To: FROMM HOLDING AG

Technical Questions & Answers

Model number: TP-702

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Technical Questions & Answers
For
TP-702

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1. **How to solve the problem when LCD display flashes and indicates the error messages** (S1 failure, S5 failure, Encoder SW failure, SQ2 failure, SQ3 failure, SQ9 failure, Feed jam, ASF failed, M1 failed or M2 failed)

1. **S1 failure/S5 failure/Encoder SW failure or SQ9 failure:**
   
   **Cause:** Any of the above switches is ON for over 10 seconds after you switch on the power but before the LCD display indicates “ready”.

   It could be the defect of Start Switch (T7-6-20480), Pedal Switch (T7-6-40001), Reel Release Switch (H45-60160) or Function encoder (M7-6-101601) so you need to replace it.

   If the LCD display indicates “SQ9 failure”, the possibility is the Foot Bar (M7-5-111101) is stuck so the SQ9 is activated all the time by the Foot Bar (M7-5-111101), or the Return Spring (TB-114) for foot bar is out off either side or overstretched.

   ➤ If the Foot Bar Ass'y (M7-5-110001) is stuck, please loose the screw (HBS0616N) of Block (M7-5-111200), and tighten it again.

   ➤ If the Return Spring (TB-114) is out off either side, please install it back. If the spring is overstretched, please replace with a new one.

2. **SQ2 failure or SQ3 failure:**

   **Cause:** The Main PC Board doesn’t receive the ON/OFF signal from SQ2 or SQ3 within 0.8 seconds after M1 motor starts running.

   2.1 Please check if any of screws (PMS0320) of SQ2 or SQ3 (MV-6-20220) is loose so the SQ2 and SQ3 is not activated properly. If so, please follow the below steps to position the SQ2 and SQ3.

   - **How to position SQ2**:

     1. Turn on the power switch, and open Upper Table Front Ass'y (M7-5-210001/M7-5-210021) and Upper Table Rear (M7-5-201401/M7-5-201421).

     2. Use your hand to rotate the Handle (T7-1-11240) of the Gear Box (M7-1-110100) to make lobes on the Cam (M7-1-112100) can be detected by SQ2.

     3. Adjust SQ2 to make the distance between SQ2 and lobes of Cam about 1.8~2.3mm. Then, fix the SQ2.
● How to position SQ3:

1. Turn on the power switch, and open Upper Table Front Ass'y (M7-5-210001/M7-5-210021) and Upper Table Rear (M7-5-201401/M7-5-201421).

2. Use your hand to rotate the Handle (T7-1-11240) of Gear Box (M7-1-110100) to make lobes on Arch Cam (M7-1-112201) can be detected by SQ3.

3. Adjust SQ3 to make the distance between SQ3 and lobes of Arch Cam about 2mm-2.5mm. Then, fix the SQ3.

2.2 The SQ2 or SQ3 is defective so it cannot work properly. Please replace with a new one.

2.3 The M1 Motor (M7-1-221100) is defective and actually doesn’t work. Please replace with a new motor.

2.4 Gear Box (M7-1-110100) is defective so even the M1 motor works, but the Cam Ass'y (M7-1-110000) can’t rotate. If so, you have to replace the Gear Box.

3. M1 failed or M2 failed

Cause: There is no power supply to M1/M2 motor, or the motor is stuck, or the temperature of motor is over 90ºC, or the voltage of power supply to motor is less than 17.5Vdc. At this moment, the lamp HL28 (for M1) or HL31 (for M2) on the Main P.C.B (AP1) (M7-6-201301) is not ON.

3.1 Please check if the connector of Motor Cable (M7-6-300100) on the M1/M2 Motor is loose and caused the M1/M2 Motor malfunctions. If so, please fix the connector to make sure it’s fixed firmly.

3.2 The F5 Fuse (T6-6-30133) in the left of electric control box is burnt so the Motor has no power. If so, please replace with a new fuse.

3.3 The structure of strapping head is stuck so the M1 Motor is not able to run. There could be something stuck between Bar Guide Group (M7-1-200000) and Slide Table (M7-1-131600). Please check and remove it.

