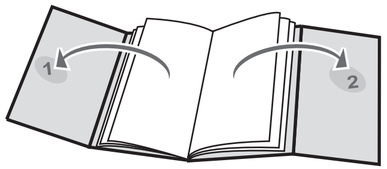

SPARKY
POWER TOOLS

www.sparkygroup.com

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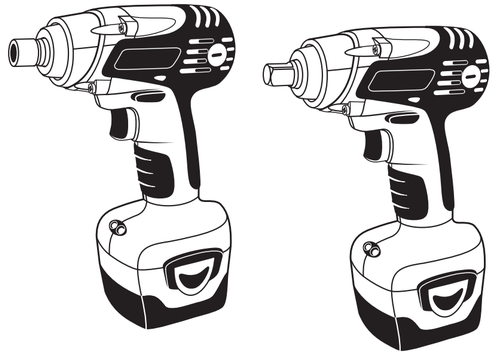
PROFESSIONAL



12V

GUR 12 • GUR 12S

CE

(EN) DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in conformity with the provisions of the following directives and the corresponding harmonized standards:
98/37/EC (until Dec. 28, 2009), 2006/42/EC (from Dec. 29, 2009 on), 2004/108/EC, EN 55014-1, EN 55 014-2, EN 60745-1, EN 60745-2-2, EN 61000-3-2, EN 61000-3-3.

(DE) KONFORMITÄTSERKLÄRUNG

Hiermit versichern wir unsere persönliche Haftung, daß dieses Erzeugnis den Anordnungen folgender Richtlinien und entpsrechender harmonisierten Standards:
98/37/EC (bis 28.12.2009), 2006/42/EC (ab 29.12.2009), 2004/108/EC, EN 55014-1, EN 55 014-2, EN 60745-1, EN 60745-2-2, EN 61000-3-2, EN 61000-3-3.

(FR) DECLARATION DE CONFORMITE

Nous déclarons sous notre propre responsabilité que ce produit est conformé aux directives, respectivement les standards harmonisés:
98/37/EC (jusqu'au 28.12.2009), 2006/42/EC (à partir du 29.12.2009), 2004/108/EC, EN 55014-1, EN 55 014-2, EN 60745-1, EN 60745-2-2, EN 61000-3-2, EN 61000-3-3.

(RU) ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Мы заявляем нашу личную ответственность за соответствие данного изделия нижеперечисленным директивам и соответствующим унифицированным стандартам:

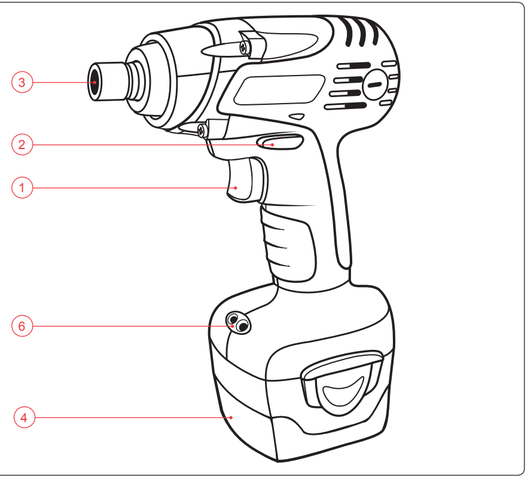
98/37/EC (до 28.12.2009), 2006/42/EC (начиная с 29.12.2009), 2004/108/EC, EN 55014-1, EN 55 014-2, EN 60745-1, EN 60745-2-2, EN 61000-3-2, EN 61000-3-3.

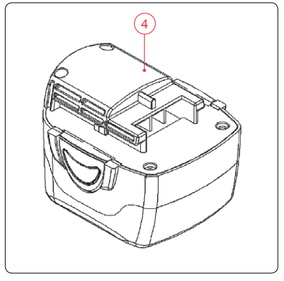
(BG) ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ

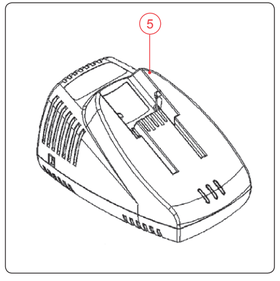
Ние декларираме нашата лична отговорност, че това изделие е в съответствие с разпоредбите на следните директиви, съответно хармонизирани стандарти:
98/37/EC (до 28.12.2009), 2006/42/EC (от 29.12.2009), 2004/108/EC, EN 55014-1, EN 55 014-2, EN 60745-1, EN 60745-2-2, EN 61000-3-2, EN 61000-3-3.

