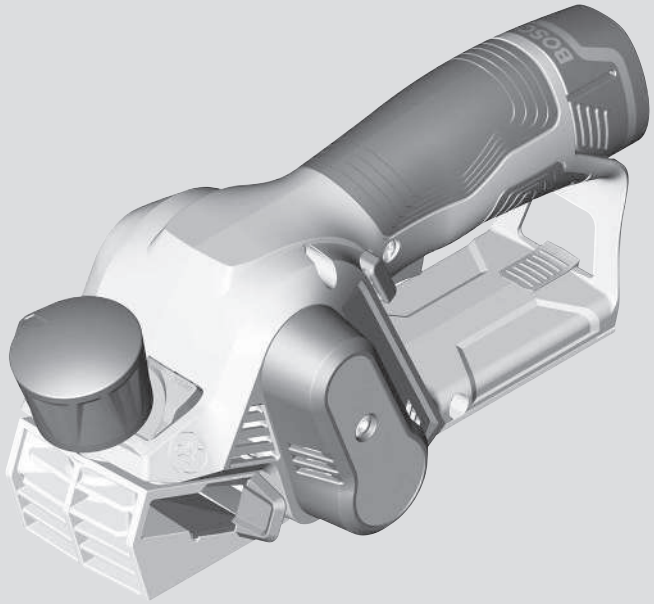
BOSCH

Professional

GHO 12V-20



Robert Bosch Power Tools GmbH
70538 Stuttgart
GERMANY

www.bosch-pt.com

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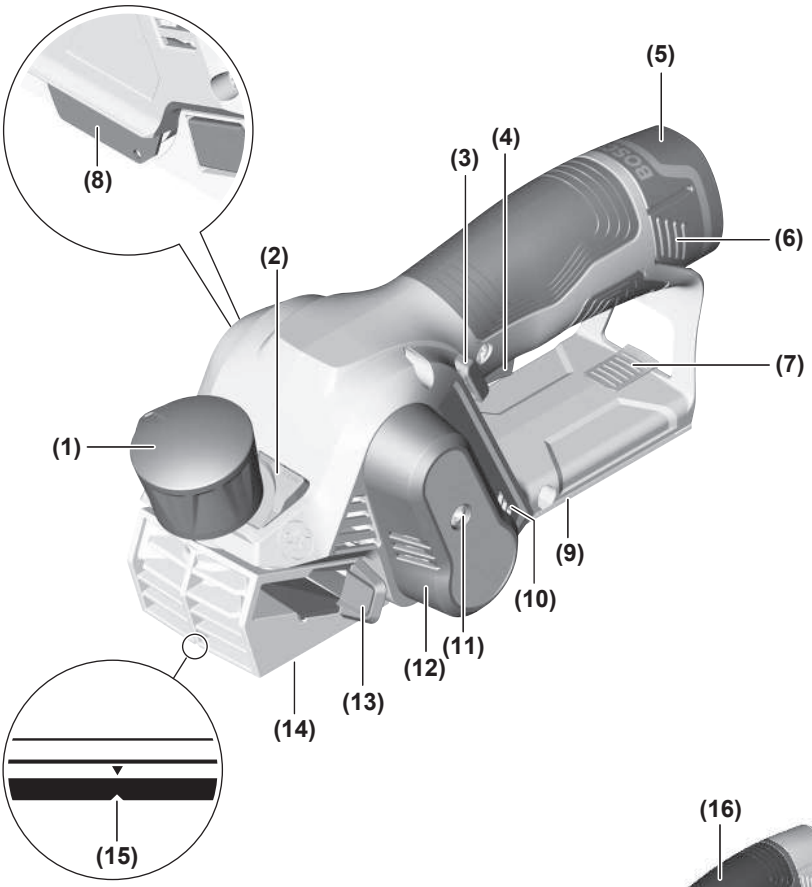
en Original instructions



