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Operating & Safety Manual

Mini Sweeper DN50 (2") & DN70 (3") for 8mm (1/3") shaft

Mini Sweeper DN100 (4") for 12mm (1/2") shaft



WARNING

These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using any tools of the Mini Sweeper range. Please also read and understand the corresponding Miller manual before using the Mini Sweeper tool.



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

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 rotating parts, follow instructions.

Personal Protective Equipment (PPE)

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



Always wear suitable eye protection when using the Mini Sweeper to prevent dust from irritating your eyes.



Always wear suitable ear protection when using the Mini Sweeper to prevent any hearing loss.



Always wear suitable cut-resistant gloves when using the Mini Sweeper 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 the Mini Sweeper to prevent any resin dust or fumes from pipes 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. **Failure to comply may lead to serious injury including electric shock or injury from rotating parts!**

AVAILABLE SIZES & POWER SOURCES

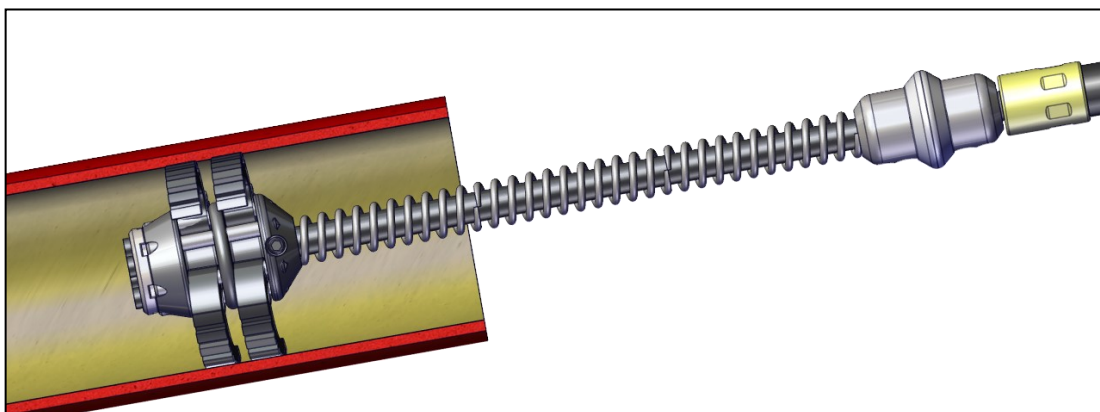
The Mini Sweeper products are designed to clean pipes. They can be used as a substitute for Grinding Chains. The Mini Sweeper is more aggressive compared to Grinding Chains and is effective in situations where there is thick lime scale or other waste materials which are hard to remove. It is also an effective tool for the removal of tree roots. The Mini Sweeper designed for the 12mm (½") shaft can also be used to remove excess lining material from the pipe wall after the failed lining has been removed using the Twister Liner Remover tool. Smart Sweeper+ products which have been designed purely for lining removal work for Maxi Miller Power+ have their own manual.

Choosing the correct Mini Sweeper for the job

Select the correct Mini Sweeper according to the size of the host pipe.

Place the tool completely inside the pipe before powering up the tool.

Mini Sweeper tools are self-centralising and will open up to meet the pipe walls when rotated.



! WARNING



TWISTER	Shaft size mm/inches	BEND 90°	BEND 45°
Mini Sweeper DN50 (2")	8 (⅓")	YES	YES
Mini Sweeper DN70-DN75 (2 ¾"-3")	8 (⅓")	YES	YES
Mini Sweeper DN100 (4")	12 (½")	YES	YES

CHOOSING YOUR POWER SOURCE

The Mini Sweeper DN50 (2") & DN70 (3") with the 8mm (⅓") diameter shaft can be operated with the **Picote Micro & Mini Miller** machines.

The Mini Sweeper DN100 (4") with the 12mm (½") diameter shaft can be operated with the **Picote Midi & Maxi Miller** machines.

