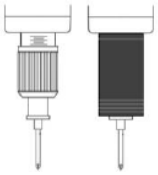
Adjusting the Torque (Cont.)

The tool should be run in reverse before to each test to make sure the adapter is unwound and will allow the tool to achieve rotation. Testing the tool without allowing any rotation will provide incorrect readings. Start the test with the meter reading zeros. Pull the trigger on the tool and let it run until it shuts off. The reading on the meter will indicate the torque the driver achieved. Reverse the tool, zero the meter and repeat the process several times to see where the driver seems to be set. Tighten the Torque Adjusting Nut to increase the torque, loosen the Torque Adjusting Nut to decrease the torque. When the readings on the meter equal the target torque run several tests to observe the scatter, or the "over/under" You can "fine tune" the readings so that your target torque will split the high and low readings. Visit the ASG Web page for information on Torque Meters at www.asg-jergens.com

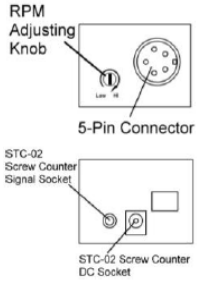
Locking the Torque Adjusting Nut

BTL tools are supplied with a torque cover to protect the Torque Adjusting Nut. When the torque has been adjusted to your satisfaction, install the torque cover to prevent accidental adjustment or tampering.



Adjusting the RPM

The speed of the BTL tools may be adjusted without affecting the torque. The RPM adjustment knob is located on the BTL-1224 power supply next to the 5-pin connector. Use a flat screwdriver bit to adjust the knob. Turn clockwise to increase RPM or counter clockwise to reduce RPM. CAUTION: Do not force the knob past its stopping point or you will damage it.

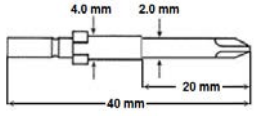


Standard Equipment

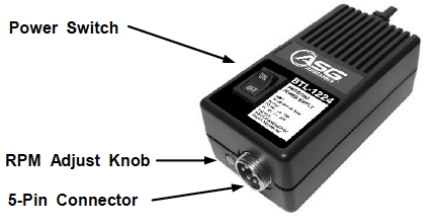
- 2, #64416, #0 bit*
- 1, #720718 1.5mm hex key
- 1, #915152, #1 bit
- 1, #728110 2m driver cord

*The spare #0 bit is provided to use for adjusting the RPM.

The drawing to the right shows dimensions of the bits supplied. Contact ASG for different styles, lengths or diameters.



Power Supply BTL-1224



BTL-2A24 Operating Instructions

Plug the Driver Cord in to the 5- Pin Connector on the Power Supply. Plug the A/C Cord in to an A/C outlet. Turn the Power Switch to ON. Turn the RPM adjustment knob with a flat screwdriver bit — turn it clockwise to increase the RPM of the electric screwdriver and counter clockwise to decrease the RPM.

Tool and Power Supply Specifications

Model		BTL-02B	BTL-03B	BTL-04B
Torque Range	lbf.in	0.18-1.3	0.4-2.7	0.4-4.4
	N.m	0.02-0.15	0.05-0.3	0.05-0.5
No Load RPM Adjustment		100-750	100-750	100-750
Weight (g)		230	230	230
Length (mm)		190	190	190
Applicable Screw Range		1.0-2.6	1.0-2.6	1.0-2.6
Applicable Bits		H4 (Ø4mm)	H4 (Ø4mm)	H4 (Ø4mm)

Input Voltage AC	#65688	110-240V - 50/60 Hz
Output Voltage DC	DC 24V (For Electric Screwdriver Use) DC 12V (For Screw Counter Use)	
Dimensions (mm)	70x125x60 (WxDxH)	
Weight (g)	0.6 lb | 270g	
Length of Cord (m)	5 ft | 1.5m	

ASG
Assembly · Industrial · Precision Fastening · Automation

Electric Screwdrivers BTL-02B-ESD, BTL-03B-ESD, BTL-04B-ESD

Instruction Manual

Please Read Instructions Before Operating

Revision: 07/28/202

ASG, Division of Jergens, Inc.