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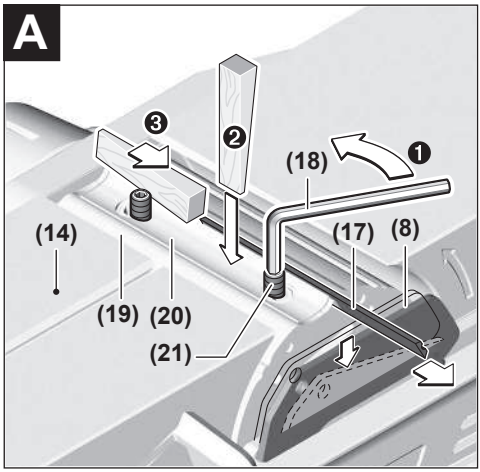
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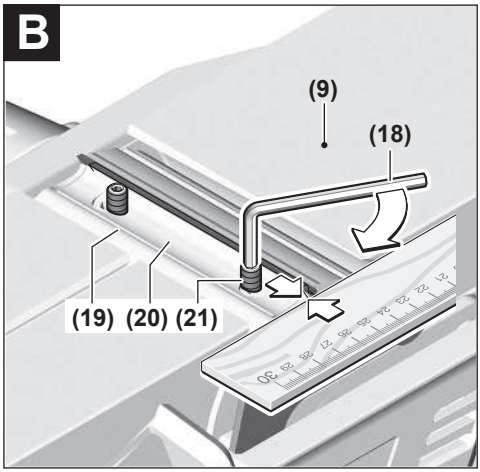
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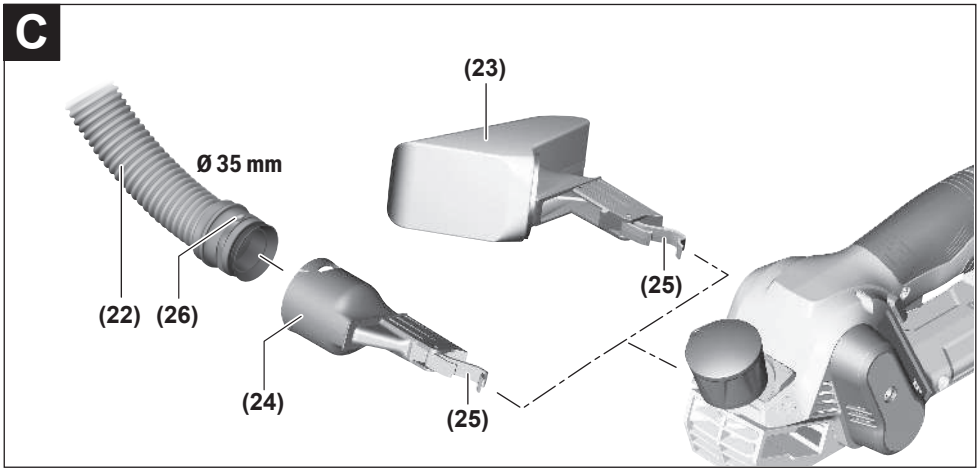
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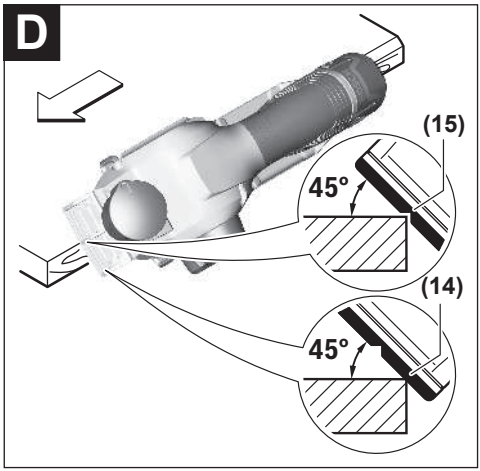
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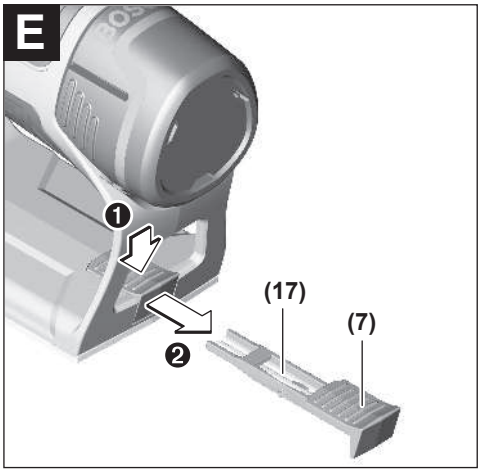
