

# HYTORC

The World's Most Trusted Industrial Bolting Systems



## jGun® DIGITAL Pneumatic Torque Tool Basic Operations Manual

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Firmware Version 2.73

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# ABOUT THIS DOCUMENT

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## ORIGINAL INSTRUCTIONS

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This manual provides information for the standard jGun® DIGITAL Pneumatic Torque Tool.

**Models: jGun® DIGITAL:** DJ-.25, DJ-.5, DJ-1, DJ-2, DJ-3, DJ-5, DJ-8

**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 ensure 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.

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**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.

**Warranty.** The jGun® DIGITAL Pneumatic Torque Tool has a one-year limited warranty. Every tool is tested before leaving the factory and is warranted to be free from defects in workmanship and materials. HYTORC will repair or replace, without charge, any tool which, upon examination, proves to be defective in workmanship or materials for one (1) year after the date of purchase. This warranty does not cover damage resulting from repairs made or attempted by unauthorized repair facilities. The repair and replacement remedies described herein are exclusive. In no event shall HYTORC be liable for any incidental, special, or consequential damages, including loss of profits. This warranty is exclusive and in lieu of all other warranties or conditions, written or oral, expressed or implied for merchantability or fitness for particular use or purpose. This warranty gives you specific legal rights. You may also have other rights that vary from state to state and province to province. In those states that do not allow the exclusion of implied warranties or limitation of incidental or consequential damages, the above limitations or exclusions may not apply to you. If you have questions about the warranty, contact our customer service center at 201-828-5270.

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## **TABLE OF CONTENTS**

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<b>1. GENERAL SAFETY INFORMATION</b>	<b>1</b>
<b>2. SERVICE</b>	<b>7</b>
<b>3. TOOL DESCRIPTION</b>	<b>8</b>
<b>4. CARE AND HANDLING</b>	<b>9</b>
<b>5. CHARGING THE BATTERY</b>	<b>10</b>
<b>6. CLEANING FILTERS</b>	<b>11</b>
<b>7. CONNECTING THE AIR SUPPLY</b>	<b>12</b>
<b>8. TURNING POWER ON OR OFF</b>	<b>13</b>
<b>9. ADJUSTING TORQUE AND LOCKING THE REGULATOR</b>	<b>14</b>
<b>10. ADJUSTING UNITS</b>	<b>15</b>
<b>11. SCREEN FREEZE AND RELEASING THE DISPLAY</b>	<b>16</b>
<b>12. BOLTING WITH A CONVENTIONAL REACTION ARM</b>	<b>17</b>
<b>13. BOLTING WITH THE HYTORC WASHER</b>	<b>20</b>
<b>14. BOLTING WITH THE HYTORC NUT</b>	<b>22</b>
<b>15. MAINTENANCE</b>	<b>23</b>
<b>CHANGELOG</b>	
<b>MISSION STATEMENT</b>	



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



**WARNING!** Read all instructions before use. To reduce the risk of injury user must read manual.

Instructions in this section are compliant with ISO-11148-6:2012 and ISO-12100:2010.

### 1. GENERAL

- **Employer Responsibility:** The user's employer shall assess the specific risks that can be present as a result of each use.
- **Maintenance Instructions:** General maintenance recommendations included in this document include care and handling instructions (see Section 4) and cleaning the filters (see Section 6).
- **Special Markings on the Tool:** There are no special markings or symbols on the tool.
- **Residual Risks:** When this tool is used for its intended purpose by trained individuals equipped with adequate personal protective equipment according to the instructions in this document, there are no known residual risks.
- **Statement of Use:** The jGun DIGITAL Pneumatic Torque Tool is intended for use in tightening fasteners with controlled torque in heavy duty industrial bolting applications.
- **Trained User Only:** This tool should be used only by fully trained personnel, and this document is written only for trained professionals. This tool should not be used without proper training and supervision. Contact HYTORC for additional information on receiving proper training for this tool.

