

BFA-Series & NFA-Series Operation Instructions

Rev 2.2 (4/13/17)



RoHS

CE




BFA-Series & NFA-Series Operation Instructions

Key Features

- Various models that range from 0.9 - 39 lbf.in
- Robotic style electric screwdriver for automated and fixtured applications.
- Drivers include a front mounting flange.
- High performance brushless motor design provides durability and reduces the standard maintenance costs for electric screwdrivers.
- Designed for high production environments. Minimal heat build-up even when tool is operated continuously.
- Over Heat Protection (OHP) and Over Current Protection (OCP) protect driver from damage or malfunction. Features a LED display that signals the tool status for the operator to view.
- Can be connected with the Scout Screw Counter.
- Requires STC40-FA transformer (power supply).
- All models are ESD designed and prevent the occurrence of electrostatic discharge, which improves production yields, manufacturing costs, product quality, product reliability, reputation and profitability.
- Ensures accuracy in fastening with precision automatic shut-off clutch once preset torque is achieved.
- External torque adjustment scale.
- Forward and reverse direction by switch. Start and stop output signals.

General Operation for BFA-Series and NFA-Series models

1. Attach power tool cable to the BFA or NFA screwdriver and the transformer. Make sure notch in plug lines up with the notch on the socket. Tighten knurled ground ring. 
2. Plug in power cord to the back of the transformer and power outlet. Flip power switch to "ON" position located on the back of transformer.
3. Select a bit. Retract the bit collar. Insert the bit and release the retracted collar. To avoid damaging fasteners, make sure the proper bit is suitable for the head of the fastener.
4. The torque limit is determined by the tension of the coil spring housed in the torque adjustment nut. The tighter the coil spring is wound the higher the torque limit is raised. See charts on pages 9-10 to determine the appropriate torque adjustment setting.
5. Rotate the torque adjustment nut to set the torque limit. Turn clockwise to increase torque and counter clockwise to decrease torque. The scale adjacent to the Torque Adjustment Nut is a reference guide. The torque output from the driver can change depending on various fastening factors like friction, type of joint, and the type material being used like a washer.
6. Turn driver on and check for proper rotation. FOR-clockwise, REV-counterclockwise.



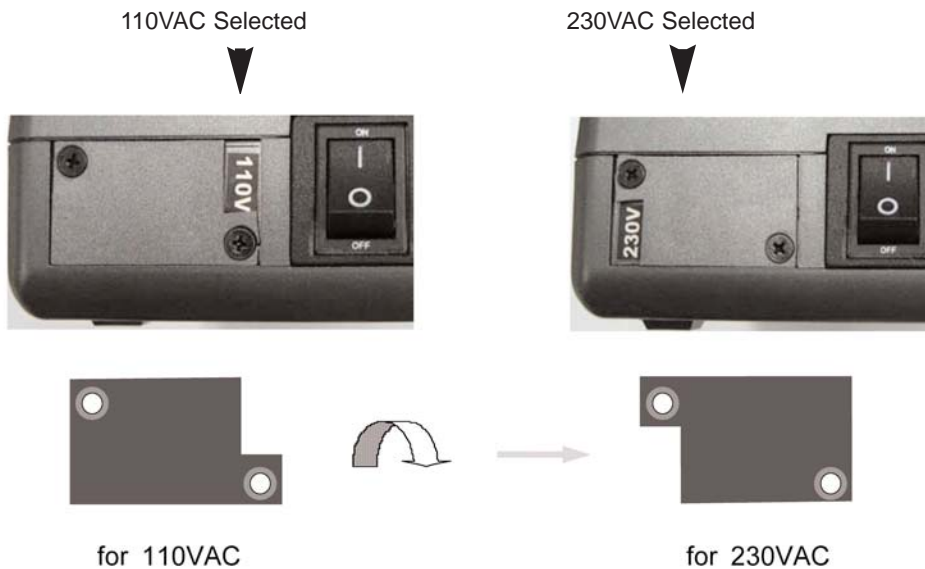
Alarm display on the screwdriver by LED

no	Alarm	Description	Reset
1	Over Voltage (over 44V)	 Green & Red lights blinks	Auto reset under 44V
2	Overload (4A/0.5s)	 Two Red lights blinks.	Auto reset after 5s
3	Overheat(over 80°C_motor)	 Two Orange light blinks	Auto reset lower than 80°C
4	Driver Lock by ext. signal	 Two Green lights blinks	Auto reset by signal off

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STC40-FA Input Voltage Selection

By changing the position of cover as below, the input power can be switched between 110V or 230V. For changing the input voltage, loosen two screws and assemble the cover as below.



Connecting Electric Screwdriver

Before connecting the electric screwdriver, make sure the little switch in the lower bottom right of the STC40-FA is positioned in the proper setting (F or NF). See diagram. Only operate tool in proper "Mode" setting.

