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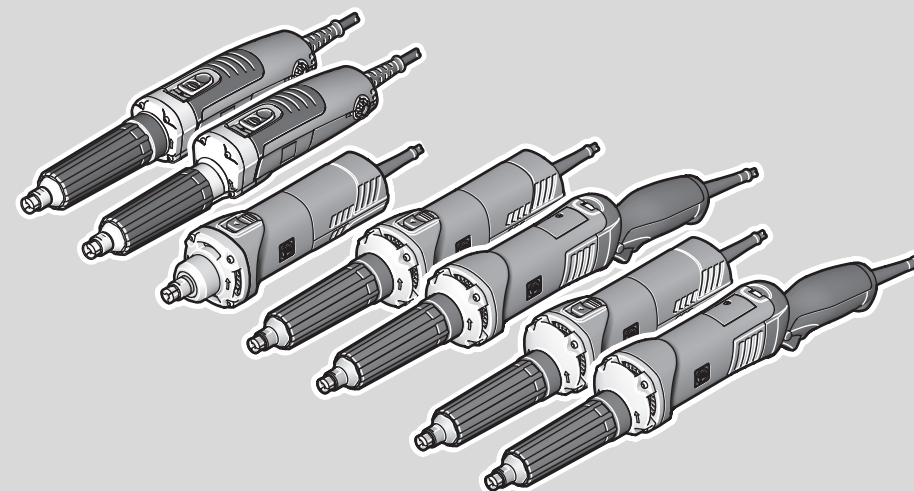
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en

Instruction Manual



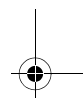
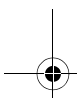
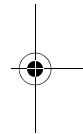
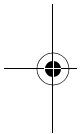
fr

Mode d'emploi



es

Instrucciones de uso



For your safety.

⚠ WARNING **Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future-reference.**

👤 Do not use this power tool before you have thoroughly read and completely understood this Instruction Manual, including the figures, specifications, safety regulations and the signs indicating DANGER, WARNING and CAUTION.

Only carry out such operations with this power tool as intended for by FEIN. Only use application tools and accessories that have been released by FEIN.

Please also observe the relevant national industrial safety regulations.

Non-observance of the safety instructions in the said documentation can lead to an electric shock, burns and/or severe injuries.

This Instruction Manual should be kept for later use and enclosed with the power tool, should it be passed on or sold.

SAVE THESE INSTRUCTIONS.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery operated (cordless) power tool.

General safety rules.

1) Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distraction can cause you to lose control.

2) Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.

3) Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

- c) **Prevent unintentional starting.** Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
 - d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
 - e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
 - f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
 - g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- 4) Power tool use and care**
- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
 - b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
 - c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
 - d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
 - e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
 - f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
 - g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- 5) Service**
- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

Special safety instructions.

Safety warnings common for sanding, working with wire brushes, polishing, grinding, sanding with sanding discs or cut-off grinding:

This power tool is to be used as a grinder, wire brush, polisher, for grinding, sanding with sanding discs and as a cut-off grinder. Observe all safety warnings, instructions, illustrations and specifications provided with

this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Do not use accessories which are not specifically designed and recommended by the tool manufacturer. Just because the accessory can be attached to your power tool, it does not assure safe operation.

The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool. Accessories running faster than their rated speed can break and fly apart.

The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannot be adequately guarded or controlled.

Grinding wheels, sanding drums or other accessories must exactly fit the grinder spindle or collet of your power tool. Application tools that do not fit exactly in the tool holder of the power tool will run out of balance, vibrate excessively and may cause loss of control.

Grinding wheels, sanding drums or cutting tools mounted on a mandrel, or other accessories must be fully inserted into the collet or chuck. The projecting end “as well as the free part of the mandrel between the grinding accessory and the collet/chuck must be minimal”. If the mandrel is insufficiently clamped or if the overhang of the grinding accessory is too long, the application tool may become loose and ejected at high velocity.

Do not use damaged application tools. Before each use, check application tools such as grinding wheels for chips and cracks, sanding drums for cracks, wear or heavy use, and wire brushes for loose or broken wires. If the machine or application tool is dropped, inspect for damage or install an undamaged application tool. After inspecting and installing the application tool, position yourself and bystanders away from the plane of the rotating application tool and run the machine at maximum no-load speed for one minute. Damaged application tools will normally break apart during this test time.

Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. Where appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The safety glasses must be capable of protecting against flying particles generated by the various operations. Prolonged exposure to high intensity noise may cause loss of hearing.

Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord. Cutting accessory contacting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.

Always hold the power tool firmly when starting it. The reaction torque of the motor, as it accelerates to full speed, can cause the power tool to twist.

If possible, use clamps to fasten or affix the workpiece. Never hold a small workpiece in one hand and the power tool in the other hand while in use. Clamping small workpieces allows you to use both hands for better control the power tool. Round material such as dowel rods, pipes or tubing have a tendency to roll away while being cut, and may cause the application tool to jam or bind and be thrown toward you.

Keep the connection cable away from rotating application tools. When losing control over the machine, the power cord can be cut through or get caught, and your hand or arm can come in contact with the rotating application tool.

Never lay the power tool down until the accessory has come to a complete stop. The spinning accessory may grab the surface and pull the power tool out of your control.

After changing application tools or making adjustments on the tool, tighten the collet nut, chuck or any other fastening elements. Loose fastening elements can unexpectedly misadjust and lead to loss of control; unfastened, rotating components will be violently thrown.

Do not run the power tool while carrying it at your side. Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

Regularly clean the power tool's air vents. The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

Do not operate the power tool near flammable materials. Sparks could ignite these materials.

Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.

Further safety warnings for all applications

Kickback and related warnings

Kickback is the sudden reaction to a pinched or snagged rotating application tool, such as a grinding wheel, sanding belt, wire brush, etc. Pinching or snagging causes the rotating application tool to rapidly stop. This causes an uncontrolled power tool to be forced in the direction opposite of the application tool's rotation direction.

For example, if a grinding wheel is snagged or pinched in the workpiece, the edge of the grinding wheel that is entering into the workpiece can be caught, causing the grinding wheel to break out or cause kickback. The grinding wheel may either jump toward or away from the operator, depending on the direction of the wheel at the point of blocking. Grinding wheels can also break under these conditions.

