

Signature Series

SPT Series 20V Cordless Transducerized Tools



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1. SAFETY GUIDELINES

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

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 Signature Series recommended accessories for your model tool. 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 an AIMCO Signature Series tool it is important to use AIMCO Signature Series parts and all work should be undertaken by a qualified AIMCO Signature Series Authorized Technician. Use of unauthorized parts or work performed by a non-authorized technician will void warranty and may create a risk of damage to the tool, risk of electric shock, or injury to a user.

Additional Safety Rules

Battery Charger

Caution: To reduce risk of injury, charge only the authorized batteries. Other types of batteries 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 breakdown.
- 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 authorized warranty centers for locations to dispose of damaged or inoperable batteries.

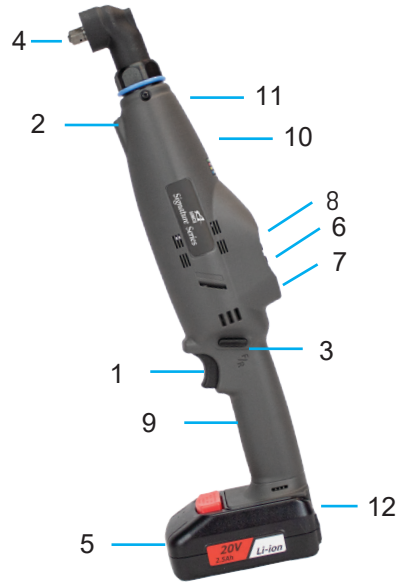
This product has been carefully inspected prior to leaving the factory. It should provide you with years of satisfying service under normal operating conditions. Do not, however, force the tool to perform outside its design parameters. Such usage will void the warranty.

2. FUNCTIONS

The Transducerized Signature Series SPT tools are designed for nut tightening/loosening and screw driving/loosening. It is not appropriate to use for wood/mild steel drilling.

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

Please refer to the figures below to familiarize yourself with the major components of the tool before use.



1. Variable Speed Control Trigger

Non-contact switch provides longer life with less downtime. Depressing the trigger (1) energizes the LED light (2) in front and the tool starts to rotate. When released, power to the motor ceases and the tool stops working immediately. The LED light will remain on for 5 seconds, then shut off.

2. LED Light

The bright LED illuminates dark areas.

3. Forward/Reverse Button

The forward/reverse button enables easy ergonomic operation. The tool is always in forward operation unless the Forward/Reverse button is pressed. When the button is pressed, the tool will be in reverse operation. To switch tool back to forward operation, simply press the button again and the tool is back in forward operation.

4. Anvil (Drive Shaft)

The anvil will accept any 1/4" hex bit or 3/8" square drive hex socket depending on specific model. Be sure the bit/socket is fully engaged before operating the tool. Otherwise, the bit/socket may detach and cause property damage or personal injury. Use only impact-type sockets or industrial grade bits.

5. Li-Ion Battery

This battery provides electrical power to the motor. Please charge it according to the charging instructions listed in this manual. The Li-ion battery offers longer life with no memory effect.

6. Tool Programming Interface

Follow the instructions shown previously in this manual to input the desired settings.

7. Mini USB Port

This port is for checking motor data.








WARNING: DO NOT CONNECT TO THE TOOL USB MINI-B PORT WITH ANYTHING OTHER THAN AN SPT-USB DONGLE.

SEVERE DAMAGE TO THE CONNECTED PC WILL RESULT

8. LED Indicators

The LED indicator lights provide simple process information to the operator. The signal is visible from any angle.

-  Reverse
-  OK
-  NOK
-  Low Battery Warning
-  Change Battery

9. Shock-Absorbing Grip

Ergonomic grip provides less fatigue with well-balanced operation.

10. Transducer

Transducer provides precise control for torque measurement.

11. Gearing

High-end alloy steel gear provides good durability.

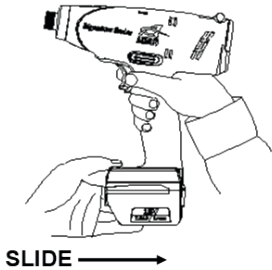
12. Battery Capacity Indicator

3. ASSEMBLY

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

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. Do not force battery: It should slide easily into place with nominal force. Any difficulty doing so indicates incorrect alignment.



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



WARNING! Read the instruction manual before operating the tool. Always wear safety glasses or face shields when operating this product. Failure to do so can result in injury.

