

NG-51
12V DRILL DRIVER

NOVA GEAR



Battery and charger sold separately

PRODUCT CODE: 40040



CAUTION: Read the operating instructions to reduce the risk of injury

INSTRUCTION MANUAL

SAFETY



CAUTION: Read the operating instructions to reduce the risk of inquiry.



DOUBLE INSULATED

This tool is double insulated in accordance with AS/NZS 60335-1; therefore no earth wire is required.

ELECTRICAL SAFETY

This manual contains important safety and operating instructions for your battery charger (sold separately).

› Before using the charger, read all instructions and cautionary markings on charger, battery pack and product using the battery pack.



DANGER! If the battery case is cracked or damaged, do not insert into charger. There is a danger of electric shock or electrocution.



Warning: Do not allow any liquid to get inside charger. Electric shock may result. To facilitate 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.

› The charger is not intended for any uses other than charging rechargeable batteries. Any other

use may result in risk of fire, electric shock or electrocution.

› Do not place any object on top of the charger or place the charger on a soft surface that may result in excessive internal heat. Place the charger in a position away from any heat source.

› To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the charger.

› Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

› An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in the risk of fire, electric shock or electrocution.

› Do not operate charger if it has received a sharp blow, been dropped or otherwise damaged in any way. Have it checked by an electrician or power tool repairer.

› Do not disassemble charger. Take it to an electrician or power tool repairer when service or repair is required. Incorrect reassembling may result in a risk of electric shock, electrocution or fire.

› To reduce risk of electric shock, unplug charger from the outlet before attempting any cleaning. Removing the battery pack will not reduce this risk.

› Never attempt to connect 2 chargers together.

› DO NOT store or use the tool and battery pack in locations where the temperature may reach or exceed 40°C (such as outside sheds or metal buildings in summer).

› The charger is designed to operate on standard household electrical power (240 volts). Do not attempt to use it on any other voltage! The battery pack is not fully charged out of the carton. First read the safety instructions and then follow the charging notes and procedures.

› The longest life and best performance can be obtained if the battery pack is charged when the air temperature is between 18 - 24°C. Do not charge the battery pack in an air temperature below 10°C or above 40°C. This is important and will prevent damage to the battery pack.

› Do not incinerate the battery pack even if it is seriously damaged or is completely worn out. The battery can explode in a fire.

› Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, immediately discontinue use and do not recharge.

GENERAL 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 these instructions and other documents supplied with this tool for future reference.

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.

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. Use of any other battery packs may create a risk of injury and fire.

c) When the battery 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.

b) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

ADDITIONAL SAFETY RULES FOR DRILL DRIVERS

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

b) Do not use the tool in wet or damp conditions.

c) Wear ear protectors when drilling
Exposure to noise can cause hearing loss.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for

their safety.

Children should be supervised to ensure that they don't play with the appliance.

Recommendations for the use of a residual current device with a rated residual current of 30mA or less:

- › Wear a hard hat (safety helmet), safety glasses and/or face shield. It is also highly recommended that you wear a dust mask, ear protection and padded gloves.
- › Hold the power tool with a firm grip. High reaction torque can briefly occur while driving and loosening screws.
- › Secure the work piece. A work piece clamped with clamping devices or in a vice, is held more secure than by hand.
- › One-handed operation can be hazardous. It is recommended you hold the unit firmly with both hands when operating the tool.
- › After installing the driver bit, pull lightly on the bit to make sure that it does not come loose. If the bit is not installed properly, it can come loose during use, which can be dangerous.
- › Use a bit that matches the screw.
- › Tighten the screw with the drill driver lined straight with the screw to prevent the screw head from being damaged and to ensure the proper force is delivered.
- › Check that any bit to be used is not cracked or broken. Broken or cracked bits are dangerous.

- › If the ring securing the bit is damaged, the bit may come off during use causing personal injury.
- › The torque delivered by the drill driver depends on how long it is applied, the size of bit and other factors such as the state of the battery charge.
- › Stop the drill driver before changing the direction of rotation. Always release the trigger switch and wait for the drill driver to stop before switching the direction of rotation.
- › Never touch the bit whilst it is turning. Do not let the turning bit get near your hands or any other part of your body. You could be cut or caught up in the bit.
- › Do not touch the bit after it has been in use for an extended period. It could be hot and burn you.

LITHIUM-ION BATTERY & CHARGER SAFETY

OVER CHARGING PROTECTION

This feature ensures that the battery is never overcharged. When the battery has reached its full charge capacity the charger will shut off protecting the internal components of the battery from being damaged.

OVER DISCHARGE PROTECTION

An internal component of the battery pack is an over discharge protector. This feature will stop the battery from discharging beyond the recommended lowest safety voltage.

