



ESB6-RA30/45/60 Right-Angle Nutrunner Operation Manual

CAUTION — Please read, understand, and follow all operating and safety instructions in this manual before using a ESB6-RA nutrunner.

If you have any questions or concerns, please contact us at:

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Warning — Failure to understand and follow proper installation guidelines, safety requirements, and operating instructions may result in malfunction, component damage, property damage, shock hazard, fire hazard, injury or death.

- Please read and understand the operation manual and follow all safety and operation instructions.
- Keep the work area clean and well lit to reduce risk of accidental injury.
- Use these products in a suitable dry, indoor location. Do not use the tools, batteries, and/or battery chargers in damp, wet, or high temperature environments. Do not use in the presence of flammable liquids or gasses.
- Do not expose the tools, batteries, and/or battery chargers to areas subject to airborne contaminants (eg. dust, metal filings). Ensure that the battery charger has proper ventilation.
- Do not operate the tool with the torque adjustment cover open on with the torque adjustment key inside.
- Do not expose the tool, battery, or battery charger to oil, chemicals, or heat. Ensure that battery charger's power cord is routed and used in such a manner as to not be subject to sharp objects that may abrade or cut the cable.
- Keep others at a distance when operating unless they have been assigned to help in a particular operation.
- Remain alert when operating the device. Do not operate if you are tired or under the influence of drugs or alcohol.
- Store the device in a safe place when it is not in use.
- Do not overload the device or use it in applications that it was not intended for, such as drilling or tapping. The device is not recommended to use for loading force onto materials such as wood.
- Do not wear loose clothing or jewelry when operating the device.
- Always hold the device firmly with both hands before pressing the trigger.
- Make sure that the device and its battery are in operable condition, and have any damaged parts repaired by an authorized source. Keep the tool clean and replace the grease in the gearbox annually to prevent damage.
- Excessive duty cycle will cause the tool to overheat. If this occurs, discontinue use until cooled down and reduce cycle rate. As a general rule, do not exceed 10–15 fasteners/minute.
- Disconnect the battery from the device when it is not in use.
- Only use accessories detailed in these operating instructions with the device. Use of unauthorized accessories can increase the risk of personal injury to the operator.
- The device does not account for elastic or tensile load when washers are involved in the fastening process.
- Do not attempt to disassemble or repair the nutrunner, battery, or battery charger. Repairs should only be performed by qualified technicians properly trained in the safe operation, troubleshooting, and repair of these devices. Please consult Delta Regis for the location of the nearest service center.
- Use only a properly grounded electrical outlet of the correct supply voltage to power the battery charger. Ensure that the supply outlet is overload protected and of sufficient amperage capacity.
- Use only the correct plug for the battery charger. Hold the plug of the power cord when connecting or disconnecting. Do not pull on the cable.
- Unplug the battery charger if it is not being used on a regular basis.
- Locate the battery charger in a suitable, safe location on a steady surface. Do not place in a high location where there may be a risk of it falling. Secure the battery charger in position to prevent possible movement caused by pulling on the power cord.
- Do not cover the battery charger or stack any objects on top of or near the battery charger. Ensure that adequate clearance and ventilation is provided around the perimeter of the battery charger.
- In the event that the battery charger is overloaded beyond the maximum current rating, an internal fuse will disrupt power. Should the battery charger stop functioning, or exhibit abnormal or intermittent operation, discontinue use immediately and send the battery charger to an authorized service center for troubleshooting and repair.
- Use only the factory specified Delta Regis brand replacement parts and accessories with these tools.
- And damage to the tool, battery, and/or battery charger resulting from misuse, abuse, or failure to follow these guidelines will void the limited product warranty.

Grounding — The battery charger is equipped with a 3-prong electrical receptacle/plug with ground pin. The charger must be connected to a properly grounded AC electrical outlet. Do not attempt to use this charger without a properly functioning ground connection. Never connect a live circuit to the ground pin or internal yellow-green ground wire.



Read Manual



Caution



Recyclable



Indoor Use Only



Keep Away From Humidity



Keep Away From Fire



Do Not Disassemble



Do Not Dispose

Contents

- Right-angle nutrunner (1)
- Accessory kit (1)
 - Torque ID rings (3)
 - Torque adjustment key (1)
 - Suspension ring (1)
 - Waist hook (1)
- Operation manual (1)

Specifications

Right-Angle Nutrunner				
Model		ESB6-RA30	ESB-RA45	ESB6-RA60
Input Voltage		18 VDC		
Torque (Nm)		12-30	15-45	20-60
Torque Accuracy		±5%		
Torque Adjustment		Internal Adjustment		
Duty Cycle		1.0s ON 4.0s OFF		
Unloaded Speed (RPM ±10%)	HI	420	200	
	LO	270	130	
Weight (kg, w/o battery)		1.9 kg	2.85 kg	
Dimensions (L x H w/o battery)		460 mm x 90 mm	530 mm x 122 mm	
Applicable Battery		ESB-18VL1950C	ESB-18VL3900	
Applicable Battery Charging Station		ESB-CHG80/1950C	ESB-CHG120, ESB-CHG80	
Output Shaft Type		3/8" Square	1/2" Square	

Protection Functions

- Over-current protection
- Temperature protection
- Battery ID recognition
- Low power prevention
- Stall protection
- Sleep mode

Tool Overview



Quick Set-Up and Operation Overview

1. Fully charge the battery using the battery charger before first use to achieve maximum fastening cycles.
2. Ensure that the screwdriver's FWD/REV switch is 'OFF' (central position).
3. Install a power socket onto the tool's square drive.
4. Switch the FWD/REV switch to the appropriate direction. Select the desired speed (Hi/Lo) via the switch on the top of the screwdriver.
5. Securely grip the screwdriver so that the index finger on the dominant hand is comfortably over the trigger mechanism, and the non-dominant hand is supporting the front of the tool.
6. Align the socket properly over the head of the fastener. Keeping the driver in-line with the fastener, pull and hold the start trigger — the screwdriver will install the fastener (FWD). When the preset torque is reached, the clutch will activate and the tool will shut-off. Once the tool shuts off, release the trigger to reset. To stop the screwdriver before the fastening is complete, release the start trigger.
7. To remove a fastener, change the FWD/REV switch to the REV position. Pull the start trigger to run the driver in reverse (CCW). Do not change the position of the FWD/REV switch while the tool is running.



