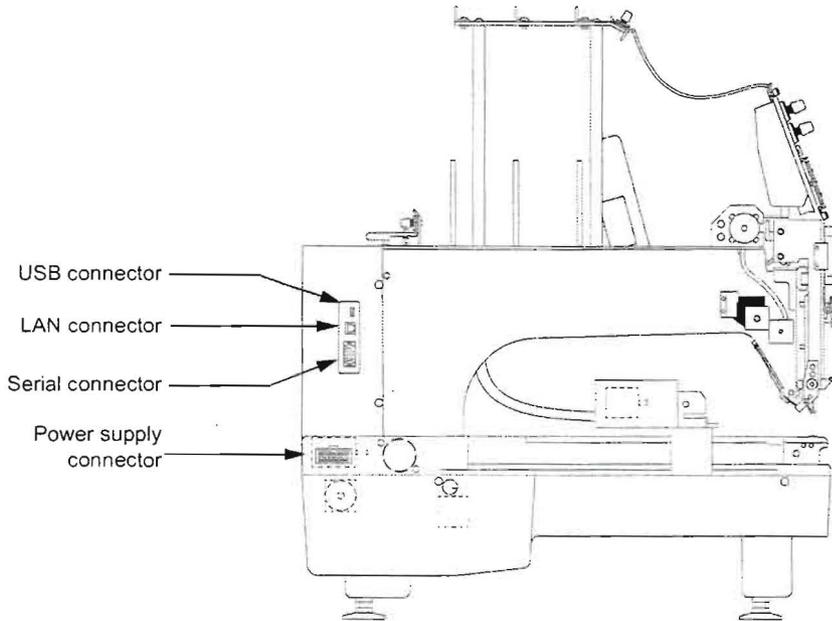
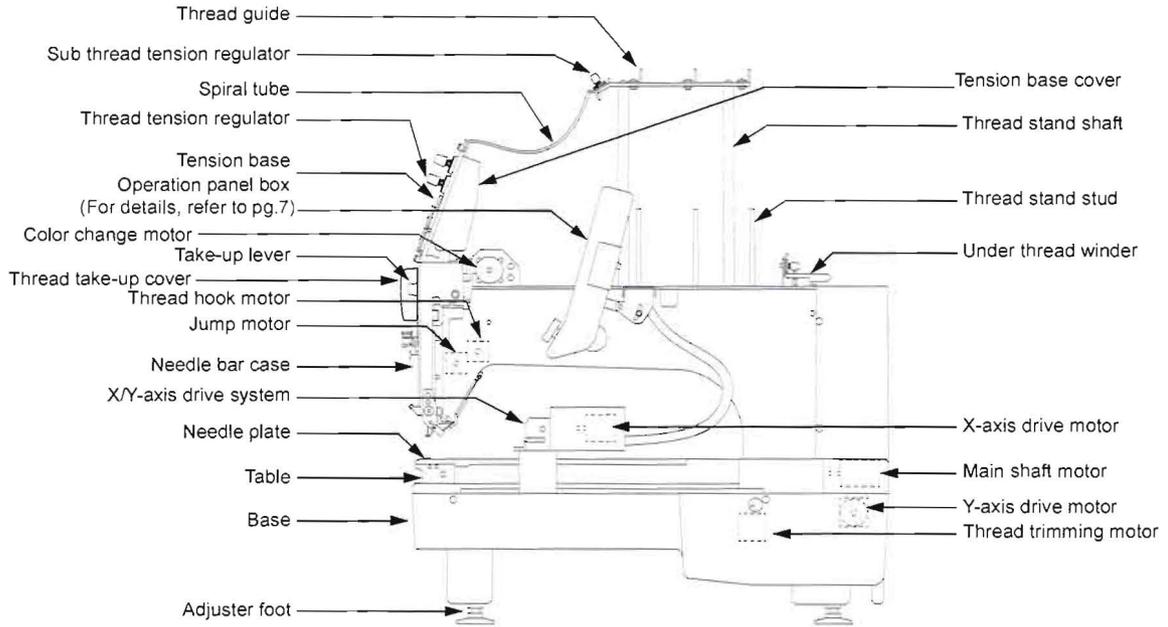


# TOYOTA ESP9100 Embroidery Machine



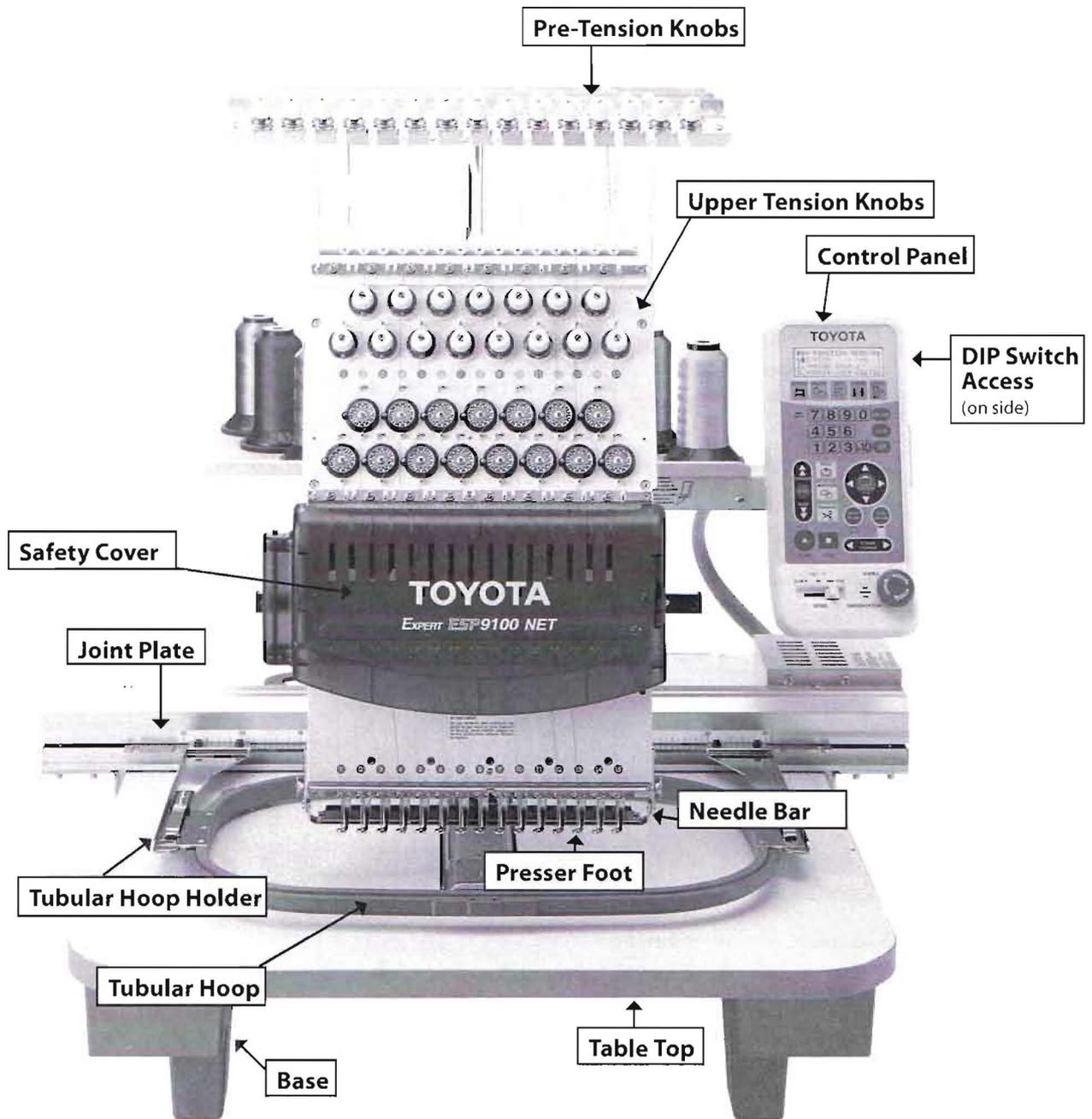
MACHINE BASICS



# TOYOTA ESP9100 Embroidery Machine



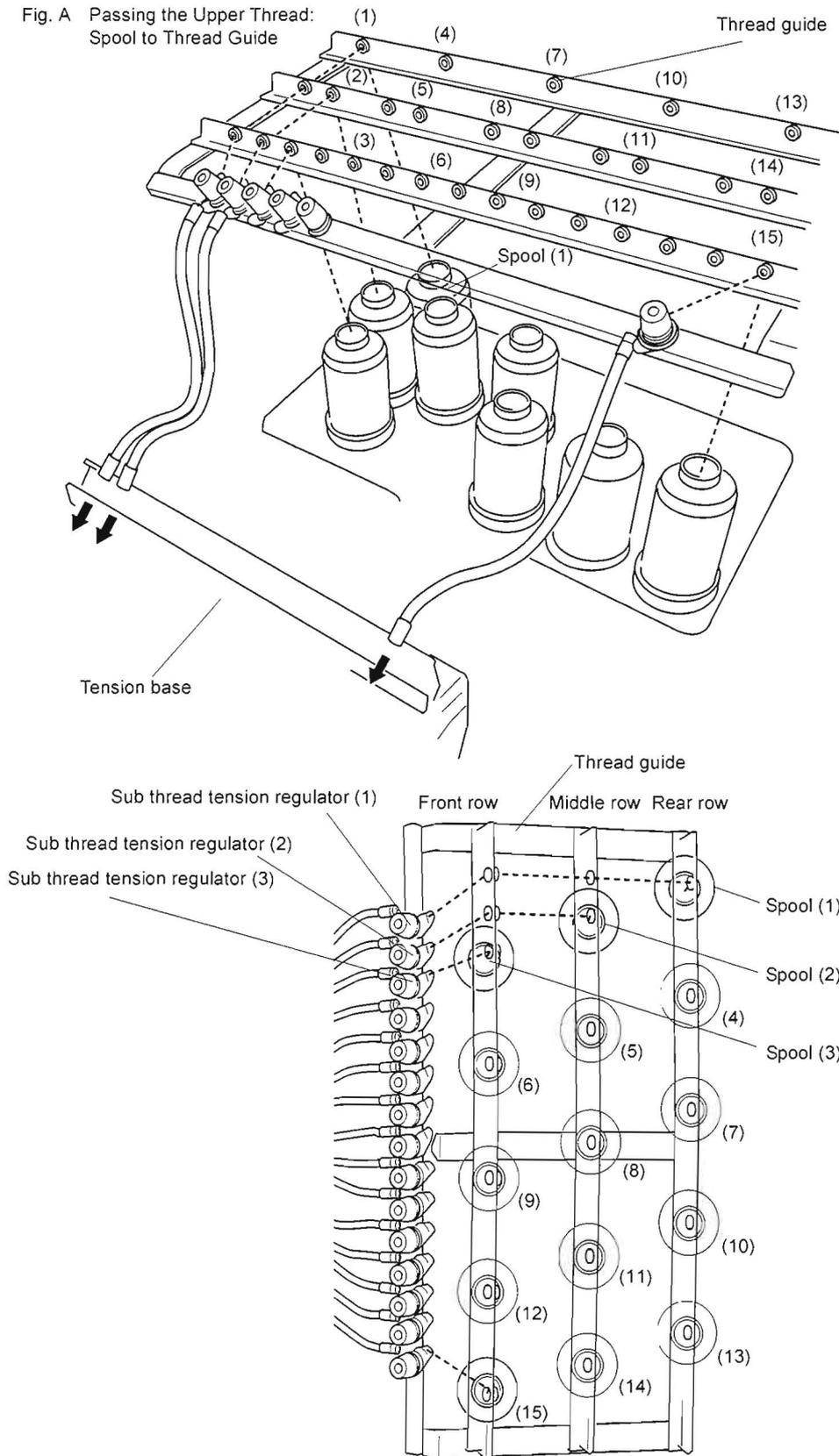
MACHINE BASICS



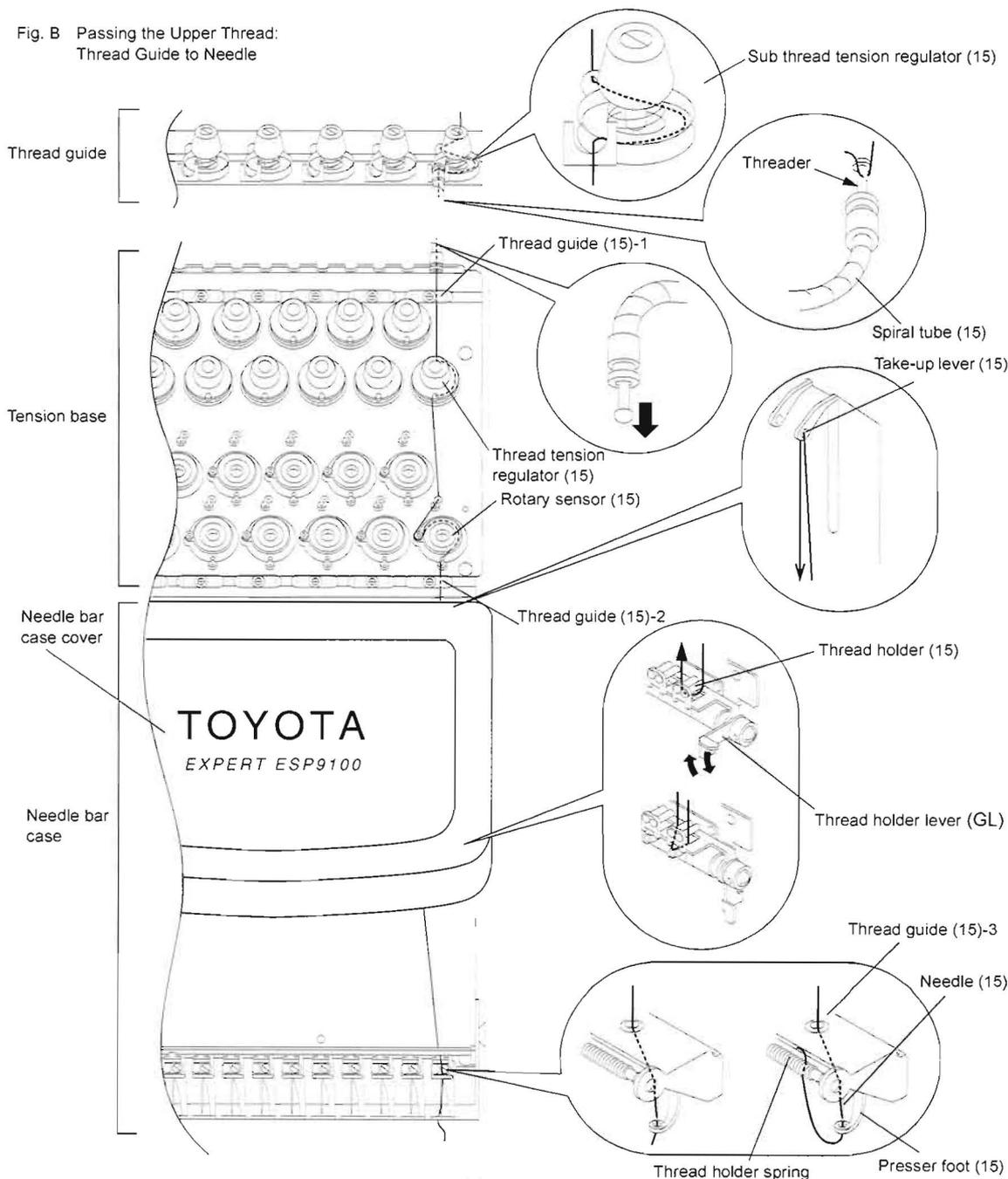
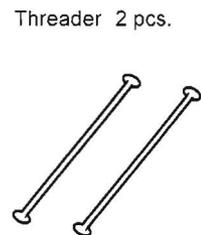
## Setting the Upper Thread

