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Overview

The DT2000 is designed to digitally control tightening force.

The torque sensor will monitor tightening force and control motor to get the required tightening force.

The QR code scanning module will directly read band application data and setup application parameters.

The UI shows tool operation information, and the user can manually input operation data.

The WIFI module will upload and download data between tool and application terminal.

The application terminal will manage tools and display tool status and operation data for easy management.

Based on customer application use, the user can use the tool with or without the QR scanner and WIFI function (just turn off these two functional modules).



Tool status information
Tool operation data

Tool basic information
Data (Optional)

Safety Guidelines

This manual should be used to help you understand the intent and operation of this tool prior to use.

This product manual contains detailed instructions for setting up the tool and safe operation.

Always wear safety glasses and appropriate gloves when operating this tool.

Keep hands away from tool and clamp while tightening bands.

Ensure fingers never enter the cutting zone.

Maintain the tool by following the scheduled preventative maintenance interval provided in this document.

Never use this product for anything other than its original intended purpose.

IMPORTANT: This tool was designed for use with BAND-IT 3/4", 5/8", and 1/2" coated and uncoated clamp, band, and BAND-FAST assemblies with banding .030" thick or less.

This tool has been tested by BAND-IT and meets the requirements of stability during use, storage conditions, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns providing that the proper safety precautions are observed.



DANGER—Misuse of this equipment may result in serious injury to personnel.

Only use the tool for its intended purpose, as described in this manual.

Do not operate tool with wet hands or let water splash into the tool.

It is the task of the employer to warn his or her staff of risks, to train them on prevention of accidents, and to provide necessary safety equipment and devices for the operator's safety.

The tool should only be operated by staff members who have read and understand the contents of this manual.

The tool is only intended to be operated under conditions as outlined in this document.

This tool is designed for BAND-IT product only. If it used to tighten alternate products, there are risks.

This hand-held electric tool is designed for standard installations which would involve tensioning intermittently. Do not continuously operate tensioning feature without pause. Continuous operation without pause could lead to high heat generate within the tool.

This tool's rated torque (worm output torque) is 2.5Nm. Stall torque (max. torque) is 15Nm. Do not used this tool at torques exceeding these ratings.

If you have any questions, please consult with BAND-IT.

Transportation, Storage

- Transportation** Avoid shocks and vibration.
If there is damage during transport, immediately check tool and inform your transport company.
If possible, ship in original packaging
- Storage** Store unit in a clean, dry place with air temperature between -4°F to 131°F (-20°C and +55°C)
- Tool batteries** For transportation safety, this tool will not come with batteries. Customers must purchase batteries separately. You can order batteries and a charger according to the following advice.

Operating conditions

Temperature ranges from 41°F to 104°F (5°C to 40°C).
Max relative humidity 80%

Correct illumination for safety of operator should adhere to ISO 8995-89.

Avoid using the tool near equipment with strong EMI /RFI emission.

Avoid using the tool near equipment susceptible to EMI / RFI interference.

Return tool to BAND-IT at end of life for proper recycling/disposal.