Kickback is the result of power tool misuse or incorrect operating procedures. It can be avoided by taking proper precautions as described below.

Maintain a firm grip on the power tool and position your body and arms to allow you to resist kickback forces. The operator can control torque reactions or kickback forces, if proper precautions are taken.

Use special care when working corners, sharp edges, etc. Avoid bouncing and snagging the accessory. Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.

Do not use toothed saw blades. Such application tools create frequent kickback or loss of control over the power tool.

Always feed the application tool into the material in the same direction as the cutting edge is exiting from the material (which is the same direction as the chips are thrown).

Guiding the power tool in the wrong direction causes the cutting edge of the application tool to climb out of the workpiece and pull the tool in the direction of this feed.

Always clamp the workpiece when using rotating files, cutting discs, carbide (TC) or high-speed grinding tools. These application tools will pinch or grab if they become slightly canted in the groove, and can kickback. When a cutting disc grabs, the disc itself usually breaks. When rotating files, carbide (TC) or high-speed grinding tools pinch or grab, the tool insert may jump from the groove and you could lose control of the tool.

Never place your hand near the rotating accessory. Accessory may kickback over your hand.

Do not position your body in the area where power tool will move if kickback occurs. Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.

Additional safety warnings for grinding and cut-off grinding

Safety warnings specific for grinding and cut-off grinding:

Use only grinding accessories that are approved for your power tool and only for the recommended applications. Example: Never grind with the lateral surface of a cutting disc. Cutting discs are intended for material removal using the edge of the disc. Lateral force exerted on these grinding accessories can cause them to break.

For threaded conical and straight grinding points/accessories, use only undamaged mandrels of correct size and length with an unrelieved shoulder flange. Suitable mandrels will reduce the possibility of breakage.

Do not jam or seize the cutting disc or apply excessive pressure. Do not make excessively deep cuts. Overstressing the cutting disc increases the loading and susceptibility to wedging or binding in the cut, and thus increases the possibility of kickback or disc breakage.

Keep your hands clear of the area in front and behind the rotating cutting disc. When moving the cutting disc in the workpiece away from your hand, possible kickback may propel the power tool with the spinning disc directly at you.

If the cutting disc should become jammed or when interrupting work, switch the power tool off and hold it motionless until the disc has come to a complete stop. Never attempt to remove a still running cutting disc from the cut, otherwise there is danger of kickback. Determine and correct the cause for the jamming.

Do not switch the power tool on again as long as the disc is still in the workpiece. Allow the cutting disc to reach its full speed first before carefully continuing with the cut. Otherwise the disc can bind, be forced out of the workpiece or cause kickback.

Support panels or large workpieces to minimize the risk of kickback from a jammed cutting disc. Large workpieces tend to sag under their own weight. The workpiece must be supported on both sides of the cutting disc, near the cut and also at the edges of the workpiece.

Use extra caution when making a "pocket cut" into existing walls or other blind areas. The protruding cutting disc may cut gas or water pipes, electrical wiring or other objects that can cause kickback.

Further safety warnings for working with wire brushes

Safety warnings specific for wire brushing operations (GSZ8-90PEL, GSZ11-90PERL, GSZ4-90EL):

Be aware that wire bristles are thrown by the brush even during ordinary operation. Do not overstress the wires by applying excessive load to the brush. The wire bristles can easily penetrate light clothing and/or skin.

Allow brushes to run at operating speed for at least one minute before using them. During this time, make sure that no one is standing in front or in line with the brush. Loose bristles or wires can be discharged or thrown off during the run-in time.

Direct the rotating wire brush away from yourself. Small particles and tiny wire fragments may be discharged at high velocity during the use of these brushes, and may penetrate through your skin.

Special safety warnings for polishing (GSZ8-90PEL, GSZ11-90PERL, GSZ4-90EL):

Do not allow for any loose parts of the polishing bonnets, especially fastening cords. Stow away or shorten the fastening cords. Loose, rotating fastening cords can take hold of your fingers or become caught or entangled in the workpiece.

Further safety warnings

Make sure that the application tools are mounted in accordance with the manufacturers instructions. The mounted application tools must be able to rotate freely. Incorrectly mounted application tools can become loose during operation and be thrown from the machine.

Handle grinding accessories carefully and store them according to the manufacturer's instructions. Damaged grinding accessories can develop cracks and burst during operation.

When using application tools with a threaded insert, take care that the thread in the application tool is long enough to hold the spindle length of the power tool. The thread in the application tool must match the thread on the spindle. Incorrectly mounted application tools can loosen during operation and cause injuries.

Do not direct the power tool against yourself, other persons or animals. Danger of injury from sharp or hot application tools.

Beware of any concealed electric cables, gas or water conduits. Check the working area before commencing work, e. g. with a metal detector.

Use a stationary extraction system, blow out ventilation slots frequently and connect a residual current device (RCD) on the line side. When working metal under extreme operating conditions, it is possible for conductive dust to settle in the interior of the power tool. The total insulation of the power tool can be impaired.

Do not rivet or screw any name-plates or signs onto the power tool. If the insulation is damaged, protection against an electric shock will be ineffective. Adhesive labels are recommended.

Before putting into operation, check the power connection and the power plug for damage.

Recommendation: The tool should always be supplied with power via a ground fault circuit interrupter (GFCI) with a rated current of 30 mA or less.

Handling hazardous dusts.

⚠ WARNING When working with power tools, such as when grinding, sanding, polishing, or for other work procedures where material is removed, dusts develop that are both hazardous to one's health and can spontaneously combust or be explosive.

Contact with or inhaling some dust types can trigger allergic reactions to the operator or bystanders and/or lead to respiratory infections, cancer, birth defects or other reproductive harm.

Examples of such materials which contain chemicals that can produce hazardous dusts, are:

- Asbestos and materials containing asbestos;
- Lead-containing coatings, some wood types such as beech and oak;
- Minerals and metal;
- Silicate particles from bricks, concrete and other materials containing stone;
- Solvent from solvent-containing paint/varnish;
- Arsenic, chromium and other wood preservatives;
- Materials for pesticide treatment on boat and ship hulls;
- Stainless steel dust, metal dust and non-ferrous metal dust;

To minimize the unwanted intake of these materials:

- Use dust extraction matched appropriately for the developing dust.
- Use personal protective equipment, such as a P2 filter-class dust protection mask.
- Provide for good ventilation of the workplace.