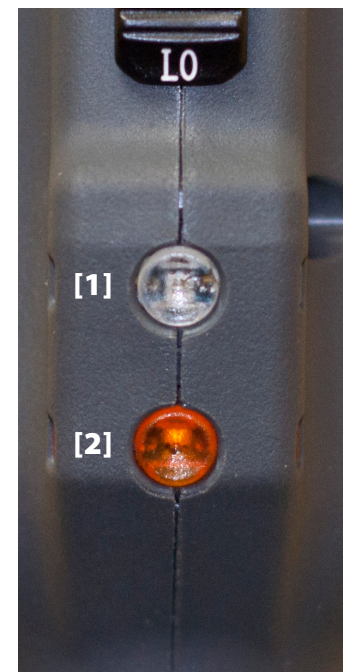
Indicators

Rundown Status Indicator [1]

When the driver reaches the set torque and clutches out it will emit a short beep and the green rundown LED will flash once indicating an OK rundown. If the driver does not clutch out before the operator releases the trigger the driver will emit a long beep and the red rundown LED will flash once indicating a NG rundown.

Battery Status Indicator [2]

The ESB6 Series Cordless Screwdrivers are programmed to avoid poor performance if the battery charge gets too low. When the available battery power reaches 20%, the tool will continue to function and the red battery LED will flash accompanied by several short beeps. When the battery reaches 10% charge, the red battery LED will illuminate for a few seconds accompanied by several beeps. The driver will stop functioning. At this point remove and replace the discharged battery with a fully charged battery to continue production.

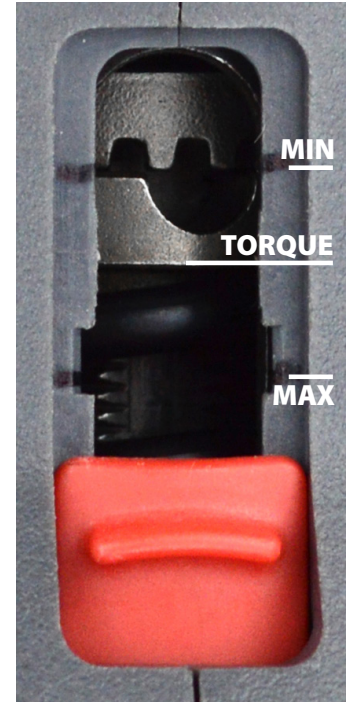


Torque Adjustment

1. Remove the battery from the unit or lock the trigger with the Forward/Reverse switch to prevent the tool from starting up accidentally.
2. Slide the torque safety cover open. Rotate the shaft until a semicircular notch becomes visible and insert the chuck key.
3. Turn the key clockwise to increase the torque or counterclockwise to decrease the torque. The black lines under the safety cover of the tool indicate the maximum and minimum torque positions relative to the bottom of the torque adjustment mechanism (line marked 'TORQUE' at right).
4. Remove the chuck key and close the cover.

We recommend the use of an appropriate torque tester and static joint testing after adjustment to verify proper torque settings. Make adjustments through a series of gradual increases, starting below the desired torque and working upwards. Once the desired torque setting is achieved, you may install a colored ring to indicate torque. This will help visually identify low, medium and high torque settings.

The output torque of the screwdriver should be verified at regular intervals. The frequency of verification will depend on the individual user's quality control requirements. There may be an initial drop in output torque during the break-in period of the screwdriver.



Angle Head Adjustment

1. Loosen the large nut around the head of the tool [1]. The nut has a left-handed thread, so it will loosen when rotated clockwise. Three full rotations will be enough — The head does not need to be removed completely.
2. Turn the head to face the desired direction. It can be locked into angles in 45° increments. [2]
3. Tighten the nut back up by spinning it counterclockwise. Make sure that it has been completely tightened before using the tool.



Parts and Accessories

If you require parts or accessories for your Delta Regis product, please refer to our website or contact us for further information.

Service

This device is not user serviceable. Any repairs must be performed by a Delta Regis authorized service center. Please consult Delta Regis Tools for further information and the location of the nearest authorized service center. Repairs to this device must be performed by trained personnel, knowledgeable and qualified in the repair of such devices. Use only genuine Delta Regis parts when servicing these products. **Do not attempt to modify the tools, batteries, or battery chargers.**

Warranty

The ESB6 Series cordless tools, batteries, and battery chargers are warranted for one year from the date of purchase against defects in material and workmanship. In addition, the brushless motor in the ESB6 Series cordless tool is warranted for three years from the date of purchase against defects in material and workmanship. This warranty does not cover damage due to transportation, abuse, misuse, or improper service. Our sole remedy is to repair or replace (at our discretion) any unit found to be defective due to defects in material or workmanship. It is the responsibility of the user to return any product thought to be defective, freight prepaid, to our warehouse for inspection and evaluation.

There is no warranty of merchantability or fitness of purpose. In no event will Delta Regis Tools, Inc. be liable for business interruptions, loss of profits, harm, injury, damage, personal injury, cost of delay, or any other special, indirect, incidental, or consequential losses, costs, or damages.