3.4 The screw (HBS0516N) on Coupling (M7-1-101900) which connects M1 Motor Ass'y (M7-1-120000) and Gear Box (M7-1-110100) is loose. Under this condition, the HBS0516N screw could interfere with the HBS0520N screw on Gear Box Support (M7-1-12110), and make M1 motor cannot run. Please tighten the HBS0516N screw.
3.5 The connector X37/X41 (for M1 motor) or X38/X42 (for M2 motor) on the Main P.C.B (M7-6-201301) is loose so the M1/M2 Motor cannot work properly. Please re-connect the connectors and keep them firmly.

3.6 The connecting wire #45 or #46 on the K1 Magnetic Switch (T7-6-10690) inside the Electric Control Group (M7-6-200002) is loose, or the contact of #45 or #46 is defective, or the X40 wire assembly on P.C. Board is loose, so the motor has no power. If the connecting wire or the X40 wire assembly is loose, please install it firmly. If the contact of #45 or #46 is defective, you have to replace K1 Magnetic Switch.

4. **ASF failed (Auto strap feeding failed)**

   **Cause:** After T16 time is over during auto strap feeding procedure, the SQ8 is not activated.

   4.1 The length of strap that you insert for auto strap feeding is too short, so the strap cannot reach the Assistant Roller (M7-1-321400/ M7-1-321420), or the length of strap you insert is too long, so the strap goes directly to the Accumulator Box Group (M7-3-300000/M7-3-300020) and cause Auto Strap Feeding (ASF) failure. Please follow the instructions label to insert the strap and let it go through Assistant Roller Shaft Ass'y (T7-3-20080/T7-3-20082) with the length of 1-2cm exceeded.

   4.2 The pressure for Assistant Roller Shaft Ass'y (T7-3-20080/T7-3-20082) is not enough so you have to adjust the Spring (T7-1-70280) to increase the pressure. If the Assistant Roller (T7-3-20160/T7-3-20163) is worn out, or there is debris to cause insufficient pressure, the feeding strap may not reach Roller (M7-1-321400/ M7-1-321420). If the Assistant Roller is worn out, please replace with a new one. If there is too much debris, please remove it.
4.3 If both M5 Motor (T6-1-61211) and M4 Motor (M7-3-230100) don’t work, please check the followings:

4.3.1 The F6 fuse by the electronic control box is burnt, or the connecting wire #45 or #48 on the K1 Magnetic Switch (T7-6-10690) is loose, or the contact of #45 or #48 is defective, or the M-X4 wire assembly on M4/M5 PCB (M7-6-201400) is loose so the motor doesn’t receive the power to work. If the F6 fuse is burnt, please replace with a new one. If the contact of K1 Magnetic Switch is loose or M-X4 wire assembly is loose, please re-connect it firmly. If the K1 Magnetic Switch is defective, please replace with a new one.

4.3.2 The wire M-X1 or M-X2 on the M4/M5 PCB (M7-6-201400) is loose so the motor doesn’t work. Please install it firmly.

4.3.3 The M4/M5 PCB (M7-6-201400) is defective. Please replace with a new one.

4.4 If M4 Motor Set (M7-3-230100) doesn’t work and cause the strap doesn’t feed into machine, please check the followings:

4.4.1 If M4 Motor is defective, please replace with a new one. If the connector between M4 Motor and M4/M5 PCB (M7-6-201400) is not connected well, please re-connect it firmly.

4.4.2 The M4/M5 PCB (M7-6-201400) is defective. Please replace with a new one.

4.5 If M5 Motor (T6-1-61211) doesn’t work, or the Movable Strap Guide (M7-3-221400/M7-3-221420) doesn’t move rightward to the end to form a path for strap to reach to M2 roller, please check the followings:

4.5.1 The screw (HSS0508GN) of Rotary Arm (M7-3-221101) is loose, so even the M5 Motor runs, the Movable Strap Guide doesn’t move rightward to the end. Please tighten the screw (HSS0508GN).

4.5.2 The M5 Motor is defective so it doesn’t work. Please replace with a new one.

4.5.3 There is much debris around the groove of Movable Strap Guide so the Movable Strap Guide hardly moves. Please remove the debris in the groove. (see the picture at right.)