Select F mode for operating

BFA-Series - 30 VDC

Select for NF or operating

NFA-Series - 40 VDC



STC40-FA Specification

Max. Output: 12A

Output VDC: 30/40V

Input VAC: 110/230V (selectable)

Size inches (W x D x H): 4 3/8" x 7 1/2" x 2 3/8"

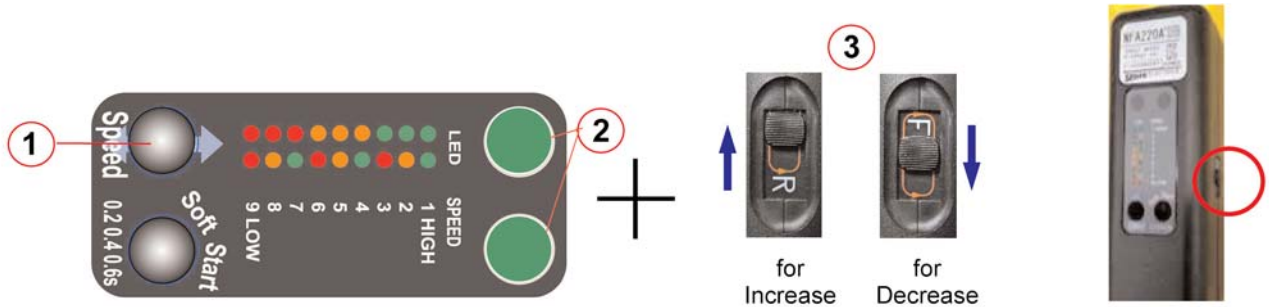
Weight: 1.8 lbs.

Intermittent Operation: 10s On / 30s Off

Fuse: 10 A 250V

Rated power: 2.5A 105W

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Speed Selection for Electric Screwdriver

These models feature an adjustable RPM setting on the tool. The RPM settings can be adjusted to the preset increments as shown label (see image above).

These models also feature a selectable Soft Start mode (from 0.2, 0.4 & 0.6 seconds).

How to Adjust Speed Setting

1. Press and hold the Speed button for 2 seconds.
2. Two LEDs will display colors that show the current speed selection of the brushless screwdriver.
3. Position the F/R slide switch in R or F to increase (+) or decrease (-) RPM setting of the tool. Slide switch to "R" position to increase speed. Slide switch to "F" to decrease speed. Then press the Speed button until the target speed is selected. The two LEDs will display colors that show the current speed selection (see table below for reference) **Note!** The RPM settings can only be adjusted to the preset increments as shown on the label (see chart below).
4. By starting the screwdriver, the selected speed is saved automatically.

Speed Selection Chart

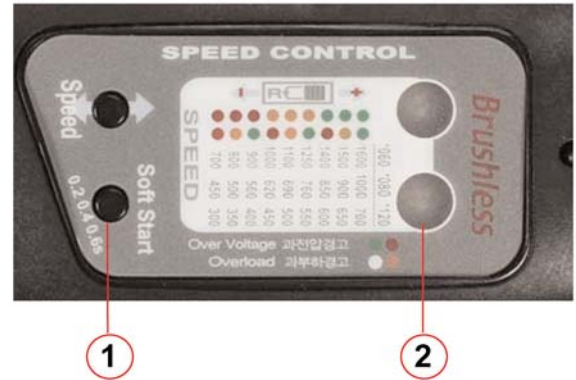
Model	LED	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●
	Button	1th	2nd	3rd	4th	5th	6th	7th	8th	9th
BFA060	RPM	700	800	900	1000	1100	1250	1400	1500	1600
BFA080	RPM	450	500	560	620	690	760	850	900	1000
BFA120	RPM	300	350	400	450	500	550	600	650	700
NFA150	RPM	800	900	1000	1100	1200	1300	1400	1500	1700
NFA220	RPM	600	650	700	750	800	900	1000	1100	1250
NFA450	RPM	300	340	380	415	450	490	530	565	600

BFA-Series & NFA-Series Operation Instructions

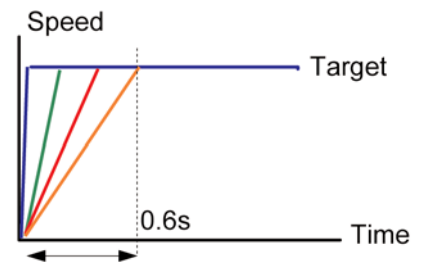
How to Adjust Soft Start Setting

There are 3 different time settings for the Soft Start mode which are (0.2, 0.4 & 0.6 seconds). The default setting is OFF.

1. Press and hold the Soft Start button for 2 seconds.
2. Two LEDs will display colors that show the current soft start selection of the brushless screwdriver.
3. Press Soft Start button until the target time is selected.
4. By starting the screwdriver, the selected soft start setting is saved automatically.



