HAPPY HCS-1201 Operations & Maintenance
For Maintenance/Technical Personnel

This guide is intended to provide convenient, clearly-written and illustrated instructions for procedures that maintenance personnel are required to know for servicing HAPPY HCS-1201 Voyager. It does not replace the factory-developed maintenance manual, which remains as the principal technical reference for this machine.

Chapter 4: Troubleshooting and Maintenance

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Recovering From Sewing Interruptions

Your machine remembers the last-sewn stitch and position after most sewing interruptions, including thread breaks, hoop strikes, or shut-down. As long as the garment remains hooped, there is a good chance you can resume sewing once you’ve fixed the problem. Note: Sudden power loss or emergency shut-down may result in slight mis-alignment.

General Steps for Recovering from Sewing Interruptions

1. **Fix the problem.** Repair thread break/replace needle, clear any blockage of thread or broken needle. Check that the bobbin and needle are re-threaded properly.

2. **Verify sewing position.** If the current needle does not appear to be over the correct position to resume sewing, press **FUNC**, then arrow down to **POSITION**, and press **SET**. If the sewing arm has been moved off the current sewing position, the carriage should return to this position now; otherwise it will not move. The stitch counter should also now reflect the current sewing position.

3. **Back up if necessary.** To overlap slightly to prevent gaps, press the **STOP** key until the satisfied.

4. **Press START** to resume sewing.

If the Garment Has Become Mis-Aligned

If you find the machine is slightly off-alignment when resuming sewing, follow this procedure:

1. **Make note of the current sewing position (stitch#).** At this point, also make a mental note (best-guess) of how far off the sewing position is, and in what direction.

2. **Return to the design Origin position.** Do this by pressing the **FUNC** key, selecting **ORIGIN**, and pressing **SET**.

3. **Adjust the position of the hoop** using the arrow keys based on your guess in step 1.

4. **Return to the stitch # of the last-sewn position** by pressing **MENU**, choosing **POSITION**, and pressing **SET**. Arrow down to the third option (stitch #), enter the stitch # from step 1 using the arrow keys and press SET. The sewing arm will now move to the last-sewn position. Press **ESC** to return to the main (drive) screen.

5. **Test-sew or trace to verify before resuming sewing.** If you’re still slightly off, repeat steps 1-4 above.
Basic Troubleshooting: Thread Breaks

We've listed the most common causes for thread breaks are listed in a flowchart below, in order of frequency. Learn this checklist to keep your machine sewing trouble-free.

Thread Break

Is the thread actually broken?

NO

Check if:
(1) bobbin out & reload
or
(2) if sensor is working/properly threaded

YES

Check if:
- thread feed/ path: is it correct at all points?
- feed: is it smooth? Is it catching on anything?
- Correct Needle orientation? Scarf should be at back

Check Thread Feed/Path:
- Check condition/quality of thread:
  Old or mis-handled thread will break more frequently, especially when running in significant volume/speed.
  Use quality 40-wt polyester or rayon embroidery thread.

If path/feed is not the cause, then:

Maybe a design problem if breaks in the same place(s):
1. Turn on the Stitch Sweeper, and reload the design, or
2. Have the digitizer fix the bad section or run a design cleanup to remove short stitches.

If the design is not the cause, then:

Check for damage/scarred surfaces from hoop strike or needle break. Broken bits of needle/other metal may scar/bur surfaces that contact thread i.e. needle, presser foot, needle plate, point area of rotary hook. Replace needle, use fine abrasive cord/cloth to "polish" these surfaces smooth again.

Re-thread and sew again.

Thread Breaks: Other Causes

Sometimes less-obvious causes may contribute. These regular maintenance steps will further reduce causes for thread break:

Keep Hook Area Clean
Over time, lint, bits of thread and other debris + oil combine in the rotary hook area to coat important sewing surfaces and interfere with sewing. Clean this area from time to time (more if you run your machine hard) with compressed air and/or a spray cleaner such as Hook Wash.