The Smart Sweeper products with the 18mm (¾") diameter shaft can **ONLY** be operated with **Maxi Miller Power+**. Smart Sweeper tools have their own manual.

MINI SWEEPER RANGE, ASSEMBLY & USE



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

Mini Sweeper DN50 (2")



Mini Sweeper DN70 (3")



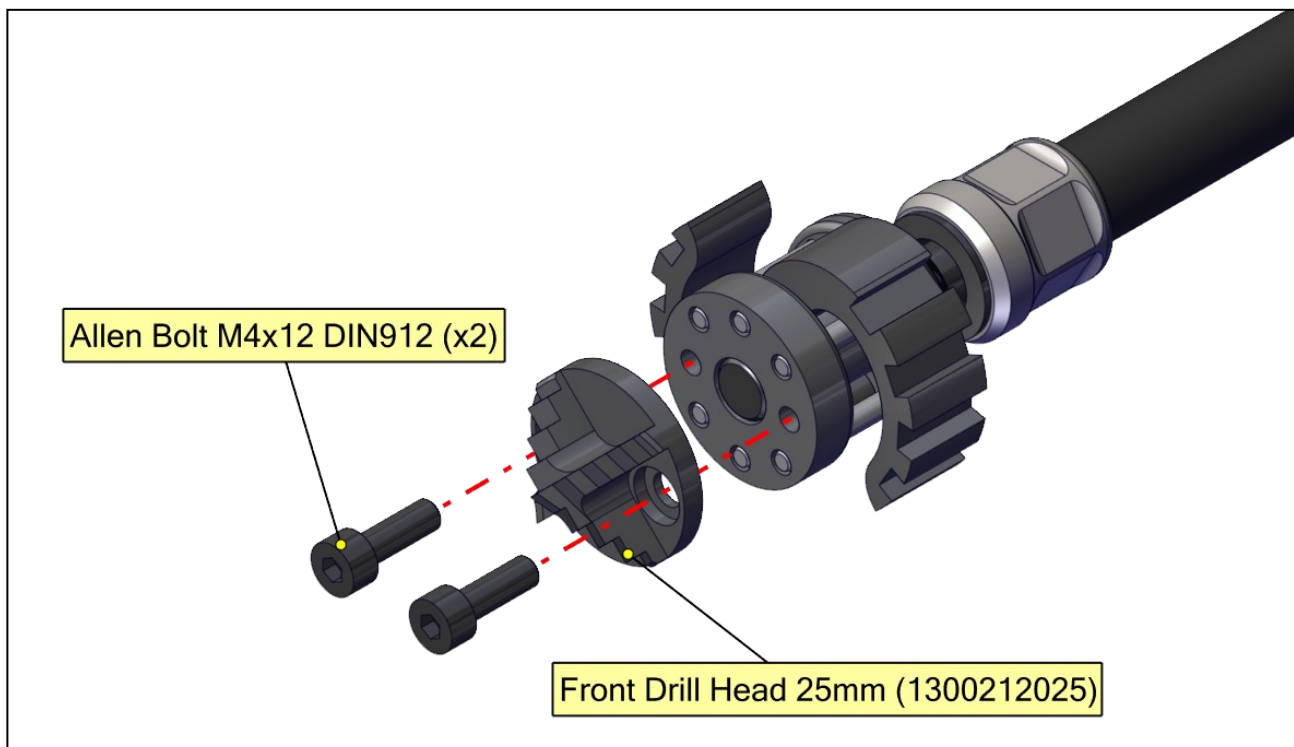
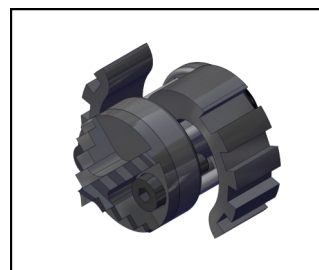
Mini Sweeper DN100 (4")