### 2. GENERAL SAFETY RULES

- Maintenance must be performed by a qualified HYTORC technician.
- Operating the tool in any fashion other than as described herein can result in serious bodily injury and is forbidden.
- For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool for threaded fasteners (the "tool"). Failure to do so can result in serious bodily injury.
- Only qualified and trained operators should install, adjust or use the tool.
- Do not modify this tool. Modification of the tool invalidates the warranty and can reduce the effectiveness of safety measures and increase the risks to the operator.
- Do not discard the safety instructions; give them to the operator.
- Do not use the tool if it has been damaged.
- Tools shall be inspected periodically to verify that the ratings and markings are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

### 3. PROJECTILE HAZARD

- Failure of the workpiece, of accessories or even of the inserted tool itself can generate high-velocity projectiles.
- Always wear impact-resistant eye protection during operation of the tool. The grade of protection required should be assessed for each use.
- Ensure that the workpiece is securely fixed.

#### 4. ENTANGLEMENT HAZARDS

- Entanglement hazards can result in choking, scalping and/or lacerations if loose clothing, personal jewelry, neckwear, hair or gloves are not kept away from the tool and accessories.
- Gloves can become entangled with the rotating drive, causing severed or broken fingers.
- Rotating drive sockets and drive extensions can easily entangle rubber-coated or metal-reinforced gloves.
- Do not wear loose-fitting gloves or gloves with cut or frayed fingers.
- Never hold the drive, socket or drive extension while operating tool.
- Keep hands away from rotating drives.

#### 5. OPERATING HAZARDS

- The use of the tool can expose the operator's hands to hazards including crushing, impacts, cuts and abrasions and heat. Wear suitable gloves to protect hands.
- Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
- Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
- Maintain a balanced body position and secure footing.
- In cases where the means to absorb the reaction torque are requested, it is recommended to use a suspension arm whenever possible. If that is not possible, side handles are recommended for straightcase and pistol-grip tools. Reaction bars are recommended for angle nutrunners. In any case, it is recommended to use a means to absorb the reaction torque above 4 N·m for straight tools, above 10 N·m for pistol-grip tools, and above 60 N·m for angle nutrunners.
- Release the start-and-stop device in case of an interruption of the energy supply.
- Use only lubricants recommended by the manufacturer.
- Beware of crushing hands between tool and workpiece, especially when unscrewing.

#### 6. REPETITIVE MOTIONS HAZARDS

- When using tool the operator can experience discomfort in hands, arms, shoulders, neck, or other parts of the body.
- The operator should adopt a comfortable posture while maintaining secure footing and avoiding awkward or off-balanced postures. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
- If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

#### 7. ACCESSORY HAZARD

- Disconnect tool from the energy supply before changing the inserted tool or accessory.
- Do not touch sockets or reaction arms during use, as this can cause serious injury.
- Use only sizes and types of accessories that are recommended by the tool manufacturer.
- Use only impact grade sockets in good condition, as sockets in poor condition can shatter and become a projectile.

#### 8. WORKPLACE HAZARDS

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by the use of the tool and also of trip hazards caused by the air line or hydraulic hose.
- Proceed with care in unfamiliar surroundings. Hidden hazards, such as electricity or other utility lines, can exist.
- The tool is not intended for use in potentially explosive atmospheres and is not insulated against electric power.
- Make sure there are no electrical cables, gas pipes, etc., that can cause a hazard if damaged by use of the tool.

## 9. DUST AND FUME HAZARDS

- Where dust or fumes are present in the environment where this tool is used, follow instructions as required by the employer and occupational health and safety regulations to provide respiratory protection for tool users.
- Dust and fumes generated when using power tools can cause ill health (for example cancer, birth defects, asthma and/or dermatitis); risk assessment and implementation of appropriate controls for these hazards are essential.

## 10. NOISE HAZARDS

- Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore a risk assessment and implementation of appropriate controls for these hazards are essential.
- Appropriate controls to reduce risk may include damping materials to prevent workpieces from “ringing”.
- Use hearing protection in accordance with instructions and as required by health and safety regulations.
- Operate and maintain the tool as recommended in instructions, to prevent increase in noise levels.
- If the tool has a silencer, always ensure it is in place and in good working order when operating.
- Select, maintain and replace tool as required to prevent an unnecessary increase in noise.

