

Ai10 - Hardware Operation Manual

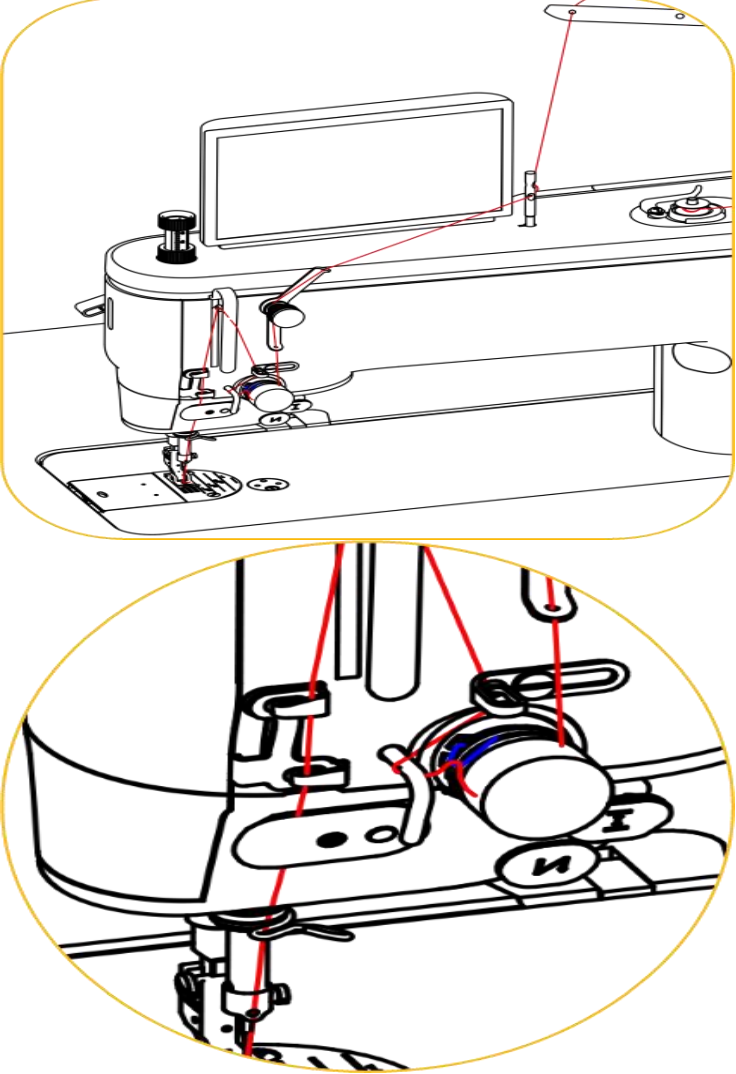
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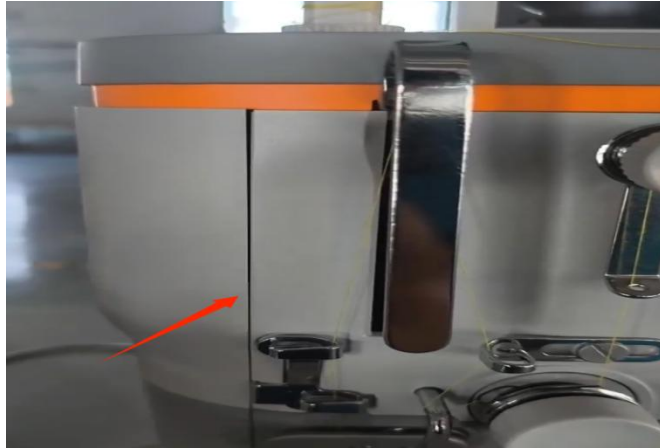
1 Threading

Picture	Standard Procedure
	As shown in Figure 2.6: Turn the handwheel to raise the take-up lever to the highest position. Thread the upper thread through each hole and tension disc gap sequentially from upper right to lower left as illustrated. Leave about 30 millimeters of thread protruding out of the needle eye. Note: Power off the machine before threading. Accidental stepping on the foot pedal may cause machine movement and personal injury.

2 Presser Foot Replacement

Keywords: presser foot replacement, presser foot, presser foot adjusting screw, presser foot height, panel opening, panel disassembly and assembly、

Description: Adjust as follows when replacing the presser foot during production.



Panel Removal



As shown in the figure, insert your fingernail into the gap and remove the panel to the left.



Presser Foot Height Adjusting Screw

Adjust the presser foot adjusting screw at this moment to finish height adjustment after replacing the presser foot.

3 Button Function Introduction (Main Interface)

Main Interface

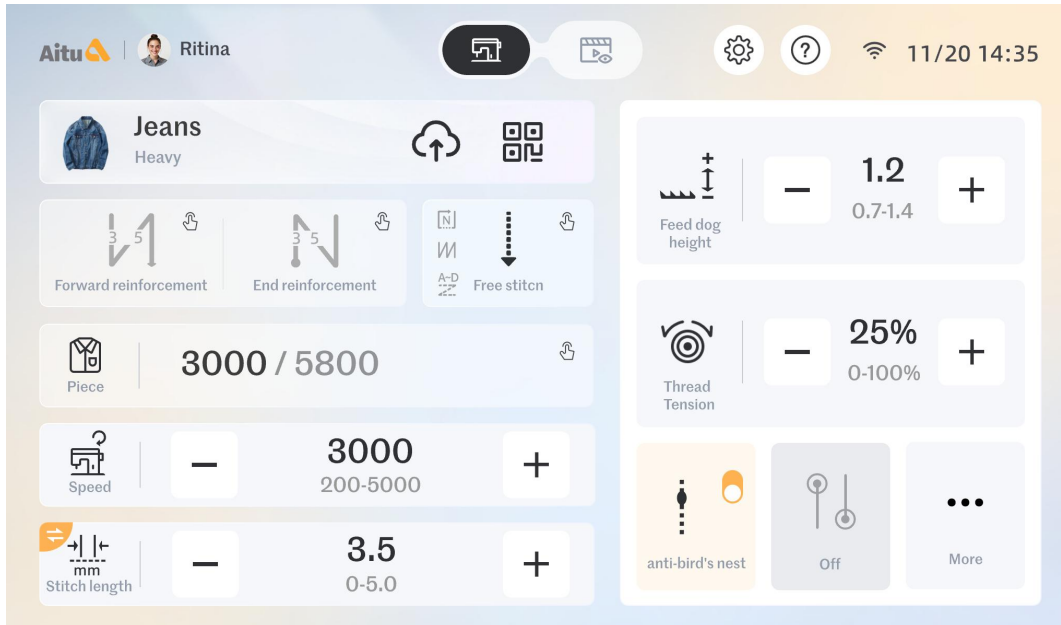


Figure 1 Main Touchscreen Interface 1 (Click More Functions)

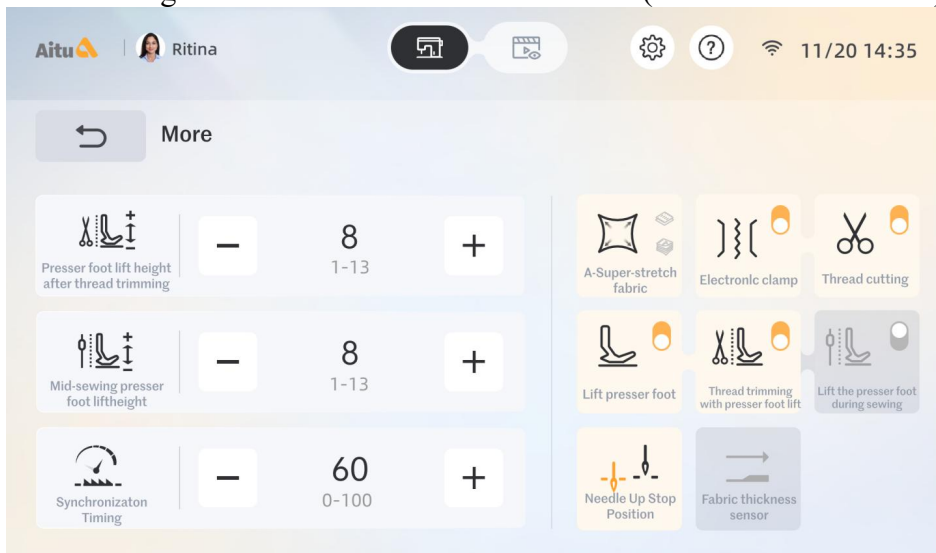


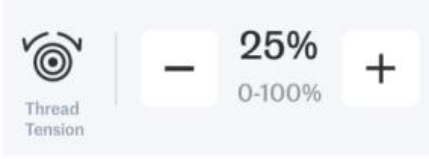
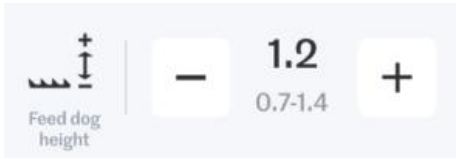
Figure 2 More Functions Interface

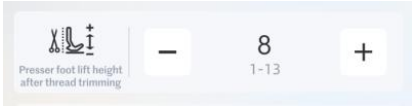
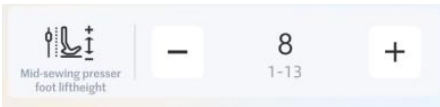
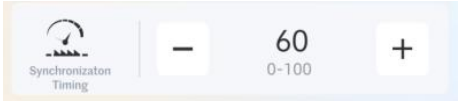
Button Description

General Buttons: The common operation buttons for all interfaces are as follows:

Icon	Description	Function
	Main Interface	Tap the icon to return to the main interface
	Return	Tap the icon to return to the previous interface

