



Operation and Maintenance Manual

Enerpac 54V Lithium-Ion Battery Model EBH544

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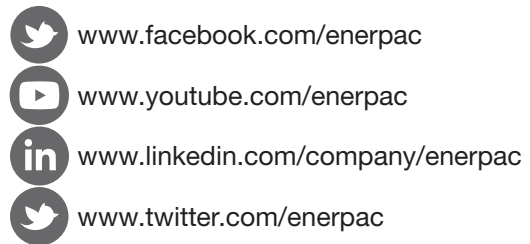
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To reduce the risk of injury, user must read and understand this document before use.

ABOUT US

Enerpac is a global market leader in high pressure hydraulic tools, controlled force products, portable machining, on- site services and solutions for precise positioning of heavy loads. As a leading innovator with over a 100 year legacy, Enerpac has helped move and maintain some of the largest structures on earth. When safety and precision matters, elite professionals in industries such as aerospace, infrastructure, manufacturing, mining, oil & gas and power generation rely on Enerpac for quality tools, services and solutions. For additional information, visit www.enerpac.com.



WARRANTY

Refer to the Enerpac Global Warranty document for terms and conditions of the product warranty. Such warranty information can be found at www.enerpac.com.

NAMEPLATE

Refer to the battery nameplate for the product model number, serial number and other applicable information.



Note: A typical battery nameplate is shown above. Nameplate data may vary and is subject to change without notice.

AVAILABLE LANGUAGES

An electronic copy of this document is available online in multiple languages:

- [EN] English - For other languages, visit www.enerpac.com.
- [CS] Čeština - Další jazyky naleznete na adrese www.enerpac.com.
- [DE] Deutsch - Weitere Sprachen finden Sie unter www.enerpac.com.
- [ES] Español - Para otros idiomas visite www.enerpac.com.
- [FI] Suomi - Muita kieliä on osoitteessa www.enerpac.com.
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- [KO] 한국어 - 이 지침 시트의 다른 언어 버전은 www.enerpac.com.
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- [ZH] 中文 - 如需其他语言, 请前往 www.enerpac.com.

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1.0 SAFETY

Read all instructions carefully. Follow all recommended safety precautions to avoid personal injury as well as damage to the product and / or damage to other property. Enerpac cannot be responsible for any damage or injury from unsafe use, lack of maintenance, or incorrect operation. Do not remove warning labels, tags, or decals. In the event that any questions or concerns arise, contact Enerpac or a local Enerpac distributor for clarification.

Save these instructions for future use.

Appropriate training in the safe use of high pressure, high force hydraulic tools is required prior to the operation of the battery operated tool or device. If training is needed, contact your local Enerpac distributor or authorized service center for information about an Enerpac hydraulic safety training course.

This manual follows a system of safety alert symbols, signals, words, and safety messages to warn the user of specific hazards. Failure to comply with these warnings could result in death or serious personal injury, as well as damage to the equipment or other property.



The Safety Alert Symbol appears throughout this manual. It is used to alert you to potential physical injury hazards. Pay close attention to Safety Alert Symbols and obey all safety messages that follow this symbol to avoid the possibility of death or serious injury.

Safety Alert Symbols are used in conjunction with certain Signal Words that call attention to safety messages or property damage messages and designate a degree or level of hazard seriousness. The Signal Words used in this manual are WARNING, CAUTION and NOTICE.

WARNING Indicates a hazardous situation that, if not avoided, could result in death or serious personal injury.

CAUTION Indicates a hazardous situation that, if not avoided, could result in minor or moderate personal injury.

NOTICE Indicates information considered important, but not hazard related (e.g. messages related to property damage). Please note that the Safety Alert Symbol will not be used with the signal word.

1.1 Lithium-Ion Battery Safety Precautions

WARNING

Read this user manual carefully before installing or using the battery. Failure to follow any of the instructions or warnings in this document could result in electrical shock, serious injury or death. In addition the battery could become damaged, potentially rendering it inoperable.

