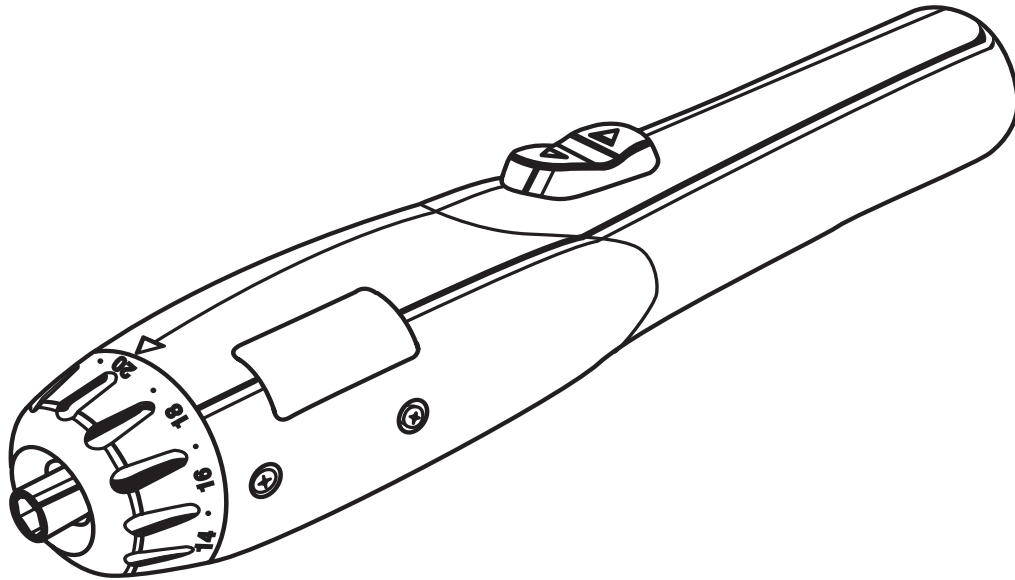


RYOBI[®] OPERATOR'S MANUAL

2.4 VOLT SCREWDRIVER

Model HP24



SPECIFICATIONS:	
Collet	1/4 in. (6.4 mm)
Motor	2.4 Volt DC
Switch	Single Speed / Reversible
No Load Speed	150 RPM
Maximum Torque	35 lb.- in.
Charger Rating	120 Volts, 60 Hz, AC only
Charger Voltage	2.4 Volt
Charger Rate	3-6 Hours

THANK YOU FOR BUYING A RYOBI SCREWDRIVER.

Your new screwdriver has been engineered and manufactured to Ryobi's high standard for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance.

⚠ CAUTION: Carefully read through this entire operator's manual before using your new screwdriver.

Pay close attention to the Rules for Safe Operation, Warnings, and Cautions. If you use your screwdriver properly and only for what it is intended, you will enjoy years of safe, reliable service.

Thank you again for buying Ryobi products.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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Look for this symbol to point out important safety precautions. It means attention!!! Your safety is involved.

GENERAL SAFETY RULES



WARNING:

Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS

Work Area

- **Keep your work area clean and well lit.** Cluttered benches and 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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

- **Do not abuse the cord. Never use the cord to carry the charger. Keep cord away from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately.** Damaged cords may create a fire.
- **A battery operated tool with integral batteries or a separate battery pack must be recharged only with the specified charger for the battery.** A charger that may be suitable for one type of battery may create a risk of fire when used with another battery. Use battery only with charger listed.

MODEL	CHARGING
HP24	7221805

- **Use battery operated tool only with specifically designated battery pack.** Use of any other batteries may create a risk of fire. Use only with battery pack listed.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is in the locked or off position before inserting battery pack.** Carrying tools with your finger on the switch or inserting the battery pack into a tool with the switch on, invites accidents.
- **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations. Do not use on a ladder or unstable support.
- **Use safety equipment. Always wear eye protection.** Dust mask, nonskid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

GENERAL SAFETY RULES

Tool Use and Care

- **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** A tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect battery pack from tool or place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce risk of starting the tool accidentally.
- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **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 sparks, burns, or a fire.