Operating requirements

Band and Buckle type

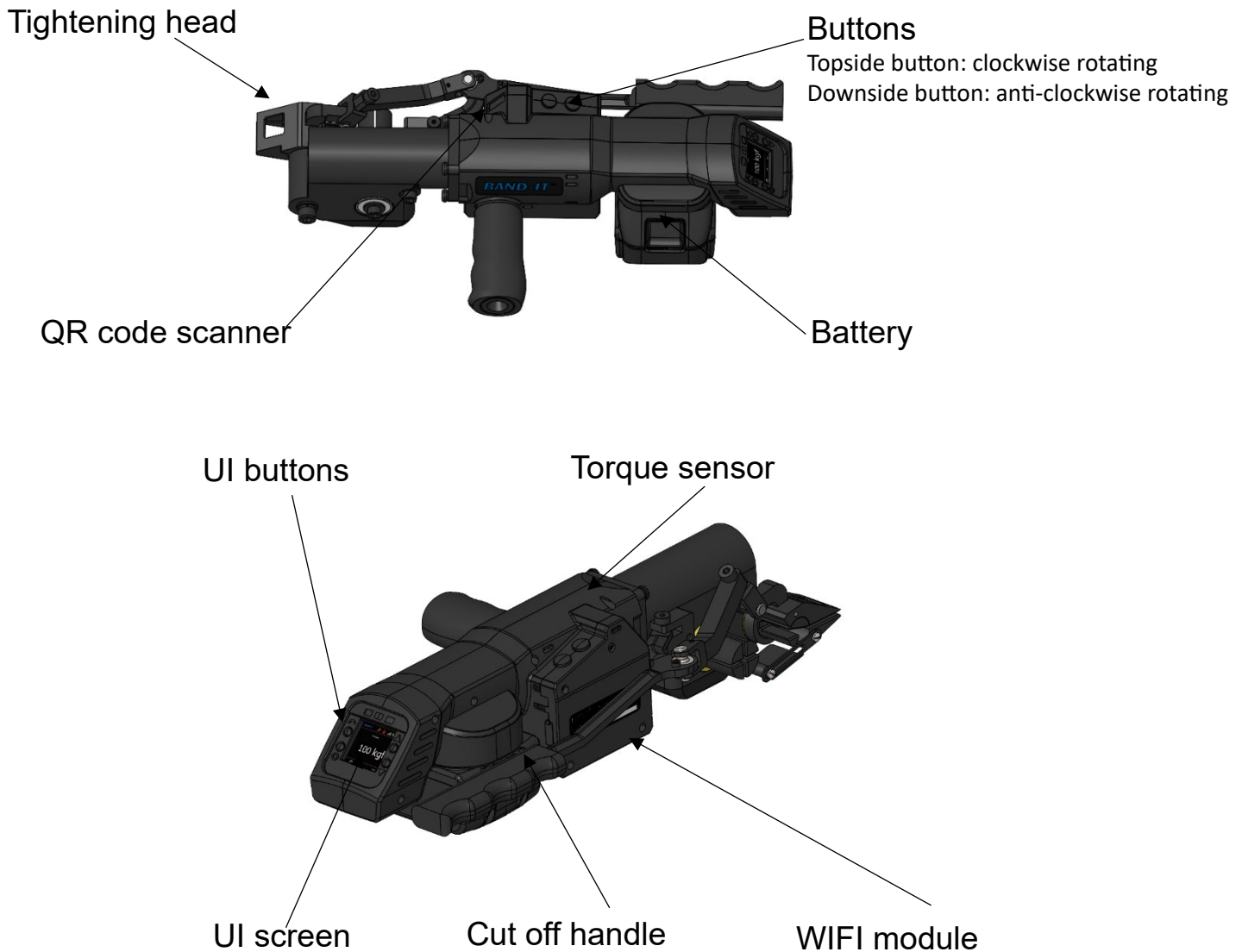
Can be used for BAND-FAST® & stainless steel banding less than or equal to .030" thickness, coated & uncoated.

Battery type

Battery type, Li-ion
Input voltage, AC110V~240V.
Output voltage, DC18V.
Advised capacity, 5Ah.
Connecting port type, **Makita** (see following picture)
Advised brand and type, **Makita BL1850B 5Ah.**
Advised battery quantity for one tool, 2 PCS.
Battery charger brand and type, **Makita DC18RC**

**BL1850B,
Makita****DC18RC,
Makita**

Component identification

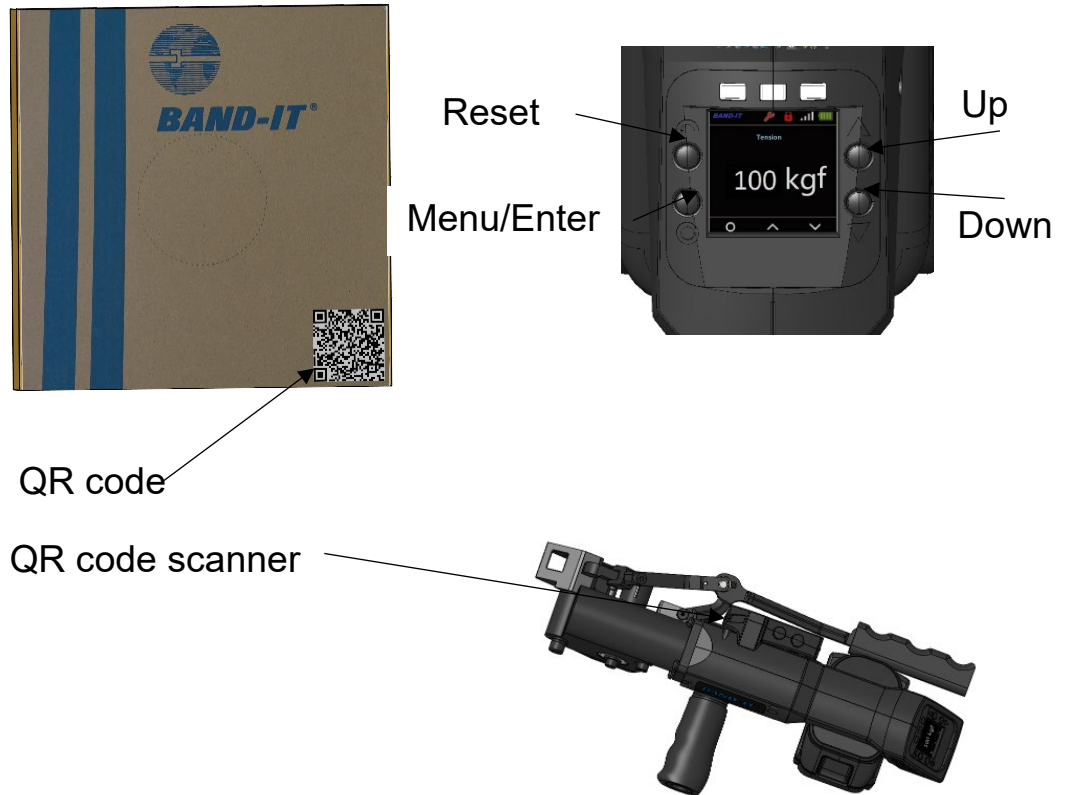


Tool basic information:

Size _ Tool with 5Ah battery	15.74 L x 7.75 W x 3.81 H (in)
Weight _ Tool without battery	6.6 lbs
Weight _ Tool with 5Ah battery	8.0 lbs
Weight _ 5Ah battery	1.4 lbs

Inputting parameters with QR code scanner

Overview



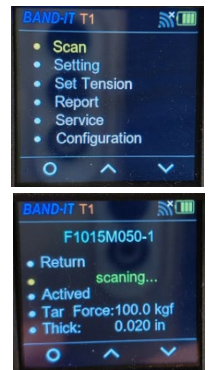
Steps

1. Press down **Menu/Enter button** until menu list loads.

2. Press down **Menu/Enter**, to active **Scan** menu.

3. Align the **QR code scanner** with the **QR code** to scan

- The suitable distance between scanning module and QR code is 50~200mm



4. After QR code scanning, the setting title will display band type information and display success

Note

To use the scan function, you can activate from two different menus.

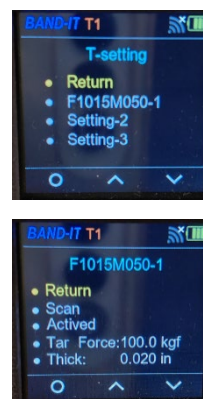
1st method, home page → scan

--Allows direct input of desired data into active settings.

2nd method, Set Tension → Setting-x → Scan

--From the **set tension** menu, you can save multiple settings for tension data for different bands. Operators can easily select saved band data without re-scanning every time.

--Toggle to switch settings between activated or not.



