



User Manual for UBX-T

Auto Shut-Off Battery Pulse Tools



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WARNING!

- Failure to follow all the instructions is dangerous. Read this manual before installation, operation, maintenance, or inspection of this system. Use this system only after you master knowledge of UBX safety information and warnings. Keep this handbook at hand always.
- After reading, save this handbook at a location where users can read at any time.

1. TOOL SAFETY

This manual has divided safety instructions into WARNING and CAUTION.

	WARNING	A fatality or severe injury is supposed and urgent warning is highly essential in the event of mishandling.
	CAUTION	A dangerous situation can happen, minor to moderate injury or only physical damage is supposed in the event of mishandling.
	WARNING Sign	Warning sign also warns the risk of serious consequences depending upon the situation. Follow all the instructions as they state important contents.

For Safe Operation

- Basic design of this tool is a lithium ion battery-powered motor rotating a pulse unit, which converts the rotation into repeated hydraulic pulsing for tightening or loosening the fastener. Never use or modify this tool for other purposes for safety and product longevity reasons. Keep hands clear of all rotating assemblies to avoid injury.
- Follow all instructions to prevent fire, shock, and personal injury.
- Operators should be trained using this manual and have access to it.
- When transferring this tool to new personnel, ensure that this manual remains with it.

Working Environment

1. Keep work place tidy and clean with a good lighting source.
 - A cluttered workspace or workbench can lead to accidents.

Safety Instructions for Operators

1. Carry out tool operation with great care, staying alert.
 - Work carefully while operating UBX-T, paying attention to handling method, way of operation, and surrounding environment.
 - People who are tired, under the influence of drug or alcohol or are pregnant should not use the UBX tool.
 - Do not use UBX outdoors under low visibility in the night or in bad weather.
 - Momentary carelessness can invite serious damage.

2. Use safety protectors.
 - Wear eye protection always while at work. Wear a dust mask if the working environment is dusty. Wear anti-skid safety shoes, helmet, earplugs, or earmuffs as needed.
3. Avoid unintended start-up.
 - Switch off UBX-T before loading the battery pack.
 - Do not carry UBX with your finger on the trigger.
4. Remove torque adjustment spanner before switching on.
 - Do not switch on UBX with the spanner attached. The spanner will rotate, causing injuries.
 - Securely and firmly store UBX at its designated storage place.
5. Do not use the tool in an awkward posture. Make sure you have solid footing and always maintain your balance. This gives you more control over the power tool in unexpected situations.
6. Wear suitable clothing.
 - Do not wear loose-fitting clothes or jewelry that can be caught in the moving parts.
 - Keep clothes, hair, or gloves away from moving parts.
 - Wear rubber gloves and anti-skid shoes for outdoor operation.
 - Cover long hair with a cap or hair cover.

Operation and maintenance of UBX-T

1. Do not overload the tool. Choose the right UBX model for your work.
 - You work better and more safely in the defined output range when using the proper tool.
2. Do not use power tools with defective switches.
 - It is dangerous if the switch can neither turn the tool on nor off. If a switch error occurs, place an order for repair with the distributor who supplied it to you or our nearest branch.
3. Remove the battery before you change tool settings, replace accessories, or lay the tool down. This prevents the power tool from starting unintentionally. Battery should be removed before:
 - Tuning UBX
 - Replacing sockets or accessories
 - Storing or repair
 - Work where danger is anticipated
 - Tool transfer to next operator
4. Store off-duty UBX, battery pack, and charger in a dry, locked, and child-inaccessible place as follows:
 - Remove battery pack from UBX and charger and store them separately.
 - Unplug power plug of charger from outlet before storing charger.
 - Store battery pack with pack cover attached.

5. Take good care of the power tool. Check that moving parts work properly and do not jam, that there are no broken or damaged parts, and that the functionality is not hindered.
 - Insufficient maintenance is the cause of accidents.
 - Always keep handle grip clean and dry so it is free from oil or grease.
 - Lubricate UBX and replace parts as shown in this handbook.
 - Inspect charger's power cord on a regular basis. If damaged, place an order for repair with the distributor who supplied it to you or our nearest branch.
 - Inspect extension cord on a regular basis. If damage is found, replace it with a new one.
6. Use the right UBX, accessories, and socket fittings proper for the job and the conditions. Unintended use of UBX can cause accidents.
7. Avoid using tool in an environment of extremely high or low temperature.

