

Translation of the Original Operating Instructions EKF Series 300/500/600



Fig. 1

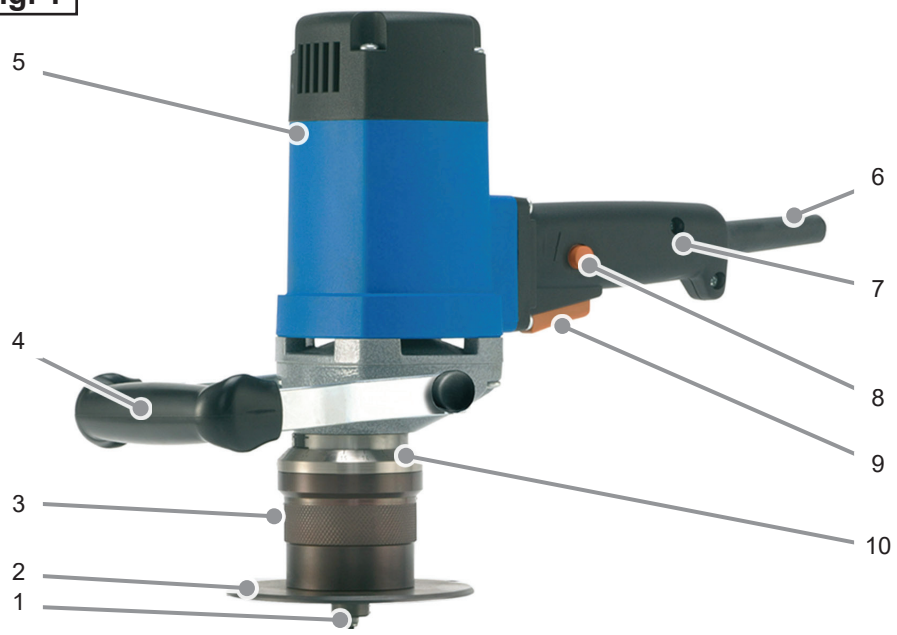


Fig. 2

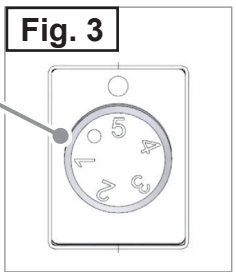
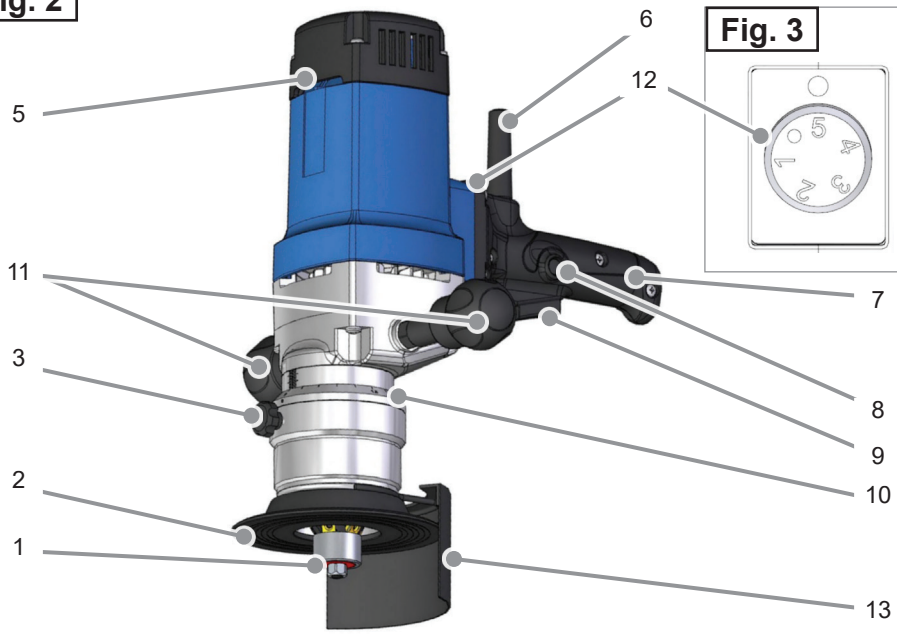


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Dear Customer,

Before using the machine, please read the operating instructions contained in these operating instructions on startup, safety, intended use as well as cleaning and care.

