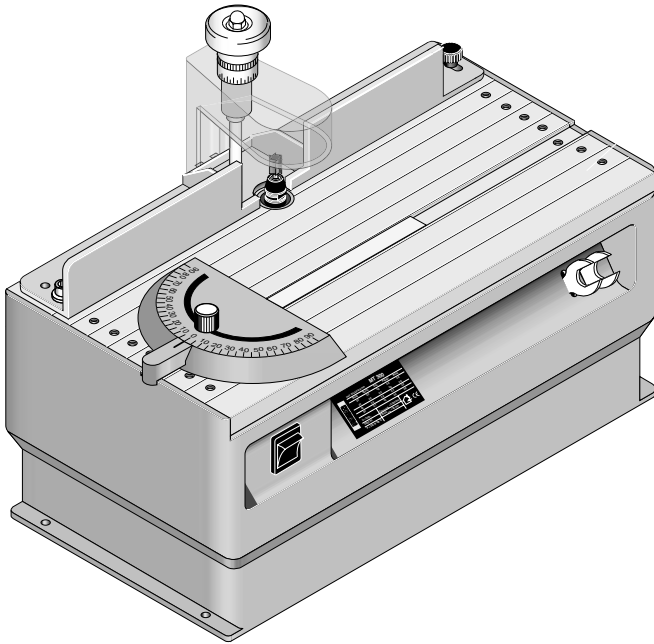


PROXXON

MICRO Shaper MT 300

Manual



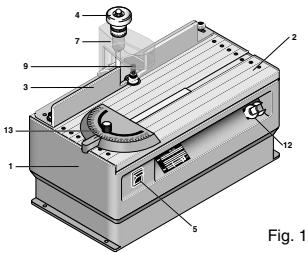


Fig. 1

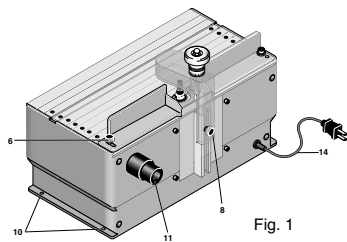


Fig. 1

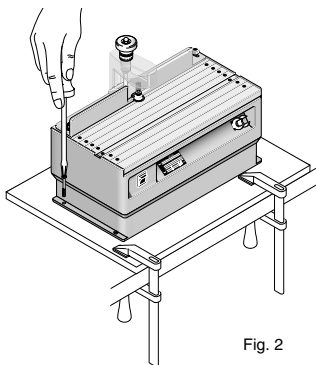


Fig. 2

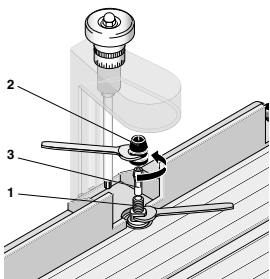


Fig. 3a

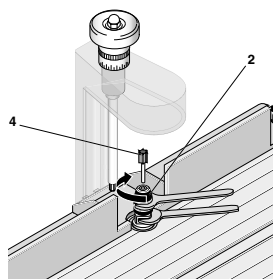


Fig. 3b

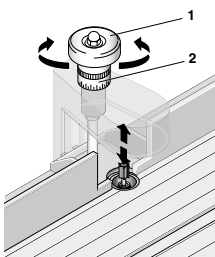


Fig. 4

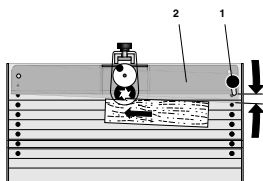


Fig. 5a

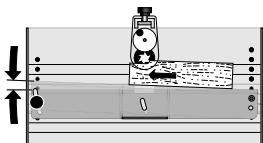


Fig. 5b

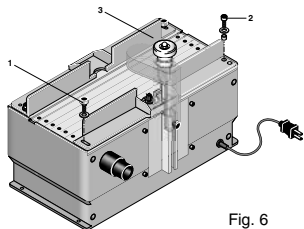


Fig. 6

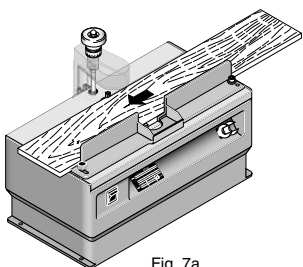


Fig. 7a

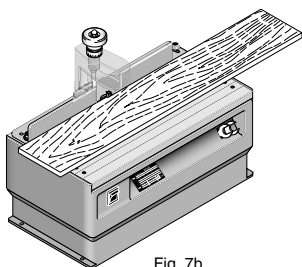


Fig. 7b

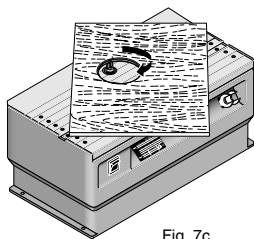


Fig. 7c

Operating Instructions

MT 300

Instructions for the use of the MICRO Shaper MT 300:

Dear Customer,
In order to be able to operate the shaper safely and correctly, please carefully read the following safety and operating instructions prior to use.

This instruction manual covers:

- safety regulations
- operation and maintenance
- spare parts list

Please read carefully and become familiar with this entire instructions manual. Learn the tool's applications, limitations and possible hazards.

Using this instruction manual will

- make it easier for you to get used to the machine,
- help prevent faults occurring due to improper use and
- increase the service life of your machine.

Keep this instruction manual in an easily accessible place. Only operate this machine if you are qualified to do so and follow the guidelines in this instruction manual.

PROXXON does not accept responsibility for the safe functioning of the machine

- if it is handled in a manner which constitutes improper use,
- if it is used for other purposes which are not specified in the instruction manual,
- if the safety regulations are not observed.

Warranty claims are invalid if

- the machine is incorrectly operated,
- the machine has not been sufficiently maintained.

In the interests of your safety, please always observe the safety regulations.

Only use genuine PROXXON spare parts.
We reserve the right to make further alterations for the purpose of technical progress.
We wish you every success with your machine.

Safety instructions