OVER HEAT PROTECTION

The battery has an internal Thermister cut off sensor which will cease the charging cycle if the battery becomes hot during the charging process. This Thermister sensor will also stop the battery from operating should the battery become too hot during the operation of the tool. This can happen when the tool is overloaded or being used for extended periods of time. Up to 30min in cooling time may be required depending on ambient temperature and operation being performed.

OVER CURRENT PROTECTION

Should the battery be overloaded and the maximum current draw be exceeded the battery will temporarily stop working to protect the internal components. The battery will resume to normal operation once the excessive current draw has returned to normal safe level. This may take a few seconds.

SHORT CIRCUIT PROTECTION

If the battery pack was to short circuit the short circuit protector would immediately stop the battery pack from operating. This will ensure that no further internal components of the battery or the tools are damaged.

INTENDED USE

The cordless drill driver is designed to tighten and undo screws, as well as for drilling in wood, metal and plastic.

This tool is to be used only for its prescribed purpose. Any other use is deemed to be a case of misuse. The user / operator and not the manufacturer will be liable for any damage or injuries of any kind caused as a result of this.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	NG-51 DRILL DRIVER
Product code	40040
Warranty	3 years
Voltage	12V
No-load speed	0-350 / 0-1250 RPM
Transmission	2 speed
Battery type	Li-ion 2000mAh
Max torque	23N.m
Clutch settings	16+1
Chuck size	3/8" (10mm)
Chuck type	Single sleeve chuck
Battery charge time	30 mins

PRODUCT OVERVIEW

IDENTIFICATION



1. Keyless chuck
2. Torque adjustment collar
3. Speed selector
4. Forward / reverse selector
5. On / off trigger
6. LED light
7. Battery level indicator
8. Battery release button
(battery not included)

ACCESSORIES INCLUDED

- › 1x dual head bit

BATTERY AND CHARGER

This tool is compatible with the NG-6020 battery and NG-61 charger.

INSTALLING AND REMOVING THE BATTERY

Always switch off the drill before insertion or removal of the battery.

INSTALLING THE BATTERY

1. Hold the drill upright and pick up the battery in your opposite hand. Place two fingers over the battery release buttons and insert the battery until it clicks into place (Fig. 1).
2. Do not use excessive force when inserting the battery. If the battery does not slide in easily, it is not being inserted correctly. It is also possible that there could be damage to the battery, battery terminals or the drill.

REMOVING THE BATTERY

Press both the battery release buttons on either side and gently pull the battery out of the drill.

BATTERY LIFE

The length of service from each charging cycle will depend on the type of work you are doing. To obtain the longest possible battery life, we suggest the following:

- › Store and charge your battery in a cool area. Temperatures above or below normal room temperature will shorten battery life.
- › Never store batteries in an uncharged condition. Recharge them immediately after they are uncharged.



Fig.1

› All batteries gradually lose their charge. The higher the temperature the quicker they lose their charge. If you store your drill for long periods of time without using it, recharge the batteries every month or two. This practice will prolong battery life.

ASSEMBLY

KEYLESS CHUCK

A keyless chuck is included on your drill to allow for easy installation and removal of bits/accessories. To open and close the keyless chuck, rotate the chuck body with your other hand (Fig. 2).

The arrows on the chuck indicate in which direction to rotate the chuck body in order to GRIP (tighten) or RELEASE (unlock) the drill bit.


 **Warning:** Do not hold the chuck body with one hand and use power of the drill to tighten or loosen the chuck jaws. The chuck body could slip and your hand could come in contact with a rotating accessory. This could cause an accident resulting in personal injury.



Fig.2

INSTALLING DRILL OR DRIVER BITS

1. Remove the battery from the drill.
2. Rotate the keyless chuck to a point where the opening is slightly larger than the drill or driver bit you intend to use.
3. Insert the drill or driver bit into the keyless chuck, ensuring the end of the drill or driver bit does not touch the screw inside the keyless chuck.
4. Tighten the keyless chuck onto the drill or driver bit (Fig. 3).



REMOVING DRILL OR DRIVER BITS

1. Remove the battery from the drill.
2. Loosen the keyless chuck as described previously.
3. Remove the drill or driver bit from the keyless chuck.

NOTE: Do not handle drill bits without gloves as drill bits and other accessories are sharp or can be hot after use, this can cause personal injury.



OPERATION

ON / OFF TRIGGER

1. Turn the drill ON by pressing the on / off trigger (Fig. 4).
2. To turn the drill OFF release the on / off trigger.

VARIABLE SPEED

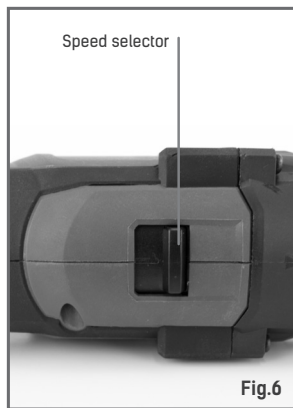
You can vary the speed of the drill by controlling the amount of pressure applied to the on / off trigger. The tool reaches its max speed when the on / off trigger is fully pressed in.