1. Pass the thread from the spool (1) through the hole on the thread guide (1) just above the spool (1) and pass it through the thread guides in the middle and front rows.
2. Next, pass the thread through the sub thread tension regulator (1).
3. For spools (4), (7), (10) and (13) following the same manner of threading pass through the thread guide just above the spool, then through the middle and front rows and through the sub thread tension regulator.
4. For spools (2), (5), (8), (11) and (14) follow the same procedure going through the thread guide just above the spool, the front row and then through the sub thread tension regulator.
5. The front row of spools (3), (6), (9), (12) and (15) thread through the thread guide just above the spool and then through the sub thread tension regulator.

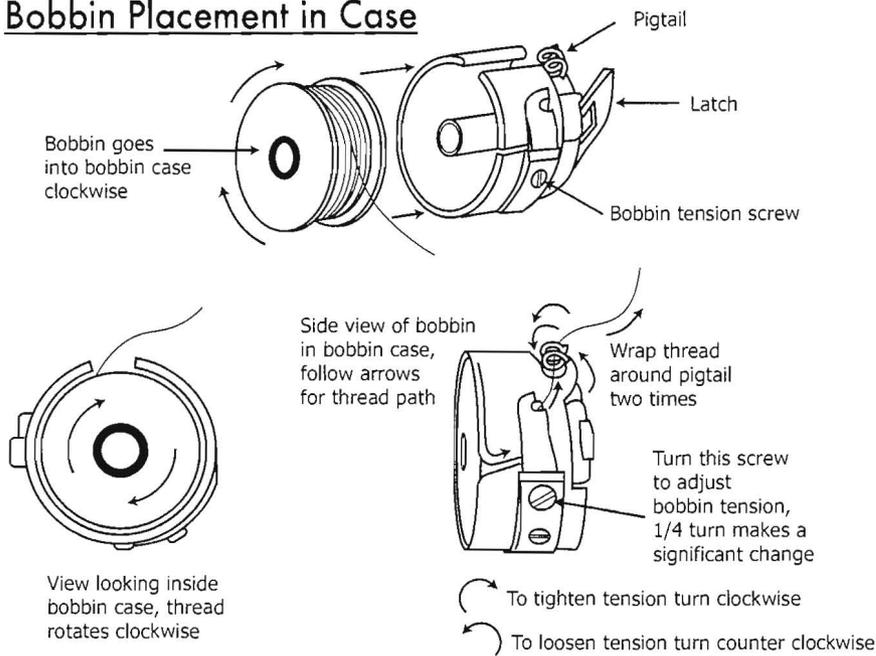
Fig. A Passing the Upper Thread:  
Spool to Thread Guide



6. Run the thread from the sub thread tension regulator (15) through the spiral tube (15). To thread through the spiral tube, lift the bottom end of the tube off and take the plastic threader and feed it through the tube. Wrap the thread around the threader catching the thread in the slit on the threader. Pull the threader down through the tube and the thread will come out the end. Remove thread from threader and place spiral tube back on machine.
7. Run the thread through the thread guide (15)-1, thread tension regulator (15), rotary sensor (15) and thread guide (15)-2.
8. Open the needle bar case cover.
9. Raise the thread holder lever (GL), hook the upper thread on the thread holder (15) from right to bottom and pass the thread through the hole of the take-up lever (15) at the top.
10. After that, run the thread down and through the thread guide (15)-3, then through the hole of the needle (15) and finally through the hole in the presser foot (15).
11. Next hook the end of the thread on the thread holding spring.
12. Continue threading the remaining spools of thread in the same manner.
13. When finished threading the machine, push down the thread holding lever (GL) to set the upper threads.



## Bobbin Placement in Case



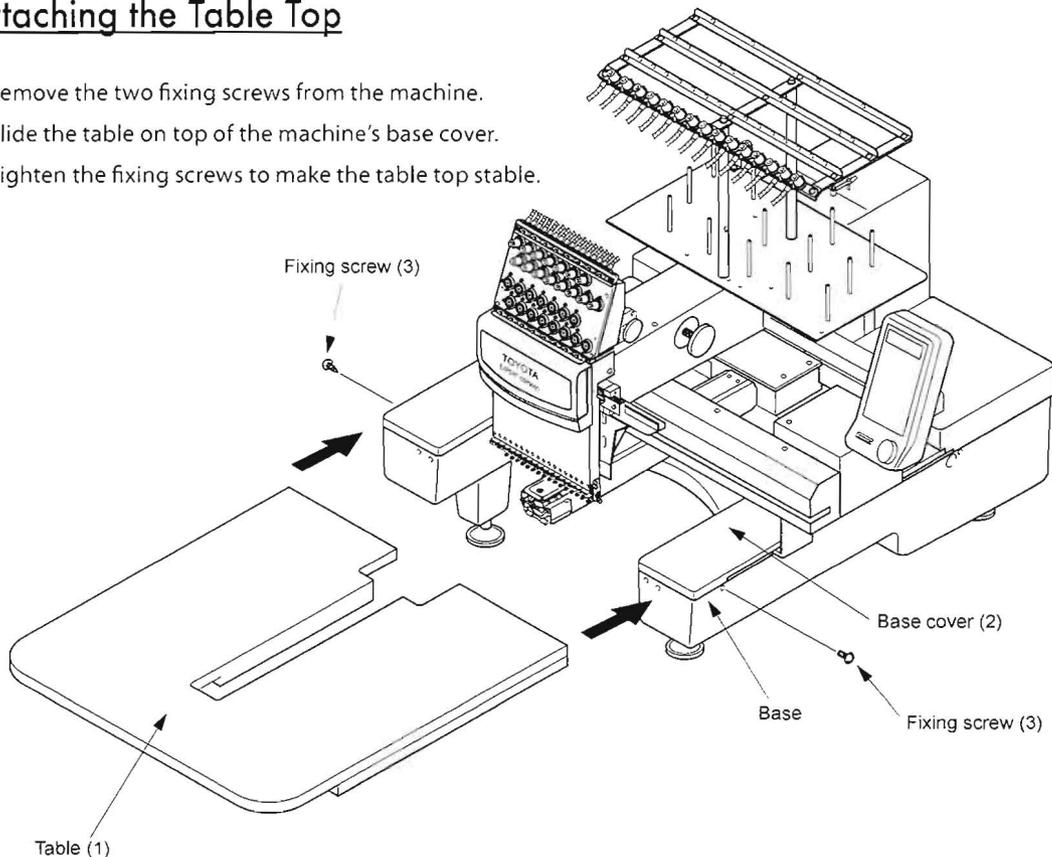
## Bobbin Brake Spring



Inside a bobbin case is a slim piece of metal called a brake spring. The purpose of this spring is to act as a brake and help prevent metal or plastic bobbins from spinning back when the machine slows down or stops. When using pre-wound paper or sideless bobbins, remove the brake spring from the bobbin case.

## Attaching the Table Top

1. Remove the two fixing screws from the machine.
2. Slide the table on top of the machine's base cover.
3. Tighten the fixing screws to make the table top stable.

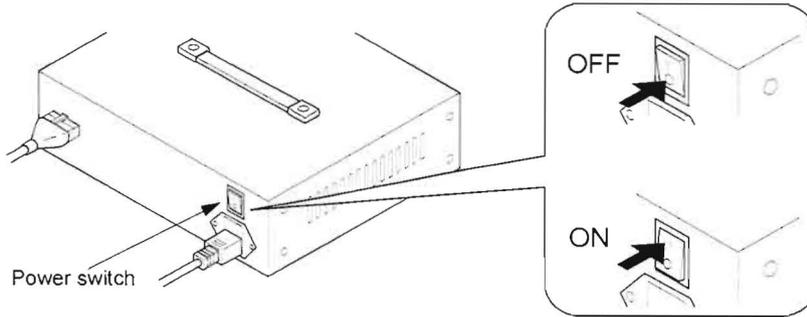


## Starting and Stopping the Machine

### Power Switch

The power switch is provided on the power supply box.

Press the power switch at "O" side to turn the power OFF or at "I" to turn the power ON.

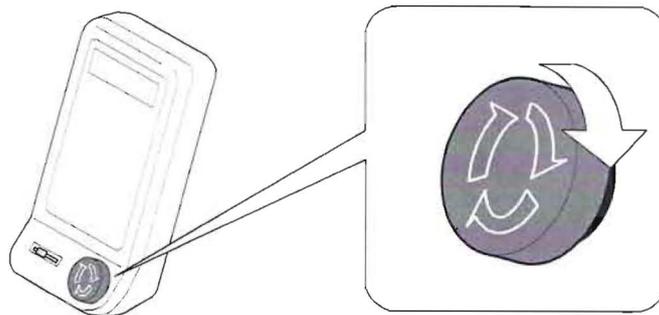


 When reapplying the power, turn the switch OFF and then turn it back ON after several seconds.

### MACHINE STOP Switch

Use the MACHINE STOP switch to stop the machine in an emergency. When the MACHINE STOP switch is pressed, the main shaft stops rotating and the MACHINE STOP switch is locked in the pressed state.

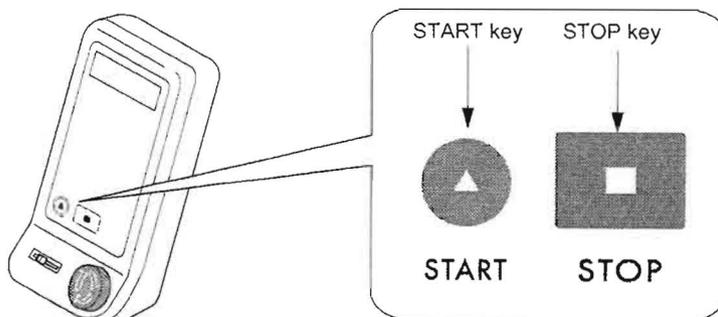
Turn the switch in the arrow direction to release the lock.



### START and STOP Keys

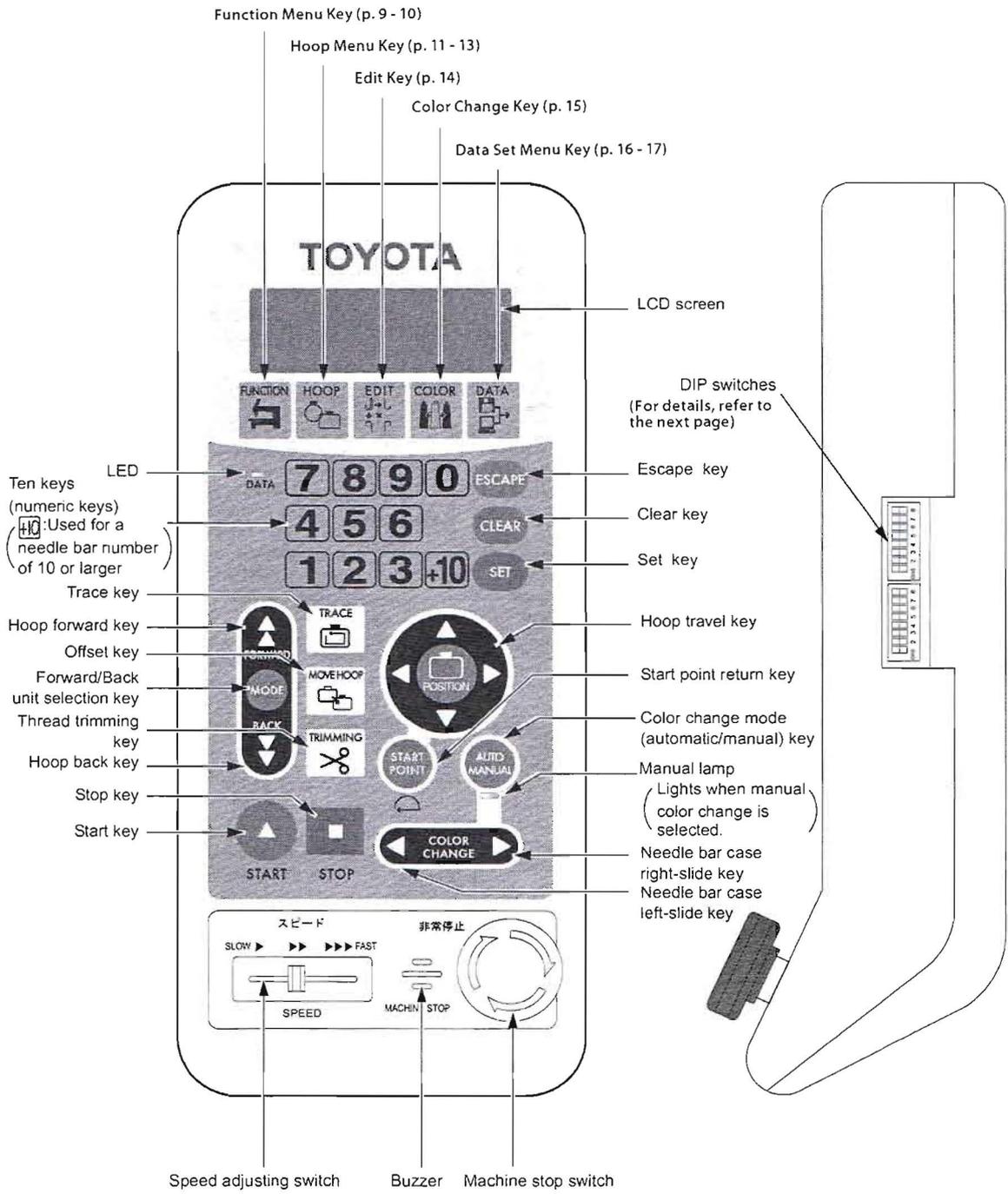
The START key, when pressed, starts machine operation and the STOP key, when pressed, stops the machine.