Operation

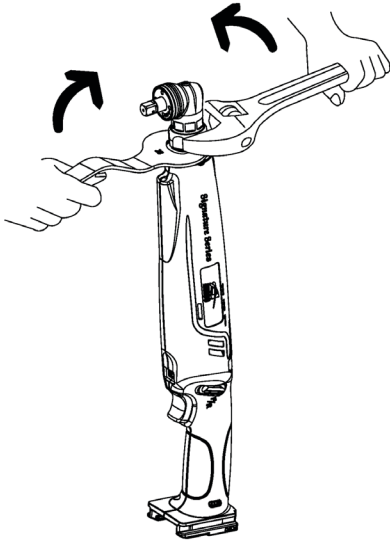
1. Slide battery into the bottom of the housing handle until a click sound occurs.
2. Select a proper size socket/drive bit and insert into the quick change holder or install onto the square drive of the tool.
3. Depress the trigger to engage the LED light and start the tool.
4. When user-set parameters are reached, the tool will shut off automatically.
5. Prior to using on an application, it is advised to verify the output torque of the tool as set. Check the torque on an Auditor™ Digital Tester (or comparable system).
6. Delivered torque to the application may vary due to the type of joint the tool is tightening. Good practice is to perform periodic audits of the application. Auditor™ Torque Wrenches or Rotary Transducers are ideally suited for this.

Forward/Reverse Rotation Switch Operation

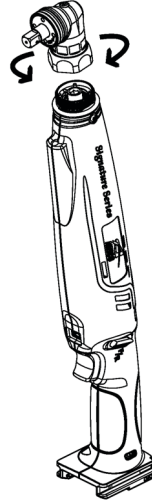
To prevent damage, do not press Forward/Reverse button until the tool comes a complete stop. The tool is in forward operation unless the forward/reverse button is switched.

Steps for Angle Head Position Indexing (for Angle Tool Only)

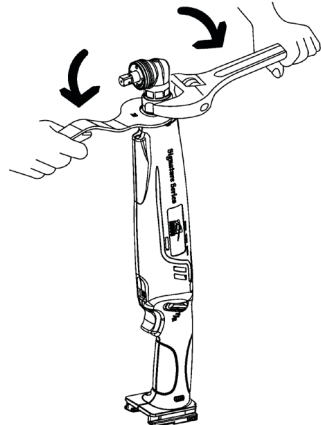
- 1 Use an open end wrench and the supplied adjustment wrench to loosen the nut by turning in the opposite direction to remove the angle head assembly.



2. Adjust the angle head assembly to the degree you wished then put it back on the tool (in 45° increments for a total of eight positions for head orientation).



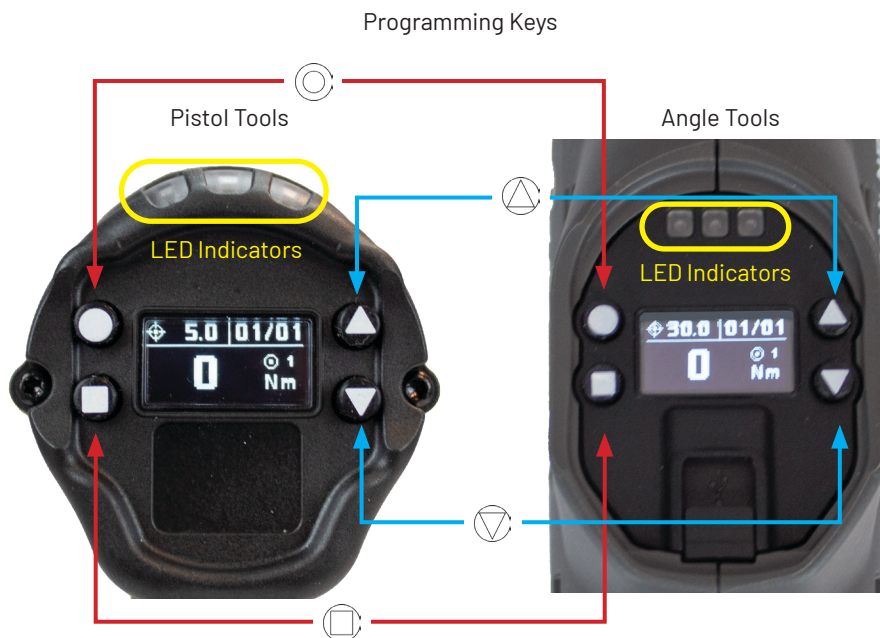
3. Use an open end wrench and the supplied adjustment wrench to tighten the nut by turning in opposite direction to complete angle adjustment.







4. DISPLAY SCREEN OVERVIEW

4.1 Programming Keys






The image below shows the display screen of the NPA Series tool, showing indicator lights and function keys.