1360080050	Mini Sweeper DN50 (2")
1360080075	Mini Sweeper DN70 (3")
1360120100	Mini Sweeper DN100 (4")

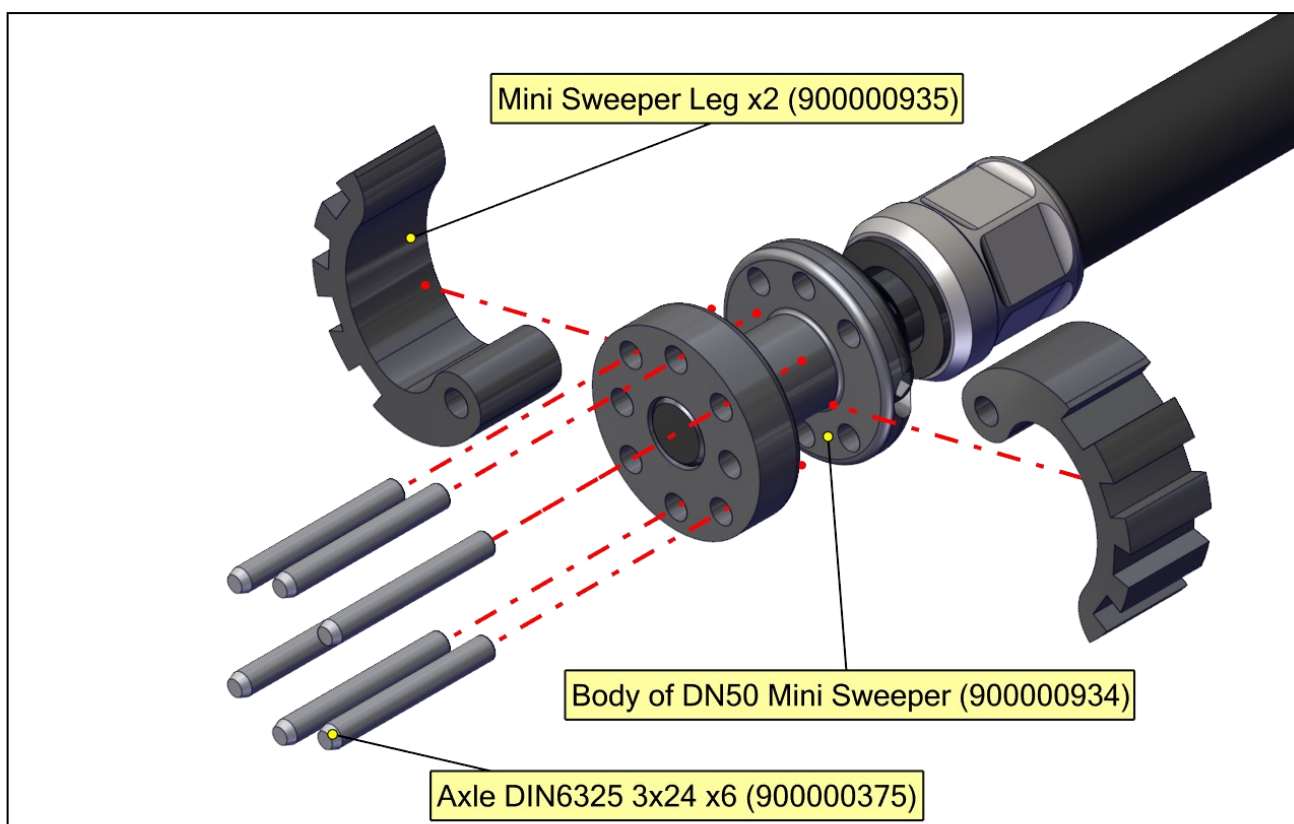
Tool Change—Mini Sweeper DN50 (2")

Step 1. Remove Allen Bolts and the Front Drill Head.