	Close	Tap the icon to close the pop-up window
	Open	Indicates the function is enabled
	Close	Indicates the function is disabled
	Plus-minus key	Press the plus-minus keys to adjust the value.
	Page turning key	Press left and right arrows to switch interfaces (Current page displayed on the left, total pages on the right)

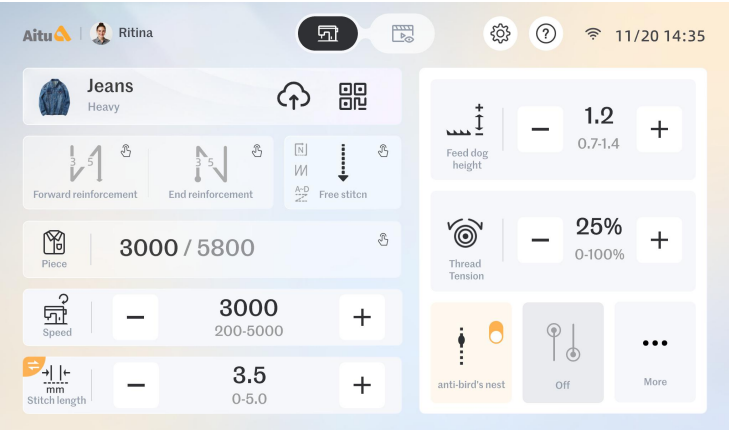
Description	Icon	Attention
Sewing sample		Click to enter the package library interface.
Piece rate		Click to enter the counting setting interface.
Front reinforcement key		Click to switch between single front reverse stitch, front reinforcement or off. Press and hold to enter the setting interface for front reverse stitch and double front reverse stitch.
Rear reinforcement key		Click to switch between reverse stitching, back reinforcement or off. Press and hold to enter the adjustment interface for reverse stitching and double reverse stitching settings.
Mode switch		Click to switch sewing modes. From left to right: free sewing, multi-section sewing, W-stitch and pattern sewing. Press and hold multi-section sewing, W-stitch or pattern sewing to enter the sewing mode setting interface.
Thread tension		Click "+" to increase thread tension. Click "-" to decrease thread tension.
Electronic thread tensioner		Click to turn on or off.
Tooth height adjustment		Click "+" to raise feed dog height. Click "-" to lower feed dog height.
Thickness detection		Click to turn on or off.

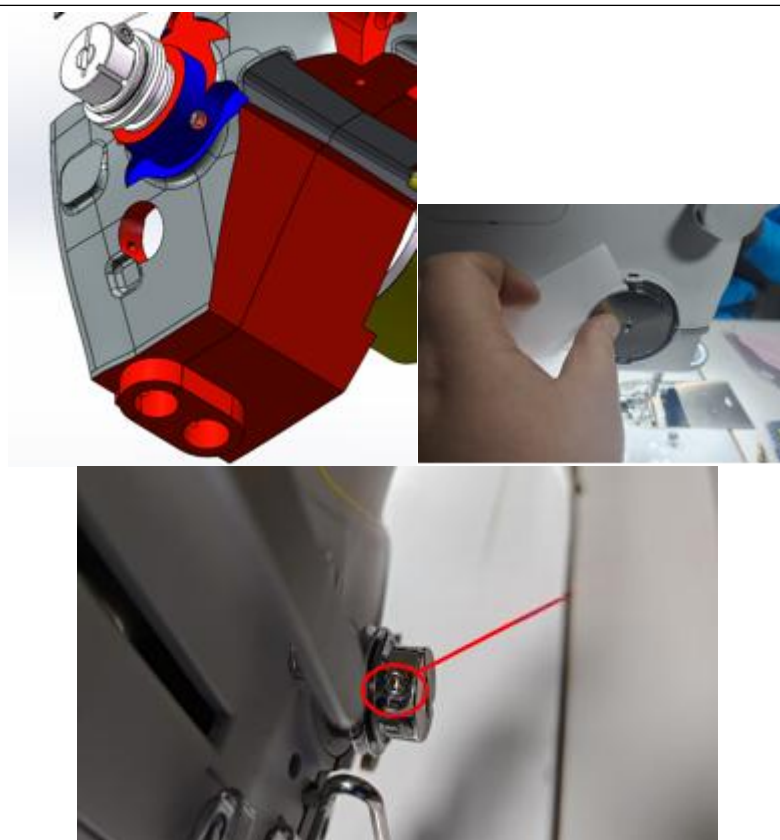
Speed adjustment		Click "+" to increase rotation speed. Click "-" to decrease rotation speed. Press and hold for continuous adjustment.
Stitch length adjustment		Click "+" to increase stitch length. Click "-" to decrease stitch length. Press and hold for continuous adjustment.
Inch mode		Click "+" to increase stitches per inch. Click "-" to decrease stitches per inch. Press and hold for continuous adjustment.
AMH Mode		View current mode, no modification available.
Needle stop position key		Click to switch the needle stop position after sewing (Lower needle stop / Upper needle stop)
Small bird nest		Click to enable or disable the small nest function.
Thread trimming key		Click to turn the thread trimming function on or off.
Presser foot lifting height after thread trimming		Click "+" to increase the presser foot height. Click "-" to decrease the presser foot height. Press and hold for continuous adjustment.
Intermediate presser foot lifting height		Click + to raise presser foot height. Click - to lower presser foot height. Press and hold for continuous adjustment.
Front and back lock stitch		Click to switch among off, front lock stitch, rear lock stitch and front & rear lock stitch.
Synchronous timing		Click + to increase timing; click - to decrease timing. Press and hold for continuous adjustment.
Lift presser foot		Click to enable or disable the presser foot lifting function. When disabled, both post-trimming and intermediate presser foot lifting will be turned off.
Presser foot lift after thread cutting		Click to turn on or off the automatic presser foot lift function after thread trimming.
Intermediate presser foot lift		Click to enable or disable the intermediate presser foot lifting function during sewing.
Help		Click to display icon descriptions, operation instructions, feedback and suggestions interface.
Settings		Click to enter the settings interface to configure language, network, screen and other functions.

4 Electronic Thread Tension

Keywords: thread tensioner, thread tension

Note: Adjust thread tension during production, or recalibrate after replacing parts such as thread tensioner and electromagnet.

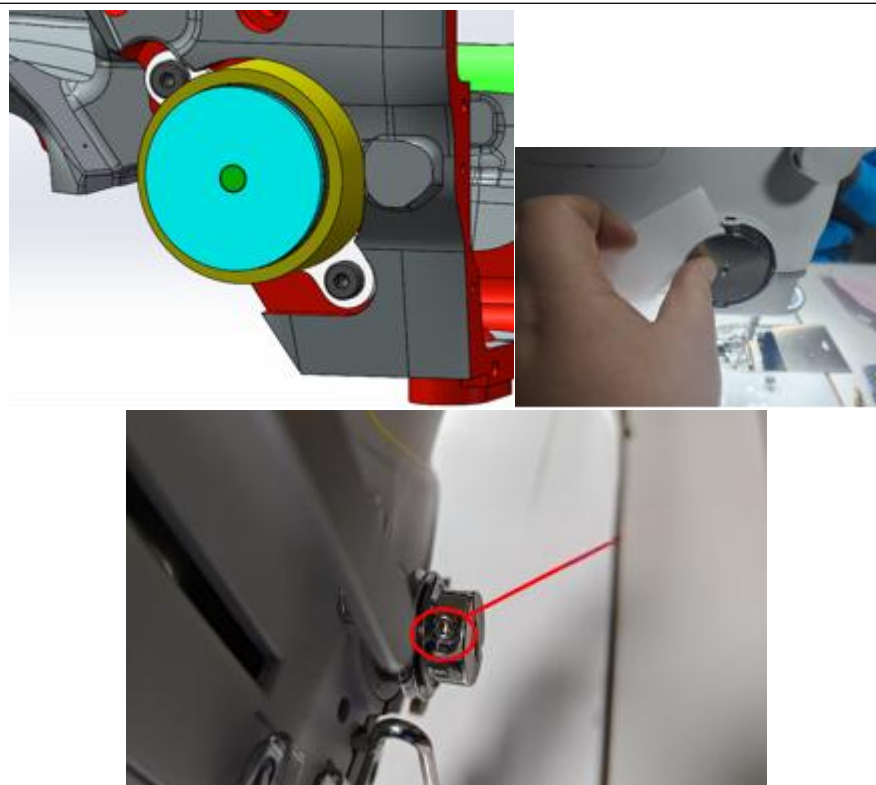
Picture	Standard Procedure
 Thread Tension Adjustment	Adjust Thread Tension Tap the "+" and "-" keys for thread tension on the main interface to modify parameters. Changes are saved automatically.
 Take-up Spring Force Adjustment	Take-up spring tension adjustment Insert a flathead screwdriver into the groove of the thread tensioner. Turn clockwise to increase take-up spring tension, and turn counterclockwise to decrease it.



