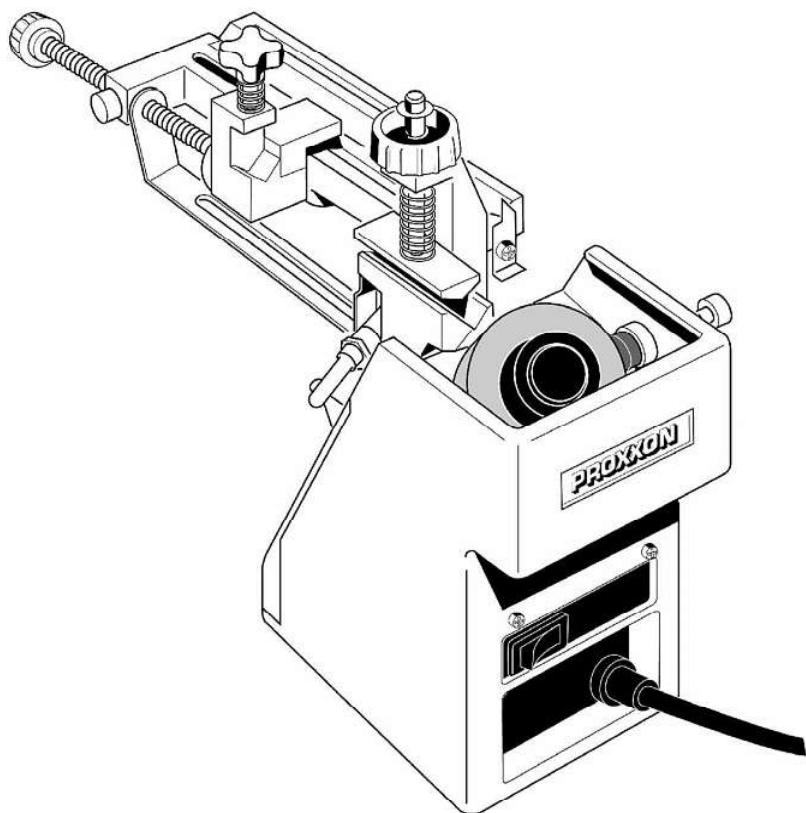


# PROXXON

## BSG 220



## Manual

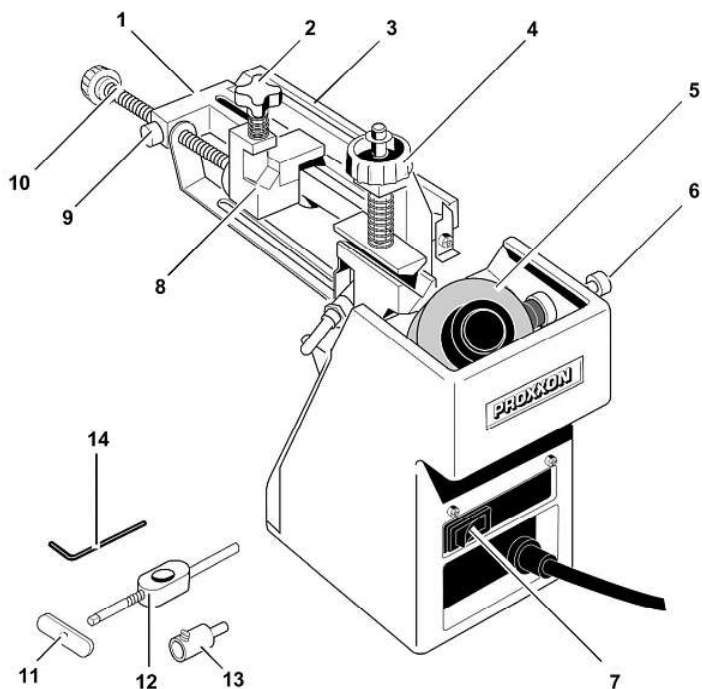


Fig. 1

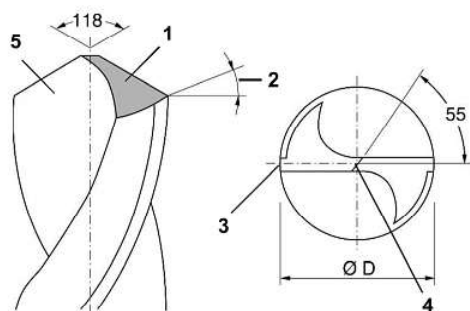


Fig. 2

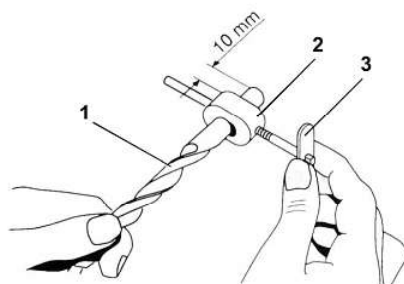


Fig. 3

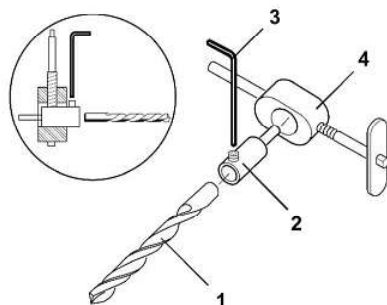


Fig. 4

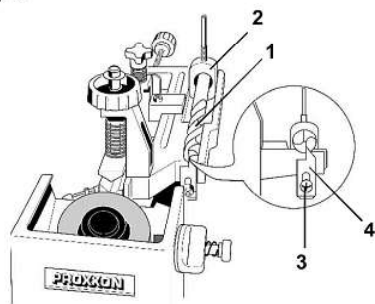


Fig. 5



# Translation of the Original Operating Instructions Drill grinder BSG 220

Dear customer!

The PROXXON drill grinder BSG 220 is a compact but powerful machine offering excellent grinding power.

The following instruction manual includes:

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Using these instructions will

- **help you** to get to know the machine.
- **avoid** malfunctions caused by improper operation and
- **prolong** the lifetime of your machine.

Always keep this manual close at hand.

Operate this machine only with exact knowledge and in compliance with these instructions.

PROXXON will not assume liability for the safe function of the machine if:

- it is handled in a way that does not comply with the usual modes of operation,
- it is used for purposes other than the ones mentioned in this manual,
- the safety regulations are neglected.

No warranty claims can be lodged for faults resulting from:

- operating errors,
- inadequate maintenance.

For your own safety you should always comply with the safety regulations.

Use only genuine PROXXON spare parts. We reserve the right for modifications resulting from the technical development. We wish you successful work with your machine.

## Safety regulations:

### General notes on safety

#### ATTENTION!

**When using electric power tools the following general precautions must be adhered to as protection against electric shock, injury and fire hazards.**

**Please read and follow all these notes before taking this product into service. Keep these notes on safety in a safe place.**

#### Safe working

##### Keep your workplace clean and tidy!

An untidy workplace can cause accidents.