Safety instructions for battery pack

1. Make sure that the switch is turned off before loading battery pack to UBX.
 - If the switch is turned when the battery is loaded, it can result in unintended start-up and cause an accident.
2. Only charge the batteries in chargers recommended by the manufacturer.
 - Recharging batteries in an unsuitable charger can cause fire, explosion, and liquid leaking.
3. Only use the provided battery for power tools.
 - Modified battery packs (such as those made by rebuilding from disassembled parts) can cause fire, injury, breakdown, or explosion.
4. Keep the unused battery away from paper clips, coins, keys, nails, screws or other small metal objects which might bridge the contacts.
 - Do not store battery pack and metal components together in a toolbox or a bag filled with nails. This can lead to burns, fire, or explosions
 - Store battery pack with the cover attached after removal from UBX or charger.
5. Under extreme use or temperature conditions, batteries can leak.
 - Avoid contact with the skin or eyes if the battery leaks. The battery fluid is acidic and can cause chemical burns. If the fluid comes into contact with skin, immediately wash it with soap and water and then rinse it with lemon juice or vinegar. If the fluid gets into the eyes, flush with water for at least 10 minutes and immediately go to the doctor.

6. Do not dispose of a battery pack in a fire. Doing so will cause the battery to explode.
7. Do not drive a nail in battery pack. Make sure that the Li-Ion battery does not fall down or is subject to vibration and impact. Do not disassemble and modify battery pack. Doing so could cause overheating, fire, or explosion.
8. Do not charge, use, or store battery pack under high temperatures (+ 50° C) or in direct sunlight.
 - Do not store battery pack in a metal box or in a car in summer where the ambient temperature above 50° C is possible. It can cause battery pack deterioration, smoke, and fire.
9. Do not immerse battery pack in a conductive material like water. Conductive material ingress into the battery pack can result in overheating, fire, or explosion.
10. Do not use battery pack if it runs out in an extremely short time.
11. Do not use battery pack if it has been dropped, punctured, or impacted.
12. Do not dispose of used battery pack with the general household garbage. There is a risk the battery can become short-circuited during the processing of general household garbage, leading to fire or smoke.

Maintenance

1. Only allow your power tool to be repaired by a qualified technician using only original spare parts, available from AIMCO. This ensures that the safety of your device is maintained.
 - Do not disassemble, repair or modify UBX, charger, or battery pack. Doing so can cause fire or abnormal action, inviting injuries.
 - Send UBX for inspection and repair if you notice any abnormalities or overheating.
 - Do not make any modifications. Changes to the tool destroys conformity to safety standards.
 - Send UBX to a qualified AIMCO personnel for repair. Repair by unauthorized persons will result insufficient performance and a risk of accidents or injuries.

Other Safety Instructions

1. Check your tool for damage. Prior to further use of the tool, the safety equipment or damaged parts must be inspected to ensure proper functionality.
 - Check to ensure the functionality of moving parts, that they don't jam, that no parts are broken, and that all parts are properly and correctly installed and all conditions required for the operation of the device have been fulfilled.

- Damaged safety equipment and parts should be properly repaired or replaced by trained and qualified personnel unless otherwise indicated in the operating instructions.
 - Stop using the tool immediately if it starts operating abnormally or fails. Continuing the operation could cause smoke, fire, shock, or injury. Always stop tool operation in the following cases:
 - UBX or battery pack is exceptionally hot.
 - UBX or battery pack has deep scratches or deformation.
 - You smell a burning smell.
 - You feel a tingling shock.
 - Do not use power tools with defective switches. A tool that cannot be shut off is dangerous and must be repaired.
2. Do not charge UBX in the presence of lacquer, paint, benzine, thinner, gasoline, gas, adhesives, or in any explosive environment.
 - Power tools can generate sparks which can ignite the dust of vapors.
 3. To avoid risk of fire, do not do the following actions:
 - Do not charge the battery on or near paper products like cardboard, cloth products, or vinyl.
 - Do not cover vent hole of charger while charging battery pack. Do not tuck metal products or combustible materials into vent holes.
 - Do not charge battery pack in the presence of a dusty place with cotton waste.
 4. To avoid the risk of smoke, fire, or explosion, keep foreign matter like metal fragments or water away from the charging terminals of the battery charger.
 5. Do not use charger for unintended purposes.
 6. Stop battery charging immediately if you notice abnormalities like excessive heat. Disconnect the plug from the power outlet. There is a risk of smoke, fire, or explosion if charging continues.
 7. Avoid electric shock – do not touch power plug with wet hands.

2. GENERAL INFORMATION

2.1 IMPORTANCE OF OPERATING INSTRUCTIONS

This information was written with the intention of being read, understood and complied with in all points by persons responsible for the operation of the AIMCO tool.

Prior to start-up, please read the operating instructions and comply with the safety instructions. Work station faults can only be prevented if the contents of these operating instructions are known and fault-free operation can be ensured.

We are not liable for damages and operational errors that result from non-compliance with these operating instructions. If difficulties arise, please contact us and we will gladly provide assistance.

Contents of this handbook is subject to change without notice.

2.2 PROPER INTENDED USE

The tool may only be used, as described in these instructions, to create fastener joints suitable for the type of tool.

Any other use beyond this is not considered proper intended use. AIMCO is **not** liable for any damages resulting from non-compliance.