4.5.4 The M4/M5 PCB (M7-6-201400) is defective. Please replace with a new one.

4.6 SQ8 (M7-6-301100) is defective so there is not signal sent to the Main P.C.B (M7-6-201301). Please replace the SQ8.

4.7 T16 time is set too short. Please increase the time of T16 timer.
5. **Feed jam (SQ1 is not ON)**

**Cause:** The SQ1 is not ON, or SQ8 doesn’t generate certain pulses as T31 time (for strap feeding length) is set during the period of T8 feeding time

5.1 If the strap comes out of the Bandway Group (M7-2-200001), please check the followings:

5.1.1 Strap Track Frame (M7-2-210001) doesn’t move smoothly. Under this situation, the machine feeds the strap before the Strap Track Frame is not back to the home position so the straps comes out of the Strap Track Frame. To solve the problem, you may need to clean or lubricate the Shaft (T7-2-20160) to make Strap Track Frame move smoothly.

5.1.2 The Pin (T7-2-10210) of arch interferes with Strap Track (M7-2-201101/M7-2-211100) while the Strap Track Frame is open, so the Strap Track Frame cannot go back to home position (i.e. Strap Track Frame closes) in time. Please adjust the position of Pin (T7-2-10210) or Plate (M7-2-201700).

5.1.3 Too much debris around the Left Bar (M7-2-101600) or Right Bar (M7-2-101700) so the movement of Left Bar/Right Bar against Arch (M7-2-301600) is not smoothly. Please remove the debris.

5.1.4 Insufficient lubrication for Press Bar Ass’y (M7-1-220000), or there is too much debris, so the Press Bar Ass’y is not back to the home position and block the Strap Track Frame to go back to the home position; thus, the strap comes out from the Strap Track Frame. Please lubricate or clean the Press Bar Ass’y.

5.2 If the end of strap is inside the arch, please check the followings:

5.2.1 Please check the direction of strap feeding. Wrong inserting may make the strap end gets stuck somewhere inside the arch and cause feeding problem.

5.2.2 The feeding pressure for M2 Motor is insufficient so the strap cannot reach the sealing point and makes the machine malfunction. Please refer to the instructions “Adjusting the Pressure for Feeding” in operation manual to do well adjustment.

5.2.3 The amount of strap in accumulator is less (not enough to be sent to the sealing point) or much (so the strap is squeezed inside the accumulator and become too curve to be fed). Please refer to IV. Too much, insufficient, or unstable strap amount in the accumulator.

5.2.4 The time for strap feeding is not enough so the strap can’t be fed to the sealing position. Please increase the time of T8 timer.
5.2.5 The Pin (T7-2-10210) of arch and the Arch (M7-2-301600) are close and cause the head of strap would hit the Pin during strap feeding. Please adjust the Pin at reversing point to let the distance between the Pin and Arch (M7-2-301600) about 17.5mm.

5.2.6 The strap you use does not match the strap wide what machine set for (for example, you use 6mm strap, but the strap guide which is set for 5mm strap so the resistance of strap feeding is stronger). Please follow the instructions to adjust the strap width for the machine (refer to manual Part 1 A25).

5.2.7 Strap Track (Left) (M7-2-211200) is worn out to give resistance during strap feeding. Please replace the worn Strap Track (Left) with a new one.

5.3 If the strap reaches the sealing position, but the LCD display still indicates “Feed Jam”, please check:

5.3.1 If the SQ1 is not ON, please check the followings:

5.3.1.1 If the SQ1 is installed too far away from Sensor Plate (M7-1-131400), the SQ1 could not be activated. Please follow the below steps to install the SQ1.

(1) Turn on the power switch, and Upper Table Front Ass'y (M7-5-210001/M7-5-210021) and Upper Table Rear (M7-5-201401/M7-5-201421).

(2) Make sure the machine is at machinery home position. If not, use your hand to rotate the Handle (T7-1-11240) of the Gear Box (M7-1-110100) to help the machine go back to the machinery home position.

(3) Take a 15cm-long strap to push the Switch Lever (M7-1-131300) underneath the Slide Table (M7-1-131600) as below picture. Not until the Switch Lever is about 1.5~2mm (0.35~0.5mm for TP-702RS) before the end, should the SQ1 be activated (i.e. the red LED lamp lights up). Then, fasten the fixed screw of SQ1.
5.3.1.2 The SQ1 (MV-6-20220) is defective or the X14 terminal is loose, or the cable which connects SQ1 to Main PC Board (M7-6-201301) is broken, so that SQ1 can’t be active. If the PC Board receives the signal from SQ1 when SQ1 is ON, HL3 lamp on the PC Board will be ON. If SQ1 is defective or the cable between PC Board and SQ1 is broken, please replace with a new SQ1. If the X14 terminal is loose, please re-connect it firmly.