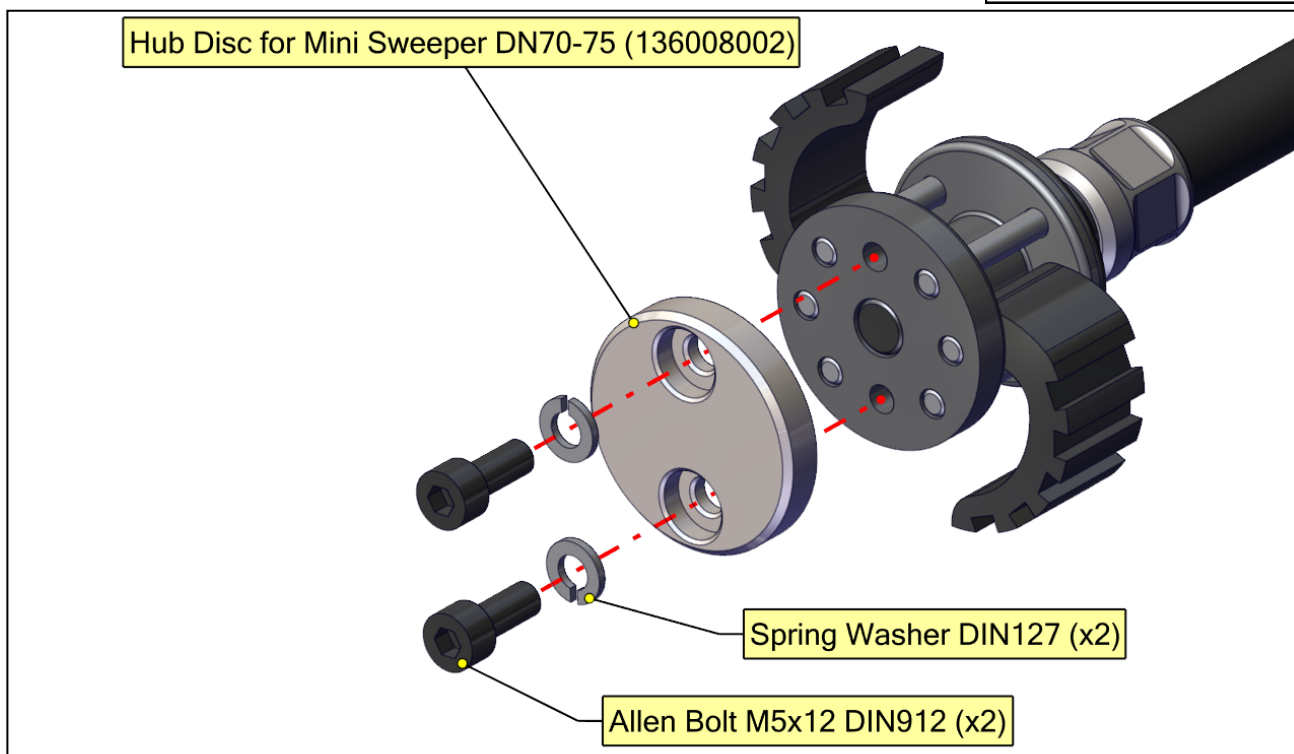
Step 2. Remove Axles and replace Sweeper Legs. Repeat in opposite order. Change the Drill Head if needed.

Recommended to use Loctite 542.



