

ENGLISH

**JUKI Smart App
INSTRUCTION MANUAL**

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Operating environment

Guaranteed operating environment	Android 5.0 (API Level 21) or later, NFC corresponding terminal	
Guaranteed operating screen size	Tablet	1024×768dp or more
	Smartphone	640×360dp or more
Guaranteed operating environment	Tablet	Nexus 9 (Android 6.0) / Sony Xperia Z4 Tablet (Android 6.0.1)
	Smartphone	ASUSTek ZenFone2 (Android 5.0) / Samsung Galaxy S5 (Android 5.0, 6.0.1) / Sony Xperia Z3 Compact (Android 6.0.1) / Xiaomi MI 5 (Android 7.0) / HUAWEI Mate 20 X (Android 9.0) / HUAWEI Mate P20 (Android 8.1) / Google Pixel 3 XL (Android 9.0) / Samsung Galaxy S10e (Android 9.0)
Supported NFC card readers	ACR1251 ACR1252 CIR315A CIR315C	

1. Function list and sewing machine models which support the functions

○ : Support × : Not support — : Function is not provided
 *1 : Editable

List of functions		Sewing machine models which support the functions										
		DDL-9000C	LK-1900BN/ LK-1903BN	LBH-1790AN	LU-2800V	MEB-3900	MS-1000A	AMS-F	LZ-2290C	PLC-2700V	LH-4500C	MEB-3200C
Management setting	Registration of terminal	×	○	○	○	○	○	○	○	○	○	×
	Release of keylock	×	×	×	○	×	×	○	○	○	○	×
Sewing machine data	Sewing pattern (*.EPD) *1	○	○	○	○	○	○	—	○	○	○	○
	Vector data (*.VDT)	—	—	○	—	—	—	○	×	×	×	—
	Cycle sewing data (*.CSD)	×	—	○	×	—	—	○	×	×	×	×
	Continuous sewing data (*.JSD)	—	—	○	—	—	—	—	—	—	—	—
	Memory switch (*.MSW) *1	○	○	○	○	○	○	○	○	○	○	○
	Maintenance data (*ERD)	○	○	○	○	○	○	○	○	○	○	×
Problem-solution chart	Output chart	○	○	○	×	○	○	○	○	×	○	×
	Availability chart	○	○	○	×	○	○	○	○	×	○	×
	Non-operation analysis chart	○	○	○	×	○	○	○	○	×	○	×

Sewing patterns, cycle sewing data, continuous sewing data and memory switches cannot be written into the sewing machine model of which is different. The model selection parameter of the memory switch cannot be changed with JUKI SmartApp. (It will be hidden)
For the LZ-2290C, the continuous sewing data can be sent/received in the case the continuous sewing data file extension is "*.EPD". (The data format is different from that of the continuous sewing data (*.JSD) included in the "Function list".)
<DDL-9000C / LU-2800V / LZ-2290C / LH-4500C>



Do not perform communication until the origin retrieval is completed after turning the power ON.

<LK-1900BN / LK-1903BN / LBH-1790AN / MEB-3900>

Data cannot be written when sewing is enabled (in the state the READY key is pressed).

<AMS-F>

Data cannot be sent / received when the sewing machine is in sewing-enabled state (in the state the READY key is pressed).

<MEB-3200C>

Sewing pattern numbers 1 to 11 are fixed parameters and cannot be written.

Cannot write to the current pattern. Please change the current pattern before writing.

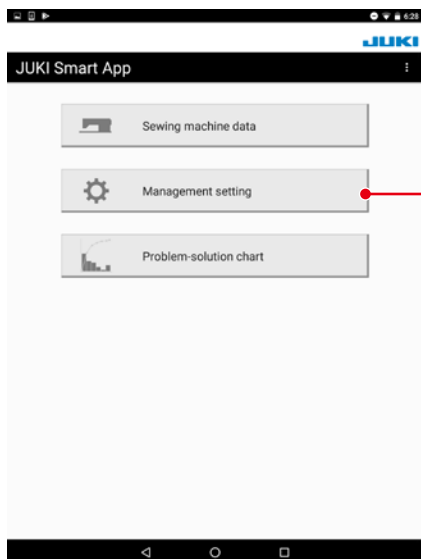


Take care of the following when holding a tablet over the sewing machine.

- 1. Hold the tablet over the sewing machine while bringing the tablet close to the sewing machine and keeping the former in parallel to the latter.**
- 2. Keep holding the tablet over the sewing machine until communication is completed (the communication screen closes).**

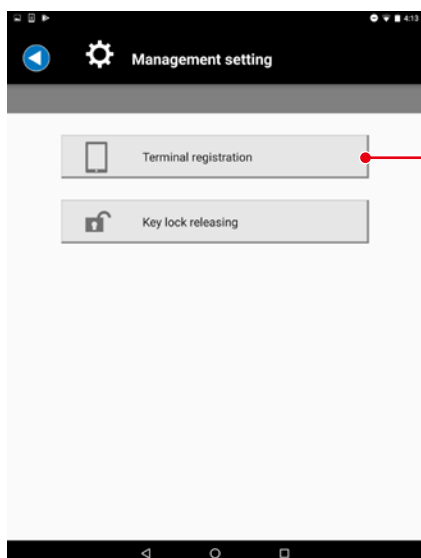
2. Setting the management

Displaying the management setting screen.

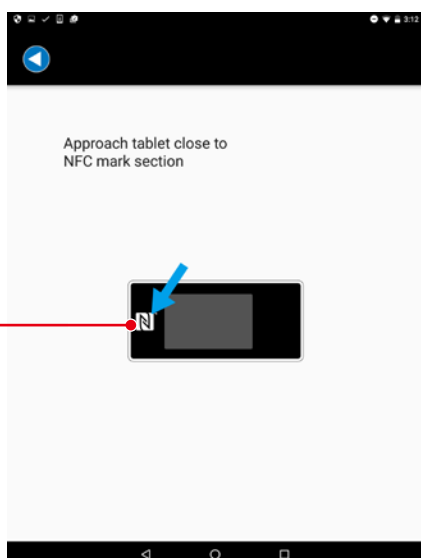


1) Press "management setting" button ①.

2-1. Registering the terminal

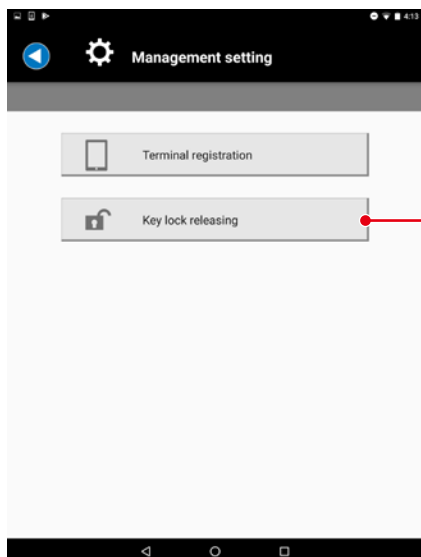


1) Bring the operation panel on the sewing machine side to the terminal-registration standby state. (Refer to the Engineer's Manual for the operation panel for how to operate it.)
2) Press "terminal registration" button ① on the management setting screen.

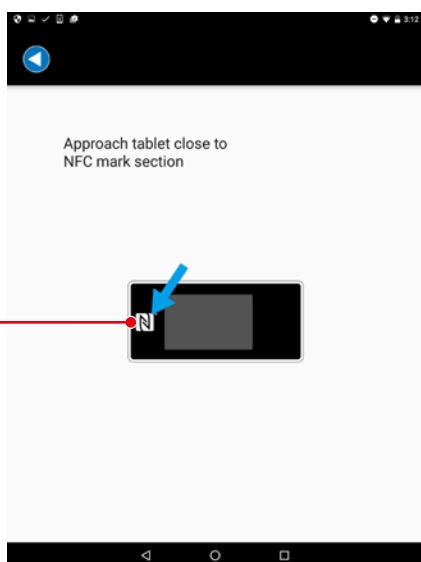


3) Approach the tablet close to the NFC mark ② on a panel.
Once the terminal registration is successfully completed, the message "Terminal is successfully registered" is displayed.
*When the transmission is not successful, an error message is displayed.

2-2. Releasing the keylock



- 1) Bring the operation panel on the sewing machine side to the keylock-release standby state. (Refer to the Engineer's Manual for the operation panel for how to operate it.)
- 2) Press "releasing the keylock" button ❶ on the management setting screen.



- 3) Approach the tablet close to the NFC mark ❷ on a panel. Once the terminal registration is successfully completed, the message "keylock is successfully released" is displayed.
*When the transmission is not successful, an error message is displayed.

3. Displaying/transmitting the sewing machine data

Displaying the sewing machine data screen.



- 1) Press "sewing machine data" button ❶.

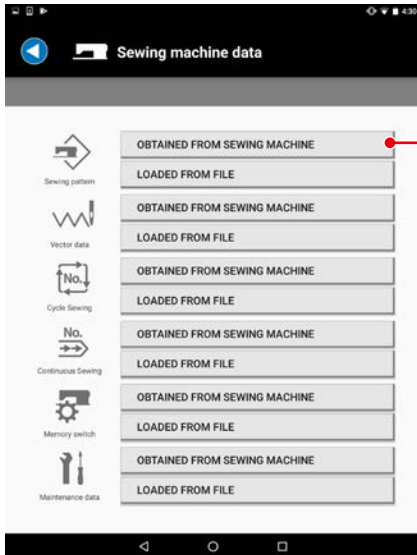
3-1. Displaying a sewing pattern data



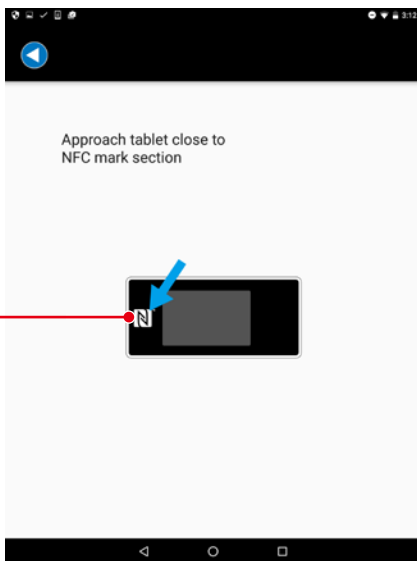
<LK-1900BN / LK-1903BN>

Sewing patterns can be acquired only in the case the direct patterns (registered as standard patterns only) are displayed.

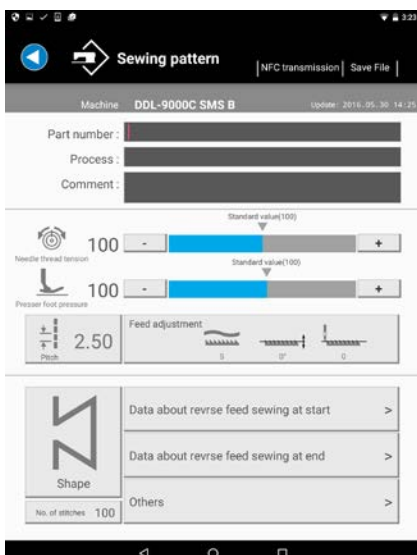
3-1-1. Obtaining from a sewing machine



1) Press the “OBTAINED FROM SEWING MACHINE” button ❶ of Sewing pattern.

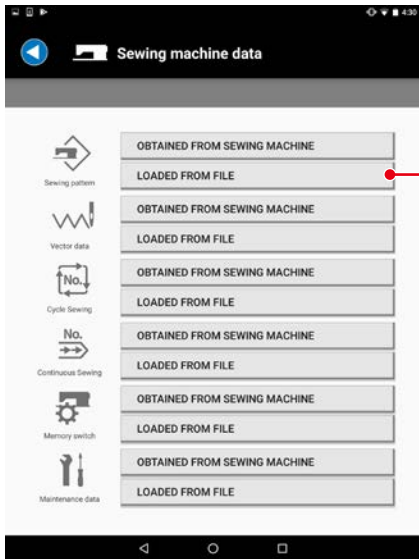


2) Approach the tablet close to the NFC mark ❷ on a panel.

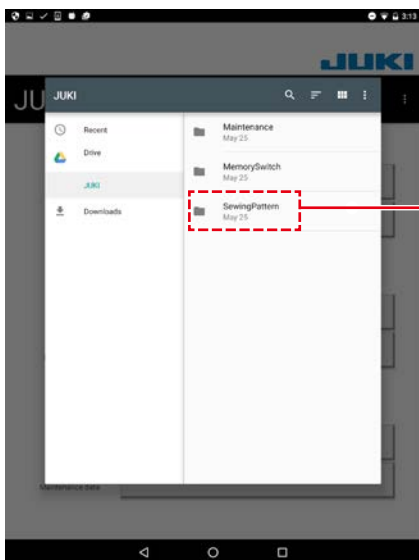


3) A sewing pattern data edit screen is displayed.