5.3.1.3 The Switch Lever (M7-1-131300) is broken, or the screw of Sensor Plate (M7-1-131400) is loose so the SQ1 (MV-6-20220) is not able to be activated properly. If the Switch Lever (M7-1-131300) is broken, please replace a new one. If the screw of Sensor Plate (M7-1-131400) is loose, please fix it firmly.

5.3.2 If the SQ1 is ON, please check the followings:

5.3.2.1 Check if the HL3 lamp on the Main P.C.B (M7-6-201301) is ON. If yes, please check the followings:

1) If SQ8 malfunctions, please do the following check and adjustment:

- Turn on the power switch and open the Upper Table Front Ass'y (M7-5-210001, M7-5-210021).
- Make sure the distance between SQ8 and Assistant Roller (M7-1-321400) is 0.3~0.4mm. If the distance is not in this range, please loosen the screws on SQ8 to adjust it.

- **[Situation 1]**: If there is strap between Guide Wheel (M7-1-301400) and Assistant Roller (M7-1-321400), use your hand to turn the Guide Wheel slowly and make sure the SQ8 is ON/OFF repeatedly while the Assistant Roller rotating.

- **[Situation 2]**: If there is no strap between Guide Wheel (M7-1-301400) and Assistant Roller (M7-1-321400), just use...
your hand to turn Assistant Roller slowly, and make sure the SQ8 is ON/OFF repeatedly.

(2) If the setting time of T31 timer is too short, please increase the time of T31.

(3) If the setting time of T8 timer is too short, so the strap reaches the sealing point after the feeding time is over, please increase the time of T8.

5.3.2.2 The cable between SQ1 and PCB is broken and PC Board cannot receive the signal from SQ1. Please replace with a new SQ1.

5.4 If machine feeds only a very short length of strap, or cannot feed the strap, please check the followings:

5.4.1 Check if the position of Upper Guide Ass'y (M7-1-310001/M7-1-310021) is higher so the strap head hit the Track Frame Connector (M7-2-201600/M7-2-201620) during strap feeding process. Please take off the Upper Guide Ass'y and re-install it back. (Make sure the distance between the bottom of Upper Guide Ass'y and the top surface of Press Bar is 2.5~3mm.)

5.4.2 Insufficient lubrication for Press Bar Ass'y (M7-1-220000), or there is too much debris, so the Press Bar Ass'y is not back to the home position. This would cause the strap hits Press Bar Ass'y during feeding. Please lubricate or clean the Press Bar Ass'y.

5.4.3 During strapping cycle, the strap twists, so the strap is stuck at Upper Guide Ass'y (M7-1-310001/M7-1-310021) and cannot move further. Please adjust the brushes inside the arch.

5.4.4 If you would like to reset the machine when the LCD Display indicates “feed jam”, but you don’t hold the strap while doing reset, so the strap head goes back to the accumulator. Please take out the strap from the accumulator and execute auto strap feeding procedure.
II. Machine doesn’t work:

1. The background of LCD display doesn’t light up or indicates any words. Please check the following:

   1.1 Plug in the machine and make sure there is electricity coming out of the wall socket.

   1.2 Check if the Power Cord (TT-5-20120) is torn/broken, the wire connected to Main Power Switch (TK-001) is loose, or the Main Power Switch is defective.

   1.3 Check if the F4 fuse (for power) by the Electric Control Group (M7-6-200002) is burnt to make there is no power supply to the machine. If so, replace it.

   1.4 Make sure there is voltage from the Power Supply (M7-6-201600) inside the Electric Control Group. If not, the Power Supply (M7-6-201600) could be damaged.

   1.5 Check if the HL1 and HL2 lamps on the Main P.C.B. (M7-6-201301) is ON. If not, the F1 fuse on the Main P.C.B. could get burnt already.