Replacement of Thread Release Spring, Auxiliary Release Pin and Release Pin

Replacement of Thread Release Spring, Auxiliary Release Pin and Release Pin

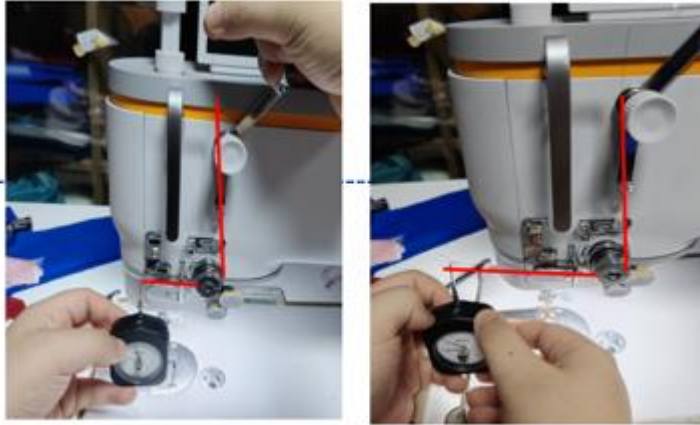
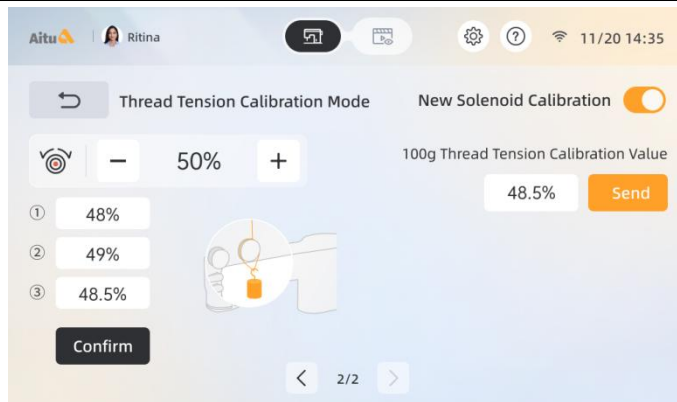
1. Remove the lower head cover, loosen the thread tensioner screw and take out the tensioner, keep the release pin and spring intact.
2. Install the new tensioner assembly together with the release pin and spring into the housing. Fit the retaining ring closely against the housing, then tighten the tensioner screw.
3. Loosen the screw of the tensioner retaining ring.
4. Insert two sheets of A4 paper at the rear of the electromagnet to compress the iron core. Push the tensioner retaining ring inward to eliminate gaps between tension discs, then fasten the small screw on the tensioner.



Electromagnet Replacement

Electromagnet Replacement

1. Loosen the electromagnet fixing screws, remove the old electromagnet and install a new one.
2. Loosen the screw of the thread tensioner retaining ring.
3. Insert two sheets of A4 paper at the rear end of the electromagnet to compress the iron core. Push the tensioner retaining ring inward to ensure no gap between tension discs, then tighten the small screw on the tensioner.
Note: Push the electromagnet fully home. Check if the distance from the ejector pin to the mounting plate is 10.4 ± 0.1 mm. Adjust the height with screws and nuts if inconsistent.



Thread Tension Calibration

Thread Tension Calibration

1. Tap Settings icon, Factory Settings, then Thread Tension Calibration Mode in sequence.

2. Use a tension meter bound with smooth memory metal wire. Step on the pedal to release thread. Pass one end of the thread vertically through the lower hole of the small tensioner, pull the other end horizontally out of the large tensioner and keep it slightly taut.

3. Align the tension meter with the front panel initially. Lower the presser foot to clamp the thread, reset the tension meter to zero. Pull the meter slowly until it aligns with the base plate, check if the red pointer reading falls within 1-1.3N.

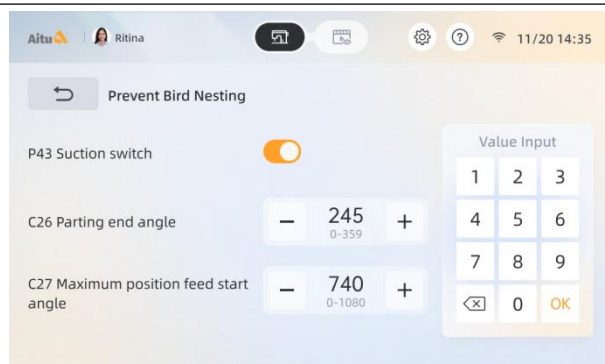
4. If out of range, tap the "-" icon on the calibration interface till the reading is within the standard range, then tap Confirm. The value will be displayed in the box.

5. There are three value boxes. Tap "-" to set the latter two values identical to the first one, then tap Distribute.

5 Small Bird Nesting

Keyword: Small bird nesting

Note: Adjust small bird nesting during production.

Picture	Standard Procedure
 2.1.1.5-1 Small Bird Nest Follow Mode	Access method: Tap Settings icon, Factory Settings and Small Bird Nest Follow Mode in sequence. Press Start, then rotate the handwheel to check if the small bird nest operates normally. Small bird nest dividing stepping progress C28: In this mode, verify the needle aligns with the center of the movable knife hole. Adjust values via +/- keys or numeric input, then press Start and turn the handwheel for reconfirmation. Small bird nest thread trimming standby stepping progress C29: Check the tip-to-needle distance is 0.85-1.3mm, and ensure the pressure plate covers the raised cutting edge. Adjust parameters with +/- keys or numbers, then recheck by pressing Start and rotating the handwheel.
 2.1.1.5-2 Small Bird Nest Setting	Access method: Tap Settings icon, Parameter Settings and Small Bird Nest Setting in order. Click Small Bird Nest Air Suction Setting on the parameter page to enter the corresponding interface. Toggle the switch to turn air suction on or off. Adjust relevant parameters via "+" and "-" keys. All modifications will be saved automatically.

6 Daily Maintenance

Keywords: Maintenance, Cleaning, Oil filling

Note: Clean and maintain the sewing machine regularly to keep its performance and extend service life.



Cut off the power before starting cleaning and maintenance.



Accidental stepping on the foot pedal may cause sewing machine movement and result in personal injury.



危险 Wear safety goggles and protective gloves when using lubricating oil and grease. Avoid oil entering or splashing into eyes and mouth to prevent inflammation and allergies. Keep them out of children's reach.



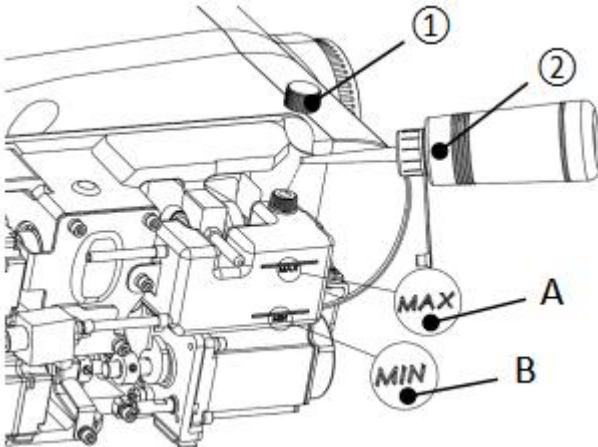
Secure the workbench when tilting the sewing machine head to prevent random movement.



Use both hands when lowering or lifting the sewing machine head. Use both hands when lowering or lifting the sewing machine head.

6.1、Oil filling & replenishment

Add engine oil to the hook oil reservoir when using the sewing machine for the first time or after long idle periods. Caution: Protect eyes, mouth and nose during oil filling to prevent lubricant-induced discomfort. Do not power on until oiling is finished. Store the oil can away from children to avoid accidental ingestion causing vomiting and diarrhea.

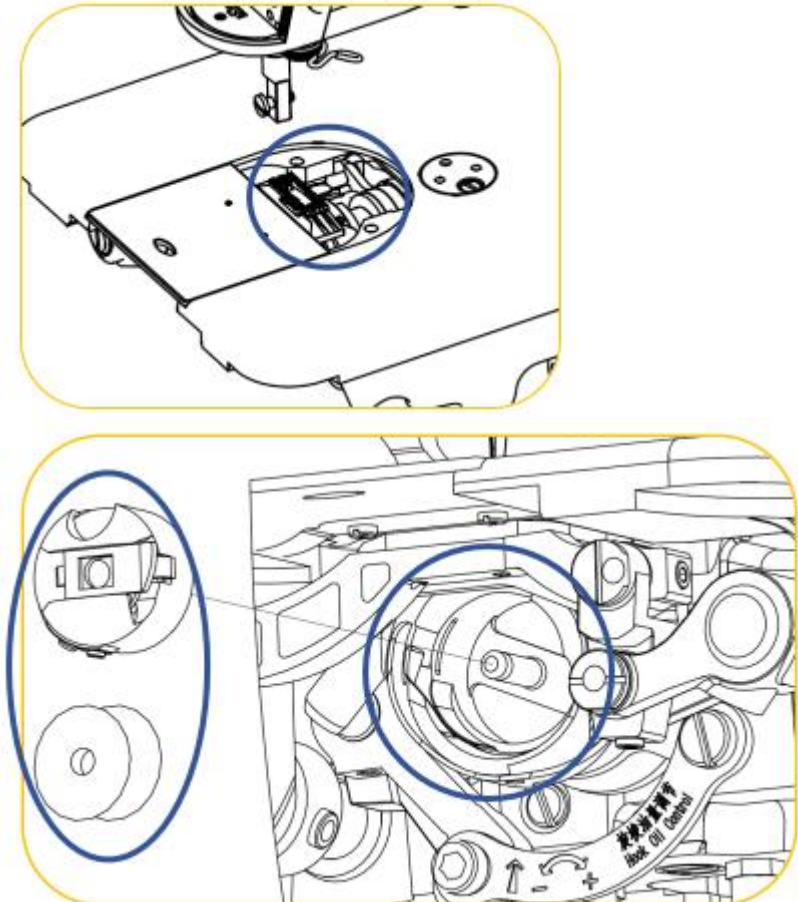
Picture	Standard Procedure
	① Tilt the machine head and place it steadily against the head cushion. ② Unscrew the oil box cap to expose the filling port. ③ Take out the oil can from accessories and open the nozzle cap. ④ Align the nozzle with the filling port and add oil up to the A-MAX marking line. Refill oil promptly when the level drops below the B-MIN marking line. Note: Check oil level regularly and keep it above the minimum line to ensure normal lubrication of the rotary hook.

6.2、Clean feed dog and rotary hook parts



Cut off the power before starting maintenance work.