2.3 GUARANTEE AND LIABILITY

NEW TOOL AND ACCESSORY WARRANTY

Any new tool or accessory branded with the AIMCO, Uryu, AcraDyne or Eagle Industries name, and purchased from AIMCO, or through one of its authorized distributors or agents, is warranted to the original buyer against defects in materials and workmanship for a period of one (1) year* from date of delivery. Under the terms of this warranty, AIMCO will repair or replace any product or accessory warranted hereunder and returned freight prepaid proving to AIMCO's satisfaction to be defective as a result of workmanship or materials. In order to qualify for this warranty, written notice to AIMCO must be given immediately upon discovery of such defect, at which time AIMCO will issue an authorization to return the tool. The defective item must be promptly returned to an authorized AIMCO service center with all freight charges prepaid.

REPAIRED TOOL WARRANTY

Once a tool is beyond the new product warranty period as detailed above, AIMCO repairs are subject to the following warranty periods: pneumatic tools: 90 days*; electric tools and Acra-Feed: 90 days; battery tools: 30 days*; DC Electric tools: 90 days*

EXCLUSION FROM WARRANTY

This warranty is valid only on products purchased from AIMCO, or through its authorized distributors or agents. AIMCO shall have no obligation pursuant to the AIMCO Warranty with respect to any tools or accessories which in AIMCO's sole judgment have been altered, damaged, misused, abused, badly worn, lost or improperly maintained. This Warranty is null and void if the customer, or any other person other than an authorized representative of AIMCO, has made any attempt to service or modify the tool or accessory prior to its return to AIMCO under this Warranty.

The warranty provision with respect to each such product may be amended by AIMCO from time to time in its sole discretion. The liability of AIMCO hereunder shall be limited to replacing or repairing, at its option, any products which are returned freight pre-paid to AIMCO and which AIMCO determines to be defective as described above or, at AIMCO's option, refunding the purchase price of such products.

AIMCO reserves the right to make periodic changes in construction or tool design at any time. AIMCO specifically reserves the right to make these changes without incurring any obligation or incorporating such changes or updates in tools or parts previously distributed.

THE AIMCO WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND AIMCO EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY SETS FORTH THE SOLE AND EXCLUSIVE REMEDY IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE.

THIS WARRANTY IS THE ONLY WARRANTY MADE BY AIMCO WITH RESPECT TO THE GOODS DELIVERED HEREUNDER, AND MAY BE MODIFIED OR AMENDED ONLY BY A WRITTEN INSTRUMENT SIGNED BY A DULY AUTHORIZED OFFICER OF AIMCO.

LIMITATION OF LIABILITY

AIMCO'S LIABILITY PURSUANT TO WARRANTY OF THE PRODUCTS COVERED HEREUNDER IS LIMITED TO REFUND OF THE PURCHASE PRICE. IN NO EVENT SHALL AIMCO BE LIABLE FOR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS BY THE BUYER. IN NO EVENT SHALL AIMCO BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES (INCLUDING WITHOUT LIMITATION, LOSS OF PROFIT) WHETHER OR NOT AIMCO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS, HOWEVER CAUSED, WHETHER FOR BREACH OR REPUDIATION OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE. THIS EXCLUSION ALSO INCLUDES ANY LIABILITY WHICH MAY ARISE OUT OF THIRD PARTY CLAIMS AGAINST BUYER. THE ESSENTIAL PURPOSE OF THIS PROVISION IS TO LIMIT THE POTENTIAL LIABILITY OF AIMCO ARISING OUT OF THIS AGREEMENT AND/OR SALE.

Note: The AIMCO Warranty confers specific legal rights, however some states or jurisdictions may not allow certain exclusions or limitations within this warranty.

* All warranty periods addressed herein are determined using a standard shift, eight-hour work day.

3. PARTS DIAGRAM



4. SPECIFICATIONS

- Ambient humidity 0~40° C
- Speed change: 3 steps
- Slow speed 500 RPM ~ 1,000 RPM for socket bolt entry or temporary tightening.

Model	Motor Voltage DC(V)	Approx. Free Speed rpm	Nominal Bolt Capacity mm	Approx. Torque Range nm	Approx. Weight kg	Overall Length mm	Sq. Dr. mm
UBX-T70	14.4	4,800	M8 – M12	25 – 55	1.86* 1.63**	187 193* 204**	9.5

* With 14.4V, 4.2Ah battery

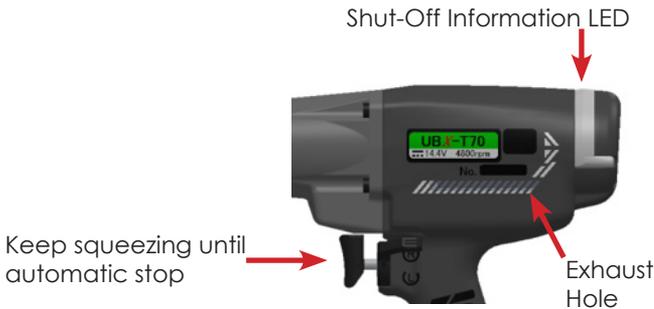
** With 14.4V, 2.0Ah battery

5. TOOL OPERATION

5.1 STARTING THE TOOL



1. Set reverse lever to **R** for RIGHT or **L** for LEFT.
2. Squeeze Trigger
 - Speed increases in 3 steps as you squeeze trigger (both right and left).
 - Release finger from trigger, and UBX will brake to stop the operation.
3. Perform fastening
 - Keep trigger squeezed until UBX automatically stops.
 - The fastening will result in under torque NOK if premature trigger off brakes to stop UBX.
 - Do not cover exhaust hole because doing so will turn up exhaust temperature to a dangerous level.