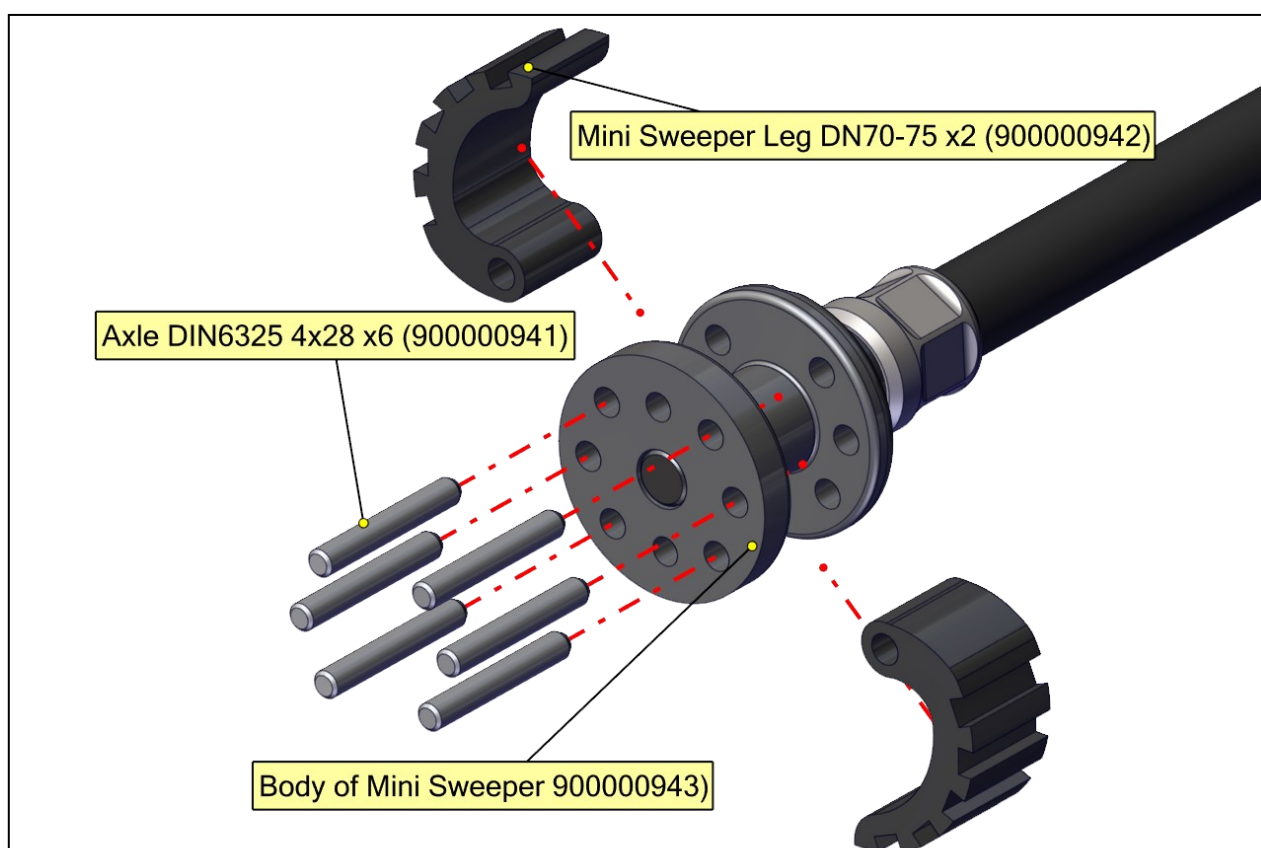
Tool Change—Mini Sweeper DN70-75 (2 ¾"-3")

Step 1. Remove Allen Bolts and the Hub Disc (or drill head).



