


ESB4-SXI SERIES

PROGRAMMABLE
AUTOMATIC
SHUT-OFF IMPACT TOOLS

Training Guide



OVERVIEW

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- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.

INTRODUCTION

The Delta Regis Tools ESB4-SXI Series is an automatic shut-off impact tool designed specifically for production/assembly applications.

Impact tools are excellent for administering high rotational torque with little to no negative reactionary force. This is perfect in handheld applications where using a torque reaction arm is difficult or unmanageable.

The automatic shut-off function can be programmed to a desired BPM, which depending on fastener size, can be dialed in to a specific torque requirement.

TOOL CAPABILITIES

- ▶ High speed helps increase user efficiency
- ▶ Set up to 5 separate programs that can be used in sequence
- ▶ Stable power output to ensure torque consistency
- ▶ OK & NG indicator provides instant feedback to the user helping to detect cross threading and stripping
- ▶ Batch counting function
- ▶ Torque accuracy will vary based on fastener size

Specifications			
Model	ESB4-SXI-50	ESB4-SXI-70	ESB4-SXI-100
Input Voltage	10.8V	14.4V	
Speed (RPM)	0~1900	0~2600	0~2000
BPM	0~2500	0~3400	0~2600
Torque Range	5~50 Nm (3.7~36.9 ftlb)	20~70Nm (14.7~51.6 ftlb)	20~100 (14.7~73.7 ftlb)
Recommended Fastener Size (Class 12.9)	M6 / M8 / M10 / M12	M8 / M10 / M12 / M14	M10 / M12 / M14 / M16
Torque Range Capability (Based on fastener size)	M6 - 3~20Nm (2.2~14.7 ftlb)	M8 - 8~30Nm (5.9~22.1 ftlb)	M10 - 8~40Nm (5.9~40 ftlb)
	M8 - 3~20Nm (2.2~14.7 ftlb)	M10 - 8~40Nm (5.9~29.5 ftlb)	M12 - 20~70Nm (14.7~51.6 ftlb)
	M10 - 5~30Nm (3.7~22.1 ftlb)	M12 - 20~60Nm (14.7~44.2 ftlb)	M14 - 20~90Nm (14.7~66.3 ftlb)
	M12 - 12~50Nm (8.8~36.8 ftlb)	M14 - 25~70Nm (18.4~51.6 ftlb)	M16 - 28~100Nm (20.6~73.7ftlb)
Drive Type	1/4" Hex		3/8" Square **Available in 1/2" Square Special Order**
	3/8" Square		
Weight (Less Battery)	0.98 kg (2.1 lbs)	1.0 kg (2.2 lbs)	
Dimensions (Less Battery)	174x202mm (6.8x7.8")		
Battery	SKC-LB1025M	SKC-LB1425	
Charger	ESB-CHG50XA	ESB-CHG70	
Optional Accessories	DR-IRC1		

REMOTE CONTROL OVERVIEW



- ▶ **Program:** Allows you to save and store up to 5 programs and can be used in sequence
- ▶ **Batch Count:** Allows you to program the number of screws to be fastened
- ▶ **Force:** Allows you to choose between low medium and high hammer blow strength
- ▶ **Impacts:** Allows you to fine-tune the rundown to achieve desired torque
 - ▶ (1~99) for ESB4-SXI-70 & ESB4-SXI-100
 - ▶ (1~50) for ESB4-SXI-50
- ▶ **Limit:** Allows you to program the number of threads(rotations) in a proper fastening. For example, if desired torque is reached before reaching the preset thread count(rotations) an error (Red light/Continuous beeping) will occur indicating potential cross thread
- ▶ **Sequence:** Once you have dialed in your desired settings under each program(step a.) use the program + / - buttons to display the first program in the sequence and hit the “Ps” button. If sequenced properly you will see 3 dots at the bottom of the screen indicating the program was added to sequence
- ▶ **Save:** Once tool is set to your preference hit the save button to save all settings
- ▶ **Device Lock:** Allows you to lock the tool helping to avoid settings being tampered with
- ▶ **Sound:** Allows you turn on or off audible feedback (beep)

PROGRAMMING

Step 1: Service Mode

- ▶ To enter service mode press and hold  button just below the LED display at the base of the tool for 3 seconds.


Tool display will show



once in "Service Mode"

PROGRAMMING

Step 2: Choose Program

- ▶ Use  buttons on the remote to select a program (P01-P05)
- ▶ Once desired program is on the tool display you are ready to start setting the parameters of that program.

In this training module we will be setting up Programs 1 & 2.