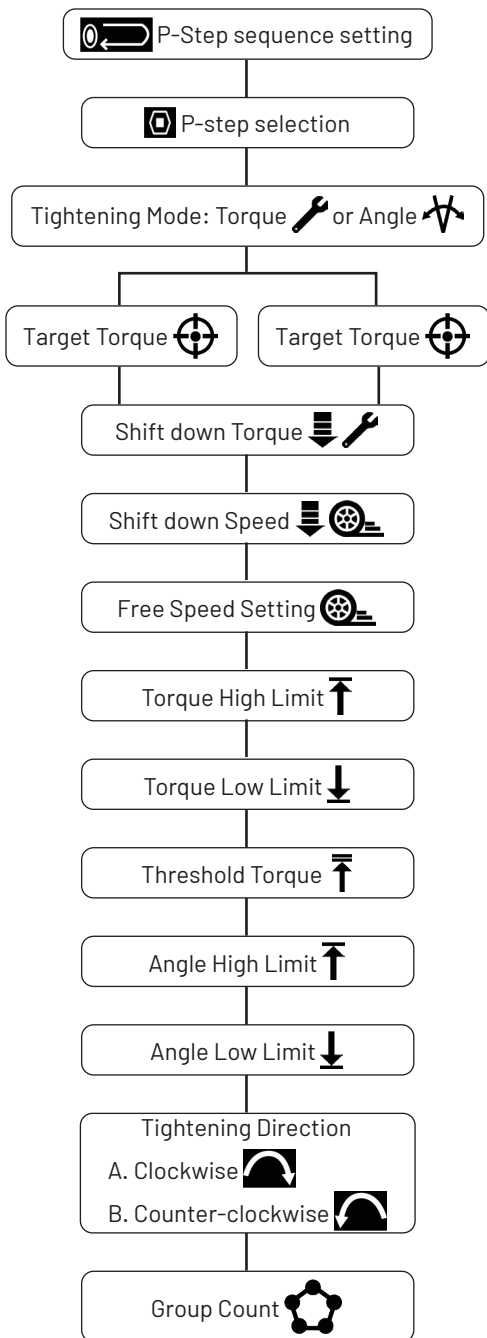
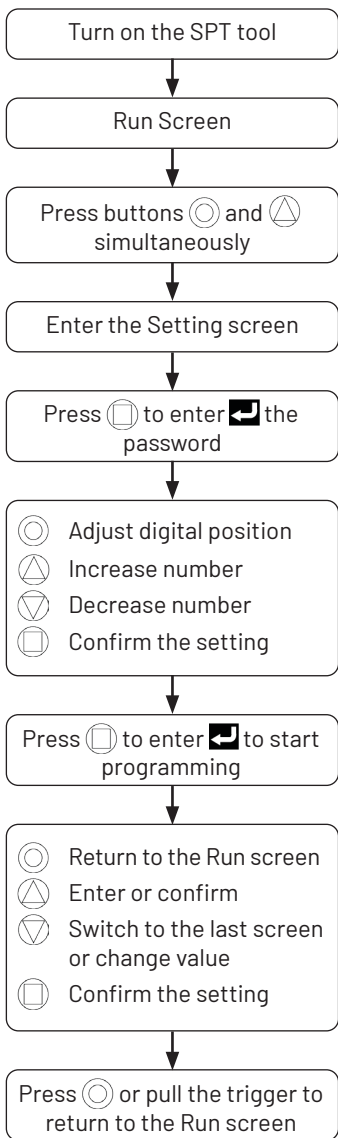
Programming Keys

The functions of the Programming keys     are shown on the display screen.

LED Indicators

-  Reverse
-  OK
-  NOK
-  Low Battery Warning
-  Change Battery

4.2 Display Screen Walkthrough



5. TOOL OPERATION

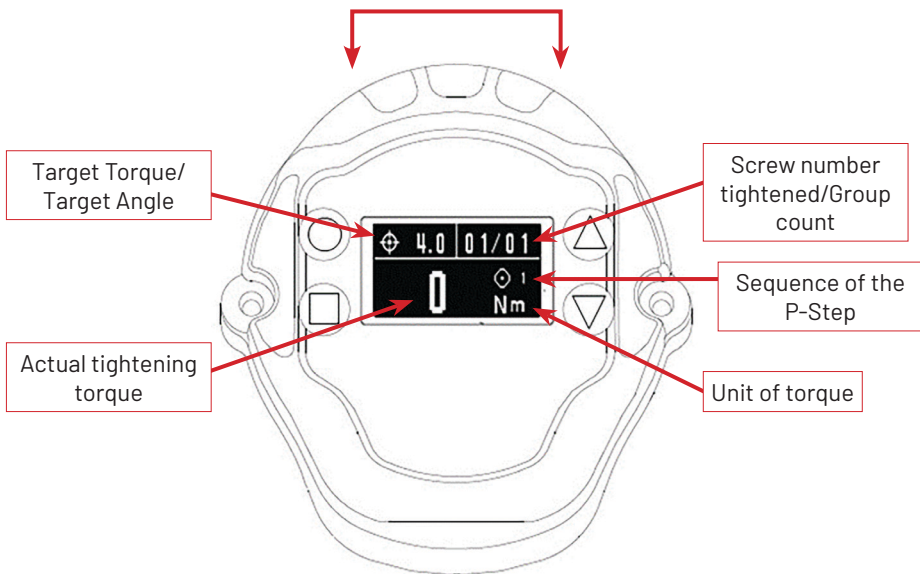
5.1 Run Screen

The initial run screen shows:

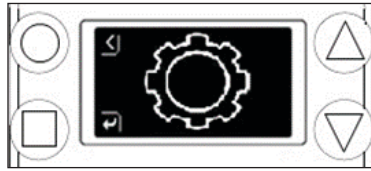
1. Primary display (center): the actual tightening torque, sequence of the P-Step, and the unit of torque.
2. Upper secondary display (right): screw number tightened / group count.
3. Upper secondary display (left): target torque value / target angle value.

