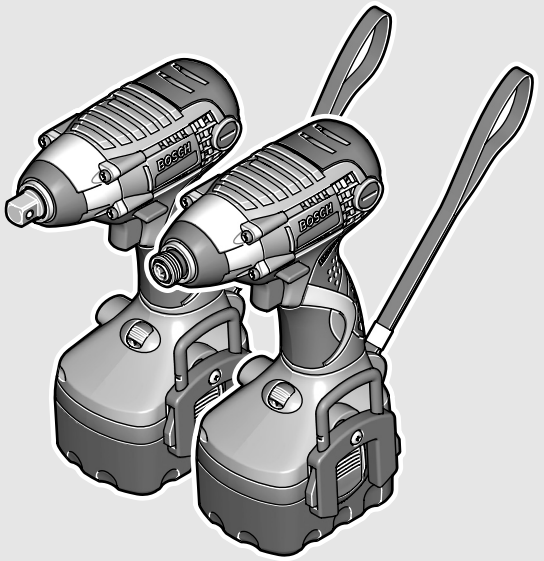


Robert Bosch GmbH
Power Tools Division
70745 Leinfelden-Echterdingen

www.bosch-pt.com

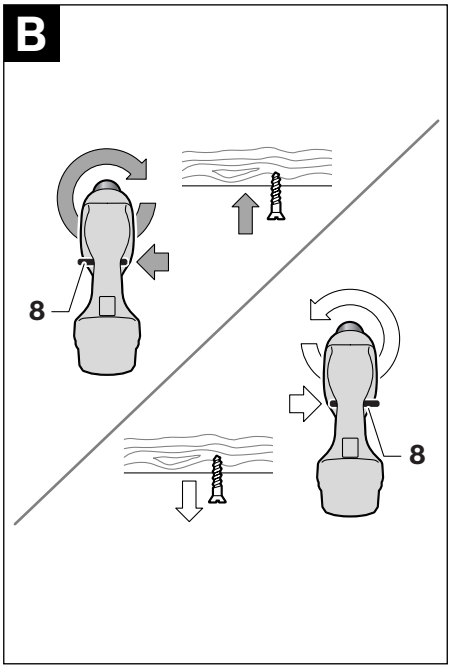
1 609 929 M67 (2007.11) O / 123

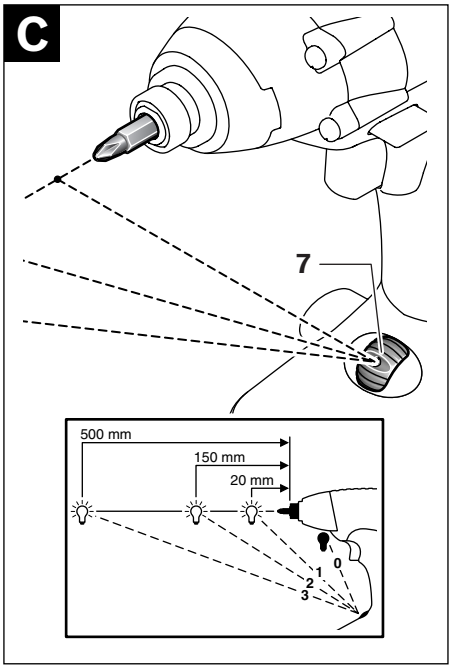
GDR | GDS Professional

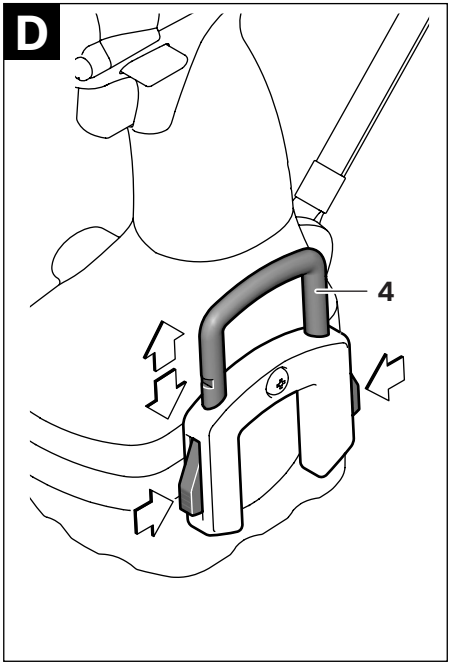
9,6 V | 12 V | 14,4 V | 18 V

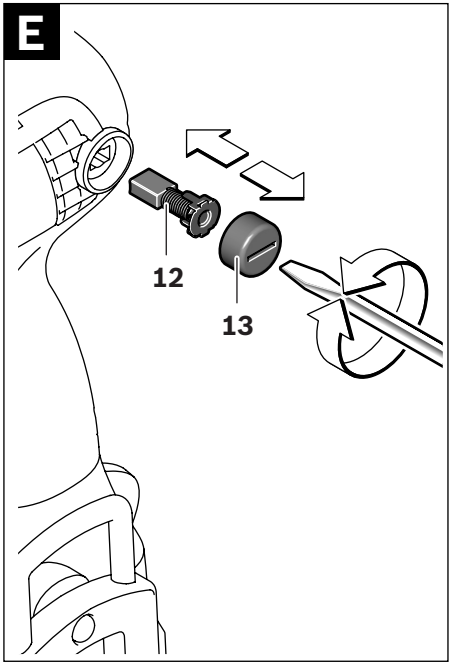
