

Technician's Manual

GARUDAN[®]

GPS/E-1006 series



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1. Description of control box

display

bobbin winder key

wiper key



keys for moving in editing of pattern, numbers and letters

CLEAR – for deleting and for back in MENU

keys for increase and decrease of speed

keys for simulation of sewing

keys for functions

function of trimming

keys for move in MENU

key ENTER

keys END and EXE

key for editing of speed

2. Specification:

Sewing scope	X direction 100mm (right-left), Y-direction 60mm (front-rear)
Max. speed	300~3000 rpm
Inner memory	30 patterns
Outer memory	USB flashdisc, needle quantity is not limited, depends on the capacity of the USB flaskdisc
Pattern's format	binary system, that is *.DSB
Functions of sewing	can sew lines, curves, circles, circular arcs, triangle stitches (zig-zag), jump, trimming etc.
Amending of pattern	can change stitch and move the position of each stitch through amendment
Editing of pattern	can enlarge, reduce, move and rotation the pattern
Stop position	needle bar returns to the stop position automatically when each pattern is finished, that is the highest position of thread-up bar
Principal axis motor	400 W servomotor

Table of max sewing speed

For perfect stitch follow this max advised speed.

Line stitch

Zigzag stitch

Speed	max stitch length	Speed	max stitch legth
1 000	3mm	700	3mm
800	4mm	600	4mm
600	5mm	500	5mm
500	6mm	400	6mm
400	7mm	300	7mm
300	>7mm	200	>7mm

3. Parameter set

Control system “E” is used for more types of machines and therefore some functions are unavailable for concrete type of machine.

Parameters of machine you set by following way:

I. Setting of the size of the sewing area

1. Turn OFF the machine.
2. Press and hold key “5” and turn ON the machine. After second beep drop the key and it displays as following:

Select:3
1: 0403
2: 0504
3: 1006

Picture 1

3. Press key “3” to set the sewing area and it displays as following:

Select Feet2
1: 21
2: 22
3: 205

Picture 2

4. Press key “2”. The option “21” is for the control of board by pressing one pedal (there is necessary to change the air distribution). the option “22” is standard – control of board by pressing two pedals). the option “205” is not used for this type of machine.

II. Language setting

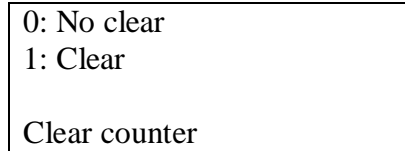
1. Turn OFF the machine.
2. Press and hold key “7” and turn ON the machine. After second beep drop the key and it displays as following:

0: Chinese
1: English

Picture 3

III. Cycle counter reset

1. Turn OFF the machine.
2. Press and hold key “0” and turn ON the machine. After second beep drop the key and it displays as following.



Picture 4

IV. Neverending sewing cycle

1. When the machine is in stitch condition (Picture 7) press “918”
2. Press A->R
3. 3. The machine starts the neverending cycle

V. SOFT START function

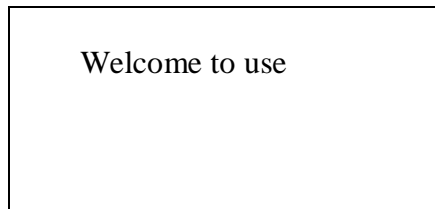
1. When the machine is in stitch condition (Picture 7) press “919”
2. Press SET UP
3. Press Enter
4. You can select the needle number

VI. Setting of the highest position of needle after trimming

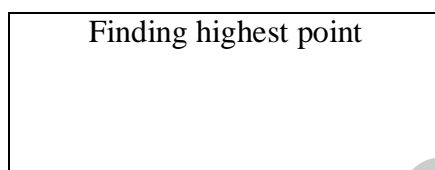
1. When the machine is in stitch condition (Picture 7) press “919”
2. Press SET UP
3. Press Enter until you find Parameter 21, Stop position 2
4. Input the number of t=
5. Press Enter until you return into the main menu

4. Turning ON of the machine:

1. After checking if everything is normal, turn ON the power switch under the table. On display you can see (picture 5 and 6):



Picture 5



Picture 6

Needle bar comes back the stop position with inner press foot lifted, outer press plate pressed down and frame automatically returns to the original point. Machine is ready for sewing of last sewn pattern. Then display the below tableau:

V:28	N: SA1
T:0	Stitch
P:0	
Please operation	

Picture 7

Digits after N are pattern name.,
 Digits after V are speed (1~30, that is 100-3000rpm)
 Digits after T are stitch needle quantity.
 Digits after P are workpiece quantity.

1. If you want to continue in sewing of last pattern, press pedals of frames and pedal **START**.
2. Press “UP” (add speed) or “DOWN” (reduce speed) to change speed. More informations about speed set you can find **in chapter 5**.
3. By keys “**B**” or “**à**” you can simulate moving of frames without sewing of pattern.