1.1.1 To avoid serious injury, risk of fire, explosion and danger of electric shock or electrocution:

- Risk of electric shock; do not probe the battery. Its terminals could contain high voltage and high current that could result in electric shock and/or injury.
- If the battery housing cracks or breaks open, with or without leaks, do not recharge or use the battery. Dispose of it properly and replace with a new battery. Do not attempt to repair a damaged or leaking battery!
- Do not allow water or other liquids on or inside the battery. Do not expose the battery to rain, water or moisture. The battery is dust resistant but not waterproof.
- Do not try to use the battery for any other purpose than what is presented in this manual and in the operation manuals for the cordless tools using this battery.
- Do not try to short circuit any terminals of the battery.
- Do not connect the positive terminal and the negative terminal of the battery to each other with any metal objects.
- Be aware of risks involving battery related fires, explosions, and burns. Do not incinerate the battery. Do not expose the battery to heat above 212°F [100°C]. Do not crush the battery.
- Do not disassemble the battery or attempt to loosen or remove its tamper resistant fasteners. Battery contains no user serviceable or replaceable parts.
- Do not wear any metallic items such as watches, bracelets, etc. while handling the battery or when installing or removing it from the cordless tool or charger.

- In case of fire, utilize suitable extinguishing media including but not limited to; water spray, carbon dioxide, dry chemical powder or appropriate foam. Use agent appropriate for surrounding materials.

Additional safety instructions and precautions:

- Do not allow the battery to overheat. If it becomes unusually hot, discontinue use of the cordless tool and allow time for battery to cool down.
- Use only the designated Enerpac battery charger (Refer to Section 4.2 for model numbers) for your voltage and region. Do not use any other battery charger brand or type.
- Do not charge the battery in rain or in wet conditions. Do not immerse the battery, charger or cordless tool in water or other liquid.
- Keep battery and charger away from unauthorized users.

NOTICE Refer to the separate manual supplied with the battery charger for additional charger safety precautions and instructions.

- Do not allow small metal items or material such as steel wool, aluminium foil, or other foreign particles into the battery cavity.
- Do not place or store the battery in direct sunlight.
- Do not place or store the battery in high-temperature locations, such as near a fire, heater, etc.
- Do not knock, strike or step on the battery.
- Do not solder directly onto the battery or pierce the battery with nails or other sharp objects.
- Under extreme usage or temperature conditions, battery cell leakage may occur. Avoid contact with battery liquid. If a leak develops, the released electrolytes are corrosive and toxic. Do not get the solution in the eyes or on skin, and do not swallow it. Refer to Section 1.1.2 for first aid instructions.
- Immediately discontinue use of the battery if it emits an unusual smell, feels excessively hot, changes color, changes shape, or appears abnormal in any other way.
- Do not attempt to modify or repair the battery. If battery is damaged or has reached the end of its useful life, it must be replaced.
- Dispose of a used battery properly. Do not disassemble the battery and do not dispose of it in fire. Refer to the instructions and precautions in Section 9.0 for additional battery disposal information.

1.1.2 First Aid Instructions:

WARNING Failure to follow first aid instructions may result in death or serious personal injury

- If battery liquid comes in contact with skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar.
- If battery liquid gets in your eyes, flush with clean water for a minimum of 10 minutes, then seek immediate medical attention.
- If battery liquid is swallowed, seek immediate medical attention.

1.2 State of California Proposition 65 Warning

WARNING The battery can expose you to chemicals including cobalt lithium manganese nickel oxide and carbon black, which are known to the State of California to cause cancer and reproductive harm. For additional information go to www.P65Warnings.ca.gov.

2.0 COMPLIANCE

The Enerpac model EBH544 54V 4.0Ah battery is certified to the following standards:

Type	Standard
FCC	47CFR Part 15B, 10-1-2021, ANSI C63.4:2014
CE	EN 61000-6-3:2017+A1:2011+AC:2012; EN IEC61000-6-1:2019
UKCA	BS 61000-6-3:2017+A1:2011+AC:2012; BS IEC61000-6-1:2019
UN38.3	UN38.3 - Part III, (ST/SG/AC.10/11/REV7)
IEC	IEC/EN 62133-2:2017, IEC/EN62133-2:2017/A1:2021

NOTICE For all batteries, a copy of the product EU Declaration of Conformity is enclosed with each shipment. A copy of the UK Self Declaration of Conformity is also enclosed.

3.0 SYMBOLS & DEFINITIONS

The following symbols and definitions are applicable to the battery described in this manual:

Symbol	Definition
	Risk of electric shock. High voltage.
	Device shall not be exposed to high heat, fire/flame, or any heat source.
	Read instruction manual. Save instructions for future use.
	Do not expose device to rain, water or moisture.
	Do not dispose of device in trash.