The links and illustrations in these instructions refer to the illustrations on the inside of the cover.

Keep these operating instructions for later use and pass them onto the next owner of the machine.

General instructions

Copyright

This document is subject to copyright. Duplication or reprinting, even in part as well as reproduction of the illustrations, even if modified, is only permitted with written consent of the manufacturer.

Liability disclaimer

All technical information, data and instructions contained in these operating instructions for startup, operation and care correspond to the latest requirements at the time of printing.

The manufacturer assumes no liability for damage or injury resulting from failure to observe the operating instructions, use for other than the intended purpose, unprofessional repairs, unauthorised modifications or use of non-approved spare parts and accessories, tools and lubricants.

Instructions on disposal



The packaging materials used can be recycled. When no longer required, dispose of the packing materials according to local environmental regulations.



This product may not be disposed of in the European Union via the normal household refuse. Dispose of the device via communal collection points.



The lubricant used can contain substances dangerous to the environment. Dispose of the lubricant according to local regulations. Observe the disposal instructions from the lubricant manufacturer.

Safety warning structure

The following warnings are used in these operating instructions:

DANGER

A warning of this category indicates an impending dangerous situation.

If the dangerous situation is not avoided, it may lead to serious injury or even death.

- ▶ Follow the instructions in this warning to avoid possible danger of serious injury or even death.

WARNING

A warning of this category indicates a potentially dangerous situation.

If the dangerous situation is not avoided, it may lead to serious injury or even death.

- ▶ Follow the instructions in this warning to avoid possible danger of injury to persons.

ATTENTION

A warning of this category indicates potential danger to property.

If the situation is not avoided, it may lead to material damage.

- ▶ Follow the instructions in this warning to avoid material damage.

NOTE

- ▶ A note indicates additional information that simplifies the use of the machine.

Intended use

The machine is only intended for cutting chamfers or curves. For this purpose, the machine must be held by both hands and guided over the material to be processed.

Any use other than previously stated is considered as improper use.

WARNING

Danger due to improper use!

If not used for its intended purpose and/or used in any other way, the machine may be or become a source of danger.

- ▶ Use the machine only for its intended purpose.
- ▶ Observe the procedures described in these operating instructions.

No claims of any kind will be accepted for damage resulting from use of the system for other than its intended purpose.

The risk must be borne solely by the user.

NOTE

- ▶ If used commercially, pay attention to compliance with the accident prevention and occupational safety regulations.

Safety

NOTE

When using electrical tools, the following fundamental precautions must be taken to protect against electric shock, fire, injuries and damage to property!

Fundamental safety instructions

- Do not use the machine in potentially flammable or explosive environments.
- Persons, who are unable to safely operate the machine due to their physical, mental or motor abilities, may only use the machine under the supervision or instruction of a person responsible.
- Children are not permitted to use the machine.
- Inspect the machine for visible signs of damage before use. Do not operate a damaged machine.
- Before beginning work, check the condition of the machine and the function of the operating elements.
- Repairs to the connecting cable may only be performed by a qualified electrician.
- Repairs to the machine may only be performed by an authorised specialist workshop or factory customer service. Improper repairs can cause considerable danger to the user.
- Repairs to the machine during the guarantee period may only be performed by a customer service authorised by the manufacturer, otherwise the guarantee is invalid.
- Defective parts may only be replaced with original spare parts. Only these parts ensure that the safety requirements are met.
- Do not leave the machine unsupervised during operation.
- Store the machine in a dry, temperate location out of the reach of children.
- Do not allow the machine to stand outside and do not expose to moisture.
- Make sure that your work area is sufficiently lit (>300 Lux).
- Do not use low-power machines for heavy working.
- Pay attention to cleanliness at the workplace.
- Keep the machine clean, dry and free of oil and grease.

