

HYTORC

The World's Most Trusted Industrial Bolting Systems



LiON GUN® Electric Torque Tool Basic Operations Manual

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ABOUT THIS DOCUMENT

ORIGINAL INSTRUCTIONS

This document applies to the LION GUN® Electric Torque Tool. LION GUN Tool configurations with BSM are equipped with Bluetooth Wireless Technology.

Notice. The information contained in this document is subject to change without notice. HYTORC makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. HYTORC shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material. It is further recommended that the end-user or repair technician insure they have obtained and are familiar with the latest revision of the manual for the equipment outlined in this document.

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Product Modifications. HYTORC DOES NOT ALLOW any of the products listed in this manual to be modified by any end user without exception. Should an application require a modification to the tool, or any of the standard accessories please consult with your local HYTORC representative and they will be able to obtain the assistance for any modification that may be required.

LION GUN® is a registered trademark of HYTORC.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

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WARRANTY INFORMATION

Warranty: This limited warranty gives you specific legal rights and you may also have other rights, which vary from state to state. The limited warranty can also be found online at www.hytorc.com and in the documentation we provide with the product. We warrant that during the warranty period, the product will be free from defects in material and workmanship. We expressly disclaim any and all implied warranties, including without limitation the warranties of merchantability and fitness for a particular purpose to the duration of this express limited warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Our responsibility for defective goods is limited to repair or replacement as described below in this warranty statement.

Who may use this warranty? The HYTORC Industrial Bolting Company located at 333 State Rt. 17, Mahwah NJ 07430 extends this limited warranty only to the individual who originally purchased the product ("you"). It does not extend to any subsequent owner or other transferee of the product.

What does this warranty cover? This limited warranty covers defects in materials and workmanship of the LION Gun (the "product") for the Warranty Period as defined on the following page.

What does this warranty not cover? This limited warranty does not cover any damage due to: (a) transportation; (b) storage; (c) improper use; (d) failure to follow the product instructions or to perform any preventive maintenance; (e) modifications; (f) unauthorized repair; (g) normal wear and tear; or (h) external causes such as accidents, abuse, or other actions or events beyond our reasonable control.

What is the period of coverage? This limited warranty starts on the date of your purchase and lasts for one (1) year (the "Warranty Period"). The Warranty Period is not extended if we repair or replace the product. We may change the availability of this limited warranty at our discretion, but any changes will not be retroactive.


What are your remedies under this warranty? With respect to any defective product during the Warranty Period, we will repair or replace such product or the defective part free of charge. We will also pay for shipping and handling fees to return the repaired or replacement product to you, if we elect to repair or replace the defective product.

How do you obtain warranty service? To obtain warranty service, you must call 800-FOR-HYTORC or email our Customer Service Department at info@hytorc.com during the Warranty Period to obtain a Defective Merchandise Authorization ("DMA") number. No warranty service will be provided without a DMA number. Limitation of liability. The remedies described above are your sole and exclusive remedies and our entire liability for any breach of this limited warranty. Our liability shall under no circumstances exceed the actual amount paid by you for the defective product, nor shall we under any circumstances be liable for any consequential, incidental, special or punitive damages or losses, whether direct or indirect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you.

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WARNING! Read all safety warnings designated by the  symbol and all instructions.

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.

A. WORK AREA SAFETY

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

B. ELECTRICAL SAFETY

- **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.
- **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.
- **Do not allow battery to get wet.** Do not operate tool in rain, snow or high humidity. Do not splash or immerse in liquids.
- **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.
- **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.
- **If operating a power tool in a damp location is unavoidable, use a Ground Fault Circuit Interrupt (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

C. PERSONAL SAFETY

- **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.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a 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.
- **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.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **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.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

D. POWER TOOL USE AND CARE

- **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.
- **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.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
- **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.
- **Maintain power tools and accessories. 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.
- **Keep cutting tool sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **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.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

E. BATTERY TOOL USE AND CARE

- **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.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **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.
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130°C may cause explosion.
- **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

F. SERVICE

- **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.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

G. IMPORTANT TOOL CARE AND HANDLING

- **Inspect all Tool components as they are removed from the shipping container.** If damage is found to any component, contact the shipper immediately. Do not use the tool.
- **Modifying a tool or tool accessory is dangerous and invalidates the warranty**
- **Inspect the tool before each use.** Have any obviously worn or damaged parts replaced.
- **When not in use, store the tool and tool accessories in the plastic storage case supplied with the tool.** Do not store the tool and batteries in an environment outside of the following temperature and humidity range: -4°F (-20°C) to 122°F (50°C), 5% to 95% ambient relative humidity

H. IMPORTANT BATTERY PACK INSTRUCTIONS

- **Do not incinerate the battery pack even if it is severely damaged or is completely worn out.** The battery pack can explode in a fire. Toxic fumes and materials are created when Lithium-ion battery packs are burned.
- **Do not charge or use the battery in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Inserting or removing the battery from the charger may ignite dust or fumes.
- **Contents of opened battery cells may cause respiratory irritation.** Provide fresh air. If symptoms persist, seek medical attention.

**WARNING**

Burn hazard. Battery liquid may be flammable if exposed to spark or flame.

**WARNING**

Never attempt to open the battery pack for any reason. If battery pack case is cracked or damaged, do not insert into charger or tool. Do not crush, drop, or damage battery pack. Do not use a battery pack or charger that has received a sharp blow, has been dropped or has been run over or damaged in any way (i.e. pierced with a nail, hit with a hammer, stepped on). Damaged battery packs should be returned to an authorized HYTORC service center for recycling.

**CAUTION**

The US Department of Transportation Hazardous Materials Regulations (HMR) actually prohibit transporting batteries in commerce or on airplanes, (i.e. packed in suitcases and carry-on luggage). When transporting individual batteries, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit. For any other concerns in regarding the transportation of LI-ION batteries, consult your Transportation Carrier.

I. IMPORTANT BATTERY CHARGER SAFETY INSTRUCTIONS

- Before using charger, read all instructions and cautionary markings on charger, battery pack and product using battery pack
- DO NOT attempt to charge the battery pack with any chargers other than the one in this manual. The charger and battery pack are specifically designed to work together.
- These chargers are not intended for any uses other than batteries supplied with LION GUN Tools as described in this manual. Any other uses may result in risk of fire, electric shock or electrocution.
- Do not expose charger to rain or snow
- To disconnect charger, firmly grasp plug and remove. Do not disconnect the charger by pulling on the cord.
- Make sure the cord is located so that 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
- An extension cord must have adequate wire size (AWG) for safety. In general the larger the wire size the greater the capacity of the cable.
- Do not block any ventilation slots on charger power supply
- To clean the charger, first unplug from the power source, then wipe with a dry cloth



WARNING

Burn hazard. Battery liquid may be flammable if exposed to spark or flame.



WARNING

Burn hazard. To reduce the risk of injury, charge only tool batteries. Other types of batteries may burst causing personal injury and damage.



CAUTION

Under certain conditions, with the charger plugged into the power supply, the charger can be shorted by foreign material. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil, or any buildup 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.