## 11. VIBRATION HAZARDS

- Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Keep hands away from the nutrunner sockets.
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the tool, tell your employer and consult a physician.
- Operate and maintain the tool as recommended, to prevent unnecessary increase in vibration levels.
- Do not use worn or ill-fitting sockets or extensions, as this is likely to cause a substantial increase in vibration.
- Select, maintain and replace tool as required to prevent an unnecessary increase in vibration levels.
- Sleeve fittings should be used where practicable.
- Hold the tool lightly but securely; the risk from vibration is generally greater with a tighter grip.

## 12. ADDITIONAL SAFETY INSTRUCTIONS FOR PNEUMATIC POWER TOOLS

- Air pressure has a safety critical effect on performance. Be sure to follow requirements for hose length and diameter as air under pressure can cause severe injury.
- Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
- Never direct air at yourself or anyone else.
- Whipping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
- Cold air shall be directed away from the hands.
- Do not use quick-disconnect couplings at tool inlet for impact and air-hydraulic impulse wrenches. Use hardened steel (or material with comparable shock resistance) threaded hose fittings.
- Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whip check safety cables shall be used to safeguard against possible hose-to-tool and hose-and-hose connection failure.
- Do not exceed the maximum air pressure stated on the tool.
- Never carry tool by the hose.

### 13. EMISSIONS STATEMENT

- The noise emission, measured in accordance with EN ISO 15744, using, as basic standards, EN ISO 3744 and EN ISO 11203, is as follows:
  - A-weighted sound pressure level  $L_{pA} = 99.3 \text{ dB(A)}$  and its uncertainty  $K_{pA} = 3\text{dB(A)}$
  - A-weighted sound power level  $L_{WA} = 110.3 \text{ dB (A)}$  and its uncertainty  $K_{WA} = 3\text{dB(A)}$
  - Operating conditions: No load

**NOTE:** The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values, which is likely to occur in measurements.

- The declared vibration emission value and its uncertainty measured in accordance with EN ISO 28927-2, is:
  - The declared vibration emission value  $a_{hd} = 1.10 \text{ m/s}^2$  and its uncertainty  $K = 1.50 \text{ m/s}^2$
- 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).

### 14. GENERAL OPERATOR GUIDELINES

**Only qualified personnel who have thoroughly read this document may operate this tool. Failure to safely operate this tool may result in serious injury or death.**

- Do not submerge in water or subject tool to extreme humidity.
- Do not subject tool to extreme temperature variations.
- Do not operate tool in temperatures above 140°F (60°C) or below -14°F (-25°C).
- Do not subject tool to dusty environments that could clog the vents. Keep vents clear and uncovered.
- Wear warm clothing when working in cold conditions and keep hands warm and dry.

### 15. PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Always wear appropriate protective equipment, including gloves, impact-resistant eye protection, hearing protection, hard hat and safety shoes, when operating tool. The grade of protection required should be assessed for each use.

### 16. BATTERY SAFETY

The tool contains a non-removable integral rechargeable Li-Ion Battery that powers the Display Electronics.

- DO NOT splash or immerse battery in water or other liquids.
- Do not incinerate the battery even if it is severely damaged or is completely worn out. The battery can explode in a fire. Toxic fumes and materials are created when lithium ion batteries 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 charger may ignite dust or fumes.
- If battery contents come into contact with the skin, immediately wash area with mild soap and water.

## 16. BATTERY SAFETY (CONT'D.)

- If battery liquid gets into the eyes, rinse over the open eye for 15 minutes or until irritation ceases. If medical attention is needed, the battery electrolyte is composed of a mixture of liquid organic carbonates and lithium salts. Contents of opened battery cells may cause respiratory irritation.
- Provide fresh air. If symptoms persist, seek medical attention.

## 17. POWER ADAPTER SAFETY



### WARNING

Shock hazard. Do not allow any liquid to get inside power adapter.



### CAUTION

Under certain conditions, with the power adapter plugged into the power source, the power adapter can be shorted by foreign material of a conductive nature such as steel wool, aluminum foil, or any buildup of metallic particles. Such materials should be kept away from power adapter USB connectors. Always unplug the power adapter from the power source when not connected to the tool. Unplug power adapter before attempting to clean.