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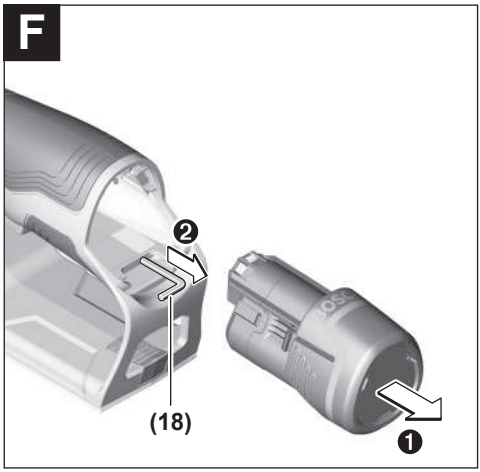
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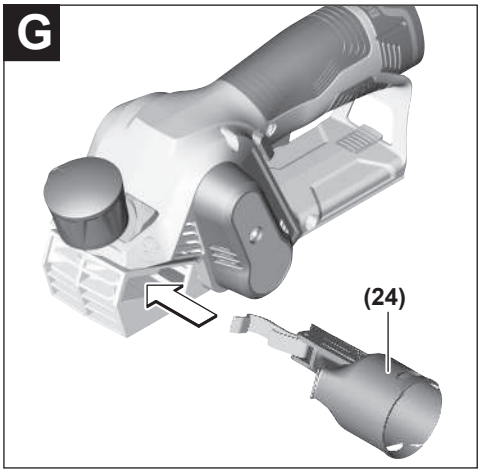
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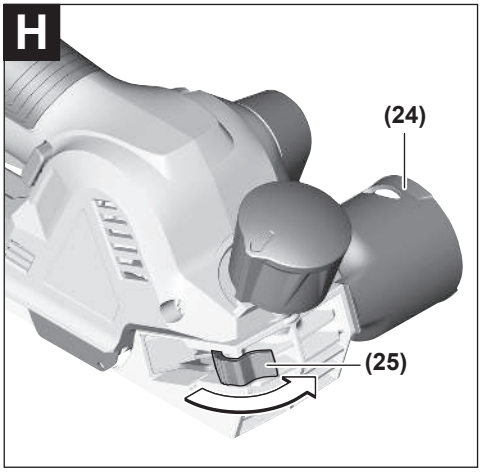
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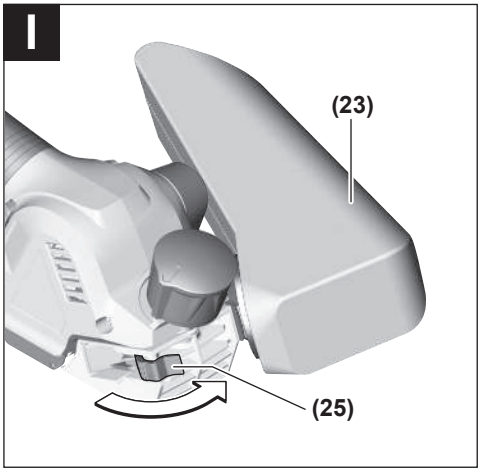
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English