The needle bar stops at the upper dead point when the STOP key is pressed.





# TOYOTA ESP9100 Control Panel



MACHINE BASICS

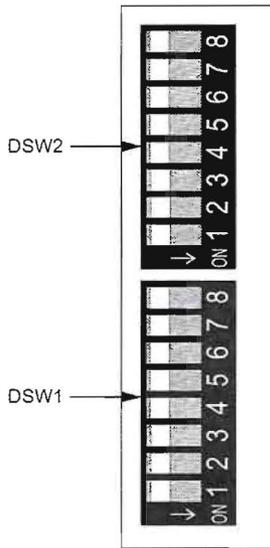


# DIP Switches

DIP switch ON or OFF is set as follows:

## DSW 2

No.	Function	OFF	ON
8	PC connection	* Two-way communications (Standard)	Older mode
7	PC connection	* Normal operation	Synchronous operation
6	Not used	*Select OFF.	-
5	Not used	*Select OFF.	-
4	Satin stitch width adjustment	*Adjustment for slitch width of 1.5 mm or larger	Adjustment for stitch width of 0.6 mm or larger
3	Satin stitch adjustment mode selection	*Collective adjustment for X- and Y-axis	Independent adjustment for X- and Y-axis
2	Not used	*Select OFF.	-
1	Installation mode	*Normal mode	Installation mode if DSW1-1 is ON.



## DSW 1

No.	Function	OFF	ON
8	Not used	*Select OFF.	High speed
7	Not used	*Select OFF.	-
6	Cover sensor	* Invalid	Valid
5	Beam sesor	* Invalid	Valid
4	Hoop travel direction: Arrow symbols and actual travel direction	*Same direction as indicated by the arrow symbol	Opposite to the direction indicated by the arrow symbol
3	Buzzer sounds	*10 times	1 time
2	Not used	*Select OFF.	-
1	Test mode	*Normal operation	Test mode

After changing the setting of a DIP switch, turn the power switch off once and then turn it back on.

\*: Factory-setting made before shipping

### Access to the Embroidery Information

In the test mode, you can access to the following information:

- Accumulated number of embroidered pieces of cloth
- Accumulated number of stitches
- Accumulated number of error displays and others

Consult your TOYOTA dealer for more details.

## Function Menu Key



### 1. Changing Display - the information displayed during embroidering.

Press the **FUNCTION** key, then press the **LEFT** or **RIGHT ARROW POSITION** key to toggle between **ST** or **RPM**. Press the **SET** key to confirm selection.

**ST** stands for total stitches and **RPM** is the stitching speed. (Even if **RPM** is selected, the stitch total will be displayed when the machine is stopped. **RPM is the default setting.**)

```
=== FUNCTION MENU ==  
1. SCREEN → ST  
2. THREAD SNS → 2  
3. BOBBIN CNT → [SET]
```

### 2. Thread Sensor - sets the thread breakage detection level.

Press the **FUNCTION** key then press the **DOWN ARROW POSITION** key to access **2. THREAD SNS**. Use the **LEFT** or **RIGHT ARROW POSITION** key to choose **OFF** or **1 - 5**.

If **OFF** is chosen, then the sensor will not detect a thread break. This setting could be useful if you are trying to create an appliqué template. **Settings 1 - 5** detects break of thread at the set number of stitches, the lower the setting the more sensitive the thread sensor. The **default setting is 2**. Press **SET** to confirm selection.

### 3. Bobbin Counter - sets a predetermined number of stitches embroidered and then the machines stops.

Press the **FUNCTION** key then press the **DOWN ARROW POSITION** key to access **3. BOBBIN CNT**. Press the **SET** key and then the **DOWN ARROW POSITION** key to access the preset number. Press **SET** key. Enter the desired number of stitches using the numeric keys, press **SET**. (30,000 stitches is a good reference number.) If you make a mistake while inputting a number, press the **CLEAR** key.

When the stitches reach the predetermined number the machine stops and a **LOWER THREAD RUN OUT** error is displayed. Change the bobbin and press **START** to begin stitching. The counter will reset back to 0.

If you need to reset the Bobbin Counter while you have the Bobbin Counter menu displayed and the cursor flashing on Counter, press the **CLEAR** key followed by the **SET** key.

### 4. Lock Stitch - sets a lock stitch at the beginning and the end of the stitching. A lock stitch is created by stitches going back and forth one time.

Press the **FUNCTION** key twice to access **4. LOCK ST**. Press the **LEFT ARROW POSITION** key to toggle between **So** (default) and **S-**. **So** is a lock stitch at the beginning of stitching. **S-** does not place a lock stitch at the beginning. Press the **RIGHT ARROW POSITION** key to toggle between **Eo** (default) and **E-**. **Eo** is a lock stitch at the end of stitching. **E-** does not place a lock stitch at the end. Press **SET** to confirm selection.

```
=== FUNCTION MENU ==  
4. LOCK ST. → So Eo  
5. SATIN ADJ. → OFF  
6. SLOW START → 2 ST
```

### 5. Satin Adjustment - increase the width of satin stitches up to .5mm.

Press the **FUNCTION** key twice then press the **DOWN ARROW POSITION** key to access **5. SATIN ADJ**. Use the **RIGHT** or **LEFT ARROW POSITION** key to toggle among **1 - 5**. **One** adds .1mm and **5** adds .5mm. The satin stitch width is extended on both sides by the set adjustment amount. When **OFF** is selected no stitch width will be added to the satin stitches. Press **SET** to confirm. **Default is OFF**. This is similar to pull compensation in the Embroidery Software. Most of the time this adjustment will be made within the Embroidery Software.

### 6. Slow Start - sets the number of main shaft rotations at a slow speed after thread trims. This helps to prevent looping at the beginning of a satin stitch as well as thread pull out.

Press the **FUNCTION** key twice then press the **DOWN ARROW POSITION** key to access **6. SLOW START**. Use the **RIGHT ARROW POSITION** key to choose between **2 - 9** stitches. **Two** adds **2** (default) rotations while **9** adds **9** slow rotations. **Recommended setting is 5**. Press **SET** to confirm.

**7. Trim Jump** - inserts a trim once a particular number of consecutive jumps have been reached.

Press the **FUNCTION** key three times to access **7. TRIM JUMP**. Use the **RIGHT** or **LEFT ARROW POSITION** key to toggle between **0 - 9**. (0 does not insert a trim jump) The recommended setting is **3 (default)**. Press **SET** to confirm.

```
=== FUNCTION MENU ===
7. TRIM JUMP → 3 ST
8. JUMP LNTH → 6.0mm
9. TRIM LNTH → 3
```

**8. Jump Length** - sets the length for converting stitches into jump stitches. Stitches longer than the specified stitch length ( in millimeters) will automatically be converted into jump stitches.

Press the **FUNCTION** key three times and then press the **DOWN ARROW POSITION** key to access **8. JUMP LNTH**. Use **RIGHT** or **LEFT ARROW POSITION** key to toggle between **4.0 - 9.9 mm**. The **OFF** (default) setting will not convert running stitches into jump stitches. The recommended setting is leave it **OFF**. Press **SET** to confirm.

**9. Trim Length** - sets the thread's tail length after a trim is performed.

Press the **FUNCTION** key three times and then press the **DOWN ARROW POSITION** key to access **9. TRIM LNTH**. Use the **RIGHT ARROW POSITION** key to toggle between **1 - 17**. The higher the number the longer the thread tail. The **default is 11**. Press **SET** to confirm.

**A. Trim Timing** - adjusts the timing when the thread will begin to cut.

Press the **FUNCTION** key four times to access **A. TRIM TMNG**. Use the **RIGHT** or **LEFT ARROW POSITION** key to toggle between **-10** and **+10**. **-10** is the latest trim cut while **+10** is the earliest. For metallic thread, a **-10** setting improves trimming. The **default is 0**. Press **SET** to confirm.

```
=== FUNCTION MENU ===
A. TRIM TMNG → 0
B. BORING → OFF
C. CORDING → OFF
```

## B. Boring

The boring attachment is an optional design tool for your embroidery machine. It can be used for any projects where an area of the fabric needs to be cut and removed. The boring device should be set on the right most needle (Needle number 15).

Press the **FUNCTION** key four times and then press the **DOWN ARROW POSITION** key to access **B. Boring**. Use the **RIGHT** or **LEFT ARROW POSITION** key to select **OFF**, **1** or **2**. Press **SET** to confirm. **OFF** is not using the device, **1** is Boring device without offset moving and **2** is Boring device with offset moving (12mm). When set to 1 or 2, the auto/manual trimming and thread breakage sensor does not function on needle number 15.

```
=== FUNCTION MENU ===
A. TRIM TMNG → 0
B. BORING → OFF
C. CORDING → OFF
```

**Digitizing Tips** - When digitizing the area the you want the knife to cut, use a 1mm stitch length to create the cutting line. This will help assure that the knife cuts the connection area between the stitches. Place a **STOP** after the color that is doing the cutting so that you have a chance to remove any remaining pieces of fabric that is left. Before using this tool, refer to the Boring Attachment support booklet's preparatory steps provided for additional information regarding the operation of this device.

## C. Cording

The cording attachment is an optional design tool for your embroidery machine. The cording device should be set on the left most needle (Needle number 1). When using this device, the embroidery space will be limited. Keep the cord presser set raised and then check the design data using the "Trace" function before beginning the embroidery so the cord presser set does not touch the embroidery frame.

It is possible to change the specification from cording to looping and vice versa by changing the attachments and the position of the spring. Before using this tool, refer to the Cording Attachment support booklet's preparatory steps provided for additional information regarding this device operation.

Press the **FUNCTION** key four times and then press the **DOWN ARROW POSITION** key to access **C. Cording**. Use the **RIGHT ARROW POSITION** key to select **OFF** or **ON**. Press **SET** to confirm. When set to **ON**, the auto/manual trimming and thread breakage sensor does not function on needle number 1. The machine will stop at the beginning and the end of the cording, also in the auto color change operation mode. Please cut the thread with scissors when you change needle.



## 1. Hoop Mode - sets the embroidery hoop type — flat, cap, sleeve or border

Attach hoop. Change the embroidery hoop type according to the hoop being used. For standard flat and tubular hoop select **FLAT**, cap frame select **CAP**, cylinder frame select **SLEEVE** and border frame select **BORDER**.

Press the **HOOP** key to access to **1. HOOP MODE**. Then press the **LEFT** or **RIGHT ARROW POSITION** key to toggle between **Flat (default)**, **Cap**, **Sleeve** or **Border**. Press the **SET** key to confirm selection.

The screen returns to the start-up screen (the initial screen display when the power is turned on) when **HOOP MODE** is set.

```
===== HOOP MENU =====  
1. HOOP MODE → FLAT  
2. INITIALIZE → ON  
3. START PNT → AUTO
```

## 2. Initialization - the start hoop position when the machine is turned on.

Press the **HOOP** key and then press the **DOWN ARROW POSITION** key to access **2. INITIALIZE**. Use the **RIGHT ARROW POSITION** key to toggle between **ON** and **OFF**. **ON** automatically moves the hoop to the starting point of the design when the machine is turned **ON**. Press **SET** to confirm selection.

## 3. Start Point Return Mode - sets the hoop position, after design is embroidered back to the previous start point.

Press the **HOOP** key and then press the **DOWN ARROW POSITION** key to access **3. START PNT**. Use the **RIGHT ARROW POSITION** key to toggle between **Auto** and **Manual (default)**. Choose the **Auto** mode for the hoop to automatically return to the starting point after a design is finished embroidering. Select **Manual** for the hoop to stop at the ending position after the design is embroidered. In **Manual** mode, in order to return to the starting position, press the **START POINT** key. Press **SET** to confirm.

## 4. Manual Speed - sets the hoop travel speed when running the machine manually.

Press the **HOOP** key twice to access **4. MANUAL SPD**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to toggle between **1** (Low Speed), **2** (Medium Speed) and **3** (High Speed). Press **SET** to confirm selection.

```
===== HOOP MENU =====  
4. MANUAL SPD → 3  
5. HOOP TMNG → AUTO  
6. OFFSET → AUTO
```

## 5. Hoop Timing - sets the hoop drive start timing.

Press the **HOOP** key twice then press the **DOWN ARROW POSITION** key to access **5. HOOP TMNG**. Use the **RIGHT ARROW POSITION** key to toggle between **Auto** or **250°**. Choose **Auto** for the machine to be automatically adjusted (recommended setting). At **250°** the hoop drive always starts at **250°**. Press **SET** to confirm.

## 6. Offset - hoop automatically travels to a predetermined position.

Press the **HOOP** key twice then press the **DOWN ARROW POSITION** key to access **6. OFFSET**. Use the **RIGHT ARROW POSITION** key to toggle between **Auto** and **Manual (default)**. **Auto** - The hoop travels automatically to the offset position upon completion of embroidery. **Manual** - The hoop does not travel automatically. When **OFFSET** is pressed (**MOVE HOOP** key), the hoop automatically travels to the preset position. (See the next page for instructions on setting the offset x and y positions). Press **SET** to confirm.