SPARKY Power Tools GmbH
Leipziger Str. 20
10117 Berlin, DEUTSCHLAND

Geschäftsführer Dipl.-Kfm., Dipl.-Ing. Stanislav Petkov







СПАРКИ ЕЛТОС АД

ЕО ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ

СПАРКИ ЕЛТОС АД декларира, че

АКУМУЛАТОРНИ УДАРНИ ВИНТОВЕРТИ – GUR 12; GUR 12S

съответстват на изискванията на следните наредби:
- Наредба за съществените изисквания и оценяване съответствието на машините – приета с ПМС № 232 от 11.10.2001 г. (до 28.12.2009); приета с ПМС № 140 от 19.06.2008 г. (след 29.12.2009)
- Наредба за съществените изисквания и оценяване на съответствието за електромагнитна съвместимост – приета с ПМС № 76 от 6.04.2007 г.
- Наредба за маркировката за съответствие – приета с ПМС № 191 от 16.08.2005 г.,

както и на следните БДС, въвели европейски хармонизирани стандарти:

БДС EN 60745-1, БДС EN 60745-2-2, БДС EN 55014-1, БДС EN 55014-2.

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България

Николай Кълбов
Изпълнителен Директор

СПАРКИ ЕЛТОС АД

ЕО ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ

№97

Ние декларираме нашата отговорност, че изделието

ЗАРЯДНО УСТРОЙСТВО ЗА АКУМУЛАТОРНИ БАТЕРИИ
за обща употреба

съответстват на изискванията на следните наредби:
- Наредба за съществените изисквания и оценяване на съответствието за електромагнитна съвместимост - приета с ПМС № 203 от 29.08.2001 г.;
- Наредба за маркировката за съответствие - приета с ПМС № 191 от 16.08.2005г.

както и на следните БДС, въвели европейски хармонизирани стандарти:

БДС EN 60335-1; БДС EN 60335-2-29; БДС EN 50366; БДС EN 55014-1; БДС EN 55014-2; БДС EN 61000-3-2; БДС EN 61000-3-3.

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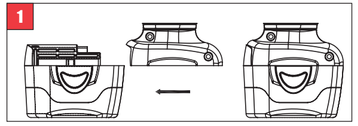
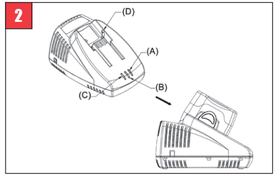
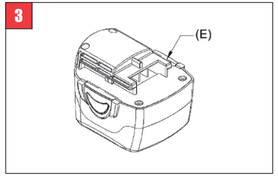
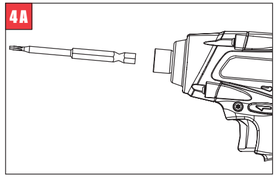
Николай Кълбов
Изпълнителен Директор

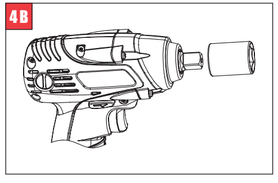
Продуктът е маркиран със знак CE

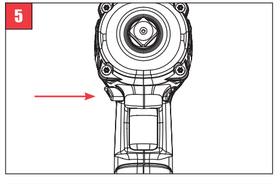


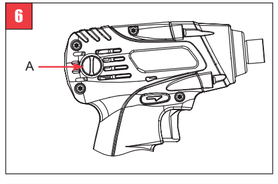


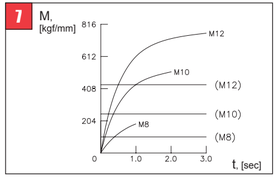


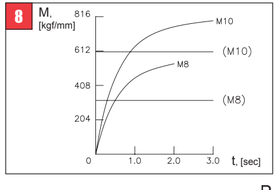












Contents

UNPACKING

Due to modern mass production techniques, it is unlikely that your power tool is faulty or that a part is missing. If you find anything wrong, do not operate the tool until the parts have been replaced or the fault has been rectified. Failure to do so could result in serious personal injury.

ASSEMBLY

This SPARKY cordless impact driver GUR 12, GUR 12S is packed fully assembled.

I - Introduction

Your new SPARKY power tool will more than satisfy your expectations. It has been manufactured under stringent SPARKY Quality Standards to meet superior performance criteria. You will find your new tool easy and safe to operate, and, with proper care, it will give you many years of dependable service.