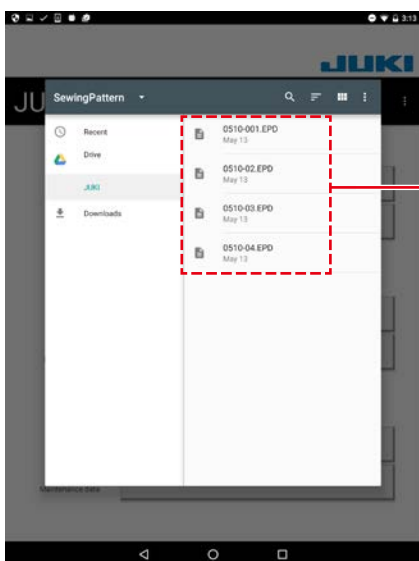
3-1-2. Loading from a file



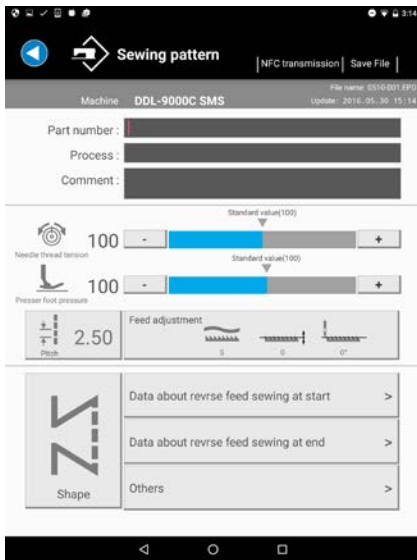
1) Press the “LOADED FROM FILE” button ❶ of Sewing pattern.



2) Select the “JUKI” - “SewingPattern” - “(Machine name)” folder ❷.



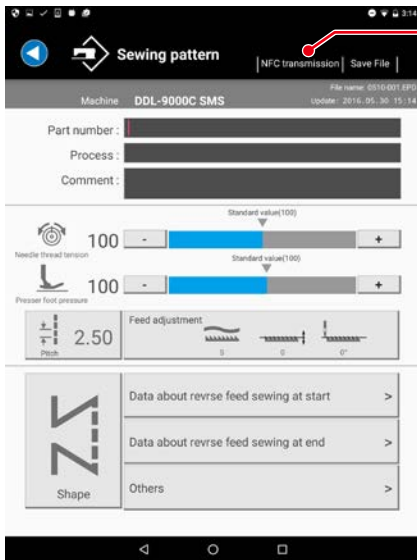
3) Select the sewing pattern data file (*.EPD) ❸.



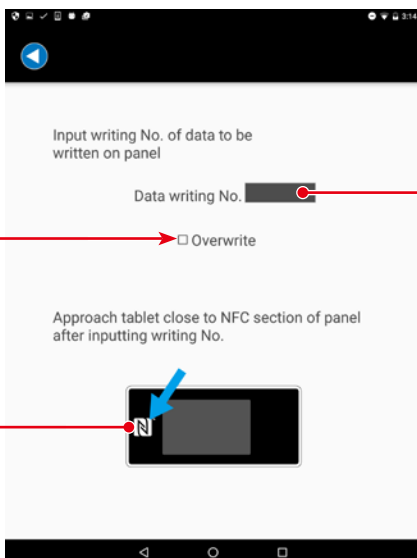
4) A sewing pattern edit screen is displayed.

* The screen displayed differs with the sewing machine model.

3-2. Transmitting the sewing pattern data to a sewing machine



1) Press the "NFC transmission" button ❶ right above.



2) Input a pattern No. ❷ to be written.

* Check the checkbox "Overwrite" ❸ when overwriting the existing pattern.

3) Touch the NFC mark ❹ on a panel.

When the transmission is successful, the screen returns to the sewing pattern edit screen.

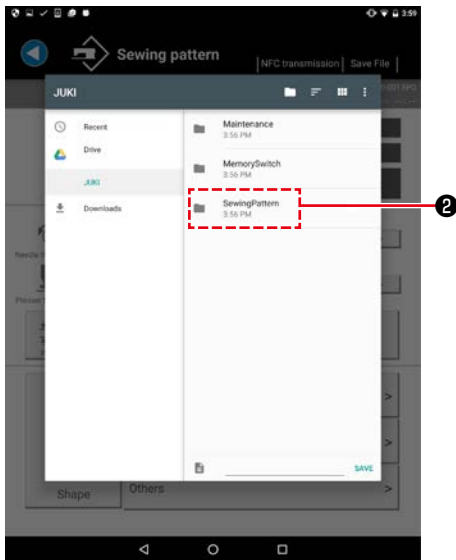
* When the transmission is not successful, an error message is displayed.

* Only alphanumeric characters (ASCII characters) can be entered in the "Part number", "Process" and "Comment" fields. In the case the entered characters contain any character that is not supported by the sewing machine, that character will be converted to "*" (asterisk); or to a capital letter if the sewing machine does not support small letters.

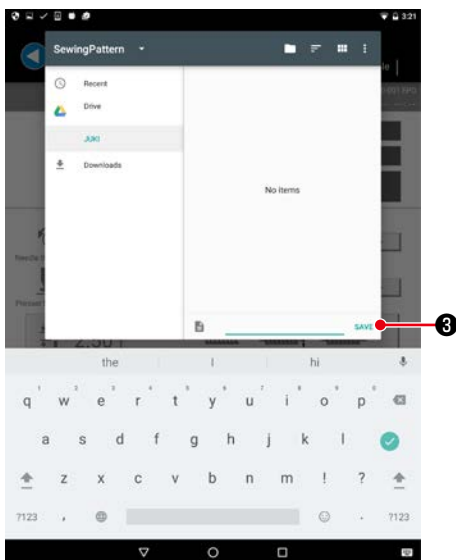
3-3. Saving the sewing pattern data in a file



1) Press the “Save File” button ❶ right above.



2) Select the “JUKI” - “SewingPattern” - “(Machine name)” folder ❷.



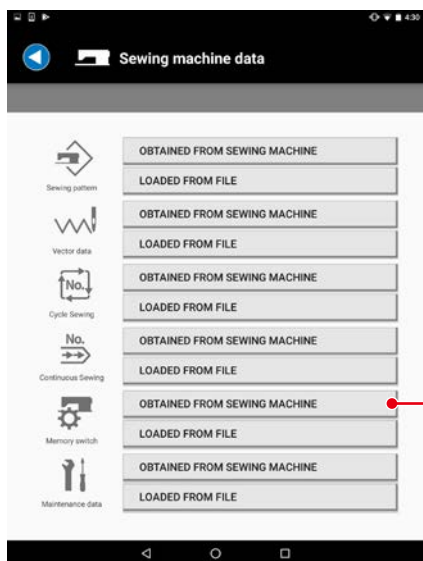
3) Input a file name and press the “Save” button ❸.

* The sewing pattern data can be saved only in the “SewingPattern” - “(Machine name)” folder ❷.

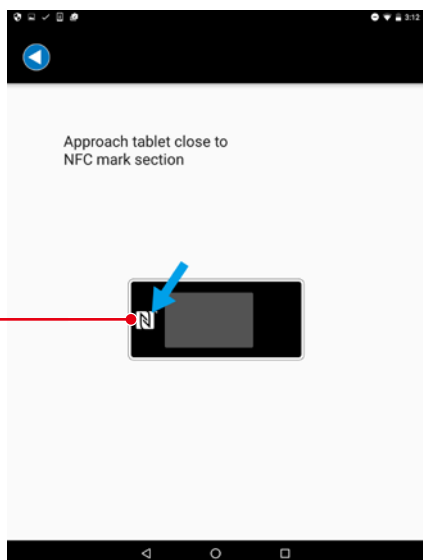
* To delete a file, use the file management tool of a tablet.

3-4. Displaying a memory switch data

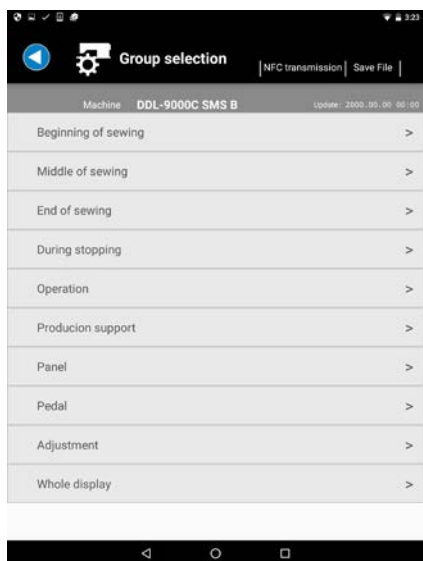
3-4-1. Obtaining from a sewing machine



1) Press the “OBTAINED FROM SEWING MACHINE” button ❶ of Memory switch.



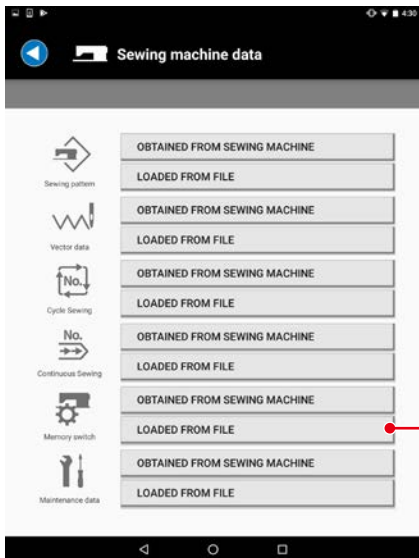
2) Approach the tablet close to the NFC mark ❷ on a panel.



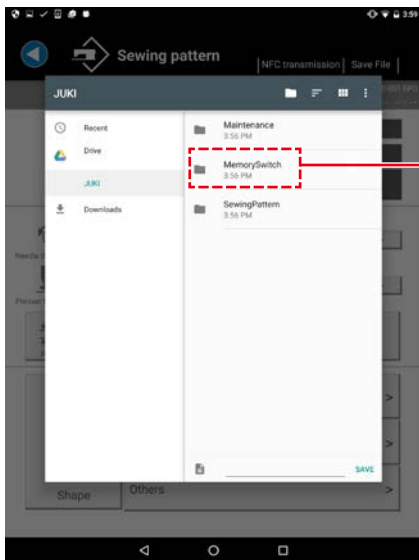
3) A memory switch data edit screen is displayed.

* The screen displayed differs with the sewing machine model.

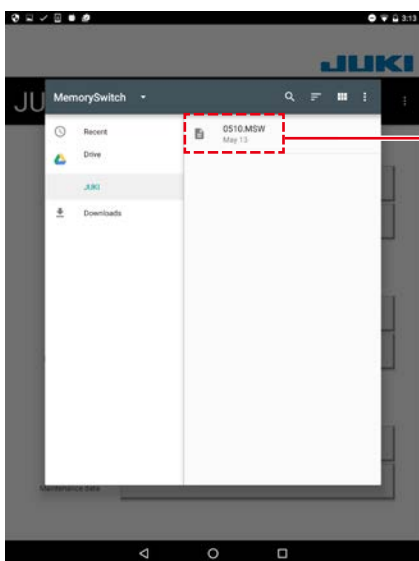
3-4-2. Loading from a file



1) Press the “LOADED FROM FILE” button ❶ of Memory switch.



2) Select the “JUKI” - “MemorySwitch” - “(Machine name)” folder ❷.



3) Select the memory switch data file (*.MSW) ❸.



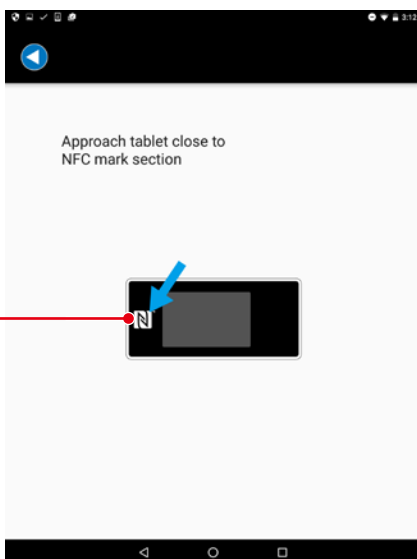
4) A memory switch group selection screen is displayed.

* The screen displayed differs with the sewing machine model.

3-5. Transmitting the memory switch data to a sewing machine



1) Press the “NFC transmission” button ❶ right above.

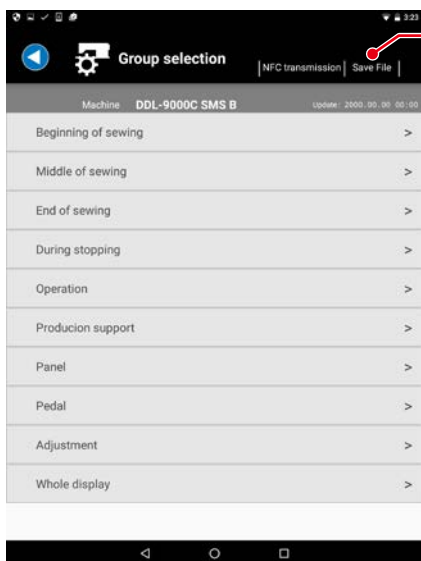


2) Touch the NFC mark ❷ on a panel.

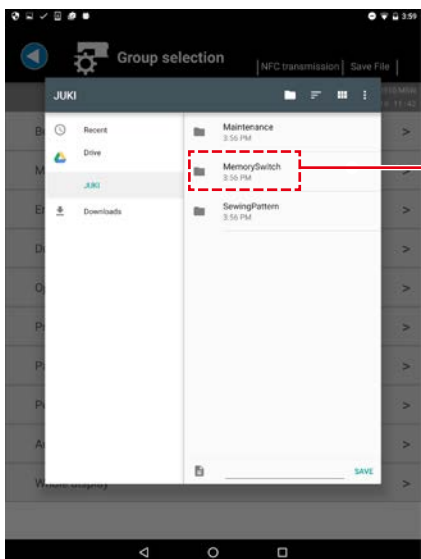
When the transmission is successful, the screen returns to the memory switch group selection screen.