2. LCD display indicates “Push start” or “B6 open / K1 open”, please check:

2.1 Check if the Side Door (M7-5-201201) or Upper Table Front Ass'y (M7-5-210001/M7-5-210021) is not closed completely, or the wire of Interlock Safety Switch (TK-035) is loose so the machine cannot start. If the wire of Interlock Safety Switch (TK-035) is loose, please tighten it.

2.2 The Gas Spring (M7-4-121701) for the Reel Control Group (M7-4-100000) is overstretched, so the Reel Control Group pushes the Side Door (M7-5-201201) and the Side Door is open. Please replace with a new Gas Spring.

2.3 The connecting wire #43 or #44, #49 or #50, #44 or #30 on the K1 Magnetic Switch (T7-6-10690) inside the Electric Control Group (M7-6-200002) is loose, so the K1 Magnetic Switch (T7-6-10690) malfunctions. Please re-connect the loose wire, or replace with K1 Magnetic Switch (T7-6-10690) if it is defective.

3. LCD display indicates “Ready” but the machine doesn’t do strapping. It’s possible the Restart Switch (T7-6-20480) is defective so you need to replace it. Or, it’s also possible the screw (HBS0612N) of Sensor Plate (T7-5-30141) on the Foot Bar Ass'y (M7-5-110001) is loose. Please tighten it. The other possible reason is the screw of SQ9 is loose. If so, please follow the instructions below to position SQ9, or tighten the screw.
(1) Turn on the power switch, loosen the screws on the front door and open the front door (M7-5-201102/M7-5-201111).

(2) Make sure the distance between SQ9 and Sensor Plate (T7-5-30141) is 1.5~2.5mm. If the distance is not in this range, please loose the screws on SQ9 to adjust it.

(3) Use your hand to press the foot bar switch downwards. When the distance between the foot bar switch and floor is 7~10mm, please adjust the position of Sensor Plate (T7-5-30141) to make the SQ9 is ON.

If the lamp of SQ9 is normal, please check if the HL10 lamp on the Main PCB (M7-6-201300) is ON or not. If not, that means the cable between SQ9 and Main PCB is broken. Please replace with a new SQ9.

4. If the LCD display indicates "Under Heating" and not able to do strapping cycle, please refer to the next one, III. LCD Display keeps indicating “Under Heating” to check the possible problem.

III. LCD Display keeps indicating “Under Heating”

1. Check if the any lamp on the Heater PCB (M7-6-201500) is ON or not? If all the lamps on it is not ON, it may be due to the F3 fuse on the Heater PCB is burnt, or the X2 wire assembly is loose so there’s no electricity supplied to P.C. Board. If F3 fuse is burnt, please replace with a new one. If the X2 wire assembly is loose, please re-connect it firmly.

2. If the HL5 lamp on the Heater PCB is ON, but HL16 lamp on the Main P.C.B. is not ON, the problem could be the X3 wire assembly is loose, or the X27 wire assembly which is connected to Main P.C.B. is loose. Please re-connect the loose wire assembly. However, if HL16 lamp on the Main P.C.B. is ON, the
problem could be the defect of Main PCB.
Please replace with a new one to check it.

3. If the HL1 or HL3 lamp on the Heater PCB is flash, please check if any of the connecting wires on both sides of Heater Terminal (T5-1-12451) is loose, or the X1 wire on the Heater PCB is loose. If yes, please re-connect the wire firmly. Make sure the wires (#9, #10, #11, #12) correctly match the number of housing when replacing with a new Heater. If the heater is defective itself, please replace with a new one.

4. On the Heater PCB (M7-6-201500), if every lamp is not ON except HL2, the Heater PCB could be defective. Please replace with a new Heater PCB.

IV. Too much, insufficient, or unstable strap amount in the accumulator

1. Please refer to manual A24 Strap Amount in the Accumulator Box to adjust the amount of strap in the accumulator.

2. If the strap amount in the accumulator is insufficient, please check the followings:

2.1 Insufficient pressure for strap accumulating may cause slower strap accumulating speed. Please loosen the screw HN06-1 first, and pull down the Spring (T7-1-70280). Then, tighten the screw HN06-2 to increase the strap accumulating pressure.