LED Indicators

- Reverse
- OK
- NOK
- Low Battery Warning
- Change Battery



5.2 Setting Screen



1. Press and simultaneously to enter the setting screen.
2. Press to return to the run screen.
Press to enter the password screen.

5.3 Entering the Password

The primary display shows the 4-digit password, and each digit is adjustable from 0 to 9.





3. Press to move the cursor to the number wish to be adjusted.
4. Press to increase the number, up to 9.
5. Press to decrease the number, down to 0.
6. Press to confirm.

If the password is valid, the display will be unlocked and continue to settings that can be adjusted. If the password is invalid, the display will return to the setting screen as 4.2 shown.



Note: To reset the password, the NPT software is required.

5.4 Setting up the P-Step Sequence



Eight P-steps are available. The first digit can be adjusted from one (1) to eight (8). The 2nd to 8th digit can be adjusted from zero (0) to eight (8). "0" indicates not to use the program. If you do not want to use the program, set the digit to zero (0). Once the digit is zero (0), the following digits will become zero (0) automatically, which means the following programs will not be used. The steps will repeat from the first step to the last P-step in the sequence.

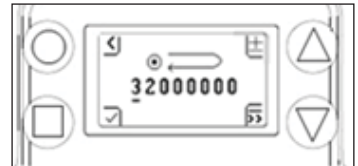
1. Press   to enter the P-Set setting screen. The screen background turns to white.













2. Press   to adjust the number from 0 to 8.

Note: First digit cannot be 0.

3. Press   to move the cursor to the next digit.





4. Press   to confirm and save, and press  . The screen background color turns to black.

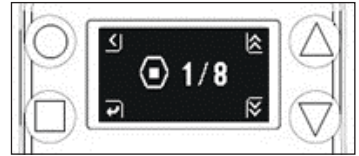
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.







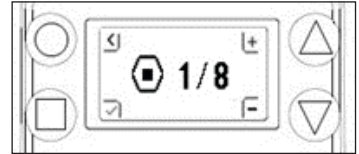
5.5 P-Step Configuration





Select the P-Step number (1 - 8) that you wish to configure. There are total 8 P-Steps available.







1. Press   to enter the setting screen. The screen background turns to white.



2. Press   to select bigger number
3. Press   to select smaller number





4. Press   to confirm and save, and press  . The screen background color turns to black.

















5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

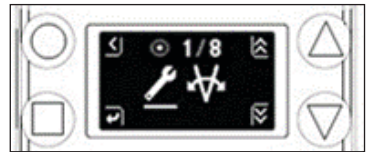
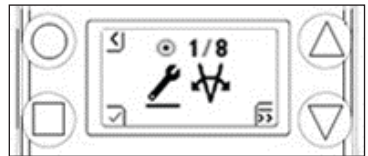
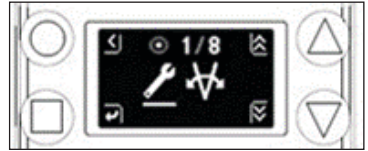


5.6 Mode Settings – Torque or Angle


You can choose between two tightening modes, Torque  or Angle , depending your accuracy requirement. The mode with the cursor under is the current tightening mode. If choosing the Torque mode, the setting (see section 4.7) is invalid; If choosing the Angle mode, the setting (see section 4.8) is invalid.



To set the tightening mode:

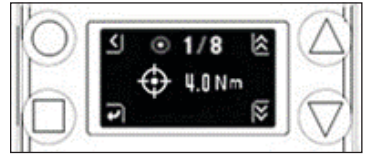
1. Press   to enter the setting screen.
The screen background turns to white.
2. Press   to move the cursor to set the tightening mode to Torque  or Angle .
3. Press   to confirm and save, and press  . The screen background color turns to black.
4. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.







5.7 Setting Target Torque

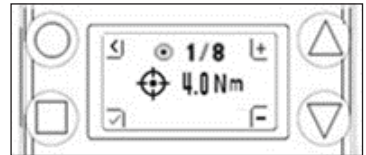
The primary display shows the icon , the target torque value, and the unit of torque. When the tightening reaches the target torque, the tool will automatically shut off and the job is completed.





1. Press   to enter the setting screen. The screen background turns to white.









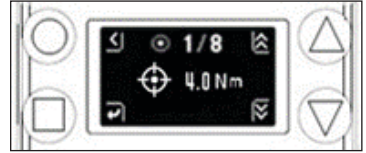
2. Press   to increase the number. Press and hold to increase the number rapidly.

3. Press   to decrease the number. Press and hold to decrease the number rapidly.






4. Press   to confirm and save, and press  . The screen background color turns to black.

5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.