Input parameters with UI

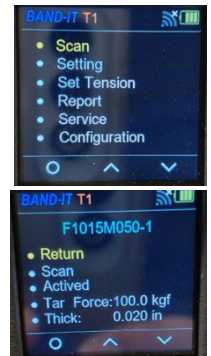
Overview



Steps

1. Press down **Menu/Enter** button until menu list loads.

2. Use **Menu/Enter**, **up** or **down** buttons, to access the **Setting** menu.

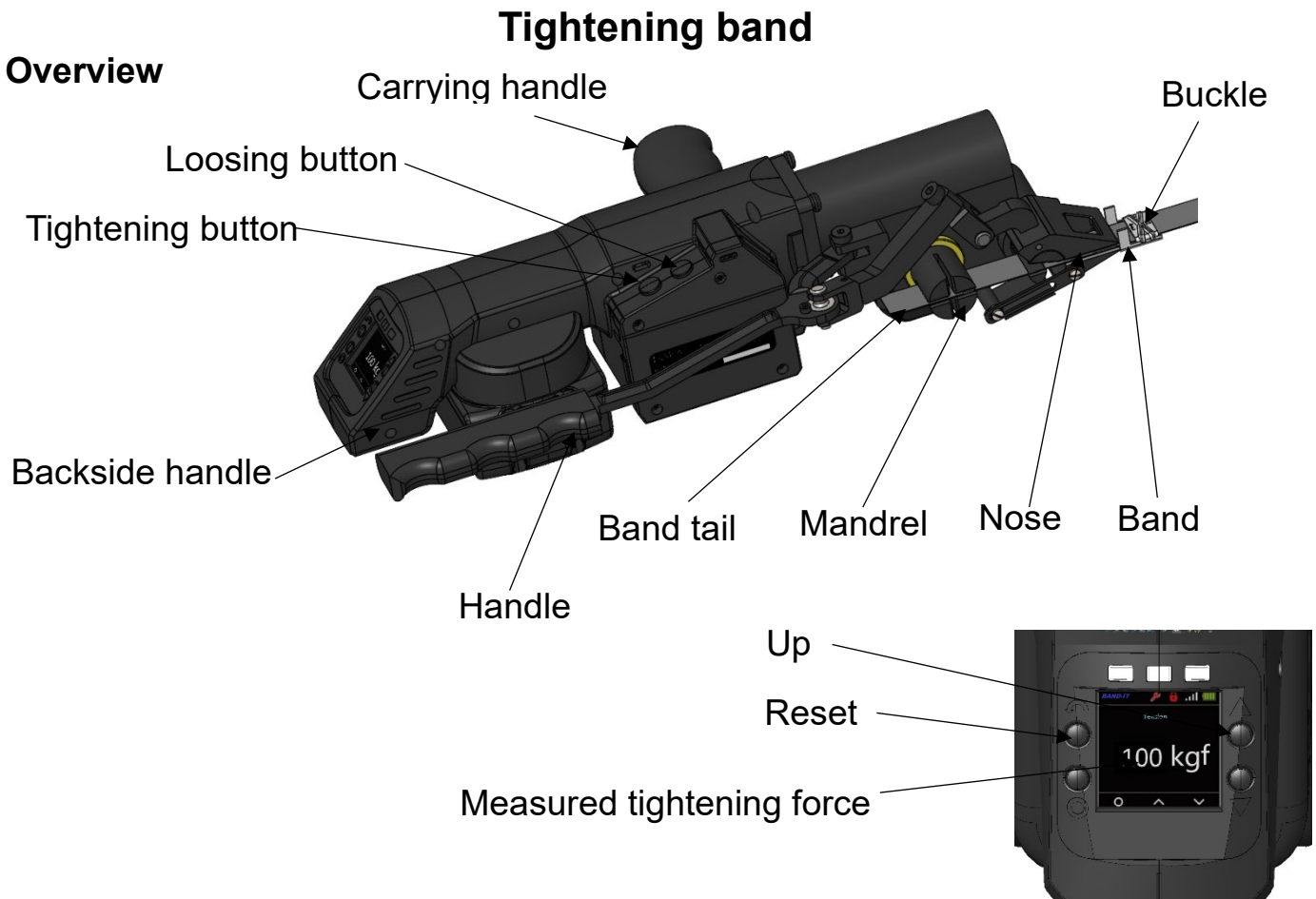


3. Use **up** or **down** buttons to choose parameters and use **Menu/Enter** button to confirm modification

- Confirm appropriate parameters for product being installed prior to operation.
- Operator should be properly trained before operation.

Tips

To exit the setting pages, long-press the **Menu/Enter** button.

Overview**Steps**

1. Activate tool by pressing down the **Tightening button** until the 3 LED lights above the screen turn off, then release the **Tightening button** and wait for the program to load.
 - The system will take about 3 seconds to activate
2. Prepare the band and buckle assembly for installation and ensure it is properly positioned.
3. Reset the tightening mandrel shaft position by holding the **Reset** button.
 - You can also adjust the mandrel shaft position by quickly pressing the **tightening button** as there is a gap between gears.

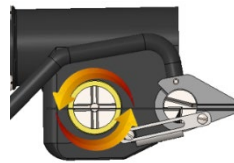
Tips

Press down the **reset button** and **up button** for 5 seconds to record the existing mandrel position for easy reset.

Press down reset button with quickly, and it will active thr mandrel go back to setting position.

4.Insert the band into the mandrel and nose.

5.Press and hold the ***Tightening button*** until the motor is stopped by the program.



- If tightening needs to be stopped, release the **Tightening Button**; the motor will stop immediately.
- To ensure a proper tightening force which matches the set tension, let motor stop by itself. Do not engage further tightening after initial installation is complete.

6.The measured tightening force will display after the tightening process completes.

- When an installation was tensioned to the set level, the green light will flash indicating a 'good install'. A red light will flash if proper tensioning force was not achieved.

7.Move left hand from side ***handle*** to ***hold backside of the unit.*** Use right hand to operate right-side lever to rollover the band and cut off.

8.Complete buckle installation by using a hammer to close buckle ears over the band tail..

9. Press down the **loosening button or tightening button** to free band tail from the madrel.

UI overview



**Note**

The UI may look slightly different because the menu options vary. In some regions customers do not require a QR code scanner, so the scan function will be disabled.

Key Parameters for Set Up

Tightening force



Target force

This force is based on actual application requirement.
It should be less than Max. force

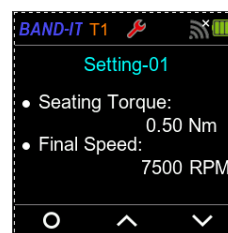
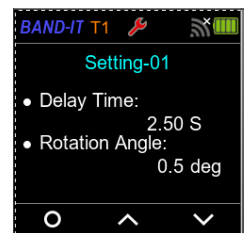
- This is advised force; user also can adjust it.

Max. force

This is the maximum band breaking force.

- The maximum yeild force normally is half of breaking force.

Force accuracy parameters



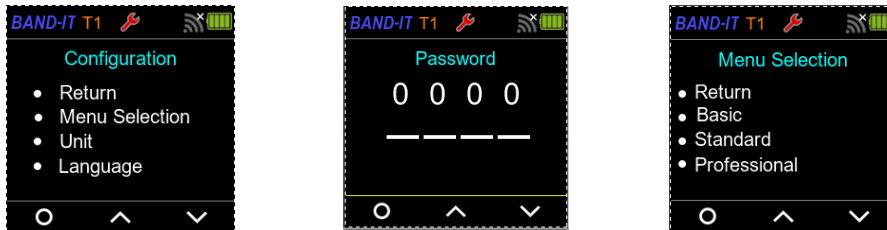
The **Thick**, **Radius** and **Redu Ratio** settings are based on band and tool mechanical data.