##### Consider environmental influences!

Do not expose tools to rain.

Do not use tools in a moist or wet environment.

Ensure sufficient light.

Do not use tools near combustible fluids or gases.

##### Protect yourself against electric shock!

Avoid physical contact with grounded parts.

##### Keep other people away!

Do not allow other people, especially children, touch the tool or the cable. Keep them away from your working area.

##### Store unused tools in a safe place!

Store unused tools in a dry, locked place and out of the reach of children.

##### Do not overload your tool!

You will work better and safer in the specified power range.

##### Use the correct tool!

Do not use any weak machines for tough jobs.

Do not use tools for purposes they are not intended for. Do not use e.g. a circular saw to cut tree branches or firewood.

##### Wear suitable working clothes!

Do not wear wide clothes or jewellery, these could be caught by moving parts.

When working outdoors it is recommended to wear skid-proof shoes.

If you have long hair, wear a hair net.

##### Use protection gear!

Wear goggles.

Wear a breather mask under dusty working conditions.

**Connect the dust extractor!**

If connections for dust extraction and collecting devices are available, make sure that these are connected and in use.

**Do not use the cable for purposes it is not intended for!**

Do not pull the mains plug out of the socket by the cable. Protect the cable against heat, oil and sharp edges.

**Secure the work piece!**

Use the clamping devices or a vice to hold the work piece. It is thereby more reliably held than by hand.

**Avoid abnormal body positions!**

Ensure safe standing and keep your balance at all times.

