

## B-RAD SELECT BL BATTERY SERIES

70 - 7.000 Nm



**User manual for  
B-RAD SELECT BL:**

- B-RAD 275
- B-RAD 700
- B-RAD 1400
- B-RAD 1400-2
- B-RAD 2000
- B-RAD 2000-2
- B-RAD 4000
- B-RAD 4000-2
- B-RAD 7000

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Figure 1



## 1. General instructions



**NOTE:** Do not operate the tool before reading these instructions. If breakdown, malfunction or damage occurs, do not attempt to repair, please contact RAD Torque Systems B.V. immediately.

RAD battery torque wrenches are reversible, non-impacting, torque controlled tightening tools and must always be operated with the following:

- Fully charged battery.
- Impact sockets with locking pin and o-ring.
- Proper reaction arm with retaining ring.



**NOTE:** These torque wrenches contain metal components that can be dangerous in hazardous areas.

## 2. Assembly

1. Make sure the battery is fully charged.
2. Slide in the battery pack until it engages.
3. Fasten and secure the reaction arm on the jagged side of the gearbox with the retaining ring.

Figure 2

### B-RAD SELECT torque wrench



### 3. Setting torque

#### 3.1. Setting direction of rotation

Only operate the rotational direction switch and transportation switch when the motor is at standstill, see Figure 3.

Right setting	=	Tightening
Left setting	=	Loosening
Central setting	=	Transportation position

Figure 3



**NOTE:** In case a higher accuracy, more precise torque settings and presets are required, we advise to select one of the Digital Battery Serie models.

When the tool is in operation the reaction arm rotates in the opposite direction to the output square drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened.

#### 3.2. Operating the torque wrench

1. Use only suitable and proper impact sockets.
2. The handle can be rotated.
3. Make sure that there is no movement between the tool and the reaction arm.
4. The reaction arm placed against a solid reaction point before the trigger is pulled.  
This prevents movement of reaction arm.
5. The trigger should be pressed until the torque wrench stops automatically.

#### 3.3. LED Display Module

The LED Display and the Buttons are the interface for the B-RAD Select (See Figure 3). The LED Display has 4 digits that display torque values and menu options. The (plus, increase) and (minus, decrease) buttons are used to modify numbers and navigate the various menus in the module. The interface is described in detail in Section 3 – Interface and Settings.

To turn on the LED Display, attach the RAD Li-Ion Battery to the B-RAD Select handle and press the Trigger Switch momentarily. The Display will light a small LED indicator near each button when a button is being pushed or held down. The Display will dim after 15 seconds of inactivity. Lightly pull the trigger or press a button to brighten the display.

The display will turn off after 30 seconds. To turn it back on, lightly pull the trigger.

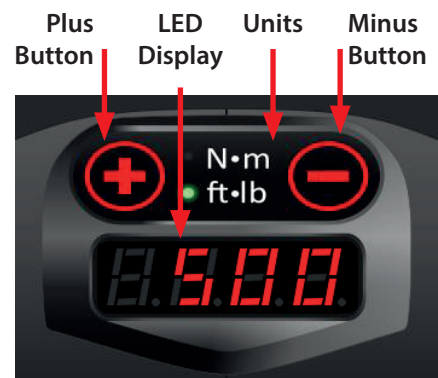


Figure 3: LED Display



**CAUTION!** The LED Display Module may be damaged by mechanical shock, electrostatic discharge, excessive force, moisture, or extreme temperatures. Avoid such conditions and gently wipe clean or let dry before use.