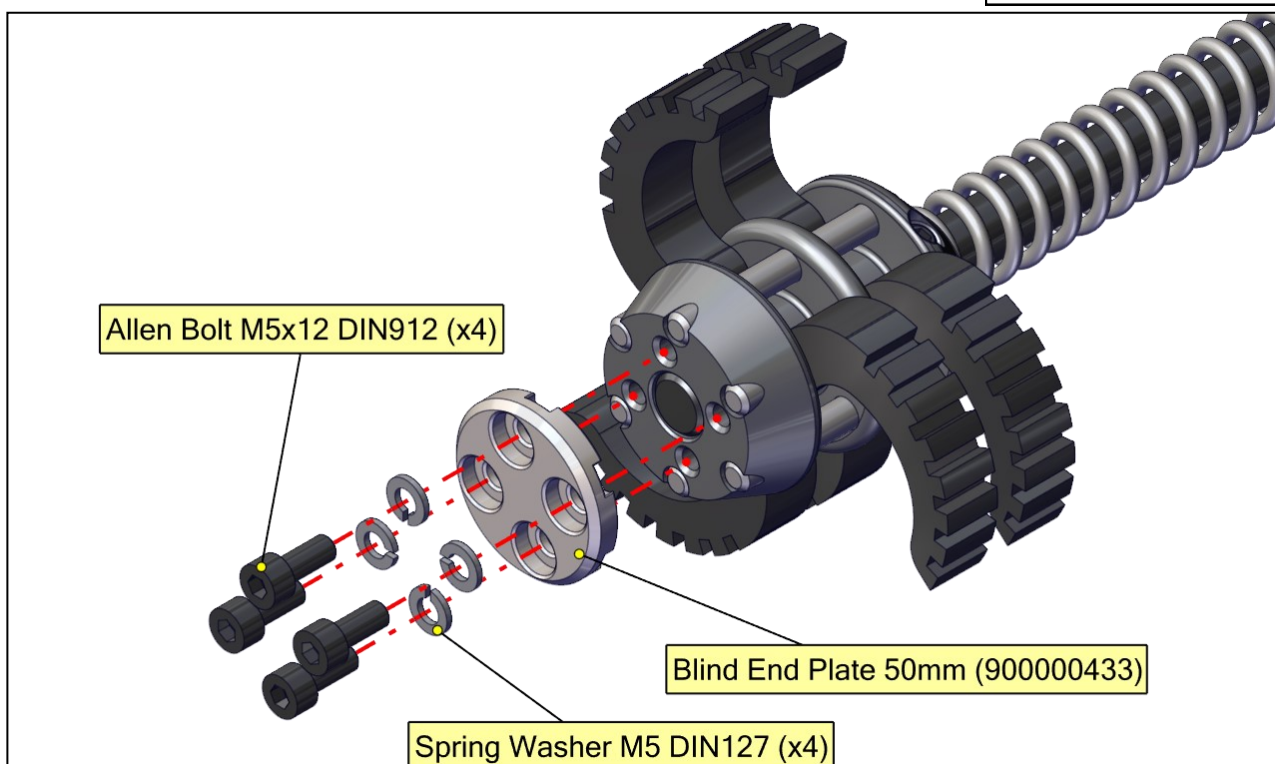
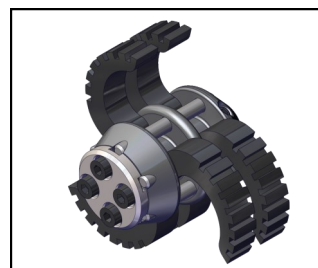
Step 2. Remove Axles and replace Sweeper Legs. Repeat in opposite order.

Recommended to use Loctite 542.