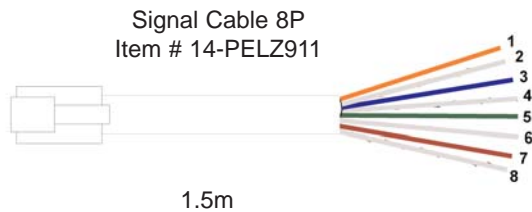
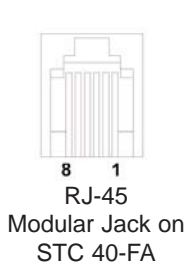
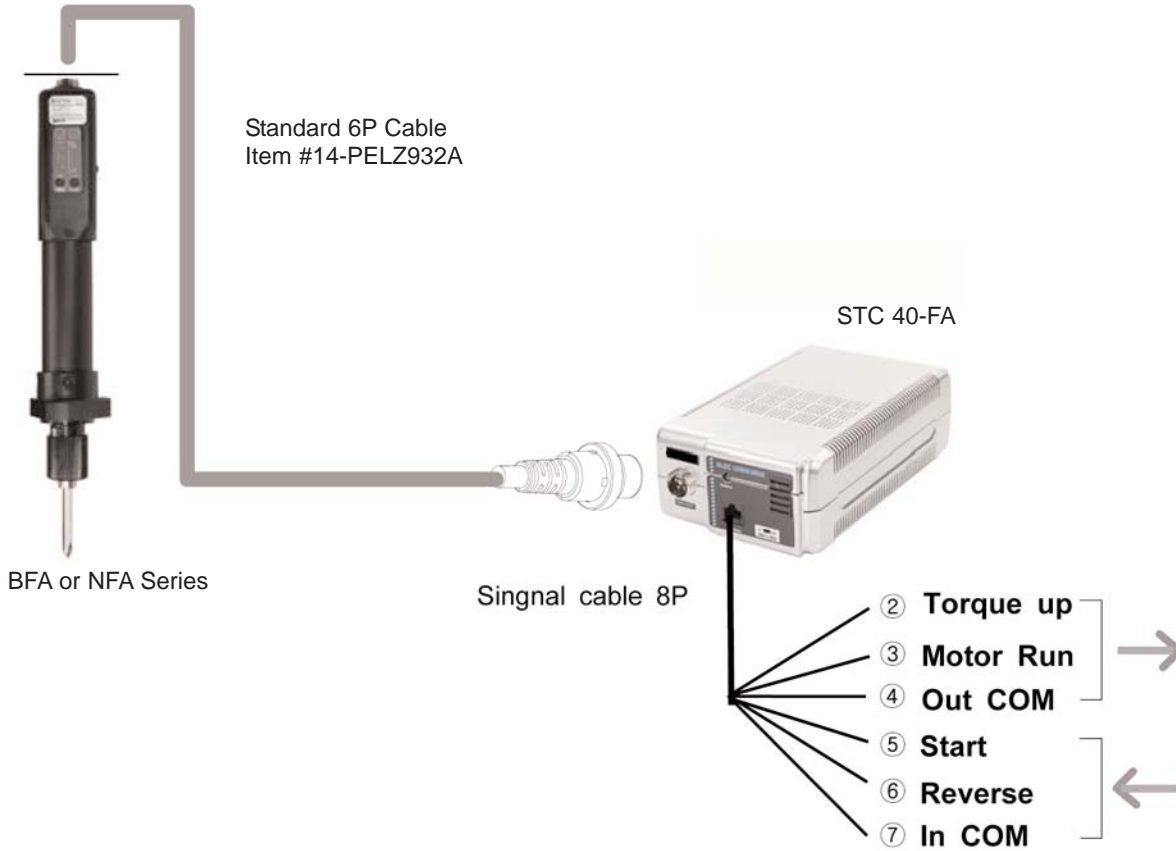
② LED color	Time to target
OFF	0 sec
● Green	0.2 sec
● Red	0.4 sec
● Orange	0.6 sec



The Soft Start button is “wrap around” button meaning you can toggle through the settings continuously by pressing the button (OFF - 0.2s-0.4s-0.6s).