- **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may create a risk of injury when used on another tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of shock or injury.

SPECIFIC SAFETY RULES

Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

Additional Rules For Safe Operation

- **Know your power tool. Read operator's manual carefully. Learn its applications and limitations, as well as the specific potential hazards related to this tool.** Following this rule will reduce the risk of electric shock, fire, or serious injury.

Important Rules for Battery Tools

- **Battery tools do not have to be plugged into an electrical outlet; therefore, they are always in operating condition. Be aware of possible hazards when not using your battery tool or when changing accessories.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not place battery tools or their batteries near fire or heat.** This will reduce the risk of explosion and possible injury.

- **Do not charge battery tool in a damp or wet location.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **For best results, your battery tool should be charged in a location where the temperature is more than 50°F but less than 100°F. Do not store outside or in vehicles.**
- **Under extreme usage or temperature conditions, battery leakage may occur. If liquid comes in contact with your skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar. If liquid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention.** Following this rule will reduce the risk of serious personal injury.



WARNING:

Batteries vent hydrogen gas and can explode in the presence of a source of ignition, such as a pilot light. To reduce the risk of serious injury, never use any cordless product in the presence of open flame. An exploded battery can propel debris and chemicals. If exposed, flush with water immediately.

IMPORTANT SAFETY INSTRUCTIONS FOR CHARGER



WARNING:

A damaged battery is subject to explosion. To avoid serious personal injury, properly dispose of a damaged battery.

- **Save these instructions.** This manual contains important safety and operating instructions for charger part number 7221805. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Before using battery charger, read all instructions and cautionary markings in this manual, on battery charger, and product using battery charger.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.



CAUTION:

To reduce risk of injury, charge only nickel-cadmium and nickel metal hydride type rechargeable batteries. Other types of batteries may burst causing personal injury and damage. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.

- **Do not expose charger to rain or snow.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **To reduce risk of damage to charger body and cord, pull by charger body rather than cord when disconnecting charger.** Following this rule will reduce the risk of serious personal injury.
- **Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.** Following this rule will reduce the risk of serious personal injury.
- **An extension cord should not be used unless absolutely necessary.** Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:
 - a. That pins on plug of extension cord are the same number, size and shape as those of plug on charger.
 - b. That extension cord is properly wired and in good electrical condition; and
 - c. That wire size is large enough for AC ampere rating of charger as specified below:

Cord Length (Feet) 25' 50' 100'

Cord Size (AWG) 16 16 16

Note: AWG = American Wire Gage

- **Make sure your extension cord is in good condition.** When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. A wire gage size (A.W.G.) of at least 16 is recommended for an extension cord 100 feet or less in length. A cord exceeding 100 feet is not recommended. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
- **Do not operate charger with a damaged cord or plug. If damaged, have replaced immediately by a qualified serviceman.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not disassemble charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **To reduce the risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not use charger outdoors.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Disconnect charger from power supply when not in use.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.



DANGER:



RISK OF ELECTRIC SHOCK. DO NOT TOUCH UNINSULATED PORTION OF OUTPUT CONNECTOR OR UNINSULATED BATTERY TERMINAL.

- **Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you loan someone this tool, loan them these instructions also.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.

SAVE THESE INSTRUCTIONS

SYMBOLS

Important: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
min	Minutes	Time
~	Alternating Current	Type or a characteristic of current
==	Direct Current	Type or a characteristic of current
n_0	No Load Speed	Rotational speed, at no load
.../min	Revolutions or Reciprocation Per Minute	Revolutions, strokes, surface speed, orbits etc. per minute
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!! Your safety is involved.
	Wet Conditions Alert	Do not expose to rain or use in damp locations.

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and the explanations with them, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL MEANING



DANGER: Failure to obey a safety warning will result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



WARNING: Failure to obey a safety warning can result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



CAUTION: Failure to obey a safety warning may result in property damage or personal injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.

NOTE: Advises you of information or instructions vital to the operation or maintenance of the equipment.