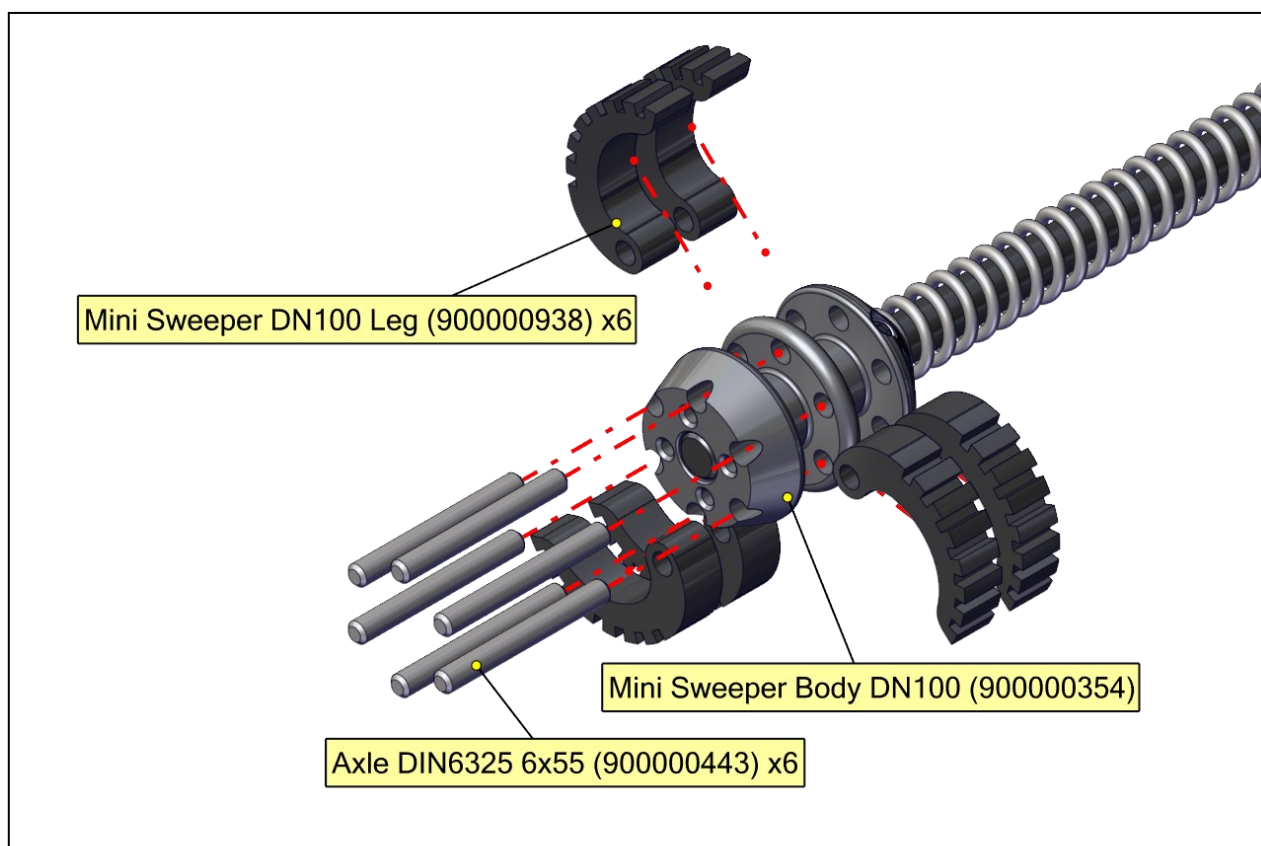
Tool Change—Mini Sweeper DN100 (4")

Step 1. Remove Allen Bolts and the End Plate (or drill head).



Step 2. Remove Axles and replace Sweeper Legs. Repeat in opposite order.

Recommended to use Loctite 542.



Using the Mini Sweeper products



NEVER POWER ON THE MINI SWEEPER OUTSIDE OF THE PIPE! The tooling needs to fit completely inside the pipe before turning the power on and using the tool. Failure to comply could lead to serious injury or death.

Before starting work

Select the correct size Mini Sweeper for your job. Decide, whether or not, you use the drill head in front of the tool. If there are blockages in the middle, the drill head will work better than blind end disc. Ensure water is flowing in the pipe or the vacuum extraction is ready (dry cleaning). Ventilate the working area properly. Ensure that pipes are grounded / earthed. The Mini Sweeper products causes high friction and there is risk of electric shocks. Use a CCTV camera to check the right location to position the Mini Sweeper. Place the Mini Sweeper completely inside the pipe before turning the power on.

During use

Turn the power on. Initially start the Mini Sweeper at a lower speed. Adjust the speed while working. Tightly hold the shaft. Move the tool in a back and forth movement within the pipe. Always use the CCTV camera to see how you are progressing.

Do not force the tool through the pipe—let the tool do the work. If too much force or excessive high speed is used the tool might get stuck resulting in damaging or breaking the tool, shaft or the pipe. Use either water or vacuum to remove the debris. Use a lower speed when working in fragile or damaged sections of the pipe.