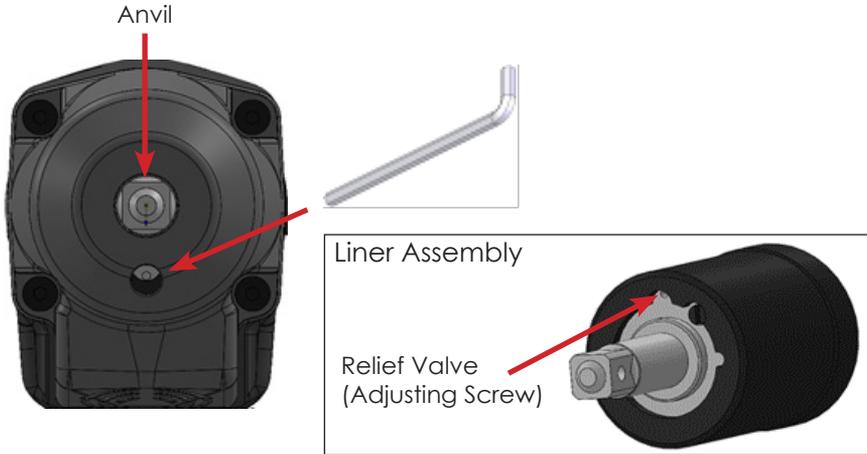
Model	Battery Pack	Fastening Condition	Approx. Number of Fasteners that can be Fastened during a Single Charge
UBX-T70	EYFB42 14.4V, 4.2Ah	UFT-16 (M12) hard joint Fastening torque 40Nm for 0.4 sec. per fastener	600
	EYFB42 14.4V, 2.0Ah		250

Fastener number is before factoring in fastening time elongation caused by heat. Actual fastener number depends upon working conditions.

5.2 TORQUE ADJUSTMENT FOR INDIVIDUAL FASTENERS

(clockwise operation only)

1. Remove hand from trigger and remove battery pack from tool before adjustment.
2. Press anvil to the opposite side and turn it until the relief valve is visible from the adjusting window.
3. Insert allen key through adjusting window and stick it in the relief valve's hole as the below arrow is pointing. Adjust relief valve as per the following torque range.



Torque Ranges

Model	Relief Valve Position Full relaxed to left / full fastened to right
UBX-T70	25 Nm – 55 Nm

Testing Conditions: Torque range was obtained by fastening UFT testers with a hard joint setting. Torque observed by actual fastening does not correspond to the above torque range due to conditions of work character and bolt seating surface.

5.3 SHUT-OFF INFORMATION LED

LED Color	UBX-T State
Green	Fastening OK
Orange	Fastening in Progress
Red	Incomplete job detection (turned the trigger from ON to OFF before automatic shut-off), or UBX-T was stopped by heat protection function.
Red and green blink in turns	Battery level is less than 5% or battery error
Red and orange alternating	Tool is protected from overload, over discharge, or excessive battery pack temperature.



WARNING

A heat protection feature stops the tool when the motor gets too hot, regardless of relief valve shut-off presets. Refer to the following instructions regarding heat protection.

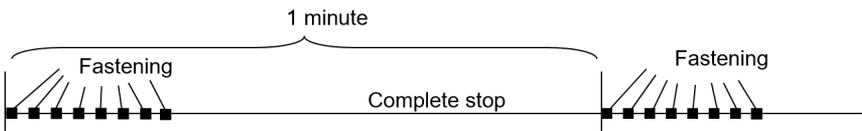
Heat Protection

When the tool gets hot, the LED lights red and the tool stops rotation. Avoid use for at least 30 minutes. Once the tool has cooled to room temperature, and the LED is off, it is safe to restart operation.

Work Interval Guideline

Following the fastening conditions shown in “5.2 Torque Adjustment” on page 13, a UBX will be able to fasten at least 8 fasteners a minute, with no downtime, before the heat protection feature will trigger.

Avoid continuous work or heavy load, which overburdens the motor.