4. Bobbin winding: Press key with bobbin and you will see "Round the wire" on display. Insert the bobbin, press pedal START. You can also round the bobbin with sewing. If you want to wind the bobbin separately the better is if you pull out the thread from needle.

5. MAIN MENU OF MACHINE

By pressing ENTER you come to main menu.

0: Stitch
1: Pattern design
2: Pattern edit
3: Disc operation >

Picture 8

- "0" – choice of pattern (chapter 6)
- "1" – making new pattern (chapter 8)
- "2" – editing of pattern (chapter 9)
- "3" – file transfer by USB (kapitola 10)

By pressing > you enter into next part of Menu.

4: File transact
5: Main Parameter
6: Usage Elucidate

Picture 9

- "4" – delete and restore patterns (chapter 11)
- "5" – informations about inner memory (chapter 12)
- "6" – no function for this type of machine

5. Speed set

Speed of sewing you can set in two ways.

1. Before start of sewing you can set the speed by “UP” and “DOWN”.
2. You can set speed also by key “KEY”. Through speed set, it can make the pattern be sewed with different speeds in different directions to improve the quality and result of sewing.

While in picture 7, press keys “**B**” or “**à**” and move into required position of pattern and press key “SPEED” to display below tableau:

Speed set: 0: Resume speed 1: Set speed 2: Cancel set
--

Picture 10

Resume speed: It will sew with the speed displayed in operation board in sewing condition.

Set speed: It will sew with the speed you have set (not the speed displayed in operation board).

Cancel speed: Cancel all the speeds set before

If need to set speed, please press key “1” to display picture 11.

Speed set: V=5 Input speed

Picture 11

Press number key to input the speed you need, press “Enter” key to return to picture 3, press “**B**” or “**à**” key to confirm the points you want to set speed at, and then set next speed. The maximum points are 50 points.

Attention:

All the speeds you set is within pattern data. The speed you set will not be changed through transferring, enlarging/ reducing or rotary angle.

After speed setting, the fist sewing may not stitch at the speed the speed you set. Since the second sewing, it will stitch at speed you set.
Speed should be set from the first to the last.

6. Choice of the pattern:

Press key “0” to display below tableau:

Pattern select 0: Menu Find 1: Input pattern name.
--

„0” searching in Menu
 “1” searching by name of the pattern

Picture 12

1. Searching in Menu:

Press key “0” to find the pattern in menu. It displays as following:

Menu (3) 1: 01 2: 02 3: 03 >
--

Picture 13

To the next part of Menu you enter by pressing “>” .

When you find the pattern press number key to display below tableau:

Select Pattern N: 01 0: Display 1: Stitch
--

Picture 14

- Press key “0” to display the pattern. If you want to sew the pattern, press key „ENTER“, than press pedals of frames and press the pedal START. Press “CL” key to return.
- Press key “1” for start of operation. Press pedals and you can sew.

2. Searching by name of pattern:

Pattern select N: Input pattern name.

Picture 15

Names of patterns you can edit by numbers or letters. This is same as you write SMS on your mobile phone.

When you find the pattern you can also display the pattern or start operation.

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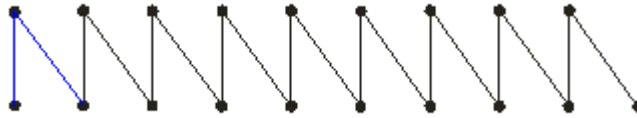
7. Functions for making the pattern