- To disconnect power adapter, firmly grasp plug and remove. Do not disconnect by pulling on the cord.
- Make sure cord is located so it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- Do not use an extension cord unless 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 operate power adapter with damaged cord or plug. Have any damaged plug or cord replaced immediately.
- Do not operate power adapter if it has received a sharp blow, been dropped, or otherwise damaged in any way.
- This power adapter is designed to operate on standard household electrical power (120V/220V 60hz/50hz).

**18. TOOL SPECIFICATIONS**

MODEL	RPM	MASS/WEIGHT	
		IMPERIAL (lbs.)	METRIC (kg)
jGun DIGITAL .25	65	8.25	3.75
jGun DIGITAL .5	24	8.85	4.00
jGun DIGITAL 1	6.5	9.80	4.40
jGun DIGITAL 2	5.5	16.50	7.50
jGun DIGITAL 3	5	17.70	8.00
jGun DIGITAL 5	2.5	28.30	12.80
jGun DIGITAL 8	1.5	38.40	17.40





### FREE SERVICES\*

- User safety training upon receipt of merchandise
- Semi-Annual user safety training on request
- Annual safety seminar on appointment
- Loaner tools in event of product failure within 24 hours
- Torque/Tension consultation/seminar
- Half-Day, first-use supervision
- Annual product inspection on request
- Product demonstrations
- 12-Month no-questions-asked warranty
- 5-Year tool housing warranty
- User training for first-time rentals
- Warranty repairs including return-freight
- Upgrades during the lifetime of the tool to enhance safety, durability, and function
- Free calibration with new tool purchase

\*Above services are not subject to travel expense charges.

### REPAIRS

- All repairs are guaranteed for 6 months
- All repairs are subject to labor and part cost as outlined in the official HYTORC price list
- All repairs will be tested and calibrated to ensure the highest quality repairs
- All warranty repairs are free of all charges including return-freight

### TOOL RENTALS

- 100% of all paid rentals will be applied as a discount towards any new purchase in that calendar year
- User training for first-time rentals is free of all cost
- Rental tools are guaranteed to perform and are subject to the free loaner tool policy of HYTORC

### HELP

If you require any further assistance, please call your local HYTORC Representative or 1-800-FOR-HYTORC (1-800-367-4986). Please visit us at [HYTORC.com](http://HYTORC.com).

### FOLLOW US ONLINE







The **jGun DIGITAL** Pneumatic Torque Tool is designed with an industrial grade compressed-air motor allowing the tool to be operated without the need for a separate Filter, Regulator, Lubricator (FRL). High torque is achieved with a rugged planetary gearbox torque multiplier system. The tool is available in a range of sizes with progressively larger drives and gearboxes delivering up to 8,000 ft-lbs of torque.

The **jGun DIGITAL** Tool is the first pneumatic torque tool with digital display. The tool has a pressure sensor that measures the applied air pressure. During calibration the relationship between pressure and torque is established and stored in tool memory. The torque is set by adjusting the pressure regulator until the desired torque value is displayed on the digital display. The regulator has a locking mechanism that allows it to be locked so that it cannot be inadvertently moved until the next torque adjustment. The directional switch allows the tool to be set to tighten or loosen. The directional switch is spring loaded and requires a second hand to push the switch in the desired direction, to ensure the hand is kept free of dangerous reaction points. After reaching the specified torque value, the **jGun DIGITAL** tool automatically stops, leaving the fastener tightened to specification. The digital display is powered by a rechargeable battery that is charged through the USB port.

The **jGun DIGITAL** Tool is equipped with a standard square drive that can accommodate conventional sockets as well as drivers designed for the HYTORC Reaction Washer and HYTORC Nut.



- Inspect all components supplied with the tool.
- If damaged, report any sign of damage and do not use the tool.
- Inspect the tool before each use; repair or replace any obviously worn or damaged parts.
- When not in use store all tool components in the plastic storage case.
- Save all instructions and calibration reports in the storage case.
- Dispose of the tool in an environmentally friendly manner through the manufacturer.