### 3.4. Changing Torque



**WARNING:** Keep your hand and body parts clear of the reaction arm and barrel when the tool is in operation.

When the B-RAD Select is powered on, the LED Display will start in Torque Select Mode (Figure 3A). Note: If the tool has just been calibrated, the LED Display will show the tool's rated minimum torque. When N·m (metric) units are used, the "N·m" indicator will light on the keypad. When ft·lb (imperial) units are used, the "ft·lb" indicator will light. (Refer to Section 3.7 – Change the Torque Units)

Figure 3A



### 3.5. To change the torque value:

1. Press and hold a button until a digit starts blinking. The - (minus) button starts the left-most digit blinking. If you press and hold the - button again, the selected digit moves to the right. The opposite happens with the + (plus) button.
2. Press the + or - button quickly to change the digits by one unit at a time. Other digits may be selected (see Step 1) to fine-tune the torque setting.
3. The selected torque value will be saved and ready after 5 seconds. Alternatively, press and hold a button until the digit stops flashing. The display will blink, indicating that the value is saved. The torque value will be saved even when the battery is removed.

### 3.6. Information Menu

The Information Menu allows you to change torque units, view the battery voltage, change LED brightness, enter an unlock code, and view the program version. The menu items are described below.

#### To enter the Information Menu:

- While in Torque Select mode, hold the + button - and momentarily press the button.
- To move to the next item, hold the + button and press the - button. To go to a previous menu item, hold the - button and press the + button.
- To exit the menu, hold both buttons until the Torque Value is displayed. If an unlock code was entered, the locked or unlock mode will be displayed on the LEDs before the menu exits.

### 3.7. Change the Torque Units

- Press a button to toggle between f (foot-pounds) and n (newtonmetres) as shown in Figures 3C and 3D
- To exit the Unit Select menu, press and hold both buttons.

Figures 3C



Figures 3D



### 3.8. Table Mode:

The torque may be set in discrete levels from 1 to 50 over the calibrated range instead of using torque units. Setting 1 is the minimum calibrated torque, setting 50 is the maximum calibrated torque, and the points in between are evenly spaced over the tool's range. Contact RAD torque systems B.V. to activate this mode.

- The N·m indicator lights when N·m units are used (Figure 3E), and the ft·lb indicator lights when ft·lb units are used (Figure 3F).

**Note:** When the units are changed, the torque setting will be converted into the new units.

### 3.9. View the Battery Voltage

- Move to the next menu item: "batt." The battery voltage is shown (Figures 3G and 3H).
- When the battery voltage gets too low, the message "Lo-b" will flash on any screen to warn you that the battery needs charging.

### 3.10. Enter a Lock or Unlock Code

- Move to the next menu item: "Lock." The flashing line indicators on the screen keep track of the number of button presses used to enter a code (Figures 3I and 3J).
- Enter a code using the + and - buttons. The desired code will depend on which features are needed.
- Navigate forward or press and hold both buttons to accept the code and close the menu. The new Unlock level will scroll across the screen.

Figures 3E



Figures 3F



Figures 3G



Figures 3H



Figures 3I



Figures 3J



## 4. Battery

- Warning!** Before initial use, check that the voltage and frequency stated on the charger's rating plate match the figures for your own electrical supply.
- Warning!** Unplug charger immediately if the cable or charger is damaged. Unplug immediately if any sign of smoke or flames.
- Warning!** To reduce risk of injury, charge only rechargeable RAD batteries, other types of batteries may burst causing personal injury and damage.
- Warning!** Do not submit the casing to impact or drill into the casing. Do not throw battery packs or charger in fire or immerse in water. Keep battery packs dry. Do not use any damaged or deformed battery packs.
- Warning!** RAD chargers should only be operated between 0-49 degrees Celsius. Keep away from moisture.
- Warning!** Slightly acidic, flammable fluid may leak from defective Li-ion battery packs. If battery fluid leaks out and comes into contact with your skin, rinse immediately with plenty of water. If battery fluid leaks and comes into contact with your eyes, wash them with clean water and seek medical treatment immediately.

Lithium-ion battery chargers are to be used exclusively for charging RAD 18V Lithium-ion battery packs with the maximum capacity of 5.2AH.