4.0 PRODUCT DATA

4.1 Battery Specifications

Battery Model Number	Power Output			Weight		Max Charging Input Voltage	Approximate Charging Time
	Volts DC	Ah	Wh	lb	kg	Volts DC	Minutes
EBH544	54	4.0	216	3.5	1.6	63	60

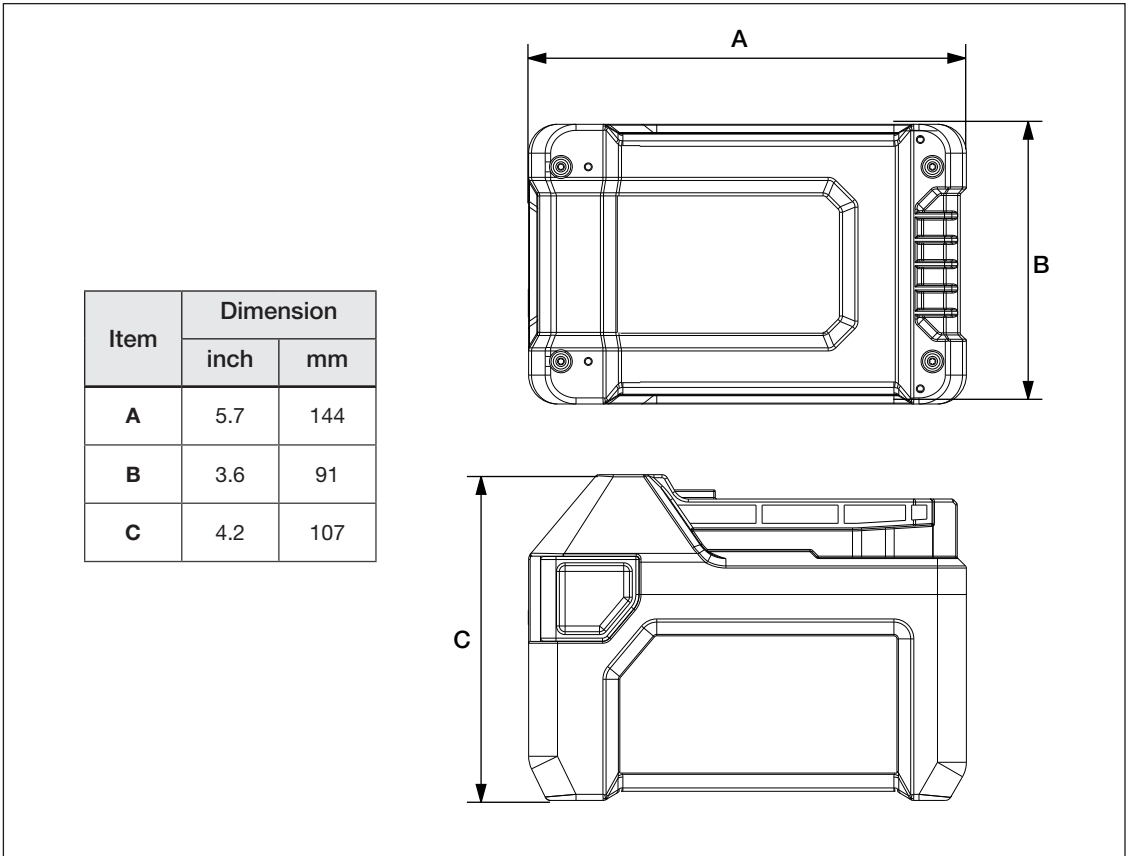
4.2 Battery Charger Information

Region/Country	Model Numbers	
	Charger & Power Cord	Power Cord Only
North America 115V	EC1F541B	ECC541B
Europe 230V	EC1F542E	ECC542E
Australia 230V	EC1F542A	ECC542A
Japan 100V	(Not Available - See Notes)	ECC541N
United Kingdom 240V	(Not Available - See Notes)	ECC542U

Notes:

- Charger must be purchased separately if not included in the shipment with the battery or tool. Unit is auto-voltage sensing, 100-240 VAC, 50/60 Hz.
- North America, Europe and Australia: Charger and power cord includes one Enerpac EC1F54 battery charger and the AC power cord for use in the selected region. Charger not sold without power cord.
- Japan and United Kingdom: Order charger and power cord EC1F542A, EC1F541B or EC1F542E plus the power cord applicable for your region/country. Replace the power cord included with the charger with the power cord that was ordered separately (ECC541N or ECC542U).