### Contents Include:

- **jGun DIGITAL** Pneumatic Torque Tool
- Reaction Arm
- USB Cable (part no. K000809)
- AC/DC Wall Mount Adapter (part no. K000735)
- Operations Manual
- Calibration Document

## 5. CHARGING THE BATTERY



The Power Adapter and USB cable (shown above) are supplied with the tool. The digital display and electronic circuit are powered by a Lithium-Ion rechargeable battery. The battery charge indicator is in the lower right corner of the display (shown above). When the charge drops the tool is easily recharged with the USB cable provided. To charge the battery plug the USB cable into the tool and the opposite end into the local power supply with the appropriate plug adapter. The tool will be fully charged in less than an hour as indicated by three bars.

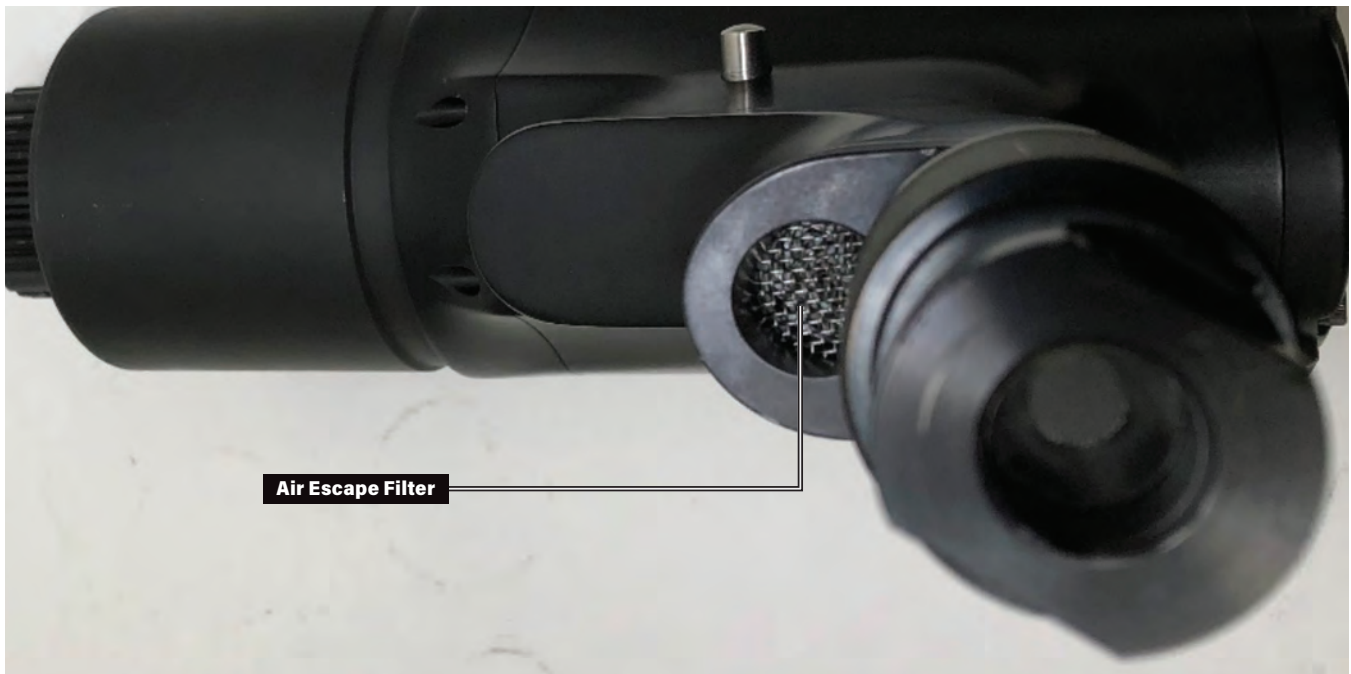
### AIR INTAKE



Air Intake Filter

A steady, unobstructed flow of air is critical for proper performance of the jGun DIGITAL Tool. The filter in the regulator intake should be cleaned frequently. In heavy use applications this filter may need to be cleaned every day. Apply forced air to unclog and clean the filter for most applications.

### AIR ESCAPE



Air Escape Filter

It may also be necessary to clean the larger mesh air escape filters. Inspect and clean filters as needed.



