Installation, Operation, and Maintenance manual for the EP 1B embroidery peripheral

- Single head, single needle
- Easy to operate
- Low power consumption
- High-quality results

Melco
Embroidery Systems

A Saurer Group Company

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Single-Head Embroidery Peripheral
EP 1B Specifications

Maximum embroidery speed

700 stitches per minute

Number of Heads

1

Number of needles

1

Dimensions

46cm W x 36cm H x 52cm D
18" W x 14" H x 20.5" D

Weight

26kg
58 lbs

Shipping weight

31kg
68 lbs

Power consumption

80 W; wired for 100V to 240V 50/60Hz
2 fuses, 800mA Fast Blow (FB)

Noise level and test conditions

Equivalent continuous A weighted sound pressure level at 1 meter from the machine is 66db.

The peak C weighted instantaneous sound pressure level is 71db.

The noise level was measured sewing a test design at 600 spm.

Recommended power conditioning equipment

LC 1800 Line stabilizer (available from Accessory Resource Corporation)

Embroidering field size

24 x 14cm (9.5 x 5.5")

Compatibility

EDS and ENS

Intended use

The EP 1B is designed to embroider on textile products which are placed easily in a Melco embroidery hoop. The machine should not be used on thick leather, wood, plastic, or other dense material.

Explanation of Symbols

Caution!

Indicates a machine component will move. Keep clear!

Shock hazard. No user replaceable parts behind this label. Do not open!

Pinch point, Keep clear!

Pinch point, Keep clear!

Pinch points, Keep clear!

Needle pinch point, Keep clear!

1. Setup

The setup procedure for the EP 1B Embroidery Peripheral is easy and will only take a few minutes.

1. Carefully remove the machine from the shipping container, using care not to drop or damage any other items packed around it. The machine is heavy, so be careful. Place the machine on a sturdy table or work bench.

NOTE: Be sure to save the shipping container and packing supplies that your embroidery peripheral came in. If your machine should ever require factory service, it should be returned in the original (or other equally suitable) shipping container.

2. Make certain the machine's power switch is turned to the OFF position.

3. Plug one end of the power cord into a wall outlet. A surge protector is recommended but not required. Plug the other end into the machine.

Note: Enclosed power cord is for North American applications. Use a cord suitable for your area.
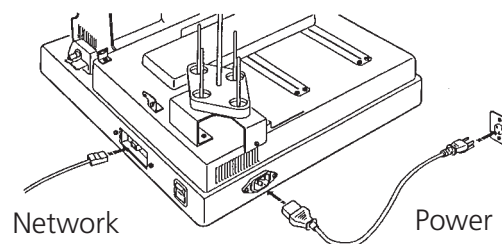
4. The EP 1B is compatible with Ethernet network technology. With Ethernet, peripherals connect to a wiring hub, and the hub connects to an EDS computer (or computers). The hub is a small electronic device that contains a number of cable jacks and diagnostic lights. The peripherals and EDS computer(s) can plug into any port on the hub. You can connect as many peripherals or computers as your hub can hold. If you have more peripherals or computers than your hub has ports, you can string 2 (or more) hubs together. Always use 10BaseT RJ45 wiring.

Network   Power

Figure 1-1

5. Your machine may have come with a needle already installed, but it is a good idea to start your sewing with a new needle.

6. Locate the thread guide bar and gently pull it upward until it reaches its maximum height. It will extend like a car antenna. Rotate the guide bar until the ends are aligned over the thread cones on the base below (see Figure 1-2).

Thread guide
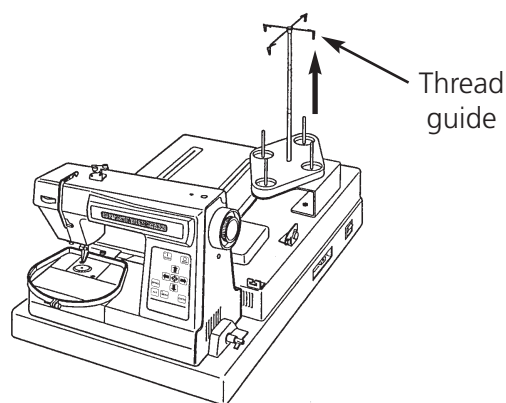
Figure 1-2

7. Your machine may have come with thread already loaded on the bobbin, but check to make certain.

8. Load a spool of thread onto the thread stand and thread the machine as required.

At this point your EP 1B should be ready to begin sewing. If you should encounter any problems during this procedure, contact your local Melco representative for assistance, or call Melco's Technical Support line.

Hazards of operation

 Caution! Below are risk areas or danger points encountered during operation. Always wear eye protection while operating the machine to prevent injury in the event of a needle break. Do not wear loose or baggy clothing when operating the machine.

Take-up Lever Oscillation
Do not touch the take-up levers during operation.
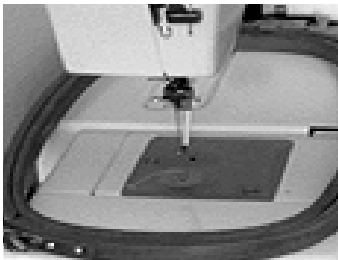
Exposed Needles During Operation
Do not place body parts or other foreign objects under the needles during operation.

Rotary Hook Rotation
Do not attempt to change bobbin thread during operation. Do not place hands or other objects in the rotary hook area during operation. Do not operate the machine without the hook guards in place.

Dangers de service

Attention! Ci-dessous vous trouverez les descriptions de diverses zones de risque ou points dangereux lors du service de la machine. Il faut toujours porter des lunettes protectrices pendant le service de la machine afin d'éviter des blessures en cas d'une casse d'aiguille.

**Oscillation du releveur de fil
Ne pas toucher les releveurs de fil pendant le service.**
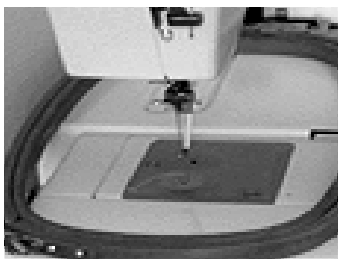
**Aiguilles exposées pendant le service.
Ne mettre ni de parties du corps ni d'autres objets au-dessous des aiguilles pendant le service.**

**Rotation de la navette rotative
Ne pas essayer de changer la canette pendant le service. Ne pas mettre ni les mains ni d'autres objets dans la zone de la navette rotative pendant le service. Ne pas mettre la machine en marche sans avoir mis en place les gardes du ramasseur.**

Betriebsgefahren

Vorsicht! **Nachfolgend sind Risikobereiche und Gefahrenpunkte genannt, die während des Betriebs auftreten können. Tragen Sie immer einen Augenschutz, wenn die Maschine in Betrieb ist, um Verletzungen im Falle eines Nadelbruchs vorzubeugen. Tragen Sie keine weite oder lockere Kleidung, wenn Sie die Maschine bedienen.**

Hin- und Herbewegung des Fadengebers
Die Fadengeber nicht berühren, wenn die Maschine in Betrieb ist.
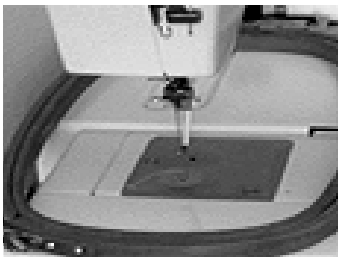
Offenliegende Nadeln während des Betriebs
Körperteile fernhalten und keine fremden Gegenstände unter die Nadeln legen, wenn die Maschine in Betrieb ist.