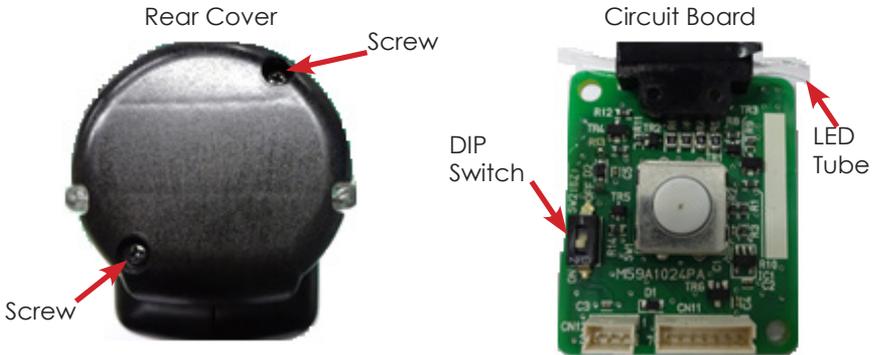


Incomplete Job Detection (Premature Trigger Off)

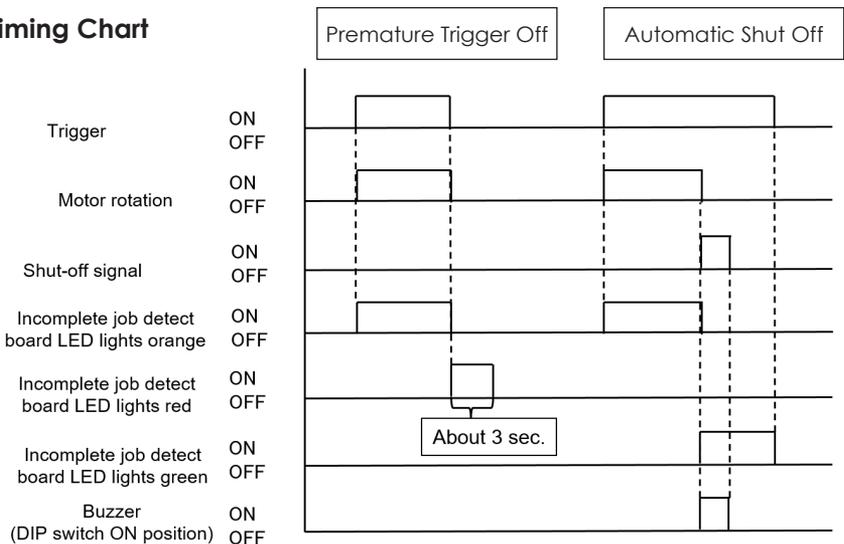
UBX-T displays an incomplete job error if the tool is switched off before automatic shut-off.

1. Squeeze trigger of UBX, and the LED will light orange. Release the trigger before automatic shut-off, and the LED will light red about 3 sec. and go out.
2. The LED lights green with 1 pulse buzzer sounding for automatic shut-off. Retry until automatic shut-off comes if incomplete job was detected.

- 1 Set DIP switch to OFF, opening screws and removing rear cover if it is not necessary to make buzzer sound.
- 2 The LED lights orange instead of green for OK judgment due to retrial repairing the previous NOK result with LED lighting red about 3 sec.



Timing Chart



5.4 CHANGE REVERSE LEVER DIRECTION



1. Remove battery pack from UBX-T.
2. Remove roll pin.
3. Pull reverse lever forward to remove it.
4. Change the setting and reattach reverse lever to UBX.
5. Replace roll pin.

Battery Level Indicating LED

Squeeze trigger, and LED will indicate battery level by its color. UBX stalls when battery level is less than 5%. LED color can change from green to orange when pulsing.



LED battery-level indicator colors	
LED color	Battery level (%)
RED light appears immediately after stalling, then goes out.	Less than 5%
Orange	6~40%
Green	41~100%
Red	Battery error

Fully charge a brand new battery pack before first use.

Ending battery charging prematurely can cause the LED to incorrectly display remaining capacity. If this happens, charge the battery fully a few times, and the LED should display correct information.

5.5 FACTORS THAT CAN AFFECT HANDLING TORQUE

1. Working conditions

Fastening torque can vary even for bolts of the same diameter. The transmitted torque can change depending on bolt grade, length, coefficient determined by bolt quality/work condition, condition of bolt seating, and distance between fasteners. Torque transmission can also be affected if the bolt and nut rotate together even after fastening.

2. Engagement gap among socket, UBX, and fastener

Ensure that fit of the tool anvil to the driving socket and the socket engagement to the fastener are tightly toleranced. Poor fit of the tool anvil to the socket and/or poor fit of the socket to the fastener will result in inaccurate torque delivery to the tightened joint.

3. Trigger

Keep trigger fully squeezed until the tool automatically shuts off. Early release of the trigger can cause automatic shut-off to fail.

4. Low torque posed by inclusion between UBX and socket

A universal joint, connector, or long socket that increases the distance from the tool to the fastener can reduce torque transmission.

6. BATTERY PACK AND CHARGER

UBX runs on a lithium-ion battery pack.