### VERIFY AIR SUPPLY REQUIREMENTS

- The air supply line must be ½-inch minimum diameter to allow adequate air flow.
- The air supply must provide a minimum of 90 psi at 50 cfm.
- Ensure that the air-line fittings are tight and leak free. Do not over tighten air-line fittings.
- Maximum air pressure is 100psi.
- Maximum hose length is 100 feet.



### CONNECT TOOL

- Connect the tool to the air supply with high quality fittings and best practices for ensuring there are no leaks in the air system.
- Open the air supply to the tool and ensure there are no leaks in the system.





Push the center button on the rear control panel to turn the tool on. Push and hold the center button to power the tool off.



The torque value is shown on the digital display. The torque can be increased and decreased by turning the pressure regulator.

The locking collar on the regulator is designed to keep air pressure and torque constant during operation. The locking collar is actuated with a simple push-pull. To adjust the torque first unlock the regulator, make the desired adjustment, then lock the regulator in place again. Once the desired torque is selected slide the locking collar in place to lock the air regulator so it cannot turn. The locking collar on the regulator is intended to keep the air pressure and torque constant at the specified level during operations. This locking collar is actuated with a simple push-pull on the collar. To adjust the torque the operator unlocks the regulator, makes the adjustment to a new torque value, and then locks the regulator in place again.



The torque value is shown on the digital display. Press the right button to toggle between units of ft-lbs (pictured above left), and Nm (pictured above right).





Once the trigger is pulled, the tool freezes the screen and displays the target torque applied. This screen freeze remains in effect until released. To release (un-freeze) the screen press and hold the left button for 3 seconds until the screen flashes once, then adjust the regulator (at least +/- 10% of the previous value). This screen freeze occurs for both tightening and loosening operations.



### WARNING

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

The tool is easily configured for conventional torque by installing sockets and reaction arms.

### INSTALL REACTION ARM

- Slide the reaction arm over the drive while aligning the screw with the flat 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

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Prior to applying torque, position a back-up wrench to prevent the back nut from turning during tightening.

## CONVENTIONAL TORQUE TIGHTENING

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- Power on the tool.
- Adjust the settings for Torque by adjusting the pressure regulator until the desired torque is displayed on the screen and lock the regulator in place.
- Place the socket on the nut, making sure to fully engage the nut.
- Pull and hold the trigger and simultaneously press the directional control button for the desired direction.

**NOTE:** The directional control button is spring loaded as a safety feature to force the operator to push the button with the second hand, to ensure hands are kept clear of pinch points.

- The reaction arm will begin to move.
- Make sure the reaction arm is braced against a firm surface and keep hands clear.
- The torque value on the screen will freeze at the specified torque.
- Continue holding the trigger until the tool stalls at the desired torque.
- Remove the tool socket from the nut.
- In some cases the tool may lock onto the nut. If this happens set the tool to loosen and jog the trigger to release the tool from the application.

**NOTE:** The torque value is displayed at the specified value until the left button is pressed for 3s and the pressure is changed by more than +/- 10%.

## CONVENTIONAL TORQUE LOOSENING



- Install a back wrench to keep the back nut from turning.
- The tool provides a breakout capability up to the maximum force of the tool.
- Adjust the torque to the desired loosen value.
- Place the socket on the nut.
- Pull the trigger and simultaneously press the directional switch to toggle to the loosen mode.
- 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.
- Continue holding the trigger until the nut can be loosened by hand.
- Remove the tool driver from the nut.



### INSTALL HYTORC WASHER DRIVER



- The tool is easily configured for tightening bolts where the HYTORC Reaction 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.
- For longer term use it is recommended to pin the drive to the square drive.
- Challenge the driver to make sure it is securely attached.

## TIGHTENING AND LOOSENING WITH THE HYTORC WASHER DRIVER



### TIGHTENING INSTRUCTIONS

- Power on the tool.
- 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.
- Release the trigger after the tool has completed all specified operations.
- Remove the tool socket from the nut.
- In some cases the tool may lock onto the nut. If this happens set the tool to loosen mode and jog the trigger to free the tool from the application.

### LOOSENING INSTRUCTIONS

- The tool can be set in reverse providing a powerful breakout capability.
- Adjust the torque to the desired value for loosening.
- Position the driver over the nut and HYTORC reaction washer.
- Pull the trigger and simultaneously push the direction switch to toggle to the loosen mode.
- Continue to hold the trigger until the nut is loose.
- Remove the tool driver from the nut.