PROGRAMMING

Step 3: Set Batch Count

- ▶ Use the   buttons to select desired number of fasteners (n01~n99) in each batch.

- ▶ Batch count function can also be disabled by selecting



Try it yourself...

Set the Batch Count on Program 1 to



PROGRAMMING

Step 4: Set Force

- Use the  buttons to select desired force setting.

Application Advice:

When determining appropriate force setting be sure to factor in the number of impacts.

Start off at the lowest force and if the number of impacts required to hit the required torque is higher than 60, increase the force accordingly.

Generally you would like to be within 10-40 impacts when achieving required torque.


Try it yourself...

Set the Force on Program 1 to



PROGRAMMING

Step 5: Set Impacts

- ▶ Use the  buttons to fine tune H01~H99 (H01~H50 for ESB4-SXI-50) to achieve desired torque.
- ▶ Impact function can also be set to unlimited impacts by selecting



Application Advice:

Generally you would like to be within 10-40 impacts when achieving required torque.

Due to the nature of this type of tool, the internal hammer and anvil will break down over time.

The higher the number of impacts, the more frequently the tool will need service.


Try it yourself...

Set the Impacts on Program 1 to



PROGRAMMING

Step 6: Set Rotation Limit

- ▶ Use the  buttons to select rotation limit of the fastener.
- ▶ The rotation limit is based on the number of rotations a proper fastening requires before impacting begins.
- ▶ If the desired number of impacts is achieved before hitting the specified rotation limit, an error will occur (lights and beeping), indicating a potential cross-thread.
- ▶ Limit function can also be disabled by selecting




Try it yourself...

Set the Limit on Program 1 to



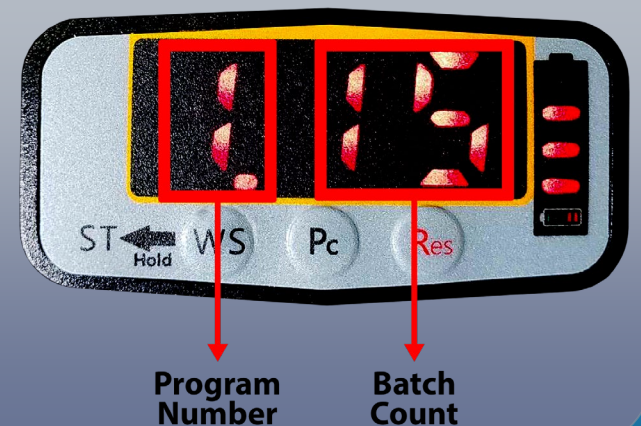
PROGRAMMING

Step 7: Save Settings

- ▶ Once you have set the device to your desired parameters press the  button
- ▶ If saved properly you will hear the device beep and the display will return to the main screen showing the “Program and Batch Count”
- ▶ Once on the main screen the device will continuously cycle through the selected program
- ▶ Multiple programs (P01-P05) can be setup using the same technique depending on application requirements
- ▶ Programs can also be sequenced if multiple fasteners/joint types are used in the same workpiece. This will be described later in this training module

Try it yourself...

Hit the  button, listen for the beep & look to see if device screen displays



Knowledge Test

Now that you have been through the settings and parameter options for Program 1. Let's try setting up Program 2 with different settings. Repeat steps 1-7 using the following settings:

Program



Batch Count



Force



Impacts



Limit



Don't forget to hit  when you are finished!

PROGRAMMING

Secondary Functions Menu

Step 1: Service Mode

- ▶ To enter service mode press and hold **WS** button just below the LED display at the base of the tool for 3 seconds.

Step 2: Secondary Functions

- ▶ Once in service mode press the **Pc** button to enter the Secondary Functions Menu.

Tool display will show



once in "Secondary Functions Menu"

PROGRAMMING

Step 3: NG Confirm ON/OFF

- ▶ Once in secondary functions menu press the **P_s** button on remote to toggle NG Confirm alert on or off.



NG Confirm Alert is set to ON

NG Confirm Alert is set to OFF



PROGRAMMING

Step 4: OK All Confirm ON/OFF

- ▶ Once in secondary functions menu press the  button on remote to toggle OK All Confirm alert ON or OFF.



← OK All Confirm Alert is set to ON

OK All Confirm Alert is set to OFF →



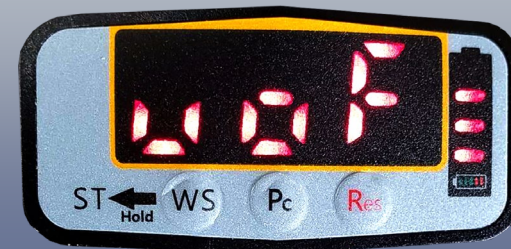
PROGRAMMING

Step 5: Ignore Friction

The ignore friction function can be used if the joint properties may cause the device to start impacting before the fastener is properly seated (ie. Soft Gasket Material). Ignore Friction function can be fine tuned from “u01~u99” or turned OFF if not needed.