The risk from inhaling dusts depends on how often these materials are worked. Materials containing asbestos may only be worked by specialists.

⚠ CAUTION Wood and light-metal dust can cause spontaneous combustion or explosions.

Hot mixtures of sanding dust and paint/varnish remainders or other chemical materials in the filter bag or the vac filter can self-ignite under unfavorable conditions, such as sparking from sanding metal, continuous sunlight or high ambient temperatures. To prevent this:

- Avoid overheating the material being sanded and the power tool.
- Empty the dust collector/container in time.
- Observe the material manufacturer's working instructions.
- Observe the relevant regulations in your country for the materials being worked.

Hand/arm vibrations.

⚠ WARNING While working with this power tool, hand/arm vibrations occur. These can lead to health impairments.

⚠ WARNING The vibration emission value during actual use of the power tool can differ from the declared value depending on the ways in which the tool is used.

⚠ WARNING It is necessary to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use.

The vibration emission level given in this information sheet has been measured in accordance with a standardized test given in EN 60745 and may be used to compare one tool with another. It may be used for a preliminary assessment of the vibrational impact. The declared vibration emission level represents the main applications of the power tool. However, if the power tool is used for other applications with different accessories or

poorly maintained, the vibration emission may differ. This may significantly increase the vibrational impact over the total working period.

An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: Maintain the power tool and the accessories, keep the hands warm, organization of work patterns.

The vibrational emission values are given for dry grinding of metal with grinding points. Other applications, such as shaping with hard metal cutters, can lead to other vibrational emission values.

Emission values for sound and vibration (Two-figure – specifications as per ISO 4871)

Sound emission	GSZ4-280EL	GSZ4-90EL	GSZ8-280P	GSZ8-280PE	GSZ8-280PL
A-weighted emission pressure power level measured at the workplace L_{pA} (re 20 μ Pa), in decibels	83	83	84	84	84
Measuring uncertainty K_{pA} , in decibels	3	3	3	3	3
Measured A-weighted sound power level L_{wA} (re 1 pW), in decibels	94	94	95	95	95
Measuring uncertainty K_{wA} , in decibels	3	3	3	3	3
C-weighted peak sound pressure level measured at the workplace L_{pCpeak} in decibels	95	95	97	97	97
Measuring uncertainty K_{pCpeak} in decibels	3	3	3	3	3
Vibrations					
Ø 25 mm					
Mean vibrational value for surface grinding with straight grinder					
$a_{h,SG}$, in					
– m/s ²	4.8	1.0	4.7	4.7	5.3
– ft/s ²	15.7	3.3	15.4	15.4	17.4
Ø 50 mm					
Mean vibrational value for surface grinding with straight grinder					
$a_{h,SG}$, in					
– m/s ²	–	–	–	7.9	–
– ft/s ²	–	–	–	25.9	–
Mean vibrational value for polishing					
$a_{h,P}$, in					
– m/s ²	–	1.5	–	–	–
– ft/s ²	–	4.9	–	–	–
Measuring uncertainty K , in					
– m/s ²	1.5	1.5	1.5	1.5	1.5
– ft/s ²	4.9	4.9	4.9	4.9	4.9

REMARK: The sum of the measured emission value and respective measuring inaccuracy represents the upper limit of the values that can occur during measuring.

 Wear hearing protection!

Measured values determined in accordance with the corresponding product standard.

Sound emission	GSZ8-280PEL	GSZ8-90PEL	GSZ11-320 PRL	GSZ11-320 PERL	GSZ11-90 PERL
A-weighted emission pres- sure power level measured at the workplace L_{pA} (re 20 μ Pa), in decibels	84	84	85	85	85
Measuring uncertainty K_{pA} , in decibels	3	3	3	3	3
Measured A-weighted sound power level L_{WA} (re 1 pW), in decibels	95	95	96	96	96
Measuring uncertainty K_{WA} , in decibels	3	3	3	3	3
C-weighted peak sound pressure level measured at the workplace L_{pCpeak} in decibels	97	97	98	98	98
Measuring uncertainty K_{pCpeak} in decibels	3	3	3	3	3
Vibrations					
$\varnothing$ 25 mm					
Mean vibrational value for surface grinding with straight grinder $a_{h,SG}$, in					
– m/s ²	5.3	1.9	9.7	9.7	1.5
– ft/s ²	17.4	6.2	31.8	31.8	4.9
$\varnothing$ 50 mm					
Mean vibrational value for surface grinding with straight grinder $a_{h,SG}$, in					
– m/s ²	11.4	2.9	–	–	4.5
– ft/s ²	37.4	9.5	–	–	14.8
Mean vibrational value for polishing $a_{h,P}$, in					
– m/s ²	–	2.9	–	–	3.1
– ft/s ²	–	9.5	–	–	10.2
Measuring uncertainty K , in					
– m/s ²	1.5	1.5	1.5	1.5	1.5
– ft/s ²	4.9	4.9	4.9	4.9	4.9

REMARK: The sum of the measured emission value and respective measuring inaccuracy represents the upper limit of the values that can occur during measuring.



Wear hearing protection!

Measured values determined in accordance with the corresponding product standard.

Extension cable.

⚠ WARNING If the use of an extension cord is required, its length and conductor cross-section must be adequate for the application in order to prevent a voltage drop in the extension cord, power loss and overheating of the power tool. Otherwise, the extension cable and power tool are prone to electrical danger, and the working efficiency is decreased.

Recommended dimensions of extension cables at an operating voltage of 120 V – single-phase a. c., with only one power tool GSZ4-280EL, GSZ4-90EL, GSZ8-280P, GSZ8-280PE, GSZ8-280PL, GSZ8-280PEL, GSZ8-90PEL, GSZ11-320PRL, GSZ11-320PERL, GSZ11-90PERL connected:

Max. cable length, ft			Max. cable length, m		
≤ 100	100 – 200	200 – 300	≤ 30	30 – 60	60 – 100
Min. conductor size A.W.G.			Min. conductor cross- section, mm ²		
16	14	12	1.5	2.5	4

Intended use of the power tool:

Hand-guided straight grinder for dry grinding of metal with small grinding accessories (grinding points) for shaping metal with hard metal cutters and for cut-off grinding.