Umdrehung des Umlaufgreifers
Die Garnspule nicht austauschen, während die Maschine in Betrieb ist. Die Hände vom Umlaufgreifer fernhalten oder andere Gegenstände nicht in den Bereich des Umlaufgreifers bringen, wenn die Maschine läuft. Die Maschine nicht bedienen, wenn der Greiferschutz nicht an seinem Platz ist.

Pericoli nel funzionamento

Attenzione! Di sotto vengono descrite le zone di rischio o i punti peri-colosi che potreste incontrare durante il funzionamento. Portate sempre degli occhiali prottetivi mentre comandate la macchina, per pervenire il ferimento in caso di rottura di ago.

Oscillazione delle leve d'avvolgimento
Non toccate le leve durante il funzionamento

Aghi esposti durante il funzionamento
Non mettete delle parti del corpo o altri oggetti stranieri sotto gli aghi durante il funzionamento.

Rotazione del perno girevole della bobina
Non provate a ricambiare la bobina di filo durante il funziona-mento. Non mettete le mani o altri oggetti sul perno girevole della bobina durante il funzionamento.

Risco de funcionamento

Atenção!   São a seguir indicadas áreas de risco ou zonas perigosas encontradas durante o funcionamento. Usar sempre protecção para os olhos ao comandar a máquina para evitar ferimentos no caso de quebra de agulhas. Não use vestuário solto ou desapertado quando trabalhar com a máquina.

**Oscilação da alavanca de enrolamento
Não toque nas alavancas de enrolamento durante o seu funcionamento.**
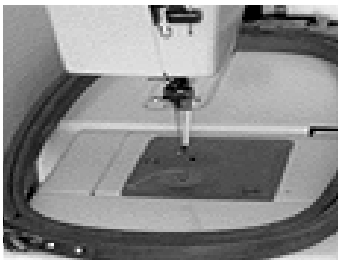
**Agulhas à vista durante o funcionamento
Não coloque partes do corpo ou objectos estranhos por baixo das agulhas durante o funcionamento.**

**Rotação do gancho rotativo
Não tente mudar fios das bobinas durante o funcionamento. Não ponha as mãos ou outros objectos na área do gancho rotativo durante o funcionamento. Não trabalhe com a máquina sem os resguardos dos ganchos estarem instalados.**

Peligros durante el funcionamiento

¡Atención! A continuación se mencionan las zonas de riesgo o los puntos de peligro con los que se podrían encontrar Vds. durante la maniobra. Utilicen siempre gafas protectoras cuando operen la máquina a fin de prevenir heridas en caso de rotura de la aguja. No lleven vestidos holgados mientras están operando la máquina.

Oscilación de la palanca de compensación (entrega-hilo)
Eviten tocar las palancas de compensación (entrega-hilo)
durante el funcionamiento.
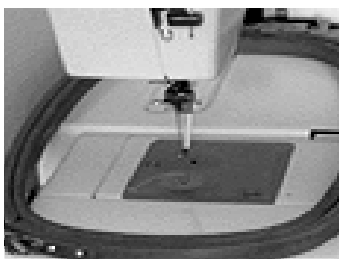
Agujas al descubierto durante el funcionamiento
Eviten colocar partes del cuerpo u otros objetos debajo de las
agujas durante el funcionamiento.

Rotación del gancho giratorio
No traten de cambiar el hilo inferior de bobina durante la
operación. Eviten colocar las manos u otros objetos en la área
del gancho giratorio durante el funcionamiento. No accionen la
máquina sin el dispositivo de protección del gancho en su sitio.

2. Configuration

The EP 1B allows you the option of setting the unit name, measuring system, and volume of the key clicks and error beeps.

After starting EDS, turn on the EP 1B, then select "RESET MENU" with the menu key.

Unit Name

The unit name is a unique address for each machine. The machine uses the unique EtherNet address as a default. You may change this to any 10 (or less) character name. Use a unique name for each machine if you have more than one machine on your network.

1. With the machine power on, enter [RESET MENU]. Press [⇩] until the display shows [UNIT NAME].

2. Press [ENTER] to change the unit name.

3. Use the [⇧] or [⇩] keys to change a letter, and use the [⇦] or [⇨] keys to change character positions.

4. Press [ENTER] to save the unit name.

Key Click Volume

Each time you press one of the keys on the EP 1B control panel, the machine responds with a "click" sound. You can adjust the volume of this click to suit your needs.

1. With the machine power on, enter [RESET MENU]. Press [⇩] until the display shows [KEY CLICK].

2. Press [ENTER] to change the key click volume.

3. Use the [⇧] or [⇩] keys to change the key click volume. It will change as you use the arrows.

4. Press [ENTER] to save the key click volume level.

Error Beep Volume

Whenever an operation error occurs, the EP 1B beeps. The volume of this beep can be adjusted to suit your needs.

1. With the machine power on, enter [RESET MENU]. Press [⇩] until the display shows [ERROR BEEP].

2. Press [ENTER] to change the error beep volume.

3. Use the [⇧] or [⇩] keys to change the error beep volume. It will change as you use the arrows.

4. Press [ENTER] to save the error beep volume level.

Measuring System

This defines the unit of measure (inches or centimeters) your EP 1B displays.

1. With the machine power on, press [⇩] until the display shows [MEASURING SYSTEM].

2. Press [ENTER] to change the measuring system.

3. Use the [⇧] or [⇩] keys to change the measuring system.

4. Press [ENTER] to save the measuring system.

System Defaults

The system defaults are as follows:

Queue: CLEAR

Maximum speed: 600 spm

Centering: OFF

Frame Setting: BACKWARD

Move Value: 0

Auto Load: N/A

Updating the Application Software (APL)

From time to time Melco will release updates to the Application Software for the EP 1B to enhance it's functionality. To update your software, follow these steps:

1. Prepare a 3.5" floppy disk with *edsappb4.rsa* (the APL for the EP 1B).

2. On the EDS host computer, copy the *edsappb3.rsa* file to the RSA subdirectory in the EDS application.

3. Turn the EP 1B off for 3 seconds, then back on. the new version number of the Master CPU will be displayed.

3. Thread, Bobbins, and Needles

This chapter covers how to thread your machine, wind the bobbin reels, select and install needles, and properly set the upper and lower thread tensions.

Threading the EP 1B

The thread path on the EP 1B uses numbered arrows to show the steps and direction of the thread.

1. When routing the thread, apply a small amount of pressure on the supply spool to prevent the thread from unwinding too quickly.

2. Hook the thread onto the thread guide mounted above the supply spool.
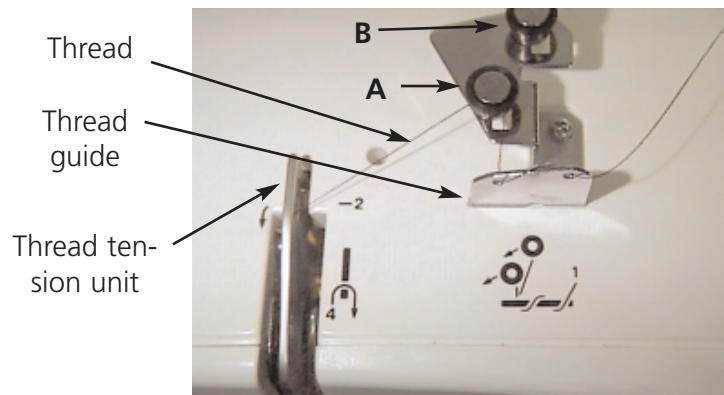
Figure 2-1

3. Pass the thread into the right hole of the top plate thread guide from the front to the back. Bring the thread over the top of the same thread guide and pass it into the left hole, again from the front to the back (refer to Figure 2-1).