BOSCH

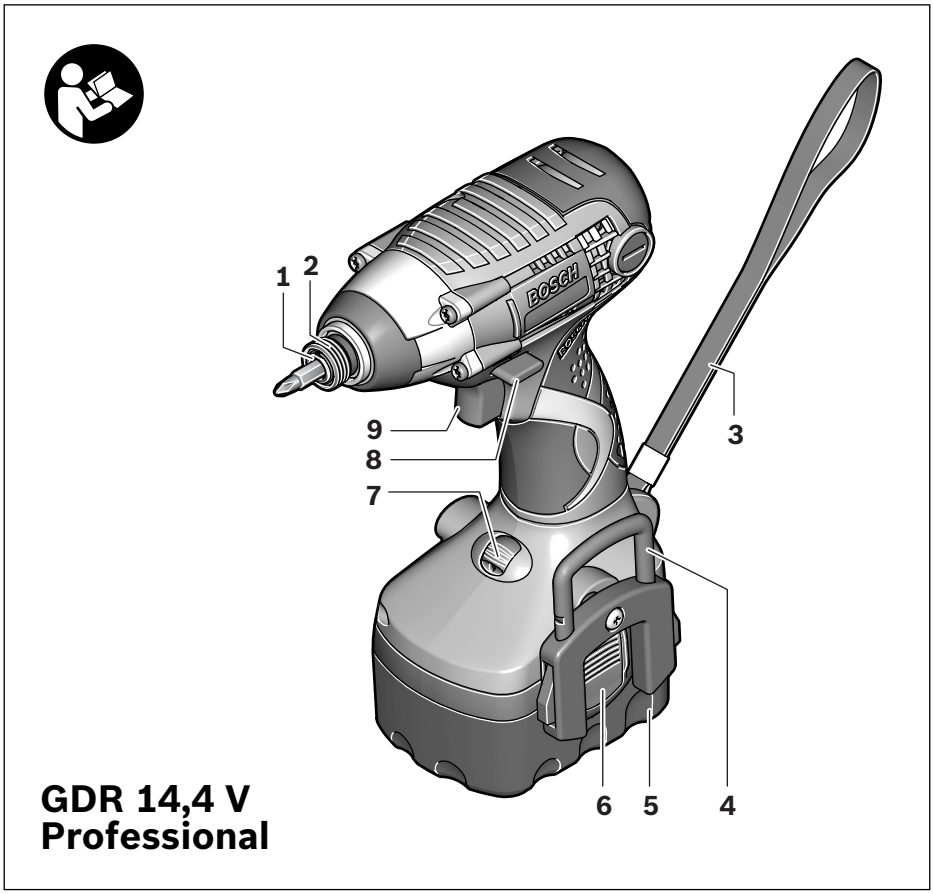
de Originalbetriebsanleitung
en Original instructions
fr Notice originale
es Manual original
pt Manual original
it Istruzioni originali
nl Oorspronkelijke gebruiksaanwijzing
da Original brugsanvisning
sv Bruksanvisning i original
no Original driftsinstruks
fi Alkuperäiset ohjeet
el Πρωτότυπο οδηγιών χρήσης
tr Orijinal işletme talimatı