2.2 Check if the Spring (T7-1-70280) is overstretched. If yes, please replace with a new one.

2.3 If the Assistant Roller (T7-3-20160/T7-3-20162/T7-3-20163) is worn or attached with too much dirt/debris to cause insufficient pressure and slow down the strap accumulating speed.
2.4 The T11 strap accumulating protection time is not enough, so the machine can’t have sufficient strap amount in the accumulator when the protection time is over. Please increase the T11 strap accumulating protection time.

3. Please check the followings in case of unstable strap amount in the accumulator.

3.1 The Balance Bar (T7-3-10140/M7-3-101300) may interfere with Accumulator Box Cover (T7-3-10140/M7-3-101300) if it is distorted so the Balance Bar can’t move smoothly and lead to unstable strap amount in the accumulator. If Accumulator Box Cover is distorted, please replace with a new one. Meanwhile, please also check if there is debris stuck between Balance Bar and Accumulator Box Cover, if yes, please clean off the debris.

3.2 Please check if SQ4 is defective. Lift the Sensor Lever (T7-3-10200) a little bit, and press it down slowly. Make sure the HL6 lamp on the Main PC Board (AP1) (M7-6-201301) is ON when you hear a “da” sound. When you keep pressing the Sensor Lever, HL6 lamp should keep ON. If not, that means SQ4 is defective and you need to replace it with a new one.

4. If the strap amount in the accumulator is too much, please check if the HL6 lamp on the Main P.C.B (AP1) (M7-6-201301) is ON when accumulating is finished. If the HL6 lamp is not ON, please check if any of screws (HSS0405GN) on the Sensor Lever (T7-3-10200) is loose, or the SQ4 (TF-007) is defective itself to cause malfunction of SQ4.

If any of screws (HSS0405GN) on the Sensor Lever (T7-3-10200) is loose, please re-adjust the position of SQ4 as following steps.

4.1 Turn on the power switch, open the rear door (M7-5-201301/M7-5-201311), and take off the Cover (M7-6-201200) of electric control box.

4.2 Hand tie the SQ4, and push the Sensor Lever (T7-3-10200) downward to the end. At this moment, please make sure the distance between SQ4 and Sensor Lever is about 0.5-1mm, tighten the SQ4.

4.3 Re-confirm: Lift the Sensor Lever a little bit, and press it down slowly. When you hear a “da” sound, check if the HL6 lamp on the Main PC Board (AP1) (M7-6-201301) is ON (lights up). Make sure the H06 lamp is ON when you hear a “da” sound. And also make sure the H06 lamp keeps ON when the Sensor Lever is pressed down till the end.

If the SQ4 is defective, please replace a new one.
5. If the machine is not able to accumulate the strap into the accumulator, please check:

5.1 If the strap on the strap coil falls out and gets stuck, it may cause the machine unable to feed the strap to the accumulator. In addition, if the Brake for reel (T7-4-20170) is worn out, or the timing that you set for T12 timer is shorter, the Brake for reel (T7-4-20170) is unable to stop the reel. If you find the Brake for reel (T7-4-20170) is worn and the timing you set for T12 timer is at maximum position, you need to replace with a new Brake for reel (T7-4-20170).

5.2 (This is only for TP-702-59) If the strap goes into the clearance between Roller (M7-3-311700) and Left Cover (M7-3-312200), it may cause strap accumulating process fail. Under such condition, the clearance between Roller (M7-3-311700) and Left Cover (M7-3-312200) could be too big. If so, please adjust the position of Left Cover (M7-3-312200) to let the clearance between Left Cover (M7-3-312200) and Roller (M7-3-311700) as small as possible, but be sure that Left Cover and Roller cannot touch with each other.

5.3 If the Brake For Reel (T7-4-20170) is defective, the Wire Ass'y X4 (for Reel) (EW720005BX04) is loose, or the connector inside the reel is loose (see the picture below), the Brake For Reel (T7-4-20170) may not release the strap for strap accumulation. If the Connector is loose, you have to re-install it. If the Brake For Reel (T7-4-20170) is defective, please replace a new one.