4.3 External Dimensions



5.0 FEATURES & COMPONENTS

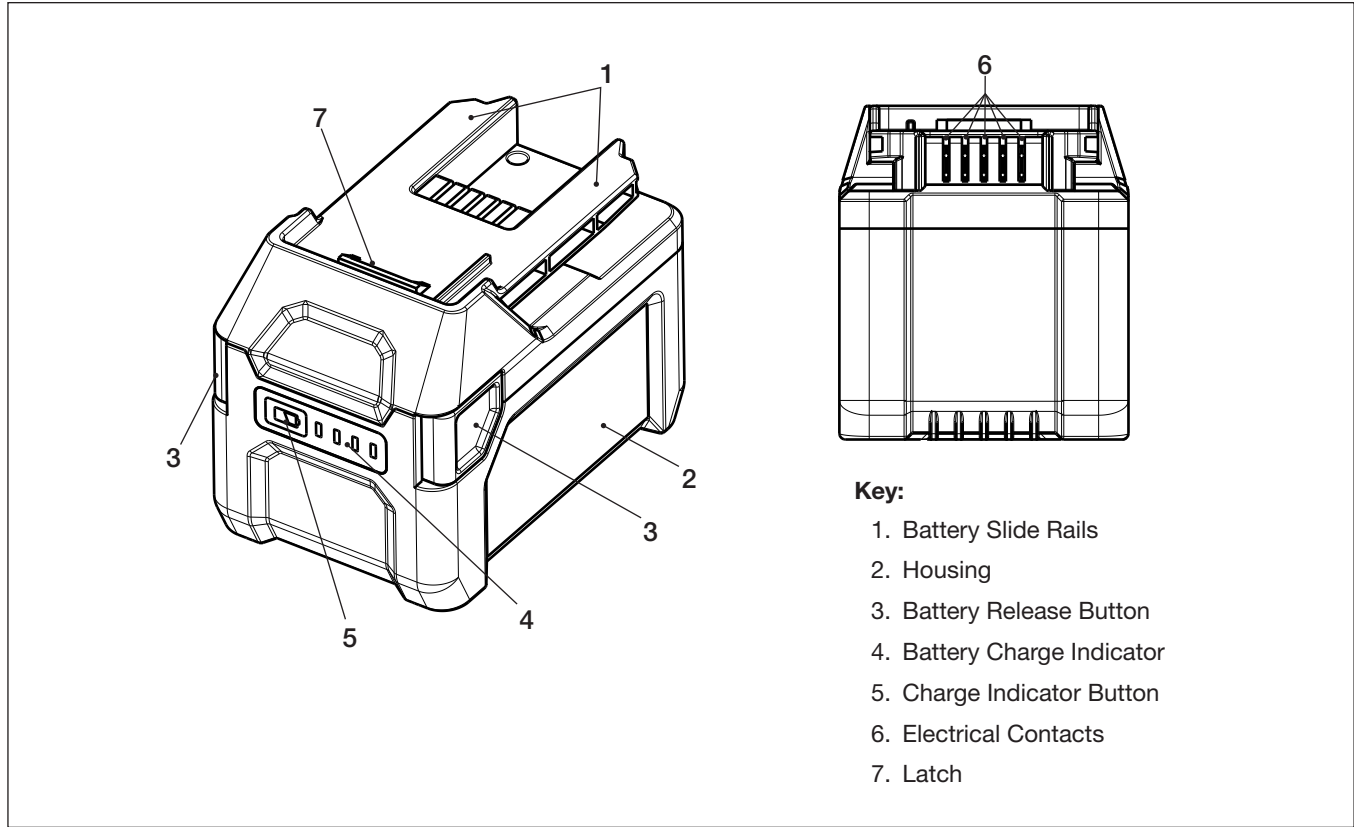


Figure 1: Features & Components, 54V Lithium-Ion Battery

6.0 SETUP & USE

6.1 Receiving Instructions

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

6.2 Charge Level Indicator

A small panel containing a charge indicator button and four charge indicator lights is located on the battery housing. Press the button to display the battery charge level. The lights will remain on for 3 seconds and then turn off automatically. See Figure 2.

NOTICE Press battery charge indicator button to determine charge level before using or charging battery for the first time.