Specifications

Battery Type (Panasonic)	EYFB41	EYFB42
Tool Type	UBX-T70 Series	
Voltage	DC14.4V	
Capacity	2.0Ah	4.0Ah
Charging Time	Approx. 35 min	Approx. 55 min
Weight	Approx 0.35 kg	Approx. 0.58 kg

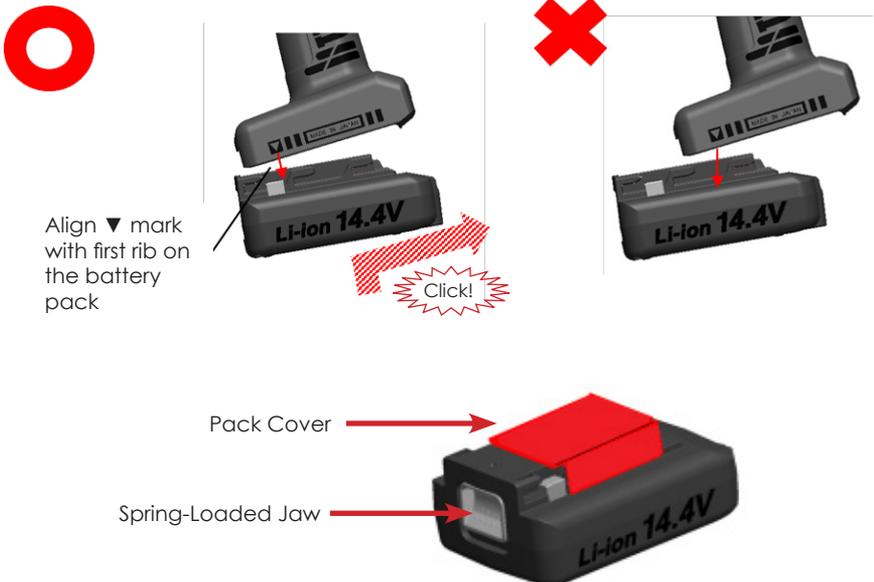
6.1 INSTALLING AND REMOVING THE BATTERY PACK

Installing the Battery

Align barbs of tool (3 on each side) to barbs on battery and push battery toward UBX until it makes a click sound.

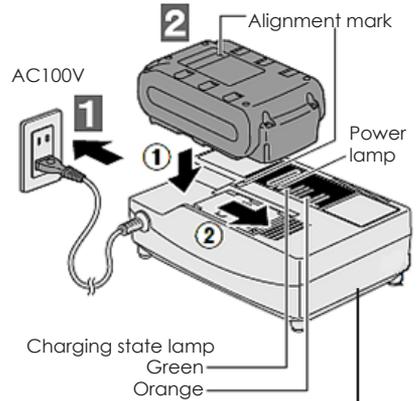
Removing the Battery

Hold spring-loaded jaw down and slide battery forward to unload. Attach pack cover to battery's terminals to protect it from dust.



6.2 CHARGING THE BATTERY PACK

1. Plug charger power plug into a socket. The power lamp should light.
2. Load battery pack into charger.
 - Align battery in charger using alignment marks and place battery onto charger dock.
 - Slide battery pack forward in the direction of the arrow.
3. Unload battery pack after charging, and unplug charger from socket.



Slide loading type Lithium-ion rapid charger AC100V (225VA)
50/60Hz (with 2-pin plug)
Weight: ~ 0.9 kg
Service temperature 0°~40°
Use dedicated power plug only.

When to replace the battery pack

Depending on work conditions, the battery pack will perform approximately 500 charge/discharge cycles. It is time to replace the battery pack with a new one when the length of charge life decreases to half despite an initial full charge.

Battery pack storage

Store lithium-ion battery packs without charge after use. Remove any foreign matter from terminals. Cover battery using pack cover, which helps avoid short circuits and protects terminals from debris. Do not store batteries in a hot or humid place.

Battery pack recycling

The Lithium-ion battery pack is recyclable, and should not be mixed with general household waste. Return used battery packs to the distributor who sold them to you. Cover terminals of the battery pack with insulating tape to avoid short circuit for return shipment.

7. TROUBLESHOOTING

Symptom	Possible Cause	Remedy
Tool does not run	Battery level is below 5%	Charge battery
Tool gets hot	Tool has been overworked	Allow tool to cool to room temperature. Lessen the load of the job or use a larger BP-T tool.
Tool makes "growling" sound at slow speed	Internal magnet reaction causes noise at motor/pulse connection	This is a normal condition inherent to the tool design.
Anvil stops rotating at slow speed	Motor heat protection has been activated	Release trigger. Fully depress trigger, and tool will not start even if the anvil is fixed again.
Torque delivered is lower than preset torque	Bit or socket has worn out	Replace bit and socket with a new one.
Number of fasteners per full charge has decreased	Battery charge low or battery is at end of lifespan	Recharge battery or replace with a new one.