WARNING:
Carefully read through this entire Instruction Manual before using your new SPARKY power tool. Take special care to heed the **Warnings**. Your SPARKY power tool has many features that will make your job faster and easier. Safety, performance, and dependability have been given top priority in the development of this tool, making it easy to maintain and operate.

Do not dispose of electrical products together with household waste!
Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

ENVIRONMENTAL PROTECTION

The machine, accessories and packaging should be sorted for environmental-friendly recycling. The plastic components are labelled for categorised recycling.

DESCRIPTION OF SYMBOLS

The rating plate on your power tool may show symbols. These represent important information about the product or instructions on its use.

Double insulated for additional protection.

Conforms to relevant European safety standards.

Conforms to the requirements of Russian standards.

Conforms to the requirements of Belarusian standards

II - Technical specifications

Model	**GUR 12**	**GUR 12S**
▪ Voltage:	12 V ⎓	12 V ⎓
▪ No load speed:	0–2300 min^{-1}	0–2300 min^{-1}
▪ Impact rate:	0–3000 min^{-1}	0–3000 min^{-1}
▪ Max. torque:	160 Nm	195 Nm
▪ Spindle Recess:	6 mm Hexagon	6 mm Hexagon
▪ Capacity:		
- Mechanical screw	M4–M8	M4–M8
- Standard screw	M5–M12	M5–M12
- High tension screw	M5–M10	M5–M10
▪ Variable speed, reversing:	Yes	Yes
▪ Electric brake:	Yes	Yes
▪ LED charging indicator:	Yes	Yes
▪ Tool length:	162 mm	158 mm
▪ Weight (incl. battery) (EPTA Procedure 01/2003):	1,8 kg	1,6 kg
BATTERY (Nickel-Cadmium)		
▪ Voltage:	12V	12V
▪ Capacity:	2 Ah	2 Ah
CHARGER:		
▪ Input voltage / frequency:	230V~50Hz	230V~50Hz
▪ Consumption:	45 W	45 W
▪ Output:	12 V ⎓ 1.8 A	12 V ⎓ 1.8 A
▪ Charging time:	1 h	1 h

Noise and vibration information

▪ **Noise emission** (measured values determined according to EN 60745):		
A-weighted sound pressure level L_{pA}	96.5 dB(A)	94.8 dB(A)
Uncertainty K_{pA}	3 dB	3 dB
A-weighted sound power level L_{wA}	100.3 dB(A)	106.5 dB(A)
Uncertainty K_{wA}	3 dB	3 dB

⚠ **Wear hearing protection!**

▪ **Vibration emission** (determined according to 6.2.7 EN 60745-1:2006):		
Total vibration values (vector sum in the three axes) determined according to EN 60745		
Vibration emission value a_h	36.89 m/s^2	22.23 m/s^2
Uncertainty K	1.5 m/s^2	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.

Maintain the power tool and the accessories and keep your hands warm during operation to reduce the harmful effect of vibrations.

III - 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 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 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 adjust-**

ments, 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.*

IV - Additional safety rules for impact drivers

- Hold tool by insulated gripping surfaces when performing an operation where the driving screws may contact hidden wiring. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
- Be aware that this tool is always in an operating condition, because it does not have to be plugged into an electrical outlet. Always set the trigger switch to the locked OFF position when installing or removing the battery pack.

V - Additional instructions for work with the charger

- Before using the charger, read all the instructions and cautionary markings on the charger and battery pack as well as the instructions on using the battery pack.
- Only charge your batteries indoors as the charger is designed for indoor use only.

WARNING: If the battery pack is cracked or damaged in any other way, do not insert it in the charger. There is a danger of electric shock.

WARNING: Do not allow any liquid to come into contact with the charger. There is a danger of electric shock.

- The charger is not intended for any use other than charging the exact type of SPARKY rechargeable battery pack as supplied with the charger. Any other use may result in the risk of fire or electric shock.
- The charger and battery packs supplied with it are specifically designed to work together. Do not attempt to charge the battery pack with any other charger than the one supplied.
- Do not place any object on top of the charger as it could cause overheating. Do not place the charger near any heat source.
- Do not pull on the lead of the charger to disconnect it from the power source.
- Make sure that the charger cable is positioned where it will not be stepped on, tripped over or otherwise subjected to damage or stress.
- Do not use an extension cord unless it is absolutely necessary. The use of an improper extension cord could cause the risk of fire or electric shock.
- Do not use the charger if it has been subjected to a heavy knock, dropped or otherwise damaged in any way. Do not operate charger with damaged cord or plug - have them replaced immediately. Take the charger to an authorised service centre for a check or repair.
- Do not disassemble the charger. Take it to an authorised service centre when service or repair is required. Incorrect re-assembly may result in the risk of fire or electric shock.

