



BSTA-10 HD1/4
BSTA-10 SD1/4
BSTA-10 HD3/8
BSTA-16 HD1/4
BSTA-16 SD1/4
BSTA-16 SD3/8
BSTA-30 SD3/8
BSTA-35 SD3/8
BSTA-50 SD 3/8
BSTA-50 SD 1/2
BSTA-70 SD 3/8
BSTA-70 SD 1/2

***18V Cordless Shut Off Angle
Tool (Brushless motor)***

INSTRUCTIONS MANUAL



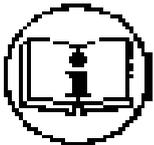
IMPORTANT

The tool delivered with this manual may been modified for specific needs.

In that case, please give us the tool code number written on our shipping note or the approximate tool delivery date when you place an order for a new similar tool or for spare parts.

In that way, you will be sure to get the required tool and/or spare part.

WARNING



This information has to be kept in a location known by all users.



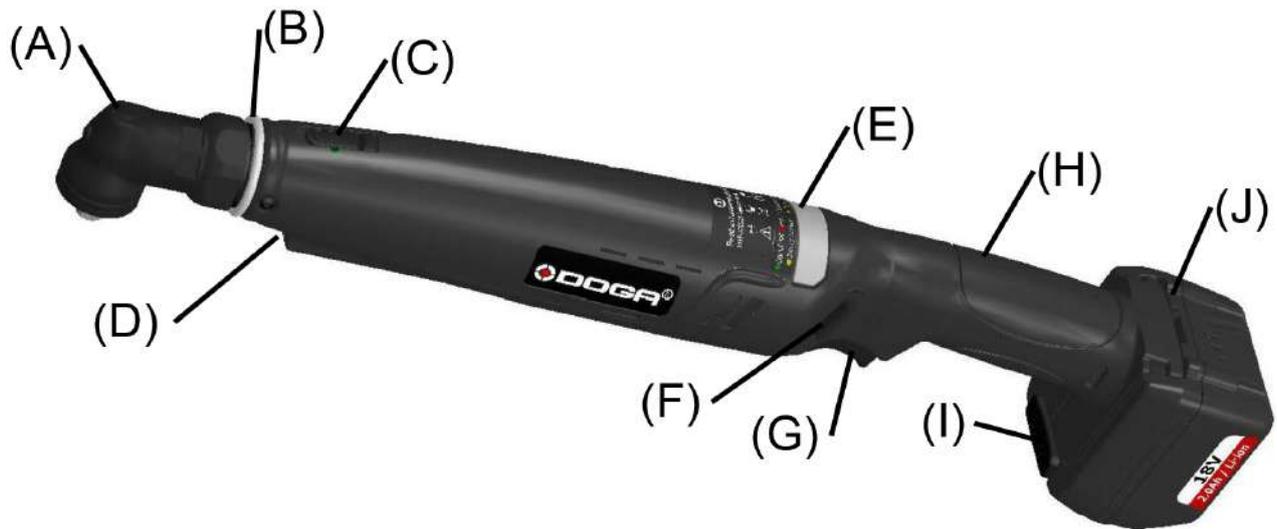
Each operator has to read carefully this manual before installing, using, and mending the product.

Be sure that the operator has understood using recommendations and the meaning of signs put on the product.

Most accidents could be avoided respecting this Manual Instructions. As a matter of fact, they were created according to European laws and norms regarding products.

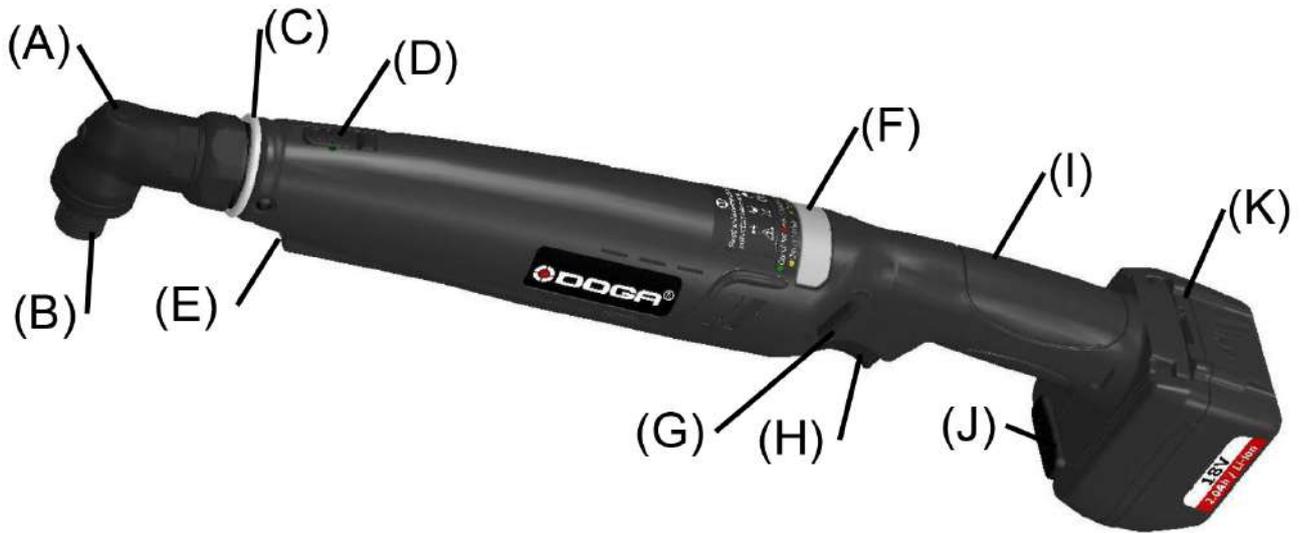
In each case, please respect and follow safety national norms. Do not take off nor damage the stickers or advise put on the product and above all the details imposed by the law.

WRENCH- FUNCTIONAL GUIDES



(A)	The angle head allowing multiple head positions.
(B)	User can distinguish the torque at a glance of color.
(C)	Torque adjustment.
(D)	LED light for working in dark area.
(E)	LED indicator provides simple process information to the operator. The signal is visible from any angle.
(F)	Press button for easy Forward/Reverse operation.
(G)	Trigger repeat protection avoid double hits on already seated screw.
(H)	Ergonomic handle design provides a well-balance.
(I)	Easy attached sliding battery system.
(J)	Li-ion battery pack delivers longer run-time.

SCREWDRIVER- FUNCTIONAL GUIDES



(A)	The angle head allowing multiple head positions.
(B)	1/4" Hex with quick change chuck
(C)	User can distinguish the torque at a glance of color.
(D)	Torque adjustment.
(E)	LED light for working in dark area.
(F)	LED indicator provides simple process information to the operator. The signal is visible from any angle.
(G)	Press button for easy Forward/Reverse operation.
(H)	Trigger repeat protection avoid double hits on already seated screw.
(I)	Ergonomic handle design provides a well-balance
(J)	Easy attached sliding battery system.
(K)	Li-ion battery pack delivers longer run-time.

WARNING! “READ ALL INSTRUCTIONS” Always observe the safety regulations applicable in your country to reduce the risk of fire, electric shock and personal injury. Understand the following safety instructions before attempting to operate this product. Always wear eye protection when working with power tools. Keep these instructions in a safe place.

SAVE THESE INSTRUCTIONS

General Safety Rules

Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control on the tool in unexpected situations.

- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use and Care

- **Use clamps or other practical ways to secure and support the work piece to a stable platform.** Holding the work piece by hand or against your body is unstable and may lead to loss of control.
- **Do not force tools. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

Additional Safety Rules

Battery Charger

- **Caution:** To reduce risk of injury, charge only the authorized batteries. Other types of battery may burst, causing personal injury and damage.
- Before using battery charger, read all instructions and cautionary markings on batteries, chargers and products using batteries.
- Do not allow anything to cover or clog the charger vents.
- Do not expose charger to rain, snow or wet conditions.
- To reduce the risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
- Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons.

- Make sure cord for charger is located so that it will not be stepped on, tripped on, tripped over, or otherwise subjected to damage or stress.
- Do not abuse the power cord. Never use the cord to carry the charger. Keep cord away from heat, oil, water, sharp edges, or moving parts. Replace damaged cords immediately.
- Do not operate charger if it has been damaged in any way, take it to a qualified service center for repair.
- To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
- Do not disassemble charger or battery cartridge, take it to a qualified service center when repair is required. Incorrect reassembly may result in a risk of electric shock or fire.

Battery Pack

- Do not charge battery pack when temperature is below 0°C (32°F) or above 40°C (104°F).
- Do not attempt to use a step-down transformer, an engine generator or DC power receptacle.
- Do not short the battery pack: Do not touch the terminals with any conductive material. Avoid storing battery cartridge in a container with other metal objects such as nails, coins, paper clips, etc.
- Do not expose battery cartridge to water or rain. A battery short can cause large current flow, overheating, possibly burns and even a break-down.

- Do not store the machine and battery pack in locations where the temperature may reach or exceed 50°C (122°F).
- Do not incinerate the battery pack even if it is severely damaged or completely worn out. The battery pack can explode in a fire.
- Be careful not to drop, shake, or strike the battery.
- Do not charge inside a box or container of any kind. The battery must be placed in a well ventilated area during charging.
- Do not dispose of battery packs into household waste, fire or water. Battery packs should be collected, recycled or disposed of in an environmentally-friendly manner. Call the authorized warranty centers for places to dispose of damaged or inoperable batteries.

FUNCTIONAL DESCRIPTION **FOR WRENCH**

This industrial shut off wrench is designed for nut tightening/loosening and screw driving/loosening. It is not appropriate to use for wood/mild steel drilling. Please refer to the figure on this page to familiarize yourself with the major components of this tool before use.

1. Power Switch

Depressing the power switch will energize the LED light **(2)** in front and the tool starts to rotate. When released, power to the motor will cease and the tool stops to work immediately. But the LED light will remain for 5 seconds then off.

3. Forward/Reverse Button

The tool is always in forward operation unless the Forward/Reverse button is pressed. When the button is pressed, the blue LED shows and the tool will be in reverse operation. To get the tool back in forward operation, just simply press the button again and the blue LED would disappear and the tool is back in forward operation.

4. Anvil (Drive Shaft)

The anvil will accept drive hex socket. Be sure the socket is fully inserted before operating tool. Otherwise, the socket may fly off and cause property damage or personal injury.

5. Angle Head

Adjust the angle head kit to the degree you wished. (a 45° as one position, total 8 positions for angle adjustment).

6. Torque Adjustment Cover

Open the torque adjustment cap. Use the torque adjustment tool to either tighten or loosen the spring until the desired torque is reached.

7. Li-ion Battery

This battery provides electrical power to the motor. Please charge it according to the charging instruction listed in this manual.

WARNING: Use the tool to either tighten or loosen nuts and screws **ONLY** in stipulated torque and voltage ranges.



FUNCTIONAL DESCRIPTION **FOR SCREWDRIVER**

This industrial shut off screwdriver is designed for nut tightening/loosening and screw driving/loosening. It is not appropriate to use for wood/mild steel drilling. Please refer to the figure on this page to familiarize yourself with the major components of this tool before use.

1. Power Switch

Depressing the power switch will energize the LED light **(2)** in front and the tool starts to rotate. When released, power to the motor will cease and the tool stops to work immediately. But the LED light will remain for 10 seconds then off.

3. Forward/Reverse Button

The tool is always in forward operation unless the Forward/Reverse button is pressed. When the button is pressed, the blue LED shows and the tool will be in reverse operation. To get the tool back in forward operation, just simply press the button again and the blue LED would disappear and the tool is back in forward operation.

4. Quick Change Holder

This driver accepts only 1/4" (6.35mm) hexagonal bits. Be sure the bit is fully engaged by the chuck before operating tool. Otherwise, the bit may fly off and cause property damage or personal injury.