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Connections

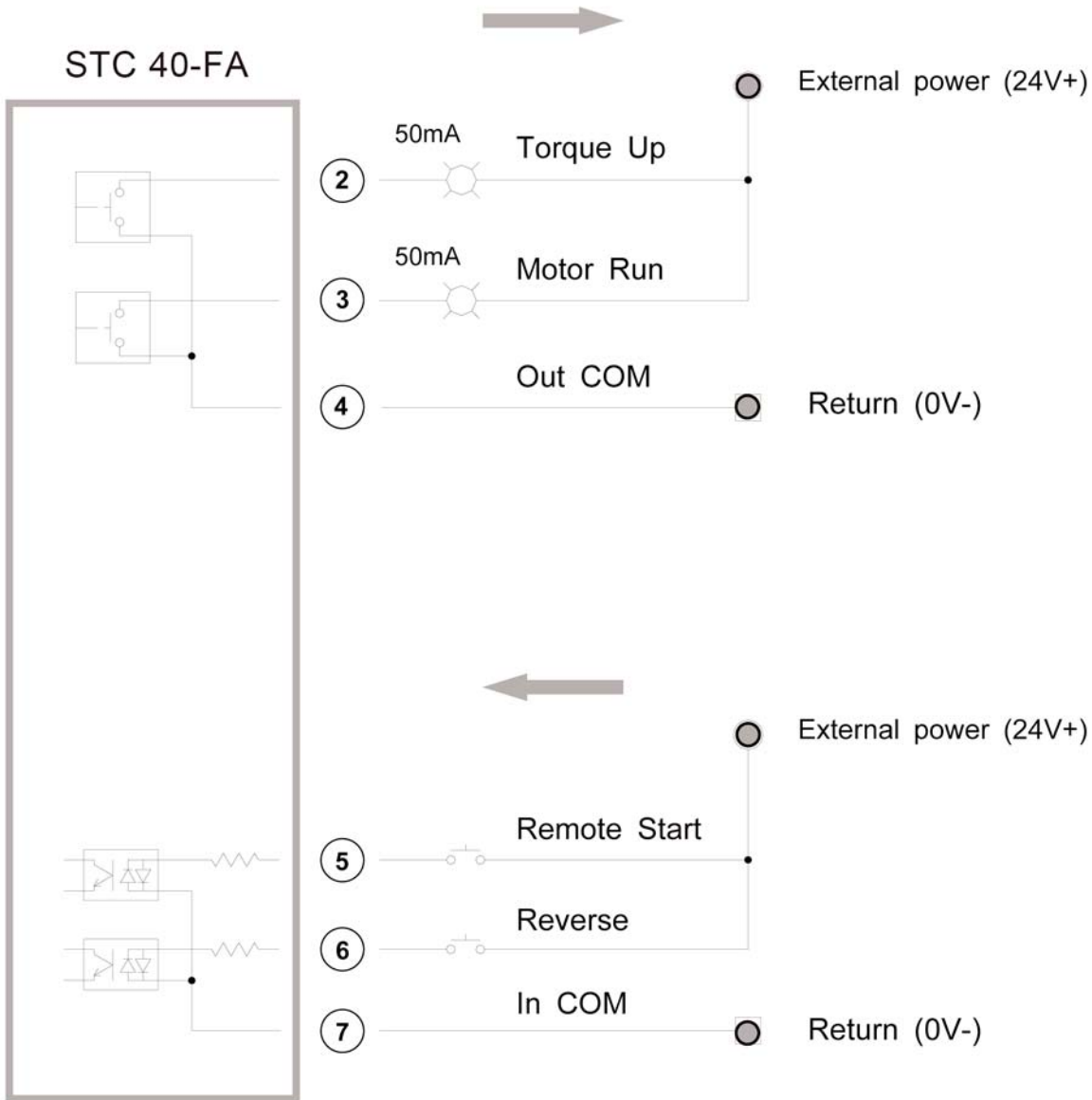


1. Orange (**Not used**)
2. White+Orange stripe
3. Blue
4. White+Blue stripe
5. Green
6. White+Green stripe
7. Brown
8. White+Brown stripe
(Not used)



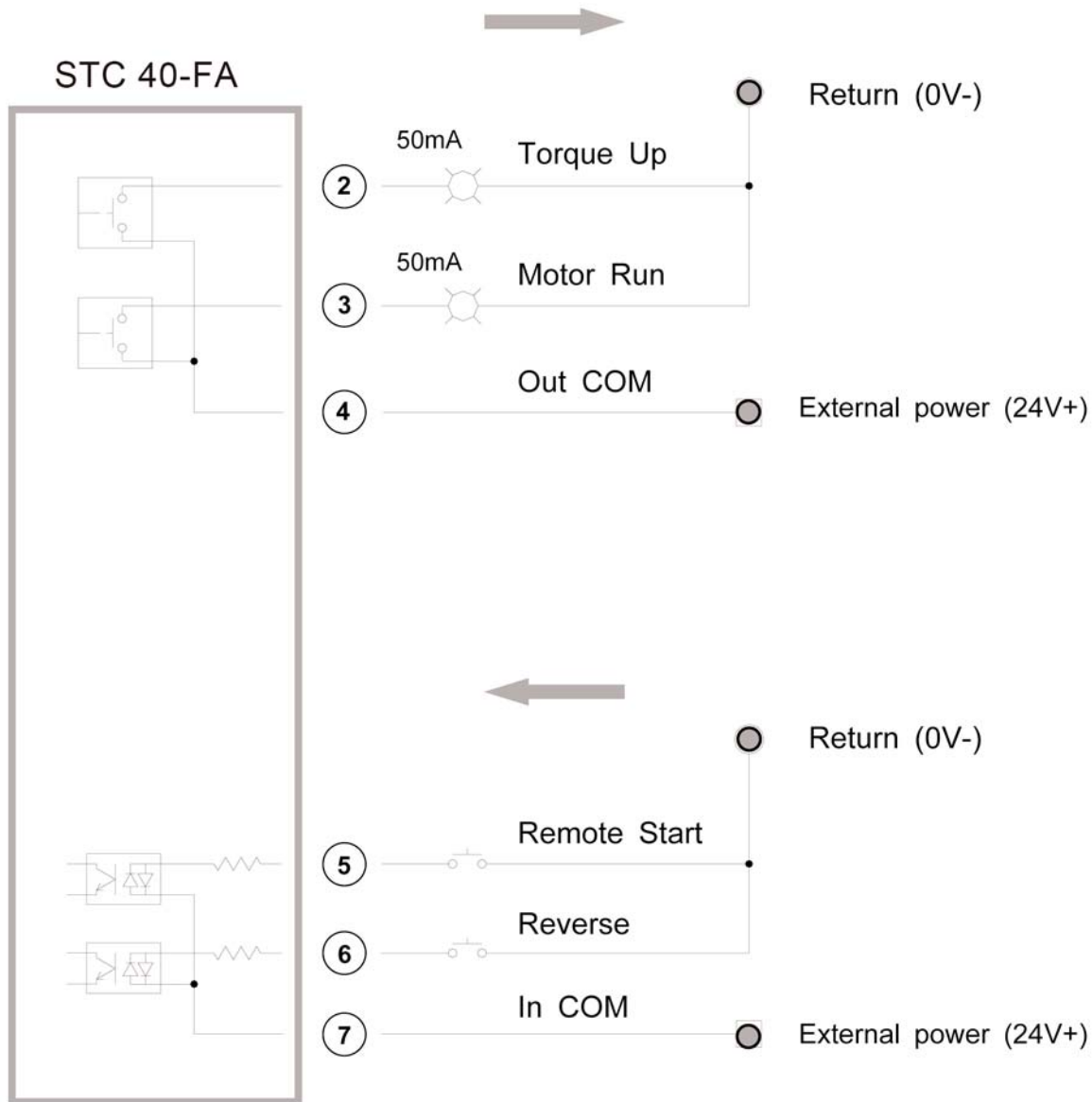
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I/O Details
Positive (+) Common Wiring



