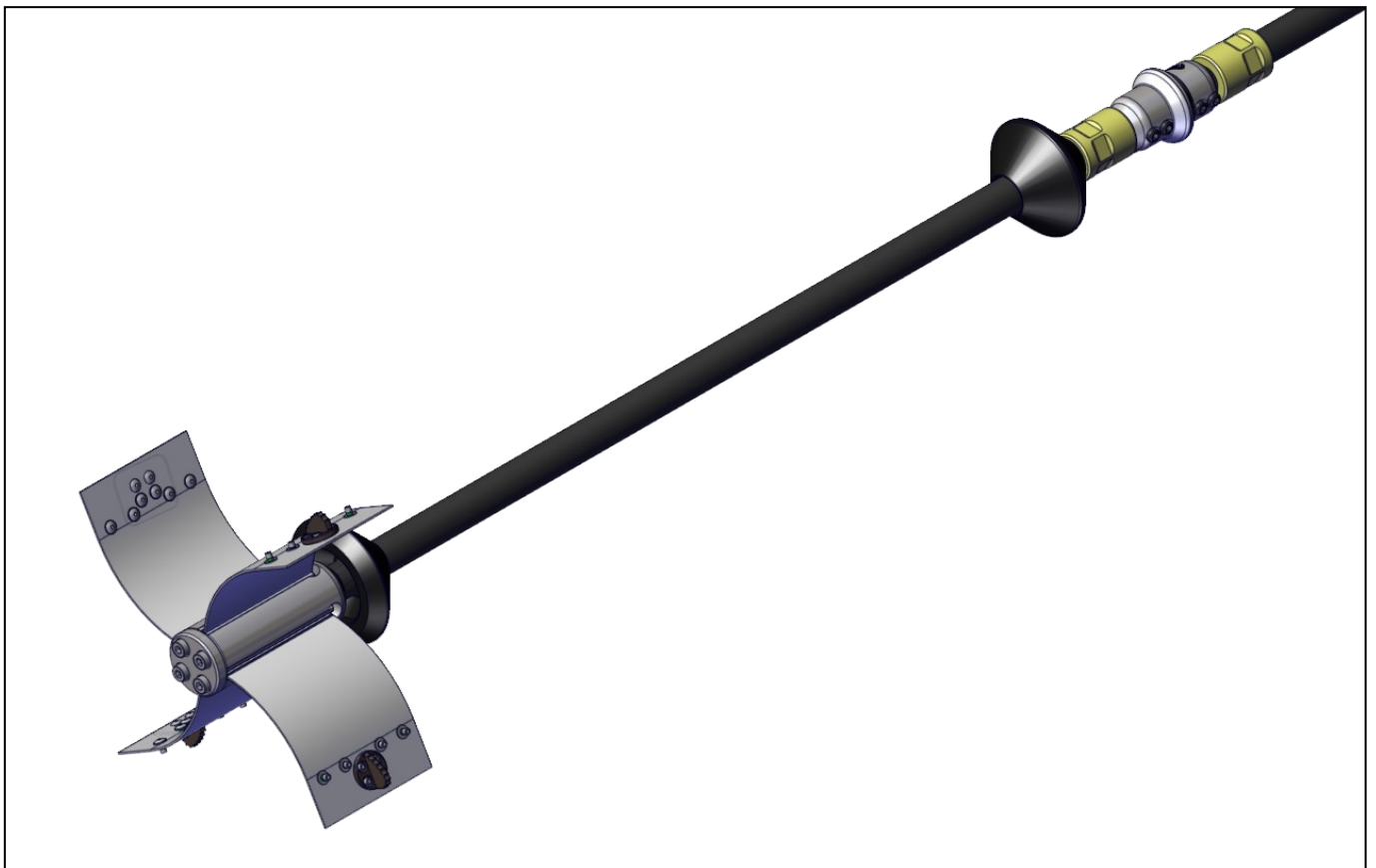
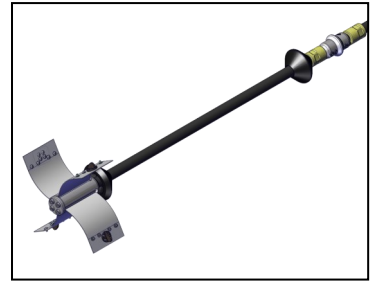
User Guide—Combining Smart Cutter to the Leader

You can build all the combinations of different Smart Cutters™ to create a set of pre-built tools which enable you to perform operations in fast and effective way.



User Guide—Combining Smart Cutter to the Leader

You can build all the combinations of different Pipe Cutters to create a set of pre-built tools which enable you to perform operations in fast and effective way.



Using Leaders



Before work

Read and understand the tool manual you are going to equip with the Leader. Act only according to the instructions given into Picote Solutions tool manuals.

During use

Work according to the instructions presented in the tool manuals.



After use

Be careful when removing the tool out from the pipe as the tool can be very hot. **Always turn the power off before you remove the tool out from the pipe! There is a risk of serious injury or even death!**

Check out the condition of the tooling and shaft. Replace worn-out parts. If part of the shaft is damaged, it can be removed using a disc cutter and then shorten outer casing accordingly.

RECOMMENDATIONS

Create own Leader for each tool you use most commonly. Using Leaders saves valuable working time in the field and extends the lifetime of the flexible shaft.

Please read safety information on page 3 before assembly and use.

MAINTENANCE

CARING FOR THE FLEXIBLE SHAFT

The flexible shaft is pre-treated with **The Picote Flexible Shaft Lubricant (1350000020)** and the casing replaced prior to shipping. Always inspect the condition and apply lubricant between the flexible shaft and its outer casing when required. If necessary remove the shaft from its casing to treat. When the casing has been replaced, rotate manually for even coverage.



FASTENER SCREWS

If you are unable to tighten the fastener screws properly, due to worn out hex socket heads, replace the fastener screws immediately. Otherwise, a Grinding Chain can fall into the pipe while working.

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 an angle-grinder. This should be done outside in a clear area as there will be sparks generated by the process.



SHAFT ROUNDER



The shaft rounder smooths 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.

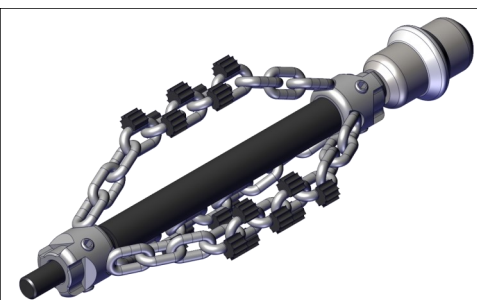
ADDING A VISUAL MARKER FOR SAFETY



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 chain's location and prevent possible injuries when the Pipe Cutter 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 tooling.

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.

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