J. EMISSIONS

- The noise emission, measured in accordance with EN 62841-1 I.2, is as follows:
 - A-weighted sound pressure level L_{pA} does not exceed 70 dB(A)
 - A-weighted sound power level L_{WA} does not exceed 80 dB(A)
- Wear hearing protection when required by job conditions
- The vibration total value and its uncertainty measured in accordance with EN 62841-1 I.3 is as follows:
 - The vibration total value does not exceed 2.5 m/s^2
- The declared vibration total value has been measured in accordance with a standard test method and may be used for comparing one tool with another
- The declared vibration total value may also be used in a preliminary assessment of exposure
- The vibration emission during actual use of the tool can differ from the declared total value depending on the ways in which the tool is used
- Identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time)



The LION GUN® Electric Torque Tool is the world's first affordable precision bolting torque multiplier with built-in data recording. Set your desired torque output on the LION GUN's display and pull the trigger to get precise, repeatable torque without excessive noise or vibration.

Tool Type: Electric

RPM: 4.1 - 11.6 RPM

Weight: 7.30 - 8.22 Lbs.

Torque Range: 25 - 700 ft-lbs.

INDUSTRIAL-GRADE POWER

The LION GUN's industrial-strength gear box is driven by a brushless motor connected to a non-impacting gearbox to deliver torque faster, smoother and more reliably than manual clicker wrenches, impact wrenches and other tightening tools.

UNMATCHED PORTABILITY

Through the use of aerospace-grade alloys, the LION GUN packs tremendous power without the weight. The 18-Volt lithium-ion battery provides long lasting operation with a quick recharge time to keep the job going.

DATA RECORDING

Built-in data recording capability allows the user to maintain a log of all completed bolting jobs. For improved quality control and accountability, the information can be saved to a PC or tablet to provide a permanent record of the work performed.



INSPECT TOOLS AND COMPONENTS

- Inspect all components; if damaged report any sign of damage to the shipper and do not use the tool.
- Inspect the tool before each use; repair or replace any obviously worn or damaged parts.
- Maintenance must be performed by a qualified technician.
- Modifying any of the components invalidates the warranty.
- When not in use store all tool components in the plastic storage case.
- Save all instructions and calibration reports in the storage case.



CALIBRATION

HYTORC tools are designed to operate within specific design tolerances to deliver accurate, repeatable results. As with any other measuring instrument, torque tools require periodic testing and recalibration to ensure precise torquing results.

- Check the calibration certificate or label on the tool for the most recent calibration date.
- HYTORC recommends all tools be tested and recalibrated every 6-12 months.
- More frequent calibration may be necessary depending on use.
- Customer/user is responsible for arranging testing and recalibration.
- Contact HYTORC Customer Assistance at 800-FOR-HYTORC for assistance or further information.

ENVIRONMENTAL CONSIDERATIONS

The LION GUN Electric Torque Tool is a rugged industrial tool with an electric motor and electronic control. The following environmental considerations will help maintain reliable tool operation.

- The tool should not be exposed to moisture. Do not operate in rain, snow or extreme humidity.
- The operating temperature range of the tool is -4°F (-20°C) to 140°F (60°C).
- All Cooling Vents should be kept clear of dust, dirt and debris to allow internal fans to maintain airflow to keep the motor and electronics within temperature limits.
- Do not subject the tool to extremely dusty environments. Do not cover or obstruct vents during operation.
- The tool and electronic components are not certified or approved for explosive environments or areas containing combustible chemical materials.
- Secure the tool per local practice to protect from dropping.

4. CHARGE, TEST AND INSTALL BATTERY

CHARGE THE BATTERY

- The Tool is supplied with an 18-volt lithium-ion battery (P002200) and charger (A000791).
- Before charging a battery verify the local voltage supply to ensure capability with the charger; this will typically be 110 Volts or 220 Volts AC.
- Only operate the battery charger between 32°F (0°C) to 104° F (40° C) and with 10% to 90% ambient relative humidity (no condensate)
- Connect the charging cradle to the power supply
- Connect the power cord to a grounded outlet
- If necessary connect the plug adapters to the local power outlet
- Insert the battery by sliding it into the charger and locking into place
- The 18-volt battery is fully charged in approximately 90 minutes

CHARGING/FAULT INDICATOR

- Flashes green while battery is charging.
- Shows continuous green when battery is charged.
- Flashes red to indicate fault/battery not charging.

BATTERY STORAGE

- Only store the battery and charger in the following environmental conditions:
- -4°F (-20°C) to 122°F (50°C) 5% to 95% ambient relative humidity



TEST THE BATTERY



The lithium-ion battery has a long run life and will power the tool at full speed until the battery is depleted, so there is no gradual drop in power during use.

- For continuous use, have one or more spare battery packs charging while the tool is in use. When need simply swap batteries from the charger to the tool.
- Batteries can be charged hundreds of times without any noticeable loss in capacity
- Batteries can be returned at no charge for recycling at HYTORC locations or local recycling centers
- Push the TEST button on the side of the battery and the LED's will provide an approximate indicator of remaining battery life:

- 1 LED On ≤ 25% Battery Charge Left
- 2 LEDs On ≤ 50% Battery Charge Left
- 3 LEDs On ≤ 75% Battery Charge Left
- 4 LEDs On ≤ 100% Battery Charge Left

INSTALL THE BATTERY



The battery easily slides onto the tool body and snaps into place.

1. Press the release button on the battery and slide battery pack off the charger
2. Align the base of the tool with the rails in the battery and slide the battery pack firmly into the handle until you hear (or see) the lock snap in place.
3. To remove the battery pack from the tool, press the release button on the battery and firmly pull the battery pack out of the tool

LITHIUM-ION BATTERY CARE AND USE

- **Charge Only in Specified Charger:** Recharge the battery only with the HYTORC charger designed for the battery. Do not charge the battery with any other chargers. Do not alter the battery or force the battery to fit in other chargers.
- **Avoid Explosive Environments:** Do not charge or use the battery in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Inserting or removing the battery from the charger in explosive environments may ignite dust or fumes.
- **Do Not Service:** Do not attempt to service, disassemble or open a battery for any reason.
- **Do Not Drop, Impact or Crush:** Do not drop, impact or crush the battery. A battery that has been dropped, impacted or crushed may be damaged internally even if no damage is visible and should be disposed of properly.
- **Do Not Get Wet:** Do not expose a battery or charger to liquid, moisture or high humidity where water can condense on the battery. Do not operate in rain or snow. Do not use any battery that has been wet. Properly dispose of any battery that has been wet.
- **Do Not Use a Damaged Battery:** Do not insert a battery into charger or tool if battery pack case is cracked or damaged in any way. Any damaged battery should be disposed of properly.
- **Avoid Inhalation:** If fluids are seen coming from the inside of the battery, avoid breathing vapors and properly dispose of battery.
- **Avoid Contact:** If fluids from inside battery contact skin, flush affected area with water. If contents come into contact with eyes, flush with water for 15 minutes and seek medical attention.
- **Avoid High Temperatures:** Do not incinerate battery pack or expose to excessive heat. Toxic fumes, violent burning or even explosions may result. Do not store batteries in excess of 122° F (50° C).
- **Keep Terminals Clear of Metal Objects:** Make sure that battery terminals are protected from direct contact with metallic objects or materials which can potentially cause a short circuit.