- Set these data based on user requirements.

Seating torque and **final speed** will impact tightening force accuracy.

- Do not modify these if you are using QR code function. BAND-IT completed testing to find suitable parameters which is uploaded via the QR settings.
- There are two phases during tightening.
- At first phase, the motor will be tighten at a fast speed.
- In the second phase, the motor will run with an adjusted speed and finish tightening once arrived target force.
- To get higher accuracy results, set seating torque and final speed to lower values.
- Consult BAND-IT for detailed guidance.

Menu selection



To change Menu selection, it needs a password.

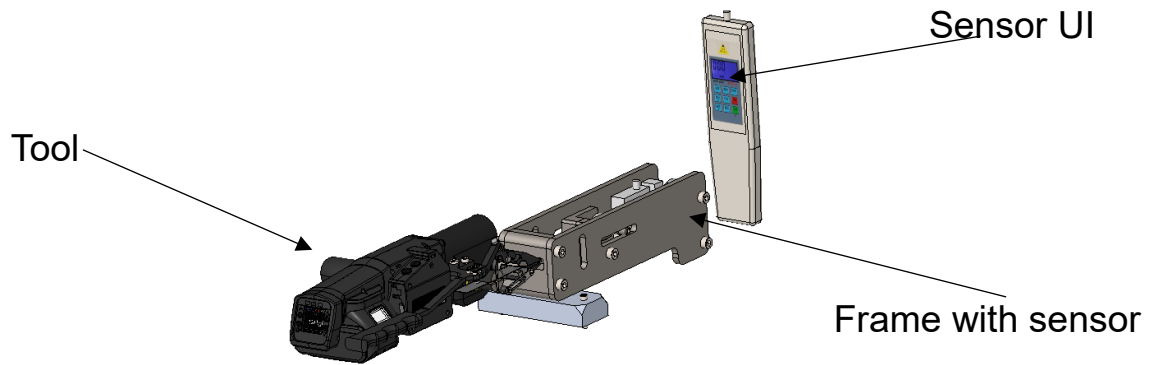
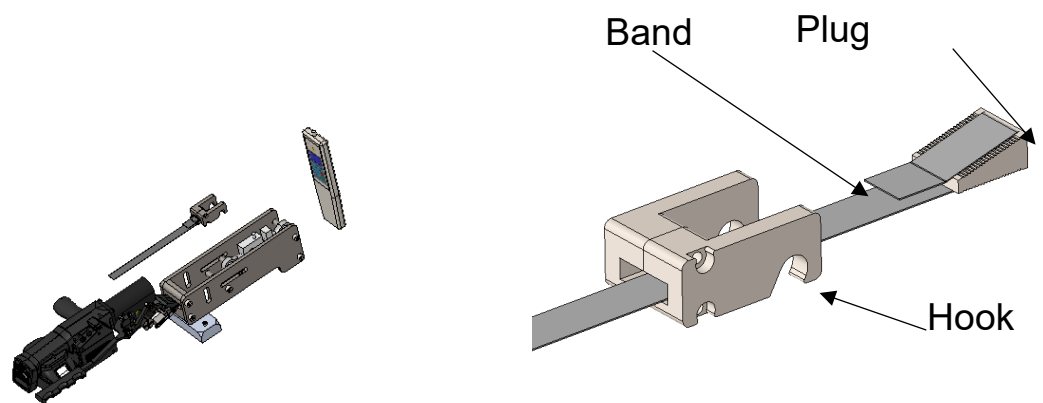
The basic menu and standard menu will be offered.

On the basic menu, the QR code scanning function will not be available as some customers ordered the DT2000 without QR capability.

The standard menu is suitable for users who have the DT2000 with QR code capabilities. It will be easy for operator use and easy keep the same tightening force on site.

The professional menu will display more parameters. These parameters are normally for use calibrating the tool.

Calibration method



Overview

This calibration tool is used to check tightening force accuracy. It includes a frame with a sensor and Sensor UI. The maximum measuring force is 1,102lbf for default inspection jig.

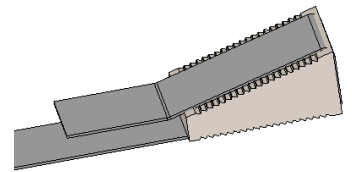
- If it needs a wider range, the scaler needs to be changed. This jig accuracy is 0.22lbf

Operation

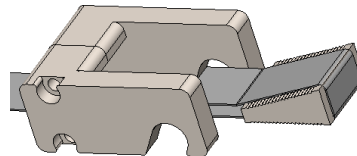
1. Turn on the power and wait about 5 mins until the sensor is stable.