**Note:** To prevent the battery from draining, always remove battery from tool before storage.

### 4.1. Battery pack faults

#### Warning indicator stays on

The battery pack is not being charged. The temperature is too high or too low. If the temperature of the battery pack is between 0 - 49 degrees Celsius, the charging process begins automatically.

#### Warning indicator flashes on

The battery pack is defective, remove from charger immediately.

The battery fails to charge, contacts may be dirty. Remove the battery pack, clean the contacts and replace the charger.



**Note:** In the case of prolonged activity of electromagnetic disturbances, the battery charger ends the charging process prematurely for safety reasons. Remove the plug and plug in again after 2 seconds.

#### Warning beep

In the case of overheating, the battery will give a loud beep tone. The Lithium-ion battery should be disconnected immediately to cool down. The Lithium-ion battery can be used again once it is cooled down.

Figure 8A

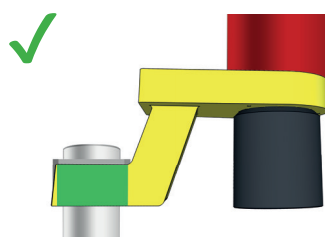


Figure 8B

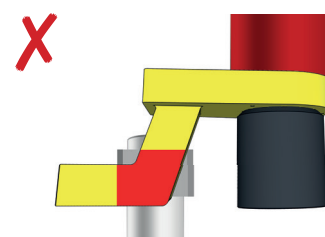
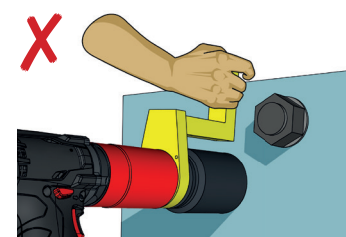


Figure 8C



## 5. Battery charger

Before initial use, check that the voltage and frequency stated on the rating plate match your own electrical supply and check that the ventilation slits are clear. Minimum clearance from other objects is 5 centimeters.

1. Connect to electrical supply, the red and green indicator lights up for approximately 1 second.
2. Once the self test is completed, the indicator lights are off.
3. Insert the battery pack into the charging shaft socket; push it to the back until it engages.
4. Charge the battery pack before use. Only once it has been charged and discharged five charging cycles does the battery pack reach its full charging capacity. You may store charged Lithium-ion battery packs and recharge them after an interval of no more than six months.

### 5.1. Removing and inserting the battery pack

Removal: Press and hold the release button and remove the battery pack.

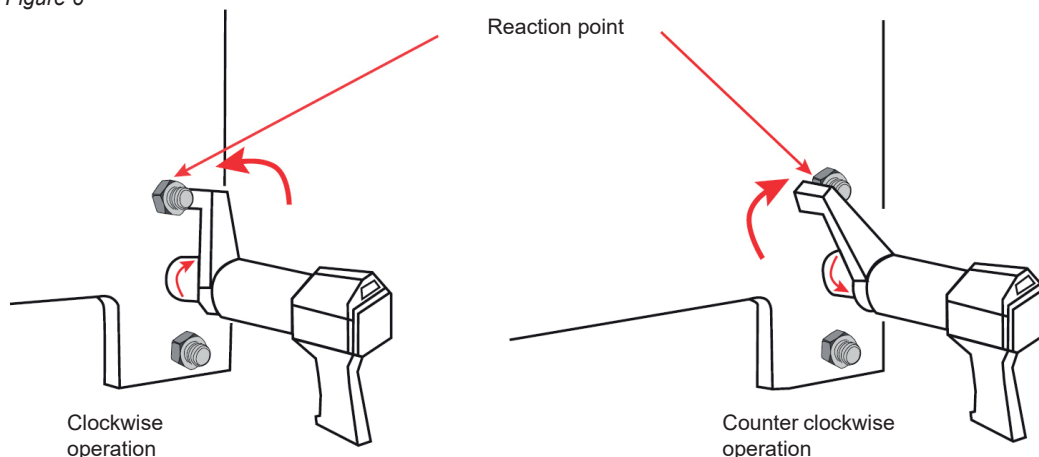
Inserting: Slide in the battery pack until it engages.