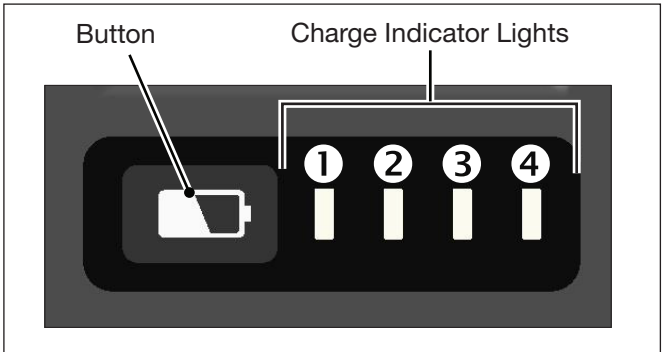


Figure 2: Battery Charge Indicator

- If the battery contains a charge, one or more of the indicator lights will glow white when the button is pressed.
- If the #1 indicator light flashes red when the button is pressed, the amount of charge remaining is very low. Charge the battery as soon as possible.
- If no lights illuminate when the button is pressed, the battery is fully discharged and requires charging.

Refer to the following table for additional information:

When battery charge indicator button is pressed:		Percent Charge: (approximate)
Lights 1-4 on		Above 75%
Lights 1-3 on		51 - 75%
Lights 1-2 on		26 - 50%
Light 1 on		10 - 25%
Light 1 flashing red		Less than 5%

NOTICE Run time between battery charges is dependent on the application, cordless tool being used and other factors.

6.3 Battery Charging

NOTICE New batteries should be fully charged before use. The battery charger must be purchased separately if not included in the shipment with the battery or cordless tool. Refer to Section 4.2 of this manual for battery charger model numbers.

- Fully charge the battery prior to its first use. When the charger indicator light turns solid green, the battery is fully charged.
- During charging, make sure ambient temperature is between 32 and 113°F [0 and 45°C]. If ambient temperature is outside these limits, move charger and battery pack to a room temperature location.
- A fully charged battery may remain inserted in the charger until it is needed for use. However, it is recommended that the charger power cord be disconnected from the electrical outlet after the battery is removed from the charger.
- Refer to the separate battery charger manual for charger operating instructions and safety precautions.

6.4 Battery Installation and Removal

Install and remove the battery as described in the following steps.

- To install battery:** Slide the battery fully onto the battery interface of the cordless tool until it stops. Make sure the battery latches securely into place. See Figure 3.
- To remove battery:** Press and hold the release buttons located on both sides of the battery. Then, slide the battery off of the battery interface and remove it from the cordless tool. See Figure 4.

NOTICE For the battery charger, follow the same procedures to install and remove the battery.

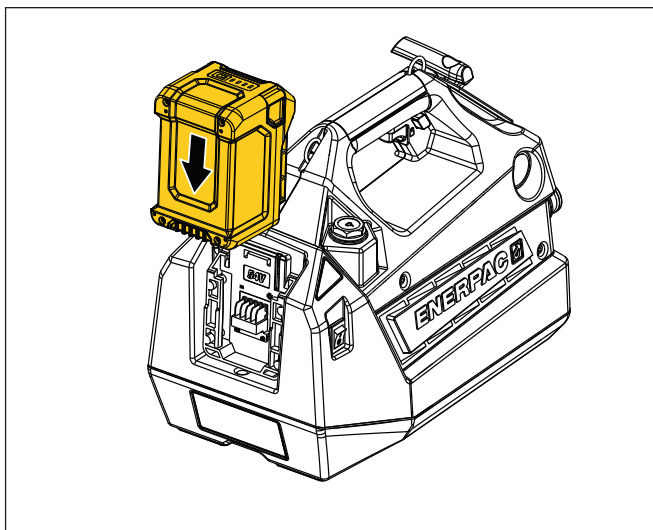


Figure 3: Battery Installation (typical)