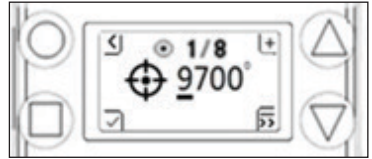
5.8 Setting Target Angle







The primary display shows the icon , the target angle value, and the unit of Angle. When the angle of rotation reaches the target angle, the tool will automatically shut off and the job is completed.

1. Press   to enter the setting screen.
The screen background turns to white.




2. Press   to increase the number. When the number goes up to 9, it returns to 0.
3. Press   to move the cursor to the right for the number position you want to adjust.
4. Press   to confirm and save, and press  . The screen background color turns to black.





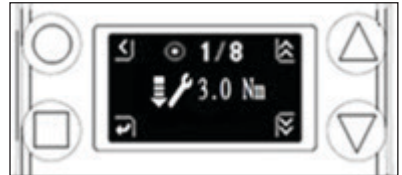
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

















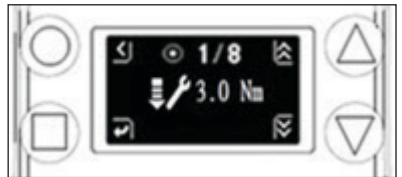
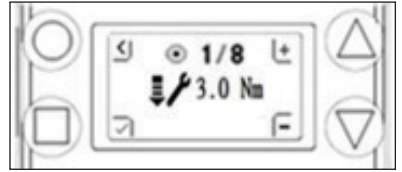
5.9 Shift Down Torque Setting

The primary display shows the icon , the torque value and the unit of torque. When the tightening reaches this torque point, the speed will decrease from free speed to the shift down speed. Note: The value will be populated as 25% of the target torque, but can be adjusted. Must be \leq Target torque.


1. Press   to enter the setting screen.
The screen background turns to white.





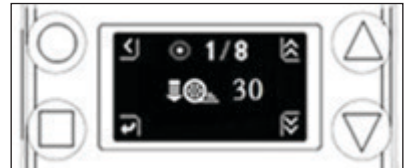
2. Press   to increase the number.
Press and hold to increase the number rapidly.
3. Press   to decrease the number.
Press and hold to decrease the number rapidly.
4. Press   to confirm and save, and press  . The screen background color turns to black.
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.





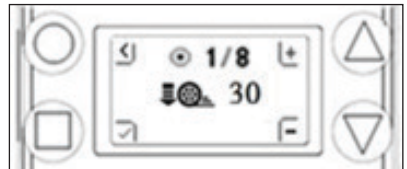
5.10 Shift Down Speed Setting



The primary display shows the icon  and the rate of speed decrease. For better torque accuracy, the tool speed will shift to a lower speed once the shift down torque is reached. Note: The default value is 20% of the free speed for the BEST accuracy, and can be adjusted.





1. Press   to enter the setting screen.
The screen background turns to white.









2. Press   to increase the number.
Press and hold to increase the number rapidly.



3. Press   to decrease the number.
Press and hold to decrease the number rapidly.



4. Press   to confirm and save, and
press  . The screen background
color turns to black.

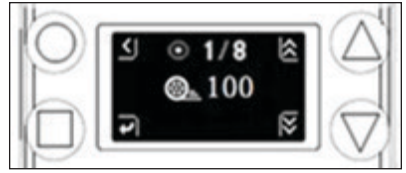
5. Press   to go to next setting, or
press   back to last setting, or
press   to return to the run screen.







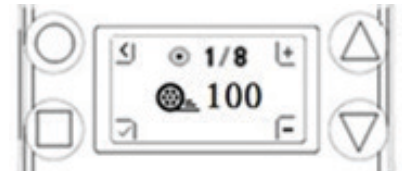
5.11 Free Speed Setting











The primary display shows the icon  and the rate of speed adjustment. The free speed is the free running speed before the shift down speed.

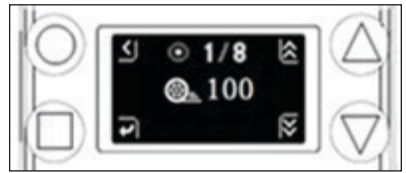
1. Press   to enter the setting screen. The screen background turns to white.




2. Press   to increase the number. Press and hold to increase the number rapidly.
3. Press   to decrease the number. Press and hold to decrease the number rapidly.





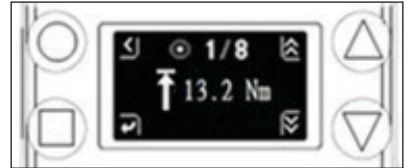
4. Press   to confirm and save, and press  . The screen background color turns to black.
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.





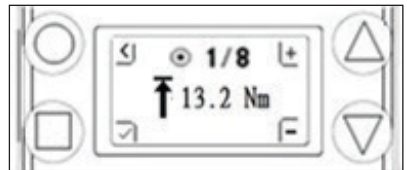
5.12 Torque High Limit Setting



The primary display shows the icon , the torque value, and the unit of torque. If the tightening torque exceeds this torque value, it is determined a failed job, and a red warning light shows on the tool. Note: The default value is 110% of the target torque and can be adjusted. Must be \geq target torque and cannot exceed 110% of the tool max torque.