*When the transmission is not successful, an error message is displayed.

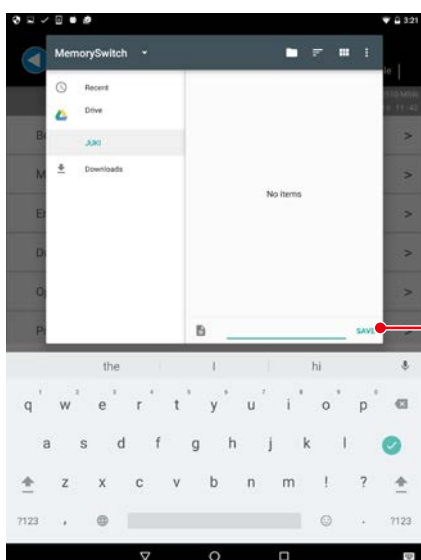
3-6. Saving the memory switch data in a file



1) Press the “Save File” button ❶ right above.



2) Select the “JUKI” - “MemorySwitch” - “(Machine name)” folder ❷.



3) Input a file name and press the “Save” button ❸.

* The sewing pattern data can be saved only in the “Memory-Switch” - “(Machine name)” folder ❷.

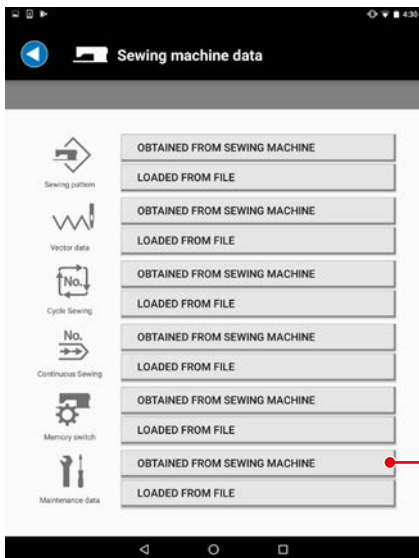
* To delete a file, use the file management tool of a tablet.

3-7. Displaying a maintenance data

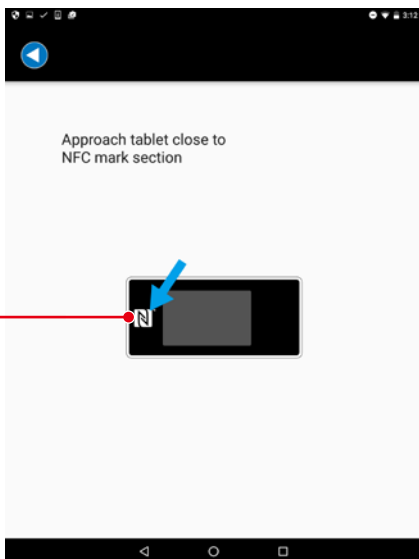
[Supplementary] For the maintenance data, only the major errors are displayed in the error history.

Data and time of occurrence of an error included in the error history are displayed only in the case it is acquired from the sewing machine provided with a clock.

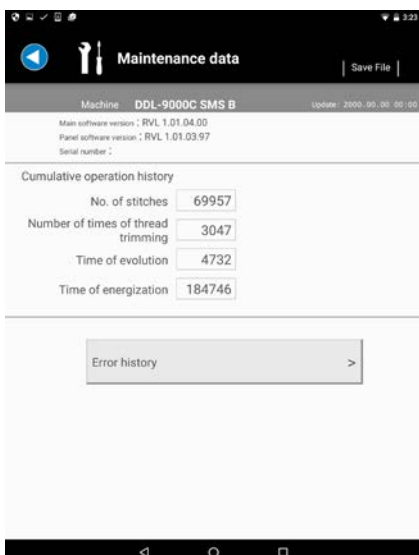
3-7-1. Obtaining from a sewing machine



1) Press the “OBTAINED FROM SEWING MACHINE” button ❶ of Maintenance data.



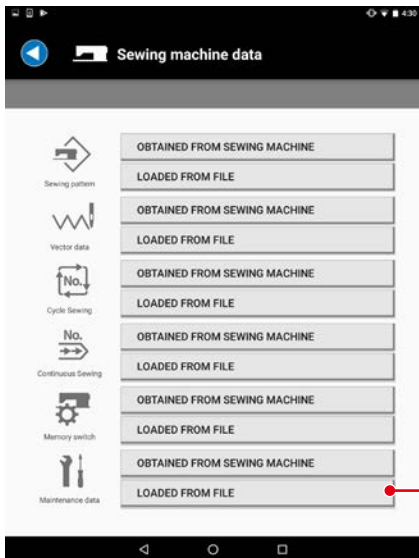
2) Approach the tablet close to the NFC mark ❷ on a panel.



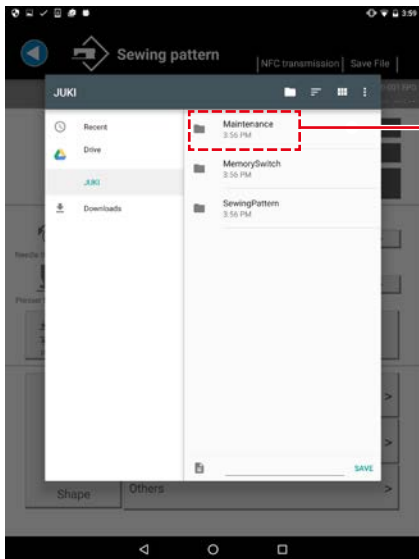
3) A maintenance data screen is displayed.

* The screen displayed differs with the sewing machine model.

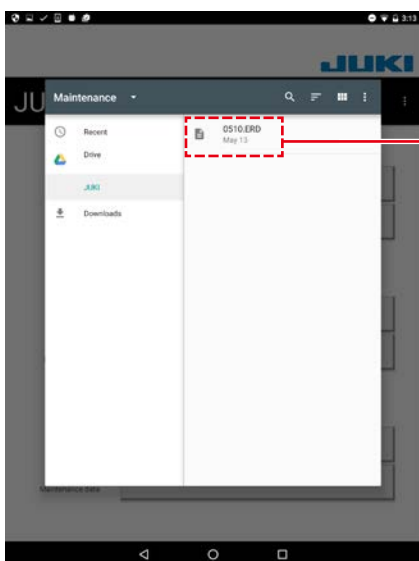
3-7-2. Loading from a file



1) Press the “LOADED FROM FILE” button ❶ of Maintenance data.



2) Select the “JUKI” - “Maintenance” - “(Machine name)” folder ❷.



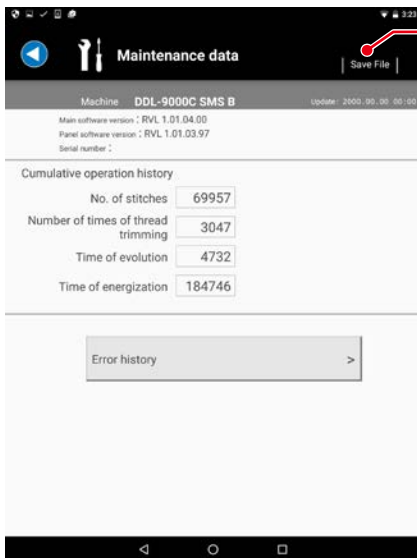
3) Select the maintenance data file (*.ERD) ❸.



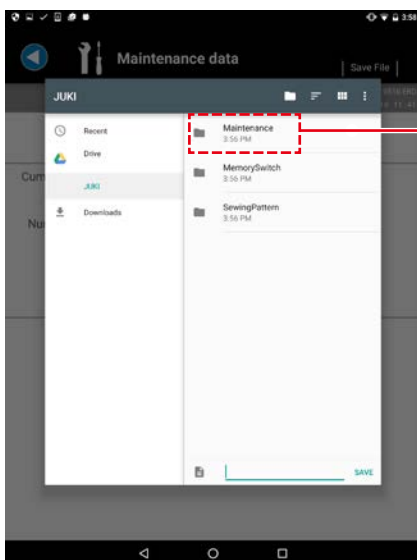
4) A maintenance data screen is displayed.

* The screen displayed differs with the sewing machine model.

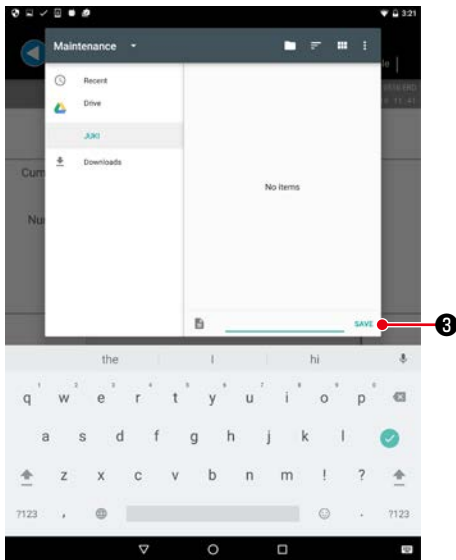
3-8. Saving the maintenance data in a file



1) Press the “Save File” button ❶ right above.



2) Select the “JUKI” - “Maintenance” - “(Machine name)” folder ❷.



3) Input a file name and press the “Save” button ③.

* The sewing pattern data can be saved only in the “Maintenance” - “(Machine name)” folder ②.

* To delete a file, use the file management tool of a tablet.

3-9. Displaying the vector data

<LK-1900BN / LK-1903BN>

Vector data can only be acquired only in the case the user patterns (Vector data) are displayed. (Acquisition of vector data from the direct pattern display screen is not possible.)

<LBH-1790AN>

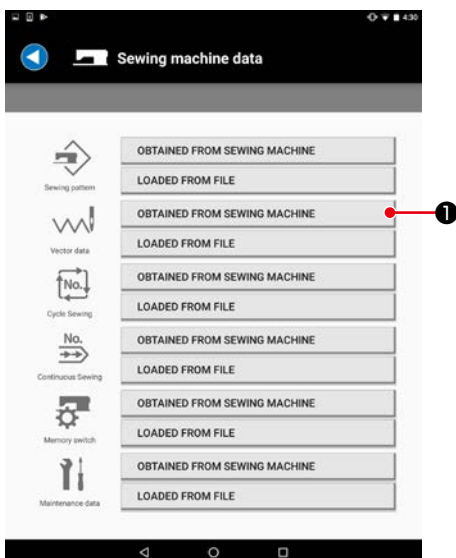


Vector data can be acquired only in the case the vector data is displayed. Only vector data can be obtained. (Parameters of vector data cannot be obtained.)

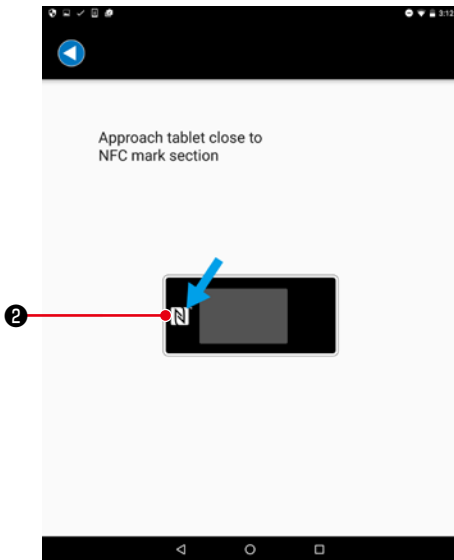
<AMS-F>

Longer time may be required for communication depending on the data size. Keep holding the terminal over the operation panel until communication is completed. When sending a large-size data, it is recommended to use a USB thumb drive for reading/writing.

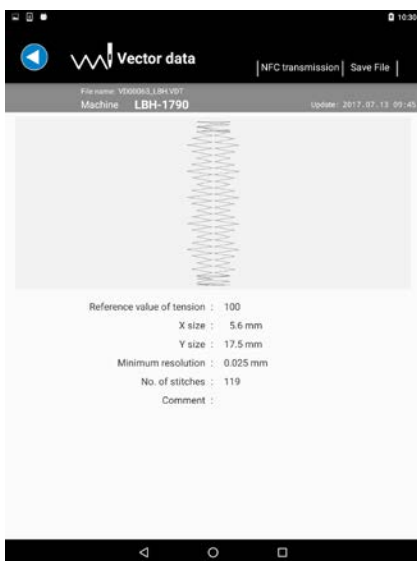
3-9-1. Obtaining from a sewing machine



1) Press "OBTAINED FROM SEWING MACHINE" ① button for the vector data.



2) Approach the tablet close to the NFC mark ② on a panel.

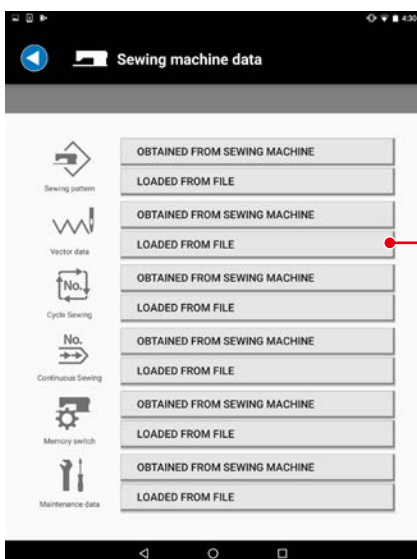


3) The vector data screen is displayed.