## 6. Movement of the reaction arm

### 6.1. Installing the reaction arm

Ensure the reaction arm and retaining ring are installed securely to hold the reaction arm in place. Make sure the reaction arm is in contact with a solid reaction point before you operate the tool. When the tool is in operation the reaction arm rotates in the opposite direction to the output square drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened, see Figure 6.

Figure 6



**WARNING:** While in use, this tool must be supported at all times in order to prevent unexpected release in the event of a fastener or component failure!

### 6.2. Reaction arm height

Ensure the height of the socket is even with the height of the reaction arm as seen below in Figure 6A. The height of the socket cannot be shorter or higher than the height of the reaction arm as seen below in Figure 6B and Figure 6C.

Figure 6A

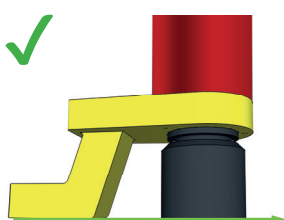


Figure 6B

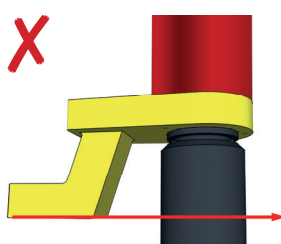
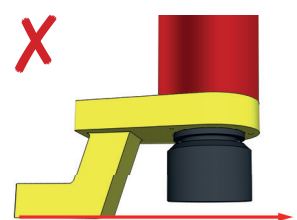


Figure 6C







**NOTE:** Improper reaction will void warranty and can cause premature tool failure.

### 6.3. Reaction arm foot

Ensure the foot of the reaction arm aligns with the length of the nut as seen in Figure 7A. The length of the foot cannot be shorter or longer than the nut as seen in Figure 7B and Figure 7C.

Figure 7A

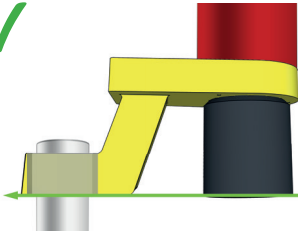


Figure 7B

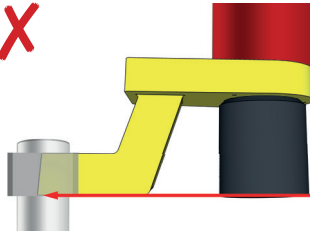
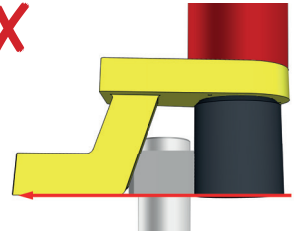


Figure 7C



### 6.4. Reaction point

Ensure the reaction arm reacts off the middle of the foot as seen in Figure 8A. Do not react off the heel of the reaction foot as seen in Figure 8B.

Please contact RAD Torque Systems B.V. or your local RAD authorized distributor for custom reaction arms.



**WARNING:** Always keep your hand and body parts clear of the reaction arm and barrel when the tool is in operation, see Figure 8C.

Figure 8A

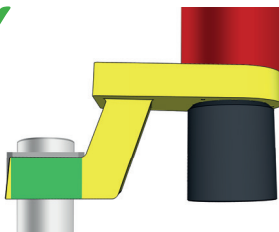


Figure 8B

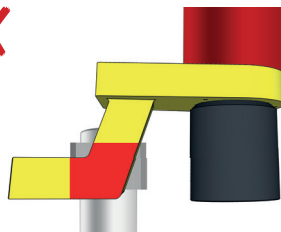
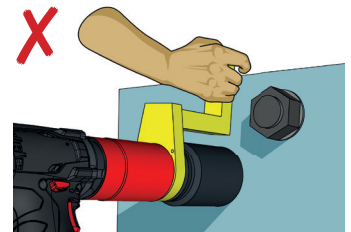


Figure 8C



**Note:** FOR ADDED SAFETY, WE ADVISE TO ORDER THE OPTIONAL THE DOUBLE SAFETY TRIGGER WITH PART NO: 25949. THIS REDUCES FINGER PINCHING HAZARDS.