- To reduce the risk of an electric shock, unplug the charger from the power supply before attempting to clean it. Removing the battery pack alone does not reduce the risk.
- Never attempt to connect two chargers together.
- The charger is designed for use from a standard household electrical supply (220–240V). Do not attempt to connect the charger to a supply with a different voltage.
- If you wish to charge a second battery pack, unplug the charger from the mains supply and leave it for at least 15 minutes. After this time you can charge a second battery pack.
- Under certain conditions, with the charger plugged in to the power supply, the exposed charging contacts inside the charger can be shorted by foreign material. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminium foil, or any build-up of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no battery pack in the cavity. Unplug charger before attempting to clean.
- Do not freeze or immerse charger in water or any other liquid.

VI - Additional instructions for work with the battery pack

- The battery pack for this tool has been shipped in a low charge condition. You should charge the battery pack fully before use.
- Do not charge the tool in damp or wet environment.
- Longest life and best performance can be obtained if the battery pack is charged when the air temperature is between 65ºF–75ºF (18ºC–24ºC). DO NOT charge the battery set at air temperature below +40ºF (+4.5ºC), or above +105ºF (+40.5ºC). This is important and will prevent serious damage to the battery set.
- The charger and battery pack may become warm to touch while charging. This is a normal condition, and does not indicate a problem.
- To prevent overheating, do not charge battery packs in direct sunlight in hot weather or near heat sources.
- Do not charge inside a box or container of any kind. The battery must be placed in a well ventilated area during charging.
- A small leakage of liquid from the battery pack cells may occur under extreme usage or temperature conditions. This does not indicate a failure. However, if the outer seal is broken and this leakage gets on your skin:
  - Wash quickly with soap and water.
  - Neutralise with a mild acid such as lemon juice or vinegar.
  - If battery liquid gets into your eyes, flush them with clean water for a minimum of 10 minutes and seek immediate medical attention. (Medical note: The liquid is 25-35% solution of potassium hydroxide.)
- If the battery pack does not charge properly:
  (1) Check current at receptacle by plugging in a lamp or other appliance.
  (2) Move charger and battery pack to a location where the surrounding air temperature is approximately 65ºF–75ºF (18ºC–24ºC).
  (3) If charging problems persist, take or send the tool, battery pack and charger to your local service centre.
- The battery pack should be recharged when it fails to produce sufficient power on jobs, which were easily done previously. DO NOT CONTINUE to use under these conditions. Follow the charging procedure. You may also charge a partially used pack whenever you desire with no adverse affect on the battery pack.
- Do not incinerate the battery pack even if it is seriously damaged or can no longer hold a charge. The battery pack can explode in a fire.
- To facilitate the cooling of the battery pack after use, avoid placing the charger or battery pack in a warm environment such as in a metal shed, or an uninsulated trailer.

WARNING: Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, return to a service centre for recycling.

READ ALL OF THE INSTRUCTIONS IN THE CHARGER SECTION OF THIS MANUAL BEFORE ATTEMPTING TO CHARGE THE BATTERY PACK FOR YOUR TOOL.

- Always use correct SPARKY battery pack (the one supplied with tool or a replacement pack exactly like it.) Never install any other battery pack. It will ruin your tool and may create a hazardous condition.
- Charge battery packs only in SPARKY chargers.
- The battery pack utilizes nickel-cadmium cells. Cadmium is considered to be a toxic material. Use an environmentally safe disposal unit at a municipal waste disposal centre to dispose of a

damaged or worn out battery.