# Setting the Offset Hoop Mode

```

===== EMB START =====
AISIN123.100 ◆1
           0/ 1027
01/15: [23456789AB<D>
  
```

Press 

## Set the offset position.

```

===== EMB START =====
                        OFFSET
Dx → + 0.0 (+ 0.0)
Dy → + 0.0 (+ 0.0)
  
```

Set the desired offset position by pressing the hoop travel keys.



Set the offset position by actually moving the hoop to the desired position using the hoop travel keys. The coordinate values of the hoop position are displayed in the screen.

## Press [SET] to confirm the position.

```

===== EMB START =====
                        OFFSET
Dx → + 27.1 (+ 0.0)
Dy → - 56.4 (+ 0.0)
  
```

Press 

Pressing the SET key registers the setting position on the embroidery machine so that it can be used on all design data.

## End of operation

```

===== EMB START =====
                        OFFSET
Dx → + 27.1 (+ 27.1)
Dy → - 56.4 (- 56.4)
  
```

If you set "AUTO" for "6. OFFSET" of HOOP MENU, the hoop travels to and stops at the offset position after the completion of embroidery. The screen as shown to the left is displayed. This indicates that the hoop has stopped at the offset position.

## Return the hoop back to the previously located position.

```

===== EMB START =====
                        OFFSET
Dx → + 27.1 (+ 27.1)
Dy → - 56.4 (- 56.4)
  
```

Press 

The hoop travels back to the position before offsetting when you press the offset key.



```

===== EMB START =====
AISIN123.100 ◆1
           0/ 1027
01/15: [23456789AB<D>
  
```

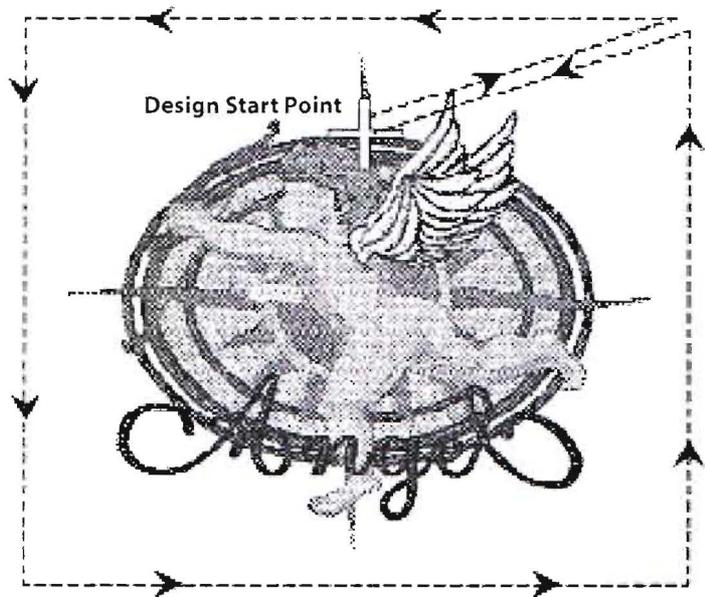


## 7. Trace Mode

Press the **HOOP** key three times to access **7. Trace Mode**. Use the **RIGHT ARROW POSITION** key to toggle between **RECT** or **LINE**. **RECT** - Traces the embroidery area square and **LINE** - Traces the embroidery area along its outline. \*Please note when the repeating function is used, the embroidery area is traced square even if the **LINE** is selected. Press **SET** to confirm.

### TRACING on TOYOTA ESP9100

Pressing the TRACE  key makes the hoop travel along the rectangle or outline that surrounds the embroidery design. The tracing will start from the design start point and then moves to the rear right, rear left, front left and front right of the embroidery range, then returns to the design start point.



## Edit Key



### 1. Size X

Press the **EDIT** key to access **1. SIZE X**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to select a value between **80%** and **120%**. Press **SET** key to confirm.

**Please Note:** When setting the **SIZE X** value, the **SIZE Y** value is changed in conjunction with the **SIZE X** at the same ratio unless you set them independently.

===== EDIT MENU =====		
1. SIZE X	→	110%
2. SIZE Y	→	110%
3. ROTATE	→	0°

**X - Vertical**  
**Y - Horizontal**

### 2. Size Y

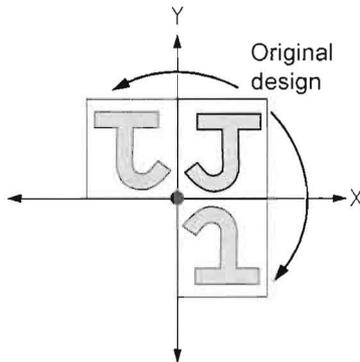
Press the **EDIT** key, then press the **DOWN ARROW POSITION** key to access **2. SIZE Y**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to select a value between **80%** and **120%**. Press **SET** key to confirm.

**3. Rotate** - changes the angle on which a design embroiders.

Press the **EDIT** key, then press the **DOWN ARROW POSITION** key to access **3. ROTATE**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to choose the rotation angle in 45-degree increments (0, 45, 90, 135, 180, 225, 270 or 315 degrees in a clockwise direction). Press **SET** key to confirm.

**4. Mirror** - inverts a design either horizontally or vertically in the same position.

Press the **EDIT** key twice to access **4. MIRROR**. Use the **RIGHT** or **LEFT ARROW POSITION** key to select **OFF**, **X**-axis (vertically) and **Y**-axis (horizontally). Press **SET** to confirm.



**5. Design Repeat** - this is similar to a computer's copy/paste feature. It stitches out the same design more than one time in the same hoop.

Press the **EDIT** key twice, then press the **DOWN ARROW POSITION** key to access **5. REPEAT**. Press **SET** key. There are three settings that need to be adjusted: **PRIORITY DIRECTION**, **TIMES**, and **SPACE**.

**PRIORITY DIRECTION (PRIOR)**- use the **RIGHT** or **LEFT ARROW POSITION** keys to select **VERTICAL** or **HORIZONTAL** (default). **VERTICAL** - Priority is given to vertical repeat direction. **HORIZONTAL** - Priority is given to horizontal repeat direction.

Press the **DOWN ARROW POSITION** key to access **X TIMES**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to choose between **1 - 99** times. Default is 1.

Press the **DOWN ARROW POSITION** key to access **Y TIMES**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to choose between **1 - 99** times. Default is 1.

Press the **DOWN ARROW POSITION** key to **X SPACE**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to select a value between **0-255mm**.

Press the **DOWN ARROW POSITION** key to **Y SPACE**. Use the **RIGHT** or **LEFT ARROW POSITION** keys to select a value between **0-255mm**. Default is 0mm. Press **SET** to confirm.

## Color Change Key



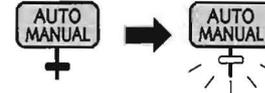
Use when changing colors that are already set in the machine.

**Color Change Mode** - set the color change mode to either **AUTOMATIC** (default) or **MANUAL**.

Press the **COLOR** key then press the **AUTO MANUAL** key to toggle between **AUTO** and **MANUAL**. Press **SET** to confirm.



When the operation mode is changed from automatic to manual, the lamp is lit.



**Needle Bar Setting** - sets the needle bar step at the screen.

Press the **COLOR** key. Enter the needle bar number for each color, continue process until all needle colors are entered. Press **SET** key after inputting all needle numbers.

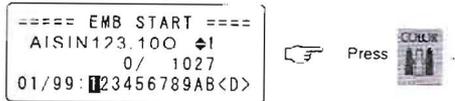
**Needle 10 - 15** use the 10+ key.

- Needle 10** = +10 and 0 Displays **A**
- Needle 11** = +10 and 1 Displays **B**
- Needle 12** = +10 and 2 Displays **C**
- Needle 13** = +10 and 3 Displays **D**
- Needle 14** = +10 and 4 Displays **E**
- Needle 15** = +10 and 5 Displays **F**

**Needle Bar Setting (Change)** - changes a needle color in the stitching sequence.

Press the **COLOR** key to change the display to the **COLOR CHANGE** mode. Use the **RIGHT** or **LEFT ARROW POSITION** keys to move to the desired color sequence. Input the new needle number. Press the **SET** key to confirm.

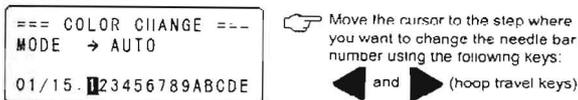
1 Change the display to **COLOR CHANGE**.



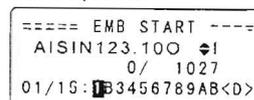
4 Press **[SET]** to confirm the setting of needle bar numbers.



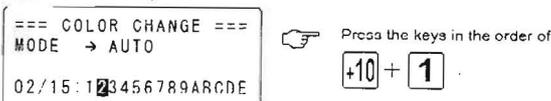
2 Select the step.



5 End of operation



3 Input the needle bar number (Example: Changing needle bar No. 2 to needle bar No. 11)



**Pause Setting** - inserts a stop after a color. (Useful for placement of appliqué material).

Press the **COLOR** key to change the display to the **COLOR CHANGE** mode. Use the **RIGHT** or **LEFT ARROW POSITION** keys to move to the desired color sequence location for stop. Press the **STOP** key. A "—" will be displayed prior to the pause. Continue process for all color stops in the embroidery sequence. Press the **SET** key to confirm.



# Data Set Menu Key



**1. Input Data** - data input device (PC: serial or LAN port/ FD: USB removable storage device, i.e. jump drive, memory stick, USB floppy disk reader)

PC - downloads a design from the computer to embroidery machine.

Press the **DATA** key. If the arrow is pointing to **PC** press the **SET** key, otherwise use the **RIGHT ARROW POSITION** key to select **PC** and then press **SET**.

**Number** → Job Number

**Memory** → The available memory size of the design.

Enter the job number using the **NUMERIC** keys. Press **SET** key to download the design to the machine. Input the appropriate needle colors and then press **SET**.

**FD** - sends a design from a USB removable storage device. Insert the USB removable storage device into the USB port. The file must be saved in a **.dst** format in order to be read by the embroidery machine. Press the **DATA** key. Use the **RIGHT ARROW POSITION** key to located **FD** and press **SET**. Use the **UP** and **DOWN POSITION** keys to find the desired design. Press **SET** key to send design to embroidery machine. Input needle colors and then press **SET**.

**1** → Design Number/ Name

**Stitch** → Number of stitches in design

**Memory** → The available memory size of the design.

```
==== DATA MENU ====
1. INPUT DATA → PC
2. SELECT DATA
3. DELETE DATA
```

```
=== INPUT THRU PC ==
NUMBER → 01
NAME → DATA 01
MEMORY → 280576 ST
```

```
===== DATA MENU =====
1. INPUT DATA → FD
2. SELECT DATA
3. DELETE DATA
```

```
===== SELECT FILE =====
1 → AISIN900.100
STITCH → 10713 ST
MEMORY → 180876 ST
```

## Input Data using LAN port

Before connecting an external device (PC) to the machine (LAN port), turn **OFF** the power supply to the external device and the machine.

Remove the connector cover. Connect the external device to the LAN port of the machine using a special cable (purchased separately).

Turn **ON** the power switch of the embroidery machine. After making sure that the power is supplied to the machine, turn on the power switch of the external device.

Send the design data from the external device to the machine. Press the **DATA** key. Use the **RIGHT ARROW POSITION** key to located **PC** and press **SET**. Enter the job number using the **NUMERIC** keys. Press **SET** key to download the design to the machine. Input the appropriate needle colors and then press **SET**.

**2. Select Data** - selects a design that is currently stored in the machine's memory.

Press the **DATA** key. Press the **DOWN ARROW POSITION** key to access

**2. SELECT DATA**. Press **SET**. Use the **UP** and **DOWN POSITION** keys to select a file stored in the machine. Press **SET** to confirm selection.

```
===== DATA MENU =====
1. INPUT DATA → PC
2. SELECT DATA
3. DELETE DATA
```

**3. Delete Data** - deletes a design that is already stored in the machine's memory.

Press the **DATA** key. Press the **DOWN ARROW POSITION** key to access

**3. DELETE DATA**. Press **SET**. Use the **UP** and **DOWN POSITION** keys to locate the design you want to delete. Press the **CLEAR** key to delete the selected design. You will be prompted if you need to delete the design. Press **SET** key to **delete** or **ESC** key **twice** to return to the **EMB START** screen without deleting the design.

```
===== DATA MENU =====
1. INPUT DATA → PC
2. SELECT DATA
3. DELETE DATA
```



#### 4. Memory Mode - to store one or more designs in the memory.

Press the **DATA** key twice to access **4. MEMORY MODE**. Press **SET**. Use the **RIGHT ARROW POSITION** key to toggle between **SINGLE** and **MULTI** (default). **SINGLE** stores one design in memory and when another design is sent over, the previous stored design is automatically deleted. **MULTI** stores more than one design in the machine's memory which is up to 99 jobs and/or 280,000 stitches. Press **SET** to confirm.

```
==== DATA MENU ====
4. MEMORY MODE
5. INITIAL MEMORY
```

#### 5. Initial Memory - clears all the designs stored in the machine.

Press the **DATA** key twice, then press the **DOWN ARROW POSITION** key to access **5. INITIAL MEMORY**. Press **SET**. You will be prompted to delete all the designs stored in the machine's memory. (This is not the same as a hard reset.) Press **SET** key to clear all designs. Press the **ESC** key if you decide not to delete all the designs.

```
==== DATA MENU ====
4. MEMORY MODE
5. INITIAL MEMORY
```

### Mode Key



"1" moves the design **FORWARD** or **BACKWARD** through a design 1 stitch at a time by either pushing the **FORWARD/BACKWARD** keys repeatedly or by holding down the key it will automatically move through the design until you press the **STOP** key.

"10" moves the design **FORWARD** or **BACKWARD** in increments of 10 stitches.

"100" moves the design **FORWARD** or **BACKWARD** in increments of 100 stitches.