2. Wind the band over the plug as shown above.

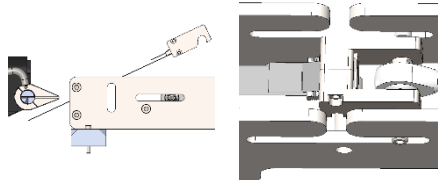
If it is possible, press the band on the table to keep band touch with plug



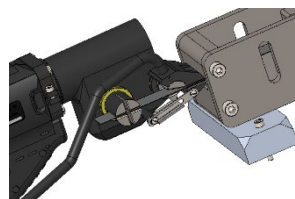
3. Insert the band and wedge block into the hook from hooks backside.



4. Insert band into the frame from inside to outside and hang the hook on the front sensor shaft.



5. Insert the band into tool from tool mandrel side



Band tail length must be kept at a suitable length.

6. Press down the tool tightening button to until motor stops.

7. Release tightening button and read the tool screen displaying the tightening force and UI measured force data.

8. Cut off the band between mandrel and tool nose with shear.

- During cut off, hold the tool to avoid drop down.
- Use shear to cut off band to avoid damage force sensor.

9. Remove the leftover band after taking out the hook.

10. After review, if the gap between tool measured tightening force and sensor measured force is still too big, please send tool to BAND-IT for analysis.

Calibration information

Before the tool's delivery, BAND-IT will complete and update calibration parameters into tool.

BAND-IT advises send back the tool to do calibration every 4000hrs or when there is a bigger deviation.

QR code information**Key
parameters
overview**

For AE4359 tightening parameters

P/N	AE4359
Target force/ lbf	220
Max. force/ lbf	839
Band thick/inch	0.05
Radius/mm	12.5
Tar cycle	200
Reduction ratio	20
Setting torque/Nm	0.6
Final speed/rpm	2000
Delay time/s	0
Rotation angle/°	0

**Notes**

1.Target force is the final force applied.

--Adjust by application case.

--This data should be less than Max. force.

2.Max. force is the bands average breaking force.

3.When using **Thicker bands**, settings must be updated based on product type, especially for controlling high force accuracy.

4.Radius is the rotating mandrel radius.

5.Tar cycle is the product quantity in one pack.

6.Reducing ratio, adjusts worm, and worm wheel reduction ratio.

7.Setting torque, will define when the tool starts to reduce speed to slow tightening and stop at the required force.

--It should be less than target torque. Otherwise, the tool will not operate as intended.

-- 0.02" thickness band, advised setting torque is 0.8Nm.

-- 0.029" thickness band, advised setting torque is 1.5Nm.

8.Final speed is the target rotating speed when the tool slowly tightens.

--The final speed is slower, the final tightening force will be better controlled.

--Advised speed setting is between 3000~7500rpm.

9.Delay time, reflects contrarotation after arrived tightening force. It uses for some Junior product with high force.

10.Rotation angle, Contrarotation some angle for tool fold

over to correct angle

**App
installation****App installation and connecting with tool**

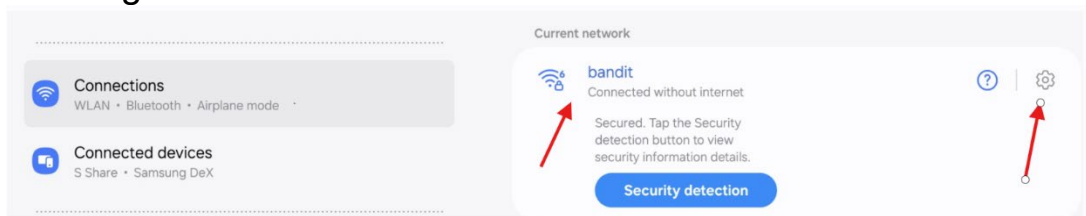
1. Get BAND-IT _ Tool. App from BAND-IT sales.
2. Install App on tablet or phone.
 - App can be installed on Android platform.
 - Advised installation using iPad for easy of operation.

**WIFI router
setting**

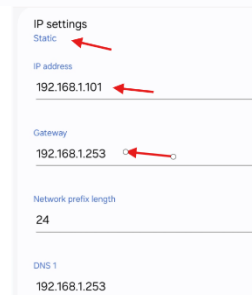
1. To connect to tool and app, you must be connected to WiFi.
2. To connect tool to Wifi:
 - **WIFI Name, "bandit"**
 - **WIFI password, "bandit01"**This name and password will be used on your phone, tablet, and tool. If adjusting, keep the same across devices.