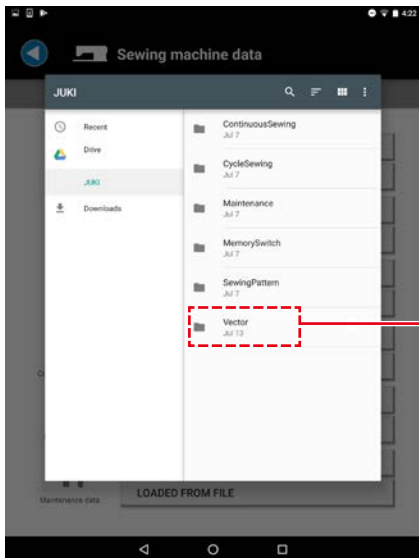
Information displayed on this screen is the information on vector data (VDT format).

< In the case the data is acquired from the AMS-F Series >
When the data is successfully acquired, it is automatically saved in a file.

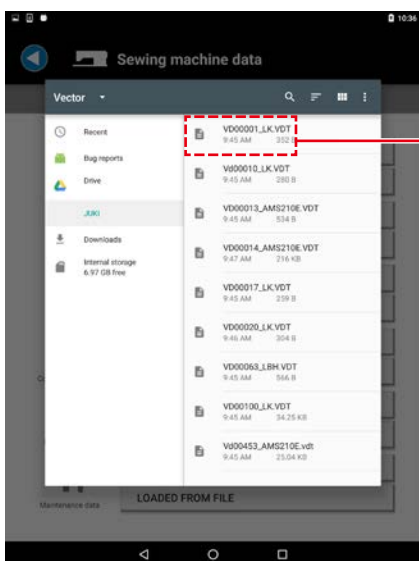
3-9-2. Loading from a file



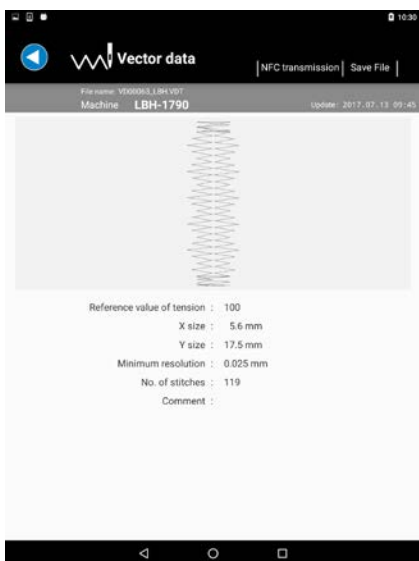
1) Press "LOADED FROM FILE" ① button for the vector data.



2) Select the "JUKI" - "Vector" - "(Machine name)" folder ②.

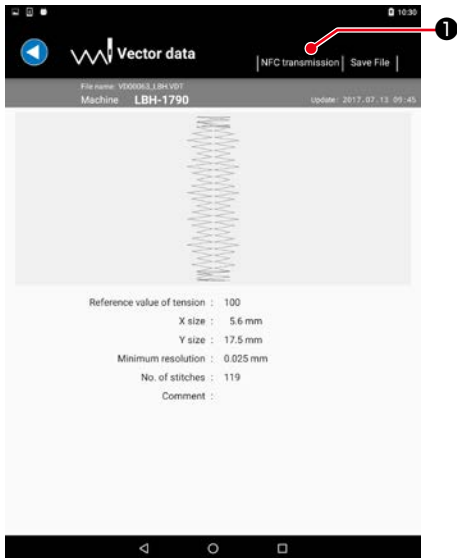


3) Select vector data file (*.VDT) ③.

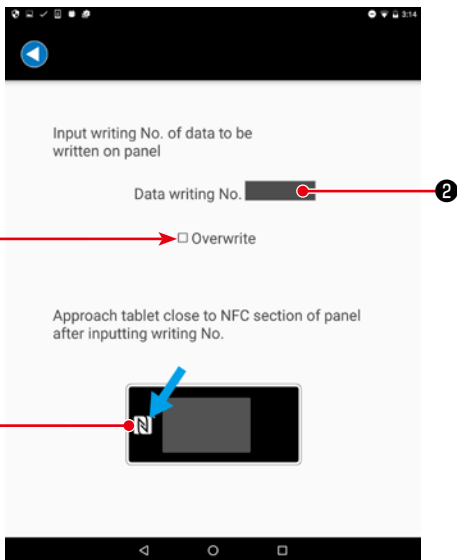


4) The vector data screen is displayed.

3-10. Transmitting the vector data to a sewing machine



1) Press the “NFC transmission” button ❶ right above.



2) Input a pattern No. ❷ to be written.

* In the case of overwriting the exiting pattern or file name, put a check to "Overwrite" ❸.

< In the case the destination is the AMS-F Series >

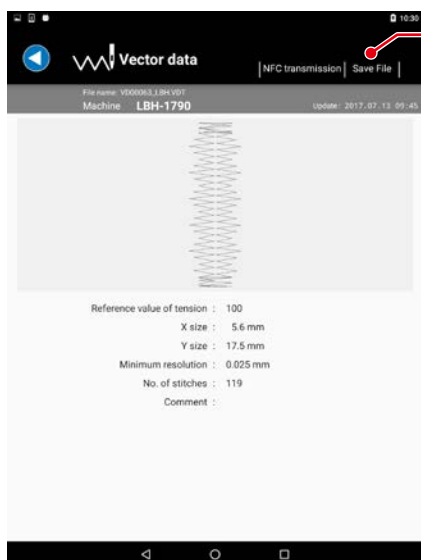
In the case the operation panel is placed in the file management mode, no write number applies.

3) Touch the NFC mark ❹ on a panel.

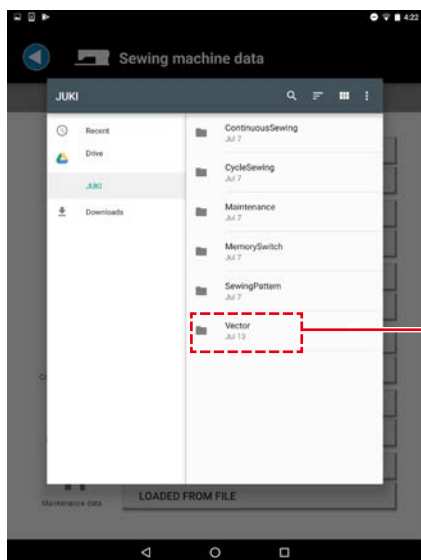
Once the transmission is successfully completed, the screen will return to the vector data screen.

*When the transmission is not successful, an error message is displayed.

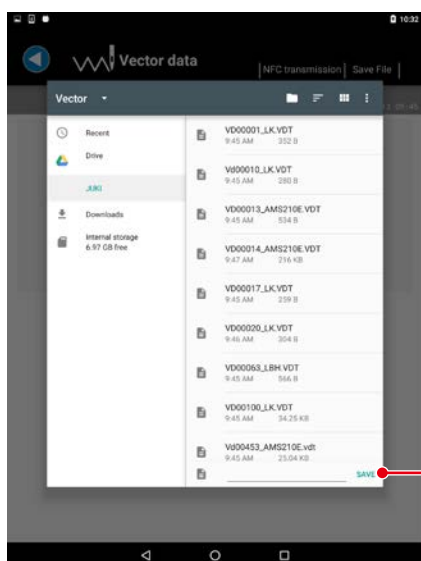
3-11. Saving the vector data in a file



1) Press the “Save File” button ❶ right above.



2) Select the “JUKI” - “Vector” - “(Machine name)” folder ❷.



3) Input a file name and press the “Save” button ❸.

* The sewing pattern data can be saved only in the “Vector” - “(Machine name)” folder ❷.

* To delete a file, use the file management tool of a tablet.

3-12. Displaying the cycle sewing data

<LK-1900BN / LK-1903BN>

Cycle sewing data can be transmitted/received only in the case the cycle sewing data (Vector data) contains only one user pattern.

<LBH-1790AN / LBH-1795AN / LBH-1796AN>



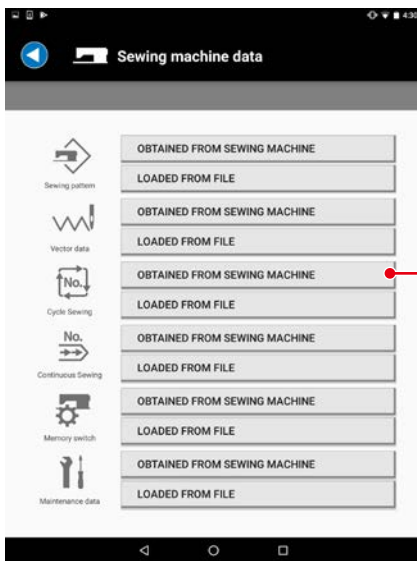
Cycle sewing data can be transmitted / received only in the case it contains one kind of vector data.

<AMS-F>

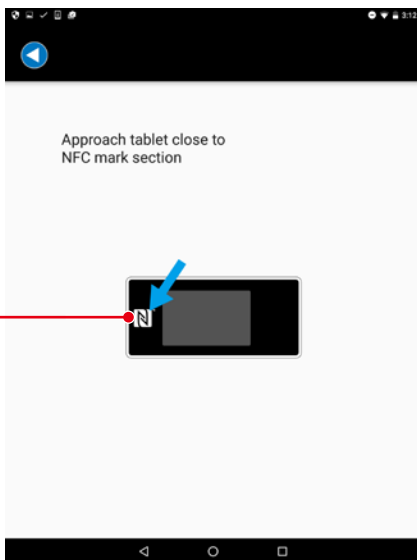
Longer time may be required for communication depending on the data size. Keep holding the terminal over the operation panel until communication is completed.

When sending a large-size data, it is recommended to use a USB thumb drive for reading/writing.

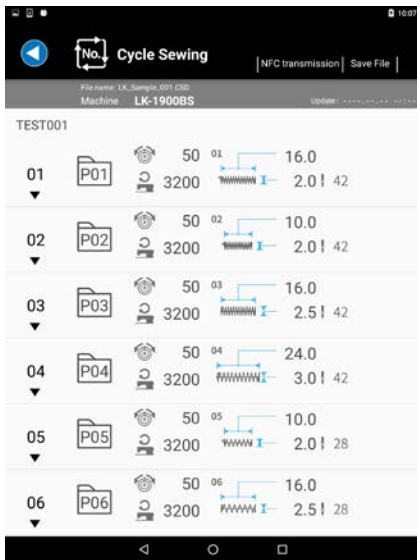
3-12-1. Obtaining from a sewing machine



1) Press "OBTAINED FROM SEWING MACHINE" button ① for the cycle sewing data.



2) Approach the tablet close to the NFC mark ② on a panel.



3) The cycle sewing data screen is displayed.

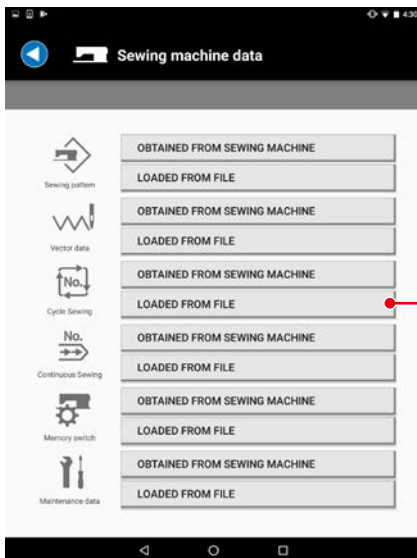
*The cycle sewing data is only displayed, and cannot be edited.

* The screen displayed differs with the sewing machine model.

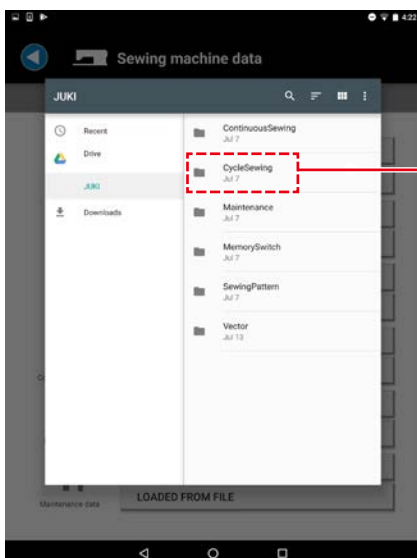
< In the case the data is acquired from the AMS-F Series >

When the data is successfully acquired, it is automatically saved in a file.