"C" moves the design **FORWARD** or **BACKWARD** by whole color (needle) changes.

"N" allows you to type in a specific stitch number to continue **FORWARD** or **BACKWARD** (i.e., 15 stitches).

### Move Hoop Key



The **MOVE HOOP** key moves the hoop to automatically travel to a pre-determined **OFFSET** position. This is usually used for appliqué designs where you need room to lay the material on the fabric within the parameters of the hoop.

### Trace Key



Traces the farthest points of all four corners of a design (**RECT**) or an outline of the design (**LINE**) depending on the setting selected under the **HOOP** key (see pg. 13 for selecting the **TRACE MODE**). This allows you to see if the design will sit within the parameters of the chosen hoop.

Depress the **TRACE** key two times to stop at the next point of the trace.

Changing the position of the hoop is possible when the hoop is stopped in the trace. You may change the position of the hoop using the positioning **ARROWS** on the key pad.

**CANNOT MOVE HOOP** message appears if the main shaft has been moved from the home position or the shaft hand-wheel has been turned.

### Trim Key



The trimming command allows you to complete a manual thread trim. This will return the main shaft to the home position.

## Steps to Start Embroidery Using the Communication Driver

1. With the power OFF make sure the DIP Switch (DSW2-8) is turned ON. Please refer to Getting Started - Communication Driver on page 9 for more information.
2. Turn ON the power switch at the power supply box.

3. Select "FLAT" for "HOOP" using ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys)

4. Select "ON" for "INITIAL" using ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys)

5. Press the SET key.

```
** ESP9000 series **  
HOOP   → FLAT  
INITIAL → ON   <D>
```



6. The screen displays "EMB Start". Press the DATA set menu key.

```
**** EMB START ****  
AISIN 123.100 ◀1  
          0/ 1027  
01/15: 123-456789A<D>
```



7. For "INPUT DATA" select "PC" using the ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys)

8. Press the SET key.

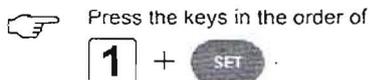
```
**** DATA MENU ****  
1. INPUT DATA 1 PC  
2. SELECT DATA  
3. DELETE DATA
```



9. The embroidery file must be saved in the Forté Software. In the software, first center the design by selecting the Center Design  icon. Click on Prepare for Embroidery  icon. It will ask you if you want to prepare the design for embroidery. Click OK. An embroidery job number will appear. Click OK. The job is now ready to be received by the embroidery machine.

10. Using the numeric keys enter the job number. Press the SET key.

```
** INPUT THRU PC **  
NUMBER → 01  
NAME   → DATA 01  
MEMORY → 280576 ST
```



**11. Input the needle numbers in the order of needle change using the numeric keys.**

**Needles 10 - 15 use the +10 key.**

Needle 10 = +10 and 0 displays **A**

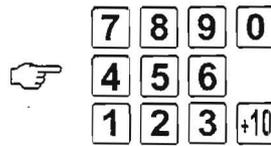
Needle 11 = +10 and 1 displays **B**

Needle 12 = +10 and 2 displays **C**

Needle 13 = +10 and 3 displays **D**

Needle 14 = +10 and 4 displays **E**

Needle 15 = +10 and 5 displays **F**

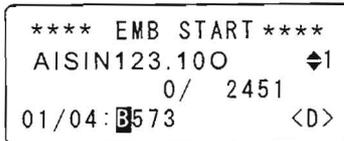


Set the number at which the needle bar is changed by pressing the ten keys.

**12. Press the SET key.**



**13. The screen will display the information as shown below when the input data is complete.**



**14. Set the fabric in the embroidery hoop.**

**15. Set the embroidery hoop in the embroidery machine.**

**16. Set the upper and lower threads.**

**17. Press the TRACE key to check if the range of embroidery fits the size and position of the embroidery hoop.**

**18. If the hoop position does not fit the range of embroidery, adjust the position of the hoop using the ARROW POSITION keys and repeat step 16 again. If the hoop size does not fit the range of embroidery, change the hoop to one that fits the range of embroidery.**

**19. After confirming that the hoop is set in the correct position, press the START key to start embroidering.**

# Steps to Start Embroidery Using a USB Removable Storage Device

(jump drive, memory stick or USB floppy disk drive)

1. Turn ON the power switch at the power supply box.

2. Select "FLAT" for "HOOP" using ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys)

3. Select "ON" for "INITIAL" using ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys)

4. Press the SET key.

```
== ESP9000 series ==
HOOP   → FLAT
INITIAL → ON   <D>
```



5. The screen displays "EMB START". Press the DATA set menu key.

```
==== EMB START ====
AISIN123.100  ⬇1
           0 / 1027
01/15: 123-456789A<D>
```



6. For "INPUT DATA" select "FD" using the ◀ and ▶ (LEFT and RIGHT ARROW POSITION keys) for Floppy Disk Drive

7. Press the SET key.

```
==== DATA MENU ====
1. INPUT DATA → FD
2. SELECT DATA
3. DELETE DATA
```



8. Insert the USB removable storage device into the USB port.

9. Press the UP and DOWN ARROW keys to select the file from the floppy disk.

For Example: AISIN123

10. Press the SET key.

```
==== SELECT FILE ===
09/23 → AISIN123.100
STITCH → 2451 ST
MEMORY → 180876 ST
```



Needle 10 = +10 and 0 displays A Needle 13 = +10 and 3 displays D

Needle 11 = +10 and 1 displays B

Needle 14 = +10 and 4 displays E

Needle 12 = +10 and 2 displays C

Needle 15 = +10 and 5 displays F

12. Press the SET key.

```
=== COLOR CHANGE ===  
MODE → AUTO  
04/04: B573
```



13. The screen will display the information as shown below when the data is finished loading into the machine.

```
===== EMB START =====  
AISIN123.100 ◆1  
0/ 2451  
01/04: B573 <D>
```

14. Set the fabric in the embroidery hoop.

15. Set the embroidery hoop in the embroidery machine.

16. Set the upper and lower threads.

17. Press the TRACE key to check if the range of embroidery fits the size and position of the embroidery hoop.

18. If the hoop position does not fit the range of embroidery, adjust the position of the hoop using the ARROW POSITION keys and repeat step 17. If the hoop size does not fit the range of embroidery, change the hoop (to be purchased separately) to one that fits the range of embroidery.

19. After confirming that the hoop is set in the correct position, press the START key.

Embroidering starts up.

## Embroidery Tips

### • HOOP

- If the inner hoop does not fit inside the outer hoop, you may need to loosen the brass SET screw slightly so the inner hoop nests in snugly.
- Hoop marks on garments can be removed with Magic Sizing.

### • THREAD

- Buy cones instead of spools since they are more economical.
- Humidity, light and dust are an enemy of thread, so store threads properly.
- Use only large cones with metallic threads, since metallic spools have more twists.
- Use only polyester thread on garments that need to be laundered with bleach, because it will resist bleeding and fading.

### • BACKING

- Use tear-away backing for sturdy garments and cut-away for unstable/delicate goods.
- Use cut-away for garments with a high percentage of satin/column stitches and intricate designs.
- Use a soluble backing with translucent materials.

### • EMBROIDERY MACHINE

- If the control panel does not read the correct Hoop style (i.e. HOOP-FLAT, HOOP-CAP, HOOP-SLEEVE or HOOP-BORDER) for what you are embroidering, then press the LEFT or RIGHT ARROW POSITION keys to toggle to the desired HOOP style and then press the SET key.
- If the control panel display reads "EMB PAUSE" press the START POINT key. You will then be prompted to Cancel Emb. press the SET key. If it reads "EMB START", press the DATA key to select a new design to embroider.
- When the design file is being sent to the embroidery machine a green light will flash on the control panel. When the transfer is complete the light will stop flashing.
- Remember not to over oil the machine since excess oil may drip onto garments.

### • COMMUNICATION PORT

- To locate which port(s) are available on your computer (Windows XP or higher), click on the START button, right click on MY COMPUTER and choose PROPERTIES. Click on the HARDWARE tab; then choose DEVICE MANAGER. Click on PORTS (COM + LPT). This will list which ports are open for use. If you have only one machine choose only one of these ports in the COM Driver.

### • EMBROIDERY DESIGN

- All designs need to be centered in the embroidery software prior to sending it to the embroidery machine to stitch out. This places the design in the middle of the embroidery hoop.

### • EMBROIDERING ON LEATHER

- Reduce the density in the design by 15-20% and delete all short stitches.
- Add underlay with a longer stitch length to make up for the loss of density.
- Choose the correct needle. Tri-point, wedge and diamond points are best for leather.
- Backing is only needed with thin leather.
- To avoid hoop marks on leather, wrap the hoop in athletic tape and don't tighten hoop too much.
- Use polyester thread since it is a stronger thread.

## Thread Breaks

Always inspect needle position and determine if an actual thread break has occurred. If no thread break is apparent, check all thread paths, complete a manual thread trim, and check the bobbin supply.

If the thread has broken, follow the correct thread path and re-thread the needle. To resume stitching at the appropriate place in the design, use the **FORWARD** or **BACKWARD, MODE** key.

### To Prevent Thread Breaks

**Storage** - Keep thread in a cool, dark location away from light and heat. Aged and improperly stored thread can cause thread breaks.

**Old Thread** - Replace old thread, prolonged exposure to air, light, heat and age makes thread brittle.

**Thread Path** - make sure the thread goes through all the guides and tension knob in the proper order.

**Tension** - ensure that the tension is correct. Loose tension causes thread to pile up and loop, and tight tension causes pulling, puckering and thread stress.

**Embroidery design** - could have **too many stitches** in a small area and/or **heavy densities** causing the thread to break. Try deleting short stitches or increasing the design by 5-10% (if the design is in an expanded format).

**Do not use tape** to tie off thread ends; tape leaves a residue that causes friction and breaks.

Check for **burrs** in the thread guides, needle eye, thread plate and hook.

The **needle should be pushed in all the way** when changing needles.

Replace **bent** or **damaged** needles.

**Excessive backing** will apply greater friction to the needle and the thread.

Thread Breaks		
Typical Causes	Appearance	Solution
Too much or too little tension or poor quality thread.	A small tuft of fiber on the end of the broken thread.	Loosen tension, change brand of thread, try a new cone of thread
Improper placement of stitch relative to previous stitch. Stitch penetrates and splits previous thread.	Broken end will have a bend in the thread and a tuft on the end.	Edit stitch placement or re-digitize the design.
Thread is cut by a sharp edge on the rotary hook.	Thread will have a clean cut.	Polish or replace the rotary hook.
Hook point catches only a portion of the thread.	Thread will fray and break.	Adjust timing of the rotary hook, use correct needle size, try a larger needle.
Obstruction in the thread path.		Make sure thread pulls smooth through thread path.
Needle damage or improper needle insertion.		Replace needle or insert needle with scarf on the back.
Tight density	Fraying	Reduce stitch density or make more than one pass using multiple layers of stitching with lighter density per layer.
Descending needle point penetrating or catching thread.		Adjust take up spring so it is working until the eye of the needle penetrates the fabric or adjust the tension.

## Setting Upper Thread Tension

1. Adjust the tension knob until the top of the plastic knob is flush with the top of the chrome post.
2. Follow the chart below to SET the tension knob for the type of thread you are using. Polyester threads require nearly twice the amount of tension as rayon.

Thread Tension Adjustment	
Thread Type	Solution
Metallic and polyester threads	Turn tension knob 0-1 turns counter clockwise
Light color rayon	Turn tension knob 1-2 turns counter clockwise
White rayon	Turn tension knob 1 turn counter clockwise
Medium color rayon	Turn tension knob 1-2 turns counter clockwise
Dark color rayon	Turn tension knob 2-3 turns counter clockwise
Black rayon	Turn tension knob 3 turns counter clockwise

3. After setting the upper tension knobs, stitch a 1-inch capital letter "I". View the underside of the fabric to determine if the bobbin tension needs adjusting.

## Bobbin Tension Test

To test the bobbin tension, take the bobbin thread out of the pigtail. Hold the bobbin case in your left hand and pinch the thread near the case with your right thumb and index finger. With your right hand, give the bobbin a quick jerk, the thread should unwind and be pulled out of the bobbin from its own weight. There should be about an inch and a half and still have the correct tension, the key is consistency, everybody uses a different amount of force, therefore, the drop amount may vary. If your bobbin drop is four inches and the sew out test shows correct tension, then use four inches as your guide. The bobbin thread should fall smoothly, without resistance. If the bobbin case hardly moves the tension is too tight, if it drops a lot, the tension is too loose. If the bobbin pops out of the case, the adjustment may be too loose or your bobbin drop too violent.

**Note:** Only one-third of the bobbin thread should be showing down the middle of the column. If too much bobbin is showing, loosen the upper tension slightly by turning the knob to the left; if too little bobbin thread is showing, tighten the upper tension slightly by turning the knob to the right.

*The tension settings suggested may vary by thread manufacturer. However, all brands are very similar. When stitching on caps, thick materials or using small lettering, the bobbin tension may need to be tightened slightly.*

*Excessive upper thread balled up under the fabric (birdnest) or looping on top is a sign of too loose upper tension or too tight of bobbin tension. Excessive thread breaks is a sign of too tight upper tension.*

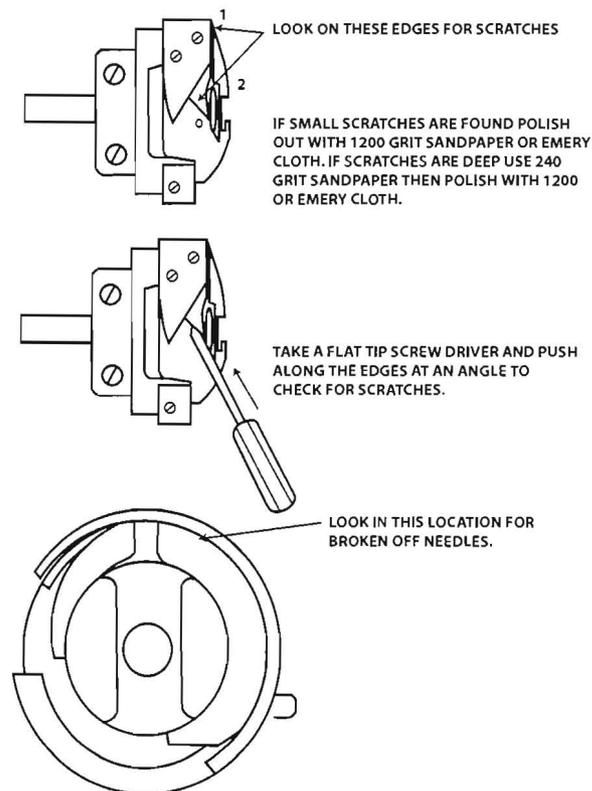
## Thread Looping

Always check the thread path first. Thread should pull smoothly through the thread path with no obstructions.