**Service your tools with greatest care!**

Keep your tools sharp and clean, in order to work safer and better.

Follow the maintenance instructions and the notes about tool change.

Check the cable regularly and let it be renewed upon damage by a professional technician.

Check the extension cable regularly and let it be renewed if it is damaged.

Keep handles dry and free of oil and grease.

**Do not leave tool spanners inserted!**

Always make sure that spanners and adjustment tools have been removed before switching on.

**Pull the plug out of the socket:**

if the tool is not in use, before maintenance and when changing the tools, e. g. saw blade, drill, milling cutter.

**Avoid unintended starting!**

Make sure the switch is in off position when inserting the plug into the socket.

**Outdoor use of extension cable.**

Only use approved and specially marked extension cables for outdoor use.

**Be alert!**

Be aware of what you do. Approach your work in a reasonable way. Do not use the tool if you are tired.

**Check the tool for possible damages!**

Before further use of the tool, all safety features or slightly damaged parts must be thoroughly inspected for their correct function as intended.

Check whether movable parts work correctly and are neither jammed nor damaged. All parts must be correctly assembled and meet all prerequisites for trouble free operation of the tool. Damaged safety features and parts must be properly repaired or replaced by an approved workshop if not specified otherwise in the operating instructions.

Have damaged switches replaced in a service workshop.

Do not use tools, on which the switch can no longer be switched on and off.

**WARNING!**

**The use of other attachment tools and accessories can cause risk of injury!**

**Let your tool be repaired by a skilled electrician!**

This tool corresponds with the applicable safety regulations. Repairs must only be carried out by a skilled electrician and by using original spare parts, as otherwise accidents can not be ruled out.

## Overall view (Fig. 1):

---

1. Swivel arm
2. Clamp screw for drill shank
3. Positioning prism
4. Knurled screw with spring pressure hold-down
5. Grinding wheel
6. Dressing device for grinding wheel
7. ON - OFF switch
8. Clamping prism
9. Index knob for rapid length adjustment
10. Drill feed spindle
11. Spanner to clamp the spiral drill
12. Clamp for drill guide
13. Adapter for drill with less than 3 mm in diameter
14. Allen key for adapter

## Description of machine:

---


With the PROXXON drill grinder BSG 220 you can perfectly grind all spiral drills with a diameter between 3 and 13 mm and a standard angle (118°, DIN 1412). The drill may be of HSS, CrV or WS (tool steel). With the swivel movement around two axes during the grinding process the correct "relief" for optimal drilling is achieved. With the integrated dressing stone the special fused alumina grinding wheel can be perfectly cleaned and smoothened after longer use.

### Scope of delivery:



- 1 pcs. drill grinder
- 1 pcs. spare grinding wheel
- 1 pcs. adapter for drills < ø3 mm
- 1 pcs. clamping bar cpl.
- 1 pcs. Allen key small
- 1 pcs. Allen key large

## Technical data:

### Motor:

Voltage:	220 - 240 V, 50 Hz, ~
Power:	85 Watt
Speed:	8000 rpm
Noise development:	< 70 dB(A)
Degree of protection II device	

### Machine:

Grinding wheel:	Special fused alumina, 50 x 13 x 27 mm
Dimensions:	290 x 200 x 110 mm
Weight:	approx. 1.7 kg
Only for use in dry environments!	
Do not dispose of the machine with your normal household refuse!	

### Working range:

Drill diameter:	3 - 13 mm
Length of drill:	approx. 80 - 170 mm

## Fastening the drill grinder:

---

Before starting work fasten the drill grinder with two wood screws to a stable wooden board. The base plate of the machine is provided with the necessary bores. The wooden plate can then be fastened to a table with screw clamps.