GSZ8-90PEL, GSZ11-90PERL, GSZ4-90EL: These power tools are additionally intended for brushing and polishing in weather-protected environments with the accessories recommended by FEIN.

Operation of the power tool off power generators.

! This power tool is also suitable for use with AC generators with sufficient power output that correspond to the Standard ISO 8528, design type G2. This Standard is particularly not complied with when the so-called distortion factor exceeds 10 %. When in doubt, please refer to the generator instruction/specification guide.

⚠ WARNING Operating the power tool off power generators whose no-load speed exceeds the voltage value on the type plate of the power tool is prohibited.

Symbols.

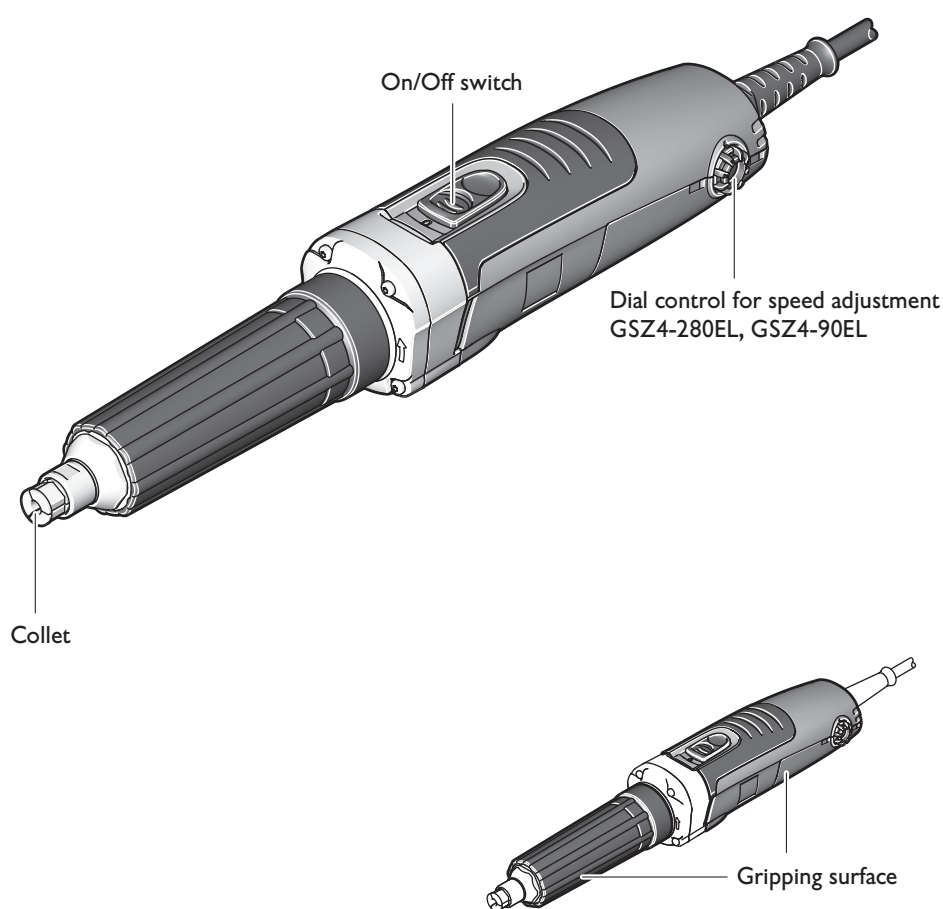
Symbol, character	Explanation
	General prohibition sign. This action is prohibited.
	Do not touch the rotating parts of the power tool.
	Observe the instructions in the text or graphic opposite!
	Make sure to read the enclosed documents such as the Instruction Manual and the General Safety Instructions.
	Before commencing this working step, pull the power plug out of the socket. Otherwise there will be danger of injury if the power tool should start unintentionally.
	Use eye protection during operation.
	Use ear protection during operation.
	Use protective gloves during operation.
	A surface that can be touched may be very hot and thus hazardous.
	This symbol confirms the certification of this product for the USA and Canada.
	This sign warns of a directly imminent, dangerous situation. A false reaction can cause a severe or fatal injury.
	This sign indicates a possible dangerous situation that could cause severe or fatal injury.
	This sign warns of a possible dangerous situation that could cause injury.
	Worn out power tools and other electrotechnical and electrical products should be sorted separately for environmentally-friendly recycling.
	Product with double or reinforced insulation
~ or a. c.	Alternating current
= or d. c.	Direct current
1~	Alternating current, single-phase

Character	Unit of measurement, national	Explanation
n	rpm; /min; min^{-1} ; r/min	Rated speed
n_0	rpm; /min; min^{-1} ; r/min	No-load speed
P	W	Electrical power
	°	Angle width
U	V	Electric voltage
f	Hz	Frequency
I	A	Electric current intensity
m	kg, lbs	Mass
l	ft, in	Length, width, height, depth, diameter or thread
$\varnothing$	ft, in	Diameter of a round part
	m, s, kg, A, mm, V, W, Hz, N, °C, dB, min, m/s^2	Basic and derived units of measurement from the international system of units SI .

Technical description and specifications.