Improper Thread Tension
Over-tight AND over-loose tension either at the bobbin or the upper thread contribute indirectly to thread breaks.

Rotary Hook Timing
If you've eliminated the most common causes, check to see if the rotary hook may have slipped slightly out of time. Read more on rotary hook timing, its significance, how to check and adjust later on in this chapter.
General Maintenance and Upkeep

- **Oiling:** Use only white sewing machine oil
  
  There are 2 oiling schedules based on how frequently the machine is used:
  
  - **Every 8 hours** (or more if used heavily) – 1 drop of oil on the "race" of the hook as shown.
  
  - **Every 40 hours** (as shown in diagram below, right)
    
    (a) **needle bars:** 1 drop on each
    (for b, c, and d, move head to Needle 1)
    (b) **“cup”** cut-out marked in yellow on machine
    (c) **reciprocator and presser foot shafts,**
        upper portion
    (d) **reciprocator and presser foot shafts,**
        lower portion

- **Cleaning**
  
  **Clean the rotary hook area** on a regular basis (especially with regular use) using solvent and compressed air. Helps prevent buildup of debris/oily film from lint/dust and oil spray. Reduces thread breaks & other sewing problems. Remove the needle plate first to get better access for cleaning.

  Removing the needle plate exposes more of the rotary hook area for more-thorough cleaning.
Advanced Maintenance/Repair: Hook Timing

- Rotary Hook Timing

About the Rotary Hook
The rotary hook is responsible for catching the top thread and creating a loop around the bobbin thread in order to form a stitch. To catch the top thread, the point of the rotary hook must arrive at a precise moment and distance to the needle (timing and clearance). When the timing and clearance are out of adjustment, the machine will generally experience missed stitches, looping, thread breaks and needle breaks.

Inspecting Rotary Hook Timing and Clearance
If you suspect that your rotary hook timing is off, you can check this easily yourself following this short procedure.

1. Select needle six (6). Do this using the keys on the control panel.

   Note: While the timing can be set on any of the twelve needles, it is generally a better idea to use a needle that is near the center of the moving head to account for possible side-to-side variation between needles one and fifteen.

2. Remove the needle plate. Do this by loosening each of the two (2) flathead screws with an offset screwdriver.

3. Remove the bobbin case.

4. Engage the needle. Do this by pressing the P.FOOT key, which lowers the presser foot. Then, grab the needle bar over the presser foot, and pull it down until it locks into place.

5. Turn shaft to 25 degrees. Do this with a 3mm Allen wrench. Turn the main shaft from the rear of the machine clockwise to L+25 (25 degrees). The needle should be down and in the basket area of the rotary hook at this point.
Inspecting Rotary Hook Timing and Clearance (continued)

Inspect TIMING and CLEARANCE at THIS point. (25 degrees.)

**TIMING:**
Viewing the hook assembly from the front of the machine, the point of the rotary hook should be hidden behind the needle.

If this point is visible to the left or right of the needle, the machine is not in time and will require adjustment.

**CLEARANCE:**
Viewing the hook assembly from the side of the machine, the point of the rotary hook should be approximately 0.1-0.15mm from the back of the needle (about the thickness of a business card).

If the point is either touching or too far from the needle, the machine is not set correctly and will require adjustment.

Timing for HCS-1201 is at 25 degrees.
Advanced Maintenance/Repair: Hook Timing

To Adjust Rotary Hook Timing
It is important that all owners learn to inspect rotary hook timing, but the actual adjustment requires some precision and skill, and should not be attempted if you do not feel comfortable doing this. If in doubt, consult appropriate support staff before continuing.

1. Prepare the Machine. Do this by completing steps 1-5 on page 5 of this chapter.

2. Loosen the Rotary Hook. Do this by loosening each of the three (3) set screws that attach the rotary hook to the rotary hook shaft. To access each of these screws, use the start and stop keys to turn the rotary hook clockwise or counterclockwise (or turning the wheel manually with the 3mm T-handle). Try to loosen the screws only just enough to break the rotary hook loose on the shaft.