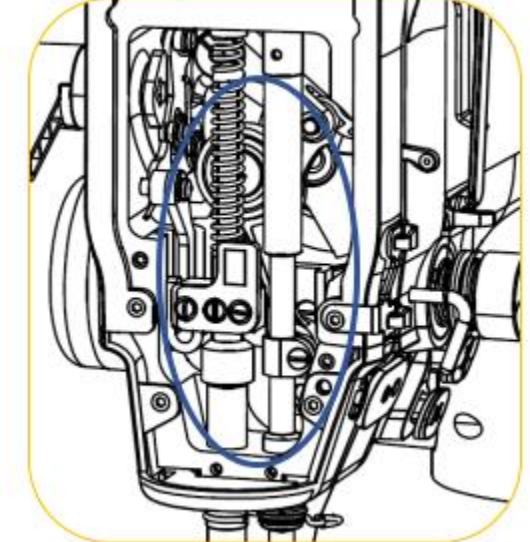
Picture	Standard Procedure
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	1. Clean lint and dust on feed dog 1.Remove the needle plate and presser foot. 2.Use a soft brush to clear lint and dust on feed dog, knife rest and blade (circled area). 3.Reinstall the needle plate and presser foot. 2. Clean lint and dust on rotary hook 1.Take out the bobbin case. 2.Use a soft brush to remove lint and dust on bobbin, bobbin case and rotary hook (circled area). 3.Refit the bobbin and bobbin case.
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6.3、Cleaning of inner panel cavity



Cut off the power before starting maintenance work.

Picture	Standard Procedure
	Clean lint and dust inside the panel cavity: 1.Remove the panel. 2.Use a soft brush to clear lint and dust on take-up lever, needle bar connecting rod, slide rail and other parts in the cavity (circled area). 3.Reinstall the panel.

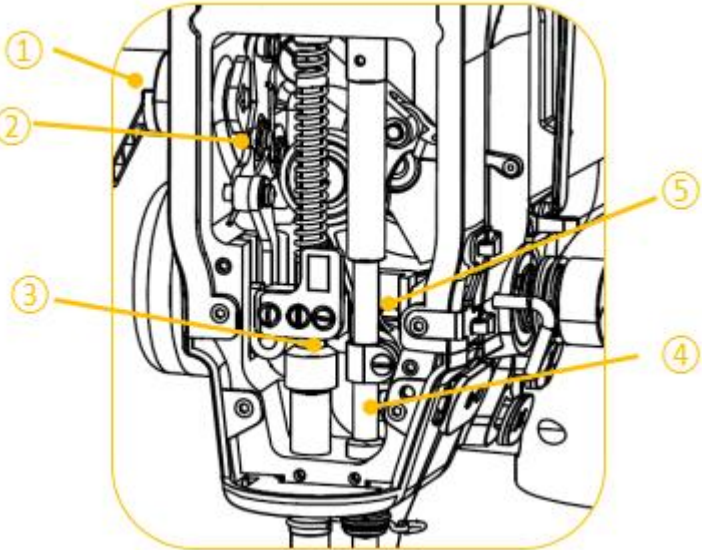
1.1.6.4、Cleaning of inner panel cavity



Cut off the power before starting maintenance work.



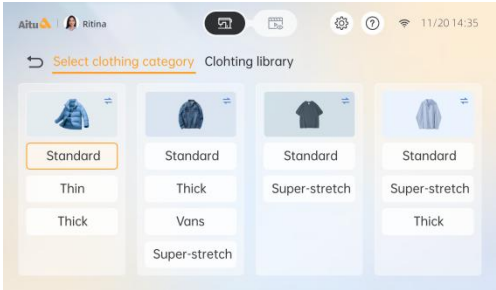
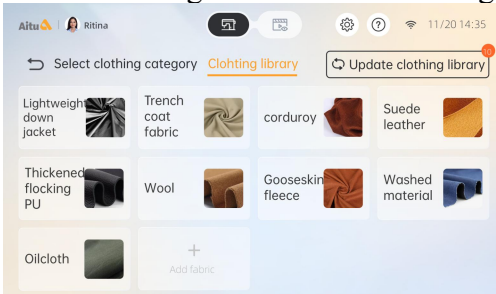
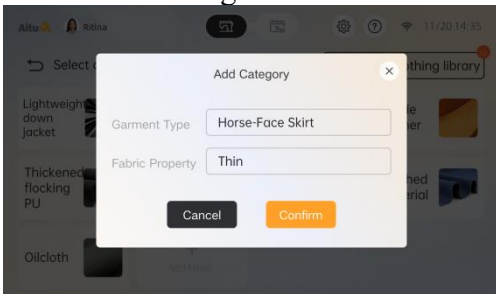
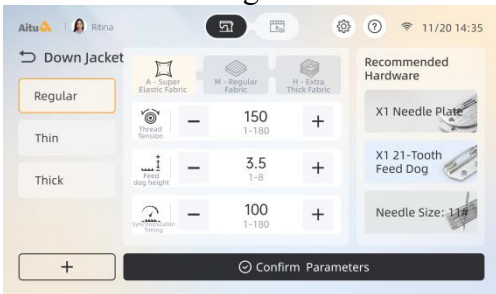
To maintain sewing machine performance and prolong service life, replenish grease on the machine head every three months.

Picture	Standard Procedure
	Grease Application for Inner Panel Cavity 1.Remove the machine head panel. 2.Lift presser foot lever ① to raise presser foot rod ③. Rotate the handwheel to lift needle bar ④ to the top position. 3.Apply grease to exposed sections of presser foot rod ③ and needle bar ④ with a brush. 4.Coat both sides of slide guide groove ⑤ with grease. 5.Smear grease on joints of front lever assembly ②. 6.Reinstall the machine head panel.

7 Garment Library Instructions

Keywords: Customization, Garment Library, Preset Parameters, Quick Operation, Machine Adjustment

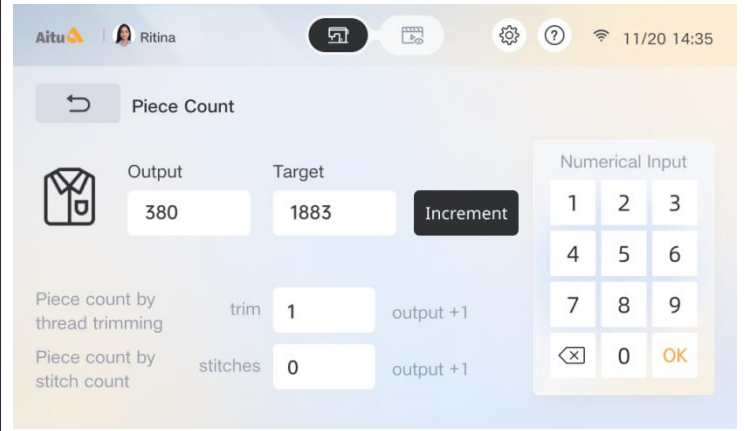
Description: When changing sewing fabrics during production, switch the corresponding parameter package with one click to quickly adapt to the new fabric.

Picture	Standard Procedure
 Figure 4.1 Garment Category Library  Figure 4.2 Add Custom Settings  Figure 4.3 Preset Parameters  Figure 4.4 Custom Parameter Adding Interface	Users can customize, modify and save parameters such as sewing track, feed dog height and timing according to different garments and fabrics. When replacing sewing fabrics during production, switch the corresponding parameter package with one click to quickly adapt to new materials. How to Use the Garment Library 1. Select garment category on the main interface to enter the garment library (Figure 4.1), then tap Fabric Library to switch pages. 2. Choose a garment category to access its parameter library. For example, select regular garment type. The system automatically applies matched thread tension, sewing mode, timing and feed dog height based on fabric properties. 3. If preset parameters are inappropriate, click Add Custom to create new garment and fabric profiles (Figure 4.2/4.3). Adjust parameters as required and tap Confirm Parameters to save. The system will generate a corresponding fabric ID automatically (Figure 4.4). 4. Tap Update Garment Library to synchronize garment and fabric data with the web terminal.

8 Piece Count Setting

Keywords: piece counting, counting

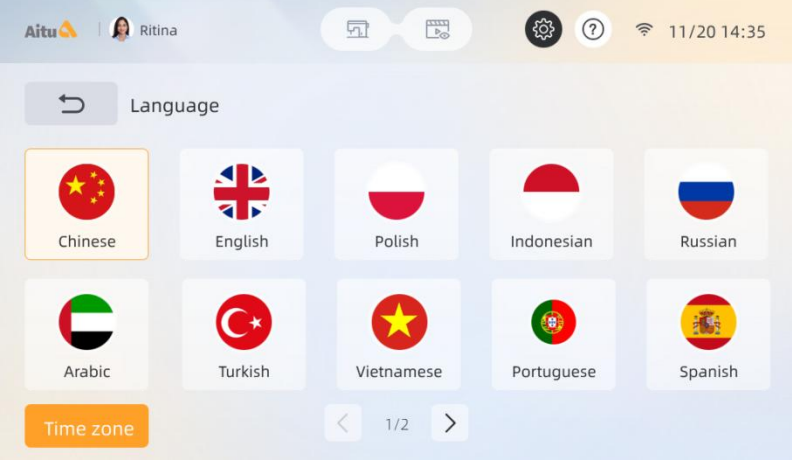
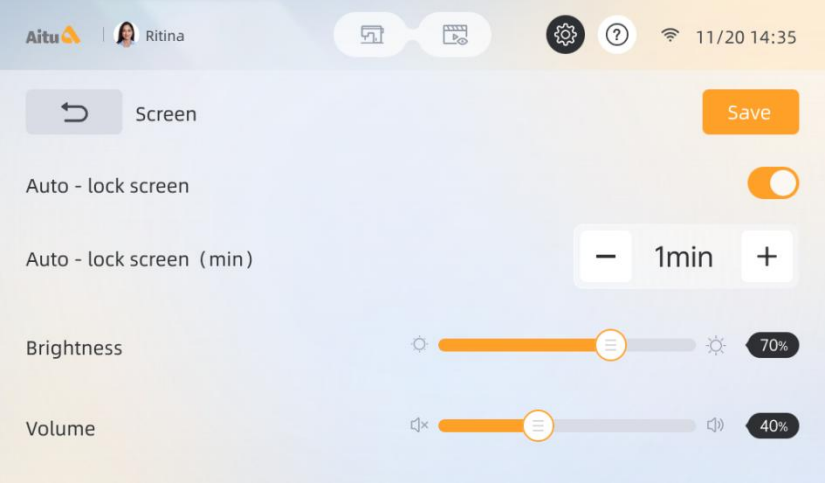
Description: Piece quantity is calculated based on thread trimming times or stitch counts, facilitating workload statistics, reducing manual counting and boosting work efficiency.