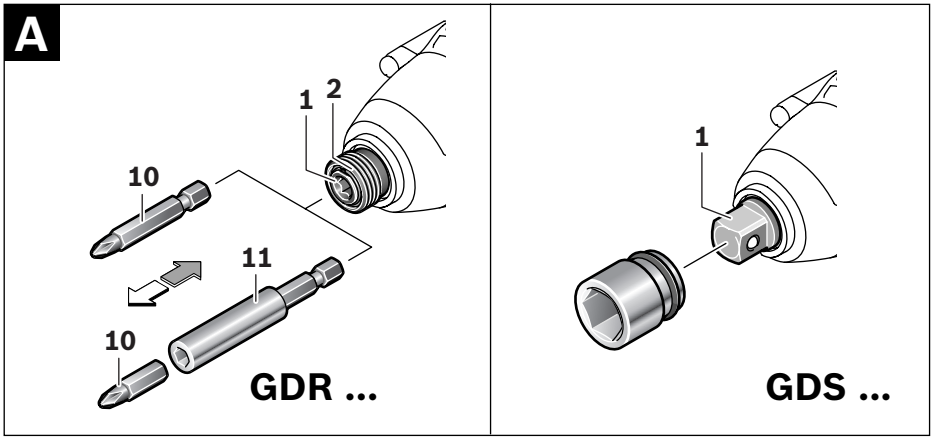












General Power Tool Safety Warnings

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.

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

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. Distractions 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 and 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 residual current device (RCD) protected supply. Use of an RCD 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, jewellery 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) Battery tool use and care

a) 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.

b) Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.

c) 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.

d) 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.

6) 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.

Machine-specific Safety Warnings

- **Secure the workpiece.** A workpiece clamped with clamping devices or in a vice is held more secure than by hand.
- **Always wait until the machine has come to a complete stop before placing it down.** The tool insert can jam and lead to loss of control over the power tool.
- **Avoid unintentional switching on. Ensure the On/Off switch is in the off position before inserting battery pack.** Carrying the power tool with your finger on the On/Off switch or inserting the battery pack into power tools that have the switch on invites accidents.

- **Do not open the battery.** Danger of short-circuiting.

Protect the battery against heat, e. g., also against continuous sun irradiation and fire. There is danger of explosion.

Functional Description

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

While reading the operating instructions, unfold the graphics page for the machine and leave it open.

Intended Use

The machine is intended for driving in and loosening screws and bolts as well as for tightening and loosening nuts within the respective range of dimension.

Product Features

The numbering of the product features refers to the illustration of the machine on the graphics page.

1 Tool holder
2 Locking sleeve
3 Carrying strap
4 Belt clip*
5 Battery*
6 Battery unlocking button
7 Knurled thumbwheel with LED indicator*
8 Rotational direction switch
9 On/Off switch
10 Screwdriver bit*
11 Universal bit holder*
12 Cover lid
13 Carbon brushes

***The accessories illustrated or described are not included as standard delivery.**

Declaration of Conformity CE

We declare under our sole responsibility that the product described under “Technical Data” is in conformity with the following standards or standardization documents: EN 60745 according to the provisions of the directives 2004/108/EC, 98/37/EC (until Dec. 28, 2009), 2006/42/EC (from Dec. 29, 2009 on).

Technical file at:
Robert Bosch GmbH, PT/ESC,
D-70745 Leinfelden-Echterdingen

Dr. Egbert Schneider	Dr. Eckerhard Strötgen
Senior Vice President	Head of Product
Engineering	Certification

ppa. i.V.