DISPOSAL AND RECYCLING

Defective, damaged or spent batteries should be disposed of or recycled properly at an authorized waste collection or battery recycling center.

- **Dispose of Properly:** Lithium-Ion batteries should not be disposed of in the household (municipal) waste stream; they must be taken or shipped to an authorized electronic waste collection center or battery recycling center.
- **Protect the Environment:** HYTORC has partnered with Call2Recycle to ensure that batteries are responsibly recycled when they reach their end of life. Visit call2recycle.org to locate the battery recycling location closest to you.

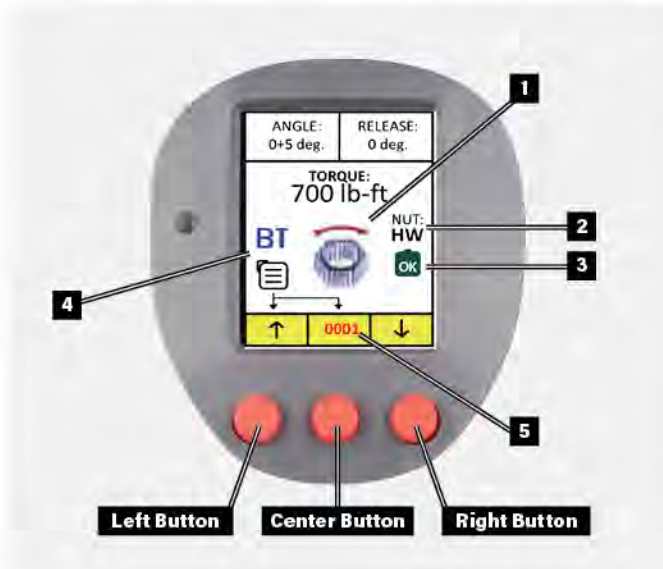
SHIPPING

Do not ship batteries if they can be disposed of or recycled locally. Lithium-Ion batteries are regulated in most countries as hazardous materials for transportation. Should it be necessary to ship a battery, follow all relevant packaging, labeling and documentation regulations.

- **Contact Your Carrier** for details on how to safely pack and ship Lithium-Ion batteries.
- **Protect the Battery** so that terminals are not in contact with metal objects and protect the battery from moisture, shock and vibration.
- **Ship to HYTORC** via UPS Ground to: HYTORC, 100 Wesley Street, South Hackensack, NJ 07606.

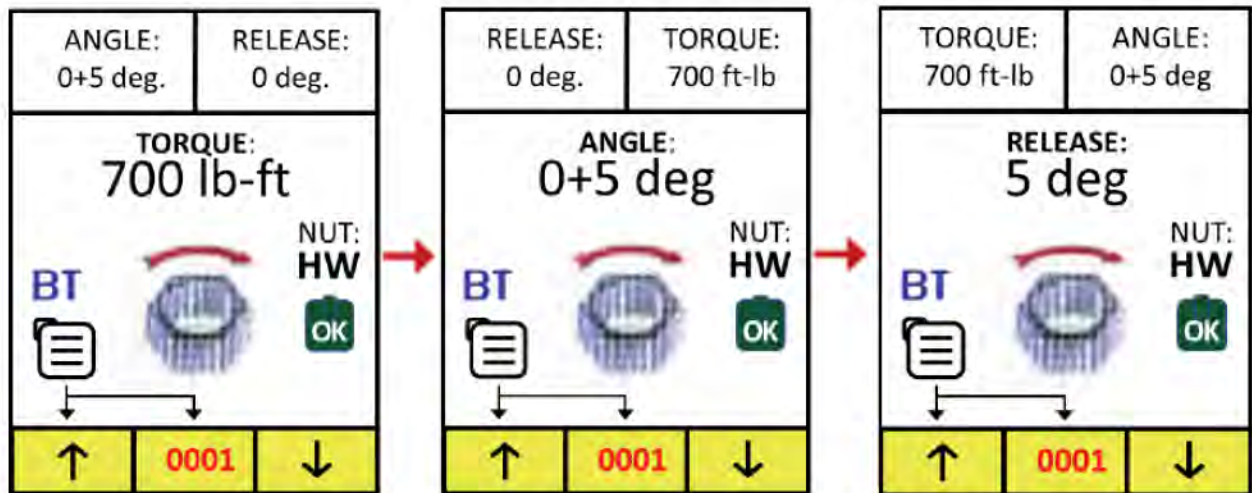
PRIMARY CONTROL FEATURES

- Press any button to power-on the tool.
- If the tool is new, it will display the factory default settings
- A tool that has been used before displays the last settings used on the tool before it was powered off.
- Push the left button (↑) to increase the displayed TORQUE, ANGLE or RELEASE value.
- Push the right button (↓) to decrease the displayed TORQUE, ANGLE or RELEASE value.
- Screen Features (see diagram below, clockwise from the top left):
Tightening Direction (1), Fastener Type (2), Battery Status (3), Bluetooth Indicator (4), Job Number (5).



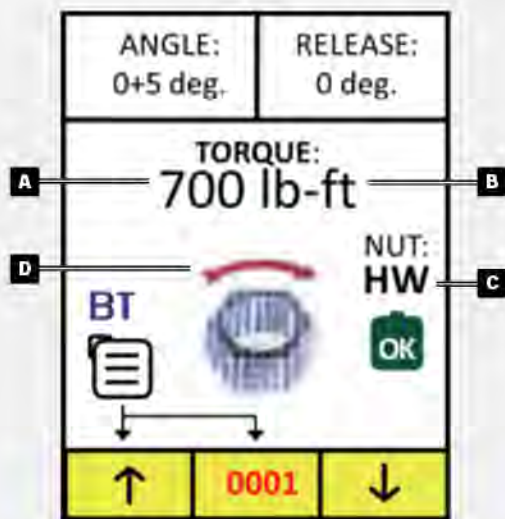
SHORTCUTS

- Press and hold the center button for approximately 3 seconds to cycle between the TORQUE, ANGLE and RELEASE menus.
- Press the right and left buttons simultaneously to access the JOB PROFILES menu.
- Press and hold the left and center buttons simultaneously for approximately 3 seconds to display the Main Menu.
- Press and hold the right and center buttons simultaneously for approximately 3 seconds to enter the system level access code.



Press and hold the center button for 3 seconds to cycle between the TORQUE, ANGLE and RELEASE menus.

SET TORQUE



- The Torque/Angle/Release Value **(A)** is set by simply pushing the left or right buttons to increase or decrease the torque.
- Output units **(B)** may be displayed in lb-ft, N-m, or kgf-m. (Refer to Output Unit Settings under the Operations menu).
- The fastener type **(C)** may be set under the Operation – Fastener Type menu: Right-Hand (RH), Left-Hand (LH), HYTORC Nut (HN), HYTORC Washer (HW), and CENTER LOCK NUT.
- The rotational direction arrow **(D)** and the rotating nut icon indicate the direction associated with the specific fastener type.