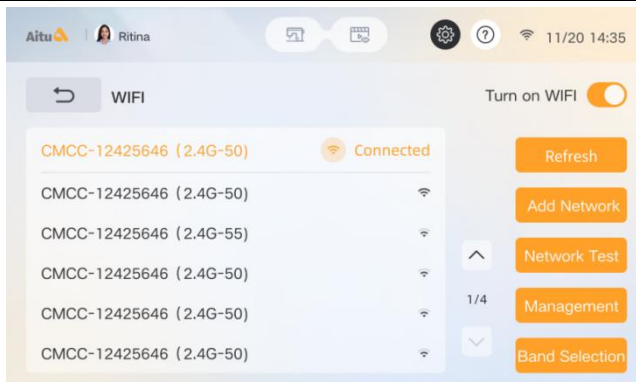
Picture	Standard Procedure
	Short press the piece counting icon on the main interface to enter the parameter setting page. Set the target quantity and select counting by thread trimming or stitch count as needed.

9 Screen Settings

Keywords: Main Interface, Button Instructions, Language Settings, Screen Settings, WIFI Settings, Server Settings, Environment Configuration, Version Information

Description: The AI10 lockstitch machine panel adopts advanced industrial touch control technology. Its user-friendly interface and convenient operation bring innovative experience to daily use. Users can complete operations by tapping the screen. Touch Screen Note: To prevent permanent damage, do not touch the screen with sharp objects.

Picture	Standard Procedure
 Language Selection	Language Settings Tap Settings on the main interface, then click Language to enter the language setting page. Select your preferred language to switch the machine voice, and choose the time zone in the lower left corner.
 Screen Settings	Screen Settings Tap Screen on the basic information page to enter the screen settings interface. Slide your finger to adjust brightness and volume. Tap the yellow switch to enable or disable screen lock. Screen lock time adjustment is unavailable when auto screen lock is off. Press "+" and "-" keys to modify parameters, which will be saved automatically.



WiFi Settings

WiFi Settings

1. Tap Network in the settings interface, then select WiFi to enter the WiFi setting page. Choose the target WiFi name and tap it to access the connection page.

2. Tap the WiFi enable icon to turn the function on or off.

3. Hidden WiFi can be added manually.

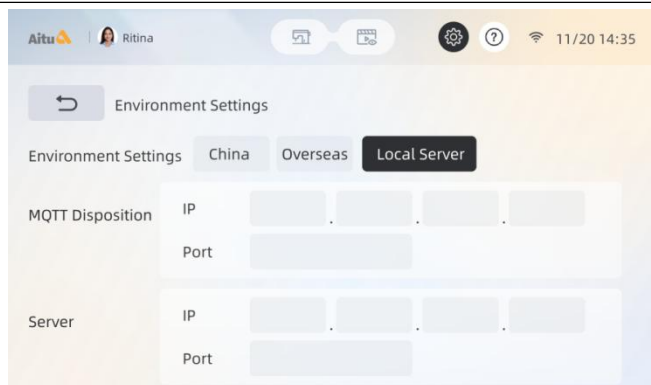


Figure 3.8 Server Settings

Server Settings

Tap Server on the network interface to enter the server settings page (Figure 3.8), then click Settings.

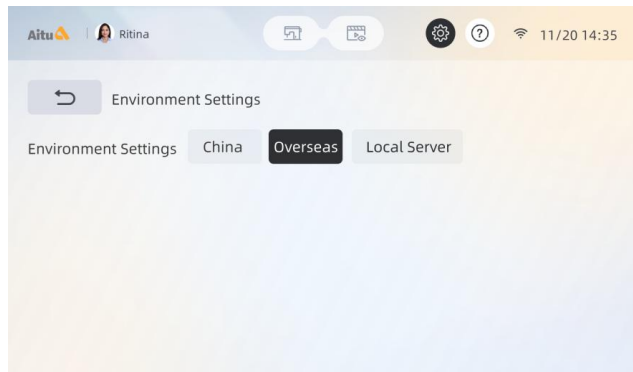


Figure 3.9 Environment Configuration

Environment Configuration

Tap Environment Configuration on the network interface to enter the corresponding page (Figure 3.9). Select domestic or overseas server and save to switch connection nodes.

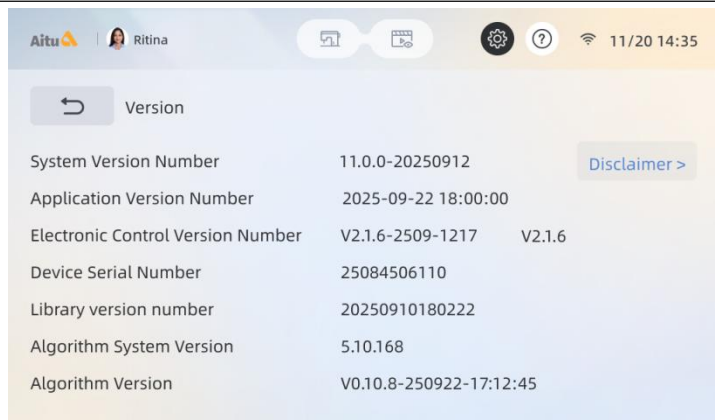


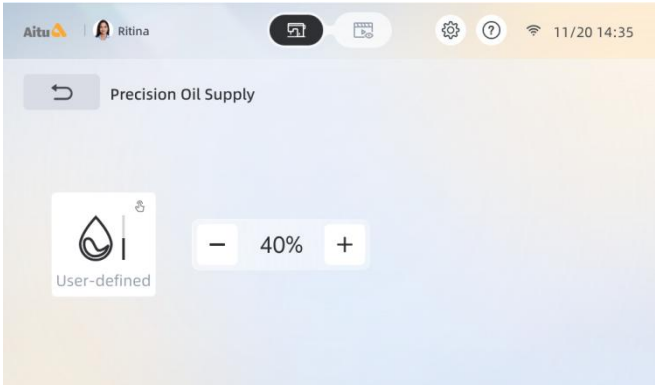
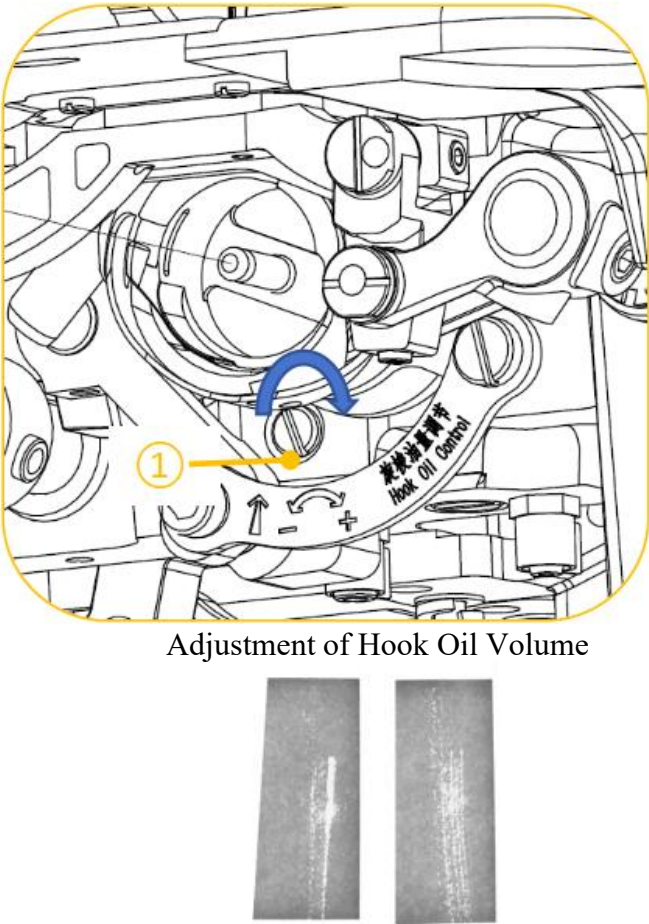
Figure 3.10 Version Query

Version Information

Tap Version to enter the version information page (Figure 3.10) and check details like the system version number.