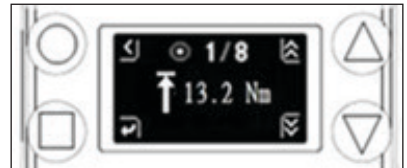
1. Press   to enter the setting screen.
The screen background turns to white.













2. Press   to increase the number.
Press and hold to increase the number rapidly.






3. Press   to decrease the number.
Press and hold to decrease the number rapidly.

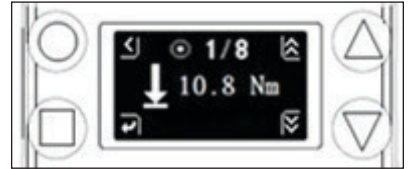




4. Press   to confirm and save, and press  . The screen background color turns to black.
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

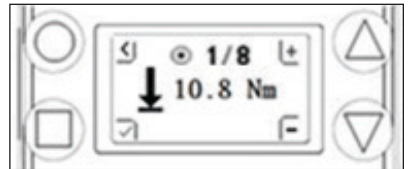
5.13 Torque Low Limit Setting



The primary display shows the icon , the torque value, and the unit of torque. If the tightening torque is lower than this torque value, it is determined a failed job, and a red warning light shows on the tool. Note: The default value will be 90% of the target torque and can be adjusted. Must be \leq target torque and the minimum value is 0.]





1. Press   to enter the setting screen.
The screen background turns to white.

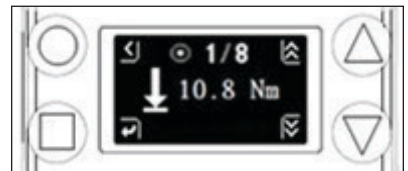








2. Press   to increase the number.
Press and hold to increase the number rapidly.




3. Press   to decrease the number.
Press and hold to decrease the number rapidly.



4. Press   to confirm and save, and
press  . The screen background color turns to black.

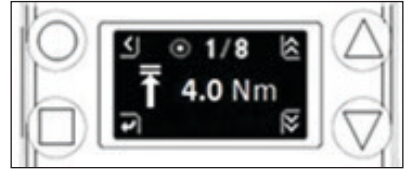
















5. Press   to go to next setting, or
press   back to last setting, or
press   to return to the run screen.

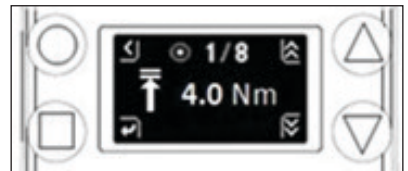
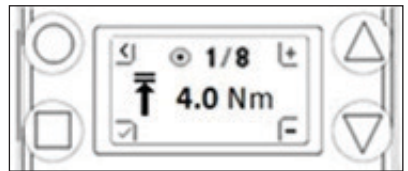
5.14 Threshold Torque Setting

The primary display shows the icon , the threshold torque value, and the unit of torque. When the tightening reaches this torque point, the angle begins to be measured to meet the accuracy requirement.


1. Press   to enter the setting screen. The screen background turns to white.





2. Press   to increase the number. Press and hold to increase the number rapidly.
3. Press   to decrease the number. Press and hold to decrease the number rapidly.
4. Press   to confirm and save, and press  . The screen background color turns to black.
5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.





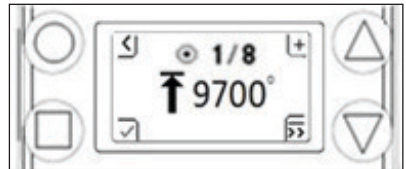
5.15 Angle High Limit Setting



The primary display shows the icon , the angle value, and the unit of angle. If the angle of rotation exceeds this angle point, it is declared a failed job, and a red warning light shows on the tool. Note: The default value will be 110% of the target angle and can be adjusted. The maximum adjustable value is up to 9999.

1. Press   to enter the setting screen.
The screen background turns to white.













2. Press   to increase the number.
When the number gets to 9, it returns to 0.




3. Press   to move the cursor to the right for the number position you wish to adjust.





4. Press   to confirm and save, and press  . The screen background color turns to black.



5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

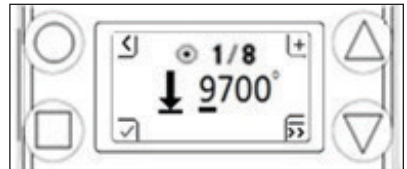
5.16 Angle Low Limit Setting



The primary display shows the icon , the angle value, and the unit of angle. If the angle of rotation is less than this angle point, it is determined a failed job, and a red warning light shows on the tool. Note: The default value will be 90% of the target angle and can be adjusted. The minimum adjustable value is 0.