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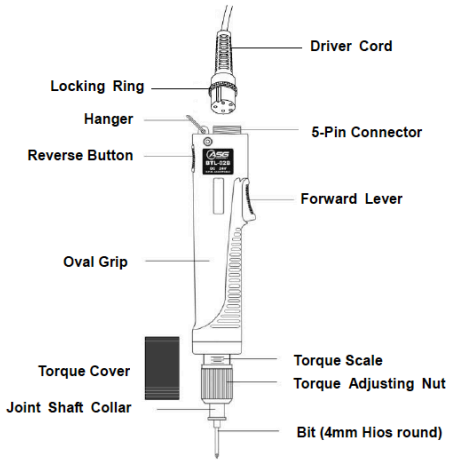
Identification of Parts



BTL-0XB Operating Instructions

1. With the power off, connect one end of the Driver Cord to the 5 Pin Connector on the Power Supply. Connect the other end of the cord to the 5 Pin Connector on the driver. Tighten the Lock Ring to keep the cord in place.
2. Select the proper bit for the application. Pull the Joint Shaft Collar forward to insert or remove the bit.
3. Adjust the torque by tightening or loosening the Torque Adjusting Nut. Refer to the Torque Chart for approximate torque values. After the torque is set, use the torque cover to protect the preset torque from unwanted adjustment.
4. Turn the power switch on the power supply to the ON position.
5. Turn the RPM adjustment knob on the power supply with a flat bit to set the working RPM.
6. Hold the tool so that your trigger finger is on the Forward Lever and your thumb can operate the Reverse Button.
7. Press the Forward Lever to drive the screw. The tool will run and shut off upon reaching the preset torque value.
8. When driving screws you need only to apply sufficient downward pressure to keep the bit engaged in the head of the fastener. If the bit "cams out" or seems to slip in the head of the fastener, make sure you are using the proper size bit for the fastener. Excessive downward pressure on small screws at low torque settings can result in incorrect torque and possibly strip the screws.
9. Press the Reverse Button to remove screws.
10. Do not press the Forward Lever and the Reverse Button at the same time. This will damage the circuit.
11. The normal duty cycle of the tool is 800-1000 screws per hour, 8 hours per day. Exceeding this will reduce the life of the driver and can cause premature failure.
12. Do not use the tool to tighten wood screws.
13. Use the tool with a tool balancer and tool support to prevent damage to the tool and reduce clutter on the work surface. Tool balancers and tool supports available at: www.asg-jergens.com

Caution:

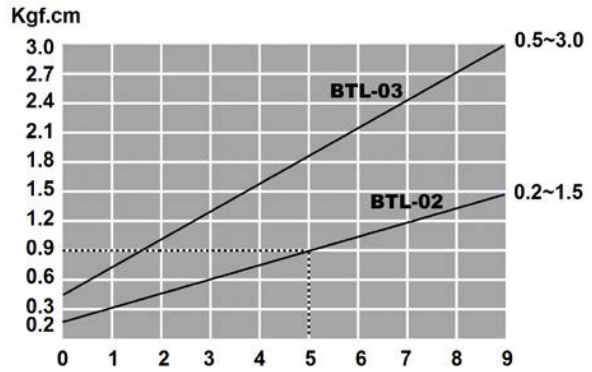
- This electric screwdriver is designed for indoor use only. Do not use it outdoors or in wet environments to prevent the danger of electric shock.
- Pay attention to the voltage specification. Make sure the Power Switch is in the OFF position when you plug in the Driver Cord or the Power Supply.
- DO NOT operate the BTL-02B/03B/04B tools on any power supply other than the BTL-1224. Using any other power supply will damage the circuit.

Adjusting the Torque

Refer to the Torque Graph for the tool. The numbers along the bottom represent the numbers on the Torque Scale found on the tool. They do not represent any specific torque value. The 5 on the tool does not indicate that the tool is set to 5 kgf.cm, 5 ozf.in or 5 lbf.in. The numbers along the left side represent torque in kgf.cm. The diagonal lines represent the different BTL tools. Find your desired torque value along the left side. Look straight to the right to see where a line drawn to the right, horizontally from your torque value would cross the diagonal line representing the tool you are using. From that point look straight down to find where a line drawn vertically would cross the bottom line of the graph. The point where your vertical line crosses the bottom will be where you set the edge of the Torque Adjusting Nut on the Torque scale on the tool.