Safety Instructions

General Power Tool Safety Warnings

⚠ WARNING **Read 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.

Save all warnings and instructions for future reference.

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

Work area safety

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **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.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

Personal safety

- **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.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- **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.
- **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.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- **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.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Power tool use and care

- **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.
- **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.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
- **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.
- **Maintain power tools and accessories. 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.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **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.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

Battery tool use and care

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

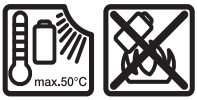
- ▶ **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- ▶ **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- ▶ **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- ▶ **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- ▶ **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130°C may cause explosion.
- ▶ **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

- ▶ **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.
- ▶ **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

Safety instructions for planers

- ▶ **Wait for the cutter to stop before setting the tool down.** An exposed rotating cutter may engage the surface leading to possible loss of control and serious injury.
- ▶ **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the workpiece by your hand or against the body leaves it unstable and may lead to loss of control.
- ▶ **Only bring the power tool into contact with the workpiece when switched on.** Otherwise there is danger of kickback if the cutting tool jams in the workpiece.
- ▶ **Do not allow the chip ejector to come into contact with your hands.** You may be injured by rotating parts.
- ▶ **Never plane over metal objects, nails or screws.** Cutters and cutter shafts could become damaged and cause increased vibration.
- ▶ **Use suitable detectors to determine if there are hidden supply lines or contact the local utility company for assistance.** Contact with electric cables can cause fire and electric shock. Damaging gas lines can lead to explosion. Breaking water pipes causes property damage.
- ▶ **While working, always hold the planer in such a way that the planer base plate lies flat against the workpiece.** Otherwise the planer could slip and cause injury.
- ▶ **Hold the power tool firmly with both hands and make sure you have a stable footing.** The power tool can be more securely guided with both hands.
- ▶ **In case of damage and improper use of the battery, vapours may be emitted. The battery can set alight or explode.** Ensure the area is well ventilated and seek medical attention should you experience any adverse effects. The vapours may irritate the respiratory system.
- ▶ **Do not modify or open the battery.** There is a risk of short-circuiting.
- ▶ **The battery can be damaged by pointed objects such as nails or screwdrivers or by force applied externally.** An internal short circuit may occur, causing the battery to burn, smoke, explode or overheat.
- ▶ **Only use the battery in the manufacturer's products.** This is the only way in which you can protect the battery against dangerous overload.



Protect the rechargeable battery against heat, e.g. including prolonged sun exposure, fire, water, and moisture. There is a risk of explosion and short circuit.

Product Description and Specifications

Read all the safety and general instructions. Failure to observe the safety and general instructions may result in electric shock, fire and/or serious injury.

Please observe the illustrations at the beginning of this operating manual.

Intended use

The power tool is intended for planing wood-based materials such as beams and boards while resting firmly on the workpiece. It is also suitable for chamfering edges and for rebating.

Product features

The numbering of the product features refers to the diagram of the power tool on the graphics page.

(1) Knob for setting the cutting depth
(2) Button for maximising the cutting depth (max. 2 mm)
(3) Lock-off button for on/off switch
(4) On/off switch
(5) Battery[a)]
(6) Battery release button (2x)[a)]
(7) Drawer for spare blades
(8) Side cutter block guard
(9) Planer base plate

(10) Battery charge indicator
(11) Screw for belt cover
(12) Belt cover
(13) Chip ejector (can be inserted on the right-hand or left-hand side)
(14) Adjustable planer base plate
(15) V-groove
(16) Handle (insulated gripping surface)
(17) HM/TC planer blade
(18) Hex key
(19) Blade head
(20) Clamping element for planer blade
(21) Fastening screw for planer blade (2x)
(22) Extraction hose (dia. 35 mm) (Click & Clean)[a)]
(23) Chip/dust bag[a)]
(24) Dust extraction adapter (Click & Clean)[a)]
(25) Locking device[a)]
(26) Snap fastener

a) **This accessory is not part of the standard scope of delivery.**

Technical data

Planer		GHO 12V-20
Article number		**3 601 EA7 0..**
Rated voltage	V⎓	12
No-load speed[A)]	min^{-1}	14,500
Cutting depth		
– optimum	mm	0–1.0
– maximum	mm	1.0–2.0
Rebate depth	mm	0–17
Max. planing width	mm	56
Weight[B)]	kg	1.5
Recommended ambient temperature during charging	°C	0 to +35
Permitted ambient temperature during operation[C)] and during storage	°C	–20 to +50
Recommended rechargeable batteries		GBA 12V... GBA 10.8V...
Recommended battery chargers		GAL12V... GAL 12V... GAX 18...

A) Measured at 20–25 °C with rechargeable battery **GBA 12V 2.0 Ah**

B) With planer blade, without rechargeable battery (you can find the battery weight at www.bosch-professional.com.)

C) Limited performance at temperatures < 0 °C

In unfavourable conditions, it is possible that the power tool may switch itself off due to electrostatic discharge. After switching the power tool back on again, it will work as intended.

Values can vary depending on the product, scope of application and environmental conditions. To find out more, visit www.bosch-professional.com/wac.