4. Hook it around the back of the tension disc (A) 1/2 turn in a counter-clockwise rotation (refer to Figure 2-1). Use the rear tension disk (B) when slightly more tension is desired.

Figure 2-2

5. Pass the thread into the rear hole of the thread tension unit, with the thread between the thin metal piece and the bar.

Figure 2-3

6. Pull the thread under the take-up spring and up the right side of the thread tension unit, passing it under the take-up spring.
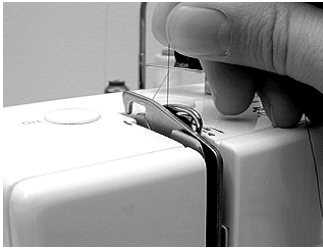
Figure 2-4

Figure 2-5

7. Pass the thread through the embroidery thread take-up lever from the left to the right; and then pull it downward toward the first lower thread guide.
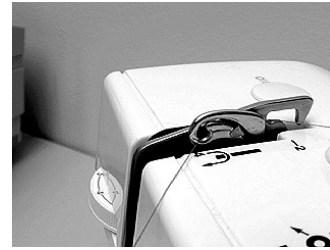
Figure 2-6

Figure 2-7

8. Hook the thread into the two lower thread guides as you continue to pull it downward.
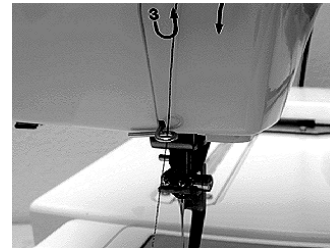
Figure 2-8

9. Hook the thread into the needle bar thread guide from the left side.

Figure 2-9

10. Pass the thread into the needle from the front to the rear (use the aid of the threader if desired).
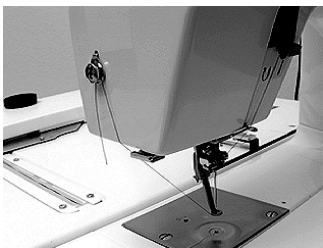
Figure 2-10

11. After threading the needle, position the embroidery thread through the presser foot hole. You may do this now by threading it as you would the eye of a needle or in the following procedure while drawing out the bobbin thread.

The Bobbin Case

Removal

1. After turning off the power switch, lift the needle above the throat plate by rotating the handwheel.

2. Remove the auxiliary table by lifting slightly at its left front and sliding it off to the left.

Figure 2-11

3. Open the bed cover by placing your finger at the left rear of the cover and flipping it forward and down to its opened position.

4. Pull out the bobbin case lever and remove the bobbin case from the hook body.

NOTE: The hook area must be kept clean to avoid thread breakage problems! If you find any thread debris at this time, clean it out.

Figure 2-12

Winding Thread Onto The Bobbin Reel

The bobbin winder can wind bobbin thread anytime, even while embroidering, because the bobbin winder is an independent part of the embroidery machine.

1. Attach the bobbin reel onto the bobbin winding shaft, and push the bobbin winding shaft downward.

2. After hooking the bobbin thread onto the thread guide above the bobbin thread cone, route the thread as shown in Figure 2-13.

3. Pass the thread through a bobbin reel hole from the inside of the wall to the outside.

4. Press and hold the [SPOOL] key until the bobbin begins turning.

NOTE: If the [SPOOL] key is not held down long enough, the bobbin will not turn.

5. After the thread has been wound completely, the bobbin reel will continue to spin until [SPOOL] is pressed again.

6. After the bobbin reel has stopped turning, cut the thread and remove the bobbin reel from the bobbin winding shaft.

7. If the thread was cut or if thread cannot be wound on the bobbin reel normally during thread winding, the thread winding can be stopped by pressing the [SPOOL] key again.
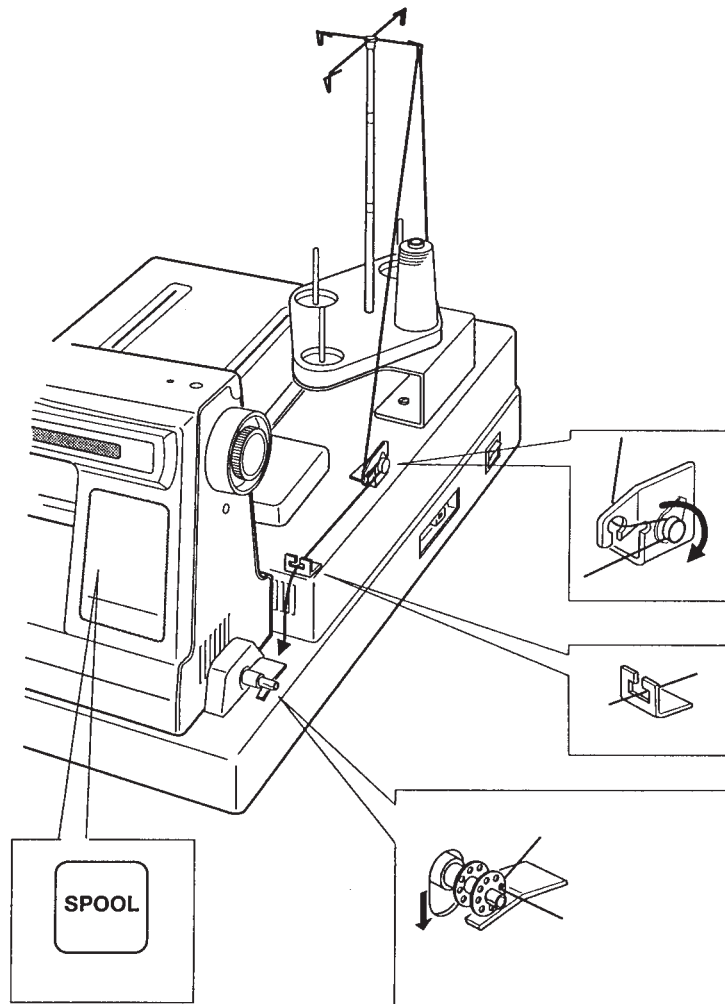
Figure 2-13

Setting the Bobbin

After thread has been wound onto the bobbin reel, follow the directions below to set the bobbin.

NOTE: Turn the power switch OFF when putting the bobbin case into the hook body.

1. Hold the bobbin case in your left hand so the open side is facing you.

2. Hold the bobbin reel in your right hand.

NOTE: It is recommended that you orient the bobbin reel so the thread is coming off in a clockwise direction.

3. Place the bobbin reel into the bobbin case.

4. Grasp the end of the thread, and pass the thread into the bobbin case slit.

5. Draw the thread under the tension plate and out the opening in the bobbin case, then pass the thread into the hole of the bobbin case horn (use the aid of the threader if desired).

6. Draw out the thread about 4 inches (10cm).

7. Set the bobbin thread tension (see Setting Thread Tensions later in this Chapter).

Installation

1. To install the bobbin case into the hook body, pull out the bobbin case lever as you do when you remove the bobbin case (the bobbin does not fall out of the case when the lever is held out).

2. Position the bobbin case horn so it points upward. Set the horn into the concave portion of the hook body as you insert the bobbin case onto the post in the middle of the hook body.