Danger from electric current!

DANGER

**Danger to life due to electric current!
Contact with live wires or components
can lead to serious injury or even
death!**

Observe the following safety precautions to avoid any danger from electric current:

- ▶ Do not open the housing of the machine. Risk of electric shock from touching live connections.
- ▶ Never immerse the machine or mains plug in water or other liquids.
- ▶ Only use extension cables or cable drums with a cable cross-section of at least 1.5 mm².
- ▶ Only use extension cables that are approved for the location of use.
- ▶ Check the condition of the extension cable regularly and replace if damaged.
- ▶ Avoid bodily contact with grounded parts (e.g., pipes, radiators, steel girders) to reduce the risk of electric shock in the event of a defect.
- ▶ When using the machine outside or in a humid environment, an RCD (residual circuit device) must be used.

Risk of injury!

WARNING

**Risk of injury from engine starting
unintentionally!**

Pay attention to the following safety notes to avoid danger from motor starting unintentionally:

For safe stopping of the motor:

- ▶ Switch the machine off with the ON/OFF switch (9).
- ▶ Disconnect the voltage supply (pull out the mains plug).

⚠ WARNING**Improper handling of the machine increases the risk of injury!**

Pay attention to the following safety instructions in order not to injure others or yourself:

- ▶ Operate the machine only with the protective equipment specified in these instructions (see section **“Personal protective equipment”**).
- ▶ **Do not** wear protective gloves when the machine is running. A glove can be caught by the machine and torn off the hand. Risk of losing one or more fingers.
- ▶ Remove loose jewellery before beginning work.
- ▶ Wear a hair net if you have long hair.
- ▶ Always switch off the machine before changing tools, performing maintenance or cleaning. Wait until the machine has come to a complete standstill.
- ▶ Always remove the plug from the mains socket before changing tools, cleaning or performing maintenance work in order to avoid unintentional starting of the machine.
- ▶ Do not put your hand into the machine while it is in operation. Remove swarf only when the machine is at a standstill. Wear protective gloves when removing swarf.
- ▶ Check that the tool is tightened securely before using (see section **“Inserting the tool”**).
- ▶ Do not allow the connecting cable to hang over edges (trip effect).

Preventing damage**ATTENTION****Potential damage to property if the machine is improperly used!**

Observe the following instructions to avoid damage to property:

- ▶ Before connecting the machine, compare the connection data (voltage and frequency) on the type plate with those of your mains power supply. The data must correspond in order to avoid damage to the machine.
- ▶ Always use the handle to carry the machine and not the connecting cable.
- ▶ Do not pull the mains cable to remove the plug from the mains socket.
- ▶ Do not crush the connecting cable.
- ▶ Do not subject the connecting cable to heat or chemical liquids.
- ▶ Do not pull the connecting cable across sharp edges or hot surfaces.
- ▶ Lay the connecting cable in such a way that it cannot be caught and wound up in the rotating part of the machine.

Safety equipment

Overheat protection (EKF series 500/600 only)

The machine is also protected against overheating. If the machine becomes too hot, it switches off automatically.

Perform the following steps before continuing to work with the machine:

- Allow the machine to run at idle for approx. 2 minutes.

The machine is then ready for operation again.

Swarf guard (EKF series 500/600 only)

The machine is equipped with swarf protection that largely prevents swarf from spinning out.

Symbols on the machine

The symbols on the machine have the following meaning:

Symbol	Meaning
	Electric shock hazard!
	Read the operating instructions before beginning work!
	Wear protective goggles and ear protection!

Personal protective equipment

Wear the following protective equipment at all times when operating the machine:

Symbol	Meaning
	Close-fitting work protection clothing with a low tear strength
	Goggles for protecting eyes against flying parts and liquids and ear protection in areas with noise emission >80 dB(A)
	Safety shoes for protecting feet against falling objects.