FEATURES

KNOW YOUR SCREWDRIVER

See Figure 1.

Before attempting to use your screwdriver, familiarize yourself with all operating features and safety requirements.



WARNING:

Carefully read through this entire operator's manual before using your new screwdriver. Pay close attention to the Rules For Safe Operation, Warnings and Cautions. If you use your screwdriver properly and only for what it is intended, you will enjoy years of safe, reliable service.



WARNING:

If any parts are missing, do not operate your screwdriver until the missing parts are replaced. Failure to do so could result in possible serious personal injury.

If any parts are damaged or missing, please call 1-800-525-2579 for assistance.

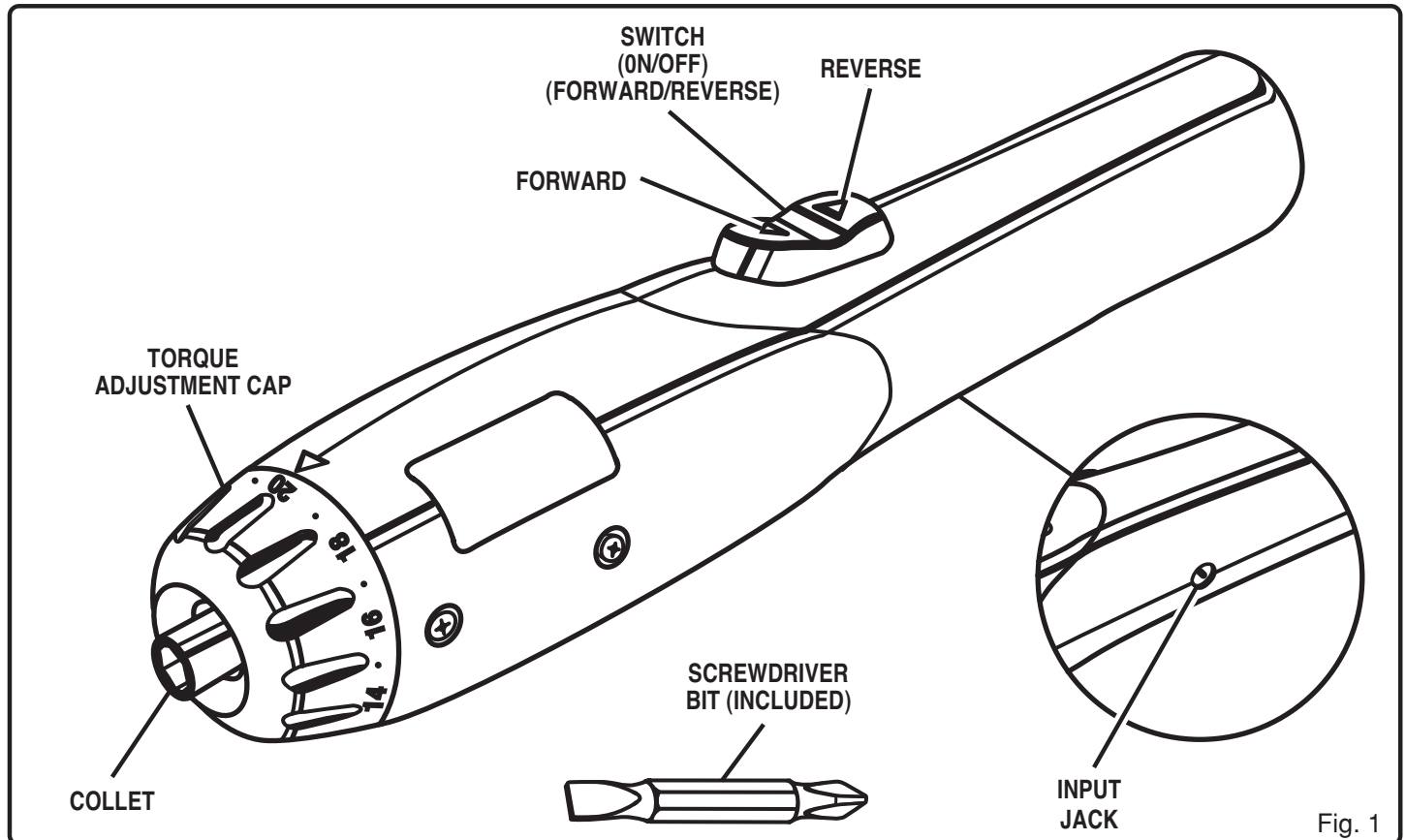
SWITCH

Your screwdriver is equipped with a rocker type switch which turns your screwdriver **ON** and **OFF**. This switch also controls the forward and reverse feature. For driving screws, depress front side of switch. For removing screws, depress back side of switch.



WARNING:

Do not allow familiarity with your screwdriver to make you careless. Remember that a careless fraction of a second is sufficient to inflict severe injury.



WARNING:



The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and a full face shield when needed. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z871.1.

OPERATION



WARNING:

Always wear safety goggles or safety glasses with side shields when operating tools. Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.

CHARGING YOUR SCREWDRIVER

This tool has been shipped in a low charge condition to prevent possible problems. Therefore, you should charge it overnight prior to use.

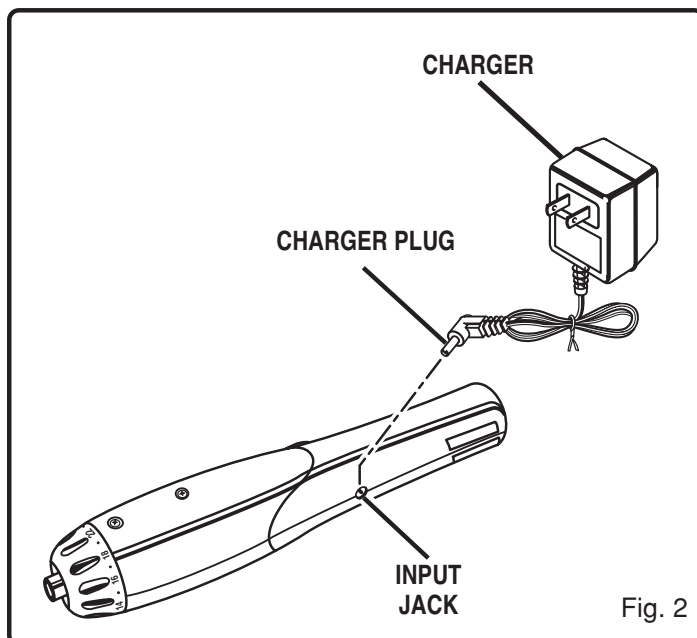
Note: Batteries will not reach full charge the first time they are charged. Allow several cycles (driving screws followed by recharging) for them to become fully charged.

If the charger does not charge your screwdriver under normal circumstances, return **both** the screwdriver and charger to your nearest Ryobi Authorized Service Center for electrical check.

TO CHARGE

See Figure 2.

- Insert charger plug into input jack making sure they are properly connected.
- **Charger can be used with normal household voltage of 120 volts, 60 Hz, AC only.**
- Connect charger to power supply.
- After normal usage, 3 hours or less of charging time is required to fully recharge batteries. **Note:** If batteries are completely discharged, 6 hours or longer of charging time is required to fully recharge batteries.
- **Do not** place charger in an area of extreme heat or cold. It will work best at normal room temperature.



COLLET

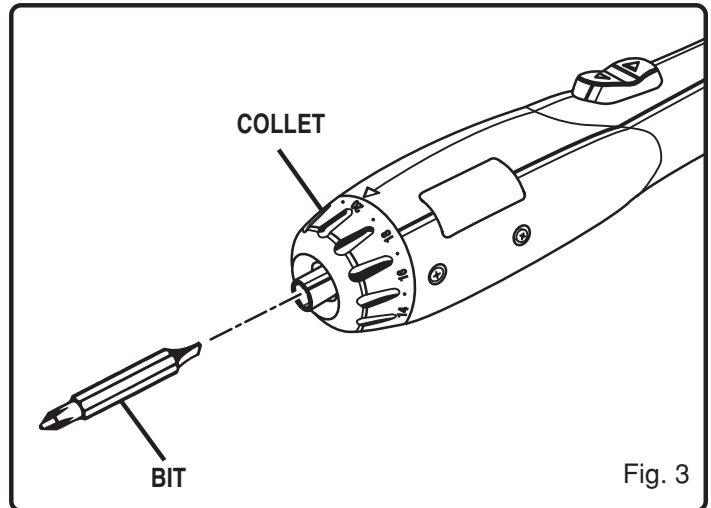
The collet on your screwdriver has been designed to accept 1/4 in. hex bits. See Figure 3.