Noise/vibration information

Noise emission values determined according to **EN 62841-2-14**.

Typically, the A-weighted noise level of the power tool is: Sound pressure level **86** dB(A); sound power level **94** dB(A). Uncertainty K = **3** dB.

Wear hearing protection!

Vibration values a_h (continuous vibrations), p_F (repeated shock vibrations) and uncertainty K determined according to **EN 62841-2-14**:

a_h = **1.5** m/s^2 (K = **1.5** m/s^2), p_F = **148** m/s^2 (K = **27** m/s^2)

The vibration level and noise emission value given in these instructions have been measured in accordance with a standardised measuring procedure and may be used to compare power tools. They may also be used for a preliminary estimation of vibration and noise emissions.

The stated vibration level and noise emission value represent the main applications of the power tool. However, if the power tool is used for other applications, with different accessories or is poorly maintained, the vibration level and noise emission value may differ. This may significantly increase the vibration and noise emissions over the total working period.

To estimate vibration and noise emissions accurately, the times when the tool is switched off or when it is running but not actually being used should also be taken into account. This may significantly reduce vibration and noise emissions over the total working period.

Implement additional safety measures to protect the operator from the effects of vibration, such as servicing the power tool and accessories, keeping their hands warm, and organising workflows correctly.

Rechargeable battery

Bosch sells some cordless power tools without a rechargeable battery. You can tell whether a rechargeable battery is included with the power tool by looking at the packaging.

Charging the battery

▶ **Use only the chargers listed in the technical data.** Only these chargers are matched to the lithium-ion battery of your power tool.

Note: Lithium-ion rechargeable batteries are supplied partially charged according to international transport regulations. To ensure full rechargeable battery capacity, fully charge the rechargeable battery before using your tool for the first time.

Inserting the Battery

Push the charged battery into the battery holder until it clicks into place.

Removing the Battery

To remove the rechargeable battery, press the battery release buttons and pull the battery out. **Do not use force to do this.**

Battery charge indicator

The battery charge indicator indicates the state of charge for a few seconds when the on/off switch is pressed halfway.

LED	Capacity
3 × continuous green light	68–100 %
2 × continuous green light	22–68 %
1 × continuous green light	2–22 %
1 × flashing green light	0–2 %

Temperature-dependent overload protection
In normal conditions of use, the power tool cannot be overloaded. If the power tool is overloaded or not kept within the permitted battery temperature range, the speed is reduced or the power tool switches off. At reduced speed, the power tool will run again at full speed once the permitted battery temperature is reached or the load is reduced. If it automatically shuts down, switch the power tool off, allow the battery to cool down, then switch the power tool back on.

Recommendations for Optimal Handling of the Battery

Protect the battery against moisture and water.

Only store the battery within a temperature range of −20 to 50 °C. Do not leave the battery in your car in the summer, for example.

A significantly reduced operating time after charging indicates that the battery has deteriorated and must be replaced.

Follow the instructions on correct disposal.

Fitting

▶ **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.

Changing the Tool

The hex key **(18)** required for changing the planer blade is housed inside the power tool and should always be stored there (see figure **F**).

▶ **Take care when changing the planer blade. Do not pick up the planer blade by the cutting edges.** You may be injured by the sharp cutting edges.

Use only original **Bosch** HM/TC planer blades.

The hard metal (HM/TC) planer blade has two cutting edges and can be turned. If both cutting edges become blunt, the planer blade **(17)** needs to be changed. The HM/TC planer blade must not be resharpened.

Removing the planer blade (see figure A)

To turn or replace the planer blade **(17)**, turn the blade head **(19)** until it is parallel to the adjustable planer base plate **(14)**.

❶ Loosen the two fastening screws **(21)** using the hex key **(18)** (approx. 1–2 turns).

❷ If necessary, loosen the clamping element **(20)** by lightly striking it with an appropriate implement, e.g. a wooden wedge.

❸ Push the side cutter block guard **(8)** downwards and use a piece of wood to push the planer blade **(17)** to the side and out of the blade head **(19)**.

Fitting the planer blade (see figure B)

The guide groove on the planer blade ensures a constant, even height setting when changing or turning the blade.