Immediately stop operation if the above steps fail to remedy a problem with the tool. Deliver tool to an authorized service center for evaluation.

8. MAINTENANCE



Danger

1. Check for any loose parts, breakage, or wear of all parts prior to each use



Warning

1. Tool casing is made of plastic. Wipe it with a soft dry cloth. Do not use volatile liquids or wet cloths because doing so will cause deterioration/discoloration of the materials.
2. Store the tool in a place that remains between 0 – 40 °C (32 – 104 °F), is moisture free, dust free, and free from direct rays of the sun.
3. Periodic inspection:
It is recommended that a trained service center disassemble and adjust the tool every 100,000 cycles, or every 3 months, whichever comes earlier.

Overhaul, Adjustment, Inspection, and Repair



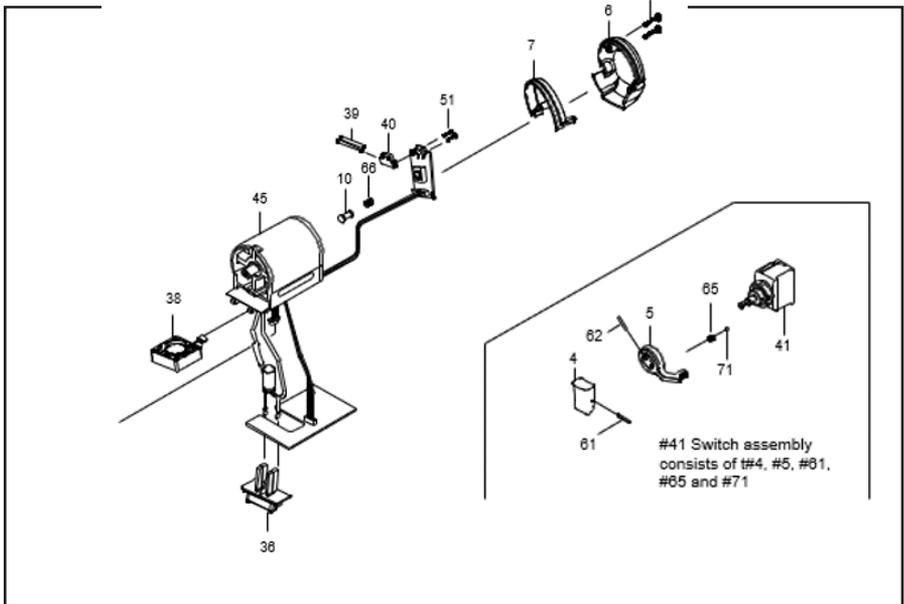
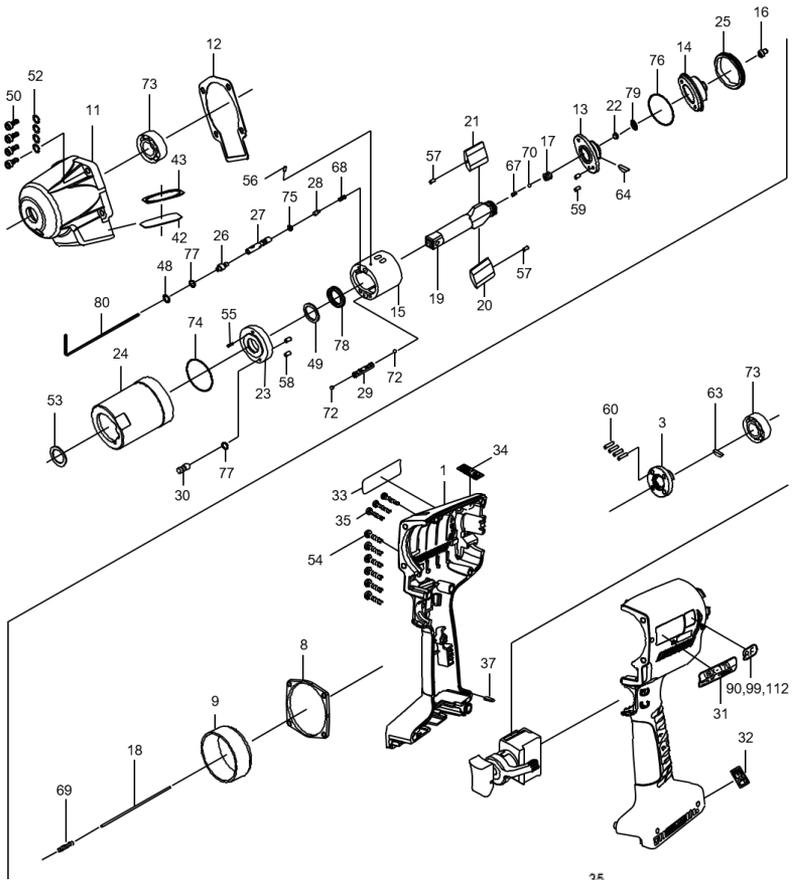
Danger

A battery pulse tool is a precision tool. Disassembly, assembly, and adjustment require exclusive JIGS plus testers, and trained techniques. Incorrect disassembly, re-assembly, or adjustment can cause not only insufficient power but also accidents. Ask for these services from an authorized service center. The maker or supplier will not be held liable for any damages caused by factors found to be the cause of faulty use or repair by users or unauthorized service providers.

