



高科美亞有限公司
H&H Asia Group Limited

US-200LB Sewfree Ultrasonic Line Bonder

Operation Manual

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Before Start :

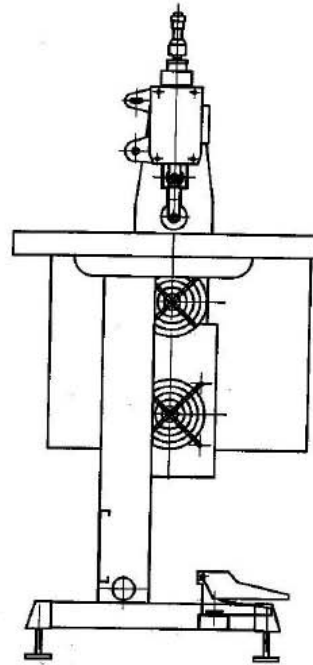
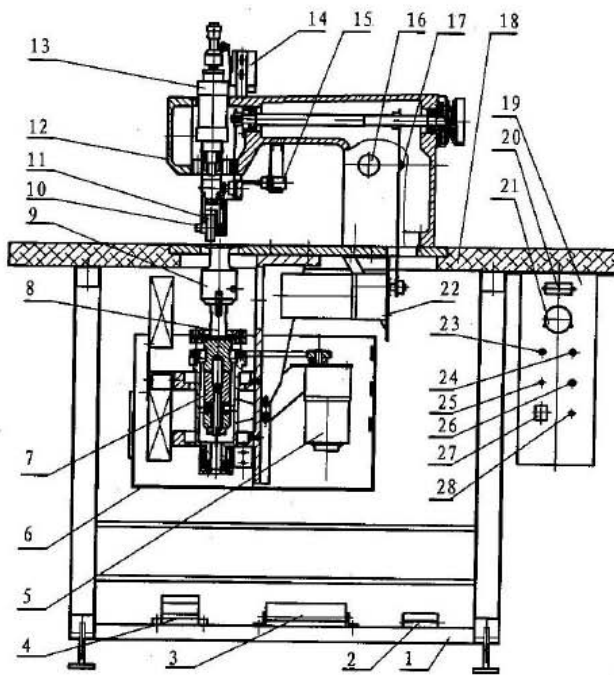
1. Check the power socket and make sure the ground end is connected;
2. Check the power supply for under 200V +-5%;
3. Don't remove all cover and protective accessories, keep the machine clear and dry;
4. Check periodically for ultrasonic self testing running (refer the paragraph 2.xPart III).

I. Introduction

US-200LB Sewfree Ultrasonic Line Bonder uses ultrasonic vibration to cut, weld and pattern making with different roll cutter for different pattern. Get the benefit of small roller design; it is very easy and flexible in operation and curve cutting. It is specially gaining the advantage for sew free garment making, underwear and bra pattern.

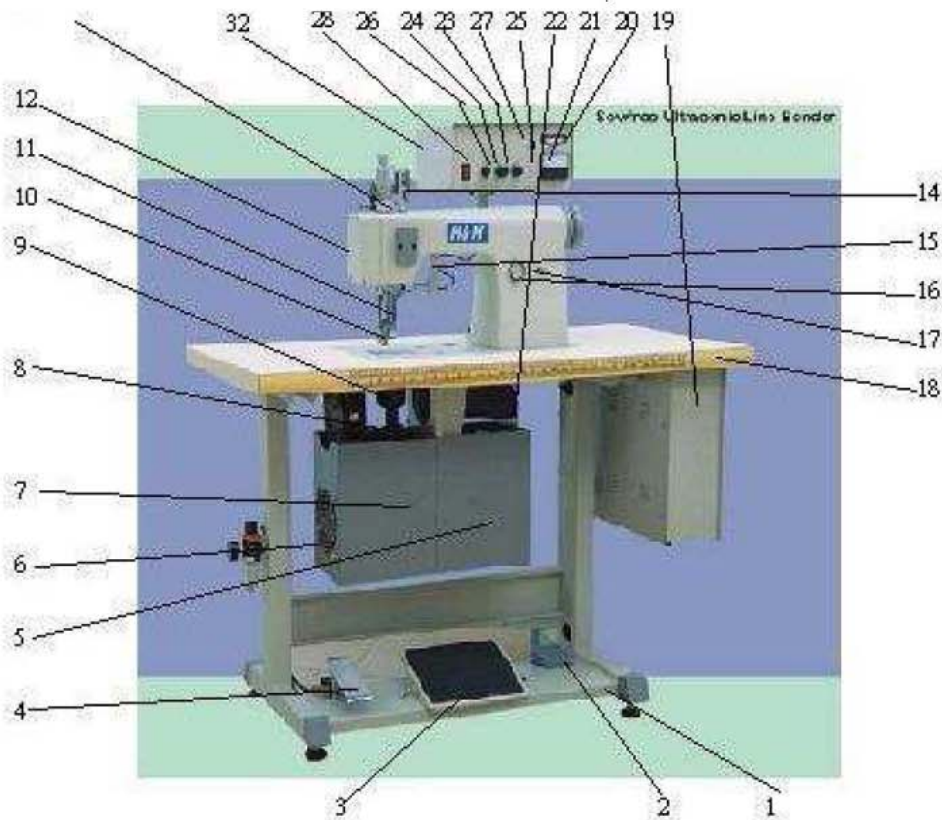
II. Specifications

Item	:	Model : US-200LB
Ultrasonic Power	:	1500W
Ultrasonic Vibration	:	28K Hz
Roll Width	:	15mm
Welding Speed	:	0.5 - 7mm (adjustable)
Power Supply	:	200V / 50Hz single phase
Dimension	:	1200 x 600 x 1200mm
Weight	:	150Kgs