5. Angle Head

Adjust the angle head kit to the degree you wished. (a 45° as one position, total 8 positions for angle adjustment).

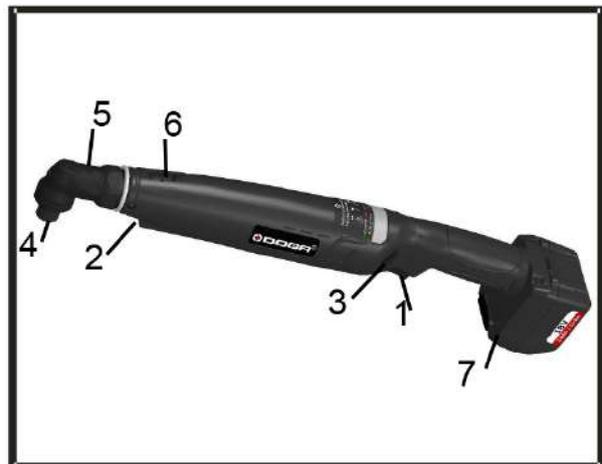
6. Torque Adjustment Cover

Open the torque adjustment cap. Use the torque adjustment tool to either tighten or loosen the spring until the desired torque is reached.

7. Li-ion Battery

This battery provides electrical power to the motor. Please charge it according to the charging instruction listed in this manual.

WARNING: Use the tool to either tighten or loosen nuts and screws **ONLY** in stipulated torque and voltage ranges.



ASSEMBLY

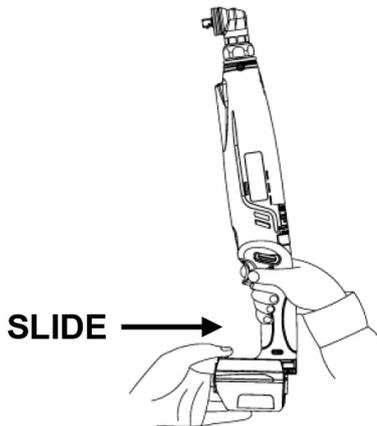
Check for damage to the tool; parts or accessories which may have occurred during transport. Take the time to thoroughly read and understand this manual prior to operation.

This tool kit contains:

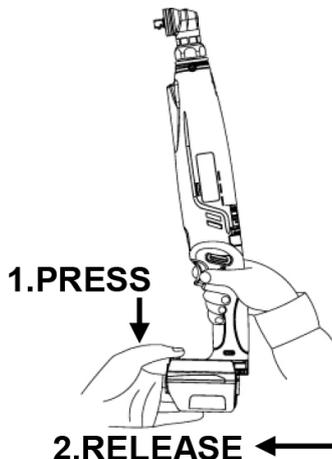
- 1 18V Cordless Shut off Angle Tool
- 1 torque adjust tool
- 1 open end wrench (For Wrench)
- 4 marking color ring
- 1 instruction manual

Attaching or Removing Battery Pack

1. To connect battery, line up the tracks and attach the battery pack. Slide toward the battery pack until it locks into position with a click.



2. To remove the battery pack, press the red button on the top of the battery pack and release the battery pack.



OPERATIONS

This product had been carefully inspected prior to leaving the factory. It should provide you with years of satisfying service under normal operating conditions. Do not, however, force the tool to perform outside its design parameters. Such usage will void the warranty.

WARNING! Read the manual instruction before operating the tool. Always wear safety glasses or face-shields when operating this product. Failure to do so can result in dust, shavings or loose particles being thrown into your eyes.

1. Slide battery into the bottom of the housing handle until a click sound occurs. Do not force battery as it should slide easily into place with nominal force. Any difficulty doing so would indicate an incorrect alignment.
2. Tool speed can be adjusted by the extra programmer.

(Purchase an additional programmer)

3. Select a proper size drill/drive bit and insert into the quick change holder.
4. Depress the trigger to engage the LED light and the tool starts to work. Check the torque on the digital tester to see if the desired torque reached. If not, adjust the torque to either tighten or loosen the spring. See the Steps for Torque adjustment on page 9.
5. Make sure the tighten torque of the bolts or screws before work. It may vary due to different material you tighten. When the torque is reach, the tool will shut off automatically.

Forward/ Reverse Rotation Switch Operation

To prevent damage, do not press Forward/Reverse button until the anvil comes a complete stop.

Forward Rotation Operation

The tool is in forward operation if the blue light is not on.

Reverse Rotation Operation

By long press on the F/R switch, users are able to choose the mode of Reverse operation, either automatic or manual.

Mode 1: Automatic – Tool returns to Forward operation automatically after reverse operation.

Mode 2: Manual – Tool needs to be adjusted manually to return to Forward operation after reverse operation.

How to adjust: Long press on the F/R switch and release it as seeing the flashing blue light is on. The mode is transformed successfully.

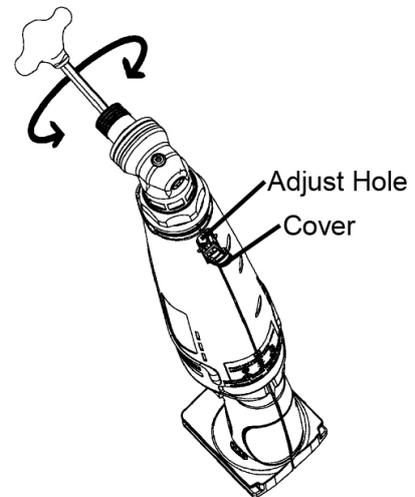
Steps for Torque Adjustment

1. **(1)For Wrench:** Open the cover, use an open end wrench to rotate the square drive until the adjust hole position appears in the area of the hole of cover.

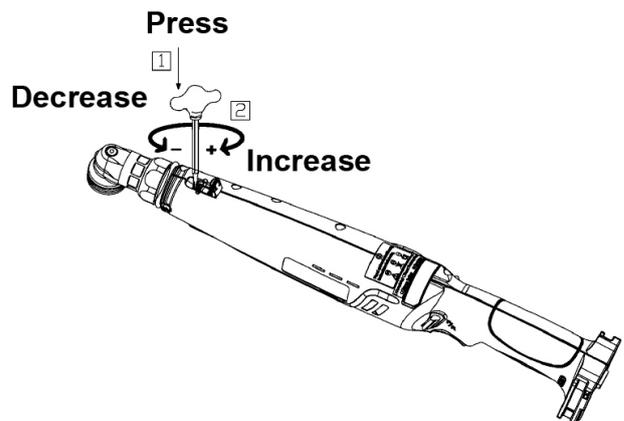
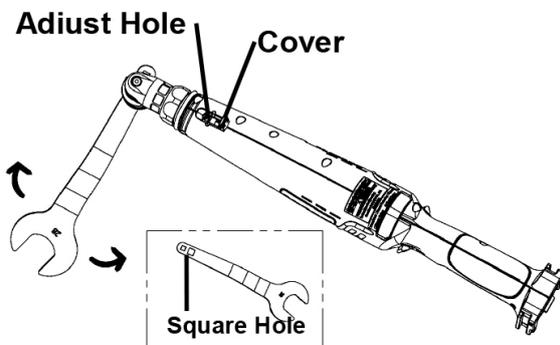
NOTE: MUST remove the battery pack before adjusting the torque and press the trigger to make sure no power connected. Or, it may create a risk of injury.

2. **(2)For Screwdriver:** Lift the torque adjustment over. Take the torque adjust tool and insert it to the quick change holder and turn until the adjust hole shows up.

NOTE: MUST remove the battery pack before adjusting the torque and press the trigger to make sure no power connected. Or, it may create a risk of injury.



2. Turn the torque adjustment tool clockwise to increase the torque and counterclockwise to decrease the torque.

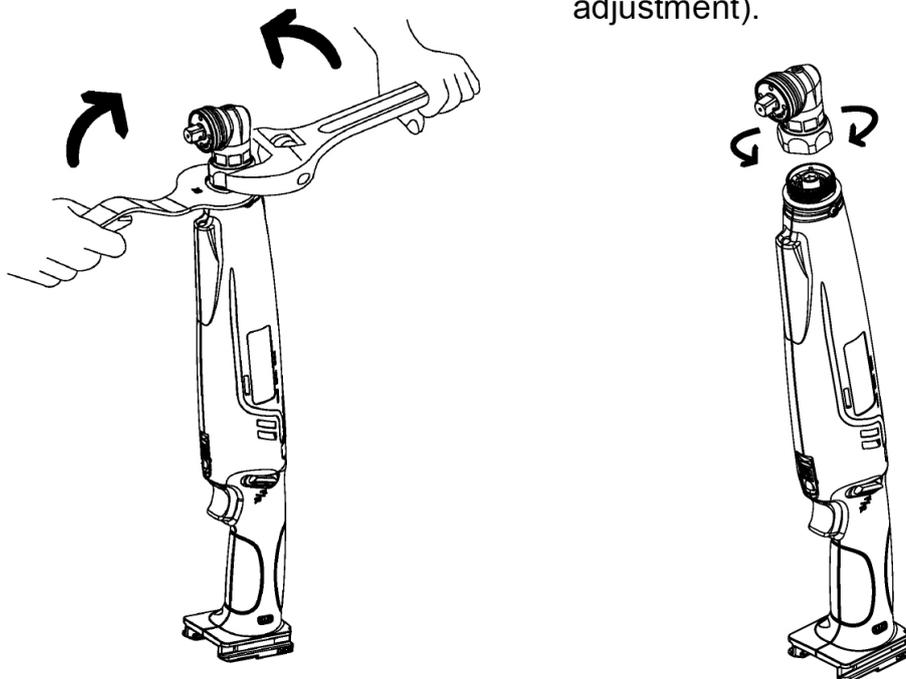


LED indicator and beeper on the tool shows the following status

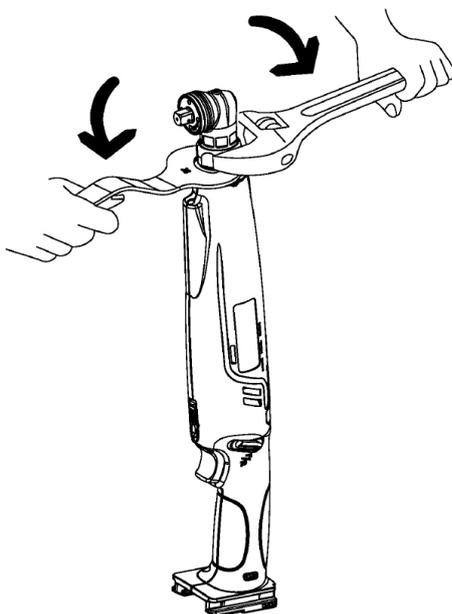
Status of the LED indicator and beeper	Status of the tool	Action to be taken
Light up in red, yellow and green together for one second. A long beep for one second.	The motor is switched on.	-
Light up in red for one second. A long beep for one second.	The preset torque is not reached (NOK).	The screwing fastener must be performed again.
	The screw is refastened after fastening (NOK).	The screwing fastener must be performed again.
Light up in green.	The preset torque is reached and the tightening is OK.	-
Blinks in yellow for five times. Five short beeps.	The battery power becomes low.	Replace the battery with fully charged one.
Light up in yellow for five second. A long beep for five second.	The battery power is used up, the tool stops immediately.	Replace the battery with fully charged one.
Light up in blue.	The tool is in reverse operation.	-
Blinks in red for two times.	The motor is too hot.	Remove the battery and let the tool cool down, and then reattach the battery. The tool can work properly again.
Blinks in red for three times.	The motor is failed.	Send to the service center.
Blinks in red for four times.	The connector wire is failed.	Send to the service center.