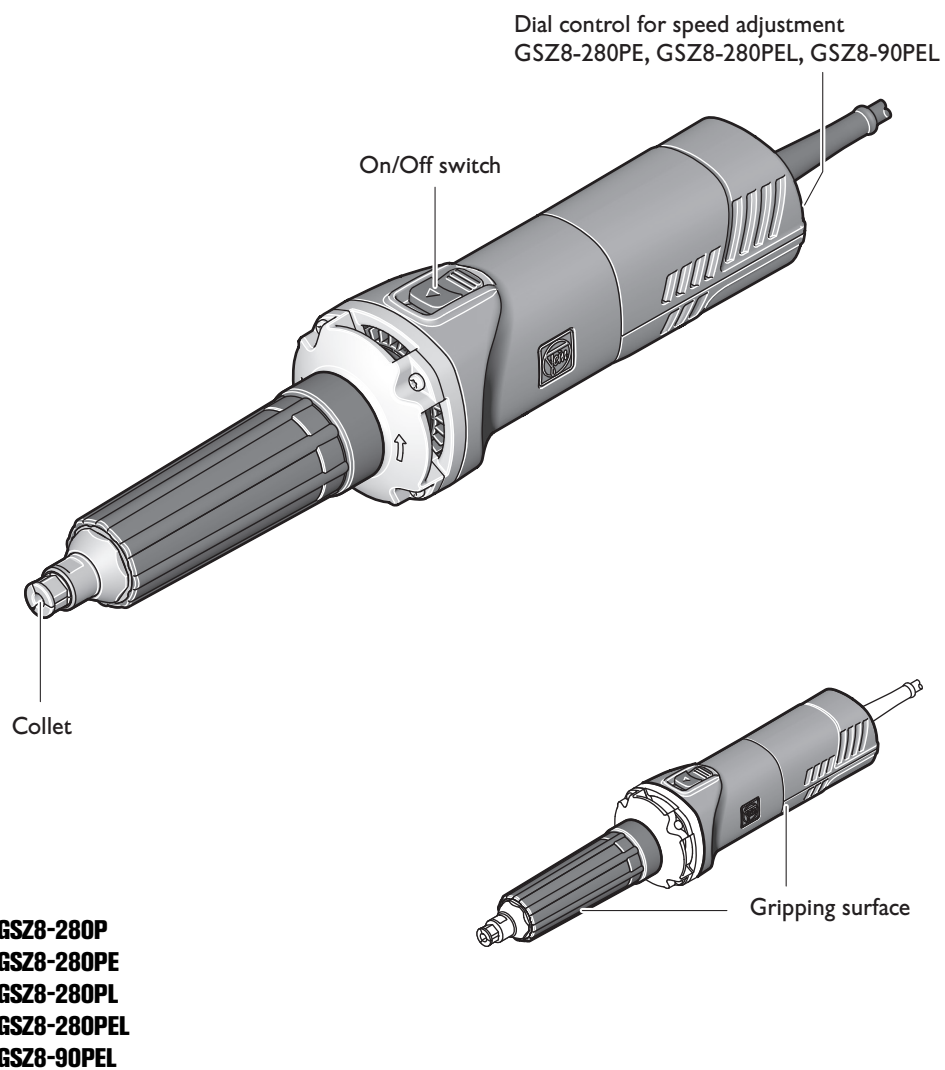
⚠ WARNING Before mounting or replacing cutting tool or accessories, pull the power plug. This preventive safety measure rules out the danger of injuries through accidental starting of the power tool.

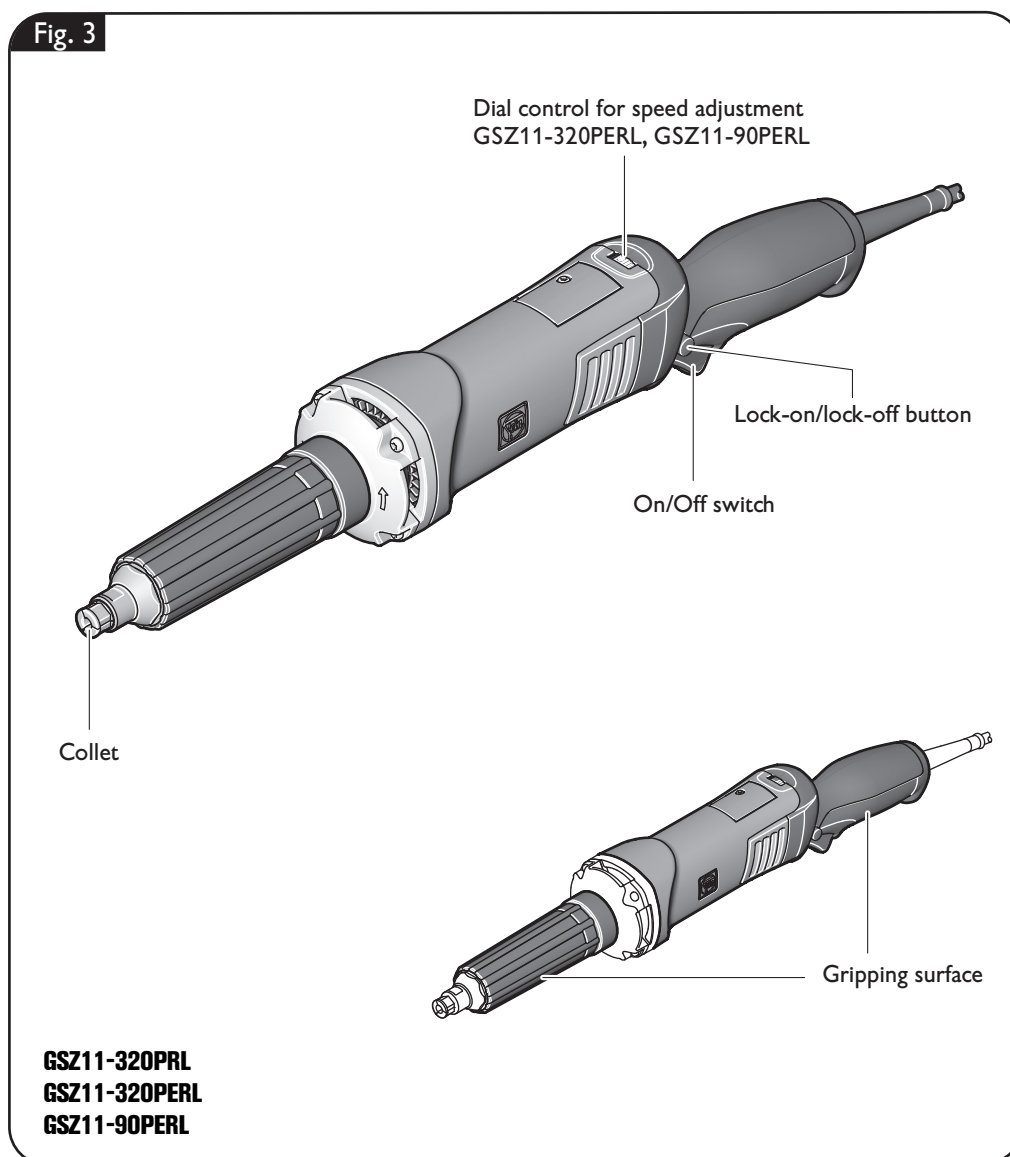
All accessories described or shown in this instruction manual will not be included with your power tool.