3. Reference WIFI router

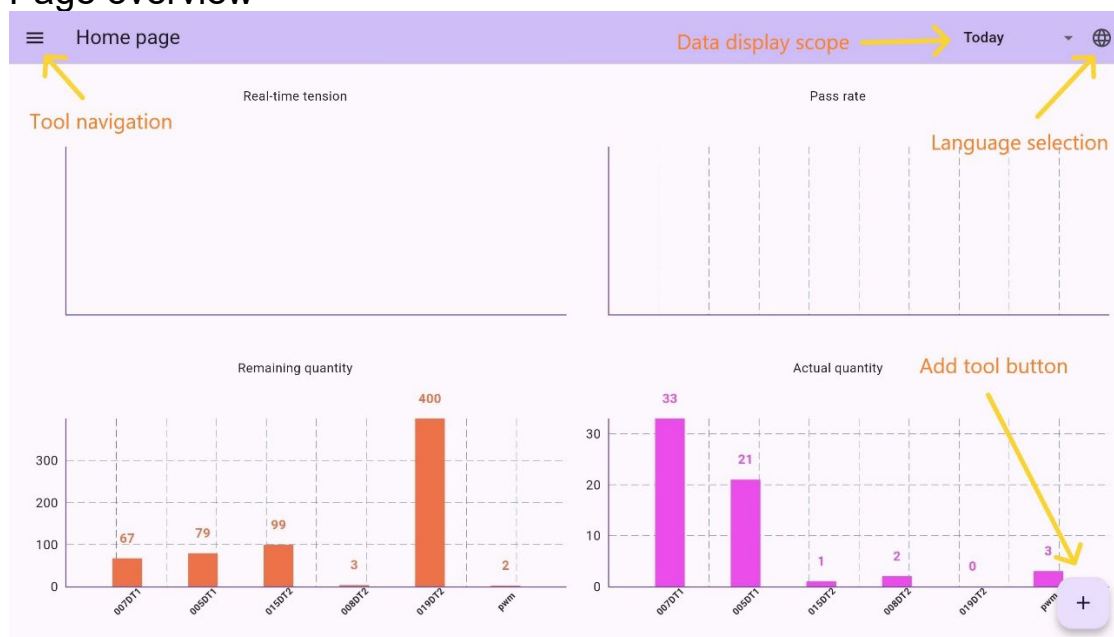
HD9S AX3000_WAvlink	Outdoor 2.4GHz/5GHz
BE7200Pro+_ZTE	Indoor 2.4GHz/5GHz

**Pad/Phone
WLAN
setting****1. Change WLAN to bandit and connect****2. Check settings and complete the following:**

- IP settings changed to **Static**.
- IP address set to **192.168.1.101**
- Gateway is the router address



Note: Don't open the application on multiple tablets or phones at the same time. As this can cause the `192.168.1.101` IP address to appear multiple times on the same router, leading to program errors.

**App
configuration****Page overview**

Press Add tool button to add tool into the App.

1. Input tool name, operator name and operator number.

2. Tool ID must input SN based on tool info (check tool UI menu).

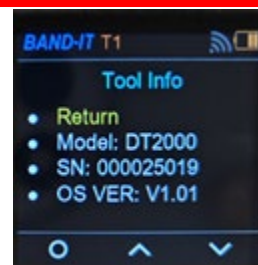
Add device

Device name
Device name

Device number **Tool SN number**

Operator name

Operator number



**Tool
network
checking**

Network default setting:

IP, **192.168.1.101**PORT, **9999**SSID, **bandit**PWD, **bandit01**

After setting the network, the WIFI will change to connecting status.

--IP is the same between tool, tablet, and phone.

--SSID and PWD is correct to connect to router.

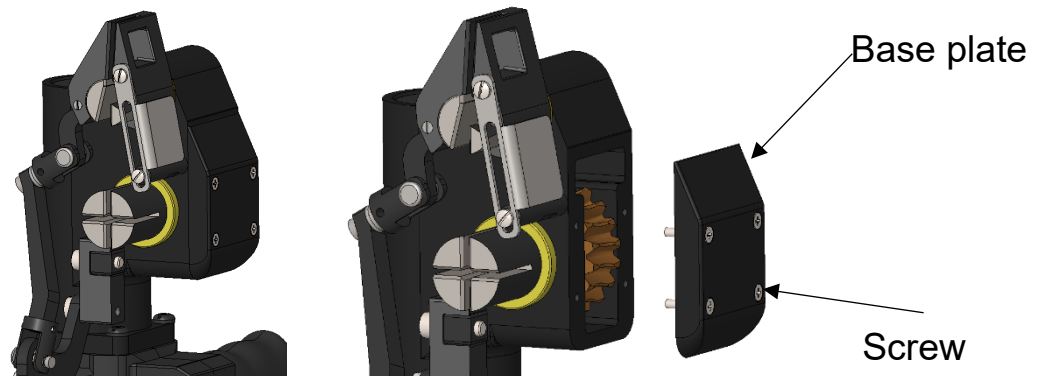
--Pad WLAN connect to the same WLAN and used static IP address.