FITTING OR REMOVING THE BATTERY PACK

To remove battery pack: Depress the battery release button and pull battery pack out of tool.
To install battery pack: Push battery pack onto tool until it locks in place. (*Fig. 1*)

INSTRUCTIONS FOR BATTERY CHARGING

1. Press down on the battery pack to make sure the battery contacts are properly engaged with the charger contacts. The red light should ignite. Red light indicates fast charging mode. If the red light is flashing, the battery pack is fully discharged or hot. If the battery pack is hot, the red light will stop flashing and glow once the battery pack has cooled down. If the battery pack is fully discharged, the red light should glow after voltage has increased, normally approximately for 30 minutes. If after one hour the red light is still flashing, the battery pack is defective and should be replaced. The green light indicates that the battery pack is fully charged or it is in slow charging mode to maintain battery pack charge level. If the yellow light glows and the red light flashes, the battery is defective. Return battery pack to place of purchase.
2. After your battery pack is fully charged, the red light will turn OFF and the green light will come on.
3. After normal use, the battery pack will require one hour of charging before it will be fully charged. A completely discharged battery will require 1½ hours in order to be fully charged.
4. The battery pack will become a little warm while charging. This is normal and does not indicate a problem.
5. Do not place the charger in an extremely hot or cold place. It will work best at room temperature.

Make sure power circuit voltage is the same as that shown on the charger specification plate. Connect charger to power source. The orange light (A) *Fig. 2*, should light up. This indicates the charger is ready to begin charging.
Position battery pack on charger; align rails (*Fig. 2, D*) on battery charger with four tabs (*Fig. 3, E*) on battery pack. Slide battery forward onto charger until it stops.

The red light (*Fig. 2, B*) should begin to glow continuously, indicating that the battery pack is receiving a “Fast Charge”. After approximately one hour, the “Fast Charge” indicator light (red) should go out indicating that the battery pack is fully charged and that the charger is now in a “Trickle Charge” mode (green light). The battery pack can be left on “Trickle Charge” until you are ready to use it.

WARNING: When inserting battery pack onto charger, if the orange light (*Fig. 2, A*) starts to blink, and the green light (*Fig. 2, C*) begins to glow, indicating maybe battery temperature is too high or the battery voltage is too low, please leave battery pack on charger, it will be charged automatically when battery temperature is between 32ºF (0ºC) and 100ºF (37.7ºC) or battery voltage becomes normal. Then the red light *(Fig. 2, B)* should begin to glow continuously, and the green light will turn off.

Depending on room temperature, line voltage, and existing charge level, initial battery charging may take longer than one hour.

Disconnect charger from power source when not in use.

IMPORTANT INFORMATION FOR RECHARGING HOT BATTERIES

When using your cordless angle drill/driver continuously, the batteries in your battery pack will become hot. You should let a hot battery pack cool down for approximately 30 minutes before attempting to recharge. When the battery pack becomes discharged and is hot, the red light on the charger will flash. When the battery pack cools down, the red light will glow continuously to indicate fast charging mode, 1-hour charge time.

NOTE. This will occur when continuous use of your tool causes the battery pack to become hot. It does not occur under normal conditions.

VII - Know your product

1. ON/OFF switch
2. Forward/reverse switch
3. Bit holder
4. Battery
5. Charger
6. LED charge indicator

VIII - Operation

SWITCH OPERATION

1. To turn the machine on, squeeze the trigger switch. To turn the machine off, release the trig-

ger switch.
2. Your power tool is equipped with a brake. The tool will stop as soon as the trigger switch is fully released. The farther you squeeze the trigger, the faster the tool will operate.

INSERTING AND REMOVING BITS (GUR 12)

Always follow the below described procedure to install driver bit. (*Fig. 4A*)

1. Pull the sleeve forward.
2. Insert the bit into the hexagonal recess in the anvil.
3. Release the sleeve and it returns to its original position to secure the bit.

WARNING: If the sleeve does not return to its original position, then the bit is not installed properly.

INSTALLING / REMOVING THE IMPACT SOCKET (GUR 12S)

1. Align the hole in the side of the socket; put it onto the anvil of the tool until it locks into place. (*Fig. 4B*)
2. Depress the detent pin through the hole, and pull the socket off.

To remove the bit / socket, perform the above mentioned in reverse order.

WARNING: When using the hex adapter and any of the hex bits supplied with the machine, if the guide sleeve does not return to its original position, then the bit is not installed properly.

WARNING: Always set switch to off position when inserting or removing bits.

FORWARD / REVERSE SWITCH

The bit rotates clockwise (viewed from the rear) by pushing the R-side of the push button. The L-side of the push button is pushed to turn the bit counter-clockwise. (*Fig. 5*)

WARNING: The push button can not be switched while the drill is turning. To switch the push button, stop the machine and then set the push button.

TIGHTENING AND LOOSENING SCREWS

Install the bit that matches the screw, line up the bit in the grooves of the head of the screw then tighten it.

Push the impact driver just enough to keep the bit fitting the head of the screw.