BFA-Series & NFA-Series Operation Instructions

I/O Details
 Negative (-) Common Wiring

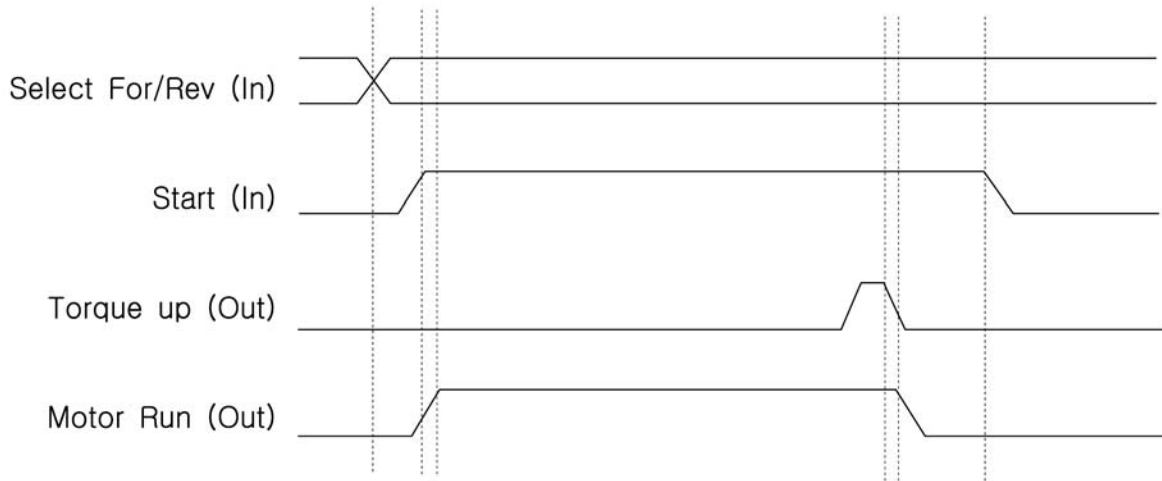


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Timing Chart

Torque up and Motor Run output signals are effective with Forward fastening rotation only. The torque is not controlled for Reverse rotation.

■ Forward fastening rotation



BFA-Series & NFA-Series Operation Instructions

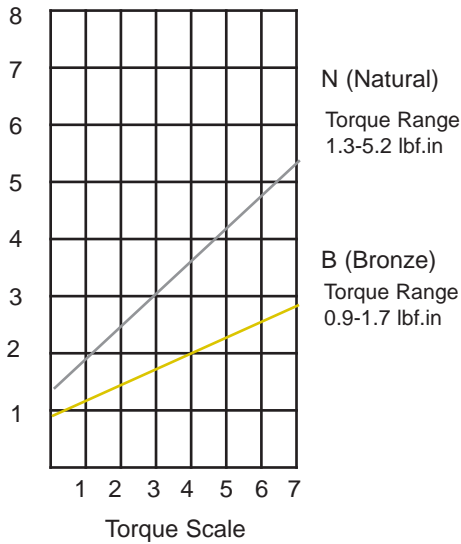
Torque Charts

These charts are meant to be used as guidelines for setting the torque on the BFA-Series electric screwdrivers. The drivers have a torque scale on the torque adjustment nut showing reference numbers. These numbers determine the approximate torque setting. Refer to the charts to determine the reference number setting for your torque requirement.

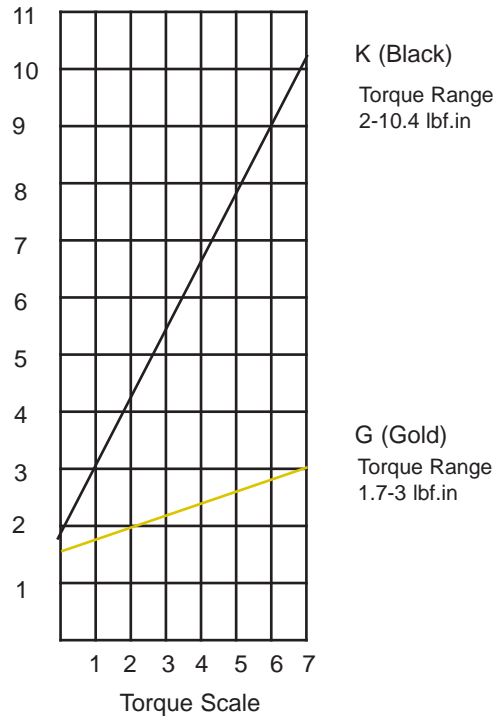
How to Read the Torque Charts

Torque ranges (lbf.in) approximate tightening torque, operated with no load at maximum speed. Verify torque setting with a torque testing system.