Also wear the following protective equipment during special work:

Symbol	Meaning
	Helmet for protecting your head against falling objects
	Gloves for protection against injuries

Model overview

Series	Machine description
EKF Series 300	EKF 300
	EKF 450
	EKF 452
EKF Series 500	EKF 530
	EKF 545
EKF Series 600	EKF 630
	EKF 645

Components / delivery contents

Machine overview

EKF Series 300 (fig. 2)	
1	Milling cutter: 1-row
2	Supporting plate
3	Clamping screw
4	Handle
5	Engine drive
6	Connecting cable
7	Handle (with ON/OFF switch)
8	Locking mechanism
9	ON/OFF switch
10	Ring scale

EKF Series 500/600 (fig. 2)	
1	Milling cutter: 1-row for EKF Series 500 2-row for EKF Series 600
2	Supporting plate
3	Clamping screw
(-)	
5	Engine drive
6	Connecting cable
7	Handle (with ON/OFF switch)
8	Locking mechanism
9	ON/OFF switch
10	Ring scale
11	Side handle (1x short/1x long)
12	Speed regulator (fig. 3)
13	Swarf protection

Scope of supply

Machine	EKF Series 300			EKF Series 500		EKF Series 600	
	EKF 300	EKF 450	EKF 452	EKF 530	EKF 545	EKF 630	EKF 645
Milling cutter (image)	ZFR 300.3 (F1)	ZFR 450.3 (F2)	ZFR 452.3 (-)	ZFR 530 (F3)	ZFR 545 (F4)	ZFR 630 (F5)	ZFR 645 (F6)
Hard metal reversing plates (number)	SHM 200 (3)	SHM 200 (3)	SHM 202 (3)	SHM 900 (6)	SHM 900 (6)	SHM 900 (10)	SHM 900 (10)
Hook-wrench (C)	34/36	34/36	34/36	45/50	52/55	52/55	58/62
Screwdriver (Torx) (B)	TX 9	TX 9	TX 9	TX 15	TX 15	TX 15	TX 15
Open-end wrench (A)	SW 22	SW 22	SW 22	SW 22	SW 22	SW 22	SW 22
Transport case (not illustrated)	✓	✓	✓	✓	✓	✓	✓
Operating instructions/ guarantee card (not illustrated)	✓	✓	✓	✓	✓	✓	✓

Before using for the first time

Transport inspection

As standard, the machine is supplied with the components indicated in the “**Scope of supply**” section.

NOTE

- ▶ Check for visible signs of damage or missing items on delivery. Report an incomplete or damaged delivery to your dealer/supplier immediately.

Preparation

This section contains important instructions on the required preparation before beginning any work.

Safety measures

WARNING

Risk of injury from a workpiece.

Pressure must exerted by the machine on and against the work piece during cutting work, which can cause the work to piece to fall. This can lead to serious injuries.

- ▶ Secure the workpiece by suitable means against falling down (e.g., clamping equipment).
- ▶ Use the protective equipment stipulated in the section “**Personal protective equipment**”.

Checking the properties of the workpiece

The surface of the workpiece must meet the following requirements.

- The surface must be completely smooth and level.
- There may not be any burn points, slag, welding joints or similar.

NOTE

- ▶ Before beginning with milling, remove surface unevenness.

Setting the chamfer height

Proceed as follows to set the chamfer height:

- ◆ Loosen the side clamping screw (3, fig. 4).
- ◆ Set the desired chamfer height by turning the entire machine head. The set value can be read from the ring scale (10, fig. 5) (one turn = 2 mm infeed).
- ◆ Tighten the clamping screw again.

Inserting the tool**⚠ WARNING****Risk of injury!**

- ▶ Do not use damaged, soiled or worn tools.
- ▶ Change tools only when the machine is switched off and at a standstill. Pull the plug out of the mains socket.
- ▶ After inserting, check that the tool is engaged securely.
- ▶ Only use tools, adapter and accessories that match the machine.