Thread Tension Adjustment	
Typical Causes	Solution
Upper thread tension is too loose	Tighten upper tension.
Elasticity in the thread	Tighten upper thread tension. Adjust take up spring, adjust the length of the take up spring, try a different brand of thread.
Needle too small	Replace with a larger needle
Stitch too long	Shorten stitch length
Stitch angle	Change stitch angle. Best angle is the X direction. Y direction stitches cause excessive pull on the thread as the needle moves back (hoop moves forward).
Density too tight	Less density
Dense material	Larger needle
Elastic or rubbery material	Stiffer backing or larger needle
Inadequate presser foot clearance	Adjust presser foot clearance. Low presser foot can pinch thread causing a loop.

## Rotary Hook Scratches

Do not remove the hook to check or polish scratches. Scratches on the rotary hook can be the cause of excessive thread breaks.



## Test Mode Timing

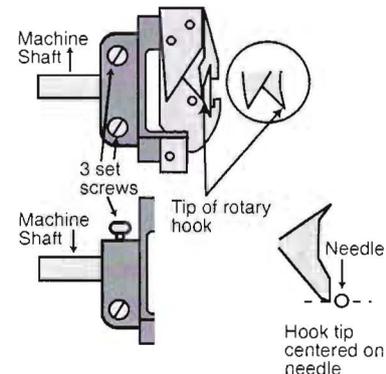
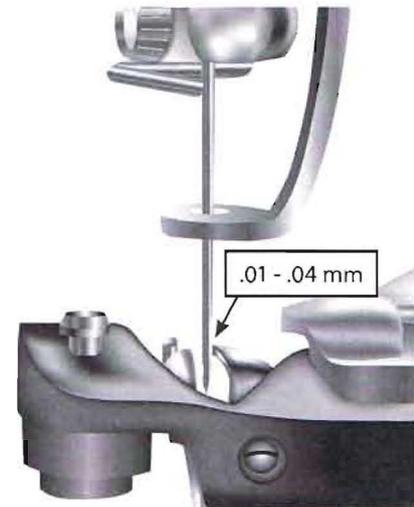
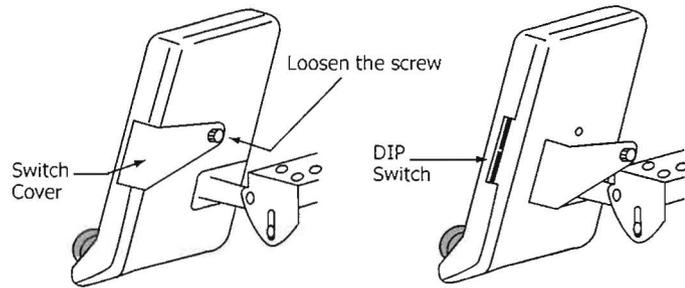
1. Turn **OFF** all power to the machine.
2. Pull back the side cover of the control panel to view the **DIP** switches.
3. Flip the bottom **DIP** switch (**DSW1 #1**) to the **ON** position.
4. Turn the machine back **ON**.
5. Press **SET** key one time.
6. Press the **DOWN ARROW** key until the cursor is flashing on **2. Main**.
7. Press **SET** key.
8. Put in a brand new needle.
9. Remove the needle plate and the covers enclosing the rotary hook.
10. Rotate the main shaft hand wheel on the side of the machine in the direction of the arrow until the LCD panel reads **201.0** degrees.
11. Check that the tip of the rotary hook is centered behind the back of the needle.
12. If it is centered, check the gap behind the needle and the rotary hook. The gap should be just large enough for a thread to go through. A gap that is too wide will cause looping. Too narrow will result in numerous thread breaks. (**.01 - .04 mm** from the back side of the needle).

If the gap or the rotary hook tip position is incorrect the machine should be timed. The two easiest needles to time are needle **1** or needle **15**. Make sure you put in a brand new needle.

To move to Needle Position 1. Turn machine **ON**. Press the **AUTO/MANUAL** key. Then press the left **COLOR CHANGE** key until **No. 1** appears on the LCD screen. Press **SET**. The embroidery machine head will move to Needle Position 1.

13. Loosen the three set screws on the rotary hook.
14. Hold the rotary hook in position.
15. Rotate the hand wheel until the LCD display reads **201.0** degrees.
16. Hold the rotary hook firmly while making the necessary adjustments, then tighten one of the set screws.
17. Rotate the hand wheel once again to **201.0** degrees to check the timing.
18. If the timing is still incorrect, repeats 12-16.
19. Tighten the remaining set screws and then replace the U shaped cover and needle plate on the machine.
20. Turn the machine **ON** and resume stitching.

If you need any assistance with this or any other operation of your TOYOTA embroidery machine, do not hesitate to contact us at [service@pantograms.com](mailto:service@pantograms.com) or at (800) 872-1555.



## Instructions for Oiling the Embroidery Machine

Oiling is important for maintaining the machine performance over an extended period of time. It is recommended to turn the power off when lubricating the embroidery machine otherwise you may sustain severe injury due to entanglement of moving machine parts.

Be sure to oil your machine as instructed below. Oil sparingly to avoid spotting garments being embroidered. (After oiling, try stitching on two pieces of backing or placing a rinse-away topping over the first garment).

There are 31 oiling locations on the TOYOTA. It's recommended to oil at the beginning of a shift to allow the oil to move through the machine as the day progresses.

Location	Frequency
Rail on rotary hook	Every 4 hours of operation
Presser foot drive shaft	Daily
Needle bar drive shaft	Daily
Presser foot needle bar drive shaft	Weekly
Inside the Arm	Weekly
Needle bars	Weekly
Inside the cylinder bed	Once a month
Needle bars felt packing	Once a month

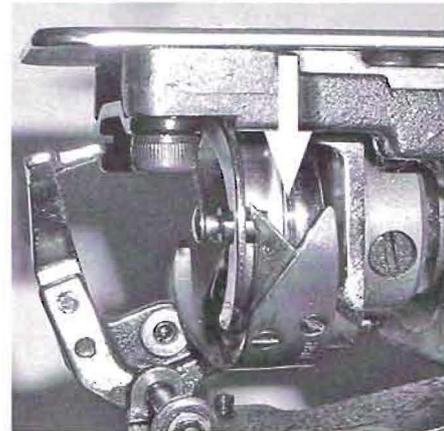
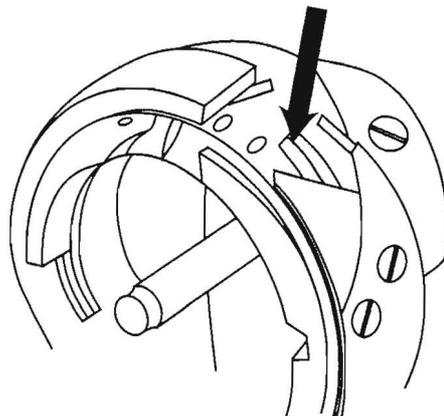
### Tools Needed

- LB5 Lubricant Embroidery Machine oil with metered valve designed to release one drop of oil when depressed
- Hypo-dot Oil bottle with hypodermic point for easy accurate release of oil.
- Lint and Dust Remover
- Offset Screwdriver

### Every 4 hours of operation

#### Rail on Rotary Hook

Locate the rail on the rotary hook. The hand wheel located on the right side (when looking from the front of the machine) may need to be rotated towards you. It is recommended to remove the needle plate and bobbin case prior to oiling the hook. Once removed, use canned or compressed air to blow out the threads and dust out of the rotary hook. Lubricate the rail with a single drop of oil every 4 hours of production. Press the TRIMMING key 2 times to lubricate the rail.



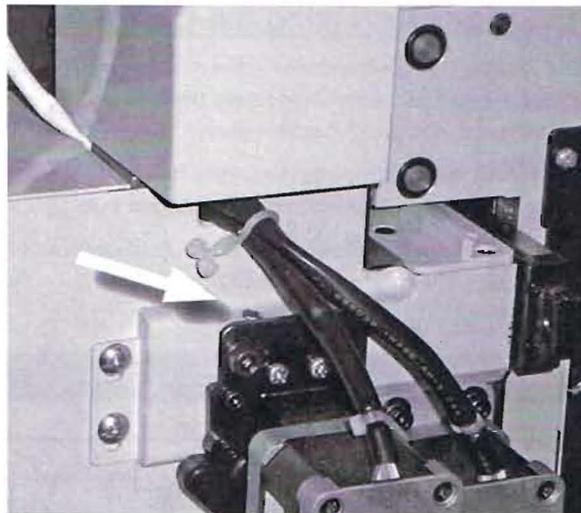
## Daily (every 8 hours of usage)

### Presser Foot Drive Shaft

Move the embroidery head to **Needle Position 1** for easy access.

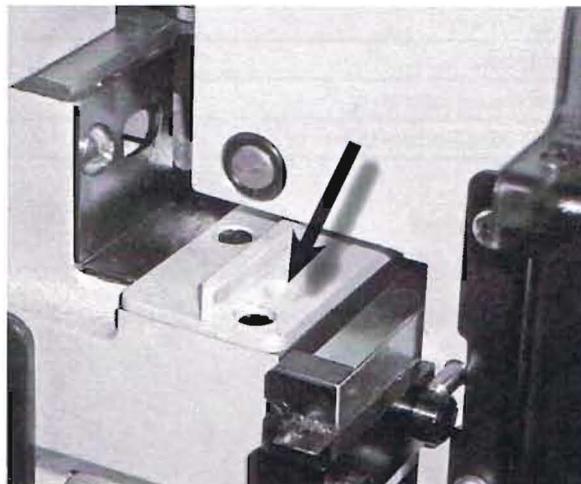
To move to Needle Position 1. Turn machine **ON**. Press the **AUTO/MANUAL** key. Then press the left **COLOR CHANGE** key until **No. 1** appears on the LCD screen. Press **SET**. The embroidery machine head will move to Needle Position 1.

Look to the left side of the machine and using the LB5 spray one drop of oil in the red hole.

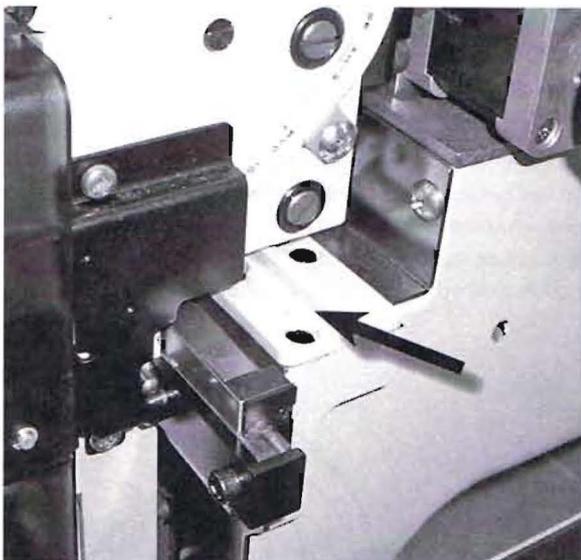


### Needle Bar Drive Shaft

Keep the embroidery head on **Needle Position 1**. Using the Hypo-Dot place one drop of oil on the white plastic rail in the canal as shown.



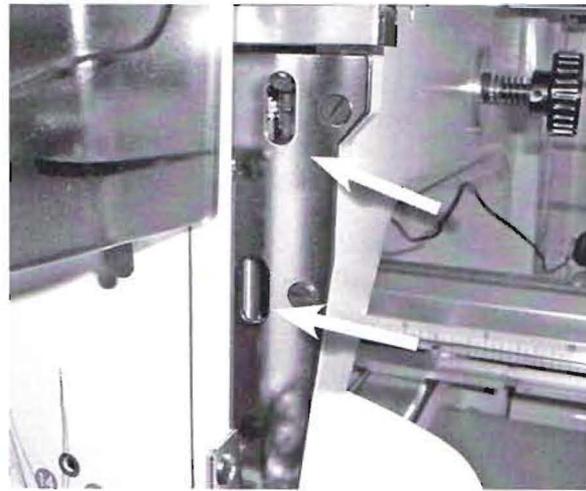
Move the embroidery head to **Needle Position 15** by pressing the right **COLOR CHANGE** key until **No. 15** is displayed on the LCD screen. Place another drop of oil on the white plastic rail as shown.



## Weekly - every 40 hours of usage

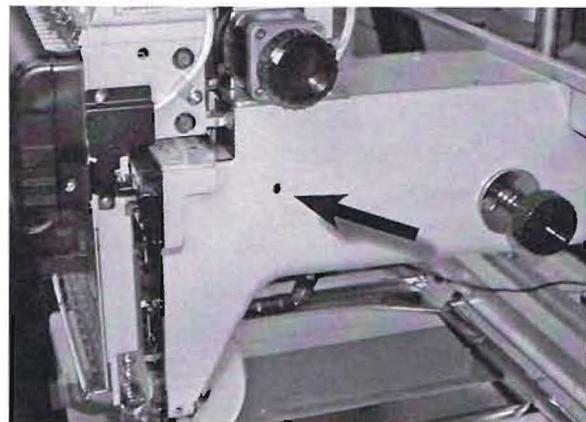
### **Needle Bar Drive Shaft - Presser Foot**

Place the machine in **Needle Position 15** (see pg. 28 for instructions). To the right of the safety cover are two oiling locations. In the top hole place one drop on the wick using the Hypo-Dot and in the bottom hole spray one drop of oil using the LB5.