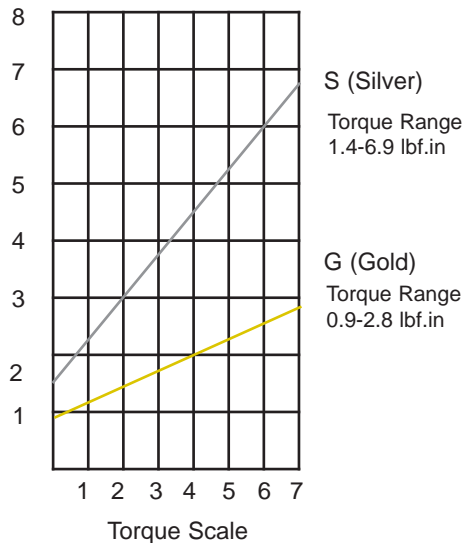
lbf.in BFA060



lbf.in BFA120



lbf.in BFA080



BFA-Series & NFA-Series Operation Instructions

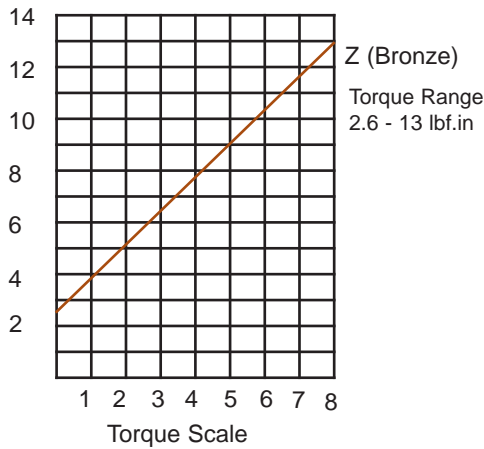
Torque Charts

These charts are meant to be used as guidelines for setting the torque on the NFA-Series electric screwdrivers. The drivers have a torque scale on the torque adjustment nut showing reference numbers. These numbers determine the approximate torque setting. Refer to the charts to determine the reference number setting for your torque requirement.

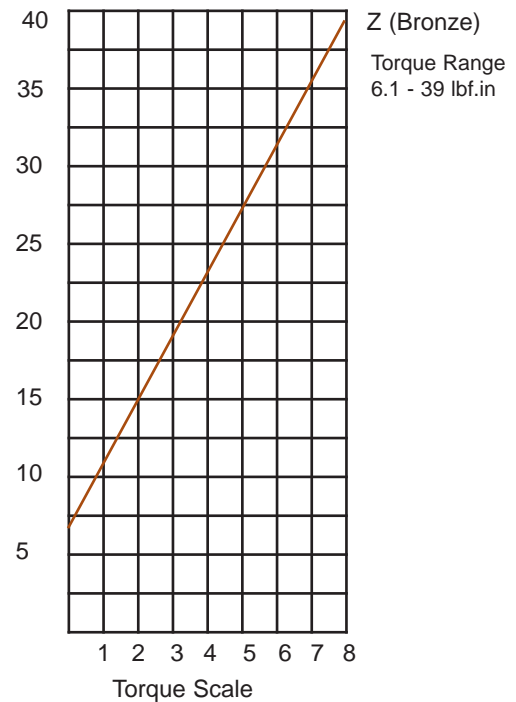
How to Read the Torque Charts

Torque ranges (lbf.in) approximate tightening torque, operated with no load at maximum speed. Verify torque setting with a torque testing system.