Proceed as follows to use the milling cutter:

- ◆ Loosen the side clamping screw (3, fig. 4).
- ◆ Unscrew the housing from the motor.
- ◆ Screw in the desired milling cutter.
- ◆ Screw on the housing again.
- ◆ Tight the clamping screw.

Setting the speed**NOTE**

- ▶ This function is only available for machines of the EKF Series 500/600.
- ▶ The speed can be reduced for processing stainless steel as well as hard and stiff materials.
- ◆ Set the speed by turning the speed regulator (12, fig. 3) to the required value.

Using

Switching on the machine

- ◆ To switch on the machine, press and hold down the ON/OFF switch (9).

Switching off the machine

- ◆ To switch off the machine, release the ON/OFF switch (9).

NOTE

If the ON/OFF switch is locked at the "ON" position by the locking mechanism (8):

- ▶ Press the ON/OFF switch again. The locking mechanism is released automatically.

Milling with the machine

For milling, proceed as follows:

- ◆ Align the workpiece to be processed horizontally and secure it.

ATTENTION

Potential damage to property if the machine is improperly used!

Observe the following instructions to avoid damage to property:

- ▶ Lay the connecting cable so that it cannot be caught by the running machine.
- ◆ Set the chamfer height, see section "**Setting the chamfer height**".
- ◆ Insert the plug into the mains socket.
- ◆ Clasp the handles and put the machine upright with the supporting plate onto the workpiece so that the milling milling cutter does not move onto the workpiece.

NOTE

- ▶ With the EKF Series 500/600, it is possible to use both side handles (11; 1x short/1x long) either left or right.
- ◆ Switch on the machine, see section "**Switching on the machine**".
- ◆ Wait until the necessary speed has been reached. This process takes approx. 3 seconds.

NOTE

Observe the following instructions:

- ▶ Never attach the reversing plates (20, fig 6) to the material during standstill.
- ▶ Maintain an even feed.
- ◆ Push the machine slowly and evenly in the opposite running direction of the tool. (feed direction = from left to right).

NOTE

Observe the following instructions:

- ▶ Pay attention to the direction of rotation marking on the supporting plate.
- ▶ In the case of machines of the EKF Series 500/600, the supporting plate rotates to reduce friction during processing.
- ▶ Make sure that the machine and the supporting plate rest on each other evenly.
- ◆ Before switching off, remove the machine from the tool.
- ◆ Switch off the machine, see section **“Switching off the machine”**.
- ◆ Pull the plug out of the mains socket.

Tool change**⚠ WARNING****Risk of injury!**

- ▶ Do not use damaged, soiled or worn tools.
- ▶ Change tools only when the machine is switched off and at a standstill. Pull the plug out of the mains socket.
- ▶ After inserting, check that the tool is engaged securely.
- ▶ Only use tools, adapter and accessories that match the machine.

Replacing the milling cutter

To replace the milling cutter, proceed as follows:

- ◆ Loosen the side clamping screw (3, fig. 4).
- ◆ Unscrew the housing from the motor.
- ◆ Loosen and remove the milling cutter with the tool supplied.
- ◆ Screw in the desired milling cutter.
- ◆ Screw on the housing again.
- ◆ Tight the clamping screw.

Turning the reversing plates

To turn the reversing plates (20, fig. 6), proceed as follows:

- ◆ Loosen the side clamping screw (3, fig. 4).
- ◆ Unscrew the housing from the motor.
- ◆ Loosen the fixing screws (21, fig. 6) with the tools supplied in the scope of supply, turn the reversing plate an screw tightly.
- ◆ Repeat the procedure for all reversing plates of the miller.
- ◆ Screw on the housing again.
- ◆ Tight the clamping screw.

Replacing the reversing plate

When the reversing plate (20, fig. 6) is completely worn, it must be replaced by a new one:

- ◆ Unscrew the Sie fixing screw (21, fig. 6) with the screwdriver (Torx) and remove the reversing plate.
- ◆ Insert the reversing plate and tighten the fastening screws again.