Example: You have a BTL-02B and you want it set to 0.9 kgf.cm. Looking at the Torque Graph below you can see that you would want to set the edge of the Torque Adjusting Nut to the mark representing the #5 on the Torque Scale on the tool.

Torque Graph BTL Tools:

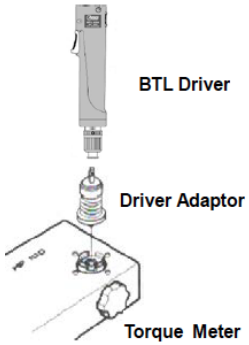


Using the Torque Graph to adjust the tool will provide an APPROXIMATE torque setting. For more precise torque adjustment a Torque Meter must be used.

Make sure you have a torque meter designed for power tools. Meters designed for use with hand tools may not operate properly for use with power tools.

Make sure the usable torque range of the meter exceeds the torque output of the tool being tested. You also must insure the torque range of the driver adapter being used also matches the torque output of the tool being tested.

The Driver Adapter, sometimes called a joint simulator, can use a spring, a Bellville washer stack or elastomer cylinder in place of the spring or washer stack. Whichever version of the Driver Adapter is used, its purpose is to allow the tool to run for a number of revolutions simulating driving a fastener. The Driver Adapter is placed between the screwdriver and the torque meter.



Features and Benefits

- **Starting Mode Adjustable:** The ASG BTL-20 and BTL-30 can switch starting mode between Lever Start and Push-to-Start. This design increases the flexibility on the use of the ASG BTL series electric screwdrivers and makes them suitable for every kind of working environment.
- **RPM Adjustable, Full Torque Output under Low RPM:** The BTL-20 and BTL-30 are speed adjustable electric screwdrivers. The RPM is stepless and adjustable between 100 RPM and 950 RPM to meet the working requirements. The BTL-20 and BTL-30 provide full torque output even under low RPM operation. Please note that when operating under 300 RPM, the max torque output of the BTL-30 will be less than 2 N.m (17.7 lbf.in).
- **Ground Impedance of Bits < 1.0Ω:** Accurate electronics assembly requires extremely high ESD protection. The ASG BTL series mini electric screwdrivers adopt the unique interior ring grounding approach, which enable the contact area of rotary shaft of the bits and grounding end constantly remains 290mm^2. Therefore, with the special designed structure, the BTL-20 and BTL-30 screwdrivers can remain their grounding impedance of bits < 1.0Ω for long period of operation (about 5000 hours).
- **Compatible with Screw Counter:** ASG BTL-20 and BTL-30 brushless electric screwdrivers are only compatible with the ASG BTL-5A switching power supply. WIth the BTL-5A, the BTL-20 and BTL-30 are also compatible with the STC-02 screw counter.

ASG STC-02 (ASG #65646)

- Stable and accurate torque output
- Low failure rate

BTL-20 and BTL-30 Specifications

Model	BTL-20	BTL-30
Rated Voltage	DC 30V	DC 30V
Torque Range	0.3 - 2.0 N.m	0.5 - 3.0
	2.7 - 17.7	4.4 - 26.6
Torque Accuracy	± 3%	
Torque Adjusting Mode	Stepless	
Starting Mode	Lever/Push-to-Start	
No Load RPM	100 - 950 RPM	
Weight	1.6 lb (720 g)	
Length	11.4 in. (290 mm)	
Applicable Screw Range	2.0 - 5.0 mm	
Applicable Bits	1/4" Hex	
Power Supply	BTL-5A	

BTL-20/BTL-30 Speed RPM adjustable from 100 RPM to 950 RPM. Please note whenever the RPM is greater than 300, the max torque output is no larger than 2 N.m (17.7 lbf.in).

BTL-20 and BTL-30 Specifications

Please use the ASG BTL-5A to ensure precise torque and prevent danger.