**Troubleshooting**

If every setting is the same, but the WIFI tag is still disconnected restart the app and wait for the tool to refresh.

Maintenance**Lubrication**

Please change lubrication grease every 3 months.
Reference lubrication grease type, SKF LGEP 2.

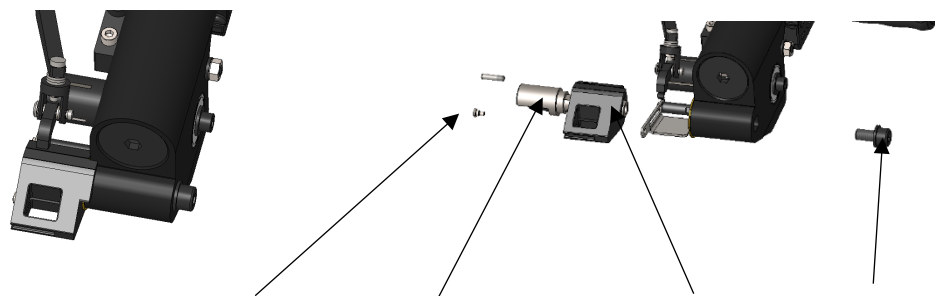


Steps for lubrication.

1. Loosen and remove the screws on bottom of tool head.
2. Remove base plate
3. Use non-woven fabric to remove lubrication
4. Rotate mandrel to change wheel position and evenly access.
5. Repeat step 3 and 4 until most of the grease is removed
6. Check mandrel
7. Add new lubrication grease over mandrel
8. Rotate the mandrel to lubricate.
9. Repeat step 7 and 8 until the mandrel and mandrel wheel are properly lubricated.
10. Close the cover plate and lock the screw
11. Clean the tool surface with non-woven fabric

Change cutter

When it becomes difficult to cut the band, the cutter must be replaced.



Screws Under cutter - Top cutter · Screw

Steps for changing cutter.

- 1.Loosen and remove screw.
- 2.Remove top cutter, under cutter and washer.
- 3.Check top cutter, washer and under cutter surface.
- 4.Assemble top cutter, under cutter and washer together and insert into tool.
- 5.Lock the screw with about 20Nm torque.
- 6.Rotate top cutter to check rotation.

Other maintenance

Please contact BAND-IT for other maintenance guidance.
You can also send your tool to BAND-IT for maintenance.

Spare parts

PART NUMBER	DESCRIPTION	QTY.
BM0005000	Joint bearing	1
BM0010000	Ball bearing	1
BM0010001	Thrust bearing	1
BM0012000	Ball bearing	1
BM0012001	Ball bearing D12D24W6	1
BM0012002	Thrust bearing	1
BM0020000	Thrust bearing	1
BM0020001	Slid bearing	1
BM0405000	D5x20_clip pin	2
BM0704000	Detent ring _ E type_d4	2
DT0001	Worm wheel	1
DT2014	Blade one unit no angle	1
DT2015	Blade _ Downside	1
DT2020	Connecting block _ M8x1	1

Troubleshooting guidance

Issue	Possible Cause	Solution
Hard to cut off band	Blade is worn	Change to new blades
	Top blade rotating angle is small	Check reference parts.
	Holding the handle with wrong position	Hold the backside handle.
Tightening force deviation too big	Input the wrong parameters	Consult with BAND-IT for corrected parameters <ul style="list-style-type: none"> Setting torque too high, installation is too quick for proper installation Finial speed is too fast, rotating speed is too high. Band thickness input is wrong.
	Planet gears or turbo worm with less grease or damage.	Add new grease or change worm wheel.
	Letting go of the tightening button too soon during the process.	Keep button pressed down during the whole tightening phase. Let it stop by itself.
	Torque sensor is unstable	Send tool back to BAND-IT
Err during QR code scanning	QR code has already been scanned by this tool.	Use a new QR code.
	Not BAND-IT product	Use QR code from BAND-IT product
Motor does not work	The Res Cycles in current active Setting-x is zero.	Scan new QR code to change Tar cycles and Res cycles.
	The voltage of tool battery is too low.	Change with a new battery
	Tool temperature is too high and protective program is active.	Wait for the tool to cool down
UI black screen	The tool is hibernating.	Press down activate button
	Battery without power	Change battery
App do not receive data	Tool won't add into the app.	Input tool number into App
	Pad (App) connected to different WIFI.	Keep devices and tools connect to the same WIFI.
	Setting parameters are wrong on devices and or tool.	Refer to "App installation and connecting with tool"
	App enters hibernation mode	Restart App

Contact information.

BAND-IT, Denver	Address	4799 Dahlia Street Denver, CO 80216-3070 USA
	Phone	1-800-525-0758
BAND-IT, Suzhou	Address	No.51 Tang Bang street Suzhou, Jiangsu, China
	Phone	0512-62833000/125
	E-mail	slian@idexcorp.com