If necessary, clean the knife seat in the clamping element **(20)** and the planer blade **(17)**.

When fitting the planer blade, ensure that it is securely seated in the mounting guide of the clamping element **(20)** and is aligned flush with the side edge of the planer base plate **(9)**. Then tighten the two fastening screws **(21)** with the hex key **(18)**.

Note: Check that the fastening screws **(21)** are firmly tightened before starting operation. Turn the blade head **(19)** by hand and ensure that the planer blade is not brushing against anything.

Note: A spare blade **(17)** can be placed in the drawer **(7)** (see figure **E**).

Dust/Chip Extraction

Do not perform work without taking dust-reducing measures.

Using a suitable dust extraction attachment or a dust box/dust bag will reduce exposure to harmful dust. Provide good ventilation at the workplace. Always use suitable breathing protection. If you are using a dust box, empty it in good time and clean the filter element regularly to ensure optimal dust extraction.

If you are using a dust extractor, refer to the requirements listed below. The regulations on the material being machined that apply in the country of use must be observed.

▶ **Avoid dust accumulation at the workplace.** Dust can easily ignite.

Requirements for the Dust Extractor		
Recommended hose nominal diameter	mm	**35**
Required vacuum pressure[A)]	mbar hPa	≥ **230** ≥ **230**
Required flow rate[A)]	l/s m^3/h	≥ **36** ≥ **129.6**
Recommended filter efficiency		Dust class M[B)]

A) Power value at the power tool's dust extractor connection

B) According to IEC/EN 60335-2-69

Refer to the dust extractor's instructions. If there is reduced suction power, stop working and eliminate the cause.

External dust extraction (see figures C, G and H)

Remove the chip ejector **(13)**.

The dust extraction adapter **(24)** (accessory) with dust extraction hose (dia. 35 mm) **(22)** (accessory) can be fitted to either side of the power tool.

Firstly, insert the dust extraction adapter **(24)** into the power tool. Engage the lock **(25)** on the dust extraction adapter. Then insert the dust extraction hose **(22)** into the dust extraction adapter **(24)** until you hear both snap fasteners **(26)** on the dust extraction hose engage.

Connect the dust extraction hose **(22)** to a dust extractor (accessory). You will find an overview of how to connect to various dust extractors at the end of these operating instructions.

The dust extractor must be suitable for the material being worked.

When extracting dust that is dry, especially detrimental to health or carcinogenic, use a special dust extractor.

Self-generated dust extraction (see figures C and I)

Remove the chip ejector **(13)**.

You can use a chip/dust bag (accessory) **(23)** for small-scale tasks.

Insert the chip/dust bag **(23)** into the power tool. Engage the locking device **(25)** on the chip/dust bag.

Empty the chip/dust bag **(23)** at regular intervals to maintain optimum dust collection.

Selectable chip ejector

Insert the chip ejector **(13)** into the right-hand or left-hand side of the planer to determine the direction in which the chips are ejected.

If the chip ejector **(13)** is not inserted, dust and chips are ejected on both sides of the planer.

Operation

Note: The power tool can be operated using all Bosch 10.8 V and 12 V batteries. We recommended using batteries with a capacity of at least 2.5 Ah for optimum power.

Start-up

Setting the cutting depth

Note: The power tool is optimised for cutting depths of up to 1 mm.

The cutting depth can be continuously adjusted from 0–1.0 mm using the knob **(1)**. For cutting depths greater than 1 mm, the button **(2)** must be pressed:

Material	Planing width in mm	Cutting depth in mm	
		0–1.0	0–2.0
Softwood	< 30	●	●
	30–40	●	–
Hardwood	< 20	●	●
	20–30	●	–
Softwood (wet)	0–40	●	–
Plywood	< 20	●	●
	20–30	●	–
Phenolic resin-coated plywood	< 15	●	●
	15–30	●	–
MDF sheets	< 20	●	●
	20–30	●	–
Veneers	1	●	●
Hardwood veneers	3–5	●	●
Two-part filler	3–5	●	●
Cardboard	2	●	●

Switching on/off

▶ **Make sure that you are able to press the On/Off switch without releasing the handle.**

To **start** the power tool, first press the lock-off switch **(3)**, **then** press and hold the on/off switch **(4)**.