10 Oil Volume Adjustment

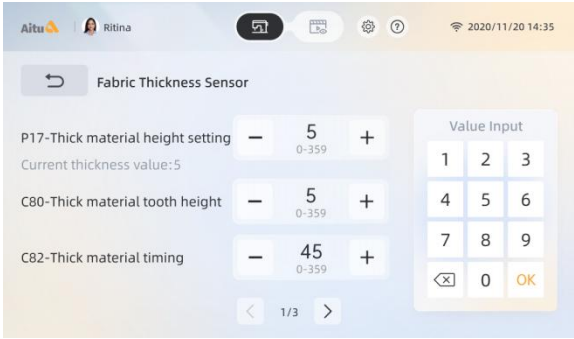
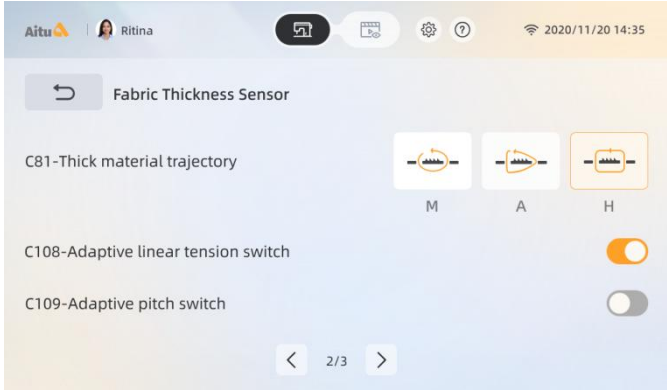
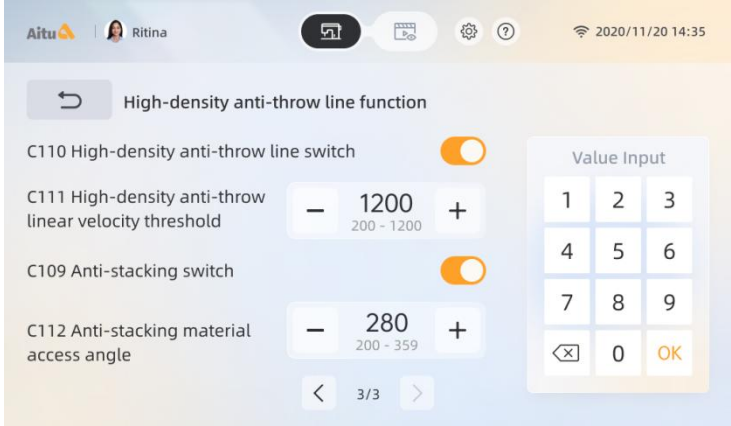
Key words: Precise oil supply, oil flow adjustment, oil quantity
Description: One-click switch or customize hook oil quantity

Picture	Standard Procedures
 Precise Oil Supply Setting	Precise Oil Supply Tap Precise Oil Supply Setting on the parameter setting interface to enter its page. Tap the icon to switch among four modes: No Oil, Slight Oil, Full Lubrication and Custom. Press "+" and "-" keys to adjust parameters in custom mode, and changes will be saved automatically.
 Adjustment of Hook Oil Volume The left picture shows linear oil traces, and the right one shows dotted oil traces.	Oil Quantity Adjustment Adjustment of Hook Oil Volume Turn oil adjusting screw ① counterclockwise (90°-180° per adjustment recommended) to reduce hook oil volume. Turn oil adjusting screw ① clockwise (90°-180° per adjustment recommended) to increase hook oil volume. Test of Hook Oil Volume After adjustment, check the oil volume on the oil test interface. Start the running program, and collect oil with test paper for 15 seconds during oil confirmation. Judge the oil trace on the paper. Linear and dotted oil traces are recommended. 1.Oil flow speed has no relation to oil volume. 2.Replace engine oil after the new machine runs for one month, and replace it every six months thereafter. Cut off power or power off the machine when turning the screw. Accidental stepping on the foot pedal may cause mechanical movement and personal injury.

11 Thickness Detection

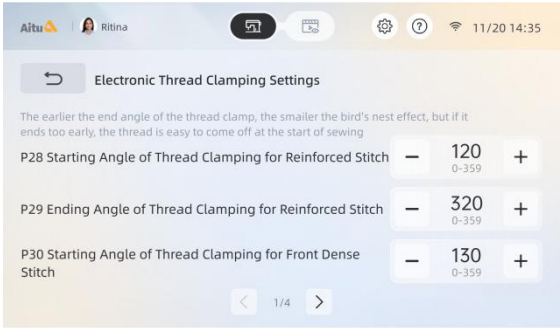
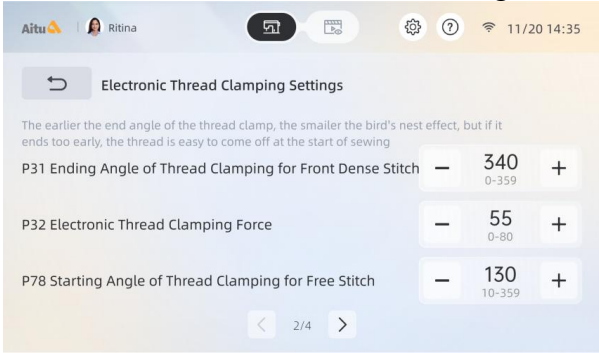
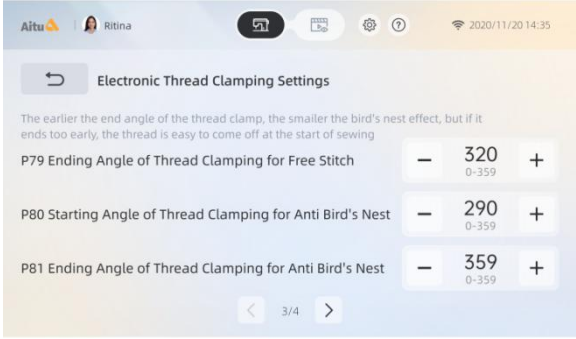
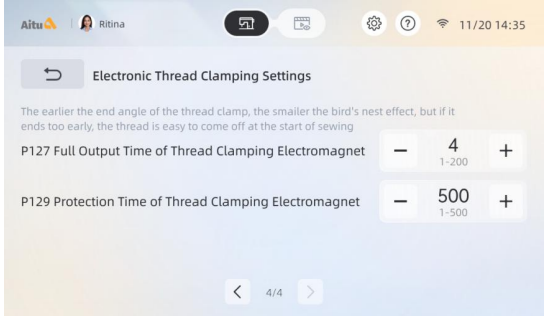
Keywords: thickness, thin and thick, overly thick, thick seam, overly thin, thin-thick joint

Description: During production, thick seam issues can be optimized by adjusting the thickness detection function to avoid reduced stitch distance at thick seams.

Picture	Standard Procedure
 Thickness Detection 1	① Tap Thickness Detection on the parameter setting interface to enter its setting page (as shown in the left figure), then set thick material height, tooth height and timing parameters.
 Thickness Detection 2	② Set the thick material path. Tap the orange icons of Thickness Adaptive Stitch Compensation Switch and Adaptive Thread Tension Switch (as shown in the left figure).
 Dense Stitch Anti-loose Thread Function	③ Set the dense stitch anti-loose thread function. Tap the orange icon of Dense Stitch Anti-loose & Anti-push Switch, then adjust the dense stitch anti-loose speed threshold and access angle (as shown in the left figure).

12 Electronic Thread Tensioner Setting

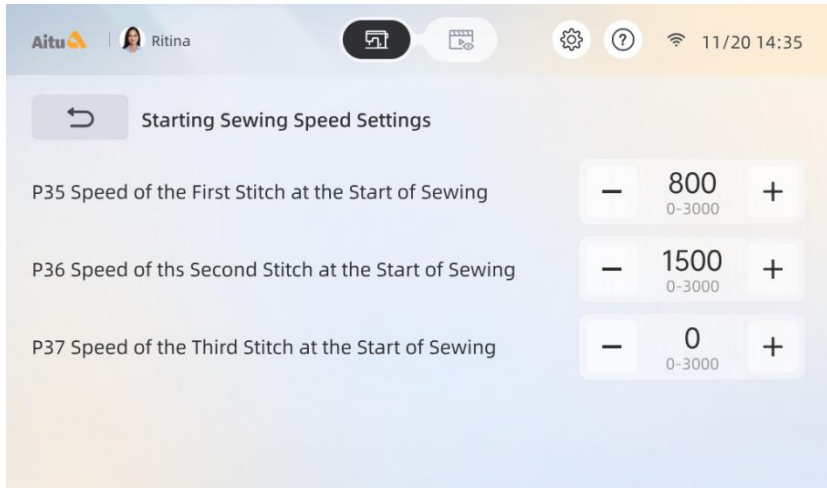
Keywords: Electronic thread tensioner, thread tensioner
 Description: Adjust parameters of electronic thread tensioner

Picture	Standard Procedure
 Electronic Thread Tension Setting 1  Electronic Thread Tension Setting 2  Electronic Thread Tension Setting 3  Electronic Thread Tension Setting 4	Electronic Thread Tension Setting Tap Electronic Thread Tension Setting on the parameter interface to enter the corresponding page, which has four pages in total. Press "+" and "-" keys to adjust relevant parameters, and modifications will be saved automatically.

13 Starting Sewing Speed Setting

Keywords: start sewing, start sewing setting, start sewing speed

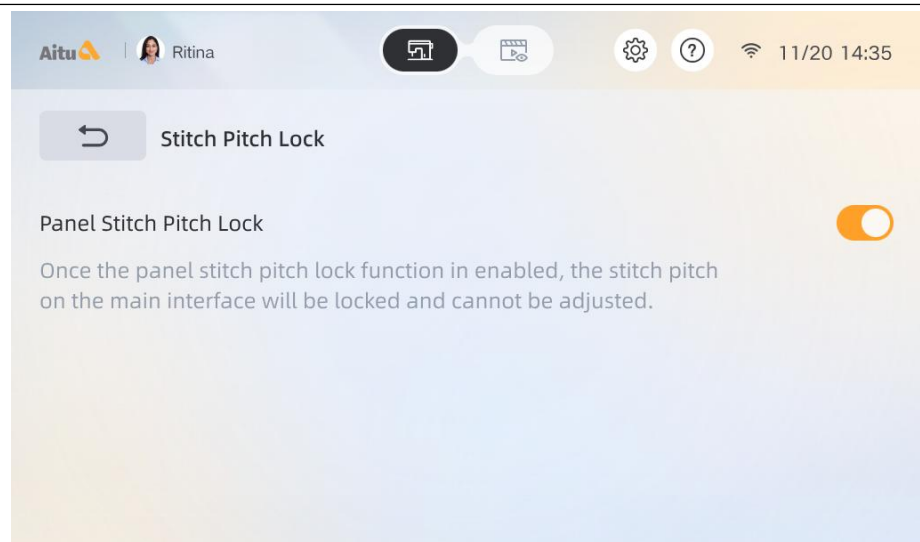
Description: Adjustment of starting sewing speed parameters

Picture	Standard Procedure
 Starting Sewing Speed Settin	Click "Starting Sewing Speed Setting" on the parameter setting interface to enter the corresponding page. Press "+" and "-" keys to adjust relevant parameters. Changes are saved automatically.