3. Release the bobbin case lever and check that the lever has grasped the end of the post, thus securing the bobbin case in the hook body.

Figure 2-14

Drawing Out the Bobbin Thread

After setting the bobbin thread and threading the embroidery thread, draw the bobbin thread out of the needle plate hole as follows:

1. Hold the end of the embroidery thread by the left hand. Do not stretch it so tightly that the needle tip is deflected.

2. Lower the needle once, and lift it again by rotating the handwheel toward you (counterclockwise) with your right hand.

3. After the embroidery thread take-up lever has reached the top, pull slightly on the embroidery thread, and the bobbin thread will come through the needle plate hole.

4. Pull the drawn bobbin thread to the left, and hook it to the thread holder of the auxiliary table.

5. Pull the embroidery thread loop to the left from below the Presser Foot, thus allowing it to pass through the bottom hole.

6. Hook the embroidery thread to the thread holder on the left side of the faceplate. Take up any looseness, and hang it down about 1 1/4 inches (3cm).

7. Use the face plate thread cutter to cut any surplus thread to a suitable length.

Setting Thread Tensions

Upper Thread Tension

The upper thread tension wheel works best when set between 4 and 5 on the numbered dial. A higher number on the dial will increase the tension and a lower number will decrease the tension. Experimentation with different threads and fabrics will give you experience on how to set the upper thread tension to best suit your needs.

Bobbin Thread Tension

For the best possible results, it is important to use the bobbin reels and bobbin thread that was furnished with your machine. Melco recommends the use of prewound bobbin thread, which is available from Accessory Resource Corporation.

1. Put the filled bobbin reel into the bobbin case. Make certain the thread goes through the slit in the side of the case and under the tension plate.

2. Support the bobbin case with one hand and lift the thread with the other hand.

3. Dangle the case by the thread. The tension should be tight enough that the case is supported by the thread. If the thread unwinds from the reel too easily, the tension must be increased. Tighten the setscrew (clockwise) on the outside of the case.

4. Gently jiggle the case like a yo-yo. The tension should be loose enough that a small amount of thread (about an inch) unwinds from the reel, then stops. If no thread comes out, the tension must be decreased. Loosen the setscrew slightly (counter-clockwise), then jiggle the case again.

5. Once the tension has been set properly, put the thread through the hole in the horn that is attached to the bobbin case, then install the case into the machine.

How to Select a Needle

The EP 1B embroidery machine uses a Class 15 household sewing machine needle. The following needle types are given to help guide you in selecting the proper needle for your various embroidering situations. This is only a suggestion, and you should choose your needles in the future through experience you gain while embroidering.

- HA x 1 65/9 sharp: for embroidering a thin material, like a pocket in the lining of a coat.

- HA x 1 75/11 sharp: standard, applicable to almost all embroidering.

- HA x 1 90/14 sharp: for embroidering a thick material, like a canvas bag.

- 65/9 ball point, 75/11 ball point, & 90/14 ball point: for knits, sweaters, & other delicate garments.

Needle Replacement

1. With the power switch turned OFF, raise the needle above the needle plate by turning the handwheel counter-clockwise.

2. Loosen the needle clamp screw with a screwdriver.

3. Remove the needle by pulling it down and out of the needle clamp.

4. Check the new needle for a flat portion on the shank. If there is a flat, rotate the needle so the flat is facing to the rear of the machine. This automatically positions the needle properly for installation. If no flat is on the shank of the new needle you must orient the needle with the "scarf' facing to the rear of the machine. This will leave the "thread groove" of the needle in the front. (You can easily feel the groove by rubbing your finger nail across the front of the needle.)

5. Insert the new needle fully into the needle clamp until it touches the pin.

6. Tighten the needle clamp screw securely.

Handwheel

Needle Clamp Screw
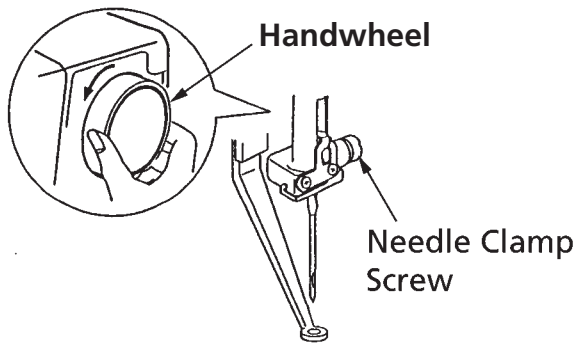
Figure 2-15

4. Quick Start

Loading Garments

Do not load garments or fabrics while the hoop is attached to the EP 1B. Doing so may damage the machine. Hooping is best accomplished on a clean, sturdy table.

Round Hoops

1. Place the outer frame on a flat surface with the label on the mounting plate facing up.

2. Lay the garment over the outer frame of the hoop and center the work area.

3. Put the inner frame over the garment and press downward, capturing the garment between the two hoops.

4. Pull the edges of the garment outward to stretch it tautly.

NOTE: Many fabrics will stretch unevenly and cause distorted embroidery if care is not used during hooping.

5. Tighten the adjusting screw to secure the outer frame. This will not tighten the garment, only the frame itself.

You may need to load some garments several times until you get it "just right."

Rectangular Hoops

When stitching large embroidery designs (maximum of 5.5" x 9.4"), use the rectangular embroidery hoop (available from Accessory Resource Corporation).

1. Place the outer frame (with the mounting plate) on a flat surface with the label on the mounting plate facing upward.

2. PLace the fabric over the outer frame.

3. Place the inner frame on tope of the fabric. Stretch the fabric securely to remove any looseness.

NOTE: Many fabrics will stretch unevenly and cause distorted embroidery if care is not used during hooping.

4. Tighten the adjusting screw to secure the outer frame. This will not tighten the garment, only the frame itself.

You may need to load some garments several times until you get it "just right."

Attach the Hoop

1. Hold the hoop at a slight angle (approximately 15 degrees) and slide the mounting plate into the pantagraph opening, as shown in Figure 3-1.
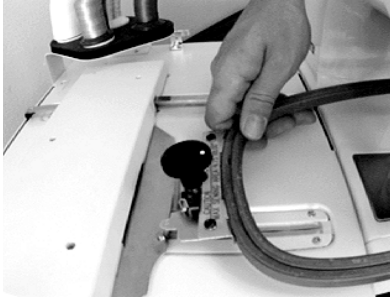
Figure 3-1
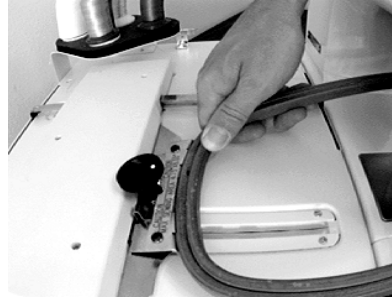
Figure 3-2

Figure 3-3

2. Lower the hoop, with the mounting plate centered over the two guide pins, as shown in Figure 3-2.

3. When the mounting plate is firmly placed on the guide pins, turn the mounting knob clockwise to secure the hoop, as shown in Figure 3-3.

To remove the rectangular embroidery hoop, turn the knob in the direction opposite the arrow then remove the mounting plate from the guide pins.

NOTE: When removing a fabric from a rectangular hoop, press the fabric holder from the rear side (lower face) of the hoop, and the fabric can be removed easily.