Fig. 1

GSZ4-280EL
GSZ4-90EL

Fig. 2





Type	GSZ4-280EL	GSZ4-90EL	GSZ8-280P	GSZ8-280PE	GSZ8-280PL
Order number	7 223 24	7 223 25	7 223 16	7 223 17	7 223 18
Current consumption	3.5 A	3.5 A	6.5 A	6.5 A	6.5 A
Type of current	~ (a. c.)	~ (a. c.)	~ (a. c.)	~ (a. c.)	~ (a. c.)
Rated speed	28000 rpm	8500 rpm	28000 rpm	28000 rpm	28000 rpm
No-load speed	13000– 28000 rpm	3500– 8500 rpm	–	8500– 28000 rpm	–
Ø _D =Max. diameter of grinding wheel	3/4 in 20 mm	3/4 in 20 mm	1 3/4 in 45 mm	2 in 50 mm	1 3/4 in 45 mm
Ø _D =Max. diameter of hard metal cutter	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm
Ø _D =Max. diameter of polishing tools	–	2 x 3/8 in 50 x 10 mm	–	–	–
Weight according to EPTA-Procedure 01/2003	3.3 lbs (1.5 kg)	3.3 lbs (1.5 kg)	3.1 lbs (1.4 kg)	3.1 lbs (1.4 kg)	4.0 lbs (1.8 kg)
Class of protection	□/II	□/II	□/II	□/II	□/II

Type	GSZ8-280PEL	GSZ8-90PEL	GSZ11-320PRL	GSZ11-320PERL	GSZ11-90PERL
Order number	7 223 19	7 223 20	7 223 21	7 223 22	7 223 23
Current consumption	6.5 A	6.5 A	8.7 A	8.7 A	8.7 A
Type of current	~ (a. c.)	~ (a. c.)	~ (a. c.)	~ (a. c.)	~ (a. c.)
Rated speed	28000 rpm	9000 rpm	32500 rpm	32500 rpm	9900 rpm
No-load speed	8500– 28000 rpm	2500– 9000 rpm	–	9500– 32500 rpm	2900– 9900 rpm
Ø _D =Max. diameter of grinding wheel	2 in 50 mm	2 in 50 mm	1 3/4 in 45 mm	1 3/4 in 45 mm	2 in 50 mm
Ø _D =Max. diameter of hard metal cutter	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm	1/2 in 12 mm
Ø _D =Max. diameter of polishing tools	– –	3 1/8 in 80 mm	– –	– –	3 1/8 in 80 mm
Weight according to EPTA-Procedure 01/2003	4.0 lbs (1.8 kg)	4.0 lbs (1.8 kg)	4.6 lbs (2.1 kg)	4.6 lbs (2.1 kg)	4.8 lbs (2.2 kg)
Class of protection	□/II	□/II	□/II	□/II	□/II

Assembly instructions.

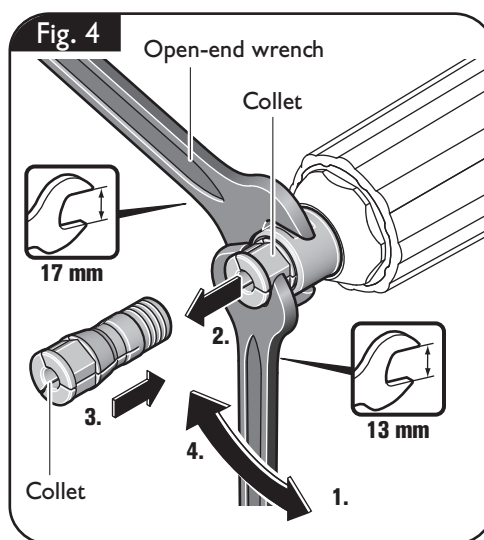
⚠ WARNING Before mounting or replacing cutting tool or accessories, pull the power plug. This preventive safety measure rules out the danger of injuries through accidental starting of the power tool.

⚠ CAUTION For all work or when changing application tools, always wear protective gloves. Danger of injury from the sharp edges of the application tools. Application tools can become very hot while working. Danger of burns!

Replacing the collet (figure 4).

Hold the spindle in place using an open-end wrench (size 17 mm) and unscrew the collet using another open-end wrench (size 13 mm).

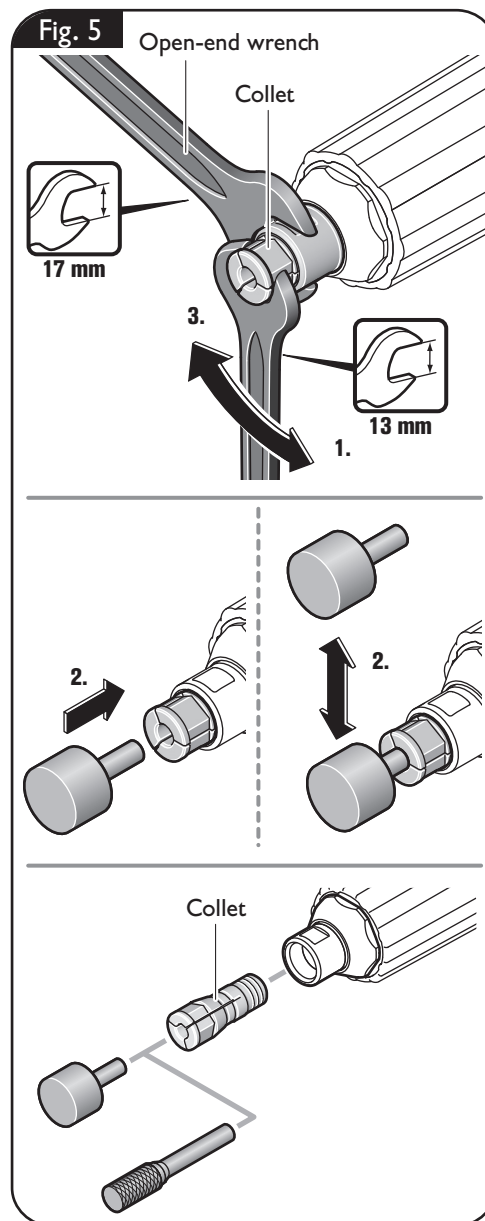
Replace the collet and and tighten it using the open-end wrench (size 13 mm).



Changing the tool (figure 5).

Hold the spindle in place using an open-end wrench (size 17 mm) and unscrew the collet using another open-end wrench (size 13 mm).