3. Reset the dial to 25 degrees. Check that the needle is lowered into the rotary hook basket once more and that the main shaft dial is set 25 degrees. Adjust the main shaft as necessary by hand at rear of the machine.

4. Move hook and tighten screws. Adjust the timing and clearance simultaneously according to the diagrams on the previous page. Tighten screws carefully.

Helpful Hints
- Have a helper hold the timing wheel at 25 degrees with the T-handle wrench as you make your adjustments and tighten the screws.

- Tighten each screw just enough to snug the hook back on the shaft, then re-check the timing, then tighten each screw further. Tighten all screws as firmly as you can manage!

- Use a quality flat-tip screwdriver with a wide grip to help you apply enough torque to secure the rotary hook tightly on the shaft.
Advanced Maintenance: Hook Retainer Adjustment

About the Hook Retainer
The hook retainer is located at the front of the rotary hook, near the top of the bobbin case. It is responsible for keeping the inner basket and bobbin case from spinning freely, while still allowing thread to pass across the front of the rotary hook.

Adjusting the Hook Retainer
Follow this short procedure to adjust the hook retainer:

1. **Remove the needle plate.** Do this by loosening each of the two (2) flathead screws with an offset screwdriver.

2. **Loosen the black screw.** But do not remove. This will be the small button head Allen screw toward the right corner, facing downward.

3. **Move the retainer.** Looking downward, set the stub located at the center of the retainer to approximately 0.8mm from the back edge of the rotary hook basket; or about halfway into the basket.

4. **Tighten Screw.** And check that the inner basket of the rotary hook does not rotate freely.
Advanced Maintenance: Presser Foot

Inspecting Presser Foot Height
Follow this procedure to check proper presser foot height:

1. **Engage the needle.** Do this by pressing the *P.FOOT* key, which lowers the presser foot. Then, grab the needle bar over the presser foot, and pull it down until it locks into place.

2. **Turn the shaft to 0 degrees.** Do this with using a 3mm hex wrench to turn the timing wheel at the rear of the machine.

3. **Check the clearance.** The distance between the plate and pressure foot should be approximately 1.2mm; or slightly less than the width of a dime.
Advanced Maintenance: Presser Foot

Adjusting Presser Foot Height

1. Take note of the adjustment needed by completing steps 1-3 on previous page.

2. Return the needle to the home position by pressing the T.CUT button or manually turning the shaft to 270 deg. as indicated by the timing wheel at the back. This MUST be done before performing step 4 below.

3. Remove retaining clip shown with a 1.5 mm hex wrench, from the end of the metal guide rail on the control panel side of the moving head.

4. Index the head past the needle 1 position to needle “0”. Do this by turning the manual needle select knob clockwise.

5. Loosen the set screw and adjust the presser foot height. This is a phillips-type screw that fastens the pressure foot to the needle bar. Do not remove the screw. Adjust until the clearance measures approx. 1.2 mm or slightly less than the width of a dime.

6. Tighten the set screw.
Inspecting Needle Depth
It may be useful to obtain a needle depth gauge to check this more easily.

1. **Engage the needle.** Do this by pressing the *P.FOOT* key, which lowers the presser foot. Then, grab the needle bar over the presser foot, and pull it down until it locks into place.

2. **Turn the shaft to 5 degrees.** Use a 3mm hex wrench to turn the timing wheel at the rear of the machine.

3. **Check needle depth.** Inserting the plastic depth gauge into the rotary hook. The tip of the needle should lightly scratch the surface of the gauge.
Advanced Maintenance: Needle Depth

Adjusting Needle Depth

1. **Prepare the machine.** Do this by completing steps 1-3 on the previous page.

2. **Remove the lower faceplate.** Follow the procedure below to do this.