14 Stitch Lock

Keywords: stitch distance, stitch lock, fixed stitch, stitch retention, constant stitch

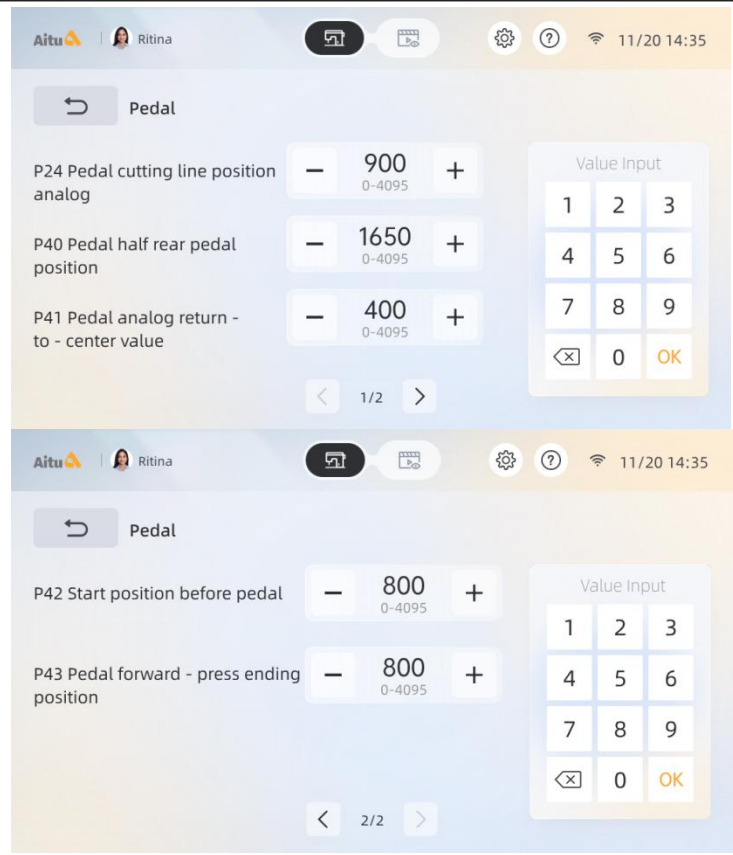
Description: To keep the stitch distance fixed during production, adjust the fixed stitch function to maintain a set stitch value.

Picture	Standard Procedure
 2.2.1.6、Stitch Lock	① Click Panel Stitch Lock Function on the parameter setting interface to enter its page (Figure 2.2.1.6). Tap the orange icon on the right to enable or disable the function. ② This function only locks the stitch distance on the main interface, while stitches in the garment library remain unlocked.

15 Pedal Parameter Adjustment

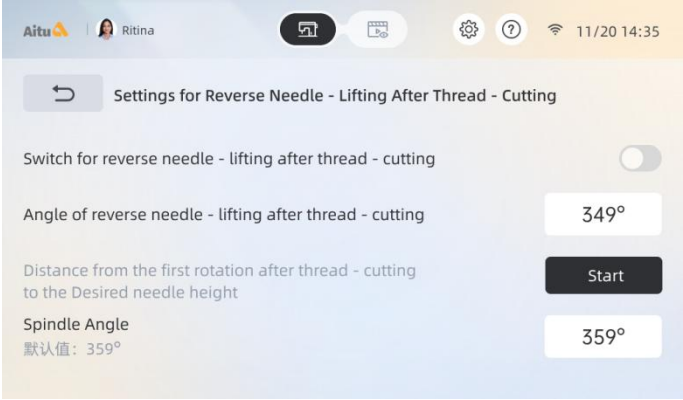
Keyword: Foot pedal

Note: Settings related to foot pedal

Picture	Standard Procedure
	Click Pedal on the parameter setting interface to enter the two-page pedal setting page. Press the plus and minus buttons to adjust relevant parameters, or select values and input figures directly. Changes are saved automatically.

16 Reverse Needle Lift Setting After Trimming

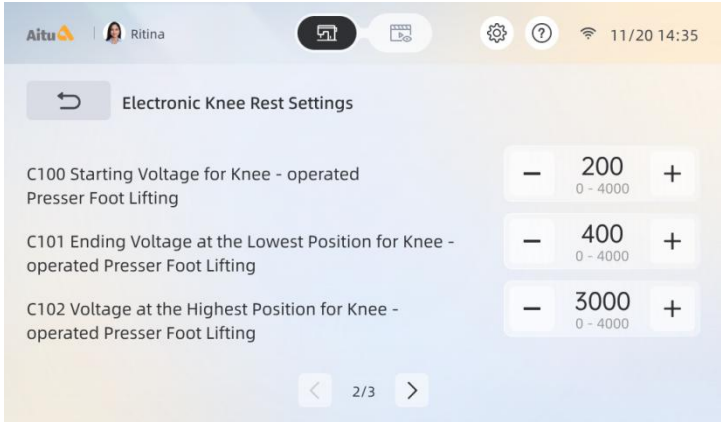
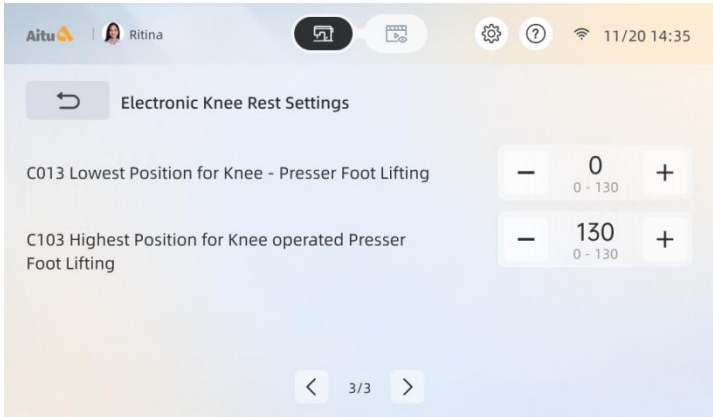
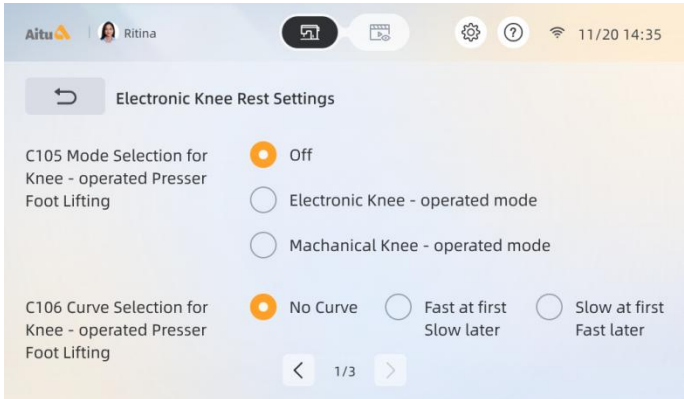
Keywords: thread trimming, needle lifting, reverse needle lifting

Picture	Standard Procedure
 Reverse Needle Lift Setting After Trimming	Click Reverse Needle Lift Setting After Trimming on the parameter setting interface to enter the corresponding page as shown in the left figure. Tap the switch icon to enable or disable this function. Turn on the function, rotate the handwheel to adjust the spindle angle, and press Start to save the modified parameters.

17 Electronic Knee Lift Setting

Keywords: electronic knee lift, presser foot lifting

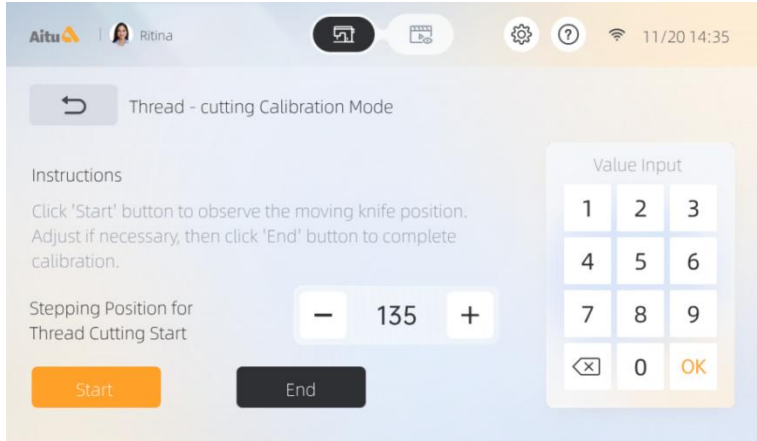
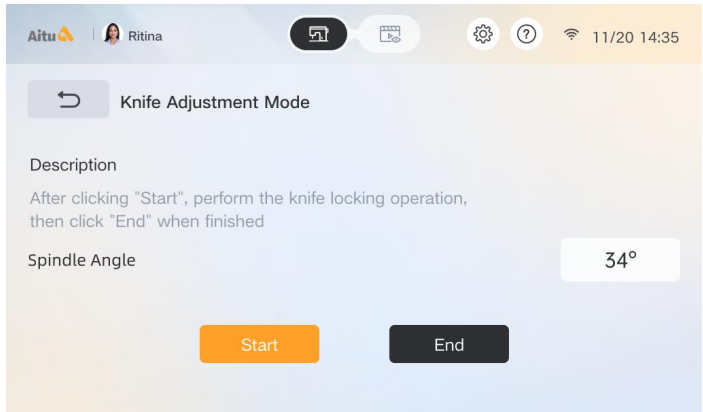
Description: Featuring labor-saving design, the electronic knee lift effectively reduces physical exertion and operator fatigue.