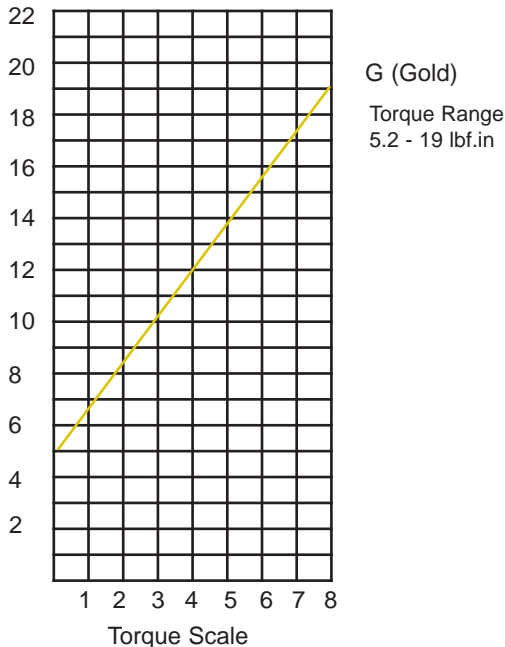
lbf.in NFA150



lbf.in NFA450

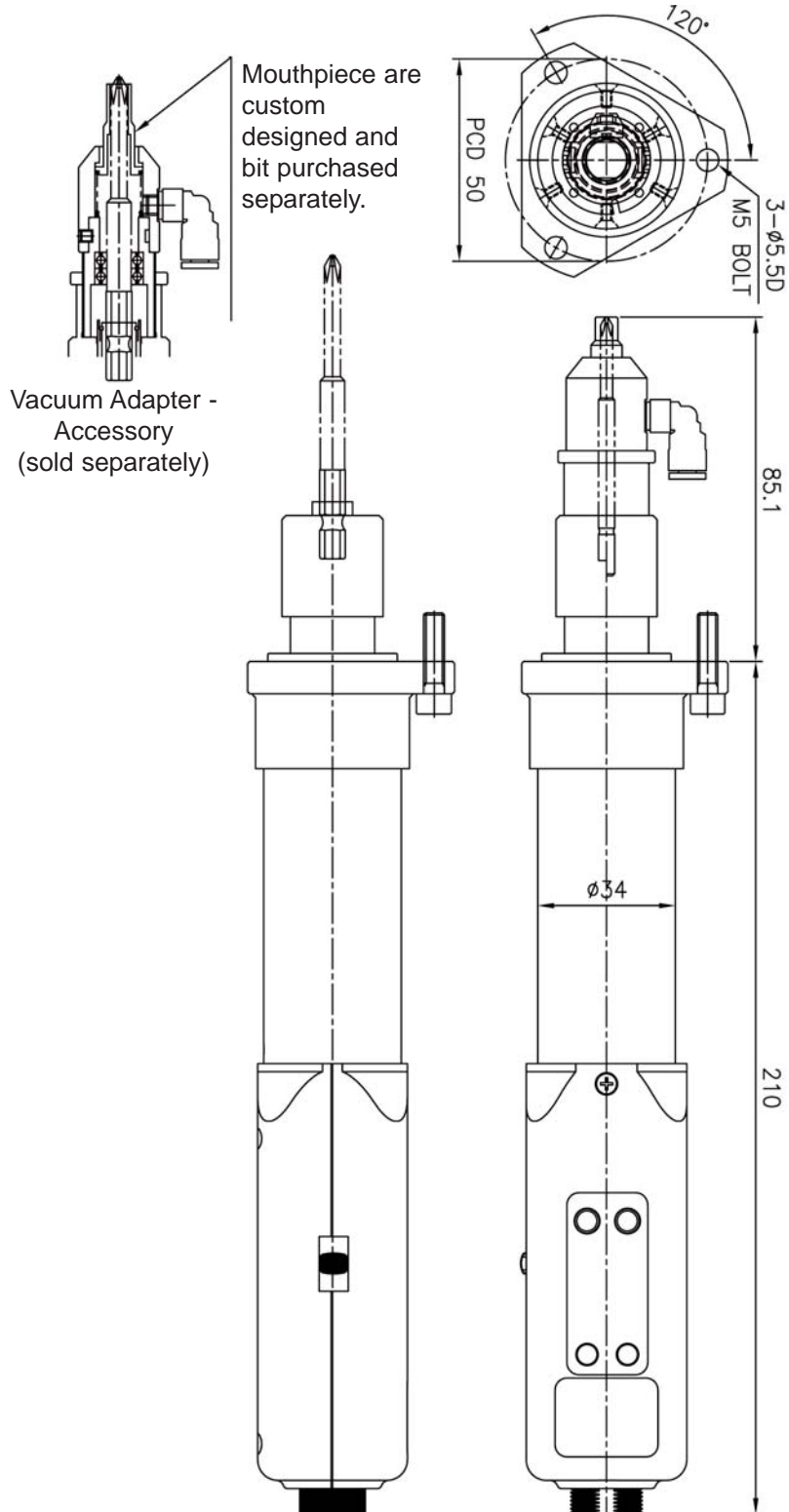


lbf.in NFA220



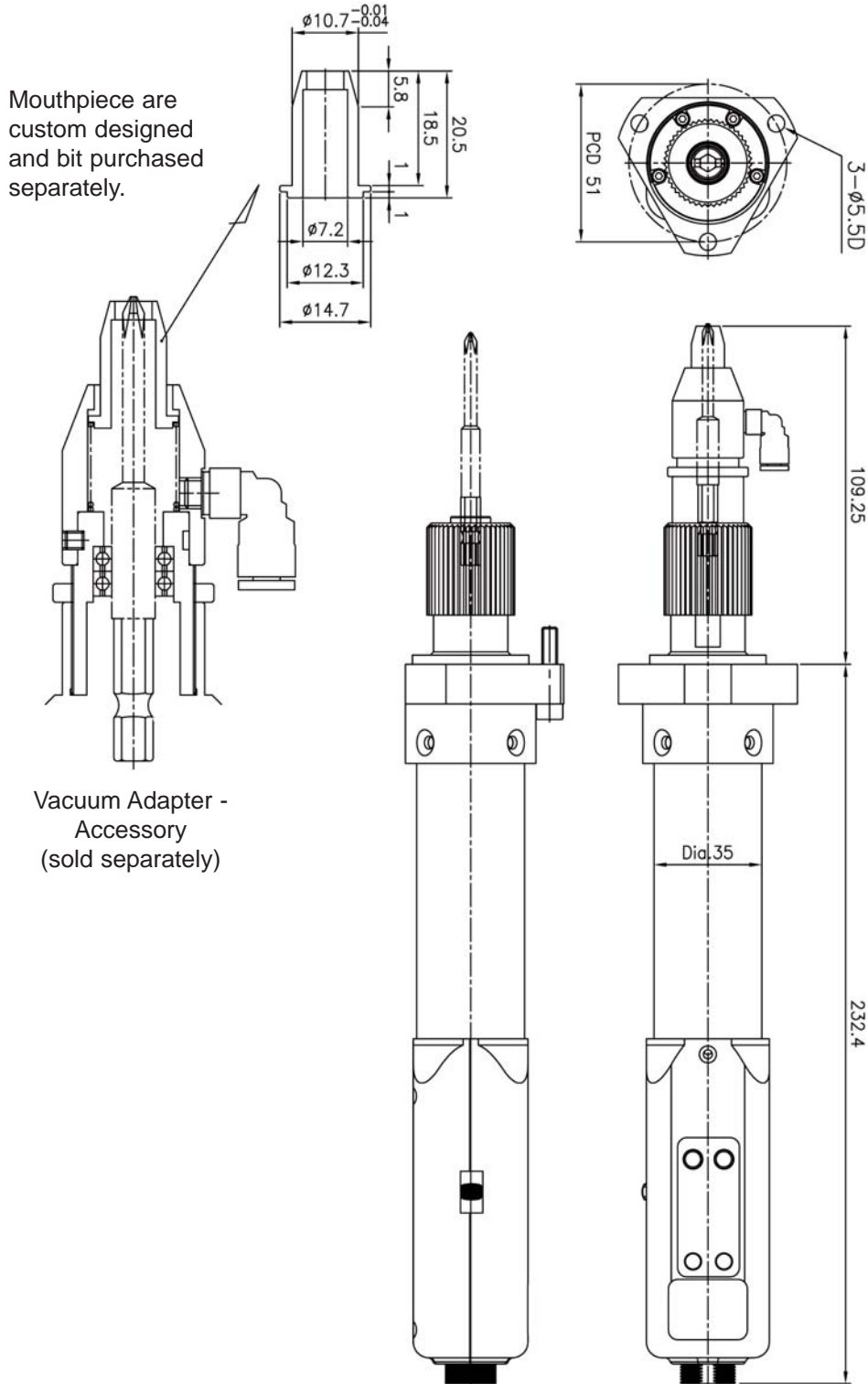
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Dimensions for BFA-060, BFA-080 and BFA-120 models