Steps for angle head position adjustment (BSTA 10 to 35)

1. Use an open end wrench and an adjustment wrench to loosen the nut by turning in opposite direction to remove the angle head kit.
2. Adjust the angle head kit to the degree you wished then put it back on the tool (a 45° as one position, total 8 positions for angle adjustment).

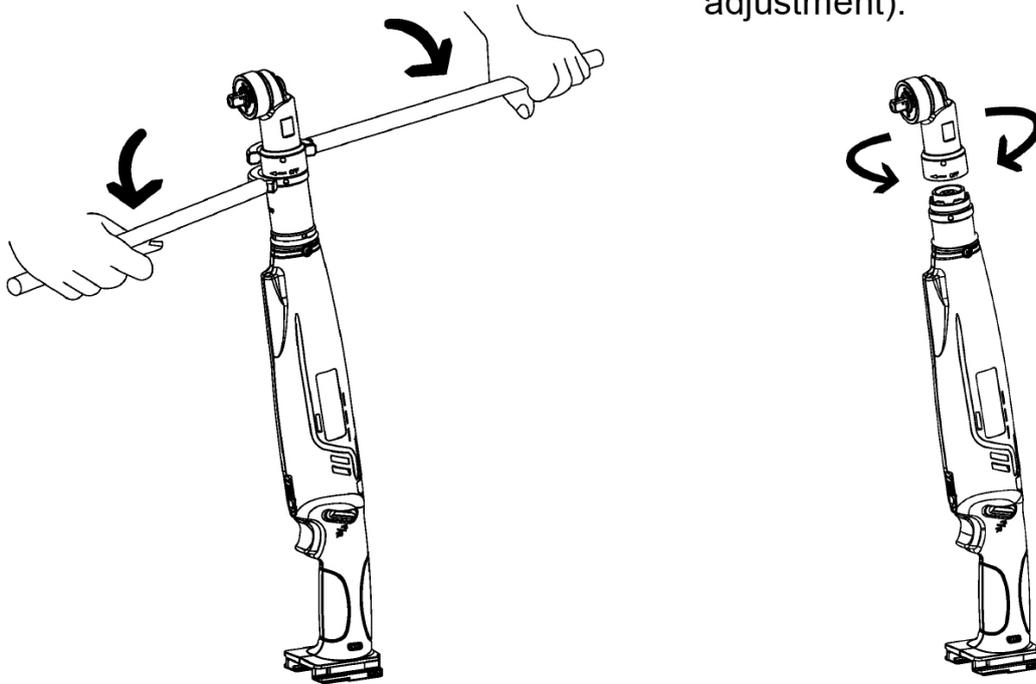


3. Use an open end wrench and an adjustment wrench to tighten the nut by turning in opposite direction to the complete angle adjustment.
(Tightening force BSTA 10 to 35: 60 Nm)
For BSTCA-30, you must use a spanner wrench end fitting 14 x 18 mm spanner (4-1090188).
During this operation, block the rotation of angle head or use a second spanner wrench.

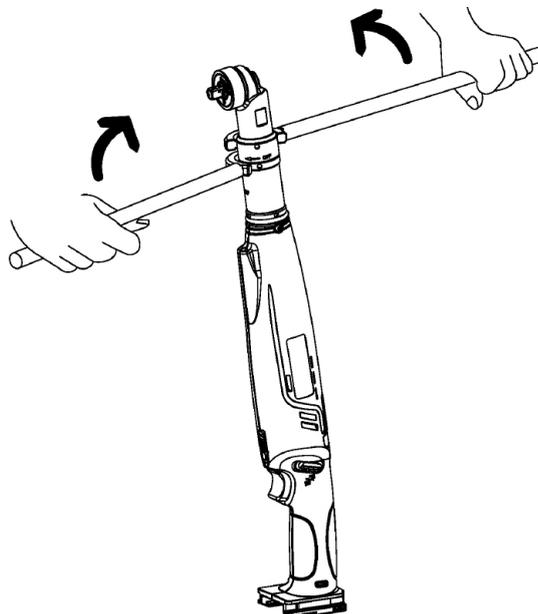


Steps for angle head position adjustment (BSTA 50 to 90)

1. You must use a spanner wrench. During this operation, block the rotation of the angle head or use a second spanner wrench.
2. Adjust the angle head kit to the degree you wished then put it back on the tool (a 60° as one position, total 6 positions for angle adjustment).



3. You must use a spanner wrench to tighten the nut of angle head. During this operation, block the rotation of the angle head or use a second spanner wrench. Tightening force:
 - BSTA 50 to 60: 50 Nm, end fitting 14 x 18 mm spanner (4-1090230)
 - BSTA 70 to 90: 70 Nm, end fitting 14 x 18 mm spanner (4-1090231)



Charging the battery - For Li-ion battery

[NOTE]

- When charging a cool battery pack (below 0°C (32°F)) in a warm place, leave the battery pack at the place and wait for more than one hour to warm up the battery to the level of the ambient temperature. Otherwise, battery pack may not be fully charged.
 - Cool down the charger when charging more than two battery packs consecutively.
 - Do not insert your fingers / nails into contact hole, when holding charger or any other occasions.
1. Place charger in a relatively cool and well-ventilated area.
 2. Plug charger into the AC outlet.
CAUTION: Ensure that the power source to be utilized conforms to the power requirement specified on the product nameplate.
 3. Turn the battery up-side-down and slide the battery into charger while keeping the alignment marks line up. Slide the forward in the direction of the arrow. Do not force battery as it should slide easily into place with nominal force. Any difficulty doing so would indicate an incorrect alignment.
 4. If the power lamp (red) does not light immediately or goes out soon after the charger is plugged in, consult an authorized dealer.



5. During charging, the charging lamp (green) will start flashing. When charging is completed, an internal electronic switch will automatically be triggered to prevent overcharging.
 - Charging will not start if the battery pack is warm. For example, immediately after heavy-duty operation. The yellow standby lamp will be flashing until the battery cools down.
6. If the temperature of the battery pack is 0°C or less, charging takes longer to fully charge the battery pack than the standard charging time. Even when the battery is fully charged, it will have approximately 50% of the power of a fully charged battery at normal operation temperature.
7. Once the battery is fully charged, the green lamp will be lit to indicate the gone into a trickle charge mode.
8. The battery does not charge when placed on its charger. This means that the battery has suffered a “deep” discharge. This can happen when you leave the battery on the screwdriver for a long period of time while the yellow LEDs are lit “battery discharged” (for example, over a weekend). The battery must then be left to rest for at least 48 hours before being put on the charger. If the problem persists, contact Doga after-sales service.

Li-ion battery Pack

[NOTE]

1. Your battery pack is not fully charged at the time of purchase. Be sure to charge the battery before first use.
2. To optimize battery life and avoid damage, remove the battery from the tool when it is not in use for a long period of time (stopping for more than 2 hours) or as soon as the screwdriver LEDs start flashing yellow (yellow LEDs = discharged battery).
3. Recharge the battery pack once every 6 month even if the battery is not in use.

LAMP INDICATIONS

		<p>Red Lit Charger is plugged into the AC outlet. Ready to charge.</p>
		<p>Yellow Flashing</p> <p>(1) When the temperature of the battery is too low (<math>0^{\circ}\text{C}</math>(<math><32^{\circ}\text{F}</math>)), it is in a trickle charge mode until the temperature of the battery goes up to over <math>0^{\circ}\text{c}< (if="" 70="" after="" an="" and="" authorized="" automatically="" change="" changes="" charge.="" consult="" dealer.)<="" flashing="" from="" green="" lamp="" lit,="" math>(<math><32^{\circ}\text{f}<="" math>).="" minutes,="" p="" start="" the="" to="" will="" yellow=""> <p>(2) When the temperature of the battery is too high (><math>40^{\circ}\text{c}< (if="" 70="" <math>40^{\circ}\text{c}<="" a="" after="" an="" and="" authorized="" automatically="" battery="" change="" changes="" charge="" charge.="" consult="" dealer.)<="" drops="" flashing="" from="" green="" in="" is="" it="" lamp="" lit,="" math>(<math>104^{\circ}\text{f}<="" math>)),="" math>).="" minutes,="" mode="" of="" p="" start="" temperature="" the="" to="" trickle="" under="" until="" will="" yellow=""> <p>(3) When the voltage of the battery is too low (below <u>14.4</u> voltage), it is in a trickle charge mode until the voltage of the battery reaches to the standard value. The lamp will change from the Yellow Flashing to Green Flashing automatically and start to charge. (If after 20 minutes, the lamp changes from yellow flashing to yellow lit, consult an authorized dealer.)</p> </math>40^{\circ}\text{c}<></p></math>0^{\circ}\text{c}<></p>
		<p>Yellow Lit The battery and the charger are not connected. If the yellow lit still on after trying re-attach the battery, consult the an authorized dealer.</p>
		<p>Green Flashing Now start charging</p> <p>Green Flashing Battery is approximately 50% charged.</p>
		<p>Green Flashing Battery is approximately 80% charged.</p>
		<p>Green Lit Charging is complete. (Fully charged.)</p>

SPECIFICATIONS

MODEL	BSTA-10 HD1/4	BSTA-10 SD1/4
ITEM		
Voltage	18 VDC	18 VDC
Drive Size	6.35 mm Hex. (1/4")	6.35 mm Sq. (1/4")
Screw Size	M4 ~ M5	M4 ~ M5
Torque Range (Hard joint)	3 ~ 12 N-m (26 ~ 106 in-lb)	3 ~ 12 N-m (26 ~ 106 in-lb)
Torque Range (Soft joint)	3 ~ 10 N-m (26 ~ 89 in-lb)	3 ~ 10 N-m (26 ~ 89 in-lb)
Free Speed	400 ~ 1000 r.p.m	400 ~ 1000 r.p.m
Weight W/O Battery	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)
Battery Type	Li-ion 2.0A.h	Li-ion 2.0A.h
Charge Time	Approx. 45 mins	Approx. 45mins

MODEL	BSTA-10 SD3/8	BSTA-16 HD1/4
ITEM		
Voltage	18 VDC	18 VDC
Drive Size	9.5 mm Sq. (3/8")	6.35 mm Hex. (1/4")
Screw Size	M4 ~ M5	M5 ~ M6
Torque Range (Hard joint)	3 ~ 12 N-m (26 ~ 106 in-lb)	5 ~ 18 N-m (44 ~ 159 in-lb)
Torque Range (Soft joint)	3 ~ 10 N-m (26 ~ 89 in-lb)	5 ~ 16 N-m (44 ~ 142 in-lb)
Free Speed	400 ~ 1000 r.p.m	300 ~ 600 r.p.m
Weight W/O Battery	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)
Battery Type	Li-ion 2.0A.h	Li-ion 2.0A.h
Charge Time	Approx. 45 mins	Approx. 45 mins

SPECIFICATIONS

MODEL	BSTA-16 SD1/4	BSTA-16 SD3/8
ITEM		
Voltage	18 VDC	18 VDC
Drive Size	6.35 mm Sq. (1/4")	9.5 mm Sq. (3/8")
Screw Size	M5 ~ M6	M5 ~ M6
Torque Range (Hard joint)	5 ~ 18 N-m (44 ~ 159 in-lb)	5 ~ 18 N-m (44 ~ 159 in-lb)
Torque Range (Soft joint)	5 ~ 16 N-m (44~ 142 in-lb)	5 ~ 16 N-m (44~ 142 in-lb)
Free Speed	300 ~ 600 r.p.m	300 ~ 600 r.p.m
Weight W/O Battery	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)
Battery Type	Li-ion 2.0A.h	Li-ion 2.0A.h
Charge Time	Approx. 45 mins	Approx. 45 mins