## Operation:

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### Before grinding:

#### Note!

**Broken off drills must be manually pre-ground on a buffing machine.**

#### Attention!

**Only correctly ground drills will achieve perfect results. Therefore please observe the special information and tables in this manual.**

Fig. 2 shows the essential drill data:

- Main cutting edge (1)
- Relief angle (2)
- Chamfer (3)
- Chisel edge (4)
- Chip channel (5)

1. Insert drill **1** (Fig. 3) into the bore of clamp **2**. Let the drill shank protrude for approx. 10 mm at the rear so that it can be fixed in the clamping prism. Do not yet tighten clamp screw **3**.
2. Lay drill **1** (Fig. 5) with clamp **2** into the positioning prism, push forward against the stop and align, as shown in Fig. **5** (cutting edges vertical).
3. Slacken screw **3** and adjust adjustment bar **4** accordingly.
4. Fasten the drill in clamp **2** using Allen key **1** (Fig. 7).
5. Turn spindle **1** (Fig. 9) until the drill **2** slightly contacts the grinding wheel **3**. Read the scale value **4** and turn the spindle **1** exactly one turn back. The clearance between drill **2** and grinding wheel is now 1 mm.
6. Switch the machine on by the ON – OFF switch **7** (Fig. 1).

### **Note!**

***Remember the position on scale 4 (Fig. 9)! After grinding the first cutting edge the drill is turned around in the positioning prism and at this point it must have the same distance to the grinding wheel as before the first cutting edge was ground. Otherwise the drill will be asymmetric.***

7. Move the swivel arm smoothly and evenly to the right against the stop while advancing the feed spindle **1** (Fig. 10) slowly in direction B. Repeat this process, until the cutting edge of the drill is sharp.

### **Note!**

***A drill is normally correctly sharpened after 4-5 swivelling movements. Remember the position on the scale!***

8. Return feed spindle **1** (Fig. 11) to the previously remembered scale value **4**.
9. Switch the machine off by the ON – OFF switch **7** (Fig. 1).
10. Turn knurled screw **3** (Fig. 11) in direction A and slacken clamp screw **2** so that the drill can be removed from the clamp.

### **Attention!**

***At this point do not loosen the clamp!***

11. Turn the drill with the clamp for 180°, lay it into the positioning prism and fasten it in the clamping prism, as described for grinding the first cutting edge.
12. Switch the machine on by the ON - OFF switch **7** (Fig 1) and grind the second cutting edge.

### **Attention!**

***When grinding the second cutting edge stop the feed at exactly the same position at which the first grinding process was finished. Otherwise the drill will be asymmetric.***

## **Drills with diameter of less than 3 mm:**

Drills with a diameter of less than 3 mm must be clamped in the adapter 13 (Fig. 1) supplied for this purpose.

Adapters for spiral drill diameters

1.5/1.6/2.0/2.4/2.5 and 3.0 mm are available as accessories. In this case proceed as follows:

Insert drill **1** (Fig. 4) into the adapter **2** and fasten with the Allen key **3**. The shank of the adapter has a diameter of 10 mm. Insert the drill with the adapter into clamp **4**. The machine must then be adjusted as previously described for a drill with a 10 mm diameter.

## **Grinding the drill:**

### **Danger!**

***Always wear goggles when performing grinding work!***

***Wear only suitable working clothes (no wide arms, ties, jewellery).***

1. Turn knurled screw **1** (Fig. 8) in direction B to open the positioning prism.
2. Lay the drill into the positioning prism and insert a guide pin **2** of the clamp into the slot **3** in the swivel arm.
3. Turn knurled screw **1** in direction A to close the positioning prism.
4. Fix the drill shank in clamping prism **5**. For this purpose press index knob **4**, move the clamping prism forward and slightly clamp the drill shank with screw **6**.

### **Note!**

***In case of small or too short drills clamping with screw 6 (Fig. 8) is not necessary. In any case ensure exact axial stop and guidance in the clamping prism 5 (Fig. 8)!***

## Relief angle adjustment:

### Note!

**The relief angle is generally adjusted by the positioning in the clamp (Fig. 5). The relief angle setting is factory set for the drill diameters from 3 to 13 mm and should only be adjusted in exceptional cases.**

Adjust hexagon nut 1 (Fig. 13) of the adjustment spindle according to table (Fig. 12).

## Dressing the grinding wheel:

### Note!

**If grooves have formed or if the grinding wheel is blocked it must be dressed, in order to achieve good grinding results.**

### Attention!

**Wear goggles!**

1. Switch the drill grinder on by the ON – OFF switch **7** (Fig. 1).
2. Press knob **1** (Fig. 14) slightly down and move the pressing part **2** several times up and down, until the complete front face of the grinding wheel has been processed.