1. Press   to enter the setting screen.
The screen background turns to white.









2. Press   to increase the number.
When the number gets to 9, it returns to 0.



3. Press   to move the cursor to the right for the number position you want to adjust.



4. Press   to confirm and save, and press  . The screen background color turns to black.

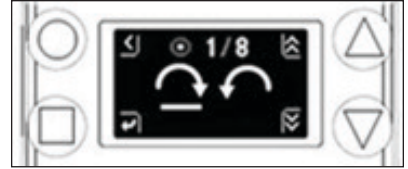




5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

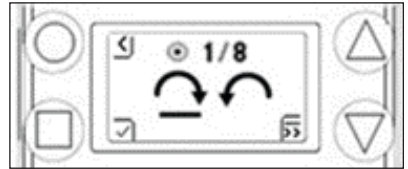
5.17 Tightening Direction Setting





Tightening direction can be selected with the Forward and Reverse operation. The current selected direction is shown with the cursor below. The tool operates according to the setting for tightening and loosening in the opposite direction.

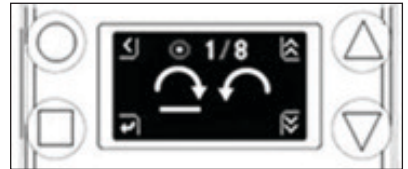
1. Press   to enter the setting screen. The screen background turns to white.









2. Press   to move the cursor to the right for the number position you wish to adjust.






3. Press   to confirm and save, and press  . The screen background color turns to black.





4. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

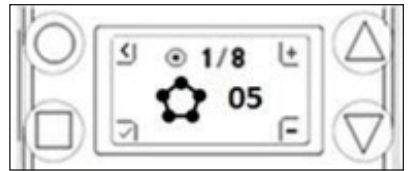
5.18 Group Count Setting



The primary display shows the icon  and the value. The group count function enables an operator to set a bolt number (from 1-99) that is required to be fastened in one application. If the actual tightening bolts reach the setting number, the tightening work completes.





1. Press   to enter the setting screen. The screen background turns to white.









2. Press   to increase the number. Press and hold to increase the number rapidly.



3. Press   to decrease the number. Press and hold to decrease the number rapidly.

4. Press   to confirm and save, and press  . The screen background color turns to black.



5. Press   to go to next setting, or press   back to last setting, or press   to return to the run screen.

6. CHARGING THE BATTERY PACK

Li-ion Battery Pack

NOTE: Your battery pack is not fully charged at the time of purchase. Be sure to charge battery before first use.

- Batteries should be charged in ambient temperatures between 0° C (32° F) and 40° C (104° F). Charging outside this range will result in either less than full charge or damage to the battery pack.

- Allow the charger to cool when charging more than two battery packs consecutively.

- Do not insert finger/body parts or foreign objects into contact area of charger.

- Place charger in a relatively cool and well-ventilated area.

- Plug charger into the AC outlet. CAUTION: Ensure that the power source to be utilized conforms to the power requirement specified on the charger nameplate.

- Turn the battery upside-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: It should slide easily into place with nominal force. Any difficulty doing so indicates incorrect alignment.

- If the power lamp (RED) does not light immediately or goes out soon after the charger is plugged in, consult a Signature Series authorized dealer.

- 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 high duty cycle operation. The YELLOW standby lamp will flash until the battery temperature drops to where safe charging is possible.

- If the temperature of the battery pack is 0° C (32° F) or less, charging will take longer to fully charge the battery pack than standard charging time. At this low temperature, even when the battery is fully charged, it will have approximately 50% of the power of a fully charged battery at normal operation temperatures.

- Once the battery is fully charged, the GREEN lamp will light to indicate the charger has entered into a trickle charge mode.














alignment marks



NOTE: Remove the battery pack when the tool is not in use, to avoid damage to the battery pack that can reduce the service life.

Recharge the battery pack once every 6 months even if the battery is not in use.

7. BATTERY CHARGER LAMP INDICATIONS

		<p>Red Light Charger is plugged into the AC outlet. Ready to charge.</p>
		<p>Yellow Flashing Light</p> <p>(1) When the temperature of the battery is too low ($<0^{\circ}\text{C}$ ($<32^{\circ}\text{F}$)), it is in a trickle charge mode until the temperature of the battery goes up to over 0°C ($<32^{\circ}\text{F}$). The lamp will change from the Yellow Flashing to Green Flashing automatically and start to charge. (If after 70 minutes, the lamp changes from yellow flashing to yellow lit, consult an authorized dealer.)</p> <p>(2) When the temperature of the battery is too high ($>40^{\circ}\text{C}$ (104°F)), it is in a trickle charge mode until the temperature of the battery drops to under 40°C (104°F). The lamp will change from the Yellow Flashing to Green Flashing automatically and start to charge. (If after 70 minutes, the lamp changes from yellow flashing to yellow lit, consult an authorized dealer.)</p> <p>(3) When the voltage of the battery is too low (below 12.5 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>
		<p>Yellow Light The battery and the charger are not connected. If the yellow lit still on after trying re-attach the battery, consult an authorized dealer.</p>
		<p>Green Flashing Light Now start charging</p>
		<p>Green Flashing Light Battery is approximately 50% charged.</p>
		<p>Green Flashing Light Battery is approximately 80% charged.</p>
		<p>Green Light Charging is complete. (Fully charged.)</p>