MODEL	BSTA-30 SD3/8	BSTA-35 SD3/8
ITEM		
Voltage	18 VDC	18 VDC
Drive Size	9.5 mm Sq. (3/8")	9.5 mm Sq. (3/8")
Screw Size	M6 ~ M8	M6 ~ M8
Torque Range (Hard joint)	8 ~ 30 N-m (71 ~ 266 in-lb)	10 ~ 35 N-m (89 ~310 in-lb)
Torque Range (Soft joint)	8 ~ 22 N-m (71 ~ 195 in-lb)	10 ~ 30 N-m (89~ 266 in-lb)
Free Speed	250 ~ 480 r.p.m	200 ~ 330 r.p.m
Weight W/O Battery	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)
Battery Type	Li-ion 2.0A.h	Li-ion 2.0A.h
Charge Time	Approx. 45 mins	Approx. 45 mins

SPECIFICATIONS SPECIFICATIONS

MODEL	BSTA-50 SD3/8		BSTA-50 SD1/2	
ITEM				
Voltage	18 VDC		18 VDC	
Drive Size	9.5 mm Sq. (3/8")		12.7 mm Sq. (1/2")	
Screw Size	M6 ~ M10		M6 ~ M10	
Torque Range (N-m) (Hard joint)	10 ~ 50	10 ~ 50	10 ~ 50	10 ~ 50
Torque Range (N-m) (Soft joint)	10 ~ 50	10 ~ 45	10 ~ 50	10 ~ 45
Battery Type (A.h)	Li-ion 4.0	Li-ion 2.0	Li-ion 4.0	Li-ion 2.0
Charge Time (min.)	85	45	85	45
Free Speed	200 r.p.m		200 r.p.m	
Weight W/O Battery	2.0 kg (4.4 lb)		2.0 kg (4.4 lb)	

MODEL	BSTA-70 SD3/8		BSTA-70 SD1/2	
ITEM				
Voltage	18 VDC		18 VDC	
Drive Size	9.5 mm Sq. (3/8")		12.7 mm Sq. (1/2")	
Screw Size	M8 ~ M12		M8 ~ M12	
Torque Range (N-m) (Hard joint)	20 ~ 70	20 ~ 70	20 ~ 70	20 ~ 70
Torque Range (N-m) (Soft joint)	20 ~ 70	20 ~ 60	20 ~ 70	20 ~ 60
Battery Type (A.h)	Li-ion 4.0	Li-ion 2.0	Li-ion 4.0	Li-ion 2.0
Charge Time (min.)	85	45	85	45
Free Speed	170 r.p.m		170 r.p.m	
Weight W/O Battery	2.5 kg (5.5 lb)		2.5 kg (5.5 lb)	

NOISE AND VIBRATION LEVEL DECLARATION (Max. value) EN 60745-2-2**Model : BSTA-10 HD1/4 、 BSTA-10 SD1/4 、 BSTA-10 SD3/8 、 BSTA-16 HD1/4 、 BSTA-16 SD1/4 、 BSTA-16 SD3/8**

Sound pressure level(no load) L_{pA} : 66.7 dBA Uncertainty K : 1.5 dB

Sound power level(no load) L_{wA} : 77.7 dBA Uncertainty K : 1.5 dB

Vibration total value(no load) a_{hd} : 0.6 m/s² Uncertainty K : 1.5 m/s²

Model : BSTA-30 SD3/8 、 BSTA-35 SD3/8

Sound pressure level(no load) L_{pA} : 67.8 dBA Uncertainty K : 1.5 dB

Sound power level(no load) L_{wA} : 78.8 dBA Uncertainty K : 1.5 dB

Vibration total value(no load) a_{hd} : 0.3 m/s² Uncertainty K : 1.5 m/s²

The declared noise levels and 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 noise levels and vibration total value may also be used in a preliminary assessment of exposure.

WARNING:

- The noise and vibration emission during actual use of the power tool can differ from the declared total value depending on the ways in which the tool is used; and
- Need to 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).

NOISE AND VIBRATION LEVEL DECLARATION (Max. value) EN 60745-2-2**Model : BSTA-50 SD3/8 、 BSTA-50 SD1/2**

Sound pressure level(no load) L_{pA} : 64.4 dBA Uncertainty K : 1.5 dB

Sound power level(no load) L_{wA} : 75.4 dBA Uncertainty K : 1.5 dB

Vibration total value(no load) a_{hd} : 0.6 m/s² Uncertainty K : 1.5 m/s²

Model : BSTA-70 SD3/8 、 BSTA-70 SD3/8

Sound pressure level(no load) L_{pA} : 67.2 dBA Uncertainty K : 1.5 dB

Sound power level(no load) L_{wA} : 78.2 dBA Uncertainty K : 1.5 dB

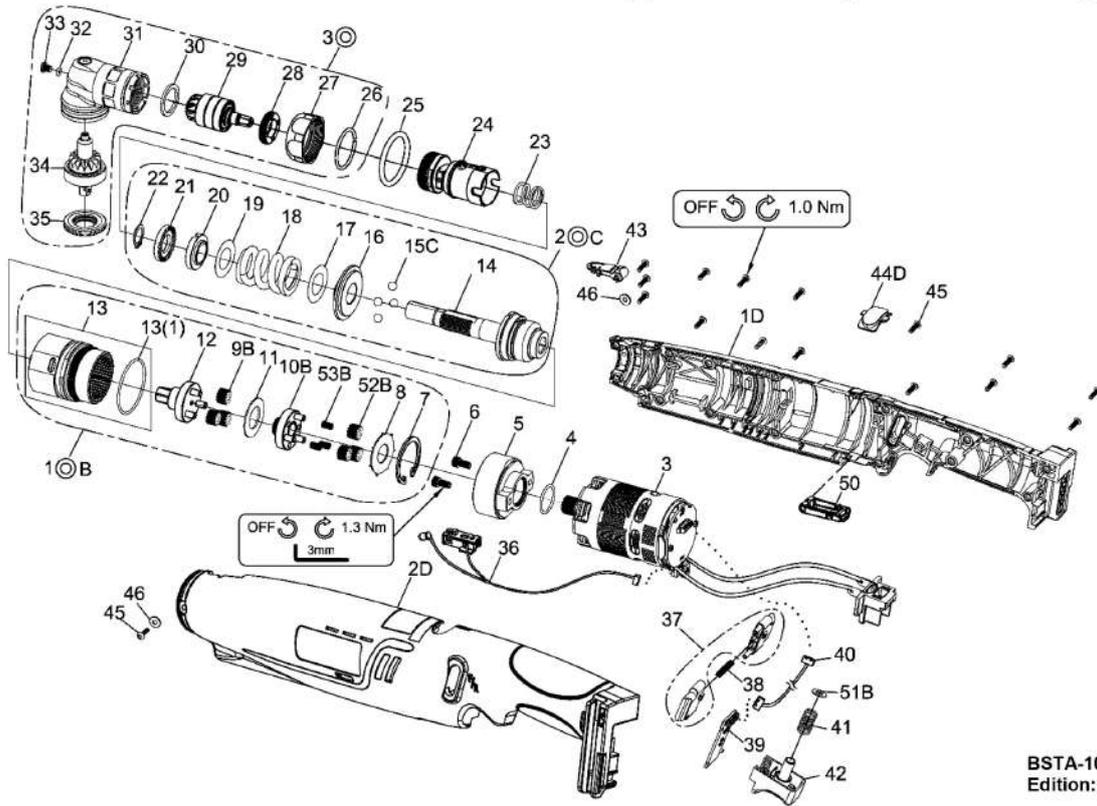
Vibration total value(no load) a_{hd} : 0.5 m/s² Uncertainty K : 1.5 m/s²

The declared noise levels and 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 noise levels and vibration total value may also be used in a preliminary assessment of exposure.

WARNING:

- The noise and vibration emission during actual use of the power tool can differ from the declared total value depending on the ways in which the tool is used; and
- Need to 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).

18V Cordless Shut off Angle Tool (3~12 N-m)



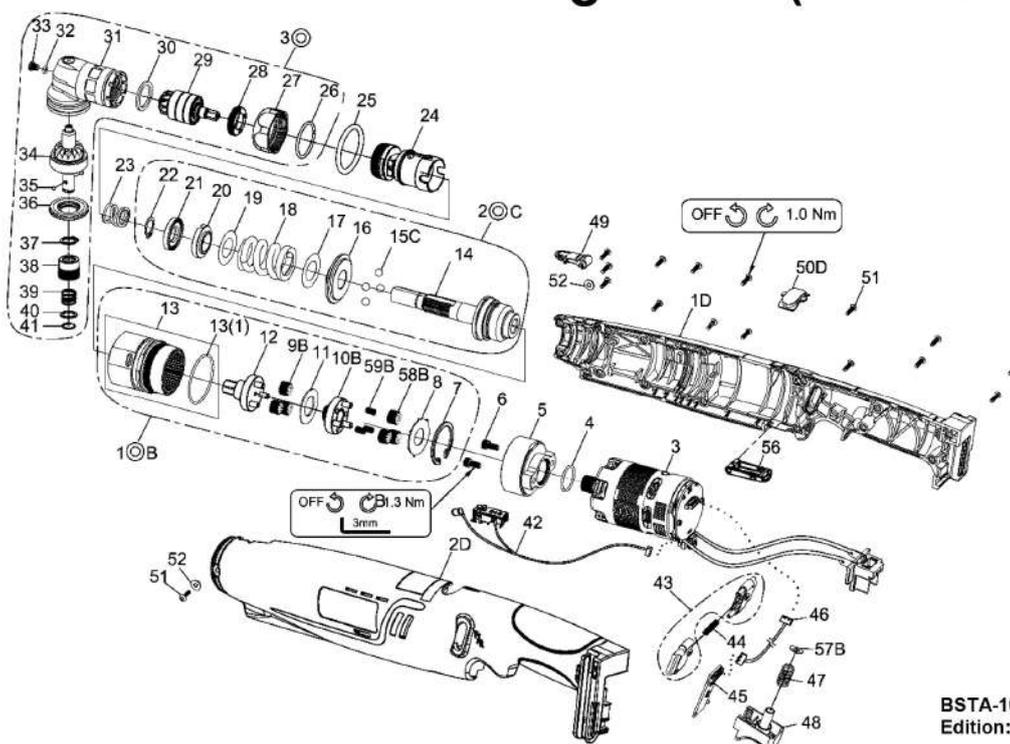
BSTA-10SD1/4
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16xφ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙B	B50WR10	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
52B	D49WRB-13	Planet Gear*	3
53B	000-2415	Needle Bearing	3
10B	B51WRB-7	Gear Cage Assembly	1
11	D39WR-8	Washer	1
9B	D49WR-8	Planet Gear*	3
12	B51WR-9	Gear Plate Assembly	1
13	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28xφ 1.5)	1*
2⊙C	B43WR10	Clutch Units	1
14	B29WR	Clutch Assembly	1
15C	000-3854	Steel Ball (7/32")	4
16	D39WR-2	Washer	1
17	D39WR-7	Washer	1
18	D48WR-1	Spring (Red)	1
19	D39WR-5	Washer (White)	1
20	D39SC108B-2	Adjust Washer*	1
21	D54SC108B	Adjust Nut*	1
22	000-3012I	Snap Ring (ISTW-12)	1