TO INSERT BIT

See Figure 3.

Insert bit into collet as far as possible.

Note: One bit is packed with your screwdriver.



OPERATION

ADJUSTABLE TORQUE CLUTCH (Tightening Power of Your Screwdriver)

See Figure 4.

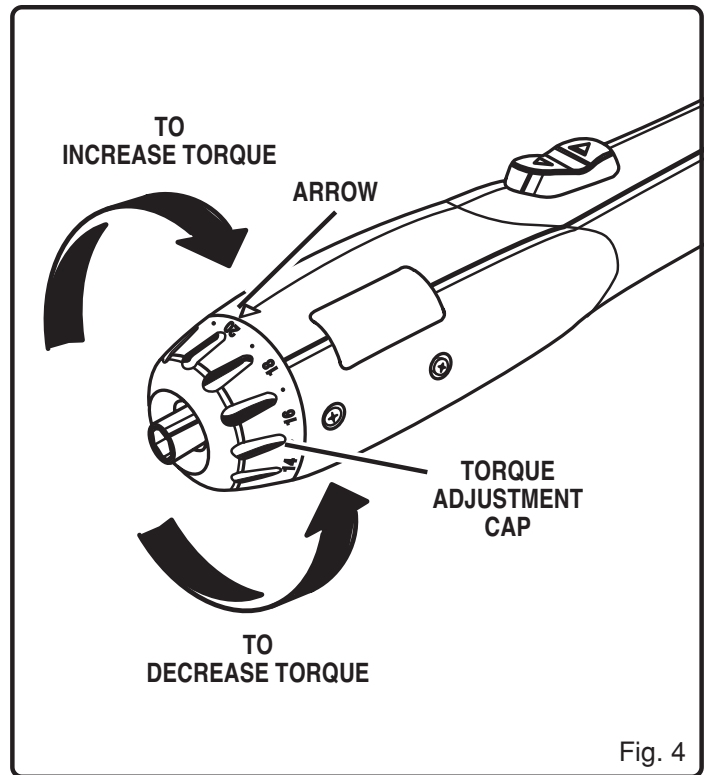
When using your screwdriver for various driving applications, it becomes necessary to increase or decrease the power and torque in order to help prevent the possibility of damaging screwheads, threads, workpiece, etc. In general, power and torque should correspond to the difficulty of the screw to be driven. If torque is too high the screws may be damaged or broken.

Note: Your screwdriver has been shipped with the adjustable torque clutch set at the lowest torque setting.

TO ADJUST TORQUE

See Figure 4.

- Locate arrow on front of housing.
- Identify the twenty two torque indicator settings located on torque adjustment cap.
- Rotate adjustment cap to desired setting aligning number on adjustment cap with arrow on housing.
- To increase or decrease torque, rotate torque adjustment cap in the direction of the arrows as shown in Figure 4.



MAINTENANCE

WARNING:

When servicing, use only identical Ryobi replacement parts. Use of any other part may create a hazard or cause product damage.

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

WARNING:

Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc. come in contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

Do not abuse power tools. Abusive practices can damage tool as well as workpiece.

WARNING:

Do not attempt to modify this tool or create accessories not recommended for use with this tool. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

WARNING:

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

BATTERY REMOVAL



To preserve natural resources, please recycle or dispose of batteries properly.

This product contains nickel-cadmium batteries. Local, state or federal laws may prohibit disposal of nickel-cadmium batteries in ordinary trash.