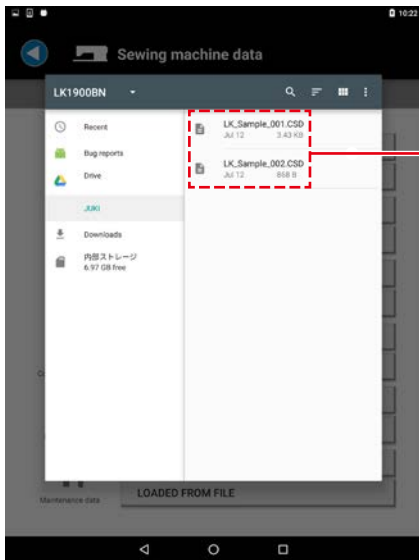
3-12-2. Loading from a file



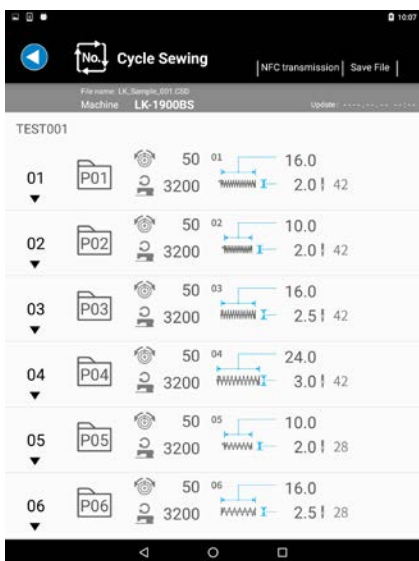
1) Press "OBTAINED FROM SEWING MACHINE" button ❶ for the cycle sewing data.



2) Select the "JUKI" - "CycleSewing" - "(Machine name)" folder ❷.



3) Select cycle sewing data file (*.CSD) ③.

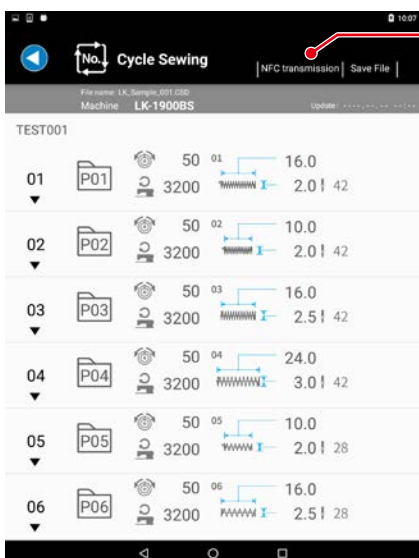


4) The cycle sewing data screen is displayed.

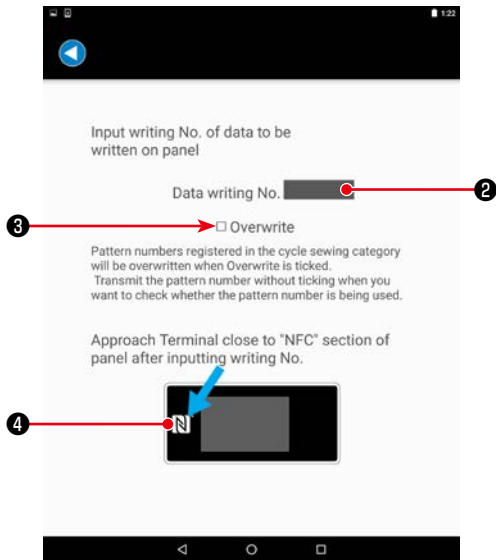
* The cycle sewing data is only displayed, and cannot be edited.

* The screen displayed differs with the sewing machine model.

3-13. Transmitting the cycle sewing data to a sewing machine



1) Press the “NFC transmission” button ① right above.



2) Input a pattern No. ② to be written.

* In the case of overwriting the existing pattern or file name, put a check to "Overwrite" ③.

< In the case the destination is the AMS-F Series >

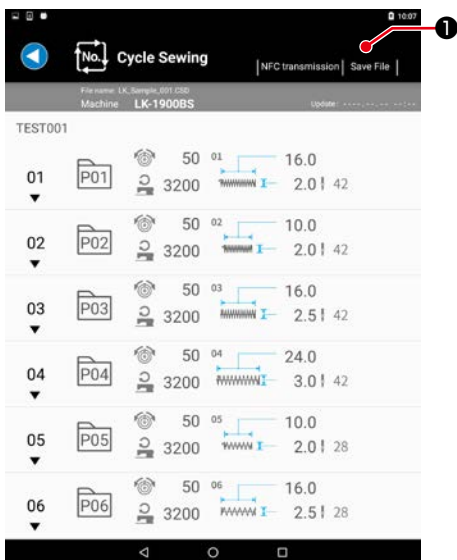
In the case the operation panel is placed in the file management mode, no write number applies.

3) Touch the NFC mark ④ on a panel.

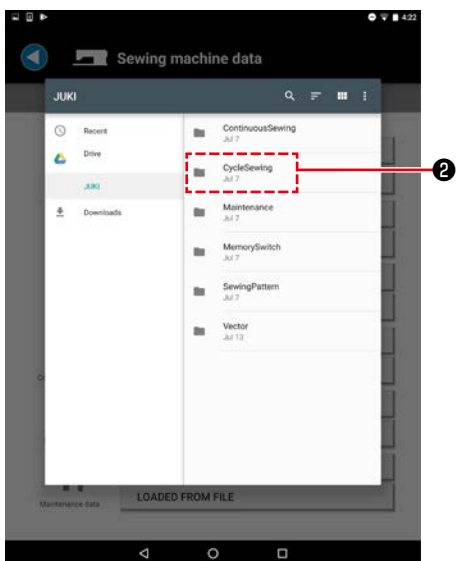
Once the transmission is successfully completed, the screen will return to the cycle sewing data screen.

*When the transmission is not successful, an error message is displayed.

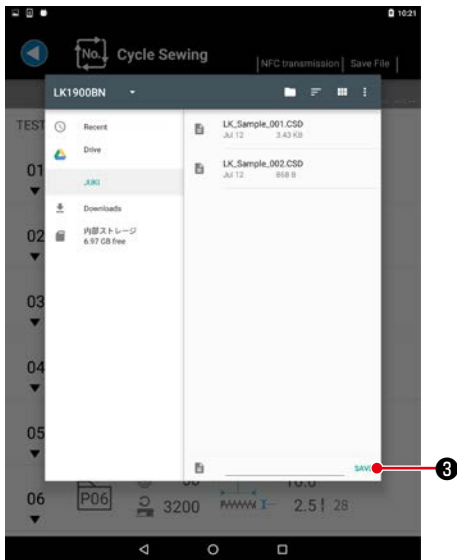
3-14. Saving the cycle sewing data in a file



1) Press the "Save File" button ① right above.



2) Select the "JUKI" - "CycleSewing" - "(Machine name)" folder ②.



3) Input a file name and press the “Save” button ③.

* The sewing pattern data can be saved only in the “CycleSewing” - “(Machine name)” folder ②.

* To delete a file, use the file management tool of a tablet.

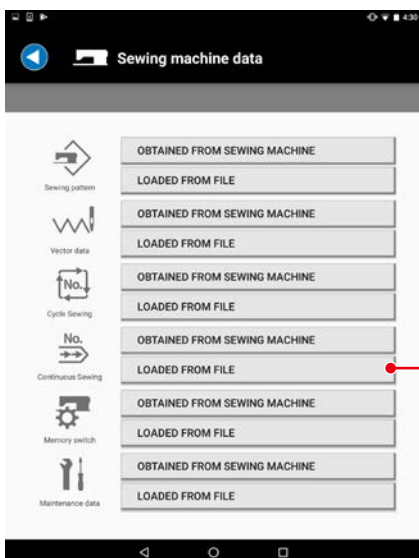
3-15. Displaying the continuous sewing data



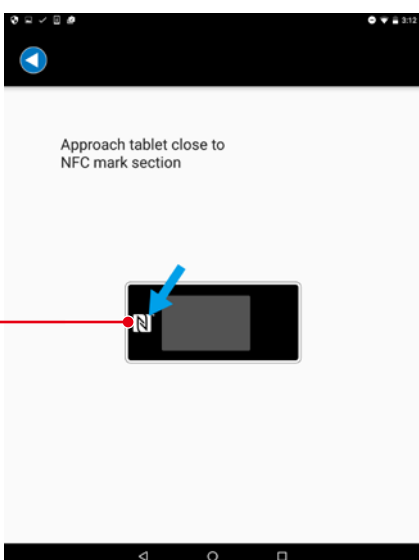
<LBH-1790AN / LBH-1795AN / LBH-1796AN>

Obtaining is the continuous sewing data, press the **READY** key to confirm the data. Continuous sewing data can be transmitted/received only in the case the continuous sewing data contains only one vector data.

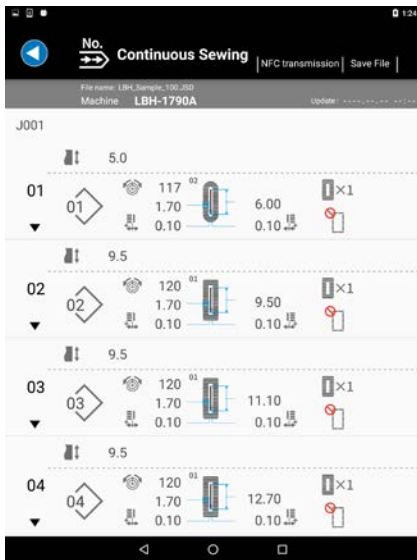
3-15-1. Obtaining from a sewing machine



1) Press "OBTAINED FROM SEWING MACHINE" button ① for the continuous sewing data.



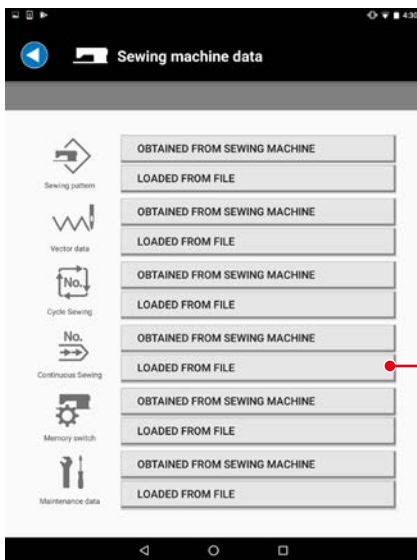
2) Approach the tablet close to the NFC mark ② on a panel.



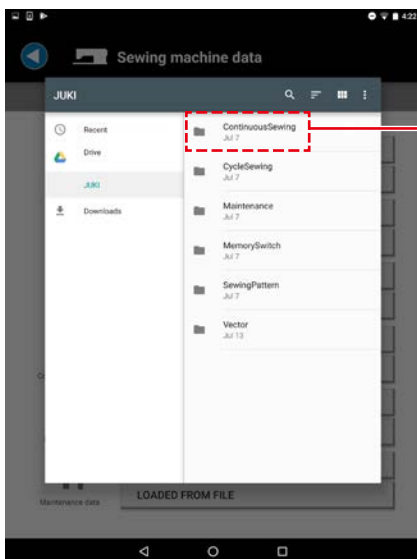
3) The continuous sewing data screen is displayed.

* The continuous sewing data is only displayed, and cannot be edited.

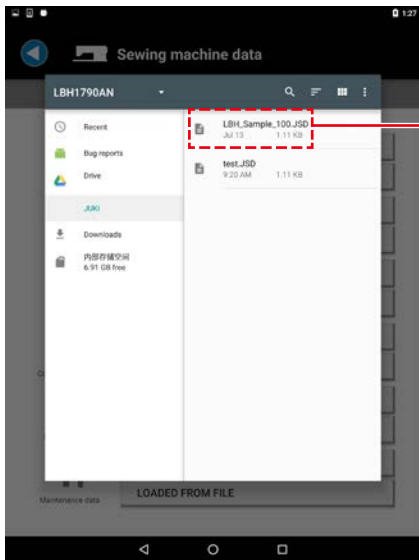
3-15-2. Loading from a file



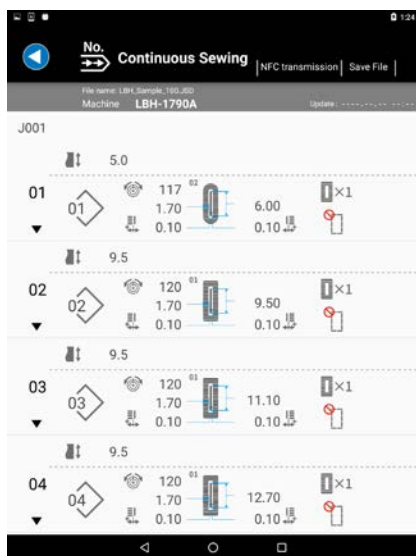
1) Press "LOADED FROM FILE" button ❶ for the continuous sewing data.



2) Select the "JUKI" - "ContinuousSewing" - "(Machine name)" folder ❷.



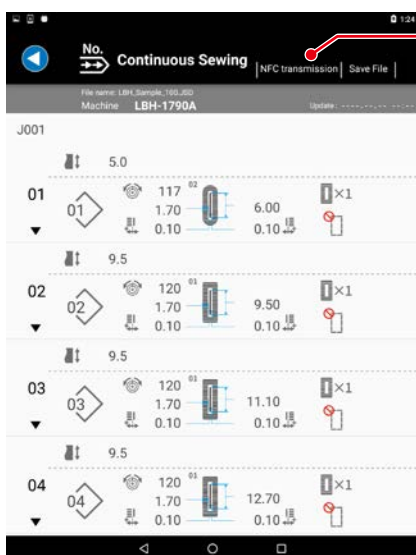
3) Select the continuous sewing data file (*.JSD) ③.