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
8. USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.
9. USE PROPER EXTENSION CORD. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.
10. WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
Exception: The reference to gloves may be omitted from the instructions for a grinder.
11. ALWAYS USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
12. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
13. DON'T OVERREACH. Keep proper footing and balance at all times.
14. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.
16. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.
17. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
18. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

19. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.
22. WHEN SERVICING USE ONLY IDENTICAL REPLACEMENT PARTS.
23. TO REDUCE THE RISK OF ELECTRIC SHOCK, THIS EQUIPMENT HAS A POLARIZED PLUG. (One blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

Table 1:
Minimum gage for cord:

Total length of cord in feet	25 ft	50 ft	100 ft	150 ft
AWG:	18	16	16	14

Additional safety instructions:

- Ensure the workplace is tidy.
- Check the unit for damage before use (connection cable, protective devices, etc.), have defective parts replaced by qualified personnel.
- This unit corresponds to the pertinent safety regulations. Repairs (e.g., replacement of the power supply lead) may only be performed by a qualified electrician
- Never work without the safety equipment fitted.
- Do not use electrical power tools in the rain, in damp surroundings or in the vicinity of flammable liquids or gases.
- Only use the tool when the handle is dry and free from grease.
- Avoid contact with earthed components, e.g., pipes, radiators, ovens and refrigerators.
- Protect the connection lead from heat and sharp edges and route it so it cannot be damaged.
- Do not remove the plug from the socket by pulling on the cable.
- Do not pick up the unit by the cable.
- Keep children and third parties away from the workplace.
- Keep tools in childsafe locations when not in use.
- Do not overload the tool.
- Do not use the tool to perform operations for which it is not suitable.