* The easily worn parts highlighted in blue

Index No	Part No.	Description	Q'ty
23	D48WR	Spring	1
24	B51WR	Connecting Holder Assembly	1
25	000-4120R	Marking Ring (P32,Red)	1
3⊙	B42WR2# BZ	Angle Housing Units	1
26	D44WR108B	Collar	1
27	D54WR108B# BZ	Lock Nut	1
28	D54WR108B-1B	Lock Nut	1
29	B49WR144B-8	Main Bevel Gear Assembly	1
30	D39WR144B	Washer	1
31	B42WR-1#BZ	Angle Housing Assembly	1
32	000-4114	O-Ring (φ 3xφ 1.5)	1
33	000-1340	Screw (M4x4.5L)	1
34	B49WR144B2-9	Bevel Gear Assembly	1
35	D54WR108B-2B	Lock Nut	1
36	B75WR	Sensor & LED Assembly*	1
37	B09PW15-1#B1	F/R Valve(1setx2pcs)	1
38	D48PW15-1	Spring	1
39	E76WR	PC Board	1
40	E86SC	Connector Wire*	1
41	D48PW15	Spring	1
42	B09PW15#B1	Trigger Assembly	1
43	C10SC108B-2#B1	Cover*	1
44D	33110-WRBA-02	Cover	1
45	000-1430C	Screw (M3xP0.5x10L)	16
46	000-1531B	Washer (φ 3.3xφ 8)	2
50	C10WRB#B1	Cover*	1
51B	C39PW15-3	Washer	1

18V Cordless Shut off Angle Tool (3~12 N-m)



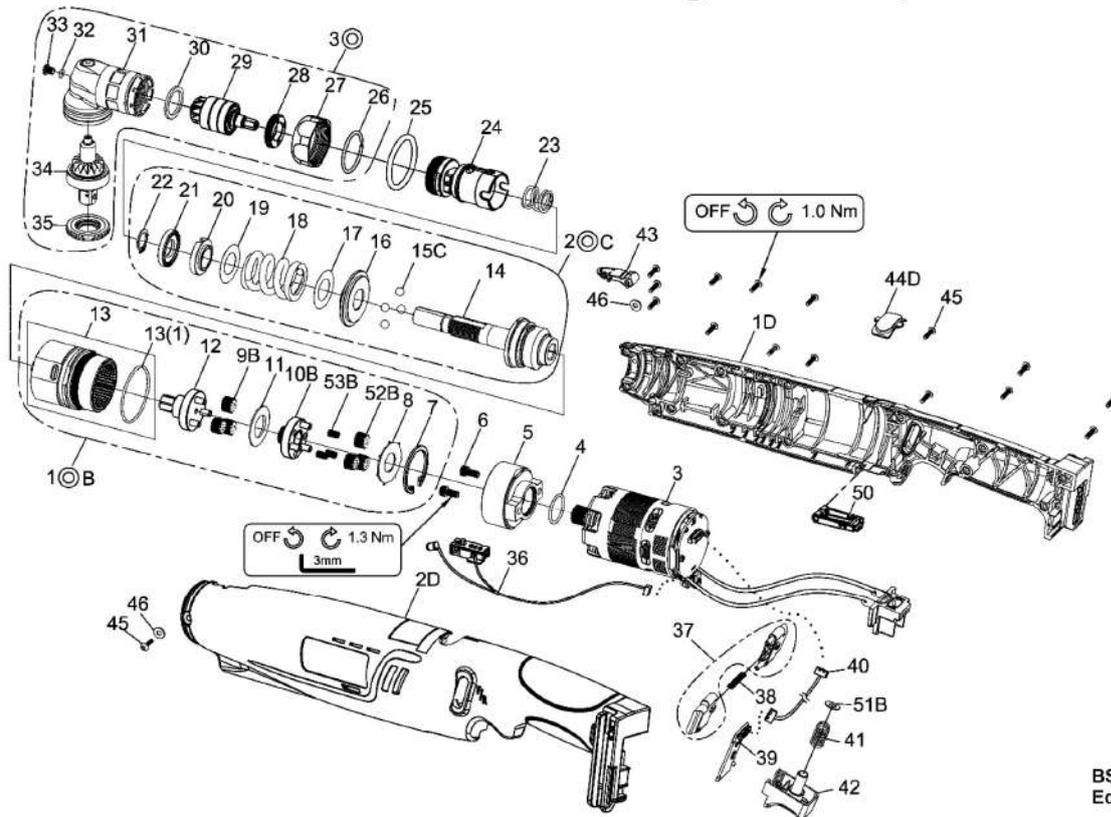
BSTA-10HD1/4
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly	1
4	000-4110	O-Ring (φ 16xφ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
10B	B50WR10	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
58B	D49WRB-13	Planet Gear*	3
59B	000-2415	Needle Bearing	3
10B	B51WRB-7	Gear Cage Assembly	1
11	D39WR-8	Washer	1
9B	D49WR-8	Planet Gear*	3
12	B51WR-9	Gear Plate Assembly	1
13	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28xφ 1.5)	1*
20C	B43WR10	Clutch Units	1
14	B29WR	Clutch Assembly	1
15C	000-3854	Steel Ball (7/32")	4
16	D39WR-2	Washer	1
17	D39WR-7	Washer	1
18	D48WR-1	Spring (Red)	1
19	D39WR-5	Washer (White)	1
20	D39SC108B-2	Adjust Washer*	1
21	D54SC108B	Adjust Nut*	1
22	000-3012I	Snap Ring (ISTW-12)	1
23	D48WR	Spring	1
24	B51WR	Connecting Holder Assembly	1
25	000-4120R	Marking Ring (P32,Red)	1

Index No	Part No.	Description	Q'ty
30	D39WR144B	Washer	1
31	B42WR-1#BZ	Angle Housing Assembly	1
32	000-4114	O-Ring (φ 3xφ 1.5)	1
33	000-1340	Screw (M4x4.5L)	1
34	B49WR144B-9	Bevel Gear Assembly	1
35	000-3833	Steel Ball(φ 3)	2
36	D54WR108B-2B	Lock Nut	1
37	000-3011	Snap Ring (STW-11)	1
38	D42ID144A	Quick Change Holder	1
39	D48ID144A	Spring	1
40	D39ID144A	Hold Spacer	1
41	D44ID144A	Anvil Collar	1
42	B75WR	Sensor & LED Assembly*	1
43	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
44	D48PW15-1	Spring	1
45	E76WR	PC Board	1
46	E86SC	Connector Wire*	1
47	D48PW15	Spring	1
48	B09PW15#B1	Trigger Assembly	1
49	C10SC108B-2#B1	Cover*	1
50D	33110-WRBA-02	Cover	1
51	000-1430C	Screw (M3xP0.5x10L)	16
52	000-1531B	Washer (φ 3.3xφ 8)	2
56	C10WRB#B1	Cover*	1
57B	C39PW15-3	Washer	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (3~12 N-m)



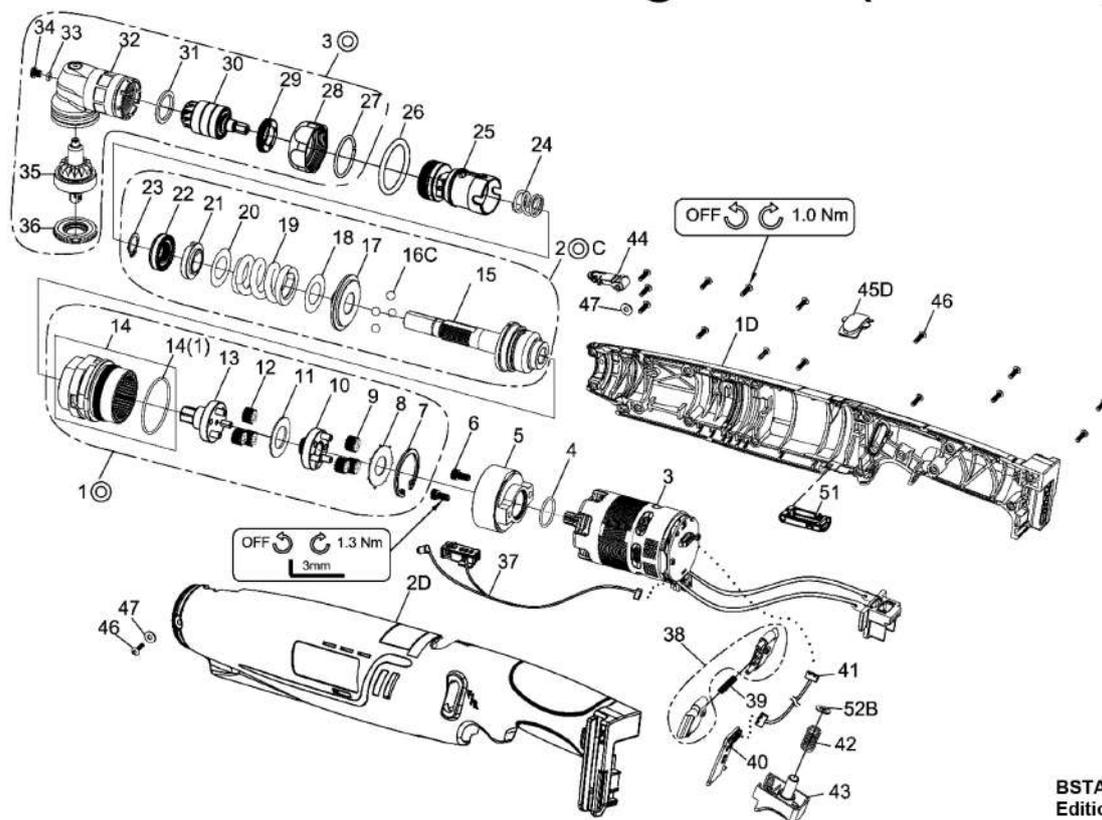
BSTA-10SD3/8
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly	1
4	000-4110	O-Ring (φ 16×φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4×8L)	2
1⊙B	B50WR10	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
52B	D49WRB-13	Planet Gear*	3
53B	000-2415	Needle Bearing	3
10B	B51WRB-7	Gear Cage Assembly	1
11	D39WR-8	Washer	1
9B	D49WR-8	Planet Gear*	3
12	B51WR-9	Gear Plate Assembly	1
13	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28×φ 1.5)	1*
2⊙C	B43WR10	Clutch Units	1
14	B29WR	Clutch Assembly	1
15C	000-3854	Steel Ball (7/32")	4
16	D39WR-2	Washer	1
17	D39WR-7	Washer	1
18	D48WR-1	Spring (Red)	1
19	D39WR-5	Washer (White)	1
20	D39SC108B-2	Adjust Washer*	1
21	D54SC108B	Adjust Nut*	1
22	000-3012I	Snap Ring (ISTW-12)	1

* The easily worn parts highlighted in blue

Index No	Part No.	Description	Q'ty
23	D48WR	Spring	1
24	B51WR	Connecting Holder Assembly	1
25	000-4120R	Marking Ring (P32,Red)	1
3⊙	B42WR3 # BZ	Angle Housing Units	1
26	D44WR108B	Collar	1
27	D54WR108B # BZ	Lock Nut	1
28	D54WR108B-1B	Lock Nut	1
29	B49WR144B-8	Main Bevel Gear Assembly	1
30	D39WR144B	Washer	1
31	B42WR-1#BZ	Angle Housing Assembly	1
32	000-4114	O-Ring (φ 3×φ 1.5)	1
33	000-1340	Screw (M4×4.5L)	1
34	B49WR144B3-9	Bevel Gear Assembly	1
35	D54WR108B-2B	Lock Nut	1
36	B75WR	Sensor & LED Assembly*	1
37	B09PW15-1#B1	F/R Valve(1set×2pcs)	1
38	D48PW15-1	Spring	1
39	E76WR	PC Board	1
40	E86SC	Connector Wire*	1
41	D48PW15	Spring	1
42	B09PW15#B1	Trigger Assembly	1
43	C10SC108B-2#B1	Cover*	1
44D	33110-WRBA-02	Cover	1
45	000-1430C	Screw (M3×P0.5×10L)	16
46	000-1531B	Washer (φ 3.3×φ 8)	2
50	C10WRB#B1	Cover*	1
51B	C39PW15-3	Washer	1