Cleaning/maintenance

⚠ WARNING

- ▶ Switch off the machine and disconnect the voltage supply before performing maintenance or cleaning (Pull the plug out of the mains socket).
- ▶ When using compressed air for cleaning, wear protective goggles and gloves and protect other persons in the working area.

ATTENTION

- ▶ Never immerse the machine in water or other liquids.

Cleaning

After each use

- ◆ Remove the swarf.
- ◆ Clean the tool and the tool and the machine.
- ◆ Put the machine and accessories into the transport case.

Maintenance

⚠ WARNING

Danger caused by unqualified repairs!

Unqualified repairs can lead to considerable danger for the user and cause damage to the machine.

- ▶ Repairs to electrical appliances may only be carried out by the works customer service or by specialists trained by the manufacturer.

Checking the milling cutter

- ◆ Check the milling cutter and the reversing plates regularly for wear.
- ◆ If necessary, turn or replace the reversing plate as described in section "**Tool change**".

If the entire milling cutter is worn or defective:

- ◆ Replace the milling cutter as described in section "**Tool change**".

Replacing the carbon brushes

Replacement of the carbon brushes may only be carried out by BDS or by an authorised specialist workshop. Unauthorised repairs will invalidate the guarantee.

Customer service/service

Should you have any questions on customer service/service, please contact BDS. We will be happy to give you the address of your nearest service partner.

Storage

If you do not intend to use the machine for a longer period of time, clean it as described in the section **“Cleaning”**. Store the machine and all its accessories in the transport case at a dry, clean and frost-free location.

Troubleshooting

Error	Possible cause	Remedy
The motor does not start after pressing the ON/OFF switch.	Plug not inserted into socket.	Insert plug.
	Circuit breaker switched off.	Switch on circuit breaker.
The circuit breaker in the power distributor trips.	Too many appliances connected to the same power circuit.	Reduce the number of appliances on the power circuit.
	The machine is defective.	Contact customer service.

NOTE

- ▶ If you cannot resolve the problem with the steps described above, please contact customer service.

Technical data

	EKF Series 300			EKF Series 500		EKF Series 600	
	EKF 300	EKF 450	EKF 452	EKF 530	EKF 545	EKF 630	EKF 645
Model							
Chamfer angle	30°	45°	Radius 2.5 mm	30°	45°	30°	45°
Chamfer width	0 - 5	0 - 6	-	0 - 12	0 - 12	0 - 15	0 - 15
Cutter type	ZFR 300.3	ZFR 450.3	ZFR 452.3	ZFR 530	ZFR 545	ZFR 630	ZFR 645
Cutting tool	Screw-in milling cutter with 3 hard metal reversing plates			Screw-in milling cutter with 6 hard metal reversing plates		Screw-in milling cutter with 10 hard metal reversing plates	
Dimensions (L x W x H)	310 x 295 x 138			375 x 350 x 300		400 x 350 x 300	
Approx. net weight.	4.6			9.3		10.2	
Operating voltage (see type plate)	220-240 V / 50-60 Hz or 110-125 V / 50-60 Hz			220-240 V / 50-60 Hz or 110-125 V / 50-60 Hz		220-240 V / 50-60 Hz or 110-125 V / 50-60 Hz	
Power consumption	1500			1800		2300	
Noise emission	90			88		88	
Vibration	1.53			1.55		1.55	
Rotating speed	6000			Continuous 1850 - 3350		Continuous 1600 - 3000	
Feed	manual			manual		manual	
Connecting cable length	4			4		4	
Protection class	I			I		I	
Protection type	IP20			IP20		IP20	

EC Declaration of Conformity


in accordance with Machine Directive 2006/42/EC, appendix II 1A	
Name/address of the manufacturer:	BDS Maschinen GmbH Martinstraße 108 D-41063 Mönchengladbach
We hereby declare that the product:	
Model:	Electric edge milling
Model	EKF Series 300/500/600
conforms to the following relevant regulations:	
<ul style="list-style-type: none"> ■ EC Directive 2006/42/EC on machinery 	
The following harmonised standards were applied in whole or in part:	
<ul style="list-style-type: none"> ● DIN EN ISO 12100:2011-03 ● DIN EN 62841-1:2016-07 ● DIN EN 60745-2-17:2011-6 	
Authorised person for compiling the technical documentation:	BDS Maschinen GmbH
Full technical documentation is available. The operating instructions associated with the product is available.	
It is required that the product is only operated as intended. Information on operating as intended can be obtained from the technical documentation.	
Mönchengladbach, 3rd April, 2017	 Wolfgang Schroeder, Technical Director _____ (Legally binding signature of the issuer)