SET ANGLE

The ANGLE feature is used for applications that require turning the fastener through a specified angle in addition to or instead of a TORQUE value.

- From the TORQUE menu, press and hold the center button for approximately 3 seconds to access the ANGLE menu.
- Use the left and right buttons to set the desired number of revolutions, and any additional angle. For example, the value "1+5" will turn the fastener one full revolution (360 degrees), plus an additional 5 degrees.
- Once set, the angle will be added to the TORQUE-ANGLE sequence after the completed torque operation, turning the fastener through the specified angle (up to the maximum output of the tool).
- If an ANGLE DELAY has been set the angle is applied after the specified delay (from 0-3000ms; default = 500ms). Continue holding the trigger until the tool has completed all operations.

SET RELEASE

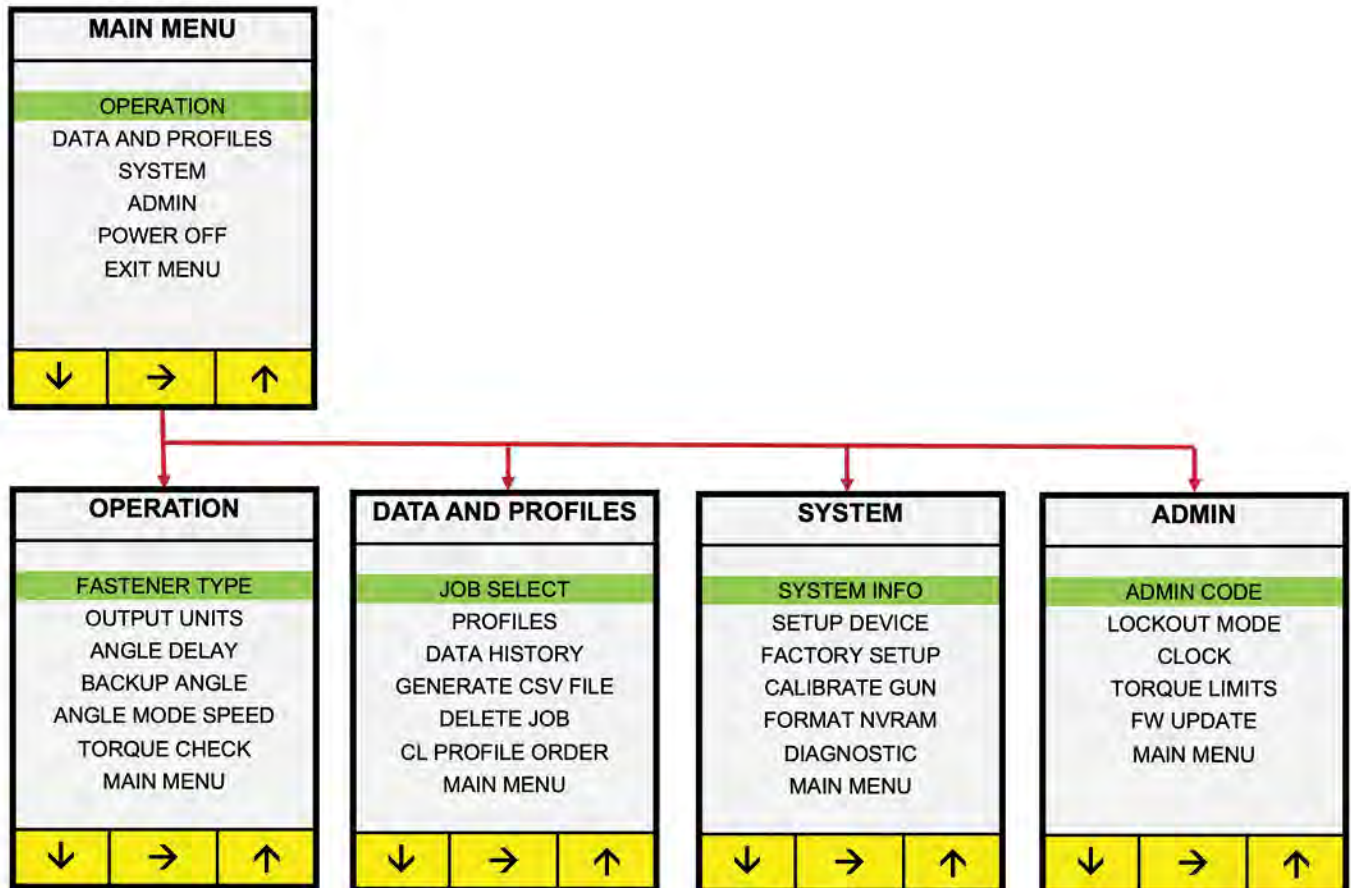
After the tool completes a tightening operation the gear box may cause the tool to lock onto the nut. When a RELEASE angle is programmed the tool will reverse the motor slightly, taking force off the gear box and reaction point to release the tool without loosening the nut.

- From the ANGLE menu, press and hold the center button for approximately 3 seconds to access the RELEASE menu.
- Use the left and right buttons to set the desired release angle. The angle required will vary depending on the application; set the angle to the minimum necessary to release the tool without loosening the nut.
- The RELEASE angle is applied after the TORQUE operation (and ANGLE, if set). If an ANGLE DELAY has been set the release angle will be applied after the specified delay (from 0-3000ms; default = 500ms). Continue holding the trigger until the tool has completed all operations.