18V Cordless Shut off Angle Tool (5~18 N-m)



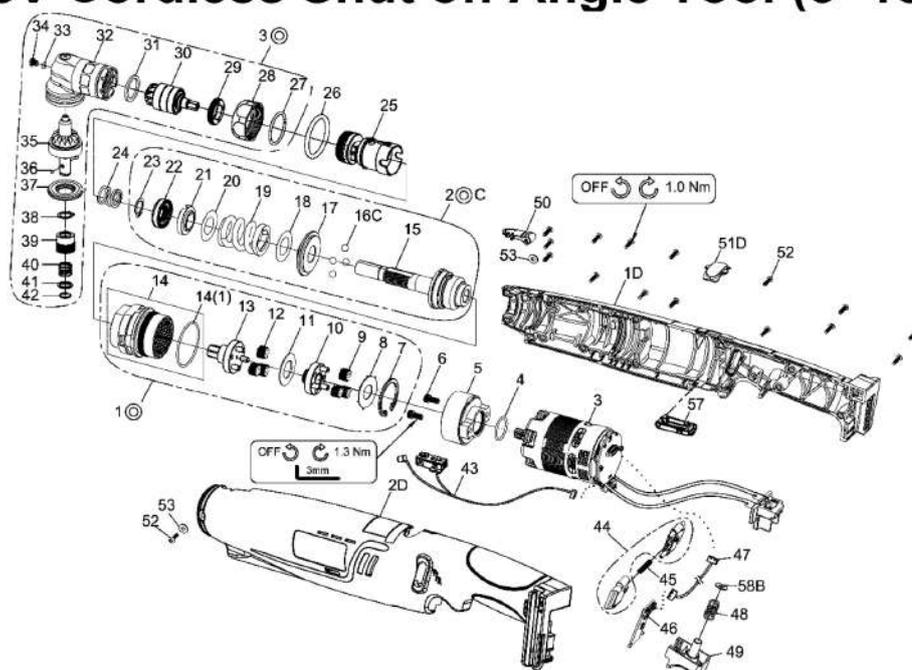
BSTA-16SD1/4
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR16	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16xφ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙	B50WR16	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WR-9	Planet Gear *	3
10	B51WR-6	Gear Cage Assembly	1
11	D39WR-8	Washer	1
12	D49WR-10	Planet Gear *	3
13	B51WR-11	Gear Plate Assembly	1
14	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28xφ 1.5)	1*
2⊙C	B43WR16	Clutch Units	1
15	B29WR	Clutch Assembly *	1
16C	000-3854	Steel Ball (7/32")*	4
17	D39WR-2	Washer	1
18	D39WR-7	Washer	2
19	D48WR-2	Spring (Yellow)	1
20	D39WR-5	Washer (White)	1
21	D39SC108B-2	Adjust Washer	1
22	D54WR	Adjust Nut *	1
23	000-3012I	Snap Ring (ISTW-12)*	1
24	D48WR	Spring	1

Index No	Part No.	Description	Q'ty
25	B51WR	Connecting Holder Assembly	1
26	000-4120Y	Marking Ring (P32, Yellow)	1
3⊙	B42WR2 # BZ	Angle Housing Units	1
27	D44WR108B	Collar	1
28	D54WR108B # BZ	Lock Nut	1
29	D54WR108B-1B	Lock Nut	1
30	B49WR144B-8	Main Bevel Gear Assembly	1
31	D39WR144B	Washer	1
32	B42WR-1#BZ	Angle Housing Assembly	1
33	000-4114	O-Ring (φ 3xφ 1.5)	1
34	000-1340	Screw (M4x5L)	1
35	B49WR144B2-9	Bevel Gear Assembly	1
36	D54WR108B-2B	Lock Nut	1
37	B75WR	Sensor & LED Assembly*	1
38	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
39	D48PW15-1	Spring	1
40	E76WR	PC Board	1
41	E86SC	Connector Wire*	1
42	D48PW15	Spring	1
43	B09PW15#B1	Trigger Assembly	1
44	C10SC108B-2#B1	Cover*	1
45D	33110-WRBA-02	Cover	1
46	000-1430C	Screw (M3xP0.5x10L)	16
47	000-1531B	Washer (φ 3.3xφ 8)	2
51	C10WRB#B1	Cover*	1
52B	C39PW15-3	Washer	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (5~18 N-m)



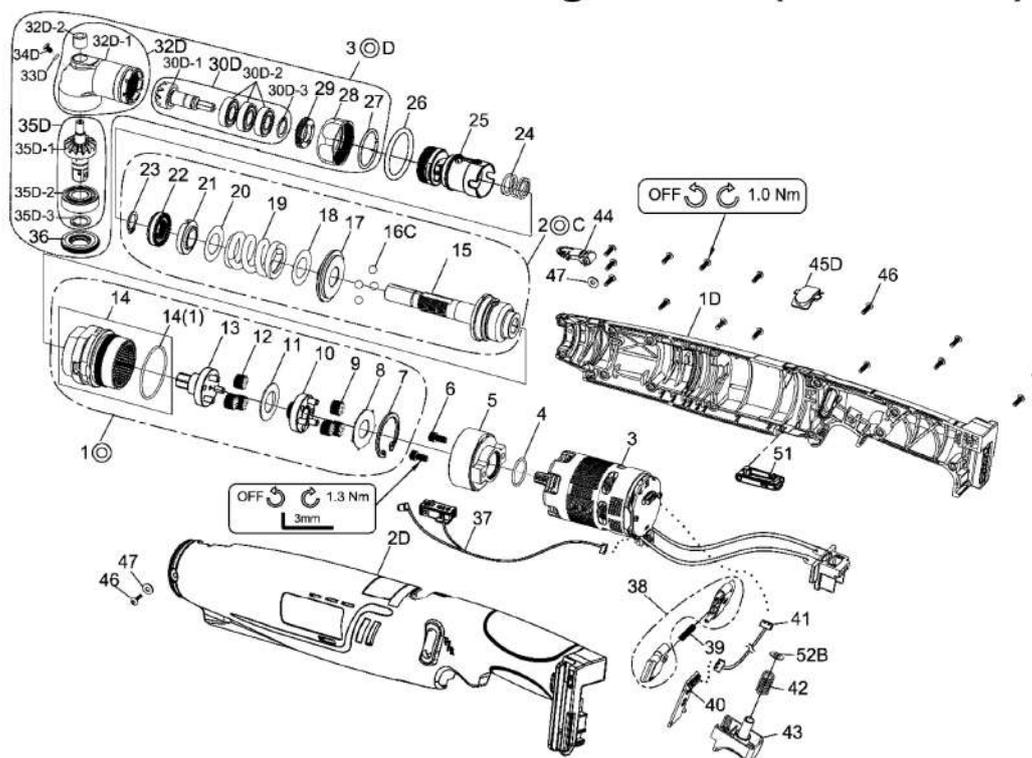
BSTA-16HD1/4
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR16	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16xφ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙	B50WR16	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WR-9	Planet Gear	3
10	B51WR-6	Gear Cage Assembly	1
11	D39WR-8	Washer	1
12	D49WR-10	Planet Gear	3
13	B51WR-11	Gear Plate Assembly	1
14	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28xφ 1.5)	1*
2⊙C	B43WR16	Clutch Units	1
15	B29WR	Clutch Assembly	1
16C	000-3854	Steel Ball (7/32")	4
17	D39WR-2	Washer	1
18	D39WR-7	Washer	2
19	D48WR-2	Spring (Yellow)	1
20	D39WR-5	Washer (White)	1
21	D39SC108B-2	Adjust Washer	1
22	D54WR	Adjust Nut	1
23	000-3012I	Snap Ring (ISTW-12)	1
24	D48WR	Spring	1
25	B51WR	Connecting Holder Assembly	1
26	000-4120Y	Marking Ring (P32, Yellow)	1

Index No	Part No.	Description	Q'ty
3⊙	B42WR # BZ	Angle Housing Units	1
27	D44WR108B	Collar	1
28	D54WR108B # BZ	Lock Nut	1
29	D54WR108B-1B	Lock Nut	1
30	B49WR144B-8	Main Bevel Gear Assembly	1
31	D39WR144B	Washer	1
32	B42WR-1#BZ	Angle Housing Assembly	1
33	000-4114	O-Ring (φ 3xφ 1.5)	1
34	000-1340	Screw (M4x5L)	1
35	B49WR144B-9	Bevel Gear Assembly	1
36	000-3833	Steel Ball(φ 3)	2
37	D54WR108B-2B	Lock Nut	1
38	000-3011	Snap Ring (STW-11)	1
39	D42ID144A	Quick Change Holder	1
40	D48ID144A	Spring	1
41	D39ID144A	Hold Spacer	1
42	D44ID144A	Anvil Collar	1
43	B75WR	Sensor & LED Assembly	1
44	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
45	D48PW15-1	Spring	1
46	E76WR	PC Board	1
47	E86SC	Connector Wire	1
48	D48PW15	Spring	1
49	B09PW15#B1	Trigger Assembly	1
50	C10SC108B-2#B1	Cover	1
51D	33110-WRBA-02	Cover	1
52	000-1430C	Screw (M3xP0.5x10L)	16
53	000-1531B	Washer (φ 3.3xφ 8)	2
57	C10WRB#B1	Cover	1
58B	C39PW15-3	Washer	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (8~30 N-m)



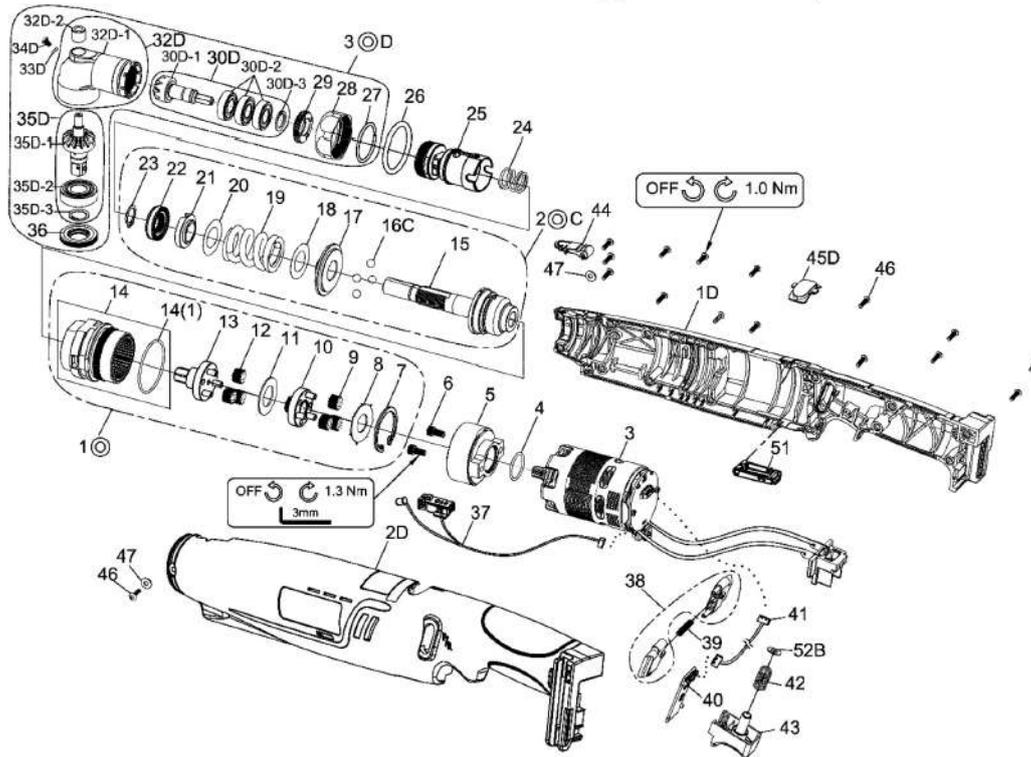
BSTA-30SD3/8
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR30	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16x φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
10	B50WR30	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WR-9	Planet Gear *	3
10	B51WR-5	Gear Cage Assembly	1
11	D39WR-8	Washer	1
12	D49WR-11	Planet Gear *	3
13	B51WR-8	Gear Plate Assembly	1
14	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28x φ 1.5)	1*
20C	B43WR30	Clutch Units	1
15	B29WR	Clutch Assembly *	1
16C	000-3854	Steel Ball (7/32")*	4
17	D39WR-2	Washer	1
18	D39WR-7	Washer	1
19	D48WR-4	Spring	1
20	D39WR-5	Washer (White)	1
21	D39SC108B-2	Adjust Washer *	1
22	D54WR	Adjust Nut *	1
23	000-3012I	Snap Ring (ISTW-12)	1
24	D48WR	Spring	1
25	B51WR	Connecting Holder Assembly	1
26	000-4120B	Marking Ring (P32,Blue)	1