Please note! Mini Sweeper legs get very hot during use. Where water cooling is not being used, you need to take breaks to **cool down the tool head after 10-15 min.** Always wear heat resistant gloves after the machine has been switched off and the power supply isolated. The tools can then be cooled down using water or left to cool in the open air. Always observe the temperature of the outer casing and let the Miller cool down after **every 30 min** periods of constant work.

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

Using the Mini Sweeper products



After use

WARNING: Turn the power off and isolate the supply before you remove the tool from the pipe. There is a risk of serious injury or death! **The tool can be very hot.** Carefully take the tool out from the pipe.

Check out the condition of the tooling and shaft. Replace worn-out parts. If shaft looks damaged, remove decrepit part with an angle grinder and shorten outer casing accordingly.

Where required the Mini Sweeper drill head and legs can be sharpened with a grinder. Do not remove more material than you must because the outer hard layer is only 2-3 mm thick.

RECOMMENDATIONS

Always use CCTV camera while working.

Adjust the rotation speed while working.

Use water cooling when possible.

Do not use excess amount of force to push the tooling. Let the tool do the work.

Use Smart Cutter™ to ensure perfect end result.

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

MAINTENANCE

CARING FOR THE FLEXIBLE SHAFT

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



MINI SWEEPER DRILL HEAD & LEGS

Always replace the Drill Head/Sweeper Legs if they are worn or cracked.

FASTENER SCREWS

Replace the fastener screws immediately if you are unable to fully tighten them due to worn out hex socket heads. Otherwise, the tool could detach from the shaft during the use and fall into the pipe.



DRILL HEAD BOLTS

Use Thread Sealant (Loctite 542 or similar) when tightening bolts which secure Hub Disc or Drill Head to the Hub. Otherwise, the front parts can fall into the pipe while working.

SPARE PARTS

Mini Sweeper DN50 (2")

1300212025	Front drill head 25mm (1")
1000200025	Hub Disc 0x25x4 with screws
900000375	Axle 3x24 DIN6325
900000935	Mini Sweeper Leg DN50 (2")

Mini Sweeper DN70-75 (2 3/4"-3")

1300214042	FDH 4 Flat 35-40mm No Thread
1360080002	Hub Disc for Sweeper DN70/75 (2 3/4"-3")
900000941	Axle 4x28 DIN6325
900000942	Mini Sweeper Leg DN70/75 (2 3/4"-3")

Mini Sweeper DN100 (4")

1300212035	Front Drill Head 3 Ridged Hardened 35mm
900000433	Blind End Plate 50mm (2")
900000443	Axle 6x55 DIN6325
900000938	Mini Sweeper Leg DN100 (4")

TRAINING

For information about product training and support contact Picote Solutions or your authorized Picote reseller.

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



Before use always inspect the flexible shaft. 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 the process will generate sparks.



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**. To protect the shaft the outer casing should reach all the way to the base of the shaft socket.

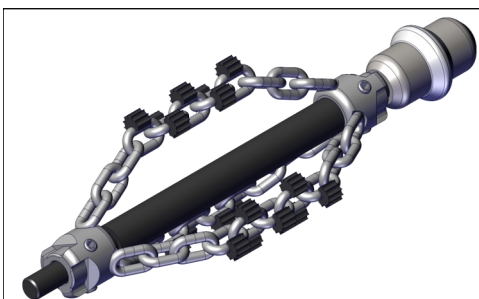
ADDING A VISUAL MARKER FOR SAFETY



For your 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 marker will indicate the tool's location and prevent possible injuries, from the rotating parts, when the tool is removed from the pipe.



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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Revision number: Rev. 1

Author: Mikko Långvik

Accepted:



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www.hammerheadtrenchless.com
www.hammerheadshop.com

For support

support@picotesolutions.com

For accessories

Your reseller or

sales@picotesolutions.com

+44 (0)7585 116508

+1 219 440 1404

Technical Support:

+1 706 436-1892

Manufacturer

Picote Solutions Oy Ltd

Raudoittajantie 4

06450 Porvoo

Finland



www.picotesolutions.com