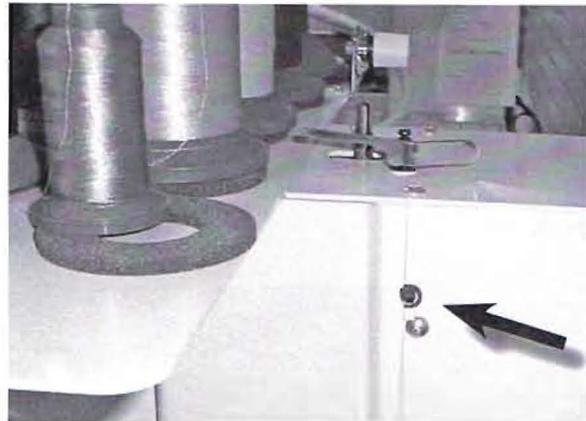


### **Inside the Arm**

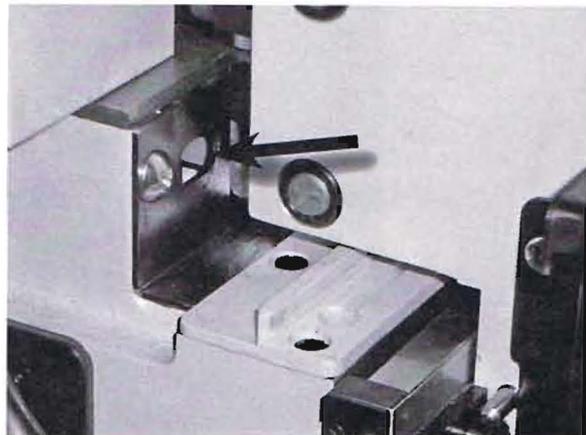
Place machine in **Needle Position 15**. Located below the hand wheel is an oiling spot marked in red. Lubricate with one drop of LB5.



Located on the same side as the hand wheel towards the back of the machine is another oil spot marked in red. Spray one drop of LB5.



Place the embroidery head in **Needle Position 1** (see pg. 28 for instructions). Located behind the rail is a silver gear that moves when the hand wheel is rotated. Lubricate the hole on top of this gear with a single drop of LB5 oil.



**Weekly - every 40 hours of usage**

**Needle Bar**

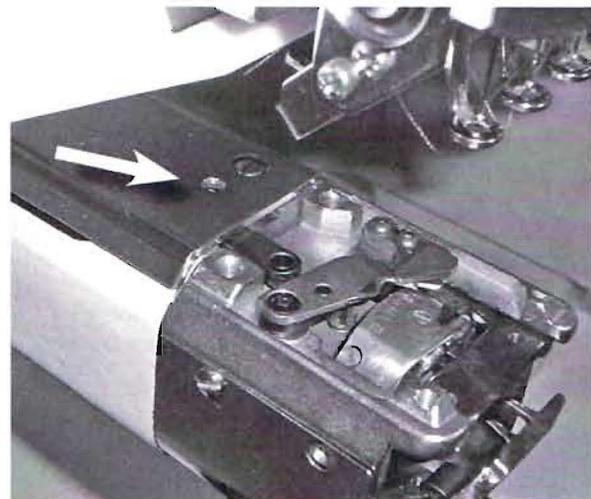
Each needle bar needs to be oiled weekly. There are a total of 15 oiling spots. Open the security cover to expose the 15 thread take up levers. Using the LB5 spray one drop of oil on each needle bar.



**Once A Month**

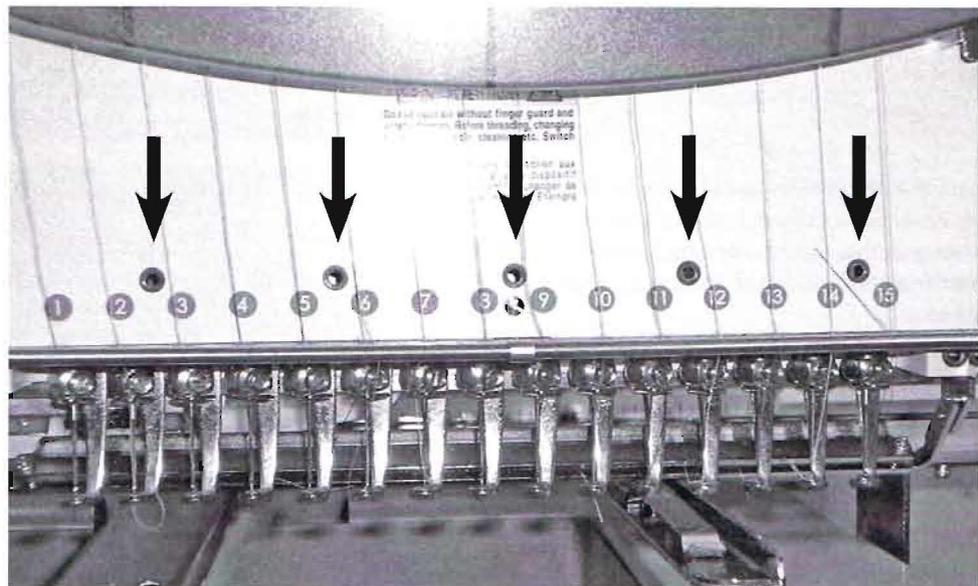
**Inside the Cylinder Bed**

In the red spot directly behind the needle plate spray one drop of LB5 oil.



**Felt Packing (Needle Bar)**

On the front of the machine there are 5 oiling spots marked in red. They are between the numbers 2-3, 5-6, 8-9, 11-12 and 14-15. Spray each hole with one drop of LB5 oil.



# Instructions for Greasing Your Embroidery Machine

The following are full instructions for properly greasing your embroidery machine. Greasing schedule is every three months. There are five greasing points on the machine. Have your machine **OFF** when greasing.

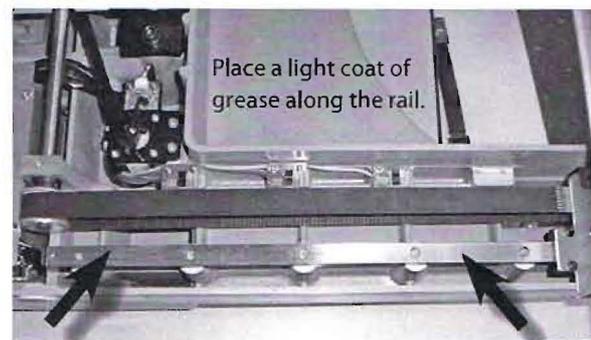
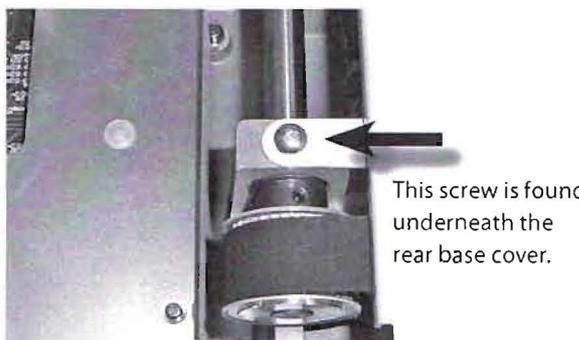
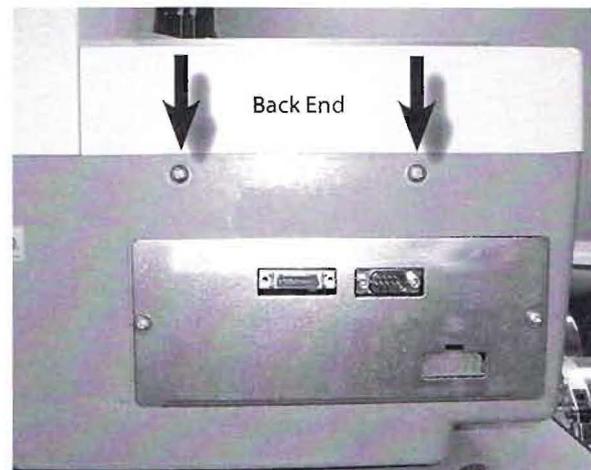
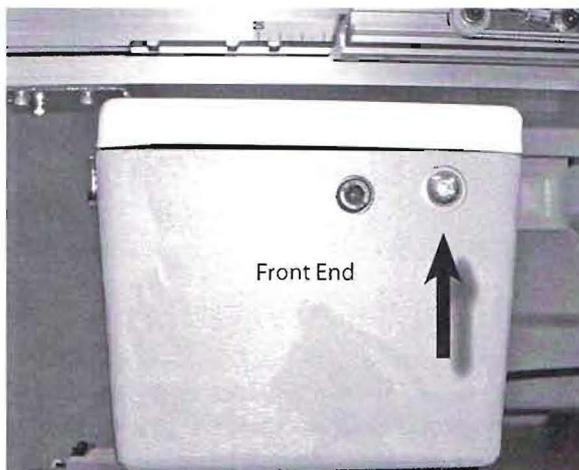
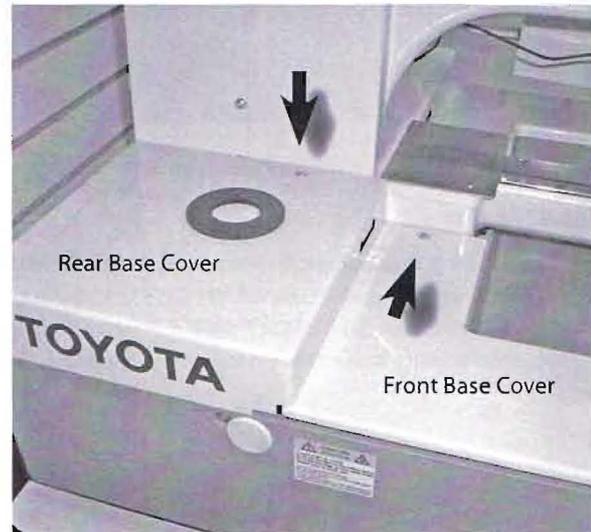
Greasing Point	Interval
Y Linear Way - Left Side Y Linear Way - Right Side X Linear Way Case Linear Cam Rollers	Once every 3 months

## Tools Needed

- White Lithium Based Grease
- Phillips Head Screwdriver

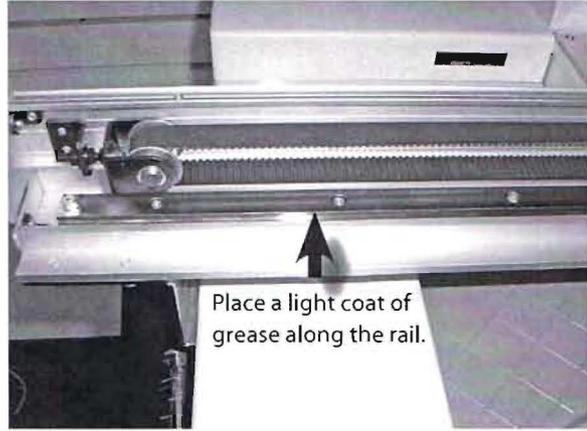
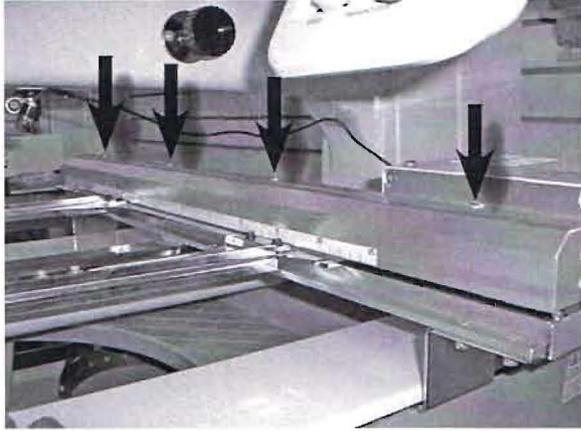
## Y Linear Way - Left and Right Side

Using the phillips screwdriver remove the front base cover and the rear base cover. **Each side** has seven screws to remove for a total of 14 screws. (Photos show removal of one side, repeat process for other side.) With finger place a light coat of grease on the Y Linear Way.



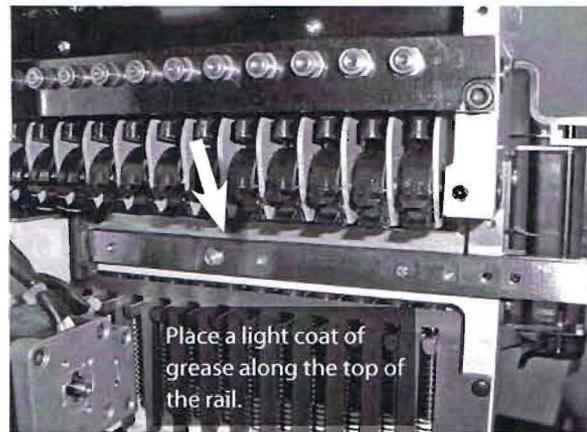
## X Linear Way

Using the phillips screwdriver remove the X cover. There are four screws to remove. With finger place a light coat of grease on the X Linear Way.



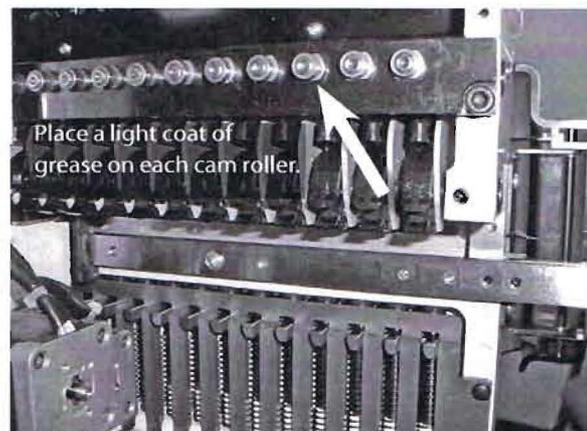
## Case Linear

The Case Linear is found directly behind the head. Place your embroidery machine on Needle Position 1 or 15. With finger place a light coat of grease on the Case Linear. (To move to Needle Position 1 through 15, press the AUTO/MANUAL key and then the COLOR CHANGE key to advance through the needle positions, press SET to confirm setting. After you are done depress the AUTO/MANUAL key.)