Inquiries

Contact your distributor with inquiries regarding the UBX tool.

7. UBX EXPLODED VIEW



Index #	Part #	Description	Qty
1	10F-025-0	Handle	1
3	12F-079-0	Connector	1
4	147-107-2	Trigger	1
5	09B-212-5	Reverse Lever	1
6	12F-012-0	Body Cover	1
7	12F-013-0	Top Cover	1
8	12F-035-0	Connector	1
9	12F-036-0	Hammer Case Connector	1
10	12F-038-0	Slide Base	1
11	12F-439-0	Front Case	1
12	12F-867-0	Front Case Packing	1
13	12F-901-0	Liner Rear Plate	1
14	12F-310-0	Anvil Front Spacer	1
15	12A-902-5	Liner	1
16	12F-546-0	Piston	1
17	145-929-6	Check Valve Cover	1
18	12F-130-0	Operating Rod (1.8 x 65.5)	1
19	12F-319-0	Anvil	1
20	12A-440-5	Driving Blade (A)	1
21	12A-440-6	Driving Blade (B)	1
22	12F-835-0	Filter (K200)	1
23	12A-904-3	Liner Front Plate	1
24	12A-905-5	Liner Casing	1
25	12A-906-3	Liner Casing Cover	1
26	174-907-2	Relief Valve Spring	1
27	12F-970-0	Relief Valve	1
28	144-270-0	Pressure Valve	1
29	12A-276-5	Pressure Valve Body	1
30	194-742-0	Oil Plug	1
31	12F-924-0	Name Plate	1
32	12F-993-0	Plate (Specifications)	1
33	094-997-4	Plate (Others)	1
34	094-996-4	Plate (Caution)	1
35	861-181-1	Tapping Screw	5
36	910-383-0	Battery Terminal Block	1
37	910-404-0	Level Display Cover	1
38	910-484-0	Fan Assembly	1
39	910-449-0	Elastomer Tube (2)	2
40	910-468-0	LED Cover	1
41	910-475-0	Switch Assembly	1
42	910-476-0	Nylon Mesh	1
43	910-477-0	Mesh Plate	1
44	911-046-0	Battery Board Assembly	1

Index #	Part #	Description	Qty
45	911-042-0	Motor Assembly (T type) (L=35), Parts #46 & #47	1
46	863-890-1	Motor (T type)	1
47	863-891-1	Control Board with LED and Buzzer	1
48	944-203-0	Supporting Ring (3.1 x 5 x 1)	1
49	944-312-0	Backup Ring P12 (Bias)	1
50	945-026-0	Allen Head Bolt (M4 x 16)	4
51	957-063-0	Allen Head Screw (M2 x 4)	2
52	961-009-0	Round Washer (M4) (8 x 0.5)	4
53	962-800-0	Wave Washer (BWW-625)	1
54	963-253-0	Tapping Screw (3 x 16)	6
55	969-449-0	Pin (G) (3 x 6)	1
56	970-013-0	Pin (H) (1.5 x 4)	1
57	970-014-0	Pin (H) (1.5 x 6.8)	2
58	970-147-0	Pin (H) (2.5 x 5)	2
59	972-033-0	Pin (2.5 x 8)	2
60	972-087-0	Pin (3 x 6)	4
61	973-014-0	Roll Pin (2 x 14)	1
62	973-018-0	Roll Pin (2 x 18)	1
63	974-952-0	Half-moon Key (3 x 12) (3)	1
64	974-961-0	Half-moon Key (1.5 x 15.8)	1
65	976-006-0	Spring (3 x 5) (0.4)	1
66	976-499-0	Spring (7.3 x 9.4) (0.4)	1
67	976-526-0	Spring (2.4 x 5.5) (0.26)	1
68	976-958-0	Spring (2.8 x 6.9) (0.4) n=6.25	1
69	976-966-0	Spring (3.3 x 9) (0.35)	1
70	981-001-0	Ball (3/32)	1
71	981-002-0	Ball (1/8)	1
72	981-225-0	Ball (2.5mm)	2
73	982-922-0	Ball Bearing 6901ZZ	2
74	990-334-0	O-Ring (JW1530-24)	1
75	990-621-0	O-Ring (3.8 x 1.8 x 1.0)	1
76	990-923-0	O-Ring (SNS-26)	1
77	990-970-0	O-Ring (SNS-2) (NOK)	2
78	991-030-0	X-Ring (X12)	1
79	996-280-0	Diaphragm	1
80	939-091-0	Allen Wrench (1.5)	1



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