Model	ASG BTL-5A
Input Voltage	AC 90-240V 50/60 Hz
Output Voltage	DC 25V/30V/9V LOW/HI 2 Level to Switch
Dimensions	3.4 x 6.6 x 2.2 in
	86.5 x 168 x 55.5 mm
Weight	1.5 lb (660 g)
Length of Cord	5.9 ft (1.8m)
For Use With	ASG BTL-05, BTL-10, BTL-15, BTL-20, BTL-30

BTL-20 and BTL-30 can only use output voltage HI:24V

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Electric Screwdrivers BTL-20 and BTL-30

Instruction Manual

Please Read Instructions Before Operating

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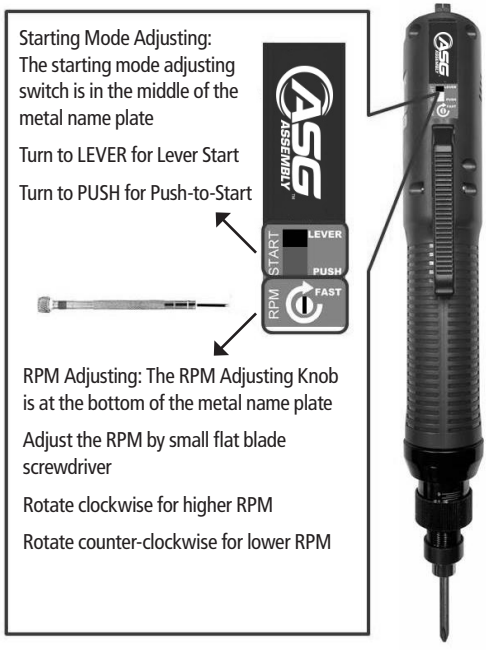
Instruction of Parts

BTL-20 and BTL-30 Starting Mode/RPM Adjustment



Operating Instructions

1. When working with torque larger than 2 N.m (17.7 lbf.in), please adjust RPM to less than 650 for safety purposes.
2. Make sure the power is switched off to install or replace the screwdriver bit. Pressing the front-end iron cap will allow the screwdriver bit to be inserted or released.
3. It is recommended to suspend the electric screwdriver from a balancer for easy operation.
4. Adjust the torque dial to the proper position according to the dial/torque table for each model.
5. Press the Forward switch to fasten the screw. The automatic control model will shut off the power and stop the rotation of the screwdriver bit as soon as the set torque value is reached.
6. Press the Reverse switch to loosen the screw.
7. Hold and keep the screwdriver and screw in a perpendicular position with the work surface and apply pressure slightly to prevent slipping.
8. Operate the electrical power screwdriver safely.
9. Do not press the Forward/Reverse switch at the same time to prevent the short-circuit of the switch.
10. Use it under the normal operation frequency (8 working hours per day and fastening 800-1000 screws per hour) without exceeding the operation load will extend the life time of the electric screwdriver and reduce the occurrences of malfunction.
11. Please do not fasten wood screws.

Regular Maintenances

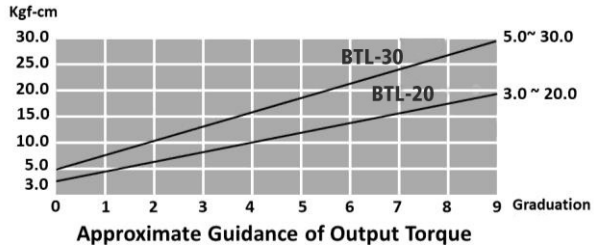
Check whether all the parts, housing, and power lines are in-tact at all times to ensure normal operations. Unplug the power plug and turn off the power before doing any maintenance operation to ensure safety. Provide preventative maintenance for every 1000 hours of operation. Contact the ASG Service Department.

CAUTION:

- This electric screwdriver is designed for indoor use only. Please do not use it in outdoors or wet environment to prevent the danger of electrocution.
- Pay attention to the voltage specification. Make sure the switch is in the OFF position when you plug in the power.
- Do not disassemble the device.

Output Torque/Adjust Dial

1. User can adjust output torque by changing the torque spring. Please refer to the torque/dial table and then turn the torque adjusting nut to set the proper dial for each model and set to the desired torque for operations.



Approximate Guidance of Output Torque

ASG BTL-20 and BTL-30 Torque Adjusting

- Please refer to the Output Torque/Adjust Dial table above to adjust the working torque output.
- The torque scale is relative but not absolute.
- To ensure the absolute correct torque output, please periodically use a torque tester to check and confirm the torque output of the screwdrivers. ASG recommends the ASG DTT Series digital torque testers.