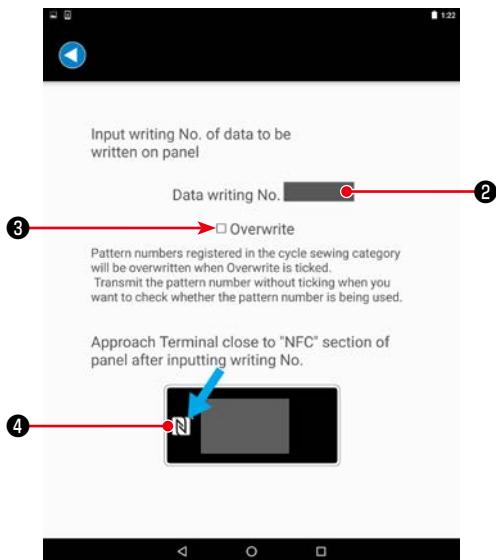
4) The continuous sewing data screen is displayed.

* The continuous sewing data is only displayed, and cannot be edited.

3-16. Transmitting the continuous sewing data to a sewing machine



1) Press the “NFC transmission” button ① right above.



2) Input a pattern No. ❷ to be written.

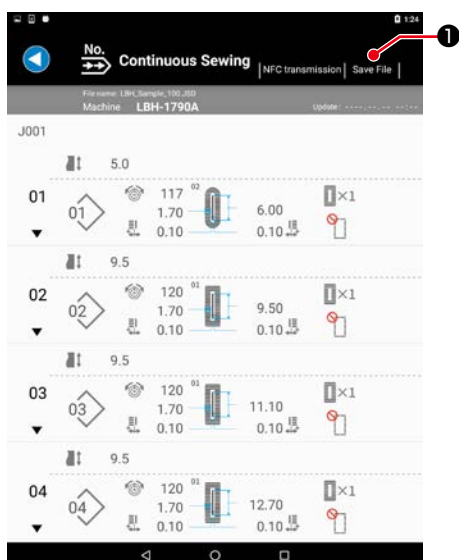
Check the checkbox “Overwrite” ❸ when overwriting the existing pattern.

3) Touch the NFC mark ❹ on a panel.

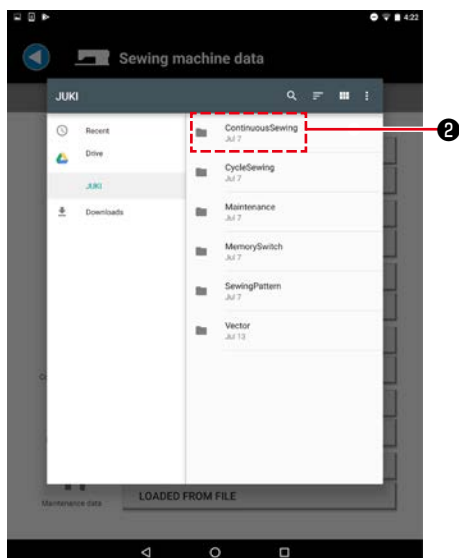
Once the transmission is successfully completed, the screen will return to the continuous sewing data screen.

*When the transmission is not successful, an error message is displayed.

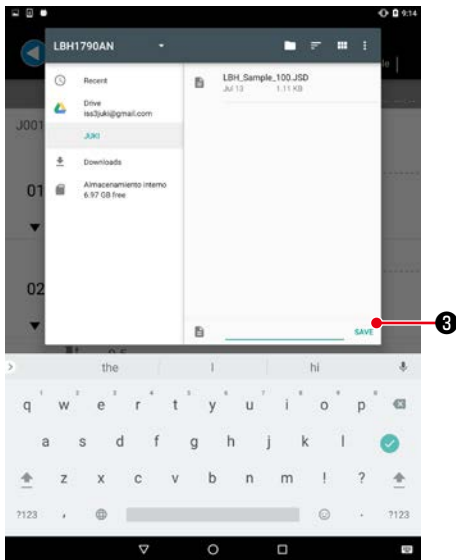
3-17. Saving the continuous sewing data in a file



1) Press the “Save File” button ❶ right above.



2) Select the “JUKI” - “ContinuousSewing” - “(Machine name)” folder ❷.



- 3) Input a file name and press the “Save” button ③.
- * The sewing pattern data can be saved only in the “Continuous Sewing” - “(Machine name)” folder ②.
 - * To delete a file, use the file management tool of a tablet.

4. Displaying the problem-solution chart

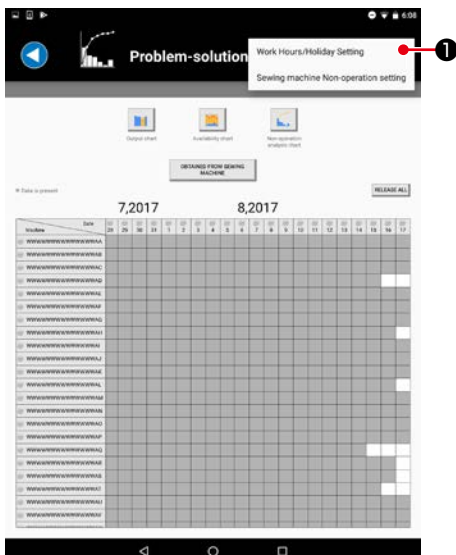
Displaying the problem-solution chart screen.



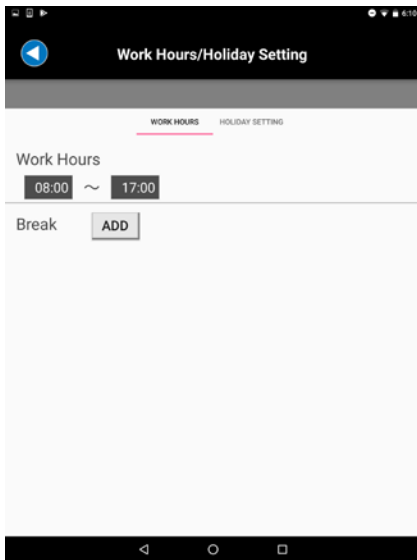
- 1) Press "problem-solution chart" button ①.

4-1. Basic configuration

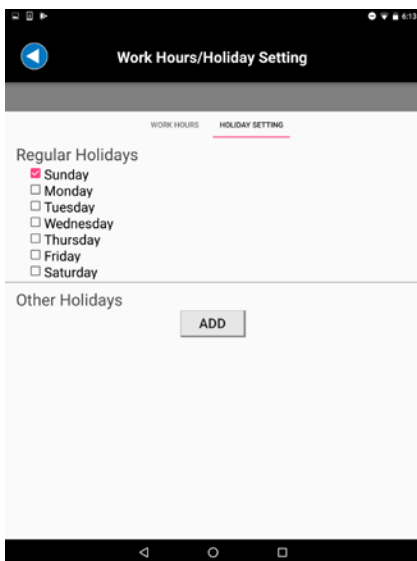
4-1-1. Setting the working hours/holidays



- 1) Select the "work hours/holiday setting" ① menu from the menu displayed at the upper right section of the screen.



[Setting the working hours and work breaks]
 Input the working hours and work breaks on the working hours screen.
 As many as six different work breaks can be added.
 Any unnecessary work break can be deleted by swiping it.

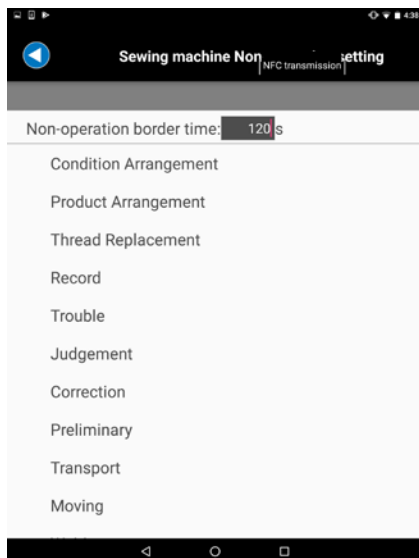


[Setting the holidays]
 Input holidays on the holidays setting screen.
 Regular holidays can be set on a day-of-week basis. In addition, particular dates can be set as holidays.

4-1-2. Setting the sewing machine on-operation setting



1) Select the "sewing machine on-operation setting" ❶ menu from the menu displayed at the upper right section of the screen.



- 2) Set the non-operation boundary time and the order of non-operation items on the non-operation setting screen of sewing machine.
The non-operation boundary time can be set in the range of 0 and 1800 seconds.

If it is set to "0 (zero)", the non-operation measuring function (*1) of sewing machine will be turned OFF.

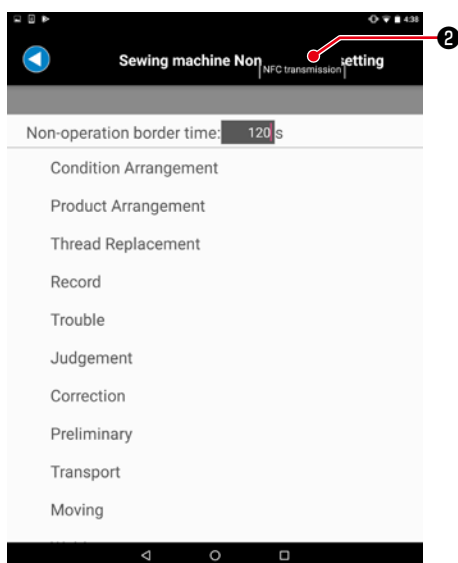
- *1 [Non-operation measuring function of sewing machine]
This is the function of measuring the time taken to carry out a waste work.

If the downtime exceeds the non-operation boundary time, the list of non-operation items will be displayed on the operation panel. The non-operation time is measured when the operator selects one of the non-operation items. (The sewing machine will not be able to start sewing until the operator selects one of those items.)

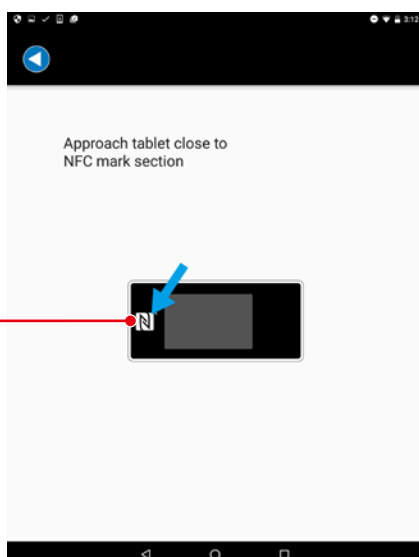
The measured non-operation time data can be acquired with the terminal and can be viewed on the operation panel in the form of the non-operation analysis chart.

<LK-1900BN / LK-1903BN, LBH-1790AN, MEB-3900>

Non-operational items can be displayed by pressing the ready key mounted on the sewing machine side.



- 3) Press the "NFC transmission" button ② right above.



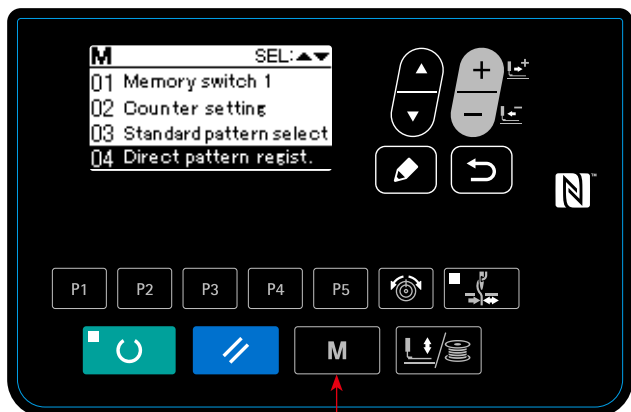
- 4) Approach the tablet close to the NFC mark ③ on a panel.
Once the NFC transmission is successfully completed, the screen will return to the operation setting screen of the sewing machine.

*When the transmission is not successful, an error message is displayed.

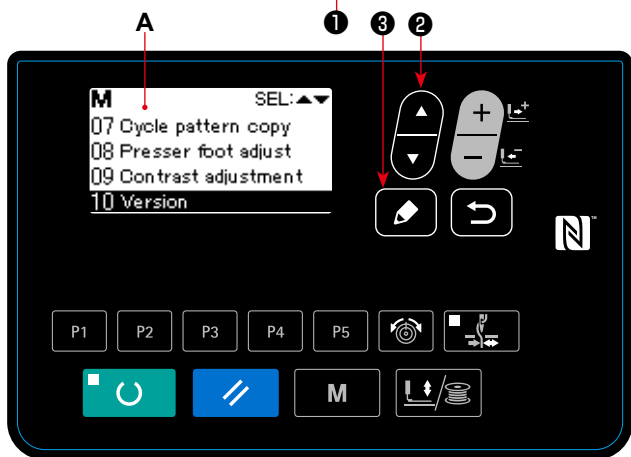
4-1-3. How to set the sewing machine name



Set the sewing machine name in order to display the problem-solution chart with JUKI Smart App.
 If the sewing machine name is not set, the sewing machine name field will be left blank.