MAIN MENU

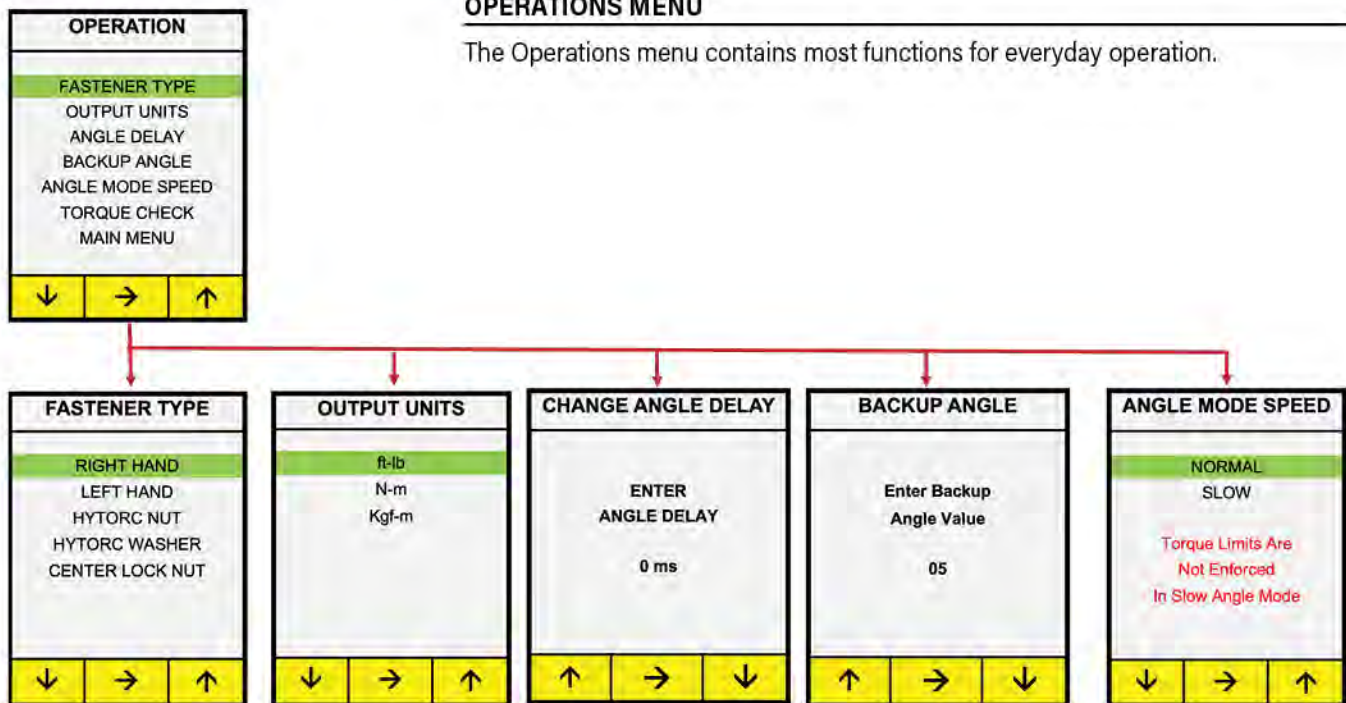
The Main Menu contains the OPERATIONS, JOB DATA, SYSTEM, ADMIN and POWER OFF sub-menus.

- From the Home Screen press and hold the left and center buttons for approximately 3 seconds to display the MAIN MENU.
- The green bar highlights the current selection.
- Press the left (↓) button to scroll down, and the right (↑) button to scroll up.
- Press the center button (→) to select and display a sub-menu



OPERATIONS MENU

The Operations menu contains most functions for everyday operation.



FASTENER TYPE offers four fastener options that define the direction of rotation. Press the left (⇩) or right (⇧) button to scroll to the desired option and press the center (→) button to select.

- RIGHT HAND (RH) = CW
- LEFT HAND (LH) = CCW
- HYTORC NUT (HN) = CCW
- HYTORC WASHER (HW) = CW
- CENTER LOCK NUT (CLN)

NOTE: When using the HYTORC Washer or HYTORC Nut the safety feature requiring a push of the button before operation is disabled. The tool should never be used with a reaction arm in this setting.

OUTPUT UNITS offers the choice of four units of measurement for displaying torque.

- FOOT-POUNDS (ft-lb)
- NEWTON-METERS (N-m)
- KILOGRAM-FORCE METERS (Kgf-m)
- **NOTE:** The LOCK UNITS option is available only to HYTORC personnel.

ANGLE DELAY (0-3000 microseconds): Adjusts the length of pause between TORQUE and ANGLE operations.

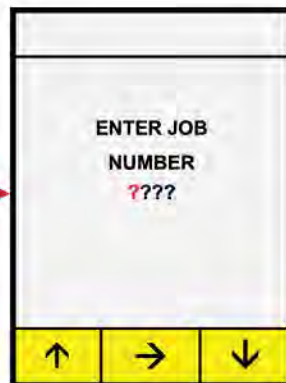
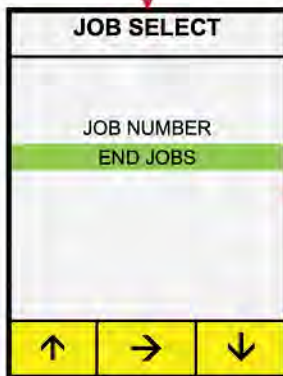
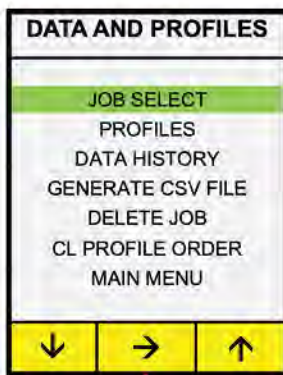
BACKUP ANGLE (0-10 degrees): Reverses the motor slightly before applying torque, in order to minimize resistance.

ANGLE MODE SPEED allows the tool to perform SLOW ANGLE operations. **WARNING:** Slow Angle operation may damage tool.

TORQUE CHECK: This feature is not available on this model.

JOB DATA MENU

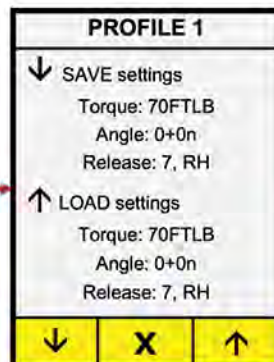
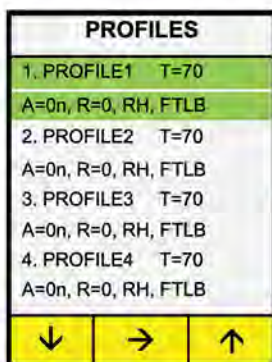
The Job Data menu contains options for recording, viewing and exporting job data. Press the left (↓) or right (↑) button to scroll to the desired option, then press the center button (→) to select.



JOB SELECT allows the user to generate a job number and begin data recording.

- Enter a 4-digit job number (0001 to 9999) and press (→) to begin recording. The Job Number is displayed on the home screen.
- Select END JOB to stop recording data under an active job number.

NOTE: The user must enter the 4-digit GENERAL access code before creating a new Job Number.

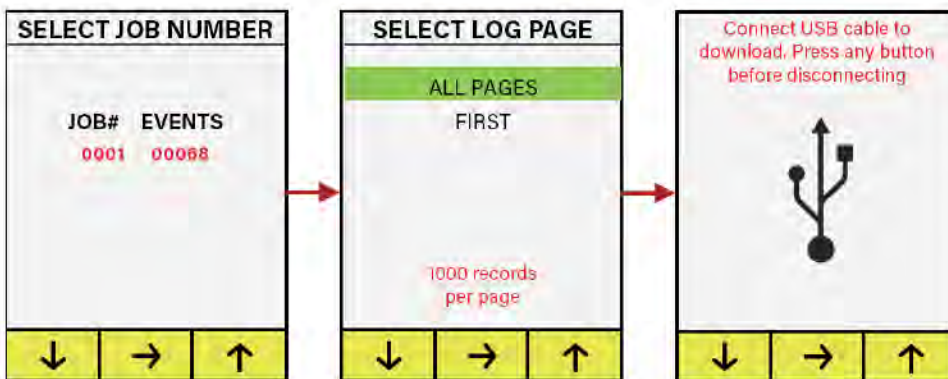


PROFILE allows the user to save up to 4 Job Profiles and to activate previously saved Job Profiles.