   - Remove the 2 screws along the bottom edge of the lower faceplate.
   - Remove these 2 screws along the control-panel side of the lower faceplate.
   - Careful – the lower faceplate will fall. Be ready to either hold the lower plate aside or leave unthreaded.

   The correct upper boss screw is now exposed for adjustment.

3. **Loosen the upper needle bar boss, and adjust.** Do NOT loosen the lower needle bar boss. Continue to adjust until the needle lightly scratches the gauge.

5. **Tighten the upper needle bar boss.** Make certain to aim the needle forward to its original position before tightening.
Advanced Maintenance: Moving Knife Timing

About the Moving Knife
The moving-knife is located beneath the needle plate and is responsible for trimming both the upper and bobbin thread simultaneously. It works by catching these two threads and drawing them back toward the black fixed-knife (not shown). The moving-knife creates a scissoring action as it slides beneath the fixed-knife, returning to its closed position. The knife must open and close at a precise moment for a trim to occur. When the knife timing is not adjusted correctly, the machine will generally fail to cut, producing knife and catcher errors.
Advanced Maintenance: Moving Knife Timing

INSPECTING KNIFE TIMING
Follow the procedure below to check moving knife timing. Refer to the diagram on the previous page.

1. **Remove the needle plate.** Do this by loosening each of the two (2) flathead screws with an offset screwdriver. This will allow you to observe the action/position of the moving and fixed knives.

2. **Assemble the manual engagement lever.** Do this by attaching the knob to the Lever (shown in green). This allows you to cycle the trimmer manually to re-set the trim system. The knob is white and plastic, and attaches to the lever that is exposed through the small access hole near the bottom edge of the left hand cover.

3. **Turn main shaft to 90 degrees** with a 3mm Allen wrench. Turn the shaft from the rear of the machine clockwise to L+90 (90 degrees).

4. **Engage the lever.** Do this by pressing the white knob down and maintaining pressure.

5. **Turn main shaft to 116 degrees.** Turn the main shaft from the rear of the machine clockwise to L+116 (116 degrees). The moving-knife should begin to open at this point and there should be some resistance on the main shaft.

6. **Turn shaft to a few more degrees.** From L+116, continue turning the main shaft clockwise. If the moving-knife is still not opening, the knife timing must be adjusted.
Advanced Maintenance: Moving Knife Timing

ADJUSTING KNIFE TIMING
Follow the procedure below to adjust moving knife timing. Refer to the diagram on page 13.

1. **Remove the needle plate.** Do this by loosening each of the two (2) flathead screws with an offset screwdriver.

2. **Remove the left-side cover.** You may also remove the power supply unit to provide more working space (optional). (see the illustrated procedure on the next page)

3. **Depress the manual engagement lever.** This can be performed with or without the white plastic knob. The lever may not depress completely. Maintain constant downward pressure while performing steps 4 through 8 below.

4. **Turn the main shaft** with a 3mm Allen wrench, clockwise until the manual engagement lever is completely down and the roller engages into the trim cam. Stop when there is resistance at the main shaft.
Advanced Maintenance: Moving Knife Timing

ADJUSTING KNIFE TIMING
(continued)
5. **Loosen the trim cam collar.** Do this by loosening the corresponding set screw.

6. **Turn shaft to 115 degrees.** Turn the main shaft from the rear of the machine to L+115 (115 degrees).

7. **Position the cam.** Do this by rotating the top of the cam toward you, until it stops against the roller pin, then maintaining light pressure to the left.

8. **Tighten the trim cam collar.** Do this by tightening the corresponding set screw.

9. **Release the manual engagement lever.**
Advanced Maintenance: Moving Knife Timing

Removing the left-side cover: You’ll need to remove the machine’s left side cover.

Remove the thread stand and base (you can do this as 1 unit, and set aside. Then, remove the bobbin winder tension knob.

Insert a flat-tipscrewdriver into the slot on the tension knob shaft to and loosen before removing.