Embroider the Design

After sending a design to the EP 1B, follow the steps below:

1. Press [MENU] until the display reads DESIGN MENU.

2. Press [ENTER] to display the design. Select from the available designs by using the [⇩] or [⇧] keys.

3. Press [ENTER] again to select the design in the display. The display will then read RUN DESIGN.

4. Press [ENTER] once again to set the design queue.

5. Press [MENU] until the display reads TRACE MENU.

6. Press [ENTER]. The display will read CENTERING OFF.

7. Press the [⇩] key. The display will read TRACE OUTLINE. Press [ENTER] to calculate the trace area. The display will read TRACE <DESIGN NAME>.

8. Press [START] to trace the design.

If the hoop needs to be moved for embroidery, use the appropriate arrow keys, then press [START] to trace the design again.

9. Press [ALT] + [ENTER] until the display reads RUN DESIGN.

10. Press [START] two times. The EP 1B will embroider the selected design.

11. When the design is finished embroidering, the display reads END OF DESIGN. Press [START] three times to embroider this design again, select a new design from the DESIGN MENU, or press [MENU] until the display reads RESET MENU to clear the design from memory.

12. Press [ENTER] two times (until the display reads EP 1B READY.

13. Repeat procedure for the next design.

NOTE: If you lose your place during this sequence, go to the RESET MENU and press [ENTER] four times. It is easier to reset and start again than to back out of an error.

5. Detailed Operation

This chapter explains all the control panel keys and the various operation menus of the EP 1B embroidery peripheral.

The Control Panel

The Vacuum Fluorescent Display (VFD)

Figure 5-1

Displays the different menus and choices, as well as embroidering and design information (see Figure 5-1).

Start Key

Begins the embroidery process and restarts it if the machine was stopped. Also activates the Return to Origin, Trace Outline, and Move operations.

Stop Key

Halts the embroidering process. Also activates the Frame Back function. Press once and release and the machine will "back up" one stitch. Press and hold for 5 seconds and the machine will back up continuously, even after the key is released, until [STOP] is pressed again.

Arrow Keys

The arrow keys allow you to move the hoop and manually select the starting position for embroidery. Also used to move through the various operation menus.

Initialization Key

Pressing this key centers the chosen hoop directly beneath the needle. If you press the "Initialization" key during a stop while embroidering, the needle will return to the origin of the design.

Spool Key

Activates the bobbin winding mechanism, and manually stops winding.

Menu Key

Selects the different operation menus. Each time [MENU] is pressed the next menu will be shown on the display. After the last menu has been displayed, the first will be shown again.

Enter Key

Used to choose different menu options and to display design information during embroidery. Press once during embroidery and the stitch count and preset maximum embroidery speed are displayed. Press again during embroidering and the design name and present embroidery speed are displayed.

Alt Key

This key is used only in conjunction with other keys to activate the following options:

[ALT] + [⇧] increases the preset maximum embroidery speed while embroidering.

[ALT] + [⇩] decreases the preset maximum embroidery speed while embroidering, deletes design files in the Design menu.

[ALT] + [⇦] allows you to see the width of a chosen design from the centerpoint.

[ALT] + [⇨] allows you to see the height of a chosen design from the centerpoint.

[ALT] + [MENU] allows you to move through the operation menus in reverse order.

[ALT] + [ENTER] enables you to "undo" your current menu choice and return to the idle mode display.

The Light Emitting Diodes (LED)

Two of the control keys, Start and Menu, feature a small red LED in the upper left corner.

The Menu LED will glow to indicate a menu operation in progress.

The Start LED will glow while the machine is embroidering. If the embroidering is stopped (either manually or due to a thread break) the LED will blink continuously.

The Operation Menus

Design Menu

Press [MENU] until the display reads DESIGN MENU, then press [ENTER]. You can use the [⇧] or [⇩] keys to scroll through up to 16 different designs sent from the controller computer. If no designs are present, the display will read NO DESIGNS FOUND.

To select a design that is displayed, press [ENTER]. To delete a design that is displayed, press [ALT] + [⇩], then press [⇧] for "yes" or [⇩] for "no". If the design is sent from the controller computer using the Auto Delete feature, it will automatically be deleted at the end of embroidering.

NOTE: A design entered in the queue cannot be deleted if the display reads: DELETE FAILED.

Design Size Check

If you have a file name on the VFD screen, you can check the size of the design (in the units you have configured your EP 1B to use) based on the design origin.

1. Press [ALT] + [⇦] to show the size of the design in the X direction.

$$\boxed{\textbf{X -04.46}^c \textbf{ + 04.57}^c}$$

2. Press [ALT] + [⇨] to show the size of the design in the Y direction.

$$\boxed{\textbf{Y -03.07}^c \textbf{ + 01.60}^c}$$

Refer to Figure 5-2 for this example.

1.60cm

4.46cm

4.57cm

Origin

3.07cm
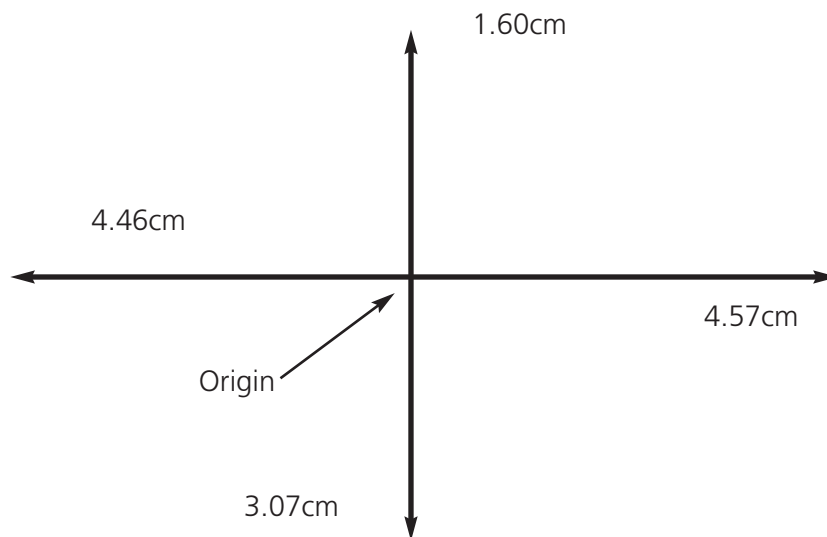
Figure 5-2

Run Design

Press [MENU] until the display reads RUN DESIGN, then press [ENTER]. The display will read SET QUEUE 01, then will display your chosen file name. Up to 28 queue settings may be assigned and their designs embroidered one after another. Once a file has been embroidered, it will be removed from the queue if the auto delete feature is activated and the next file in the queue will be selected. If the design is sent from the controller computer using the Auto Run feature, it will automatically be added to the queue.

NOTE: If you are embroidering one design at a time, always make certain the display reads: QUEUE 01. This ensures you are always embroidering the "current" design and not a "previous" one.

NOTE: A design will not be queued if the size of the design is over 300KB. If you try to queue a design over 300KB, the display will read MEMORY OVER.

Frame Menu

Press [MENU] until the display reads FRAME MENU, then press [ENTER]. The display will read FRAME BACK. Press [⇨] and the display will read FRAME FORWARD.

Press [STOP] once and release, and the machine will "back up" or "move forward" one stitch. Press and hold for 5 seconds and the machine will frame backward or forward continuously, even after the key is released, until [STOP] is pressed again. This operation will stop automatically at the origin, end point, or next color change.