- Each Profile includes values for TORQUE (T), ANGLE (A) (normal or slow), RELEASE (R) and FASTENER TYPE.
- To save the current tool parameters as a new Job Profile, push (→) then (↓) to SAVE settings.
- To activate a Profile, scroll to the desired setup values then press (→), then (↓) to LOAD settings.
- If entering new setup values, push (→) to access the sub-menu to either SAVE or LOAD settings.
- The user can SAVE the current settings by pushing the left button (↓); the profile is added to the top of PROFILES.
- Alternatively the user can LOAD the selected profile by pushing the right button (↑).
- Exit without loading or saving by pushing the center button (X).
- Return to the OPERATIONS Menu upon completion.



DATA HISTORY provides a summary of the jobs and events currently being saved.

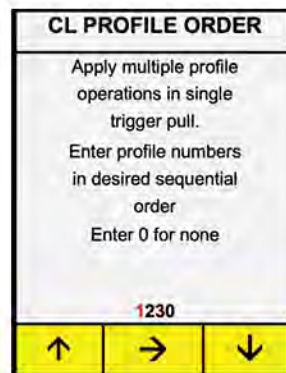


GENERATE CSV FILE allows the user to create and export a data record for a particular job number via USB.

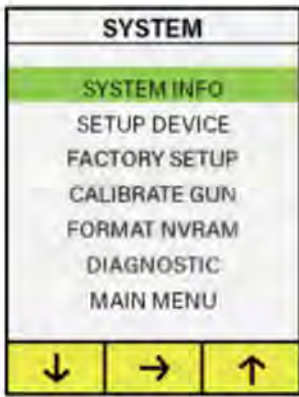
- Use the left and right buttons to select the desired job number and press (→) to generate the CSV file.
- Follow the on-screen prompts. Once connected, the PC will display the JOB DATA file which can be copied from the tool.
- Press (→) to exit and return to the DATA AND PROFILES menu.



DELETE JOB: Scroll to the desired Job Number and press (→) to delete it.



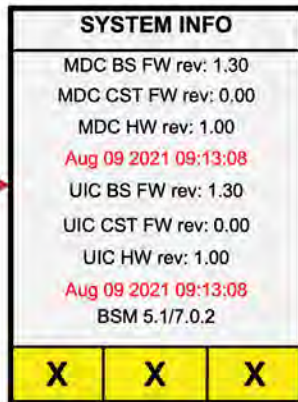
CL PROFILE ORDER: Enables flexible configuration of multiple profile operations in a single trigger pull. The default profile order is "1230" which executes the first 3 profiles in succession. Zero will not apply any profile.



SYSTEM MENU

The SYSTEM menu allows the user to view SYSTEM INFO and contains the tool's SETUP DEVICE options.

NOTE: FACTORY SETUP, CALIBRATE GUN, FORMAT NVRAM and DIAGNOSTIC are not intended for field use and are accessible only by HYTORC service personnel.

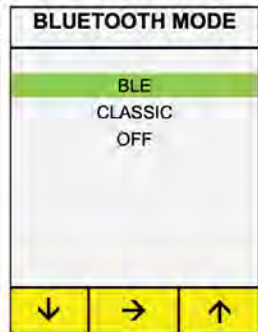
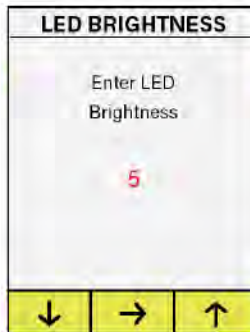
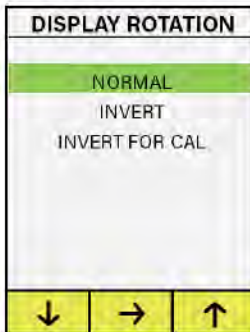
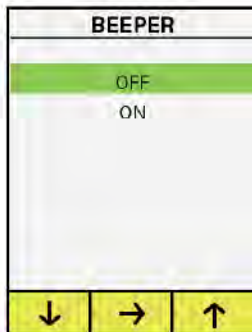


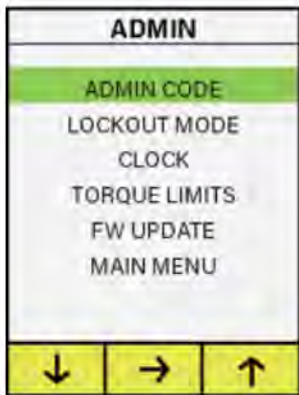
SYSTEM INFO displays the tool Firmware (FW) and Hardware (HW) versions for the Motor Drive Control (MDC) and User Interface Control (UIC). Press any button to return to the SYSTEM menu.



SETUP DEVICE contains additional tool setting and configuration options.

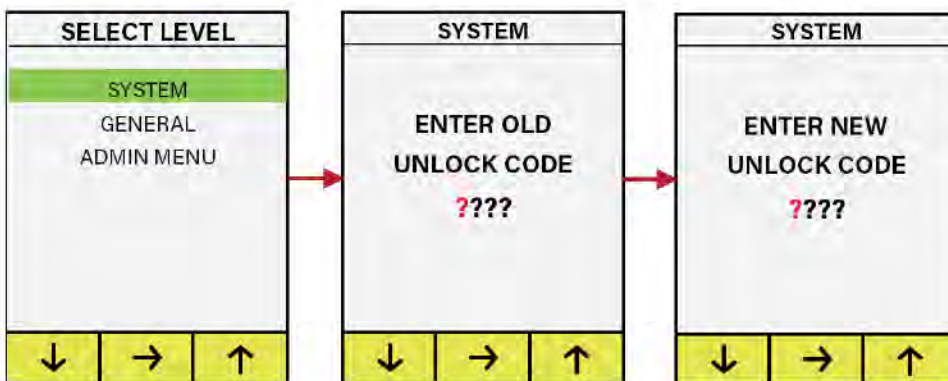
- **AUTO-OFF:** When active tool will shut down after 5 minutes.
- **BEEPER:** Enables and disables the beeping noise emitted by the tool.
- **DISPLAY ROTATION:** The display can be inverted for overhead use or during calibration.
- **LED BRIGHTNESS (0-9)** sets the brightness level of the LED Status Light.
- **BLUETOOTH MODE:** Bluetooth communication is enabled by selecting either BLE or CLASSIC. Bluetooth is disabled by selecting OFF. Bluetooth is available on select LION GUN Tool models.
- **RESET COUNTER** resets the Maintenance Cycle Counter to zero.





ADMIN

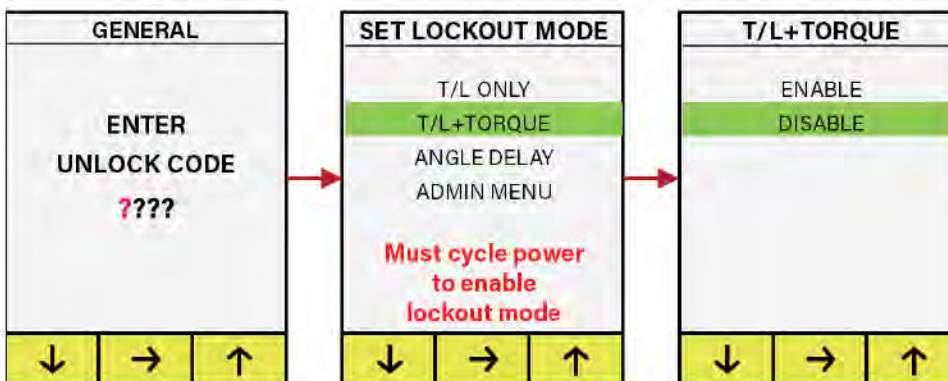
The ADMIN menu contains less seldom-used features, typically configured by an administrator or supervisor.