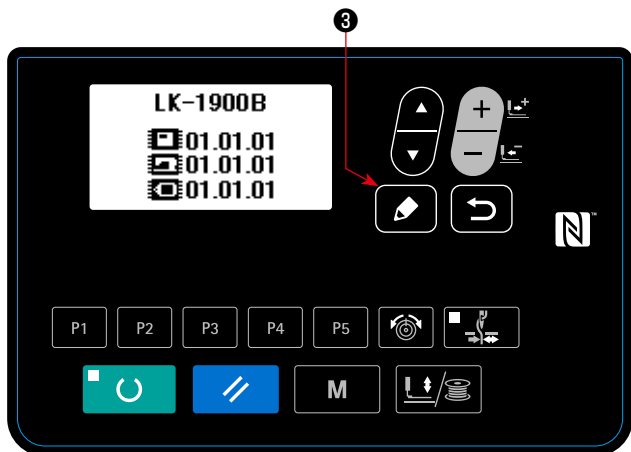
① For the LK-1900BN and LBH-1790AN




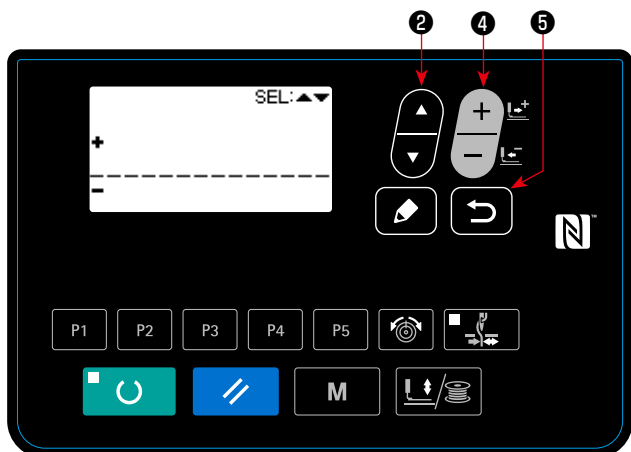
1) Press mode key **M** ① to display the mode screen.






2) Press item select key  ② to put the "version information" in the selected state.
 Press edit key  ③ to display the version information screen A.



3) Keep edit key  ③ held pressed for one second on the version information screen. Then, the sewing machine name input screen is displayed.



4) Type of characters can be selected with data change key  ④ . Input position can be selected with item select key  ② .
 The sewing machine name is confirmed by pressing return key  ⑤ . Then, the version information screen is displayed.

② For the DDL-9000C, LZ-2290C, LH-4500C



1) Press **M** ① .

The "mode screen" is displayed.



2) Select the "7. Version" ② .



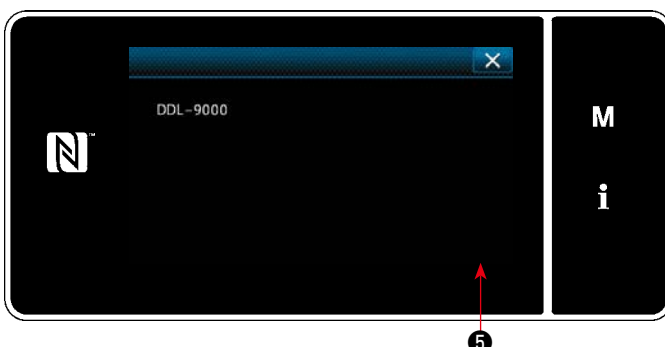
3) Press **M** ③ on the "version screen".

The "sewing machine name screen" is displayed.



4) Press **i** ④ on the "sewing machine name screen".

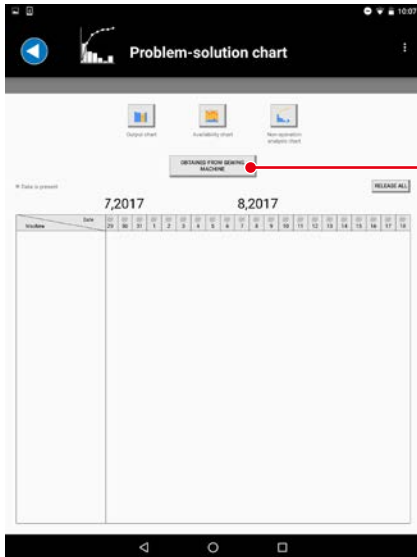
The "sewing machine name edit screen" is displayed.



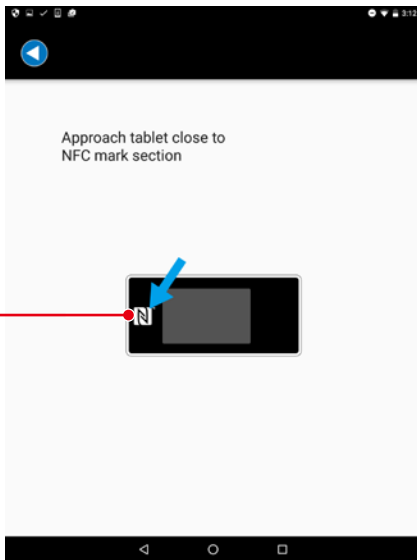
5) Editing the sewing machine name.

The sewing machine name is confirmed by pressing **↵** ⑤ . Then, the version information screen is displayed.

4-2. Obtaining from a sewing machine



1) Press "OBTAINED FROM SEWING MACHINE" button ❶.



2) Approach the tablet close to the NFC mark ❷ on a panel.

Once the data acquisition is successfully completed, the screen will return to the problem-solution chart screen.

*When the transmission is not successful, an error message is displayed.



3) Acquired data information is reflected on the list displayed on the problem-solution chart screen.

A sewing machine line is added to the list. The color of the date on which the sewing machine data is acquired is changed to gray.

Data on the past 40 days can be held on the list.

Data on 100 units of sewing machine can be acquired and displayed on the chart at the maximum. Unnecessary sewing machine can be deleted by keeping the line on which the sewing machine is displayed held pressed.

[Data on the sewing machine which is not provided with a clock]

The sewing machine which is not provided with a clock refers to the clock time of the terminal when communicating with the terminal and adds that time to the data.

Due to the aforementioned system, the data obtained during the time between ON and OFF of the power supply to the sewing machine is not added with the clock time if the sewing machine never communicates with the terminal during the above-stated time.

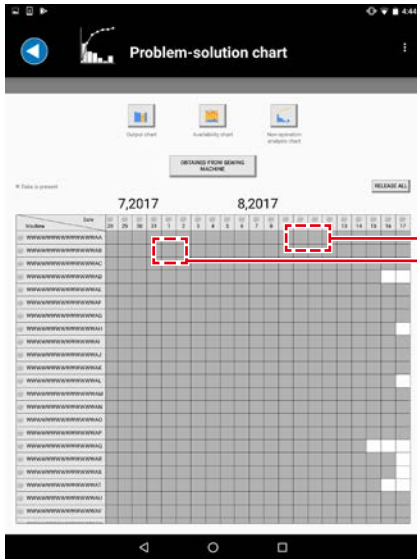
(Data without confirmed clock time)

Data without the confirmed clock time is displayed in the chart after the list of data with the confirmed clock time.

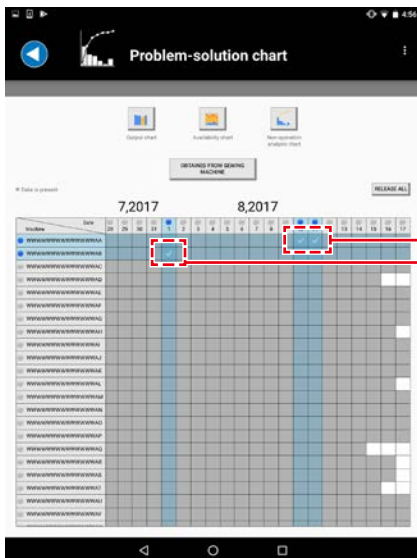
On each chart, the element which contains data time of which is not accurate is displayed while attaching "*" mark on the horizontal-axis label.

4-3. Displaying the output chart

4-3-1. Selecting the data to be displayed in a chart



1) Click acquired cell (displayed in gray) ❶ in the list.



2) ❷ is displayed at the clicked portion of the list. Data on sewing machine(s) and date(s) displayed in the cells attached with checkmark ❷ are subject to aggregation. Cells (displayed in white) are also selectable. Data over this period is displayed in gray.

4-3-2. Displaying the output chart (current day)



1) Select the data on the current date from the list. Press "output chart" button ①.

In order to display the current-day screen, it is necessary to select only the date of the current day on the main screen (two or more lines cannot be selected). (For the sewing machine, it is possible to select two or more lines at a time.) If two or more dates (two or more lines) are selected on the main screen, "4-3-3. Displaying the output chart" p.37 will be displayed instead of the current-day screen.

2) In the output chart (current day) screen is displayed.

Progress of the current day can be viewed on the output chart (current day).

Number of the pieces of product produced within the working hours (*1) of this day (excluding the rest break) is aggregated.

The number of products produced between two hours before today's working hours (*1) and the current time is displayed.

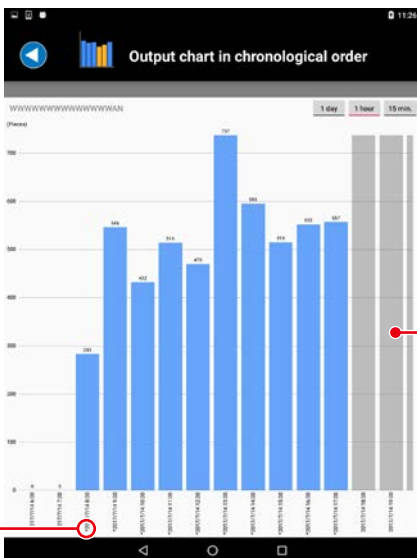


[Target number of pieces of product to be produced for the current day]

When you input any number in the "target number of pieces of product to be produced for the current day" displayed at the upper right portion of screen, the target number of pieces of product to be produced for the current time is calculated and displayed by a short dashed line in the chart. The sewing machine which has not produced the target number of pieces of product is displayed in orange.

Ⓐ (gray): Data is not yet acquired

Ⓑ (*): Data time of which is unconfirmed is included



[Time-line chart display]

The bar chart is transitioned to the time-line chart by clicking the bar in the chart.

It is possible to view the progress of the volume of the sewing machine in increments of a day, an hour and a quarter of an hour.

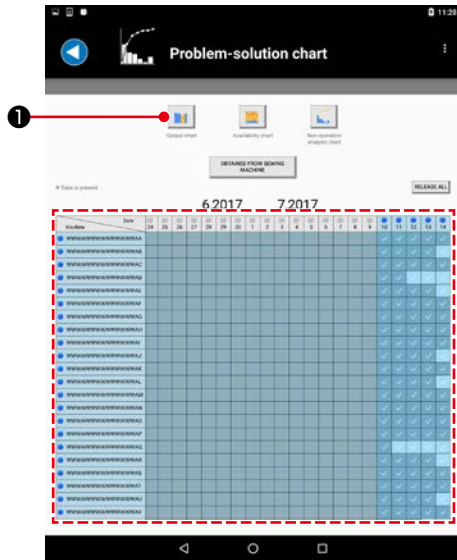
In the case the volume is displayed in increments of a day, the number of pieces of products produced in the 24-hour period beginning from two hours earlier than the start of working hours (*1).

*1 The time set for "4-1-1. Setting the working hours/holidays" p.29.

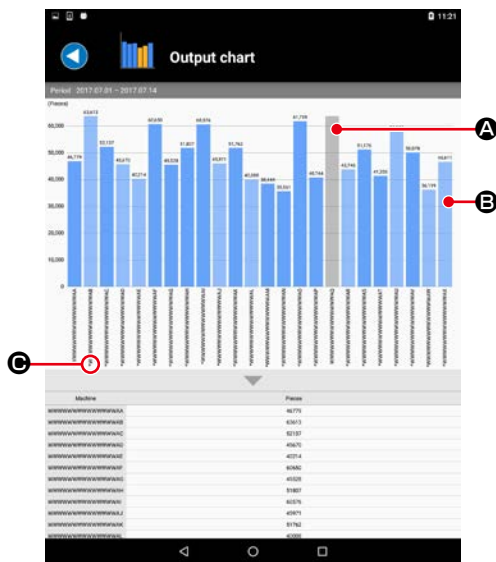
Ⓐ (gray): Data is not yet acquired

Ⓑ (*): Data time of which is unconfirmed is included

4-3-3. Displaying the output chart



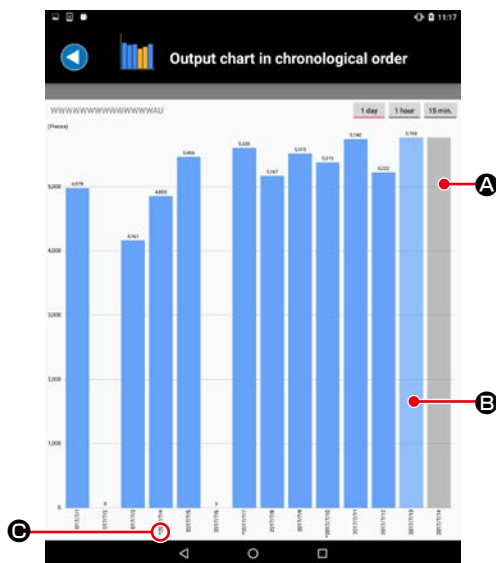
1) Select data on two or more dates from the list. Press "output chart" button ①.



2) The past production results can be viewed in the output chart.
The number of pieces of product produced is aggregated taking the period from 0.00 to 23:59 as one day. (The working hours (*1) is not taken into account.)

*1 The time set for "[4-1-1. Setting the working hours/holidays](#)" p.29.