15.10.2007, Robert Bosch GmbH, Power Tools Division
D-70745 Leinfelden-Echterdingen

Noise/Vibration Information

Measured values determined according to EN 60745.

Typically the A-weighted noise levels of the product are: Sound pressure level 96 dB(A); Sound power level 107 dB(A). Uncertainty K=3 dB.
Wear hearing protection!

Vibration total values (triax vector sum) determined according to EN 60745:
Impact tightening of fasteners of the maximum capacity of the tool: Vibration emission value a_h=11.4 m/s^2, Uncertainty K=1.5 m/s^2.

The vibration emission level given in this information sheet has been measured in accordance with a standardised test given in EN 60745 and may be used to compare one tool with another. It may be used for a preliminary assessment of exposure.
The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or poorly maintained, the vibration emission may differ. This may significantly increase the exposure level 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 tool and the accessories, keep the hands warm, organisation of work patterns.

Technical Data

Cordless Impact Screwdriver		GDR 9,6 V Professional	GDR 12 V Professional	GDR 14,4 V Professional	GDR 18 V Professional
Article number		0 601 909 6..	0 601 909 5..	0 601 909 4..	0 601 909 3..
Rated voltage	V=	9.6	12	14.4	18
No-load speed	rpm	0 – 2800	0 – 2800	0 – 2800	0 – 2800
Impact rate	rpm	0 – 3200	0 – 3200	0 – 3200	0 – 3200
Maximum torque, hard screwdriving application according to ISO 5393	Nm	105	125	135	155
Bolt size	mm	M6 – M12	M6 – M14	M6 – M16	M6 – M20
Tool holder		¼" hexagon socket	¼" hexagon socket	¼" hexagon socket	¼" hexagon socket
Weight according to EPTA-Procedure 01/2003	kg	1.6	1.8	1.9	2.1

Please observe the article number on the type plate of your machine. The trade names of the individual machines may vary.

Cordless Impact Screwdriver		GDS 12 V Professional	GDS 14,4 V Professional	GDS 18 V Professional
Article number		0 601 909 K..	0 601 909 H..	0 601 909 F..
Rated voltage	V=	12	14.4	18
No-load speed	rpm	0 – 2800	0 – 2800	0 – 2800
Impact rate	rpm	0 – 3200	0 – 3200	0 – 3200
Maximum torque, hard screwdriving application according to ISO 5393	Nm	175	200	220
Bolt size	mm	M6 – M14	M6 – M16	M6 – M20
Tool holder		■ ½"	■ ½"	■ ½"
Weight according to EPTA-Procedure 01/2003	kg	1.8	1.9	2.2

Please observe the article number on the type plate of your machine. The trade names of the individual machines may vary.

Assembly

Battery Charging

A battery that is new or has not been used for a longer period does not develop its full capacity until after approx. 5 charging/discharging cycles.

To remove the battery **5** press the unlocking buttons **6** and pull out the battery downwards. **Do not exert any force.**

The battery is equipped with a NTC temperature control which allows charging only within a temperature range of between 0 °C and 45 °C. A long battery service life is achieved in this manner.

A significantly reduced working period after charging indicates that the battery is used and must be replaced.

Observe the notes for disposal.

Changing the Tool (see figure A)

- **Before any work on the machine (e. g., maintenance, tool change, etc.) as well as during transport and storage, set the rotational direction switch to the centre position.** Unintentional actuation of the On/Off switch can lead to injuries.

GDR 9,6 V/GDR 12 V/GDR 14,4 V/GDR 18 V: Inserting

Pull the locking sleeve **2** forward, push the insert tool to the stop into the tool holder **1** and release the locking sleeve **2** to lock the insert tool.

For quick changing of bits, it is recommended to use a universal bit holder **11**.

Removing

Pull the locking sleeve **2** forward and remove the insert tool.

GDS 12 V/GDS 14,4 V/GDS 18 V:

- **When working with an application tool, pay attention that the application tool is firmly seated on the tool holder.** When the application tool is not firmly connected with the tool holder, it can come loose again and not be controlled.