- Replace blunt tools in good time.
- Visually inspect application tools to ensure they are in good working order and suitable for the task prior to setting up the job.
- Fasten tools securely.
- Clean the unit thoroughly following all work.
- Disconnect the plug from the power supply when the unit is not in use, before performing maintenance, tool replacement or repair work.
- Only plug the unit in when the unit is switched off.
- Always wear protective goggles (danger of tool breakage).
- If necessary, wear a protective dust mask.
- Only use appropriate working clothes (no loose sleeves, ties, jewelry).
- Wear a hair net if you have long hair.
- Only use accessories and spare parts recommended by PROXXON.
- Observe the max. permitted rotational speed.
- If necessary, use dust extract equipment.
- Do not use the tool when you are tired or under the influence of alcohol.
- Keep fingers away from rotating or fast moving tools (saws, etc.).
- Keep the operation instructions in a safe place.

Additional safety instructions for shapers:

WARNING

For Your Own Safety Read Instruction Manual Before Operating Shaper!

- Always wear eye protection.
- Feed workpiece against rotation of cutter.
- Do not use awkward hand positions.
- Keep fingers away from revolving cutter – use fixtures when necessary.
- Use overhead guard when adjustable fence is not in place.
- Fix the machine to a solid base.
- Always wear ear protection.

Description of the machine

The MT 300 table milling machine is ideal for shaping, grooving, chamfering, edging and taking out. With the milling cutter running at 30,000 rpm, clean and precise results with rapid waste removal are guaranteed. The cutter height can be adjusted for a wide range of tasks.

Overall view (fig. 1):


1. Housing
2. Table
3. Fence
4. Hand wheel for milling cutter height adjustment
5. On-Off switch
6. Fence clamping screw
7. Cutter shield (Guard)
8. Clamping screw for cutter shield
9. Milling cutter
10. Fixing holes
11. Vacuum cleaner connection
12. Spanner holder
13. Angle stop
14. Supply cable


Included in delivery:

- 1 pc. MICRO Shaper
- 2 pc. Spanners
- 1 pc. Extractor connection
- 1 pc. Angle stop
- 3 pc. Collets

Technical data:

Voltage:	110-120 V, 50/60 Hz, ~
Power:	1/8 hp (100 W) 10 min
Cutter speed:	30000 rpm
Table Size:	11 ¹ / ₂ " x 6" (293 x 150 mm)
Weight:	approx. 4,4 lb (2.0 kg)
Milling cutter shaft diameter:	up to 1/8" (3.2 mm)
Noise level:	91 dB(A)
Work piece height/thickness:	1,5" (40 mm)

Double Insulated 

For indoor use 

Operation

Before milling

Fixing the shaper

(see also fig. 2)

Before starting work, fasten the shaper to a solid wooden base with suitable screws. Fixing holes are provided for this purpose in the base of the housing. The wooden base can then, for example, be fixed to a bench by means of screw clamps.

Fitting and changing the milling cutter:

Note!

When carrying out any of the work described below, it is appropriate to raise the adjustable cutter shield (see fig. 1, item 7) to its maximum height. Disconnect by pulling the plug!

Fitting the milling cutter:

Note!

Ensure that the cutter is suitable for running speeds up to 30,000 rpm.

1. With one of the C-spanners provided, block the cutter shaft 1 (see fig. 3a). With the other, unscrew and remove the clamping nut, 2.
2. Insert a collet of the correct size in the mouth of the shaft and screw the clamping nut back on but do not tighten it.
3. Insert the selected milling cutter, 4, (fig. 3b).
4. Tighten the clamping nut, as shown in fig. 3b.

Changing the milling cutter:

1. As shown in fig. 3b, loosen but do not remove the clamping nut.
2. Remove the milling cutter, 4.
3. Insert a new milling cutter.
4. Re-tighten the clamping nut.

Note!

The diameter of the cutter shaft and the inner diameter of the collet must match! If this requires that to change the collet, proceed as described under "Fitting the milling cutter" above.

Cutter height adjustment

Before milling, the cutter height must be set. To this end, turn the hand wheel, 1, (fig. 4). Turn clockwise to raise the cutter, turn anti-clockwise to lower. Note that one full turn of the hand wheel corresponds to an adjustment of 1 mm (0,04 inch). With the adjustable dial, 2, the required cutter height can be set exactly.