1. Lock stitch: Picture 16.



Picture 16

2. Zig-zag stitch 1: Picture 17 is two pots and starts to stitch at the side, that is vertical-angle triangle stitch.



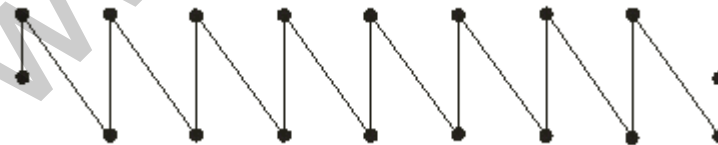
Picture 17

3. Zig-zag stitch 2: Picture 18 is two pots and starts to stitch at the side, that is isosceles triangle stitch.



Picture 18

4. Zig-zag stitch 3: Picture 19 is two pots and starts to stitch at the medium, that is vertical-angle triangle stitch.



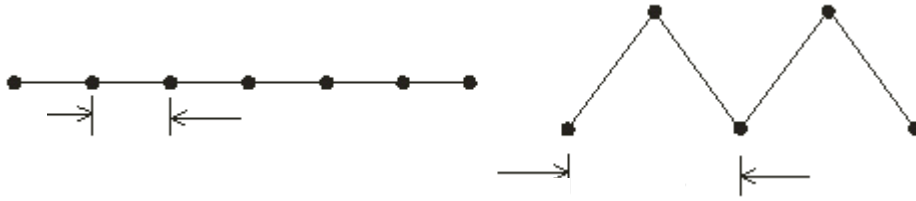
Picture 19

5. Zig-zag stitch 4: Picture 20 is three pots and is isosceles zigzag stitch

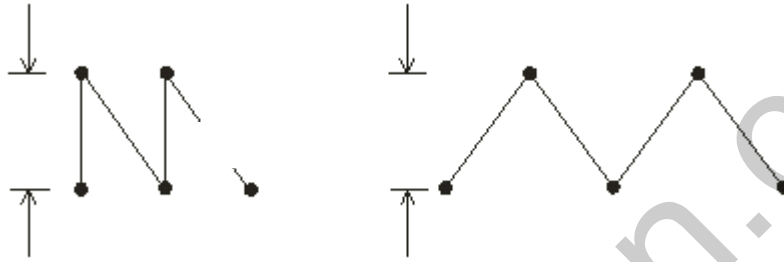


Picture 20

6. Stitch length:



7. Width:



8. Bartack needle: at the jumping-off point and end-point to strengthen the stitch.

9. Jump: When stitching, jump over a short distance, then starts to stitch.

10. Trimming: Should be trimmed before finishing pattern.

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8. Creating new pattern

1. When it displays as Picture 6, press key “1” to enter edit pattern.

Pattern design N: Input pattern name.

Picture 21

2. After inputting pattern name (by numbers or letters), it displays Picture 22.

Original Point X=0.0R Input Y=0.0 Function Select

Picture 22

„Original point: It is the center point of the frame.

If you want to begin the pattern in other position, press „JUMP“ and than by pressing number keys (1,2,3,4,6,7,8,9) move into the position where you need to begin the pattern. Press key „EXE“.

3. Enter the shape which you want to sew: keys “LINE”, “ARCH”, “CURVE”.

After press key “LINE” it displays as following:

1: Line stitch 2: Tria stitch

„1” is normal stitch
 „2” is zig-zag stitch

Picture 23

After press key “ARCH” or “CURVE” it displays as following:

1: Gill Faller 2: Triangle

„0” is normal stitch
 „1” is zig-zag stitch

Picture 24

4. After selection of function it displays as following. It is function of Backtacking.

Bartack 0: No Bartack 1: Start Bartack 2 : End Bartack 3: StartEndBartack

„0” No Backtack
 “1” Backtack at the beginning of pattern
 “2” Backtacking at the end of pattern
 “3” Back tacking at the beginning and at the end

Picture 25

After selection “1”, “2” or “3” it displays as following (Pictures 26 and 27):

Shape Of Bartack (1): “V” Bartack (2): “Z” Bartack
--

Picture 26

It is the shape of backtacking.

Bartack Number (1): 1-Needle (2): 2-Needle (3) : 3-Needle
--

Picture 27

It is number of stitches.

5. After backtacking it displays as following. This is function Overlap. You can select No Overlap or Overlap by 1-6 stitches.

0 Not Overlap 1~6 Overlap

Picture 28

6. After this it displays as following:

Line P=20 Needle distance (0,1 mm)
--

Picture 29

7. By pressing number keys (1,2,3,4,6,7,8,9) you make the part of the pattern. Press key “END” and then key “EXE” a machine will make the simulation of selected function. After this select next function and continue in the same way as before.

While in picture 24 press key “1” you select function Backtack and Overlap again and it displays as following:

Triangle
1: Brim Start
2: Mid Start

Picture 30

This is selection of first stitch. Brim Start means first stitch at the side and Mid Start means first stitch at the medium. Then it displays as following:

Triangle
1: Isosceles
2: Vertical

Picture 31

It means the shape of zig-zag stitch (chapter 7).
Select “1” or “2” and it displays next selection:

Triangle
1: Left Start
2: Right Start

Picture 32

8. After setting of stitch length set the width of stitch:

Triangle needle
W=80

Input width (0,1 mm)

Picture 33

9. After each function you have to press keys “END” and “EXE”. **Last function is trimming.** Press key for trimming and “EXE”. Than press key “ENTER” and **wait for saving of pattern.** Than you can find the pattern in Menu.

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9. Editing of the pattern:

Press key “2”-Disc Handle when display picture 8 to display below tableau:

1: BlowUp/ZoomOut
2: Rotary angle
3: Pattern

Picture 34

“1” is enlarge or reduce of pattern

“2” is rotation of pattern

“3” is moving of pattern

1. Enlarge/reduce the pattern

After pressing “1” in Main Menu you will see the tableau for selection of the pattern (picture 8). Select the pattern and it displays as following:

BlowUp/ZoomOut
X= 20%
Input Scale

Picture 35

Set required enlarge or reduce of pattern in X-axis in % and confirm by “ENTER”.