WARNING: Over tightening can result in the screw breaking or damage to the end of the driver bit.

- Applying the impact driver for too long tightens the screw too much and can break it.
- Tightening a screw with the impact driver at an angle to that screw can damage the head of the screw and the proper force will not be transmitted to the screw.

BRUSH REPLACEMENT

1. Completely unscrew the cap (*Fig. 6, A*)
2. Next pull the brush out from the brush holder.
3. Worn brushes should be replaced in the same holder and position as removed.
4. Re-fasten the cap.
5. Check that the tool can operate. Before use, allow it to run for a few minutes to enable the brushes to settle.

OPERATING THE DRILL

1. Resting the unit after continuous operation. After continuous operation, leave the power tool for 15 minutes or so to rest when replacing the battery. The temperature of the motor, switch, etc., will rise if operation is started again immediately after battery replacement, eventually resulting in burnout.
2. Place the point of the driver bit in the screw head. Keep the tool pointed straight at the screw.
3. Apply forward pressure to the tool to prevent the bit from slipping off the screw.
4. Turn the power tool on to start operation. Always check torque with a torque wrench, as the fastening torque is affected by many factors including the following:

Voltage:	Low voltage, due to a nearly discharged battery, will reduce the fastening torque.
Bit or socket size:	Failure to use the correct bit or socket size will cause a reduction in fastening torque.
Variable speed trigger switch:	Operating the tool at a reduced speed will decrease the fastening torque.
Bolt size:	Larger bolt diameters generally require higher fastening torque. Fastening torque will also vary according to length, grade, and torque coefficient.
Material:	The type of material and surface finish of the material will affect fastening torque.
Fastening time:	Longer fastening time results in increased fastening torque. Using a longer fastening time than recommended could cause the screws to be overstressed, stripped or damaged.

Reference values for the proper fastening torque, based on a standard bolt and resist high tension bolt are provided here.

Fig. 7: Standard Bolt - Tightening Torque Allowed
M, [kgf/mm] – Tightening Torque
t, [sec] – Tightening Time

Fig. 8: Resist Hight Tensile -
Tightening Torque Allowed
M, [kgf/mm] – Tightening Torque
t, [sec] – Tightening Time

WARNING: Metal case can get hot during continuous operation.

1. Cautions on use of the speed control switch. This switch has a built-in electronic circuit that can vary the rotation speed. Consequently, when the switch trigger is pressed only slightly (low speed rotation) and the motor is stopped while continuously driving in screws, the components of the electronic circuit parts may overheat and be damaged.
2. Tightening torque.
   Refer to *Fig. 7 & 8*, please use this example as a general reference as tightening torque will vary according to tightening conditions.

WARNING: Over tightening can result in the screw breaking or damage to the end of the driver bit.

If a long striking time is used, screws will be strongly tightened. This may cause the screw to break, or may damage the end of the bit.

If the machine is held at an angle to the screw being tightened, the head of the screw may be damaged, or the specified torque may not be transmitted to the screw. Always keep the machine and the screw being tightened in a straight line.

IX - Maintenance

CLEANING

- With the motor running, blow dirt and dust out of all air vents with dry air at least once a week. Wear safety glasses while performing this.
- Exterior plastic parts may be cleaned with a damp cloth and mild detergent.

WARNING: Although exterior plastic parts are highly solvent resistant, NEVER use solvents.

Charger Cleaning Instructions

- Dirt and grease may be removed from the exterior of the charger using a cloth or soft non-metallic brush. Do not use water or any cleaning solutions.

WARNING: Disconnect the charger from the AC outlet before cleaning.

WARNING: To assure product safety and reliability, repairs, maintenance and adjustment (including brush inspection and replacement) should be performed by certified service centres or other qualified service organisations, always using identical replacement parts.

ACCESSORIES

Recommended accessories for use with your

tool are available at extra cost from your local SPARKY service centre.

X - Warranty

The guarantee period for SPARKY power tools is determined in the guarantee card.

Faults due to normal wear, overloading or improper handling will be excluded from the guarantee.

Faults due to defective materials implemented as well as defects in workmanship will be corrected free of charge through replacement or repair.

The complaints for defective SPARKY power tools will be recognized if the machine is sent back to the dealer or is presented to the authorised warranty service centre undismantled, in its initial condition.

Notes

Carefully read the entire Instruction Manual before using this product.

The manufacturer reserves the right to make changes and improvements to the products and to alter specifications without prior notice.

Specifications may differ from country to country.