## Case Rollers

The Case Linear is found directly behind the head. Place your embroidery machine on Needle Position 1 or 15. With finger place a coat of grease on each of the 15 Cam Rollers. (To move to Needle Position 1 through 15, press the AUTO/MANUAL key and then the COLOR CHANGE key to advance through the needle positions, press SET to confirm setting. After you are done depress the AUTO/MANUAL key.)

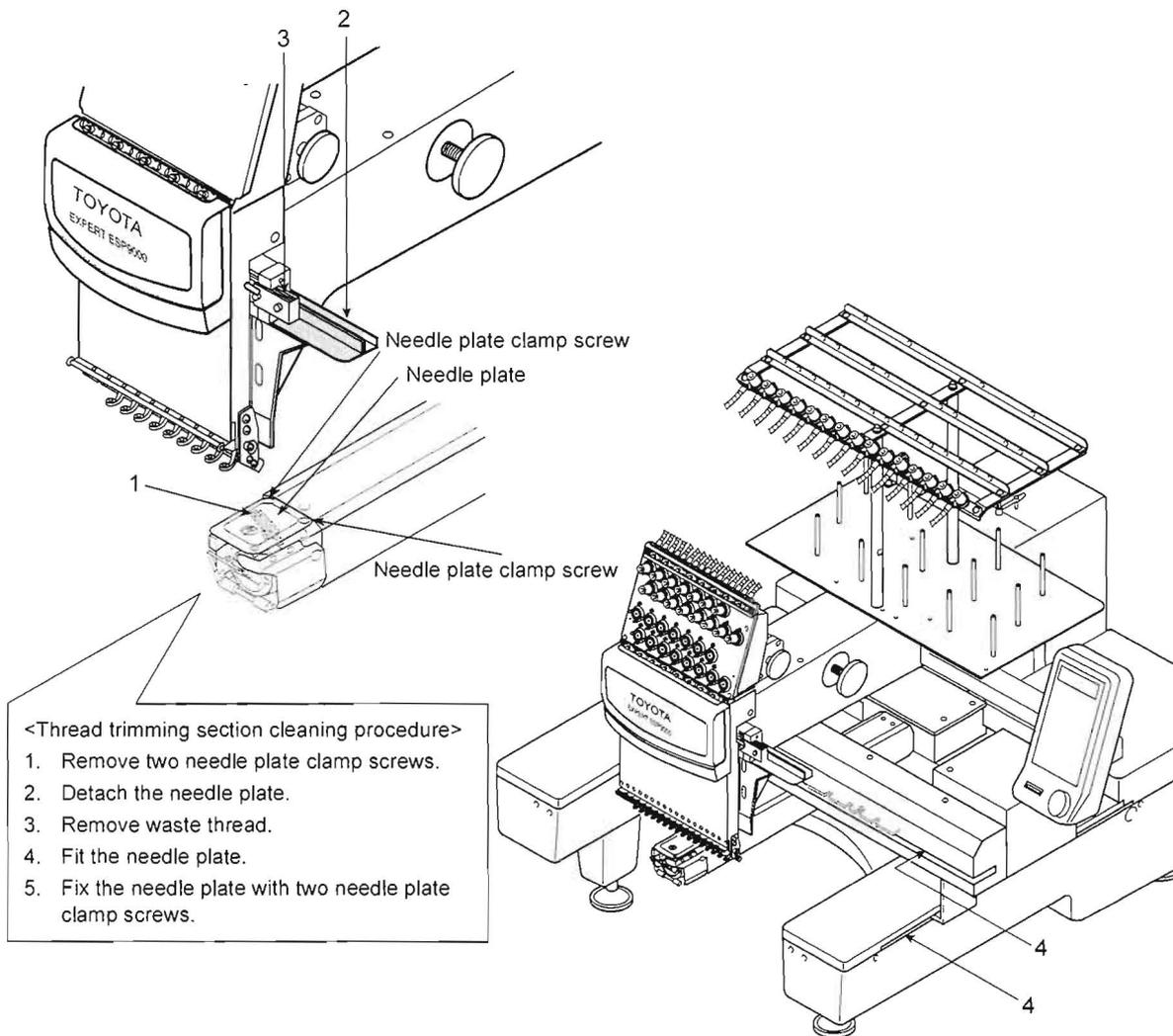


## Cleaning the Machine

After oiling and greasing, it is always best to run a few test designs to be sure any excess oil or grease is noticed before beginning production. Keeping broken thread and dust away from the unit is necessary to insure quality embroidery. Dry air blown around the little nooks and crannies of the machine will help keep it running like new for a long time.

Cleaning Area	Interval
1. Thread trimming section	Every day
2. Take-up lever guide*	Once a week
3. Needle case guide	Once a week
4. X - Y axis drive system (2 places)	Once every 2 weeks

\* TOYOTA ESP9000 models after serial no. VXXXXE not equipped with guide rails.



## Maintenance Stop

Maintenance Stop messages on the Control Panel request some kind of maintenance work and it is not the stop due to the occurrence of an error.

If the message shown on the right appears at the start of embroidery, press the **STOP** key. Supply lubricating oil to the rail on the rotary hook. After supplying lubricating oil as instructed, continue normal embroidery work.

**\*\* MAINT. REQUIRED \*\***  
One drop of oil

→ As per Inst. Manual

If the message shown on the right appears at the start of embroidery, press the **STOP** key. Supply grease to the presser foot cam, take-up lever drive cam and take-up lever roller. After supplying grease as instructed, continue normal embroidery work.

**\*\* MAINT. REQUIRED \*\***  
!CAUTION: Grease Cams

→ Take-up, Presser  
→ As per Inst. Manual

If the message shown on the right appears at the start of embroidery, press the **STOP** key. Supply grease to the presser foot cam, take-up lever drive cam and take-up lever roller, needle case linear section and X-Y axis drive system. After supplying grease as instructed, continue normal embroidery work.

**\*\* MAINT. REQUIRED \*\***  
!CAUTION: Grease Cams

→ Take-up, Presser, Trim  
Needle Case Linear  
→ As per Inst. Manual



Keep this form for your records

Oil Maintenance Schedule for TOYOTA Embroidery Machines			
Date		Date	✓
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Weekly (40 hrs) 1, 2, 3, 4, 5, 6		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Weekly (40 hrs) 1, 2, 3, 4, 5, 6		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Weekly (40 hrs) 1, 2, 3, 4, 5, 6		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Weekly (40 hrs) 1, 2, 3, 4, 5, 6		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Every 4 hours 1		
	Daily (8 hours) 1, 2, 3		
	Weekly (40 hrs) 1, 2, 3, 4, 5, 6		

**Legend**

- 1 Rail on rotary hook
- 2 Presser foot drive shaft
- 3 Needle bar drive shaft
- 4 Needle bar drive shaft - presser foot
- 5 Inside the arm
- 6 Needle bar
- 7 Inside the cylinder bed
- 8 Felt Packing (needle bar)

**Use the CHARLESTON Code for Stitch Count on Machine**

C	H	A	R	L	E	S	T	O	N
9	8	7	6	5	4	3	2	1	0

For full color instructions on oiling and greasing your machine visit [www.pantograms.com](http://www.pantograms.com) - General Embroidery Tips

Date	Stitch Count	Date	Stitch Count
	000		000
	000		000
	000		000
	000		000
	000		000

**A tune-up on your embroidery machine by a certified TOYOTA technician is recommended once a year.**



## Error Messages

The machine stops operation when an **ERROR MESSAGE** appears on the LCD screen. Simultaneously, the LED flickers, and the buzzer starts to sound. In such occasions, check the **ERROR MESSAGE** first and then press the **EMERGENCY STOP** button. Take the necessary steps referring to the table below.

PRESS THE STOP KEY TO SILENCE THE BUZZER.

Error Message	Description	Cause	Corrective Action
EMERGENCY STOP	The EMERGENCY STOP button was pressed.	<ol style="list-style-type: none"> <li>1. The switch was pressed by mistake.</li> <li>2. The switch was pressed as an error had be detected.</li> </ol>	<ul style="list-style-type: none"> <li>• Reset the switch if it was pressed by mistake.</li> <li>• When there was an error, remove the cause of error and then reset the switch.</li> </ul>
check! SEWING MOTOR	Machine motor is locked.	<ol style="list-style-type: none"> <li>1. Thread is entangling on the rotary hook.</li> <li>2. Not lubricated appropriately.</li> <li>3. Interference of the needle with the hoop hindered machine movements.</li> <li>4. The needle hit a hard object such as a button, and further movements were disabled.</li> </ol> <p>Note: If the cause is #3 or #4, check the needle to see if it is bent or broken. Replace if defective.</p> <ol style="list-style-type: none"> <li>5. Foreign matter is caught by the take-up lever, needle bar, presser foot or upper shaft pulley.</li> </ol>	<ul style="list-style-type: none"> <li>• Remove the thread from the rotary hook.</li> <li>• Supply lubricating oil to the lubricating points.</li> <li>• Press the TRACE key and check the relationship between the size of design and the embroidery hoop.</li> <li>• Set the start point of the design correctly.</li> <li>• Change the embroidery position.</li> <li>• Remove the hard object.</li> <li>• Remove foreign matter.</li> </ul>
check! X MOTOR	X-axis motor was locked. (Longitudinal direction)	<ol style="list-style-type: none"> <li>1. The embroidery hoop holder reached the right/left travel end position, causing motor overload.</li> <li>2. The material is caught on something such as the edge of the table, disabling embroidery hoop movement.</li> <li>3. The embroidery hoop has hit something, like a wall and cannot move any more.</li> </ol>	<ul style="list-style-type: none"> <li>• Set the start point of the design correctly.</li> <li>• Release the material and start embroidery from the beginning again.</li> <li>• Remove object that disables embroidery hoop movements and start embroidery from the beginning again.</li> </ul>

Error Message	Description	Cause	Corrective Action
check! Y MOTOR	Y-axis motor was locked. (Crosswise direction)	<ol style="list-style-type: none"> <li>1. The embroidery hoop holder reached the forward/backward travel end position causing motor overload.</li> <li>2. The material is caught on something like the edge of the table, disabling embroidery movement.</li> <li>3. The embroidery hoop has hit something like a wall and cannot move.</li> </ol>	<ul style="list-style-type: none"> <li>• Set the start point of the design correctly.</li> <li>• Release the material and start embroidery from the start again.</li> <li>• Remove object that disables embroidery hoop movement and start embroidery from the start again.</li> </ul>
NEEDLE CASE ERROR	Needle case position error	<ol style="list-style-type: none"> <li>1. An error occurred with the needle case drive system.</li> </ol>	<ul style="list-style-type: none"> <li>• The active needle on the LCD display reads &lt;-&gt; instead of a number like this &lt;1&gt;. Turn the hand wheel until a number appears in the brackets.</li> </ul>
THREAD BREAK	Breakage of thread	<ol style="list-style-type: none"> <li>1. Upper thread was broken.</li> <li>2. Threading is not correct.</li> <li>3. Lower thread has been used up.</li> <li>4. The machine stops due to detection of thread breakage although lower thread is not broken.</li> <li>5. Lower thread was broken.</li> </ol>	<ul style="list-style-type: none"> <li>• Thread the upper thread again.</li> <li>• Remove the cause of upper thread breakage.</li> <li>• Thread the upper thread correctly.</li> <li>• Set lower thread.</li> <li>• Change the preset value of bobbin counter.</li> <li>• Set the lower thread again.</li> </ul>
RS232C COM ERROR	Communication error	<ol style="list-style-type: none"> <li>1. Serial cable or FDD connection cable has disconnected during communication.</li> <li>2. Power supply to the floppy disk drive or external device was turned OFF during communication.</li> </ol>	<ul style="list-style-type: none"> <li>• Securely tighten the cable.</li> <li>• Keep the power supply ON to the floppy disk drive or external device during communication.</li> </ul>
RS232C CONNECT ERROR	Communication error	<ol style="list-style-type: none"> <li>1. Serial cable or FDD connection cable is disconnected.</li> <li>2. The external device is not in the data sending state.</li> </ol>	<ul style="list-style-type: none"> <li>• Securely tighten the cable.</li> <li>• Set the external device in the data sending state. For details, refer to the instruction manual of the external device.</li> </ul>
TRIMMING ERROR	Thread trimming error	<ol style="list-style-type: none"> <li>1. Thread is entangling on the bobbin.</li> <li>2. Thread tension is too tense or thread is too thick.</li> </ol>	<ul style="list-style-type: none"> <li>• Remove the entangling thread from the bobbin.</li> <li>• Adjust the thread tension.</li> </ul>

Error Message	Description	Cause	Corrective Action
RAM CHECK ERROR	Memory check error	1. Memory error	• Please contact your local TOYOTA dealer
INTERNAL COM ERROR	Internal communication error	1. Communication error in the embroidery machine	• If this error occurs frequently, contact your local TOYOTA dealer
INTERNAL CONNECT ERROR	Internal connection error	1. Connection error in the embroidery machine	• Please contact your local TOYOTA dealer
THERMAL ERROR	High temperature error	1. Temperature in the embroidery machine exceeded the allowable limit.	• Keep the power supply OFF for more than 30 minutes
LIMIT ERROR	Limit error	1. The embroidery hoop has reached the travel limit in the X- or Y-axis direction.	• Set the start point of the design correctly
BAD NUMBER	Wrong design number	1. When reading the design data from the external device, a wrong design data number was entered.	• Re-enter the correct design data number
INSERT DISK	Floppy disk was not inserted.	1. When reading the design data from the floppy disk drive, the floppy disk was not set in the floppy disk drive.	• Insert the floppy disk in the floppy disk drive
CANNOT READ DISK	Floppy disk read error	1. When reading the design data from the floppy disk drive, reading the floppy disk was not possible.	• Set the floppy disk (Toyota, Tajima or ZSK format) correctly. • The floppy disk or the floppy disk drive may be faulty.
FILE NOT FOUND	Designated file could not be found	1. When reading the design data from the floppy disk drive, the designated data was not found in the set floppy disk.	• Write the desired data to the floppy disk using the external device.