Next, remove these 2 screws (indicated by the red arrows)

Remove the power supply and bobbin winder motor assembly. This gives a clear view and better access to the trimmer shaft/motor/cam, but is not necessary.

First, unplug the power supply as shown.

Next, remove the 2 mounting screws. There is 1 shown here, and and additional 1 where it joins the main motor

Finally, remove this small cover – there are 2 phillips-type screws that hold it in place.
Advanced Maintenance: Needle Detection

ABOUT NEEDLE DETECTION
Whether it is the result of a recent memory re-initialization or a machine malfunction, it is sometimes possible for the machine to confuse needle positions. It may detect needle four, for example, when the machine is actually on needle seven. More commonly, the moving head will simply index completely off of the machine when a needle move key is pressed. When this occurs, the needle detection must be reset.

SETTING NEEDLE DETECTION
1. **Turn the machine on.** Then press the *Set* button.

2. **Move the head manually to needle one** using the needle selection knob.

3. **Turn the machine off.**

4. **Turn the machine on while pressing and holding Set.** Once the machine is on, release the *Set* button. This will put the machine in “Maintenance Mode”. Press *Set* once more for the typical frame move sequence.

5. **Press the *Menu* button.**

6. **Select Other.** Do this by indexing to “Other” and pressing *Set*.

7. **Select Maintenance.** Do this by indexing to “Maintenance” and pressing *-Set*.

8. **Input Code.** Do this by using the up/down arrows to change numbers and the left/right arrows to change decimal positions. The code is 2251. Press *Set* when finished.

9. **Select Machine.** Do this by indexing the arrow to “Machine” and pressing *Set*.

10. **Input letter D.** Do this by changing the highlighted letter to “D” and pressing *Set*. 
Advanced Maintenance: Needle Detection

SETTING NEEDLE DETECTION (continued from previous page)

11. **Move the head to Needle twelve.** Do this MANUALLY by turning the needle selection knob clockwise at the right side of the machine, near the top edge. Make certain to align the red dot.

12. **Input letter E.** Do this by changing the highlighted letter to “E” and pressing **Set.**

13. **Input letter F.** Do this by changing the highlighted letter to “F” and pressing **Set.** Wait for the monitor display to return.

14. **Move the head to Needle twelve.** Do this MANUALLY by turning the needle selection knob counter clockwise. Check that the needle position on the monitor corresponds to each needle as it passes across the needle plate. If the two do not correspond, repeat steps “j” through “n”.

15. **Turn the machine off.** The machine will automatically exit “Maintenance Mode.”
Advanced Maintenance: Machine Settings

SETTINGS
If the machine exhibits problems with control panel function/electronics, a simple procedure is available, directly in the control panel, to re-initialize the machine’s on-board program. This also sets all settings in the SETTINGS sub-menu to factory defaults.

RE-INITIALIZING MACHINE SETTINGS
1. **Turn the machine on** and press the **Set** button as normal to boot to the main (drive) screen.

2. **Press the Menu button and select “Other”** using the blue arrow keys. Then, press **Set** to access its sub-menu.

4. **Select System.** Do this by indexing to “System” and pressing **Set**.

5. **OK.** Do this by indexing to “OK” and pressing **Set**. The machine will restart itself automatically.

6. **Press the Menu button and select “Other”** using the blue arrow keys. Then, press **Set** to access its sub-menu.

7. **Select Speed.** Do this by indexing to “Speed” and pressing **Set**. The machine will display “Caution: Main Shaft Turns”.

8. **Select OK.** Do this by indexing to “OK” and pressing **Set**. The machine will begin to run (without engaging the needle) from slow to fast, and displays “complete” when finished.
Advanced Maintenance: Memory

MEMORY

The nature of storing electronic data sometimes creates opportunities for the machine to misinterpret the information it needs to process. Stored designs can develop “glitches” that will affect the performance of the machine or cause it to malfunction entirely. Re-initializing the memory can be a good resource for solving general machine malfunctions.