ADMIN CODE: Allows the user to reset the SYSTEM and GENERAL access codes. The user must first enter the old 4-digit unlock code, then enter a new unlock code.

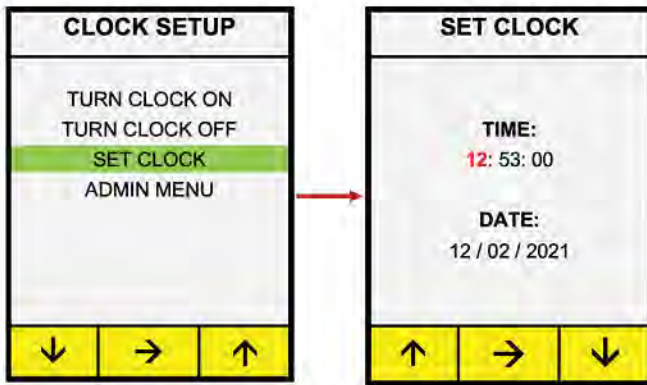
- SYSTEM access is generally limited to certified personnel for calibration purposes.
- GENERAL access (default code=0000) is required for entering torque limits, setting the clock and LOCKOUT MODE.

NOTE: Whenever SYSTEM code is reset the GENERAL access code reverts to default (0000).



LOCKOUT MODE: Allows an admin to prevent changes to certain bolting parameters (GENERAL access required)

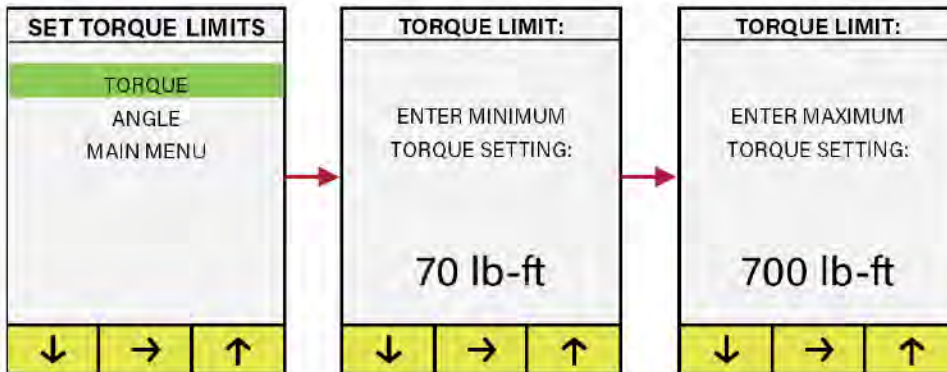
- T/L ONLY: When enabled, TORQUE, ANGLE and RELEASE values cannot be adjusted.
- T/L+TORQUE: When enabled, the TORQUE value can be adjusted but ANGLE and RELEASE values cannot.
- ANGLE DELAY: When enabled, the ANGLE DELAY cannot be adjusted.



TURN CLOCK ON: Enables the tool's internal clock.

TURN CLOCK OFF: Disables the tool's internal clock. For long term storage, turning off the clock can extend the tool's internal clock battery life.

SET CLOCK: Allows the user to set the time and date on the tool.



TORQUE LIMITS: Allows an Admin to set minimum and maximum limits to the amount of torque that can be applied on TORQUE operations and ANGLE operations.

- Press the left (↓) or right (↑) button to adjust the desired minimum torque setting and press (→).
- The screen flashes "Saving setting" before displaying the maximum torque setting screen.
- Enter the desired maximum torque setting and press (→).

FW UPDATE: This feature is not available on this model.



WARNING!

To avoid injury make sure the reaction arm is in direct contact with an immovable object before fastening. Make sure that no part of your body is in the path of the reaction arm when the nut is tightened.

INSTALL REACTION ARM



1. FLAT ON REACTION SPLINE. 2. ALLEN SET SCREW



TIGHTEN ALLEN SET SCREW



The LION GUN Electric Torque Tool is easily configured for conventional torque applications with standard sockets and reaction arms.

- The reaction arm is quickly secured to the tool
- Slide the reaction arm over the drive while aligning the set screw (2) with the flat (1) on the spline.
- Tighten the set screw to firmly attach the reaction arm.
- Challenge the reaction arm to make sure it is firmly secured.
- Never modify a reaction arm as this may lead to personal injury or damage to the tool.

INSTALL SOCKET



- Make sure the O-ring is installed on the socket. Insert the pin part way into the socket.
- Slide socket on the drive while aligning the pin hole in the socket with the hole in the square drive
- Push the pin through socket and square drive and seat the pin flush against the socket
- Slide O-ring to retain the pin in place.

CONVENTIONAL TORQUE SETUP



- Power on the tool, adjust the settings and select fastener type. For conventional torque applications the fastener will be RH (right hand) or LH (left hand).
- Position a back wrench to prevent turning during tightening.
- Place the socket on the nut, making sure to fully engage the nut.
- Make sure the reaction arm is firmly abutted against a stationary object before applying torque.

CONVENTIONAL TORQUE TIGHTENING



- To begin the TORQUE operation, pull and hold the trigger.
- With Right or Left Fasteners, a message is displayed instructing the user to press any button on the control panel, to ensure the operator keeps both hands clear of the reaction arm.
- As soon as the user pushes a button the drive will turn.
- Once the tool starts, the reaction arm will move to firmly press against the reaction surface and then the tool will begin applying torque and tighten the nut.
- Continue holding the trigger until the tool reaches the desired torque and stops.
- If an ANGLE has been specified, continue holding the trigger; the tool will pause and restart after the angle delay.
- If a RELEASE has been specified, continue holding the trigger; the tool will pause and restart after the angle delay.
- Release the trigger after the tool has completed all specified operations.
- The status light will turn amber during operation. If the operation is successful, the status light will turn green; if unsuccessful, the status light will turn red.
- If the BEEPER is enabled, the tool will provide an audible beep upon completion of the operations.
- Remove the tool socket from the nut.
- Should torque be applied without a release angle, the tool may lock onto the nut. If this happens, set the tool to loosen to free the tool.

CONVENTIONAL TORQUE LOOSENING



- The Tool provides the maximum torque capacity in reverse, providing powerful breakout capability.
- Toggle the Directional Switch to Loosen mode.
- Position the tool over the nut.
- Position the reaction arm against a firm surface.
- Pull and hold the trigger and any button on the rear panel to apply torque to loosen the nut.
- Once the tool starts, the reaction arm will move and firmly press against the reaction surface. The tool will then begin applying torque to loosen the nut.
- The status light will turn amber during operation. If the operation is successful, the status light will turn green, if unsuccessful, the status light will turn red.
- Remove the tool driver from the nut.