## Replacing the grinding wheel:

### Attention!

**Replace the grinding wheel once it has reached a diameter of less than 45 mm. A spare grinding wheel Part-No.: 21200-58 is delivered with the machine.**

1. Pull out the mains plug.
2. Remove cap **1** (Fig. 15) with a screwdriver or similar.
3. Unscrew socket head cap screw **2** (Fig. 15), remove washer **3** and grinding wheel **5** with clamping flange **4**.
4. Mount the new grinding wheel **5** with clamping flange **4** and washer **3**. Tighten socket head cap screw **2** and plug on cap **1**. Plug in the main plug.

## Care and maintenance:

The drill grinder is almost maintenance free. For a long lifetime you should clean the machine after each use with compressed air and a soft cloth, because the grinding dust is very aggressive.

## Waste disposal:



Do not dispose of the machine with your normal household refuse! The machine contains materials which can be recycled. If you have any questions on this matter please ask your local waste disposal company or other municipal facilities.

## EC Declaration of Conformity

Name and address:

PROXXON S.A.  
6-10, Hårebiorg  
L-6868 Wecker

Product designation: BSG 220

Article No.: 21200

In sole responsibility, we declare that this product conforms to the following directives and normative documents:

### **EU EMC Directive 2004/108/EC**

DIN EN 55014-1 / 05.2012

DIN EN 55014-2 / 06.2009

DIN EN 61000-3-2 / 03.2010

DIN EN 61000-3-3 / 07.2012

### **EU Machinery Directive 2006/42/EC**

DIN EN 61029-1 / 01.2010

Date: 16.10.2012

Dipl.-Ing. Jörg Wagner

PROXXON S.A.

Machine Safety Department

The CE document authorized agent is identical with the signatory.

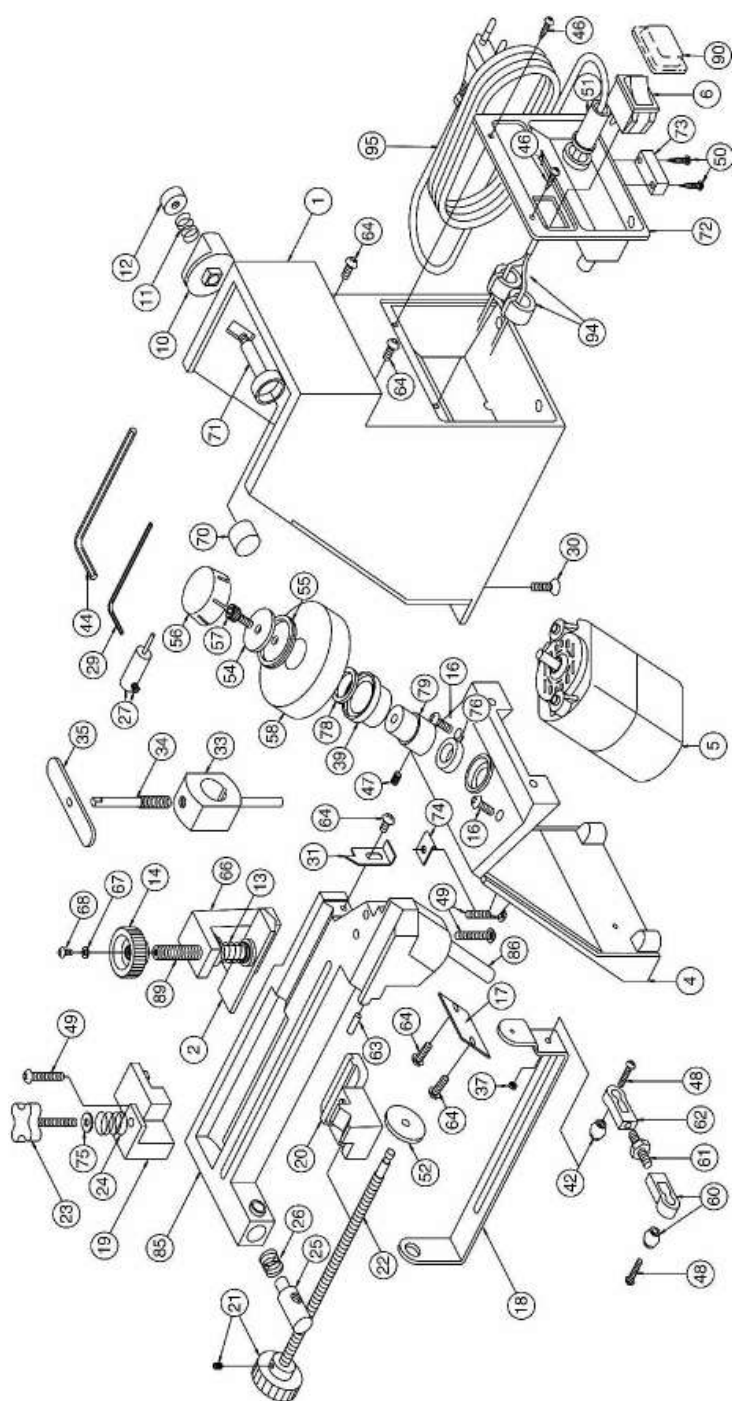
## Ersatzteilliste:

Ersatzteile schriftlich beim PROXXON Zentralservice  
bestellen (Adresse auf der Rückseite der Anleitung)

PROXXON Bohrschärfgerät BSG 220

ET - Nr.:	Benennung		
21200-01	Gehäuse	21200-51	Zugentlastung
21200-02	Andruckprisma	21200-52	Skalenscheibe
21200-04	Motorhalter	21200-54	Unterlegscheibe
21200-05	Motor	21200-55	Abdeckscheibe
21200-06	Ein-/Ausschalter	21200-56	Abdeckkappe
21200-10	Schiebeknopf	21200-57	Innensechskantschraube
21200-11	Druckfeder	21200-58	Schleifscheibe (Zubehör)
21200-12	Druckknopf	21200-60	Kugelpopf, links
21200-13	Druckfeder für Andruckprisma	21200-61	Stellschraube
21200-14	Rändelmutter	21200-62	Kugelpopf, rechts
21200-16	Befestigungsschrauben	21200-63	Stift
21200-17	Befestigungsplatte	21200-64	Befestigungsschrauben
21200-18	Bügel für Axialdrehung	21200-66	Prismenhalter
21200-19	Halterung für Klemmschraube	21200-67	Unterlegscheibe
21200-20	Prisma für Bohrschaft	21200-68	Befestigungsschraube
21200-21	Rändelschraube	21200-70	Abziehstein
21200-22	Spindel	21200-71	Halter für Abziehstein
21200-23	Sterngriff	21200-72	Halter Kabel/Platine
21200-24	Druckfeder	21200-73	Halteböckchen
21200-25	Druckknopf	21200-74	Stützblech
21200-26	Druckfeder	21200-75	Scheibe
21200-27	Adapter komplett	21200-76	Kugellager
21200-29	Innensechskantschlüssel klein	21200-78	Ring
21200-30	Gehäuseschraube	21200-79	Buchse
21200-31	Justieranschlag	21200-85	Schwenkarm
21200-33	Klemmeisen	21200-86	Stab
21200-34	Klemmeisenspindel	21200-89	Bolzen
21200-35	Schlüssel für Klemmeisen	21200-90	Abdeckkappe für Schalter
21200-37	Sechskantmutter	21200-94	Ferrite
21200-39	Abdeckung	21200-95	Netzkabel
21200-42	Kugelstück	21200-98	Artikelverpackung
21200-44	Innensechskantschlüssel groß	21200-99	Bedienungsanleitung
21200-46	Befestigungsschraube		
21200-47	Gewindestift		
21200-48	Halteschraube, Kugelpopf		
21200-49	Befestigungsschraube		
21200-50	Befestigungsschraube		