RE-INITIALIZING MACHINE MEMORY

There are 2 ways to do this, the simpler, more convenient way by booting the machine into a special maintenance mode and choosing the appropriate option to re-set memory. If, however, the control panel is completely inoperable, there is a way to re-set the machine directly on the control panel circuit board, which is outlined on the next page.

Re-Initializing from “Maintenance” Mode

1. **Boot the machine into Maintenance mode.** Do this by powering on the machine while pressing the **MENU** key.
   The machine will appear to start normally. On power-on, press **SET** to boot to the main (drive screen). Then, press **MENU** to access the main menu, index to “OTHER” and press “SET”. Choose MAINTENANCE, then press SET. Enter access code 2251 and press SET. The machine is now in a diagnostic/maintenance mode.

2. **Re-set the machine memory.** In the menu that appears, index to MEMORY and press **SET**. Follow the screen prompts afterwards to clear machine memory.

2. **Re-initialize machine settings** according to the procedure on page 18.

3. **(Optional) Reset needle detection.** This is sometimes necessary to after a memory re-initialization.
Advanced Maintenance: Memory

RE-INITIALIZING MACHINE MEMORY  (continued)

*Hardware-Re-Initialization of Machine Memory from the control panel circuit board*

1. Turn the machine off.

2. **Remove the four screws on the control panel.** Do this using a phillips screw driver. The screws are located near each corner at the rear of the control panel.

3. **Separate the monitor.** Do this by gently leaning the monitor away from the LCD board and rear of the control panel. Be aware of the delicate wires that connect the two halves.

4. Turn dip switch-1 down.

5. **Turn the machine on.** Then press the Set button. The machine will display “Data Initialize”.

6. Turn the machine off.

7. Turn dip switch-1 up.

8. **Reassemble the monitor.** Do this by reinstalling each of the four screws at the rear of the control panel.

9. **(Optional) Reset needle detection.** It is sometimes necessary to reset the needle detection after a memory re-initialization (refer to page 16)
## Error Code List and Measures