CHANGING THE ROTATION DIRECTION

1. The direction of rotation can be changed with the forward / reverse selector. This is located above the on / off trigger (Fig. 5).
2. To select the forward drilling position, push the forward / reverse selector. To select the reverse drilling position, push the forward / reverse selector again.
3. The on / off trigger can be locked off by pushing the forward/reverse selector into the middle of both the forward and reverse positions.
4. Do not change the direction of rotation while the keyless chuck is in motion.

SPEED CONTROL

The drill has a 2 speed gearbox. The speed selector is located on the top of the drill (Fig. 6). First gear has a range of 0-350/min. Second gear has a range of 0-1150/min.



TORQUE SETTINGS (TIGHTENING POWER OF YOUR DRILL)

When using your drill for various driving applications, it becomes necessary to increase and decrease the power and torque in order to prevent the possibility of damaging screw heads, threads, work pieces, etc.

In general, power and torque should correspond to the difficulty of the screw to be driven. If torque is too high, the screws can be damaged or broken.

TORQUE ADJUSTMENT PROCEDURE

1. Locate the arrow on the front of the drill housing.
2. Identify the torque settings and 1 drill setting on the torque adjustment collar.
3. Rotate the torque adjustment collar to the desired setting, aligning the required number on the torque adjustment collar with the arrow on the drill housing (Fig. 7).
4. To increase or decrease torque, rotate the torque adjustment collar. The lower the number, the lower the torque setting. The higher the number, the higher the torque setting.

Always check that the correct torque is selected by practising on scrap material prior to carrying out a job.



Fig.7

The torque setting required to drive screws will differ with different materials. Start with the torque setting on the number you think is appropriate (Eg: 4) and simply increase the torque adjustment collar to a higher number if the screw head is not sitting flush with your work piece. Remove the screw after adjusting and re-drive the screw back into the work piece until the correct torque adjustment leaves the screw head flush with your work piece.

LED LIGHT

- › The drill has one LED Light built into the unit (Fig. 8).
- › The LED light turns on automatically when you press the on / off trigger.
- › The LED light illuminates dark areas in tight corners to assist with drilling and screw driving. This helps achieve a more accurate result in your work piece.

DRILLING IN ALL MATERIALS

- › Always use sharp drill bits.
- › Mark the place where you would like the hole to be drilled.
- › Commence with a slow speed to start the hole (see section “Speed Control” for directions on how to do this).
- › Reduce your pressure on the drill when the drill bit is about to break through the material.



Fig.8

METAL DRILLING

- › Support thin material with a piece of scrap wood.
- › Use a centre punch to mark the position of the hole.

WOOD DRILLING

- › Mark the place where you want to drill with a punch or a nail.
- › To avoid splintering on breakthrough, either clamp a piece of scrap wood to the back of your work piece or continue the hole from the back of the wood when the drill bit first breaks through.
- › If drilling a large hole, use a small size drill bit first to establish a pilot hole then use the required large size drill bit.
- › Use only HSS (high speed steel) drill bits or those recommended for metal use.
- › When drilling into iron or steel, use a cooling lubricant such as thin oil. With aluminium, use turpentine or paraffin. With brass, copper and cast iron, use no lubricant but withdraw the drill regularly to assist cooling.

MAINTENANCE

- › When not in use, the drill should be stored in a dry, frost free location, out of reach of children.
- › Keep ventilation slots of the drill clean at all times and prevent any

foreign matter from entering.

- › If the housing of the drill requires cleaning, do not use solvents but a moist soft cloth only.
- › Blow out the ventilation slots with compressed air periodically.

NOTE: Nova Gear will not be responsible for any damage or injuries caused by repair of the drill by an unauthorised person or by mishandling of the drill.

WASTE DISPOSAL & RECYCLING

Do not dispose of this product in household waste!

Please recycle this product responsibly in accordance with local and national law.

SERVICING

For information on servicing and repairs please contact Spot-on on 1300 658 338 or visit www.spoton.com.au.

WARRANTY

The NG-51 Drill Driver comes with a 3 year manufacturers warranty.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Separate to the above Australia Consumer Law, Spot-on offers a global warranty.

The warranty period commences on the date of purchase, which can be verified on your receipt or invoice. We cannot offer a warranty for damages and defects on appliances or their parts caused by improper use or treatment. Damage caused by failure to comply with the operating manual will be excluded from the warranty. In the event that an unauthorised persons has modified the appliance, the warranty will be rendered void. Damages that are caused by improper handling are excluded from the guarantee.

If you have any concerns or wish to make a warranty claim please contact your retailer or Spot-on Laser and Tool Company on 1300 658 338.

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