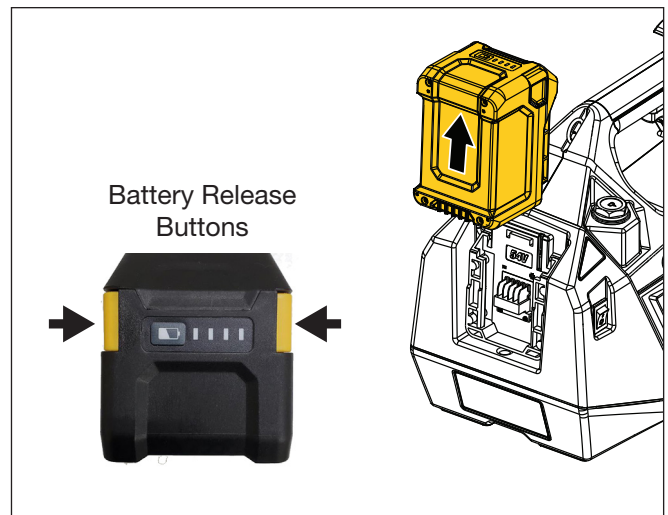


Figure 4: Battery Removal (typical)

6.5 Low Voltage Shut-off

The battery will shut-off automatically and the cordless tool will stop operating if battery voltage drops to a pre-determined low level.

In most instances, the cordless tool will slow down or operate sluggishly before shut-off occurs, providing a signal that the battery is approaching full discharge.

NOTICE It is recommended that the battery be removed from the cordless tool and placed in the charger before it becomes fully discharged. Full discharge cycles may cause permanent damage to the battery cells.

NOTICE If the battery becomes fully discharged while the cordless tool is in use, it should be placed in the charger within 12 hours and kept in the charger until fully charged. This will help prevent battery damage and premature battery failure.

6.6 Low Temperature Shut-off

The battery will shut-off automatically if its internal temperature drops below approximately -13°F [-25°C].

When activated, this low temperature shut-off fault will prevent the cordless tool from being started.

The fault will reset automatically when the battery's internal temperature rises to approximately -4°F [-20°C]. This temperature increase will allow the cordless tool to be started, provided that the battery is sufficiently charged.

If the battery is very cold, move it to a room temperature location and allow time for it to warm-up before installing it on the cordless tool. If needed, charge the battery before use.

6.7 Overcurrent and Overtemperature Protection

The battery will shut-off automatically in the event that battery current draw becomes excessive or if the battery's internal temperature rises beyond acceptable limits.

Both faults are self-resetting. Normal battery operation will resume when the excessive current draw condition is eliminated or after the battery has cooled down.

7.0 CLEANING

⚠ WARNING To avoid personal injury and reduce the risk of fire and electric shock, always remove the battery from the cordless tool or charger before inspecting, or cleaning the battery.

⚠ CAUTION Do not use strong solvents or detergents on the battery's plastic housing or plastic components. Certain household cleaners may cause damage and could create a shock hazard.

1. Remove the battery from the cordless tool or the charger (see warning statement at beginning of this section).
2. Wipe off the battery housing and slide rails using a dry soft cloth.
3. If present, remove any debris or objects from the battery electrical contact area.

8.0 STORAGE

- If the battery will be stored for 3 months or more, fully charge the battery before placing it in storage.
- Store the battery at normal room temperature, in a clean, dry and secured area. Do not store the battery in moist or wet environments or in an area of excessive heat.
- Do not store the battery in direct sunlight or in an excessively warm place, such as near a furnace. Heat will shorten battery life.
- If desired, the battery may be placed in the charger during storage (with AC power cord disconnected from electrical outlet).

NOTICE After removing battery from storage, press charge indicator button to determine charge level. Do this *before* using or charging battery.

9.0 SAFE DISPOSAL OF LITHIUM-ION BATTERIES

All toxic materials must be disposed of in a specified manner to prevent contamination of the environment. Prior to disposing of damaged and/or degraded lithium-ion batteries, please contact your local waste disposal agency or environmental protection agency for information and specific instructions.

⚠ WARNING To avoid personal injury and the risk of fire, explosion or electric shock, and to avoid damage to the environment, observe the following instructions and safety precautions during the battery disposal process:

- When disposing of batteries, be sure to comply with all applicable recycling rules and regulations.
- Cover battery terminals with heavy-duty adhesive tape prior to disposal.
- Do not dispose of batteries in trash. Batteries must not be mixed with domestic or industrial waste.
- Do not dispose of batteries into fire.
- Do not attempt to remove or destroy any of the battery components.
- Do not attempt to open the battery housing.
- If a leak develops, the released electrolytes are corrosive and toxic. Do not get the solution in the eyes or on skin, and do not swallow it.
- Do not dispose of batteries where they will become part of any waste landfill or municipal solid waste stream.