Slide the application tool onto the square drive of the tool holder **1**.

Operation

Method of Operation

The tool holder **1** with the tool is driven by an electric motor via a gear and impact mechanism.

The working procedure is divided into two phases:
Screwing in and **tightening** (impact mechanism in action).

The impact mechanism is activated as soon as the screwed connection runs tight and thus load is put on the motor. In this instance, the impact mechanism converts the power of the motor to steady rotary impacts. When loosening screws or nuts, the process is reversed.

Starting Operation

Inserting the Battery

- **Use only original Bosch O-pack batteries with the voltage given on the type plate of your machine.** The use of other batteries can lead to injuries and danger of fire.

Set the rotational direction switch **8** to the centre position in order to avoid unintentional starting. Insert the charged battery **5** into the handle so that it can be felt to engage and faces flush against the handle.

Reversing the Rotational Direction (see figure B)

The rotational direction switch **8** is used to reverse the rotational direction of the machine. However, this is not possible with the On/Off switch **9** actuated.

Right rotation: For driving in screws and tightening nuts, press the rotational direction switch **8** through to the left stop.

Left Rotation: For loosening and unscrewing screws and nuts, press the rotational direction switch **8** through to the right stop.

Switching On and Off

To **start** the machine, press the On/Off switch **9** and keep it depressed.

To switch off the machine, **release** the On/Off switch **9**.

Adjusting the Speed

The speed of the switched on power tool can be variably adjusted, depending on how far the On/Off switch **9** is pressed.

Light pressure on the On/Off switch **9** results in a low rotational speed. Further pressure on the switch results in an increase in speed.

Swivel Lighting System (see figure C)

Your tool is equipped with a light source in the knurled thumbwheel **7**. The light is activated as soon as the knurled thumbwheel **7** is in position 1 – 3 and the On/Off switch **9** is pressed.

Depending on the bit being used, the light beam can be adjusted to three positions by turning the knurled thumbwheel **7**. In position 1, the focus of the light beam is approx. 20 mm, in position 2 approx. 150 mm and in position 3 approx. 500 mm in front of the tool holder **1**.
In the “OFF” position, the light is switched off permanently.

Working Advice

- **Apply the power tool to the screw/nut only when it is switched off.** Rotating tool inserts can slip off.

The torque depends on the impact duration. The maximum achieved torque results from the sum of all individual torques achieved through impact. The maximum torque is achieved after an impact duration of 6 – 10 seconds. After this duration, the tightening torque is increased only minimally.

The impact duration is to be determined for each required tightening torque. The actually achieved tightening torque is always to be checked with a torque wrench.

Screw Applications with Hard, Spring-loaded or Soft Seat

When in a test, the achieved torques in an impact series are measured and transferred into a diagram, resulting in the curve of a torque characteristic. The height of the curve corresponds with the maximum reachable torque, and the steepness indicates the duration in which this is achieved.

A torque gradient depends on the following factors:

- Strength properties of the screws/nuts
- Type of backing (washer, disc spring, seal)
- Strength properties of the material being screwed/bolted together
- Lubrication conditions at the screw/bolt connection

The following application cases result accordingly:

- A **hard seat** is given for metal-to-metal screw applications with the use of washers. After a relatively short impact duration, the maximum torque is reached (steep characteristic curve). Unnecessary long impact duration only causes damage to the machine.
- A **spring-loaded seat** is given for metal-to-metal screw applications, however with the use of spring washers, disc springs, studs or screws/nuts with conical seat as well as when using extensions.
- A **soft seat** is given for screw applications, e. g., metal on wood or when using lead washers or fibre washers as backing.

For a spring-loaded seat as well as for a soft seat, the maximum tightening torque is lower than for a hard seat. Also, a clearly longer impact duration is required.

Reference Values for Maximum Screw/Bolt Tightening Torques

Calculated from the tensional cross-section; utilization of the yield point 90 % (with friction coefficient μ_{total} = 0.12). As a control measure, always check the tightening torque with a torque wrench.