### INSTALLING THE HYTORC NUT DRIVER



- 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.
- For longer term use it is recommended to pin the driver to the square drive.
- 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).

- Position the tool over the nut.
- Pull the trigger to apply torque until the tool stalls at the specified torque.
- Release the trigger after the tool has completed all specified operations.
- Remove the tool driver from the nut.
- Should the tool lock onto the nut set the tool to loosen and jog the trigger to free the tool from the application.

### LOOSENING THE HYTORC NUT

- Adjust the torque to the desired value for loosening.
- Position the driver over the HYTORC Nut.
- Pull the trigger and simultaneously hold the directional control switch to loosen.
- Continue to hold the trigger until the nut is loosened.
- Remove the tool driver from the nut.



### WARNING

Always shut off air supply, drain hose of pressure and disconnect tool from air supply before changing accessories or performing maintenance.

### MAINTENANCE

Regularly inspect the tool, components and hoses for cracks, thermal stress or damage to ensure tool is operating safely and efficiently. Repair or replace components as necessary. Maintenance must be performed by a qualified technician. Modifying any of the components invalidates the warranty.

- Inspect the regulator filter; use forced air to clean, if necessary.
- Check the regulator and all couplers and fittings for leaks or damage.
- Check that the locking collar travels smoothly and ensure that it secures the pressure regulator when locked.
- Connect tool to air supply. Power on the tool and adjust the pressure regulator to ensure the displayed torque value adjusts to pressure increases/decreases.
- Inspect square drive retaining ring for proper engagement.
- Inspect all components and housings for loose screws, cracks, thermal stress or damage; ensure gearbox is properly lubricated.
- Inspect reaction arm, splines, and set screw for damage.
- Check that the directional switch and trigger travel smoothly.
- Check rear cover gasket for leaks.
- The gearbox should be cleaned and lubricated regularly, especially if the tool is in use daily and/or in a harsh environment and/or predominantly at the maximum rated load.
- A thorough inspection of the tool, including all geartrain components, should be performed every five years to ensure the tool meets performance requirements and is safe to operate.
- For more information refer to HYTORC Tool Maintenance Guidelines available at [library.hytorc.com](http://library.hytorc.com).

### CALIBRATION

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

- Check the certificate or label on the tool for the most recent calibration date.
- HYTORC recommends all tools be tested and recalibrated periodically. More frequent calibration may be appropriate depending on local practice, usage and conditions.
- Customer/user is responsible for arranging testing and recalibration.
- Contact **1-800-FOR-HYTORC** for assistance or further information.



**1/04/2019** - Updated file name.

**1/04/2019** - Chinese, French, Italian, Spanish, Portuguese, and Korean versions uploaded.

**8/22/2019** - EC Declaration - ISO 11148-6:2012, and EC Declaration - ISO 12100:2010(E) added.

**8/28/2019** - EC Declaration - ISO 11148-6:2012, and EC Declaration - ISO 12100:2010(E) removed.

General Safety Information updated. Some photos updated.

**9/03/2019** - Section 1.11. Additional Safety Instructions For Pneumatic Power Tools added.

**9/16/2019** - General Safety Information section updated.

**12/06/2019** - Universal functionality updates.

**03/17/2020** - Maintenance information on page 23 updated.

## **MISSION STATEMENT**

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**OUR MISSION IS TO OPTIMIZE SAFETY, QUALITY AND SCHEDULE IN INDUSTRIAL BOLTING THROUGH INNOVATIVE SOLUTIONS AND AN UNYIELDING COMMITMENT TO WORLD CLASS CUSTOMER SERVICE.**

**WITH OVER 50 YEARS OF EXPERIENCE FOCUSED ENTIRELY ON DEVELOPING THE HIGHEST QUALITY INDUSTRIAL BOLTING SYSTEMS, HYTORC IS THE MOST TRUSTED NAME IN THE INDUSTRY.**



# HYTORC WORLD HEADQUARTERS

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THE HYTORC UNIVERSE IS MADE UP OF  
OVER 1,000 TRAINED BOLTING SPECIALISTS  
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