- Ⓐ (gray): Data is not yet acquired
- Ⓑ (transparent): Including the period where data is not yet acquired.
- Ⓒ (*): Data time of which is unconfirmed is included



[Time-line chart display]
The bar chart is transited to the time-line chart by clicking the bar in the chart.
It is possible to view the progress of the volume of the sewing machine in increments of a day, an hour and a quarter of an hour.

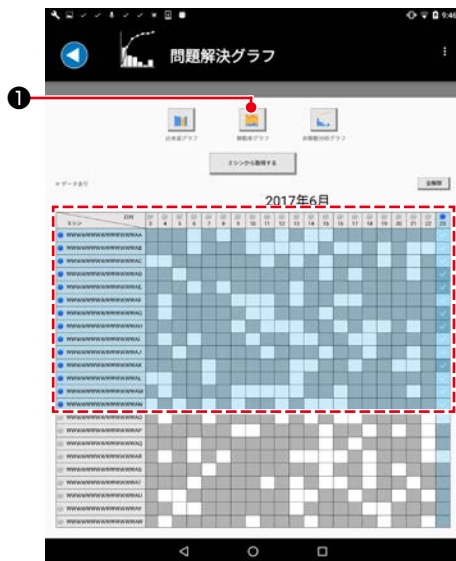
- Ⓐ (gray): Data is not yet acquired
- Ⓑ (transparent): Including the period where data is not yet acquired.
- Ⓒ (*): Data time of which is unconfirmed is included

4-4. Displaying the operation rate chart

4-4-1. Selecting the data to be displayed in a chart

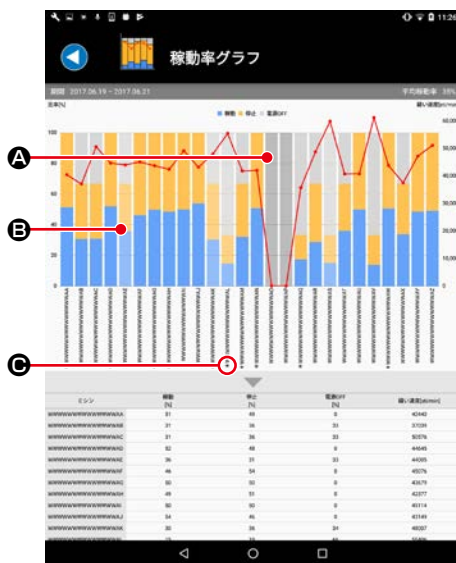
→ Refer to ["4-3-1. Selecting the data to be displayed in a chart" p.35.](#)

4-4-2. Displaying the operation rate chart (current day)



1) Select the data on the current date from the list. Press "operation rate chart" button ❶.

In order to display the current-day screen, it is necessary to select only the date of the current day on the main screen (two or more lines cannot be selected). (For the sewing machine, it is possible to select two or more lines at a time.) If two or more dates (two or more lines) are selected on the main screen, ["4-4-3. Displaying the operation rate chart" p.39](#) will be displayed instead of the current-day screen.



2) The availability chart (current day) is displayed. Progress of the operation status and the average sewing speed can be viewed in the availability chart (current day). The operation rate is totalized taking the period of time to be elapsed from the starting time of the workday (*1) to the time at which the last data of the day is acquired as 100 %. (Excluding the work break)

- ❶ (gray): Data is not yet acquired
- ❷ (*): Data time of which is unconfirmed is included

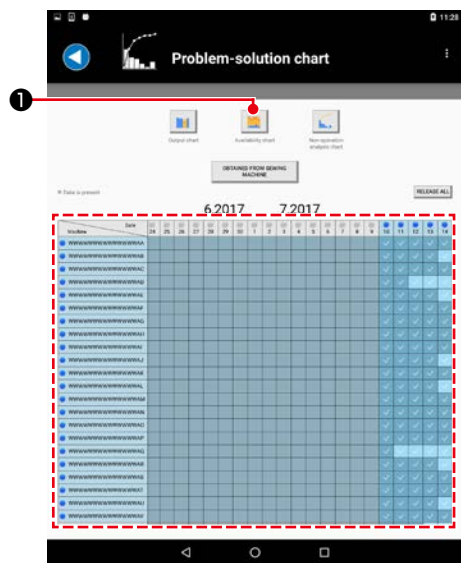


[Time-line chart display]
The bar chart is transited to the time-line chart by clicking the bar in the chart. It is possible to view the progress of the volume of the sewing machine in increments of a day, an hour and a quarter of an hour.

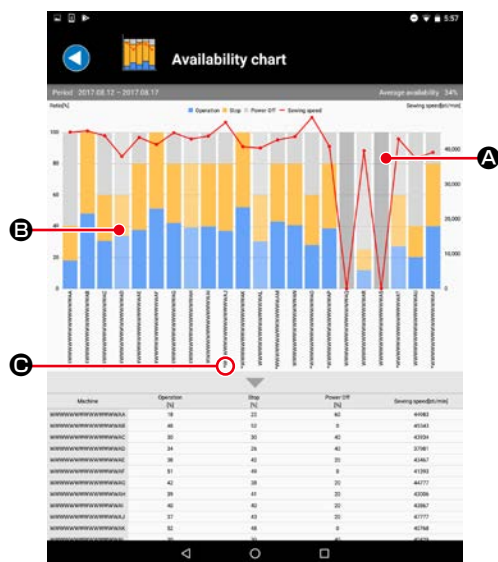
The display range in increments of "one hour / 15 minutes" covers the period from the starting time of a workday (*1) to the time at which the last data of the day is acquired.

*1 The time set for ["4-1-1. Setting the working hours/holidays" p.29.](#)

4-4-3. Displaying the operation rate chart



1) Select data on two or more dates from the list. Press "operation rate chart" button ①.



2) The availability chart is displayed. Progress of the operation status and the average sewing speed can be viewed in the availability chart. Data over the working hours (*1) (excluding the rest break/holidays) is aggregated.

*1 The time set for "4-1-1. Setting the working hours/holidays" p.29.

Ⓐ (gray) : Data is not yet acquired

Ⓑ (transparent) : Including the period where data is not yet acquired.

Ⓒ (*) : Data time of which is unconfirmed is included

[Time-line chart display]

The bar chart is transited to the time-line chart by clicking the bar in the chart.

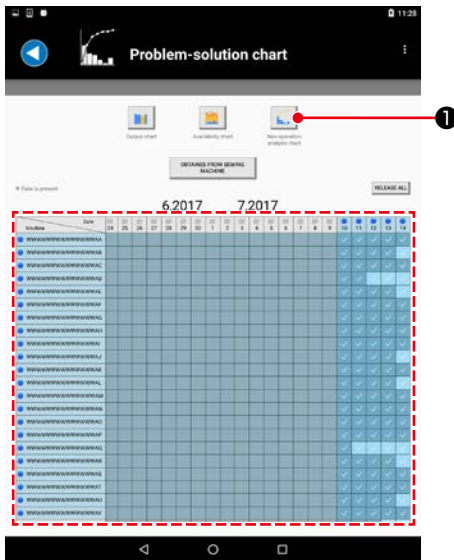
Progress of the operation status and average sewing speed of sewing in increments of a day, an hour and a quarter of an hour can be viewed.



4-5. Displaying the non-operation analysis chart

Select the data to be displayed in the chart.

→ Refer to **"4-3-1. Selecting the data to be displayed in a chart"** p.35.



1) Select the data to be displayed in the chart. Press "non-operation analysis chart" button ①.



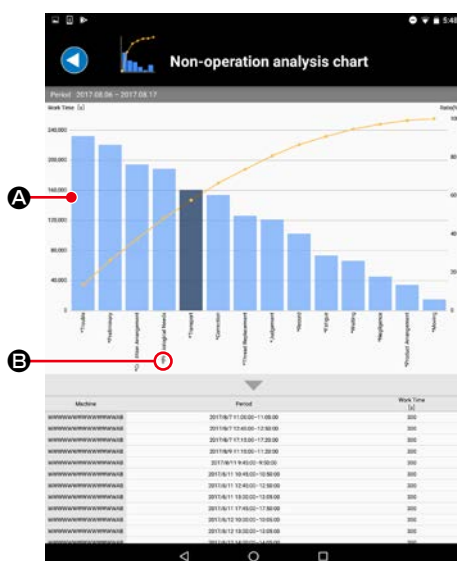
2) The non-operation analysis chart screen is displayed.

Time taken by wasted work and the accumulation ratio of wasted work can be viewed on the non-operation analysis chart.

Breakdown of the non-operation items is displayed in the list by clicking the bar in the chart.

To enable display of this chart, the non-operation time of sewing machine has to be measured.

→ Refer to **"4-1-2. Setting the sewing machine on-operation setting"** p.30 for the measuring procedure.



Ⓐ (transparent) : Including the period where data is not yet acquired.

Ⓑ (*) : Data time of which is unconfirmed is included

5. How to use the troubleshooting chart



1. For the sewing machine which is not provided with a clock, be sure to carry out communication between the sewing machine and a tablet after turning on the power to the sewing machine. (Time data is transmitted to the sewing machine.)
→ Refer to "4-2. [Data on the sewing machine which is not provided with a clock]" P.34.
2. Approximately 60 seconds are required until the latest sewing data can be obtained from the sewing machine. Wait for approximately 60 seconds after the completion of sewing and obtain the latest sewing data from the sewing machine.

5-1. The output chart (current day)

Output chart (for today) is used for checking the daily progress of production.

The following setting is required to display the chart.

- Set the name of sewing machine.
(→ Refer to "4-1-3. How to set the sewing machine name" p.32.)
- Set the working hours and work break hours.
(→ Refer to "4-1-1. Setting the working hours/holidays" p.29.)
- Set the target number of pieces to be produced.
(→ Refer to "4-3-2. Displaying the output chart (current day)" p.36.)

Obtain the data from the sewing machine. Select the data only for today on the troubleshooting chart screen to display the chart.

- On the output chart (for today), the number of products produced from two hours before the working hours to the current time is aggregated and indicated. (The number of products produced during the work break hours is aggregated.)
- The data to be counted on the output chart, the number of times of thread trimming for lockstitch type sewing machines, or the number of times of sewing of sewing patterns for cycle sewing machines (under the cycle sewing mode, the number of times of cycle sewing is counted).

5-2. The output chart

The output chart is used to check trends in output in the past few days.

The following setting is required to display the chart.

- Set the name of sewing machine.
(→ Refer to "4-1-3. How to set the sewing machine name" p.32.)

After the completion of a day's work, obtain data from the sewing machine. Select the target few days on the troubleshooting chart screen to display the chart.

- On the output chart, the number of products produced during the selected period is aggregated and displayed. (The number of products produced outside the working hours, the work break hours and the holidays is also aggregated.)
- The data to be counted on the output chart, the number of times of thread trimming for lockstitch type sewing machines, or the number of times of sewing of sewing patterns for cycle sewing machines. (Number of times of cycle sewing under the cycle mode in the case of using the production volume chart under the cycle mode)

5-3. The availability chart (current day)

The operation rate chart (for the current day) is used for checking the operation rate for the current day. On the sewing machine working ratio (period of time), stop ratio (period of time), power-OFF ratio (period of time) and average sewing speed can be grasped.

The following setting is required to display the chart.

- Set the name of sewing machine.
(→ Refer to ["4-1-3. How to set the sewing machine name" p.32.](#))
- Set the working hours and work break hours.
(→ Refer to ["4-1-1. Setting the working hours/holidays" p.29.](#))
- Set the holidays.
(→ Refer to ["4-1-1. Setting the working hours/holidays \[Setting the holidays\]" p.30.](#))

After the completion of a day's work, obtain the data from the sewing machine. Select the data on the troubleshooting chart screen to display the chart.

- For the operation rate (i.e., availability) chart (for the current day), the operation rate is totalized taking the period of time to be elapsed from the start of the workday (*1) to the time at which the last data is acquired as 100 % (excluding the work break). (Even if the products are actually sewn during the work break, the production result will not be totalized.)

5-4. The availability chart

On the working ratio chart, the sewing machine working ratio (period of time), stop ratio (period of time), power-OFF ratio (period of time) and average sewing speed can be grasped.

The following setting is required to display the chart.

- Set the name of sewing machine.
(→ Refer to ["4-1-3. How to set the sewing machine name" p.32.](#))
- Set the working hours and work break hours.
(→ Refer to ["4-1-1. Setting the working hours/holidays" p.29.](#))
- Set the holidays.
(→ Refer to ["4-1-1. Setting the working hours/holidays \[Setting the holidays\]" p.30.](#))

After the completion of a day's work, obtain the data from the sewing machine. Select the data on the troubleshooting chart screen to display the chart.

- On the working ratio chart, the aggregation result of sewing machine ratio within the working hours (excluding the work break time / holidays) is displayed. (Even if the sewing machines are actually engaged in sewing during the work break time / holidays, the corresponding sewing machine working ratio is not aggregated.)

5-5. The non-operation analysis chart

In the case of finding a problem such that the working ration is low on the working ratio chart, the down-time analysis chart is used for investigating the cause of the problem.

The following setting is required to display the chart.

- Set the name of sewing machine.
(→ Refer to ["4-1-3. How to set the sewing machine name" p.32.](#))
- Set the sewing machine down-time setting.
(→ Refer to ["4-1-2. Setting the sewing machine on-operation setting" p.30.](#))

Obtain data from the sewing machine after a certain period of sewing work. Then, select the target data on the troubleshooting chart to display it on the chart.