## 7. Safety

RAD tools are developed for tightening and loosening threaded fasteners using very high forces. For your safety and that of others, warning labels and attention labels are prominently attached to the torque wrench and its accessories.



**NOTE:** Make sure you observe the directions on the warning labels at all times.

RAD tools have been designed with safety in mind however, as with all tools you must observe all general workshop safety practices, and specifically the following:

- Before using your new tool, get familiar with all its accessories and how they work
- Always wear safety goggles when the tool is in operation
- Make sure the reaction arm is in contact with a solid contact point before you operate the tool
- Keep your body parts clear of the reaction arm and the contact point
- Make sure the reaction arm retaining ring is securely in place to hold the reaction arm or blank in place.

RAD tools are safe and reliable. Not following precautions and instructions outlined here can result in injury to you and your fellow workers. RAD Torque Systems B.V. incorporated is not responsible for any such injury.

## 8. Warranty

### 8.8. New tool warranty

Any new tool branded with the RAD name and purchased from RAD Torque Systems B.V., or through one of its authorized distributors or agents, is warranted to the original purchaser against defects in materials and workmanship for a period of twelve (12) month from the date of delivery to the end user. This guarantee is valid until fifteen (15) months after the original calibration date.

Furthermore, the warranty conditions determine that no warranty applies if:

1. The defect, wholly or partly, is due to unusual, inappropriate, improper or careless use of the product;
2. The defect, wholly or partly, is due to normal wear and tear or lack of proper maintenance;
3. The defect, wholly or partly, is due to installation, assembly, modification and / or repair by the customer or by third parties;
4. The product is altered, modified, used or processed;
5. The product is transferred to a third party;
6. RAD Torque Systems B.V. has obtained the product, wholly or partly, from a third party, and RAD Torque Systems B.V. can not claim compensation under warranty;
7. RAD Torque Systems B.V. in manufacturing of the product raw materials, and suchlike has used those on the instructions of the customer;
8. The product has a small deviation in it's quality, finishing, size, composition and suchlike, which is not unusual in the industry or if the defect was technically unavoidable;
9. The customer has not fulfilled all obligations under the agreement promptly and correctly towards RAD Torque Systems B.V..

### 8.9. Repaired tool warranty

After the warranty has expired a three (3) month warranty applies to the original purchaser against defective in material or workmanship or both from the date of repair. To qualify for the above mentioned warranties, written notice to RAD Torque Systems B.V. must be given immediately upon discovery of such defect, at which time RAD Torque Systems B.V.. will issue an authorization to return the tool. Freight costs must be paid in advance. When returning a tool, the reaction arm/s being used with the tool must also be returned.

For the latest warranty terms, please see our sales conditions on our website [www.radtorque.eu](http://www.radtorque.eu).

## 9. Contact

### **RAD Torque Systems B.V.**

Zuidergracht 19  
3763 LS Soest

Phone: +31(0) 35-5882450  
Website: [www.radtorque.eu](http://www.radtorque.eu)



**MASTER DISTRIBUTOR FOR EUROPE, MIDDLE EAST  
AND NORTH AFRICA:**

**RAD TORQUE SYSTEMS B.V.**

ZUIDERGRACHT 19  
3763 LS SOEST  
THE NETHERLANDS

**PHONE.:** +31 (0)35 - 5882450

**E-MAIL:** INFO@RADTORQUE.NL  
SALES@RADTORQUE.NL  
TECHSUPPORT@RADTORQUE.NL

**[www.radtorque.eu](http://www.radtorque.eu)**