- ▶ Once in secondary functions menu use the  buttons on remote to adjust Ignore Friction function.

Ignore Friction function is turned OFF when you see this screen



SEQUENCING

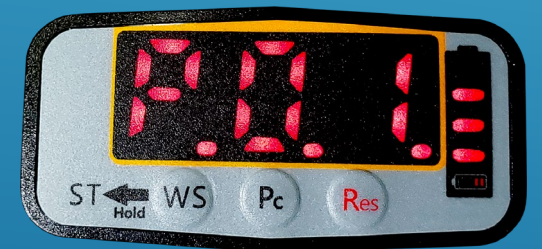
Step 1:

- ▶ Once multiple programs are set to desired parameters and saved, enter back into “Service Mode” (See Step 1)

- ▶ Use the  buttons to select the program to be sequenced and press the  button





- ▶ If program was successfully added to sequence display will show

- ▶ Repeat the same steps if more programs are required to be added to sequence



SEQUENCING

Step 2:

- ▶ Once all desired programs have been successfully entered into sequence use the    buttons to navigate to the first program you would like to run in the sequence and press the  button to save the sequence
- ▶ If successfully saved, the device will beep and return to main screen
- ▶ The device will now cycle through all programs (in numerical order) that were added to sequence. Once the final sequence has completed its final fastening, the device will cycle back to the first program in the sequence

Try it yourself...

1. Enter service mode and navigate to sequence



and press the  button to enter Program 1 into

2. Once successfully added display should read



3. Now navigate to  and again press the  button to enter Program 2 into sequence

4. Once successfully added display should read



5. Both Program 1 & 2 have now been added to sequence.

6. To complete the sequence navigate to



and press the  button. The sequence will now start

with Program 1 and will cycle to Program 2 when final fastening in Program 1 is completed and then back to Program 1 once Program 2 is completed, and so on...

Double click images to open as PDF

Manual

ESB4-SXI Series

Automatic Shut-off
Precision Impact Driver



USER MANUAL



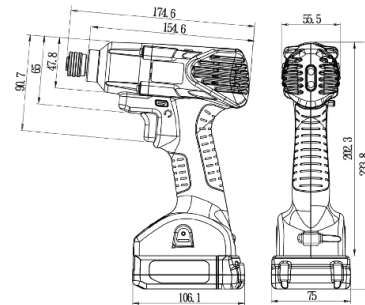
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Delta_Regis_ESB4-SXI_M_R02

Dimensional
Drawing

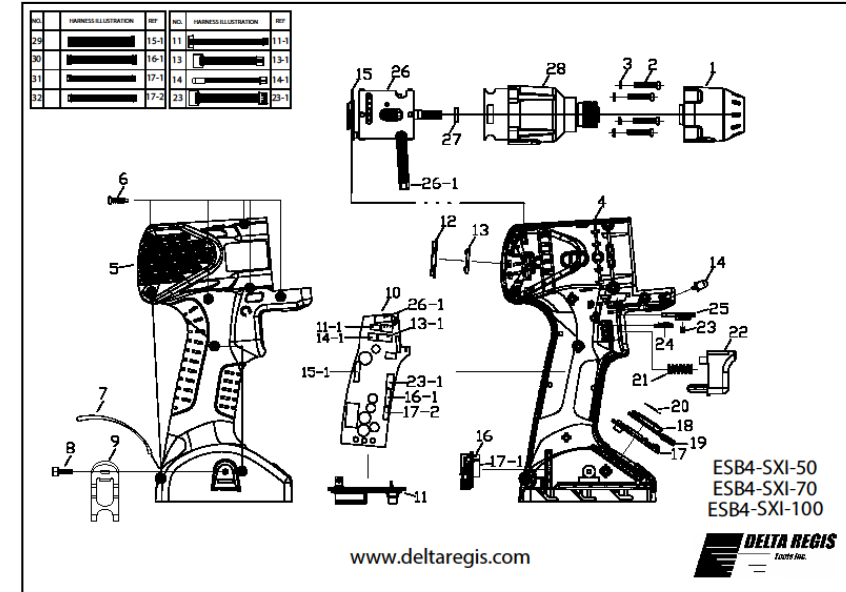


ESB4-SXI-50/70/100
Dimensional Drawing



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Parts Sheet



RESOURCES