INSTALL THE HYTORC WASHER DRIVER



- The **LION GUN** Electric Torque Tool is easily configured for tightening bolts where the HYTORC Washer is used.
- Identify the appropriate size HYTORC Washer Driver.
- Slide the washer driver over the square drive and spline while aligning the thumb screw with the flat on the spline.
- Tighten the thumb screw to secure the driver.
- Challenge the driver to make sure it is securely attached.

TIGHTENING WITH THE HYTORC WASHER DRIVER



- Power on the tool, adjust tool settings and set the fastener type to HYTORC WASHER.
- Position the tool over the nut and HYTORC Reaction Washer.
- Pull the trigger to apply torque until the tool reaches the desired torque and stops.
- If an ANGLE has been specified, continue holding the trigger; the tool will pause and restart after the angle delay.
- If a RELEASE has been specified, continue holding the trigger; the tool will pause and restart after the angle delay.
- Release the trigger after the tool has completed all specified operations.
- The status light will turn amber during operation. If the operation is successful, the status light will turn green, if unsuccessful, the status light will turn red.



LOOSENING WITH THE HYTORC WASHER DRIVER



- The tool provides the maximum torque capacity in reverse, providing powerful breakout capability.
- Toggle the Directional Switch to LOOSEN mode.
- Position the driver over the nut and HYTORC reaction washer and hold the trigger to begin applying torque.
- The status light turns amber during operation. If the operation is successful, the status light will turn green, if unsuccessful, the status light will turn red.
- Remove the tool driver from the nut.

INSTALL THE HYTORC NUT DRIVER



- The **LION GUN** Electric Torque Tool is easily configured for tightening the HYTORC Nut.
- Identify the appropriate size HYTORC Nut Driver.
- Slide the nut driver over the square drive and spline while aligning the set screw with the flat on the spline.
- Tighten the set screw to secure Nut Driver.
- Challenge the nut driver to make sure it is securely attached.



TIGHTENING THE HYTORC NUT



NOTE: The HYTORC Nut inner sleeve is tightened in the counter clockwise direction (left hand threads).

- Power on the tool, adjust tool settings and set the fastener type to HYTORC Nut.
- Position the tool over the nut.
- If a RELEASE ANGLE has been specified, continue holding the trigger and the tool will restart and then stall again after completing the RELEASE angle. The tool can then be released from the nut.
- Release the trigger after the tool has completed all specified operations.
- The status light turns amber during operation. If the operation is successful, the status light will turn green, if unsuccessful, the status light will turn red.
- If the BEEPER is enabled, the tool will provide an audible beep upon completion of the operations.
- Remove the tool socket from the nut.
- Should torque be applied without a release angle, the tool may lock onto the nut. If this happens, set the tool to loosen to free the tool.

LOOSENING THE HYTORC NUT



- The tool provides the maximum torque capacity in reverse, providing powerful breakout capability.
- Toggle the Directional Switch to LOOSEN mode.
- When loosening HYTORC Nuts, position the driver and hold the trigger until the HYTORC Nut is loose.
- The status light turn amber during operation. If the operation is successful, the status light will turn green; if unsuccessful, the status light will turn red.
- Remove the tool driver from the nut.

CERTIFICATE OF CONFORMANCE FOR JAPAN

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Königswinkel 10
D-32825 Blomberg, Germany
Phone: +49 (0) 5235 9500-75
Fax: +49 (0) 5235 9500-28
www.phoenix-testlab.de



Certificate

No: 15-113559

of Technical Regulations Conformity for Specified Radio Equipment in Japan

PHOENIX TESTLAB GmbH, operating as a Registered Certification Body (RCB ID: 204) with respect to Japan, declares that the listed product complies with the Technical Regulations Conformity Certification of Specified Radio Equipment (ordinance of MPT N°. 37, 1981), Article 2, Paragraph 1, Item 19, Item 19-3, Item 19-3-2.

Product description:	Multi Radio Module
Trademark:	ODIN-W2
Model name:	ODIN-W260; ODIN-W262
Family name:	ODIN-W2
Serial No.:	--
Software Release No.:	--
Type of emissions:	F1D/D1D/G1D
Frequency and power:	802.11b: 2412~2472 MHz; 13 ch; 3.00 mW/MHz 802.11g: 2412~2472 MHz; 13 ch; 8.00 mW/MHz 802.11n (HT20): 2412~2472 MHz; 13 ch; 8.00 mW/MHz BT: 2402~2480 MHz; 79 ch; 0.15 mW/MHz (FHSS/ GFSK) BT: 2402~2480 MHz; 79 ch; 0.06 mW/MHz (FHSS/ $\pi/4$ -DQPSK) BT: 2402~2480 MHz; 79 ch; 0.06 mW/MHz (FHSS/ 8DPSK) BT BLE: 2402~2480 MHz; 40 ch; 2.70 mW (GFSK) 802.11a: 5180~5320 MHz; 8 ch; 2.00 mW/MHz 802.11n (HT20): 5180~5320 MHz; 8 ch; 2.00 mW/MHz 802.11a: 5500~5700 MHz; 11 ch; 2.00 mW/MHz 802.11n (HT20): 5500~5700 MHz; 11 ch; 2.00 mW/MHz
Manufacturer:	Flextronics International GmbH
Address:	Friesacher Strasse 3
City:	A-9330 Althofen
Country:	Austria

This certificate is granted to:

Certificate holder:	u-blox Malmö AB
Address:	Östra Varvsgatan 4, 5 tr
City:	Malmö SE-211 75
Country:	Sweden

This certificate has 2 annexes.

Blomberg, 3. Nov. 2015
Place, Date

PHOENIX TESTLAB GMBH
32825 BLOMBERG
Signature, Stamp

CHANGELOG

10/19/2018 - Edition 4 from January 2018 uploaded.

01/04/2019 - French, Italian, Spanish, and Portuguese versions uploaded.

06/12/2019 - .7 LIONGUN specs updated to reflect the correct metric torque range (95 – 950 Nm).

12/06/2019 - General Safety Information updated.

01/31/2020 - Functionality and image updates made on pages 7, 8, and 13.

02/03/2020 - Section 5 updated to reflect that only one (1) battery is included with the Tool.

05/21/2020 - Legal Notice added to About This Document. Service section removed.

07/07/2020 - Section 1.J. Emissions updated. Section 4 updated with LITHIUM-ION BATTERY CARE AND USE, DISPOSAL AND RECYCLING, and SHIPPING.

09/2020 - Updates made pertaining to latest firmware update.

10/2020 - Updates made pertaining to Operating the Control Panel and Menu Navigation.


03/2021 - All instances of percentages (%) as an option for displaying torque have been removed.

11/2021 - LIONGUN-7-BSM-TRUCK features added and photos updated.

HYTORC WORLD HEADQUARTERS

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713-453-6677



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