Press [⇩] and the display will read RETURN TO ORIGIN. Press [ENTER] and the display will read: FRAME FORWARD. Press [START] and the hoop will move to the point of origin for the last design sewn.

Trace Menu

Press [MENU] until the display reads TRACE MENU, then press [ENTER]. The display will read CENTERING OFF. Press [⇨] and the display will read CENTERING ON. Press [ENTER] and the display will read CALCULATING. Once the design outline has been calculated, the display will read TRACE OUTLINE. Press [ENTER] and the display reads TRACE <FILENAME>. Press [START] and the hoop will move beneath the needle to trace the outline of the selected design.

If the outline of the design is larger than the hoop, the alarm will sound and the display will read FRAME OVER. If no design was selected, the alarm will sound and the display will read RUN JOB ERROR.

Hoop Selection

Press [MENU] until the display reads HOOP SELECTION, then press [ENTER]. You are offered four different hoop choices. Press [⇧] or [⇩] to select a hoop type and size, then press [ENTER]. Press the [INITIALIZE] key to center the selected hoop.The chosen hoop will remain selected even after the power has been turned off.

NOTE: Hoop sizes cannot be changed during embroidering.

Move Menu

Moving The Hoop Numerically

Press [MENU] until the display reads MOVE MENU, then press [ENTER]. The display will read X, Y MOVE. Press [ENTER] again and the display will read X+00.00 Y+00.00. Move the cursor to the area you want to change by pressing [⇦] or [⇨]. Change the coordinates by pressing [⇧] or [⇩] until the desired number has been reached. Press [START] and the hoop will move to the new location.

Seeing The Hoop's Physical Location

Press [MENU] until the display reads MOVE MENU, then press [ENTER]. The display will read X, Y MOVE. Press [⇩] and the display will read LOCATION. Press [ENTER] and the display will show the X and Y coordinates of the selected hoop based on the total embroidery area available to the EP 1B.
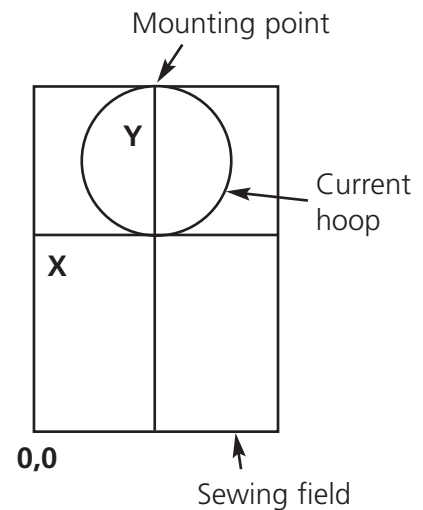
Figure 5-3

Figure 5-3 shows an example of this. The X,Y location of any design is based on the total embroidery area of the EP 1B, with the reference point being the lower-left corner of that area. The total embroidery area is 5.5" wide by 9.4" high, so all location measurements are based on that size.

Reset Menu

System Reset

Press [MENU] until the display reads RESET MENU, then press [ENTER]. The display will read SYSTEM RESET. Press [ENTER] and the display will read ** RESET **. All of the designs in the embroidery queue will be cleared but not deleted from memory.

Hard Reset

Press [MENU] until the display reads RESET MENU, then press [ENTER]. The display will read SYSTEM RESET. Press [⇧] or [⇩] and the display will read HARD RESET. Press [ENTER] and the display will read ** RESET **, followed by MEMORY CLEARED. All of the changes that you have made since the machine was turned on will be reset and the system defaults will be restored.

Auto Load

When the EP 1B is turned on, the EP 1B asks the host EDS system for the last design that was embroidered. When the computer is connected and the design is present on the hard drive, the design is automatically sent to the EP 1B.

Error Messages

BOBBIN THREAD

If the bobbin thread runs low, the alarm will sound and the display will read BOBBIN THREAD.

COLOR CHANGE

The EP 1B will stop with this display if color change data is read in the design.

DELETE FAILED

Cannot delete a design because a design that is queue'd cannot be deleted. Clear the queue on the System Reset submenu.

DUST! KEEP CLEAN

If excessive dust accumulates inside the bobbin case, the alarm will sound and the display will read DUST! KEEP CLEAN.

END OF DESIGN

The EP 1B will stop and display this message when a design is completed.

FRAME OVER

This means that the size of the design is larger than the hoop. Change to a larger hoop or make the design smaller.

FRAME OVER (LEFT, RIGHT, FRONT, BACK)

This means the design exceeds the hoop boundaries in the direction indicated. Move the hoop in the opposite direction before sewing.

JOB NOT COMPLETE

Hoop Selection menu was selected before embroidery was done. Change hoop selection after the machine has finished.

MACHINE RUNNING

The Frame, Move, or Reset menu was selected during embroidery. Select the menu when the machine has finished.

MEMORY ERROR

Defective part. Contact your dealer.

MEMORY OVER

Cannot queue the design because it exceeds 300KB. Make the design smaller on the EDS computer.

NO DESIGNS FOUND

No design was found when selecting the design menu. Transfer a design from the EDS computer.

RACK LIMIT

If your selected design is too large for the current hoop, there is a chance the hoop will move beneath the needle during embroidering, which will damage the needle, hoop, and possibly the drive mechanism. Using the Trace option prior to embroidering eliminates the chance of this occurring. However, if the hoop limits are exceeded, the alarm will sound and the display will read RACK LIMIT.

REMOVE THE LOCK!

If the upper shaft stops moving and locks up due to excessive thread build-up in the bobbin case, the alarm will sound and the display will read REMOVE THE LOCK! Clear the lock.

RUN BUFFER FULL

A new queue cannot be made because there are already 28 queue'd designs. Clear the queue in the System Reset submenu.

RUN JOB ERROR

Can be caused in one of three ways:

- Run menu was selected before a design was selected
- Trace menu was selected before a design was selected
- Trace menu was selected during embroidery

THREAD BROKEN

If the upper thread should break while embroidering, the EP 1B will stop embroidering, the alarm buzzer will sound, and the display will read THREAD BROKEN.

UP NEEDLE BAR

If the needle is lowered during the various operations to move the hoop only (e.g., trace) the hoop move is interrupted for safety. Turn the handwheel to lift the needle, and the hoop movement will continue.

X, Y MOTOR ERROR

Defective part. Contact your dealer.

6. Operator Maintenance

This section explains how to clean and correctly lubricate your EP 1B

Cleaning

A clean hook area is essential for proper operation. The hook area should be checked at the start of each day and each time bobbin thread is added.

Disassembling the Hook Area

1. Position the needle above the needle plate by rotating the flywheel.

2. Open the bed cover and remove the bobbin case.

3. Open the two hook race body cover holders by rotating the left one counterclockwise and the right one clockwise, as shown in Figure 6-1.

4. Remove the hook race body cover.
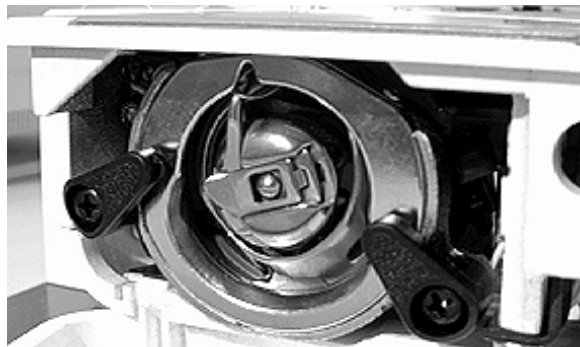
5. Remove the rotary hook.

Clean the interior of the hook race body cover and rotary hook body by using a brush or a soft, oily cloth only. Remove any dust from the two bobbin thread sensor holes inside the hook race body with a cotton swab.