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Dimensions for NFA-120, NFA-220 and NFA-450 models



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Accessories

The EZ-Glider torque arms are designed to improve production and quality control during the assembly process. The arms securely keep electric or pneumatic drivers in perpendicular alignment to help prevent side loading or cross threading occurring during the assembly process. The EZ-Glider helps remove the operator's influence in the assembly process and strengthens quality control.



The ergonomic design of the EZ-Glider torque arms reduces RMI (repetitive motion injury) and CTS (carpal tunnel syndrome). The effortless handling of the torque arm provides comfortable tool operation and increased production. The torque arm can be installed in space-restricted areas



Scout screw counter helps manufacturers detect and eliminate costly screw-fastening errors during the assembly process. Using a screw counter is like putting the eyes and ears of a quality control manager where they are needed most - right on the assembly area. The scout is designed to detect cross threading, omissions, unfinished rundowns and cycle complete. The screw counter takes the control of the assembly process out of the operator's hands.

Item # 145790

Screw presenters are small, tabletop devices used to organize and automate work areas and production cells. Screw presenters make assemblers and the assembly process more efficient by mechanically presenting a screw to a fixed pick up point. The inexpensive screw presenter is an alternative tool instead of the cumbersome and very expensive screwfeeder systems.



Vacuum Adapter Kit

For: BFA060, BFA080, BFA120 models

Item # 145612

For: NFA150 & NFA220 models

Item # 145972

For: NFA450

Item # 145973

Vacuum adapter kits can be mounted on an electric screwdriver. The screwdriver is fitted with a suction head that holds the screw on the bit, enabling the operator to pick it up with the tool itself. This is an effective, time saving device that works with most fasteners.

- Accepts different size screws and various length fasteners.
- Allows quick-change set-up at a low cost.
- Mounts with threaded torque nut. The driver remains externally adjustable while allowing semi-automatic pickup of non-ferrous fasteners.
- Plug driver into vacuum supply or chose the Vacuum Ejector.
- Mouthpiece and bit purchased separately.



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Testing Power Tools:

1. Application Method: Use a torque analyzer in "Peak Mode" with a rotary transducer between the power tool and the actual application. This is the best way to test since you are using the actual joint as the test station. You will see the actual torque applied to the fastener. **Caution:** Variances in tool performance may occur do to the addition of the rotary transducer.
2. Simulated Method: Always use a quality joint rate simulator (run down adapter) with a torque analyzer when testing power tools in a simulated application. Use Joint rate and Breakaway methods to obtain most accurate torque readings in a simulated rundown.

Care

1. The BFA-Series and NFA-Series screwdrivers are a precision torque control instrument and should be handled with care at all times.
2. Only use the transformers listed in the Mountz catalog or website for appropriate BFA-Series and NFA-Series driver model (If you have any questions regarding the appropriate transformer set-up, contact Mountz Customer Service Department).
3. Operate under safe conditions. Do not place in operation where such objects as hair, strings, clothing, etc. can become tangled in the rotating bit.
4. Keep away from moisture. Never use in high humid, moist or damp environment.

Service

Mountz Inc. features an experienced calibration and repair staff. Our trained technicians can calibrate and repair most any tool. Mountz provides rapid service with quality that you can trust as we offer three state-of-the-art calibration lab and repair facilities that can calibrate up to 20,000 lbf.ft.

Since 1965, Mountz's in-depth knowledge of torque is reflected in our tool's craftsmanship and our ability to provide solutions to both common and uncommon torque applications. We perform calibrations in accordance with ANSI/NCSL-Z540. Mountz is dedicated solely to the manufacturing, marketing and servicing of high quality torque tools.

Tool Service & Repair Capability

Torque Wrenches: Click, Dial, Beam, Cam-Over & Break-Over

Torque Screwdrivers: Dial, Micrometer, Preset & Adjustable

Torque Analyzers/Sensors: All brands

Electric Screwdrivers: All brands

Air Tools: All brands

Impact Wrenches, Drills, Pulse Tools, Grinders, Percussive Tools,
Air Screwdrivers, Nutrunners, DC Controlled Nutrunners

Torque Multipliers: All brands

Mountz Service Locations

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