5.4 If the HL6 lamp on the Main P.C.B (AP1) (M7-6-201301) keeps ON, the possibilities could be: SQ4 is defective itself, or the Balance Bar (T7-3-10140/M7-3-101300) interferes with the Accumulator Box Cover (M7-3-301400/M7-3-301420), or the Balance Bar (T7-3-10140 /M7-3-101300 (for 12mm) interferes with the frame so the Balance Bar gets stuck and cause SQ4 keep on all the time and make the machine unable to accumulate the strap. If Balance Bar gets stuck, please check if it interferes with something (e.g. the twisted Accumulator Box Cover) or anything makes it stuck (e.g. debris around it), and make it move freely. If the SQ4 is defective, please replace with a new one.
V. **Straps are not sealed after strapping**

1. There is too much residue in both sides of Heater Set (M7-1-140100), especially the blue area in both sides (see the picture at right), so the heater doesn’t convey heat to melt the straps. Please clean the residue by using sandpaper (e.g. sandpaper #200).

2. The weld cooling time is not enough, so the melting area of the straps don’t have enough time to cool down to achieve the best joint efficiency. Please increase the weld cooling time by adjusting the T5 timer.

3. The setting temperature of Heater Set (M7-1-140100) is too high or too low.

   - Temperature is too high: the melted straps may fall apart after sealing if the cooling time is not long enough.
   - Temperature is too low: the straps can’t get melted for sealing.

   Please adjust VR1 on the Heater P.C.B (M7-6-201500) in the electric control box. Turn VR1 clockwise to increase the temperature of heater. Turn VR1 counterclockwise to reduce the temperature of heater.

4. The Return Spring (T7-1-64130) of the Heater Arm Ass'y (M7-1-140000) falls off or overstretched, or the Bearing (BR636ZZ) is broken, or the Spring (TB-115) falls off or overstretched so the heater works improperly. If the spring is overstretched or the bearing is broken, please replace it.

5. If the heater is installed incorrectly, it would work improperly. Please follow the below instructions to re-install the heater:

   1. Turn off the power and open the Upper Table Front Ass'y (M7-5-210001/M7-5-210021).
   2. Make sure that the heater cools down already and the temperature is not hot enough to let you get hurt.
   3. Loosen the fixed screws of the heater cover (M7-1-101700) and remove the cover.
(4) Take out all the connecting wires between heater and Heater Terminal (T5-1-12451).

(5) Remove the screw (HBS0540HN) of Heater Crank (M7-1-141100).

(6) Remove Return Spring (T7-1-64130) of the Heater Crank (M7-1-141100).

(7) Move the Heater Crank (M7-1-141100) backward.

(8) Turn over the Heater Bracket (M7-1-141300) so that you can loosen the nuts of the heater.

(9) After you loosen the nuts, turn the Heater Bracket back to its original position.

(10) Take out the Heater Ass’y and make sure the insulations stay intact. If any of insulation fall and get broken, please replace with new one to avoid welding problem.

(11) Install the new Heater Ass’y, and follow the procedure reversely from above steps 9, 8, 7, 6…to step 1 to complete the whole installation.

(12) When you plug the wires back to the housings, make sure the number (#9, #10, #11 and #12) of the wires should correctly matches the number of housings.
6. The heater is defective so it cannot make the straps sealed well. If so, please replace with a new heater.

7. After long time use, the Rear Bar Ass'y (M7-1-230000) or Front Bar Ass'y (M7-1-210001) is worn out so it cannot hold the strap and the strap slips. Please replace the Rear Bar or Front Bar.

VI. Insufficient strapping tension

1. The 2P. Selector Switch (T6-6-40016) is set at low tension mode so the machine is not able to supply high tension. Please set the 2P. Selector Switch (T6-6-40016) at high tension mode.

2. Check if the HL17 lamp on the Main P.C.B (M7-6-201301) in the electric control box is on or not. If the HL17 lamp is not on, it could be the wire of 2P. Selector Switch (T6-6-40016) is loose, or the X12 wire assembly on the Main PCB is loose or bad connected, or the 2P. Selector Switch is defective. If wire is loose, please re-connect it firmly. If the Selector Switch is defective, please replace with a new one.

3. If M3 motor runs for about 1 second, but the tension is still not enough. Please check:

   3.1 If the reversing is not complete but form a big loop and the strap cannot hold the package, please refer to VIII. Straps get sealed while there is no reversing action (or incomplete reversing) during strapping for more details.