Picture	Standard Procedure
 Electronic Knee Lift Setting 1	Click Electronic Knee Lift Setting on the parameter interface to access the slight presser foot lifting setting page shown in the left image, which has three pages. Tap the plus and minus buttons to adjust relevant parameters. All modifications are saved automatically.
 Electronic Knee Lift Setting 2	
 Electronic Knee Lift Setting 3	

18 Thread Trimming Settings

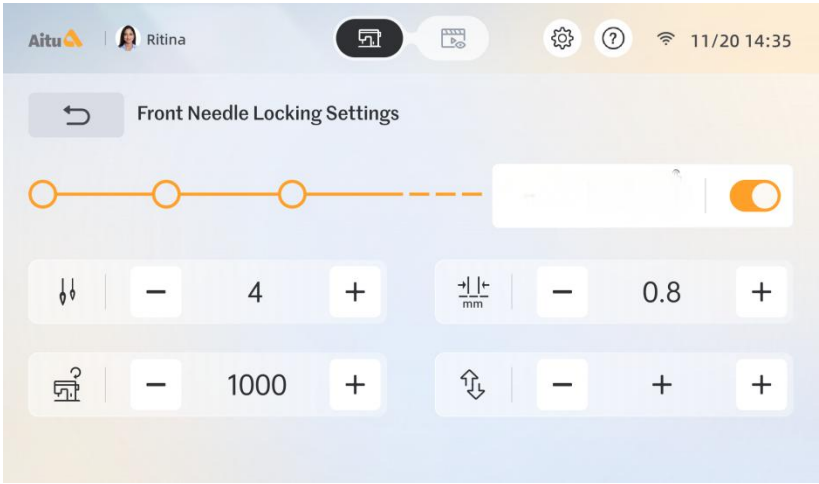
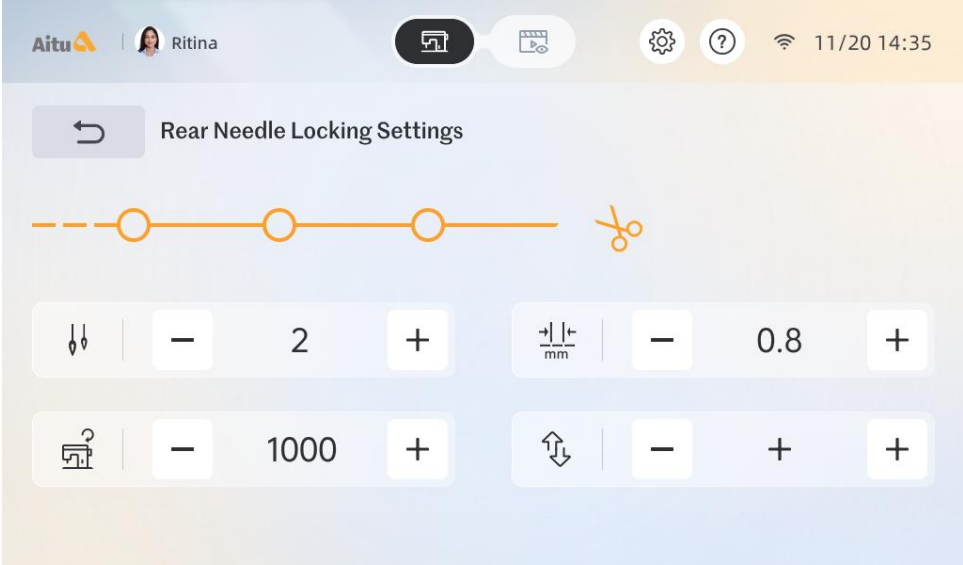
Keywords: Thread Trimming

Description: Settings related to thread trimming

Picture	Standard Procedure
 2.2.2.4-1 Thread Trimming Calibration Mode	Access method: Tap Settings, Factory Settings and Thread Trimming Calibration Mode in sequence. Press Start to check if the movable knife moves slightly. Reduce the value if the movement range is excessive, increase the value if no movement occurs, then press Start again for recheck.
 2.2.2.4-2 Thread Trimming Follow Mode	Access method: Tap Settings icon, Parameter Settings and Thread Trimming Settings in order. There are 4 pages in total. Thread Trimming Follow Mode (Page 3). Enter this mode and rotate the handwheel to check the thread trimming timing.
 2.2.2.4-3 Blade Adjustment Mode	Access method: Tap Settings icon, Parameter Settings and Thread Trimming Settings in sequence. There are four pages in total. Blade Adjustment Mode (Page 4) Press Start to check the current meshing amount. Note that this function is invalid when the needle is at the bottom position. Readjust the blade if the meshing amount is abnormal.

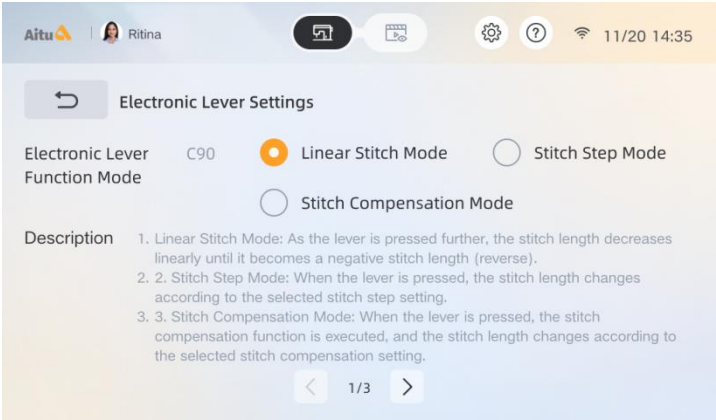
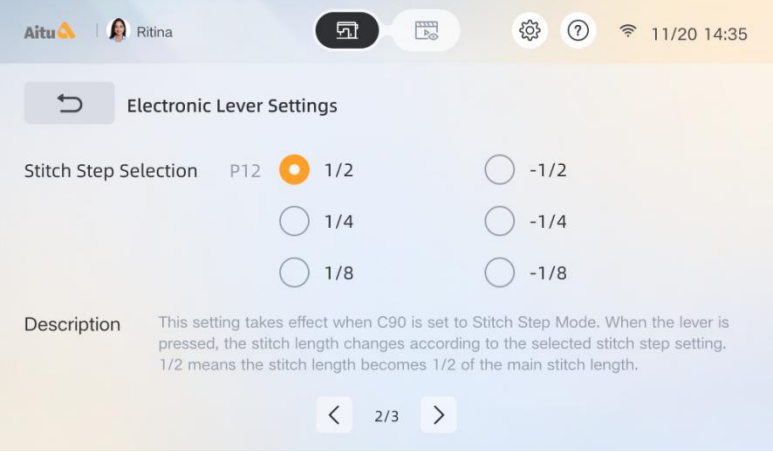
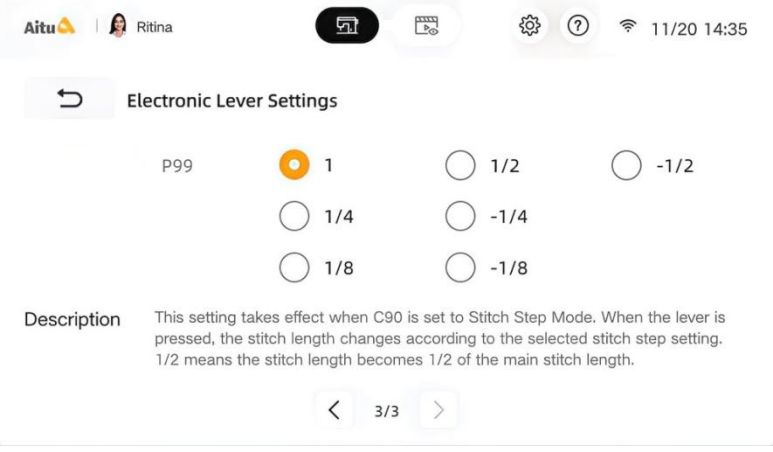
19 Front and Back Lock Stitch Setting

Keywords: front lock stitch, rear lock stitch

Picture	Standard Procedure
 front lock stitch	Click Front Lock Stitch Setting on the parameter interface to enter its setting page as shown in the left picture. Press the plus and minus buttons to adjust relevant parameters, which will be saved automatically after modification. The four parameters are stitch times, total distance, sewing speed and sewing direction.
 rear lock stitch	Click Rear Lock Stitch Setting on the parameter interface to enter the corresponding setting page as shown in the left image. Adjust relevant parameters via the plus and minus keys, and changes will be saved automatically. The four parameters are stitch count, total distance, sewing speed and sewing direction.

20 Electronic Wrench

Keywords: Electronic Wrench, Linear Stitch Length Mode, Stitch Gear Mode, Backstitch Mode

Picture	Standard Procedure
 Electronic Wrench Setting Interface	① Click Electronic Wrench Settings on the parameter interface to enter the corresponding page as shown in the left picture. Select the functional mode of the electronic wrench by pressing buttons according to the instructions below.
 Stitch Gear Setting  Backstitch Length Setting	② After selecting the electronic wrench function mode, click the buttons to choose stitch gear and backstitch length as required.