Property Classes according to DIN 267	Standard Screws/Bolts								High-strength Bolts		
	3.6	4.6	5.6	4.8	6.6	5.8	6.8	6.9	8.8	10.9	12.9
M 6	2.71	3.61	4.52	4.8	5.42	6.02	7.22	8.13	9.7	13.6	16.2
M 8	6.57	8.7	11	11.6	13.1	14.6	17.5	19.7	23	33	39
M 10	13	17.5	22	23	26	29	35	39	47	65	78
M 12	22.6	30	37.6	40	45	50	60	67	80	113	135
M 14	36	48	60	65	72	79	95	107	130	180	215
M 16	55	73	92	98	110	122	147	165	196	275	330
M 18	75	101	126	135	151	168	202	227	270	380	450
M 20	107	143	178	190	214	238	286	320	385	540	635

Tips

Before screwing larger, longer screws into hard materials, it is advisable to predrill a pilot hole with the core diameter of the thread to approx. $^2/_3$ of the screw length.

Belt Clip (see figure D)

With the belt clip **4**, the machine can be hung onto a belt. The user has both hands free and the machine is always at hand.

The belt clip **4** can be attached and screwed to either side of the machine.

The belt clip **4** will automatically draw out when pressing both release buttons. To dismount the belt clip **4**, remove the complete unit by unscrewing the fastening screw.
Always tighten the fastening screw after mounting the belt clip **4**.

Maintenance and Service

Maintenance and Cleaning

- **Before any work on the machine (e. g., maintenance, tool change, etc.) as well as during transport and storage, set the rotational direction switch to the centre position.** Unintentional actuation of the On/Off switch can lead to injuries.
- **For safe and proper working, always keep the machine and ventilation slots clean.**

Replacing the Carbon Brushes (see figure E)

Check the length of the carbon brushes approx. every 2–3 months and replace the carbon brushes if required.

Never replace only a single carbon brush!

Criteria for replacement of the carbon brushes: A dotted or broken line is visible on one of the large side surfaces of each carbon brush. When either of both carbon brushes is used up to this line, then both carbon brushes should be replaced immediately in order to protect the armature against possible damage.

Note: Use only carbon brushes supplied by Bosch and intended specifically for your product.

– Unscrew the caps **12** using a suitable screwdriver.

– Replace the spring-loaded carbon brushes **13** and screw the caps back on again.

If the machine should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an after-sales service centre for Bosch power tools.

In all correspondence and spare parts order, please always include the 10-digit article number given on the type plate of the machine.

After-sales service and customer assistance

Our after-sales service responds to your questions concerning maintenance and repair of your product as well as spare parts. Exploded views and information on spare parts can also be found under:
www.bosch-pt.com
Our customer consultants answer your questions concerning best buy, application and adjustment of products and accessories.

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Inside New Zealand:
Phone: +64 (0800) 543 353
Fax: +64 (0800) 428 570
Outside AU and NZ:
Phone: +61 (03) 9541 5555
www.bosch.com.au

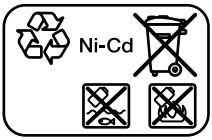
Disposal

The machine, accessories and packaging should be sorted for environmental-friendly recycling.

Only for EC countries:

Do not dispose of power tools into household waste!
According the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, power tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

Battery packs/batteries:



Ni-Cd: Nickel cadmium
Warning: These battery packs contain cadmium, a highly toxic heavy metal.
Ni-MH: Nickel metal hydride

Do not dispose of battery packs/batteries into household waste, fire or water. Battery packs/batteries should be collected, recycled or disposed of in an environmental-friendly manner.

Only for EC countries:
Defective or dead out battery packs/batteries must be recycled according the guideline 91/157/EEC.

Batteries no longer suitable for use can be directly returned at:

Great Britain

Robert Bosch Ltd. (B.S.C.)
P.O. Box 98
Broadwater Park
North Orbital Road
Denham
Uxbridge
UB 9 5HJ
Tel. Service: +44 (0844) 736 0109
Fax: +44 (0844) 736 0146
E-Mail: SPT-Technical.de@de.bosch.com

Subject to change without notice.