Index No	Part No.	Description	Q'ty
30D	32042-WRCA-S3-01	Angle Housing Units	1
27	D44WR108B	Collar	1
28	D54WR108B # BZ	Lock Nut	1
29	D54WR108B-1B	Lock Nut	1
	32049-WRBA-01	Main Bevel Gear Assembly	1
	(1)33249-WRBA-13	Main Bevel Gear *	1
	(2)0-201023	Ball Bearing(6900ZZ)	3
	(3)0-331002	Inverted Retaining Ring(ISTW-10)	1
32D	32042-WRCA-03	Angle Housing Assembly	1
	(1)33242-WRCA-02	Angle Housing	1
	(2)0-211005	Needle Bearing(BK0609)	1
33D	0-451019	O-Ring(φ 2* φ 1.5)	1
34D	0-121002	Screw (M3x5L)	1
	32049-WRBA-S3-01	Bevel Gear Assembly	1
	(1)32049-WRBA-S3-02	Bevel Gear *	1
	(2)0-201033-1	Ball Bearing(6001-2RSH)	1
	(3)0-331003	Inverted Retaining Ring(ISTW-12)	1
36	D54WR108B-2B	Lock Nut	1
37	B75WR	Sensor & LED Assembly *	1
38	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
39	D48PW15-1	Spring	1
40	E76WR	PC Board	1
41	E86SC	Connector Wire *	1
42	D48PW15	Spring	1
43	B09PW15#B1	Trigger Assembly	1
44	C10SC108B-2#B1	Cover *	1
45D	33110-WRBA-02	Cover	1
46	000-1430C	Screw (M3xP0.5x10L)	16
47	000-1531B	Washer (φ 3.3x φ 8)	2
51	C10WRB#B1	Cover *	1
52B	C39PW15-3	Washer	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (10~35 N-M)



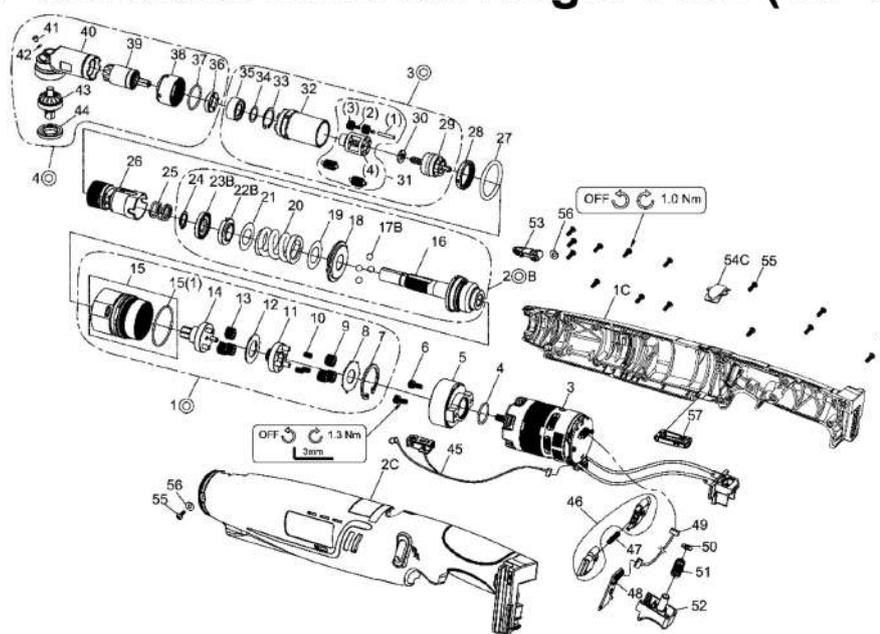
BSTA-35SD3/8
Edition:D

Index No	Part No.	Description	Q'ty
1D	33101-WRBA-08	Upper Housing	1
2D	33102-WRBA-05	Lower Housing	1
3	B83WR35	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16x φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙	B50WR35	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WR-7	Planet Gear *	3
10	B51WR-10	Gear Cage Assembly	1
11	D39WR-8	Washer	1
12	D49WR-11	Planet Gear *	3
13	B51WR-8	Gear Plate Assembly	1
14	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28x φ 1.5)	1*
2⊙C	B43WR30	Clutch Units	1
15	B29WR	Clutch Assembly *	1
16C	000-3854	Steel Ball (7/32") *	4
17	D39WR-2	Washer	1
18	D39WR-7	Washer	1
19	D48WR-4	Spring	1
20	D39WR-5	Washer (White)	1
21	D39SC108B-2	Adjust Washer *	1
22	D54WR	Adjust Nut *	1
23	000-30121	Snap Ring (ISTW-12)	1
24	D48WR	Spring	1
25	B51WR	Connecting Holder Assembly	1
26	000-4120W	Marking Ring (P32, White)	1

* The easily worn parts highlighted in blue

Index No	Part No.	Description	Q'ty
3⊙D	32042-WRCA-S3-01	Angle Housing Units	1
27	D44WR108B	Collar	1
28	D54WR108B # BZ	Lock Nut	1
29	D54WR108B-1B	Lock Nut	1
30D	32049-WRBA-01	Main Bevel Gear Assembly	1
	(1)33249-WRBA-13	Main Bevel Gear *	1
	(2)0-201023	Ball Bearing(6900ZZ)	3
	(3)0-331002	Inverted Retaining Ring(ISTW-10)	1
32D	32042-WRCA-03	Angle Housing Assembly	1
	(1)33242-WRCA-02	Angle Housing	1
	(2)0-211005	Needle Bearing(BK0609)	1
33D	0-451019	O-Ring(φ 2" φ 1.5)	1
34D	0-121002	Screw (M3x5L)	1
35D	32049-WRBA-S3-01	Bevel Gear Assembly	1
	(1)32049-WRBA-S3-02	Bevel Gear *	1
	(2)0-201033-1	Ball Bearing(6001-2RSH)	1
	(3)0-331003	Inverted Retaining Ring(ISTW-12)	1
36	D54WR108B-2B	Lock Nut	1
37	B75WR	Sensor & LED Assembly *	1
38	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
39	D48PW15-1	Spring	1
40	E76WR	PC Board	1
41	E86SC	Connector Wire *	1
42	D48PW15	Spring	1
43	B09PW15#B1	Trigger Assembly	1
44	C10SC108B-2#B1	Cover *	1
45D	33110-WRBA-02	Cover	1
46	000-1430C	Screw (M3xP0.5x10L)	16
47	000-1531B	Washer (φ 3.3x φ 8)	2
51	C10WRB#B1	Cover *	1
52B	C39PW15-3	Washer	1

18V Cordless Shut off Angle Tool (10~50 N-m)



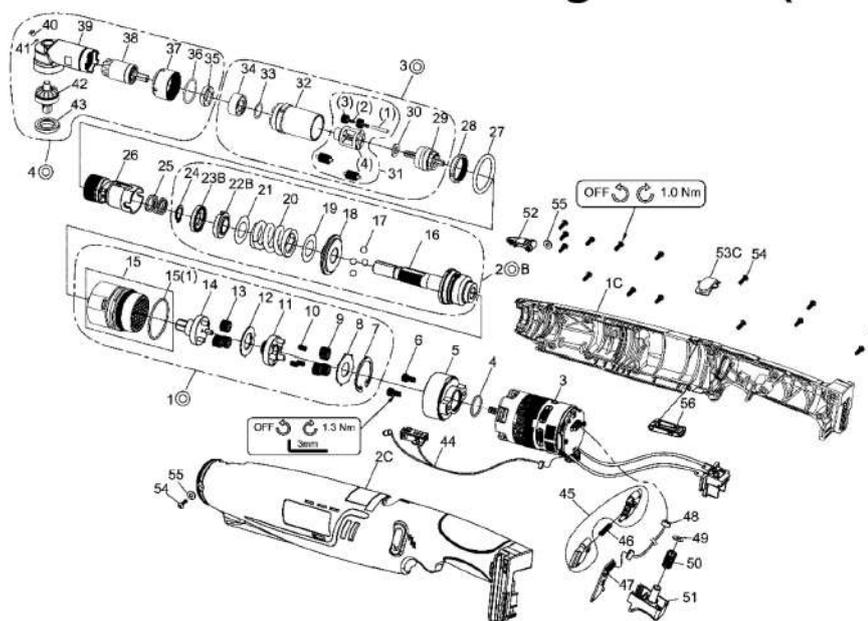
BSTA-50SD3/8
Edition:C

Index No	Part No.	Description	Q'ty
1C	33101-WRBA-08	Upper Housing	1
2C	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16x φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙	B50WR10	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WRB-13	Planet Gear *	3
10	000-2415	Needle Bearing	3
11	B51WRB-7	Gear Cage Assembly	1
12	D39WR-8	Washer	1
13	D49WR-8	Planet Gear *	3
14	B51WR-9	Gear Plate Assembly	1
15	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28x φ 1.5)	1*
2⊙	B43WR50	Clutch Units	1
16	B29WRB	Clutch Assembly	1
17	000-3854	Steel Ball (7/32")	4
18	D39WR-2	Washer	1
19	D39WR-7	Washer	1
20	D48WRB-1	Spring (Blue)	1
21	D39WR-5	Washer (White)	1
22B	D39WR-3	Adjust Washer *	1
23B	D54WR-3	Adjust Nut *	1
24	000-3012I	Snap Ring (ISTW-12)	1
25	D48WR	Spring	1
26	B51WRB50-5	Connecting Holder Assembly	1
27	000-4120W	Marking Ring (P32,White)	1
28	D54WRB-7#BZ	Adjust Nut	1

Index No	Part No.	Description	Q'ty
3⊙	B49WRB50-7	Gear Ring Units	1
29	B51WRB50-4	Sun Gear Assembly *	1
30	D39WRB-5	Washer	1
	B51WRB50-1	Gear Cage Assembly	1
	(1) 000-3436	Pin	3
	(2) 000-2415	Needle Bearing	6
	(3) D49WRB-8	Planet Gear	6
	(4) D51WRB-1	Gear Cage	1
32	D49WRB-7#BZ	Gear Ring	1
33	000-3126I	Inverted Retaining Ring (IRTW-26)	1
34	D39PW15-1	Washer	1
35	D42WRB-2	Bushing	1
4⊙	B42WRB3-50	Angle Housing Units	1
36	D54WRB-6	Lock Nut	1
37	D44WRB-1	Collar	1
38	D54WRB-5#BZ	Lock Nut	1
39	B49WRB50-6	Main Bevel Gear Assembly *	1
40	B42WRB50-1#BZ	Angle Housing Assembly	1
41	000-1340	Screw	1
42	000-4114	O-Ring (φ 3x φ 1.5)	1
43	B49WRB3-50	Bevel Gear Assembly *	1
44	D54WRB-4#BZ	Lock Nut	1
45	B75WR	Sensor & LED Assembly *	1
46	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
47	D48PW15-1	Spring	1
48	E76WR	PC Board	1
49	E86SC	Connector Wire *	1
50	C39PW15-3	Washer	1
51	D48PW15	Spring	1
52	B09PW15#B1	Trigger Assembly	1
53	C10SC108B-2#B1	Cover *	1
54C	33110-WRBA-002	Cover	1
55	000-1430C	Screw (M3×P0.5×10L)	16
56	000-1531B	Washer (φ 3.3x φ 8)	2
57	C10WRB#B1	Cover *	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (20~70 N-m)