<table>
<thead>
<tr>
<th>Code</th>
<th>Error</th>
<th>Description</th>
<th>Resolution/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Circuit Board</td>
<td>Abnormality detected in control circuit board</td>
<td>Power down machine and, after 10 seconds, power on again.</td>
</tr>
<tr>
<td>002</td>
<td>Power Source</td>
<td>Power failure or abnormal voltage.</td>
<td>Power down machine and, after 10 seconds, power on again.</td>
</tr>
<tr>
<td>004</td>
<td>System Memory</td>
<td>System memory fault</td>
<td>Power down machine and, after 10 seconds, power on again.</td>
</tr>
<tr>
<td>015</td>
<td>Inverter Trip</td>
<td>Caused most frequently by uneven or inadequate AC power to the machine.</td>
<td>Cut power and turn main shaft by hand. If turns normally, power on again. Check inverter for Error. Should be set at 0.0. Also check power coming into machine. In our experience, this is triggered by inadequate or irregular voltage (i.e. fewer than 110v) coming from the AC outlet.</td>
</tr>
<tr>
<td>016</td>
<td>X-assembly alarm</td>
<td>X-motor-related trouble, i.e. x-motor overload, short circuit, problem with motor drive unit</td>
<td>Power off machine, test pantograph movement manually. Check for any abnormality throughout full range of motion. If none found, power on and test. May need to check PMD (pulse motor driver)</td>
</tr>
<tr>
<td>017</td>
<td>Y-assembly alarm</td>
<td>Y-motor-related trouble, i.e. Y-motor overload, short circuit, problem with motor drive unit</td>
<td>Power off machine, test pantograph movement manually. Check for any abnormality throughout full range of motion. If none found, power on and test. May need to check PMD (pulse motor driver)</td>
</tr>
<tr>
<td>018</td>
<td>Main shaft error</td>
<td>Main shaft will not turn.</td>
<td>Currently, the most frequent cause of this error is “birdnesting” at the rotary hook. To troubleshoot, turn main shaft manually (use 3mm hex wrench to turn timing wheel at rear of machine) to check for blockage along full range of motion, then locate and clear blockage. Then, restart and/or perform thread cut to clear error.</td>
</tr>
<tr>
<td>020</td>
<td>Needle detect</td>
<td>Machine not detecting current needle # correctly, or needle bar selection unit is off its stop position. Trouble with position-detecting circuit board.</td>
<td>(1) Attempt to clear by using needle select buttons to move the head to an adjacent needle, then back again.  (2) Failing that, turn needle bar selector knob to center fixed position for the current needle (range within which needle bar selector doesn't move).</td>
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<td>021</td>
<td>Needle move</td>
<td>Motor for needle bar selection unit has stopped partway through its path.</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td>022</td>
<td>Needle move</td>
<td>Head unable to move due to malfunction of thread take-up lever or trouble of</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>position-detecting circuit board</td>
<td></td>
</tr>
<tr>
<td>024</td>
<td>Needle Center</td>
<td>Needle bar stop position is off-center; needle bar stop position is out of</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>place.</td>
<td></td>
</tr>
<tr>
<td>025</td>
<td>Needle over</td>
<td>Needle # out of range of actual needles on given machine.</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td>026</td>
<td>Needle differ</td>
<td>Mismatch between actual selected needle position and needle number showing in</td>
<td>Boot machine into maintenance mode following the procedure on page 16. Follow the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the control panel.</td>
<td>procedure to re-program needle selection using Machine adjustment menu options D,E, and F.</td>
</tr>
<tr>
<td>030</td>
<td>Slow-speed</td>
<td>Improper speed adjustment at low speed. Speed does not decrease below</td>
<td>Perform automatic speed re-set: (1) Choose “OTHER” from the main menu, then select</td>
</tr>
<tr>
<td></td>
<td>mismatch</td>
<td>100rpm at low speed.</td>
<td>“SPEED”. After warning, machine will turn main shaft slowly from stop to max speed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(needle does not engage).</td>
</tr>
<tr>
<td>050</td>
<td>C point sensor</td>
<td>Main shaft is stopped in a position other than “C” point (270 degrees)</td>
<td>Press SET and choose the AUTO option to allow machine to attempt to clear this error</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>on its own. Barring that, choose “MANUAL” and turn the shaft back to 270 degrees.</td>
</tr>
<tr>
<td>051</td>
<td>L Sensor</td>
<td>Timing detection board fault, or marred photo-sensor. Malfunction of &quot;Lowest</td>
<td>Check to see if photo sensor is clean or if the slit plate contacts sensor. Also check</td>
</tr>
<tr>
<td></td>
<td></td>
<td>needle position&quot; sensor on detection circuit board.</td>
<td>rotary hook area for bird-nesting and clear thread/blockage as necessary.</td>
</tr>
<tr>
<td>052</td>
<td>C Sensor</td>
<td>Timing board detection fault, or marred photo-sensor. Malfunction of &quot;Color</td>
<td>Check to see if photo sensor is clean or if the slit plate contacts sensor. Also check</td>
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<tr>
<td></td>
<td></td>
<td>change position&quot; sensor on timing detection circuit board.</td>
<td>rotary hook area for bird-nesting and clear thread/blockage as necessary.</td>
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<th>Error</th>
<th>Description</th>
<th>Resolution/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>055</td>
<td>Safety Cover</td>
<td>Switch not closed on left side of head due to safety cover being open</td>
<td>Close safety cover or close switch.</td>
</tr>
<tr>
<td>060</td>
<td>X Limit</td>
<td>Head unable to move due to malfunction of thread take-up lever or trouble of position-detecting circuit board</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td>061</td>
<td>Y Limit</td>
<td>Needle bar stop position is off-center; needle bar stop position is out of place.</td>
<td>Follow same procedure listed for error 020</td>
</tr>
<tr>
<td>090</td>
<td>Miss reception</td>
<td>Not implemented</td>
<td>Not implemented</td>
</tr>
<tr>
<td>091</td>
<td>Failure to send</td>
<td>Not implemented</td>
<td>Not implemented</td>
</tr>
<tr>
<td>093</td>
<td>Data format</td>
<td>Not implemented</td>
<td>Not implemented</td>
</tr>
<tr>
<td>104</td>
<td>Miss function</td>
<td>Corruption/mis-read of design data</td>
<td>Re-transfer design again into machine and try again.</td>
</tr>
<tr>
<td>105</td>
<td>Dual function</td>
<td>Corruption/mis-read of design data</td>
<td>Re-load design again into memory</td>
</tr>
<tr>
<td>108</td>
<td>Improper read</td>
<td>Not implemented</td>
<td>Not implemented</td>
</tr>
<tr>
<td>110</td>
<td>Memory full</td>
<td>During design transfer, memory has filled to capacity</td>
<td>Delete unnecessary patterns from machine memory and try again.</td>
</tr>
<tr>
<td>111</td>
<td>Change Over</td>
<td>Color change mis-match</td>
<td>Design exceeds maximum # of 99 color changes or color change data is corrupt. Simplify or re-load design.</td>
</tr>
<tr>
<td>112</td>
<td>Data error</td>
<td>Data error in design</td>
<td>Re-load design</td>
</tr>
<tr>
<td>114</td>
<td>Id over</td>
<td># of patterns in control panel memory has exceeded the maximum of 99</td>
<td>Delete unnecessary patterns from machine memory and try again.</td>
</tr>
</tbody>
</table>
## Error Code List and Measures