NOTE: Do not use any cleaning chemicals to remove pieces of threads and dust.

Figure 6-1

Figure 6-2

Assembling the Hook Area

1. Insert the rotary hook into the hook race body.

2. Install the hook race body cover by fitting the hook race body pin into the hook race body slit.

3. Close the right and left hook race body cover holders.
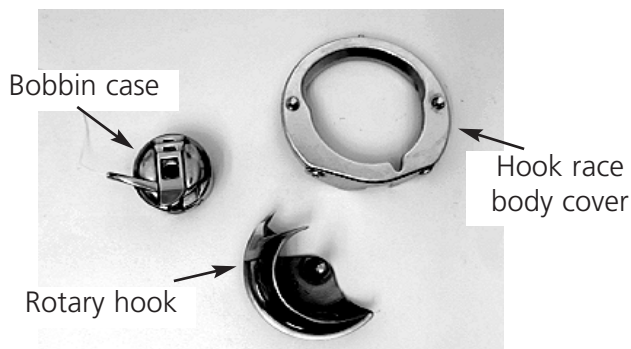
4. Install the bobbin case.

5. Close the bed cover.

Bobbin case

Hook race body cover

Rotary hook

Figure 6-3

General Cleaning

Cleaning the outside surfaces of the machine is not important for operation, but is an aesthetic consideration. Do not use harsh detergents such as powdered cleansers or "all-purpose cleaners" for the plastic or painted parts of your machine. Use mild cleaners or a mild detergent soap solution, along with a soft, clean cloth to wipe the surfaces.
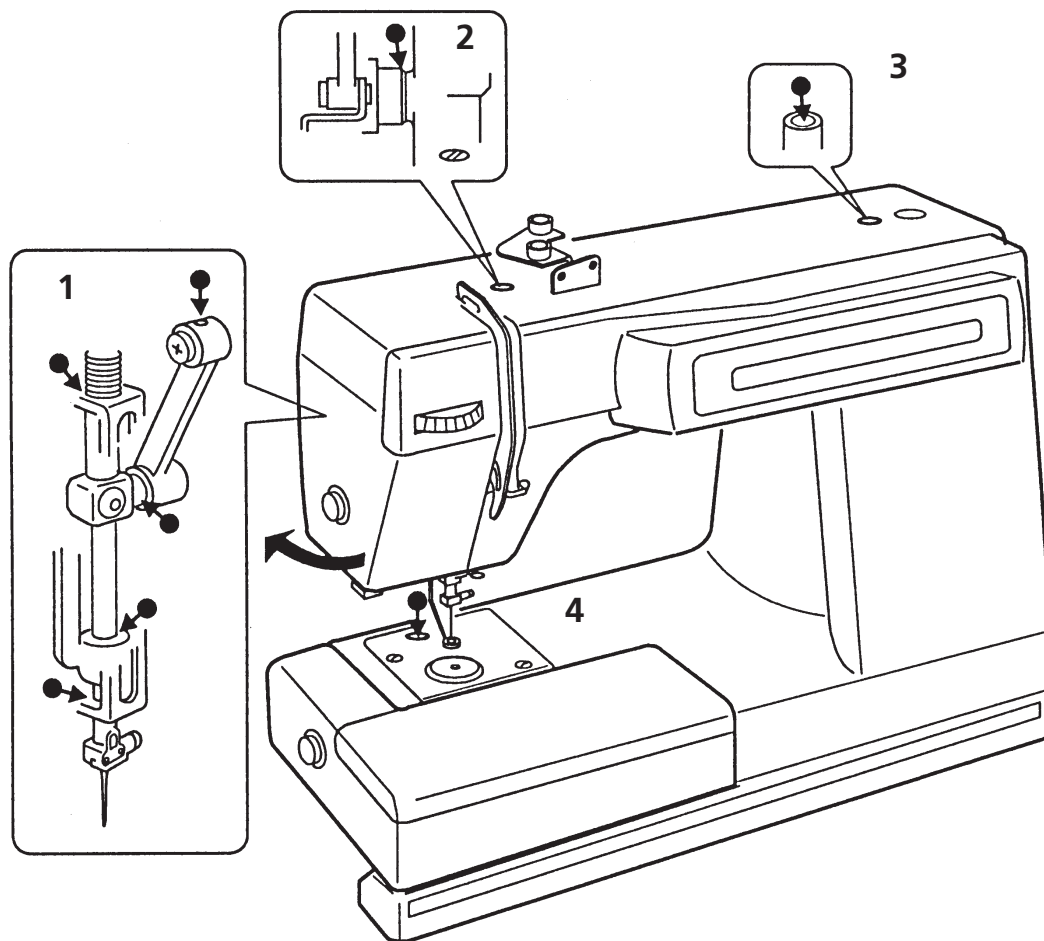
Lubrication

Lubricating the Hook Area

A well lubricated hook assembly is essential for proper operation of the machine. It should be oiled every day or each time you clean the hook assembly. Make certain that the needle is in the "up" position.

1. Remove the rotary hook body the same way you would to clean it.

2. Wipe the inside of the hook race body and the outside of the rotary hook body with an oil cloth. To avoid excessive lubrication, use an oil cloth only.

3. Reassemble the hook assembly.

General Lubrication

CAUTION! Stop the machine before performing any lubrication procedures.

Figure 6-4

Oil locations **1** and **2** with 1-2 drops of oil 1 time per **month**.

Oil locations **3** and **4** with 1-2 drops of oil 1 time per **week**.

After lubrication, the fabric and thread used during the next design may be contaminated with oil. To keep from contaminating garment, sew on some scrap fabric for a short while before continuing with real garments.

Never use any oil other than the sewing machien oil recommended by Melco (1 container of the recommended oil is included with the machine).

Replacement Parts

Light Bulb

If the light bulb needs to be replaced, swing open the door to the left of the takeup lever.

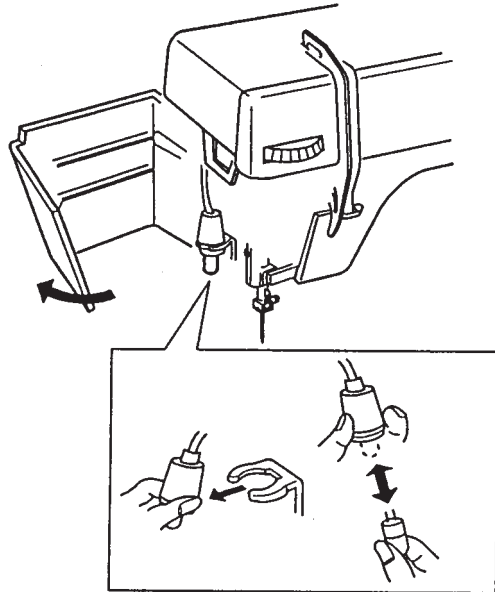Disconnect the machine from the power supply. Refer to Figure 6-7 to change the light bulb.