Fig. 4

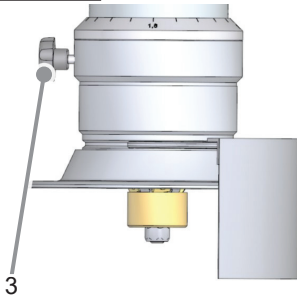


Fig. 5

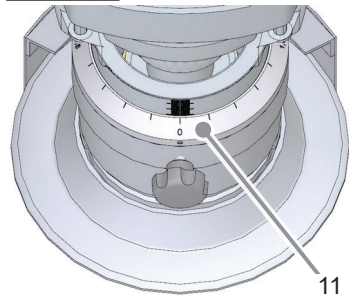
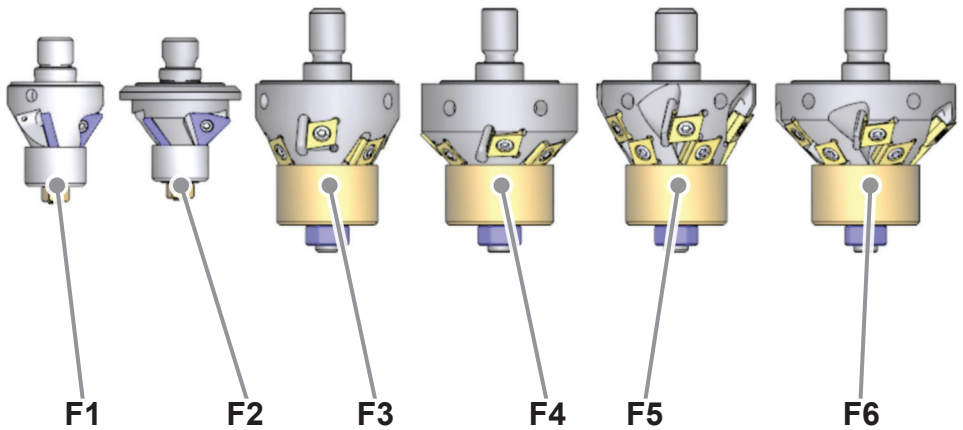
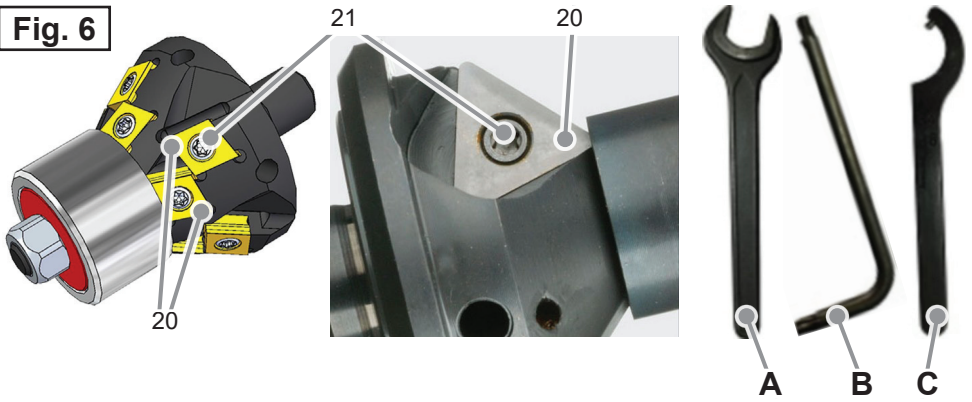


Fig. 6



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