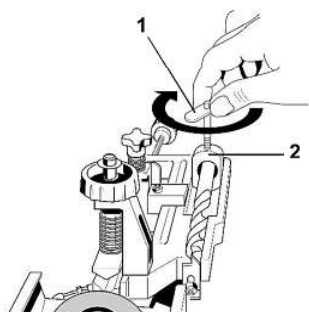


Fig. 7

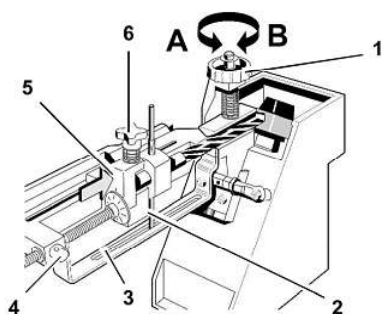


Fig. 8

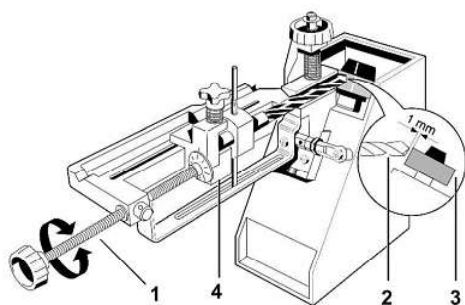


Fig. 9

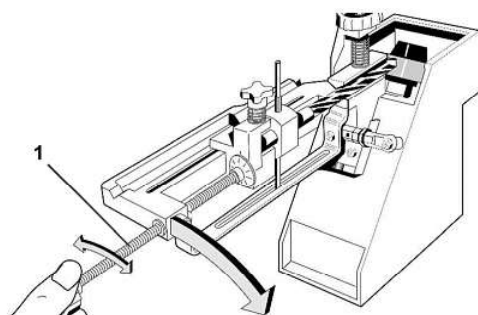


Fig. 10

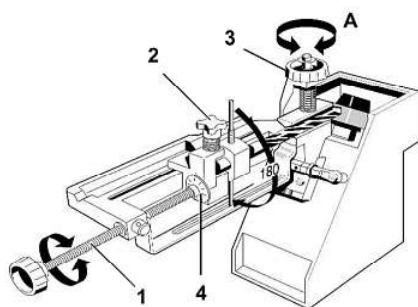


Fig. 11

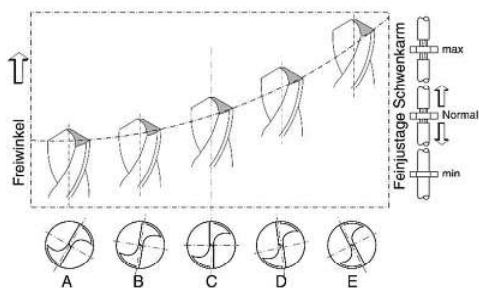
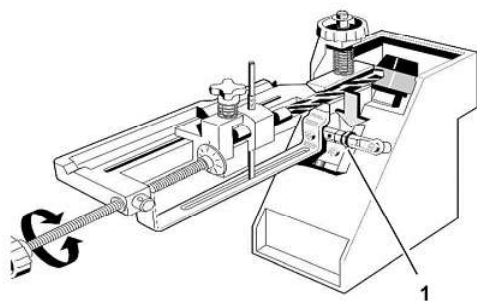
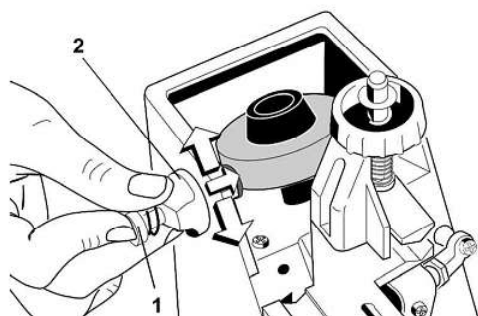


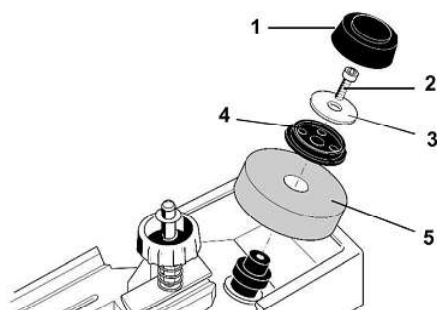
Fig. 12



**Fig. 13**



**Fig. 14**



**Fig. 15**

# PROXXON

## **GB** Service note

All PROXXON products are thoroughly inspected after production. Should a defect occur nevertheless, please contact the dealer from whom you purchased the product. Only the dealer is responsible for handling all legal warranty claims which refer exclusively to material and manufacturer error.

Improper use, such as capacity overload, damage due to outside influences and normal wear are excluded from the warranty.

You will find further notes for each country regarding "Service and Spare Parts Management" at [www.proxxon.com](http://www.proxxon.com).