To **switch off** the power tool, release the on/off switch **(4)**.

Note: For safety reasons, the on/off switch **(4)** cannot be locked; it must remain pressed during the entire operation.

Practical advice

▶ **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.

Planing Procedure

Set the required cutting depth and attach the power tool with the adjustable planer base plate **(14)** to the workpiece.

▶ **Only bring the power tool into contact with the workpiece when switched on.** Otherwise there is danger of kickback if the cutting tool jams in the workpiece.

Switch on the power tool and guide it over the surface of the workpiece, applying uniform feed.

To achieve high-quality surfaces, apply only a low feed rate and exert pressure on the middle of the planer base plate.

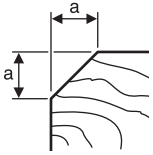
For the processing of hard materials, such as hardwood, and also when utilising the maximum planing width, set only a low cutting depth and reduce the planer feed as appropriate.

Excessive feed reduces the quality of the surface finish and can lead to the chip ejector quickly becoming blocked.

Only sharp planer blades achieve good cutting performance and make the power tool last longer.

Chamfering edges (see figure D)

The V-groove **(15)** in the front of the planer base plate enables quick and easy chamfering of workpiece edges. Position the planer with the V-groove onto the edge of the workpiece and guide it along.



Groove used	Dimension a (mm)
V-groove	2.1–5.0
Medium	0.0–2.8

Maintenance and Service

Maintenance and cleaning

- ▶ **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.
- ▶ **To ensure safe and efficient operation, always keep the power tool and the ventilation slots clean.**

Clean the power tool at regular intervals using compressed air.

Keep the side cutter block guard **(8)** clear and clean it regularly.

After-Sales Service and Application Service

Australia
Phone: (01300) 307044

Great Britain
Tel. Service: (0344) 7360109

GB Importer:
Robert Bosch Ltd.
Broadwater Park
North Orbital Road
Uxbridge
UB9 5HJ

India
Phone: (044) 64561816

Israel
Tel. 03-9630050

Korea
Tel.: 080-955-0909 (Hotline)

Malaysia
Tel.: (03) 79663194

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the product.

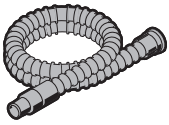
Disposal

Power tools, rechargeable batteries, accessories and packaging should be sorted for environmental-friendly recycling.

Do not dispose of power tools and batteries/rechargeable batteries into household waste!

Only for EU countries and United Kingdom:

Electrical and electronic equipment or used batteries that are no longer suitable for use must be collected separately and disposed of in an environmentally friendly manner. Use the designated collection systems. Incorrect disposal may cause harmful effects on the environment and human health, due to the potential presence of hazardous substances.



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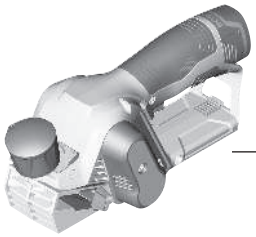
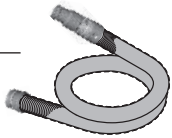
GAS 18V-12 MC

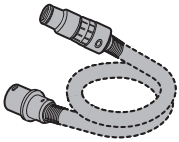




Ø 28 mm:
2 608 000 885 (4 m)

GAS 12-40 MA

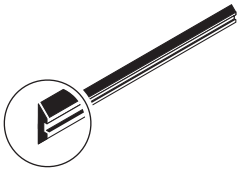
GAS 35 M AFC



Ø 22 mm:
2 608 000 567 (5 m)
Ø 35 mm:
2 608 000 565 (5 m)

GAS 55 M AFC

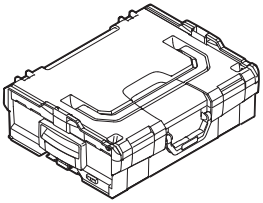
Ø 22 mm:
2 608 000 568 (5 m)
Ø 35 mm:
2 608 000 566 (5 m)



2x:
2 608 000 672

10x:
2 608 000 673

2 608 000 675



1 600 A00 1RR

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Service Contacts
Contacts de Service
Contactos de Servicio

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