   3.2 If there is too much debris on the Gear (M7-1-401600) or the gear of Assistant Roller (M7-1-411100/M7-1-411120), the tension pressure will be lower so the strap would slip and cause insufficient tension. Please remove the debris from the Gear or Assistant roller.

   3.3 Insufficient tension pressure would cause the tension not enough. Please turn the Nut (M7-1-421600) clockwise to increase the pressure for tension. (The height of spring (H) in the picture at right should be more than 37mm to avoid higher tension pressure and cause insufficient tension.)
3.4 M3 Motor (M7-1-301100/M7-1-301110) is defective so it can’t run for tensioning. Please replace with a new motor.

3.5 When the machine is at home position, the gap between Tension Guide Wheel (M7-1-401100/ M7-1-401120) and Assistant Roller (M7-1-411100/M7-1-411120) is bigger than 1.5 mm so the tension pressure is not enough. Please turn Connecting Rod (Lower) (M7-1-421900) clockwise to reduce the distance between Tension Guide Wheel and Assistant Roller.

4. If the M3 Motor doesn’t work or M3 Motor works for only a short period of time to cause the tension insufficient. Please check:

4.1 During tensioning procedure, the Assistant Roller (M7-1-411100/M7-1-411120) interferes with Assistant Roller Housing (M7-1-411200/ M7-1-411220) and caused insufficient tension. Please adjust the Assistant Roller Housing to prevent it from interfering with Assistant Roller.

4.2 If the connector of M3 Motor is not tightened, please tighten it. If the X39 or X43 wire assembly on the Main PCB (M7-6-201301) is loose, please tighten it.

4.3 M3 Motor (M7-1-301100/ M7-1-301110) is defective so it cannot do tensioning. Please replace with a new one.

5. The edge of Rear Bar Ass'y (M7-1-230000) or Front Bar Ass'y (M7-1-210001) is worn and cause strap slips. Please replace the worn parts.

6. If the Strap Tension Potentiometer on the control panel is set at the maximum tension, but you still think the tension is not enough, you can turn the VR2 on the Main PCB (M7-6-201301) clockwise a bit to increase the tension.

7. Check if the package size is smaller than our minimum package size restriction. In addition, if the package is not put in the middle of Slide Table (M7-1-131600), it may lose some tension after tensioning. Please make sure the package size is over the Slide Table (M7-1-131600).
VII. Strap isn’t cut completely or well trimmed after strapping

1. Check if there is a clearance between Press Bar Ass’y (M7-1-220000) and Front Bar Ass’y (M7-1-210001). If yes, please move the Cutter Holder (M7-1-201300) rightward to let it can touch the Press Bar Ass’y (M7-1-220000).

2. If the knife edge of Press Bar Ass’y (M7-1-220000) is worn, please use another knife edge in the opposite side, or replace with a new Press Bar Ass’y.

3. If the knife edge of Front Bar Ass’y (M7-1-210001) is worn, please replace with a new Front Bar Ass’y.

VIII. Straps get sealed while there is no reversing action (or incomplete reversing) during strapping.

1. If the T7 reversing time is set too short, it could lead to incomplete reversing of strap. Please increase the T7 reversing time.

2. If the surface of package with higher friction (like rubber or film), or the package is soft (like Styrofoam) which strap would cut in while reversing so the strap reversing is incomplete due to the higher resistance. Please put the cardboard on the package to prevent the strap touches such package directly.

3. The bearing (BR608ZZ) of Bracket (T7-2-20180) in the four corner of Bandway Group (M7-2-200001) doesn’t touch the slope of Right Bar (M7-2-101700) or Left Bar (M7-2-101600) so the arch cannot open to the maximum and cause reversing problem. Please loosen the screw (HBS0612N) of Bracket (T7-2-20180) to do adjustment to let the bearing (BR608ZZ) can touch with Right Bar or Left Bar.

4. The Tension Arm (M7-1-421101) can’t move freely, or the worn Connecting Rod Set (M7-1-420100) interferes with Tension Arm so the clearance between Tension Guide Wheel (M7-1-401100/M7-1-401120) and Assistant Roller (M7-1-411100/ M7-1-411120) becomes smaller at reversing point. If Connecting Rod Set is worn, please replace with a new one. If Tension Arm cannot move freely, please clean and lubricate it.