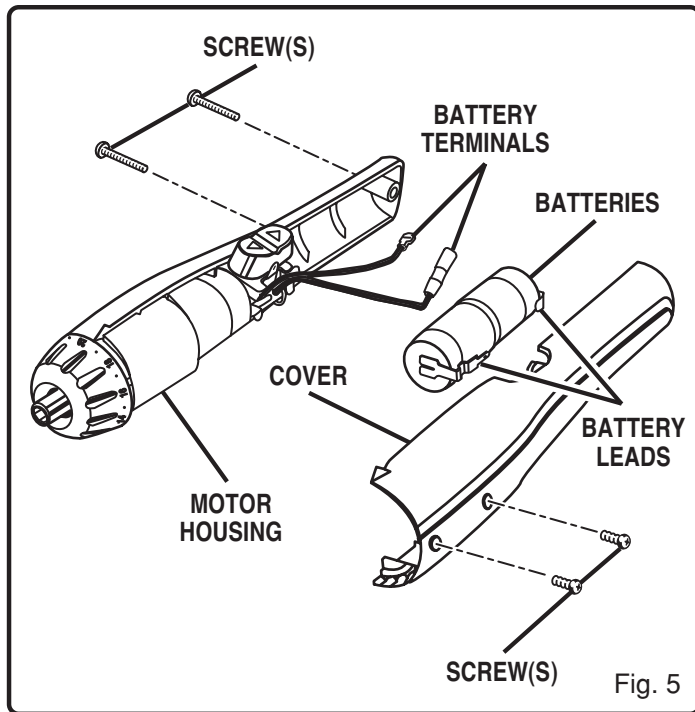
Consult your local waste authority for information regarding available recycling and/or disposal options.

BATTERY REMOVAL, PREPARATION FOR RECYCLING

See Figure 5.

TO REMOVE:

- Remove the four screws securing motor housing cover, then remove cover.
- Lift batteries from motor housing enough to expose leads and battery terminals. Disconnect leads from battery terminals. **Note:** Be careful not to break battery terminals when disconnecting leads.



WARNING:

Upon removal, cover the battery terminals with heavy duty adhesive tape. Do not attempt to destroy or disassemble batteries or remove any of its components. Nickel-cadmium batteries must be recycled or disposed of properly. Also, never touch both terminals with metal objects and/or body parts as short circuit may result. Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.

BATTERIES

Your screwdriver is equipped with 2 nickel-cadmium rechargeable batteries. Length of service from each charging will depend on the type of work you are doing.

The batteries in this tool have been designed to provide maximum trouble free life. However, like all batteries, they will eventually wear out. To remove batteries, follow **BATTERY REMOVAL** instructions. Handling of these batteries, especially when wearing rings and jewelry, could result in a serious burn.

To obtain the longest possible battery life, we suggest the following:

- Store and charge your batteries in a cool area. Temperatures above or below normal room temperature will shorten battery life.
- Never store batteries in a discharged condition. Recharge them immediately after they are discharged.
- All batteries gradually lose their charge. The higher the temperature the quicker they lose their charge. If you store your tool for long periods of time without using it, recharge the batteries every month or two. This practice will prolong battery life.



OPERATOR'S MANUAL

2.4 VOLT SCREWDRIVER

Model HP24

- **SERVICE**

Now that you have purchased your tool, should a need ever exist for repair parts or service, simply contact your nearest Ryobi Authorized Service Center. Be sure to provide all pertinent facts when you call or visit. Please call 1-800-525-2579 for your nearest Ryobi Authorized Service Center. You can also check our web site at www.ryobitools.com for a complete list of Authorized Service Centers.

- **MODEL NO. AND SERIAL NO.**

The model number of this tool will be found on a plate attached to the motor housing. Please record the serial number in the space provided below.

- **HOW TO ORDER REPAIR PARTS**

WHEN ORDERING REPAIR PARTS,
ALWAYS GIVE THE FOLLOWING INFORMATION:

- MODEL NUMBER **HP24**
- SERIAL NUMBER _____

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