Insert the desired tool and tighten the collet again using the open-end wrench.



Working instructions.

⚠ WARNING Before mounting or replacing cutting tool or accessories, pull the power plug. This preventive safety measure rules out the danger of injuries through accidental starting of the power tool.

! For each job, use only the FEIN application tool released and intended for the respective application.

Switching on and off.

⚠ WARNING Check the power supply cable and the plug for damage.

⚠ CAUTION Always hold the power tool firmly. Otherwise, you could lose control over the power tool.

The **self-start lock** (on the GSZ8..., GSZ11...) prevents the straight grinder from automatically restarting again, even after a brief interruption of the power supply during operation, e. g., from a pulled power plug.

The straight grinder is fitted with overload and blocking protection (for models GSZ8..., GSZ11...). In case of overload or blocking of the application tool, the power supply is interrupted. In this case, switch the power tool off, remove it from the workpiece and check the application tool. Afterwards, switch the power tool on again.

Use a collet that fits the grinding accessory. Insert the clamping shaft of the grinding accessory to the stop into the collet.

Observe the maximum permitted projecting shaft length (a) of the grinding accessory according to the manufacturer's instructions. (see page 26)

Move the power tool back and forth applying uniform pressure, so that the workpiece surface does not become too hot.

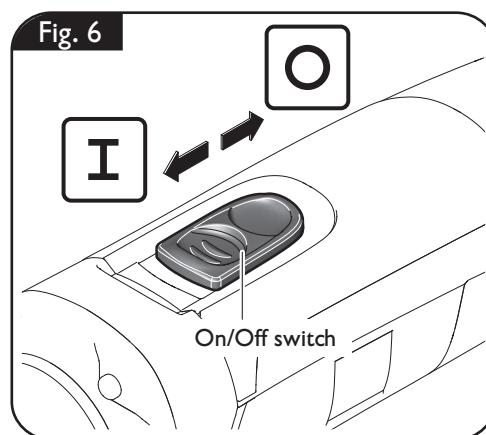
GSZ4-280EL/GSZ4-90EL (figure 6).

Switching on:

Push the On/Off switch forward **(I)**.

Switching off:

Push the On/Off switch back **(O)**.

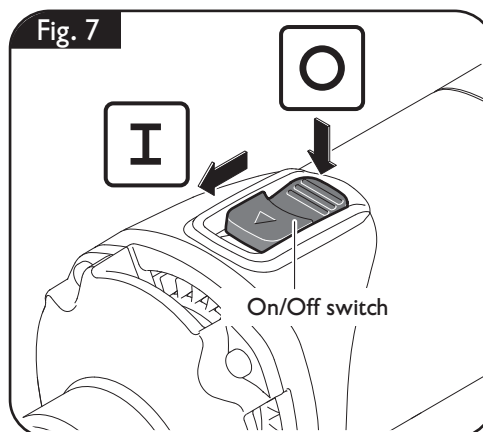


GSZ8-280P/GSZ8-280PE/GSZ8-280PL/GSZ8-280PEL/GSZ8-90PEL (figure 7).**Switching on:**

Push the On/Off switch forward (I).

Switching off:

Press the switch downward (O).

**GSZ11-320PRL/GSZ11-320PERL/GSZ11-90PERL (figure 8).****Switching on:**

Press and hold the lock-on/lock-off button.
Press the On/Off switch.

Switching off:

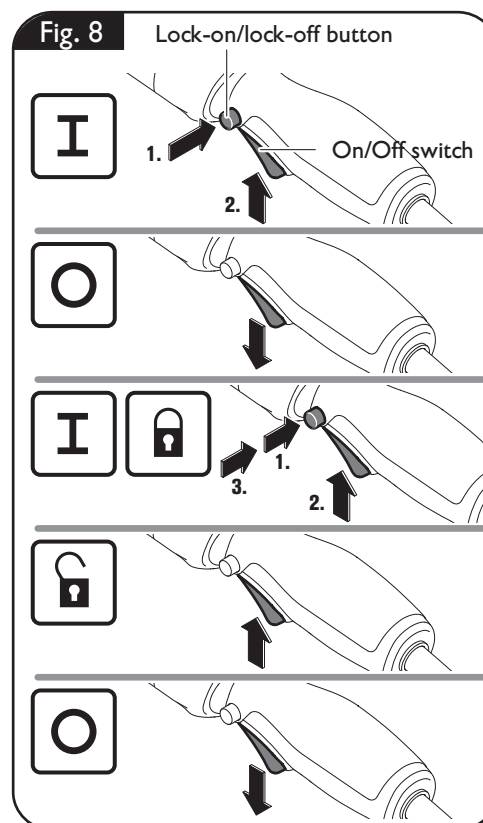
Release the On/Off switch.

Locking on:

Press the lock-on button completely through until the On/Off switch is locked.

Switching off a locked On/Off switch:

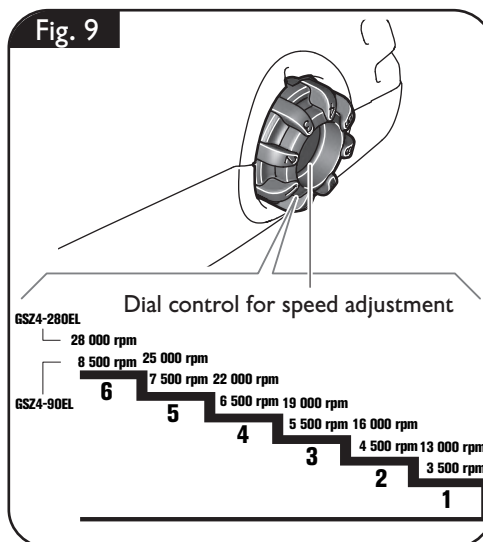
Press the On/Off switch to the stop and then release it.