BlowUp/ZoomOut
Y= 20%
Input Scale

Picture 36

Set required enlarge or reduce of pattern in Y-axis in % and confirm by “ENTER”.

It shows below tableau:

0: Origin Begin
1: Start Begin

Picture 37

Origin Begin means the center of the frame, Start Begin means the first stitch of the pattern.

It shows below tableau:

Result Store N: A Input new pattern name
--

Picture 38

Set new name of the pattern and confirm by “ENTER”. If you want to save the pattern as same name as original pattern press key “ENTER” and it displays as following:

0: No Overlay 1: Overlay

Picture. 39

“0” means No Overlay the name of pattern and “1” means Overlay the name of pattern.

2. Rotation the pattern

While in picture 32 select number “2” and select the pattern, it displays as following:

Rotary Angle: R= 180 Input Angle
--

Picture 40

Set the angle and confirm by “ENTER”.

After this and continue in the same way as before (picture 37, 38).

3. Moving the pattern

While in picture 34 select number “3” and select the pattern, it displays as following:

N: 01
T: 0 Begin
Please Operation

Picture 41

Press key “REVISE” and it displays as following:

1: Add Jump

Picture 42

Press key “1” and by pressing number keys (1,2,3,4,6,7,8,9) move the pattern to required place. After this press two times key „ENTER“ and continue in the same way as before (picture 38).

10. File transfer by USB flashdisc

Insert USB flashdisc into the machine (on the box) and in main menu press key “3”. It displays as following:

1: Disc read
2: Save to disc
3: Delete disc Pat

Picture 43

“1” by this key you can read USB flashdisc and also copy from USB flashdisc into machine
“2” by this you can save the pattern to USB flashdisc
“3” by this you can delete patterns

1. After pressing key “1” it displays as following. This function is for browsing patterns which are saved in USB flashdisc and following-up copy into the machine. Searching of patterns in memory of USB flashdisc is same as searching in memory of machine (chapter 6).

Disc read
0: Menu Read
1: Pattern Read

Picture 44

After selection of pattern it displays as following:

Disc read
N:125

Input pattern name in inner
memory

Picture 45

Input name of pattern into the memory of machine. You can keep original name or you can clear the name by pressing “CL” and insert new name. Confirm by “ENTER”.

Read disc
N:

Input pattern name

Picture 46

2. While in picture 43, press key “2” to display below tableau. This function is fo saving patterns into USB flashdisc.

```
Save to disc
0: Menu Read
1: Pattern Read
```

Picture 47

Process of this is same as saving patterns frm USB flashdisc into the machine.

3. While in picture 43 press key “3” to display below tableau. This function is for deleting patterns from USB flashdisc.

```
Delete Disc Pattern
0: Menu Find
1: Input pattern
```

Picture 48

After finding of required pattern it displays as following:

```
Delete pattern?
N:452.DSB
0: No
1: Yes
```

Picture 49

11. Delete and restore the patterns

While in picture 9 press key “4” to display below tableau:

0: Delete a pattern
1: Delete all
2: Copy
3: Undo

“0” by this function you can delete one pattern
 “1” by this function you can delete all patterns
 “2” no function for this type of machine
 “3” by this function you can restore the pattern

Picture 50

1. Delete one pattern

After pressing key “0” it displays as following. Select the pattern by finding in Menu or by name of pattern.

Delete pattern in inner memory
0: Find in menu
1: Input pattern name

Picture 51

After finding required pattern it displays as following:

Delete pattern in inner memory
N: Pocket
0: No
1: Yes

Picture 52

2. Delete all patterns

While in picture 50 press key “1” to display below tableau:

Delete all patterns
0: No
1: Delete all

Picture 53

3. Restore the patterns

While in picture 50 press key “3” to display below tableau:

Recover pattern or not?

0: No

1: Yes

Picture 54

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12. Informations about inner memory of machine

While in picture 9 press key “5” and key ”>” to display below tableau:

4: All Mem
5: Mem Surplus
6: Pattern Num

“4” it shows total capacity of inner memory
 “5” it shows rest capacity of inner memory
 “6” it shows number of saved patterns in inner memory

Picture 55

1. Total capacity of inner memory

While in picture 55 press key “4” to display below tableau. Here you can see total capacity of memory of machine.

Total capacity 1984K 1k Total needle number could be stored About 341 needles

Picture 56

2. Rest capacity of inner memory

While in picture 55 press key “5” to display below tableau. Here you can see rest capacity of memory of machine.

Rest capacity 1968K Number of Byte: 1K Total needle number could be stored About 341 needles
--

Picture 57

3. Number of saved patterns in inner memory

While in picture 55 press key “6” to display below tableau. Here you can see number of pattern which are saved in memory of machine.

Number of patterns: 13

Picture 58

13. Comments

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