Figure 6-7

Tool Kit

The tool kit contains the following items and is included in the operator's kit:

Large Slotted Screwdriver	Small Slotted Screwdriver
Cleaning Brush	Scissors
Thread Tool	

Operator Kit

Following is a list of all items found in the kit:

ITEM	DESCRIPTION
12404	MANUAL, OPRTR, EP 1B
007134-06	THD METALLIC GOLD
007135-01	THD METALLIC SILVER
11390	THD, EPIC BOBBIN, WHITE, 6000YD CONE
T10858510	BCK, TA, 1.0 OZ, 8.5"x8.5" 100PK
C20858510	BCK, CA, 2.0 OZ, 8.5"X8.5" 100PK
353233-01	BOX, KIT, ACCESS, STELLAR
005911-01	HOOP, ASSY, PREMIER 9X5
11949	KIT, THREAD, STARTER
D50001	CHART, ARC POLY, STARTER KIT
763201-01	SOLUFAB, 5YD/PK, 20 MICRON
10121	CARD, WARRANTY REGISTRATION, EP 1B

5. Troubleshooting Guide

Thread breakage

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Design	Stitches are too short and/or too dense	Check the design for short and/or dense stitches, and edit the design to remove them
Needles	Incorrect needle for thread size being used	Replace with a compatible needle
	Needle is bent, damaged, or dull	Replace needle
	Needle position is incorrect	Install the needle correctly (see needle installation)
	Needle scarf and/or needle eye is burred	Replace needle
Thread	Incorrect thread size for the needle being used	Replace with a compatible needle
	Poor quality thread	Replace with a high quality thread or spray silicone on thread cone
	S-twist (right twist) thread being used	Replace with a Z-twist (left twist) thread
	Improper threading	Thread correctly (refer to threading section)
Upper/bobbin tension	Upper/bobbin tension too tight	Loosen upper/bobbin tension
	Ratio of upper thread to bobbin thread incorrect	Adjust upper and/or bobbin tension (see tension section)
	Incorrect check spring tension/stroke	Adjust/replace check spring (refer to the technical manual)
Fabric and hoops	Fabric is hooped loosely	Tighten fabric in the hoop (see hooping section)
	Inadequate backing allows fabric to pull into needle plate hole	Increase number of backing pieces
Rotary hook	Hook timing is incorrect	Adjust hook timing (refer to the technical manual)
	Rotary hook does not rotate smoothly	Clean, oil, or replace
	Gap between the UTC retaining tab and the rotary hook is too narrow	Widen the gap (refer to the technical manual)
Bobbin	Bobbin is damaged	Replace bobbin
	Bobbin thread feeds poorly	Repair or replace bobbin
Thread path	Scratches or burrs on thread path	Remove scratches with emery cloth
Needle depth	Needle depth is incorrect	Adjust needle depth (refer to the technical manual)

Skipped stitches

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Needles	Needle is bent or damaged	Replace needle
	Incorrect needle for the thread size being used	Replace with a compatible needle
	Needle is installed incorrectly	Install needle correctly (see needle replacement section)
Needle depth	Needle bar lowest dead point is incorrect	Adjust needle depth (refer to the technical manual)
Rotary hook	Hook timing is incorrect	Adjust gap (refer to the technical manual)
	Hook point is dull	Replace hook
Upper/bobbin tension	Bobbin thread does not feed out smoothly	Replace the bobbin and/or bobbin case
	Upper thread does not feed out smoothly	Adjust the upper tensions
Presser foot	A weak or broken presser foot prevents the needle from coming out of the fabric smoothly	Replace or strengthen the spring (refer to the technical manual)
Thread	Thread twist is too tight	Use the appropriate thread or consult the service department for suggestions
	Thread is too elastic to form an adequate loop	
Check spring	The check spring stroke is too high	Adjust the check spring stroke (refer to the technical manual)
	The check spring tension is too high	Decrease the tension

Needle breaks

POSSIBLE CAUSES	SOLUTION
Needle is bent	Replace needle
Needle installation is incorrect	Install correctly (see needle replacement section)
Needle strikes the rotary hook	Adjust hook timing refer to the technical manual)
Poor needle quality	Replace needle
Dull needle tip	Replace needle
Needle is too small for the fabric	Replace with compatible needle
Needle strikes the needle plate	Adjust position of the needle case (refer to the technical manual)
Needle strikes the UTC	Reposition the UTC (refer to the technical manual)

Loose stitches

POSSIBLE CAUSES	SOLUTIONS
Upper thread tension too low	Adjust the upper thread tensions (see tension section)
Bobbin tension too low	Adjust the bobbin case set screw
Uneven thread size	Replace with quality thread
Upper tension inconsistent	Clean tensioner parts
Rotary hook timing is incorrect	Adjust hook timing (refer to the technical manual)
Inadequate rotary hook lubrication	Lubricate the rotary hook (see the rotary hook lubrication section)
Design density too tight	Decrease density (refer to the EDS manual for design editing)
Gap between UTC retaining tab and hook too wide	Adjust gap (see the UTC adjustments section)

Other issues

ISSUE	SOLUTIONS
Bird Nesting	Thread may be wrapped around the hook assembly; check hook timing and the UTC retaining finger (refer to the technical manual)
Burrs	Check the needle plate or run the thread test design

Quick Reference Guide

for the

EP 1B

Melco
Embroidery Systems

EP 1B QUICK REFERENCE

Start-up with a Premier Controller

1. Turn on the EDS Computer and start the EDS application.
2. Turn on the EP 1B peripheral.
3. Transmit the design from the EDS to the EP 1B.

Steps in **bold type** are critical to operation.

DESIGN MENU
1. **Press [ENTER] to display the design name.**
2. **Select designs using [UP] or [DOWN] arrows.**
3. **press [ENTER] to select the design; display shows RUN DESIGN.**
4. **Press [ENTER] to set the design queue.**
5. Press [ENTER] to display stitch count and machine speed.
6. Press [ENTER] to display the design name and embroidery speed.
7. Press [ALT]+[LEFT] arrow to show design size in the x-plane.
8. Press [ALT]+[RIGHT] arrow to show design size in the y-plane.

FRAME MENU
1. Press [ENTER].
2. Select Frame Forward by pressing [RIGHT] arrow and Frame Back by pressing [LEFT] arrow.
3. Press [DOWN] arrow to return to the design origin.

4. Press [STOP] to move forward or back (depending on which is selected) through the design.
5. Press [START] to return to the design origin.

TRACE MENU
1. **Press [ENTER].**
2. **Use the [LEFT] or [RIGHT] arrow keys to turn centering ON or OFF.**
3. **Press [DOWN] arrow to select TRACE OUTLINE.**
4. **Press [ENTER] to calculate TRACE AREA.**
5. **Press [START] to TRACE DESIGN.**
6. **Press [ENTER] to ready machine for sewing.**
7. **Press [START].**
8. **Press [START] again to begin embroidering.**

HOOP SELECTION MENU
1. Press [ENTER].
2. Use [UP] or [DOWN] arrows to select hoop size.
3. Press [ENTER].

MOVE MENU
1. Press [ENTER] 2 times.
2. Use the [LEFT] and [RIGHT] arrows to set number positions.
3. Use the [UP] or [DOWN] arrows to select appropriate numbers for move.
4. Press [START] to move hoop to new position.
To display the current hoop position, press [DOWN] arrow, then [ENTER].

RESET MENU
1. **Press [ENTER] to select SYSTEM RESET.**
2. **Press [ENTER]; display shows RESET.**
3. **Press [ENTER] to reset the machine.**
4. **Press [ENTER] to display EP1BXXXXX READY.**
5. **Press [MENU] to begin the process again.**