**Setting the speed (GSZ4-280EL/
GSZ4-90EL) (figure 9).**

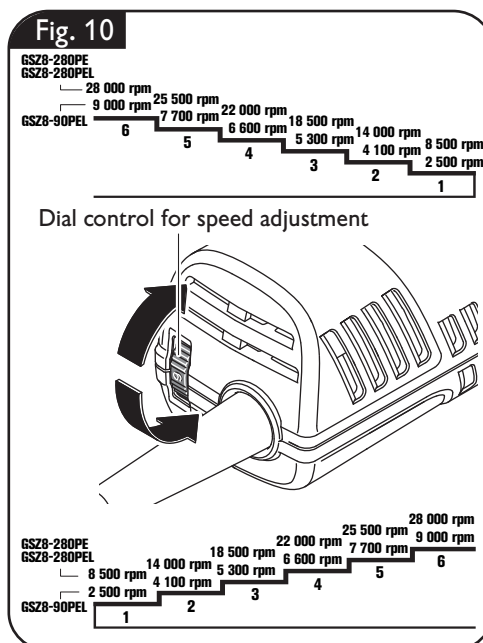
The speed range can be variably adjusted, as shown in the following figure.

Turn the dial control between “1” for the lowest speed and “6” for the highest speed.

Fig. 9**Setting the speed (GSZ8-280PE/
GSZ8-280PEL/GSZ8-90PEL) (figure 10).**

The speed range can be variably adjusted, as shown in the following figure.

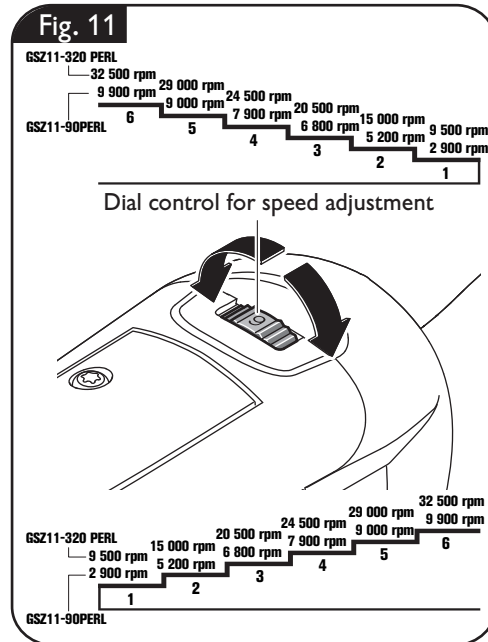
Turn the dial control between “1” for the lowest speed and “6” for the highest speed.

Fig. 10

Setting the speed (GSZ11-320PERL/ GSZ11-90PERL) (figure 11).

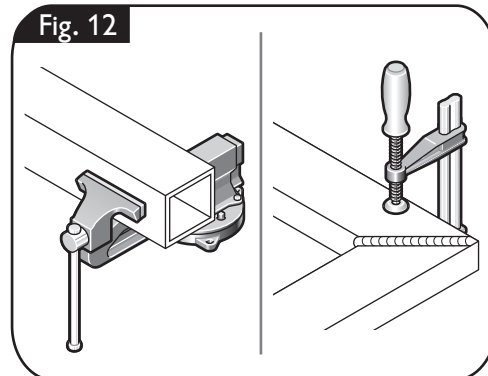
The speed range can be variably adjusted, as shown in the following figure.

Turn the dial control between “1” for the lowest speed and “6” for the highest speed.



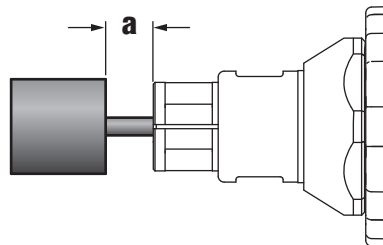
Securing the workpiece (figure 12).

- Secure the workpiece sufficiently.** An inadequately secured workpiece can, for example, cause the grinding accessory to jam. This can lead to kickback, cause the workpiece to fall down, and lead to other dangerous situations.

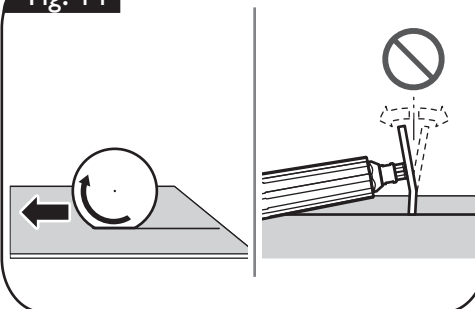


Shank length (figure 13).

-  Observe the maximum permitted projecting shaft length (a) of the grinding accessory according to the manufacturer's instructions.

Fig. 13**Cutting (figure 14).**

-  Always work in an up-grinding motion, so that the cutting disc will not jump out of the cut.

Fig. 14

Repair and customer service.

⚠ WARNING Before mounting or replacing cutting tool or accessories, pull the power plug. This preventive safety measure rules out the danger of injuries through accidental starting of the power tool.

Exchangeable parts

If required, you can change the following parts yourself:

Application tools, collet

The current spare parts list for this power tool can be found in the Internet at www.fein.com.

Service.

⚠ WARNING Have maintenance carried out only through qualified personnel. Incorrectly mounted leads and components can cause serious injuries. Have the required service carried out only through a FEIN customer service agent.

Cleaning.

⚠ WARNING Prior to any cleaning or maintenance, disconnect the power tool from the power supply in order to avoid accidents.

⚠ WARNING When using in environments with conductive dust in the air, such as when cutting metals, this dust can settle in the interior of the power tool. This can impair the total insulation of the power

tool. Therefore, regularly blow out the interior of the power tool from outside via the ventilation openings with dry, oil-free compressed air; always wear eye protection when doing this. For additional protection, connect a ground fault circuit interrupter (GFCI) on the line side.

⚠ CAUTION Do not attempt to clean clogged or dirty ventilation openings of the power tool with pointed metal objects; use nonmetal tools or objects if necessary.

⚠ CAUTION Do not use cleaning agents and solvents that can cause damage to plastic parts. These include: Gasoline, carbon-tetrachloride, chloric solvents, ammonia and domestic cleaning agents that contain ammonia.

⚠ CAUTION If the supply cable of this power tool is damaged, it must be replaced by a specially prepared cable available through the FEIN customer service center.

Warranty and liability.

The warranty for the product is valid in accordance with the legal regulations in the country where it is marketed. In addition, FEIN also provides a guarantee in accordance with the FEIN manufacturer's warranty declaration.

All accessories described or shown in this instruction manual will not be included with your power tool.

Environmental protection, disposal.

Packaging, worn out power tools and accessories should be sorted for environmental-friendly recycling.

For further information, please contact your specialist shop.

Provided accessories (figure 15).

Fig. 15