Adjusting the fence (figs. 5 and 6)

As shown in fig. 5a, the fence is suitably positioned for bevelling or grooving the edges of boards.

1. Loosen the knurled screw, 1.
2. Swing the fence, 2, to obtain the desired cutting depth.
3. Re-tighten the knurled screw.

If grooves are to be cut in the surface of boards or similar items, the fence can be positioned as shown in fig. 5b).

Proceed as follows:

Note!

For this purpose, it is necessary to remove the cutter shield (fig. 1, item 7). In this case, loosen the knurled screw, 8, (fig. 1) and lift off the shield. When re-mounting the shield, ensure that the hexagonal tip on the shield engages correctly with the hexagonal socket of the milling cutter carriage.

1. Completely remove the knurled screw and the Allen screw, 1 and 2, (fig. 6), including the corresponding washers and sleeves.
2. Roughly estimate the distance from the milling cutter. The fence can then be fixed in the position shown as item 3 by inserting the screws in the appropriate threaded holes in the milling table. Do not forget the sleeves and washers. Do not immediately tighten the knurled screw.
3. The fine setting can now be carried out as described under "Adjusting the fence" above.

Angle stop (fig. 1, item 13)

This can be fitted in the groove provided and slid to the desired position. To adjust, loosen the knurled nut and rotate the plastic part

Milling

Fig. 7 shows some applications for the use with our MICRO-shaper.

Note!

Wear ear defenders!

Danger of injury:

Always work with the the milling cutter shield!
If you have to dismount the cutter protection for an application like shown in Fig. 7 c, be extremely careful!

Danger of injury!

Note!

For use in schools (children over 14 years age) the knurled screw of the milling cutter shield must be replaced by a screw requiring a tool and the cutter shield must be set at 5 mm (0,2 inch).
The cutter shield must be set so that it covers the cutter immediately above the work piece. Exercise particular care when milling workpieces over 5 mm (0,2 inch) thickness.

Keep your fingers clear of the rotating cutter. The workpiece may only be so long and wide as can be properly supported and fed on the milling table. The cutting depth should never exceed 0.04 inch. For milling, the work piece is slid along the fence. It must be ensured that the cutting depth and feed rate are not excessive! Cutting too deeply and too high a feed rate lead to poor results and load the mechanism unnecessarily. It is preferable to make a number of milling passes with small adjustments of the fence and/ or the cutter height.

Note!

It is recommended that the dust extraction should always be used. A rubber extractor connection is located on the rear of the machine. Vacuum cleaner can be readily connected here.

Care and maintenance

Note!

Defective parts should be changed by a qualified technician.

Note!

Before carrying out repairs, pull the electrical plug. The shaper requires little maintenance. To prolong its life, you should clean the machine after each use with compressed air or a soft cloth. Always use the dust extractor.

Maintenance

Important

Pull out the mains plug prior to commencing all maintenance and repair work.

Warning!

Turn switch OFF and always remove plug from power source before making any adjustments or repairs.
If any part is missing or damaged, do not plug the tool in until the missing or damaged part is replaced, and assembly is complete. To avoid electrical shock, use only identical replacement parts when servicing the tool.

Warning!

To avoid fire or toxic reaction, never use gasoline, naphtha, acetone, lacquer thinner, or similar highly volatile solvents to clean the MICRO Shaper.
Do not allow brake fluids, gasoline, or penetrating oils to come in contact with the plastic parts. They contain chemicals that can damage or destroy plastics!

All electrical or mechanical repairs should be done only by qualified service technicians.

When servicing use only PROXXON replacement parts. Use of any other parts may create a hazard or cause product damage.

Any attempt to repair or replace electrical parts on this tool may create a hazard unless repair is done by a qualified service technician.

Repair service is available at your PROXXON service center
(You find the address at address at the back of this manual).