8. SPECIFICATIONS

	MODEL SPT-P8250	MODEL SPT-P825	MODEL SPT-P12250
Voltage	20 VDC	20 VDC	20 VDC
Drive Size	1/4" QC	1/4" Sq. Dr.	1/4" QC
Torque Range	3-8 Nm (2.2-5.9 ft-lb)	3-8 Nm (2.2-5.9 ft-lb)	4-12 Nm (3-8.9 ft-lb)
Free Speed	220-1,100 rpm	220-1,100 rpm	150-700 rpm
Weight w/o Battery	1.01 kg (2.23 lb)	1.01 kg (2.23 lb)	1.01 kg (2.23 lb)
Battery Type (Li-Ion)	2.5Ah 5.0Ah	2.5Ah 5.0Ah	2.5Ah 5.0Ah
Noise Level dB(A)	< 75	< 75	
Torque Accuracy	Meets ISO 5393 Cmk >1.67 at ± 7.5% tolerance.		

	MODEL SPT-P1238	MODEL SPT-P16250	MODEL SPT-P1638
Voltage	20 VDC	20 VDC	20 VDC
Drive Size	3/8" Sq. Dr.	1/4" QC	3/8" Sq. Dr.
Torque Range	4-12 Nm (3-8.9 ft-lb)	5-16 Nm (3.7-11.8 ft-lb)	5-16 Nm (3.7-11.8 ft-lb)
Free Speed	150-1,100 rpm	100-500 rpm	100-500 rpm
Weight w/o Battery	1.01 kg (2.23 lb)	1.01 kg (2.23 lb)	1.01 kg (2.23 lb)
Battery Type (Li-Ion)	2.5Ah 5.0Ah	2.5Ah 5.0Ah	2.5Ah 5.0Ah
Noise Level dB(A)	< 75	< 75	< 75
Torque Accuracy	Meets ISO 5393 Cmk >1.67 at ± 7.5% tolerance.		

	MODEL SPT-A10250	MODEL SPT-A1038	MODEL SPT-A16250
Voltage	20 VDC	20 VDC	20 VDC
Drive Size	1/4" QC	3/8" Sq. Dr.	1/4" QC
Torque Range	4-10 Nm (3-7.4 ft-lb)	4-10 Nm (3-7.4 ft-lb)	5-16 Nm (3.7-11.8 ft-lb)
Free Speed	150-750 rpm	150-750 rpm	120-600 rpm
Weight w/o Battery	1.68 kg (3.7 lb)	1.68 kg (3.7 lb)	1.68 kg (3.7 lb)
Battery Type (Li-Ion)	2.5Ah 5.0Ah	2.5Ah 5.0Ah	2.5Ah 5.0Ah
Noise Level dB(A)	< 75	< 75	< 75
Torque Accuracy	Meets ISO 5393 Cmk >1.67 at ± 7.5% tolerance.		

	MODEL SPT-A1638	MODEL SPT-A3038	MODEL SPT-A4838
Voltage	20 VDC	20 VDC	20 VDC
Drive Size	3/8" Sq. Dr.	3/8" Sq. Dr.	3/8" Sq. Dr.
Torque Range	5-16 Nm (3.7-11.8 ft-lb)	10-30 Nm (7.4-22 ft-lb)	20-48 Nm (14.8-35.4 ft-lb)
Free Speed	120-600 rpm	70-350 rpm	60-210 rpm
Weight w/o Battery	1.68 kg (3.7 lb)	1.68 kg (3.7 lb)	2.16 kg (4.77 lb)
Battery Type (Li-Ion)	2.5Ah 5.0Ah	2.5Ah 5.0Ah	5.0Ah
Noise Level dB(A)	< 75	< 75	< 75
Torque Accuracy	Meets ISO 5393 Cmk >1.67 at ± 7.5% tolerance.		

	MODEL SPT-A4850	MODEL SPT-A6038	MODEL SPT-A6050
Voltage	20 VDC	20 VDC	20 VDC
Drive Size	1/2" Sq. Dr.	3/8" Sq. Dr.	1/2" Sq. Dr.
Torque Range	20~48 Nm (14.8~35.4 ft-lb)	25~60 Nm (18.4~44.3 ft-lb)	25~60 Nm (18.4~44.3 ft-lb)
Free Speed	60~210 rpm	50~170 rpm	50~170 rpm
Weight w/o Battery	2.16 kg (4.77 lb)	2.16 kg (4.77 lb)	2.16 kg (4.77 lb)
Battery Type (Li-Ion)	5.0Ah	5.0Ah	5.0Ah
Noise Level dB(A)	< 75	< 75	< 75
Torque Accuracy	Meets ISO 5393 Cmk >1.67 at $\pm 7.5\%$ tolerance.		



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