<table>
<thead>
<tr>
<th>Code</th>
<th>Error</th>
<th>Description</th>
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<tbody>
<tr>
<td>118</td>
<td>Trace data over</td>
<td>Error in design trace data creation</td>
<td>Re-load design and try again.</td>
</tr>
<tr>
<td>120</td>
<td>Memory error</td>
<td>Fault in retaining contents of pattern memory</td>
<td>If this occurs frequently, it is likely that CPU is faulty. Enter maintenance mode and run memory clear function to test memory and clear all data.</td>
</tr>
<tr>
<td>130</td>
<td>Card error</td>
<td>Incapable of disposing of memory card continuously</td>
<td>Re-seat memory card and try again. Ensure that you are using a compatible memory card (Compact Flash up to 1 Gb in size) Failing the above, power off machine, power on again and re-try. Using same card, then different memory card.</td>
</tr>
<tr>
<td>131</td>
<td>Card not ready</td>
<td>Card not set</td>
<td>Same procedure as error code 130</td>
</tr>
<tr>
<td>133</td>
<td>Bad card</td>
<td>Not implemented</td>
<td>Same procedure as error code 130</td>
</tr>
<tr>
<td>141</td>
<td>Not found name</td>
<td>Designated pattern not found</td>
<td>Re-connect memory card into PC and re-save design again.</td>
</tr>
<tr>
<td>190</td>
<td>Cut blade</td>
<td>Thread cut knife is not at stop position</td>
<td>Look for bird’s nest or other obstruction to moving knife. Clean out throat / needle plate and rotary hook area. Perform thread cut to attempt to clear. Check moving knife timing, reset moving knife according to page 14.</td>
</tr>
<tr>
<td>193</td>
<td>Catcher</td>
<td>Thread catch hook is off its properly-retracted position. Limit switch to detect position is not &quot;OFF&quot;.</td>
<td>Check if not trimming properly. If thread is cut, ensure that catcher has returned to position, selecting either auto or manual. If so, cut and return thread catch hook to retracted position. If problem recurs, troubleshoot moving/fixed knife for timing/adjustment.</td>
</tr>
</tbody>
</table>