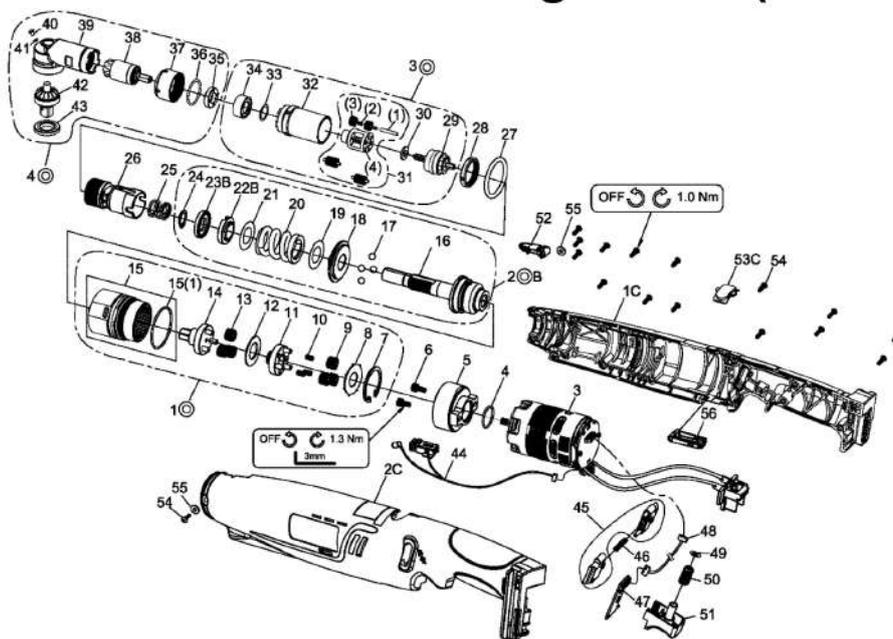
BSTA-70SD3/8
Edition:C

Index No	Part No.	Description	Q'ty
1C	33101-WRBA-08	Upper Housing	1
2C	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16x φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
1⊙	B50WRB70	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WRB-13	Planet Gear *	3
10	000-2415	Needle Bearing	3
11	B51WRB-8	Gear Cage Assembly	1
12	D39WR-8	Washer	1
13	D49WR-10	Planet Gear *	3
14	B51WR-11	Gear Plate Assembly	1
15	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28x φ 1.5)	1*
2⊙	B43WR70	Clutch Units	1
16	B29WRB	Clutch Assembly	1
17	000-3854	Steel Ball (7/32")	4
18	D39WR-2	Washer	1
19	D39WR-7	Washer	1
20	D48WR-2	Spring (Yellow)	1
21	D39WR-5	Washer (White)	1
22B	D39WR-3	Adjust Washer *	1
23B	D54WR-3	Adjust Nut *	1
24	000-3012I	Snap Ring (ISTW-12)	1
25	D48WR	Spring	1
26	B51WRB70-3	Connecting Holder Assembly	1
27	000-4120W	Marking Ring (P32,White)	1
28	D54WRB-3#BZ	Adjust Nut	1

Index No	Part No.	Description	Q'ty
3⊙	B49WRB70-2	Gear Ring Units	1
29	B51WRB70-2	Sun Gear Assembly *	1
30	D39WRB-5	Washer	1
	B51WRB70	Gear Cage Assembly	1
	(1) 000-3436	Pin	3
	(2) 000-2415	Needle Bearing	6
	(3) D49WRB-9	Planet Gear	6
	(4) D51WRB	Gear Cage	1
32	D49WRB-2#BZ	Gear Ring	1
33	D39WRB-2	Washer	1
34	D42WRB-3	Bushing	1
4⊙	B42WRB3-70	Angle Housing Units	1
35	D54WRB-2	Lock Nut	1
36	D44WRB	Collar	1
37	D54WRB-1#BZ	Lock Nut	1
38	B49WRB70-1	Main Bevel Gear Assembly *	1
39	B42WRB70#BZ	Angle Housing Assembly	1
40	000-1340	Screw	1
41	000-4114	O-Ring (φ 3x φ 1.5)	1
42	B49WRB3-70	Bevel Gear Assembly *	1
43	D54WRB#BZ	Lock Nut	1
44	B75WR	Sensor & LED Assembly *	1
45	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
46	D48PW15-1	Spring	1
47	E76WR	PC Board	1
48	E86SC	Connector Wire *	1
49	C39PW15-3	Washer	1
50	D48PW15	Spring	1
51	B09PW15#B1	Trigger Assembly	1
52	C10SC108B-2#B1	Cover *	1
53C	33101-WRBA-02	Cover	1
54	000-1430C	Screw (M3xP0.5x10L)	16
55	000-1531B	Washer (φ 3.3x φ 8)	2
56	C10WRB#B1	Cover *	1

* The easily worn parts highlighted in blue

18V Cordless Shut off Angle Tool (20~70 N-m)



BSTA-70SD1/2
Edition:C

Index No	Part No.	Description	Q'ty
1C	33101-WRBA-08	Upper Housing	1
2C	33102-WRBA-05	Lower Housing	1
3	B83WR10	Brushless Motor Assembly ;w/driver	1
4	000-4110	O-Ring (φ 16x φ 1.5)	1
5	D51SC108B	Motor Holder	1
6	000-0242	Screw (M4x8L)	2
10	B50WRB70	Gear Box Units	1
7	000-3128	Snap Ring (RTW-28)	1
8	D39WR	Washer	1
9	D49WRB-13	Planet Gear *	3
10	000-2415	Needle Bearing	3
11	B51WRB-8	Gear Cage Assembly	1
12	D39WR-8	Washer	1
13	D49WR-10	Planet Gear *	3
14	B51WR-11	Gear Plate Assembly	1
15	B50WR	Gear Box Assembly	1
	(1)000-4118	(1) O-Ring (φ 28x φ 1.5)	1*
20	B43WR70	Clutch Units	1
16	B29WRB	Clutch Assembly	1
17	000-3854	Steel Ball (7/32")	4
18	D39WR-2	Washer	1
19	D39WR-7	Washer	1
20	D48WR-2	Spring (Yellow)	1
21	D39WR-5	Washer (White)	1
22B	D39WR-3	Adjust Washer *	1
23B	D54WR-3	Adjust Nut *	1
24	000-3012I	Snap Ring (ISTW-12)	1
25	D48WR	Spring	1
26	B51WRB70-3	Connecting Holder Assembly	1
27	000-4120W	Marking Ring (P32,White)	1
28	D54WRB-3#BZ	Adjust Nut	1

Index No	Part No.	Description	Q'ty
30	B49WRB70-2	Gear Ring Units	1
29	B51WRB70-2	Sun Gear Assembly *	1
30	D39WRB-5	Washer	1
31	B51WRB70	Gear Cage Assembly	1
	(1) 000-3436	Pin	3
	(2) 000-2415	Needle Bearing	6
	(3) D49WRB-9	Planet Gear	6
	(4) D51WRB	Gear Cage	1
32	D49WRB-2#BZ	Gear Ring	1
33	D39WRB-2	Washer	1
34	D42WRB-3	Bushing	1
40	B42WRB4-70	Angle Housing Units	1
35	D54WRB-2	Lock Nut	1
36	D44WRB	Collar	1
37	D54WRB-1#BZ	Lock Nut	1
38	B49WRB70-1	Main Bevel Gear Assembly *	1
39	B42WRB70#BZ	Angle Housing Assembly	1
40	000-1340	Screw	1
41	000-4114	O-Ring (φ 3x φ 1.5)	1
42	B49WRB4-70	Bevel Gear Assembly *	1
43	D54WRB#BZ	Lock Nut	1
44	B75WR	Sensor & LED Assembly *	1
45	B09PW15-1#B1	F/R Valve (1setx2pcs)	1
46	D48PW15-1	Spring	1
47	E76WR	PC Board	1
48	E86SC	Connector Wire *	1
49	C39PW15-3	Washer	1
50	D48PW15	Spring	1
51	B09PW15#B1	Trigger Assembly	1
52	C10SC108B-2#B1	Cover *	1
53C	33110-WRBA-02	Cover	1
54	000-1430C	Screw (M3xP0.5x10L)	16
55	000-1531B	Washer (φ 3.3x φ 8)	2
56	C10WRB#B1	Cover *	1

* The easily worn parts highlighted in blue

Retainer socket kit - Spare part

Screwdrivers			
Designation	Drive	Retainer model	Code
BSTA-10 SD 1/4	Square 1/4"	Ball	4-1036006
BSTA-10 SD 3/8	Square 3/8"	Pin	4-1036007
BSTA-16 SD 1/4	Square 1/4"	Ball	4-1036009
BSTA-16 SD 3/8	Square 3/8"	Pin	4-1036010
BSTA-30 SD 3/8	Square 3/8"	Pin	4-1036011
BSTA-35 SD 3/8	Square 3/8"	Pin	4-1036012
BSTA-50 SD 3/8*	Square 3/8"	Pin	4-1036013
BSTA-50 SD 1/2	Square 1/2"	Pin	4-1036022
BSTA-60 SD 3/8	Square 3/8"	Pin	4-1036049
BSTA-60 SD 1/2	Square 1/2"	Pin	4-1036050
BSTA-70 SD 3/8*	Square 3/8"	Pin	4-1036014
BSTA-70 SD 1/2	Square 1/2"	Pin	4-1036023
BSTA-90 SD 1/2	Square 1/2"	Pin	4-1036004
BSTCA-07 SD 1/4	Square 1/4" SQ	Ball	4-1036043
BSTCA-07 SD 3/8	Square 3/8" SQ	Pin	4-1036044
BSTCA-14 SD 1/4	Square 1/4" SQ	Ball	4-1036046
BSTCA-14 SD 3/8	Square 3/8" SQ	Pin	4-1036047
BSTCA-30 SD 3/8	Square 3/8" SQ	Pin	4-1036048

Retainer socket kit Spare part	
Designation	Code
SD 1/4" 2 holes 32055-WRBA-01	4-1000340
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
SD 1/4" 2 holes 32055-WRBA-01	4-1000340
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
Square 3/8" I40SPR001ASM	4-1055211
Square 1/2" I100PR001ASM	4-1055210
Square 3/8" I40SPR001ASM	4-1055211
Square 1/2" I100PR001ASM	4-1055210
Square 3/8" I40SPR001ASM	4-1055211
Square 1/2" I100PR001ASM	4-1055210
Square 1/2" I100PR001ASM	4-1055210
SD 1/4" 2 holes 32055-WRBA-01	4-1000340
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
SD 1/4" 2 holes 32055-WRBA-01	4-1000340
SD 3/8" 2 holes 32055-WRAA-01	4-1000339
SD 3/8" 2 holes 32055-WRAA-01	4-1000339



*For BSTA-50 SD 3/8 (delivered before january 2018) and BSTA-70 SD 3/8 (delivered before october 2016) screwdrivers, the spare kit is as follows : Designation : SD 3/8" 2 holes 32055-WRAA-01 / Code : 4-1000339



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