1. Machine frame
2. Test ON/OFF
3. Work ON / OFF
4. Up And Down Switch
5. Motor One
6. Safe Cover
7. Transducer
8. Amplitude Of Variation Rod
9. Welding Head
10. Balance Adjust Knob
11. Pattern Roller
12. Machine Head
13. Air Cylinder
14. Lead Switch
15. Position Fix Switch
16. Air Pressure Gauge
17. Pressure Adjust
18. Panel
19. Control Box
20. Voltage Dial Indicator
21. Load Indicator
22. Motor Two
23. Output Adjust
24. Speed adjust (UP)
25. Manual/Auto Change
26. Speed adjust (DOWN)
27. Power Switch
28. Overload Indicator

Structure Drawing



III. Machine and Features**Part I - Control**

1. Amplitude (20) - Indicate the matching of ultrasonic converter and electronic box, it is normal for pointing in lower than 20%.
2. Loading (21) - Indicate the loading, lower level is better as same as amplitude indicator, in normal, it should be in the range of 0.5-1A.
3. Output (23) - Adjust for ultrasonic power output, try to keep in lower level to get longer life time for the conversions.
4. Speed (R) (24) - Adjust for the speed of roll cutter.
5. Auto / Manual (25) - Control for rolling auto back to start point each time when finish.
6. Speed (H) (26) - Adjust for the rotating speed of the horn platform.
7. Power (27) - Power on switch.
8. Overload (28) - Overload indication.
9. Option Switch (31) Control electricity status.
10. Control Box (32) Electronic boards inside.

Part II - Welding Mechanism

1. Roll Cutter (11) - Tool of cutting, welding and difference pattern making with different cut roller.
2. Balance (10) - Adjust the balance when left & right is unequal.
3. Pressure (13) - Turn up (anti-clockwise) for add pressure from cylinder; turn down for less pressure.
4. Back to Start Point (14) - If the stop and start not in pre-set position, roll cutter will run back to the start point.
5. Start Pointer (15) - Sensor for the start point.
6. Pressure Gauge (16) - Indicate cylinder pressure.
7. Pressure Setting (17) - Adjust pressure.
8. Cover (12) - Machine front cover.

Part III - Rack and Switches

1. Testing (2) - Press down for ultrasonic testing.
2. Foot Switch (3) - Press down for start working.
3. Loading Up/Down (4) - Press of loading up/down the roll cutter.
4. Motors (5, 22) - Source of turning power at work.
5. Converter (7, 8, 9) - Convert and generate ultrasonic vibration.
6. Table (18) - Machine tale top.
7. Electronic Box (19) - Electronic boards & parts inside.

IV. Installation and Tuning

- i. Place the machine in flat and stable level;
- ii. Set the table leg stand until balance and stable level;
- iii. Re-check the ground end is connected;
- iv. Re-check the power supply (220V +-5%) and then connect the power and compressor with the filter;
- v. Turn the power switch on;
- vi. Check the ultrasonic by Testing (2) (refer the paragraph 2.x Part III); and lading guage should point in the range about 0.5-1A;
- vii. Adjust the compress air to 0.2-0.3MPa;
- viii. Adjust Speed (R) (24) & Speed (H) (26) to the suitable position, starting from low speed is recommended;
- ix. Set Output (23) as low as possible;
- x. Put back the roll cutter (if not pre-set on the machine) and well tighten the roller;
- xi. Try with paper instead of fabric at the first setting, observe the left & right balance and tuning unit to be best performance;
- xii. After setting, use fabric and observe, if work in balance but cannot cut or not in your expected result, add Pressure (13) / Output (23) / Speed (R) (24) / Speed (H) (26), but don't be higher then 0.5MPa in pressure (higher pressure, lower the life cycle of roll cutting and platform);
- xiii. Locked the pressure (13) switch by screw nut;
- xiv. Then, machine can start running for production now.

V. Daily Operation**i. Check the Ultrasonic Periodically**

1. The tolerance of balance level should be in 0.02mm or below; it can prove the output quality.
2. Due to production and consumption, the horn rotating metal platform will become rough and affect the production quality; the platform surface can be ground to get flat for the good performance again.

1. Note :

- a. The platform can be ground but not over 0.1mm;
- b. Match with original parts to get the best performance;

3. Check the ultrasonic by touching the platform when pressing down the Foot Switch (3), it is fail if do not feel hot, inform machine provider immediately.

(Warning : use finger to press with lower pressure, finger will be burnt if you press with higher pressure).

ii. Check with the Roll Cutter

1. To keep the production quality, blunt roll cutter should not be used and need to chang a sharp one. Test it by cutting paper and compare the cutting edge.
2. Use the original spare parts and roll cutter can prove your production quality, if not sure for additional parts, you must inform the machine provider.

iii. Roll Cutter Pressure

Depends on the fabric and situation, roll cutter should adjust pressure to fit the production, the point to determine are :

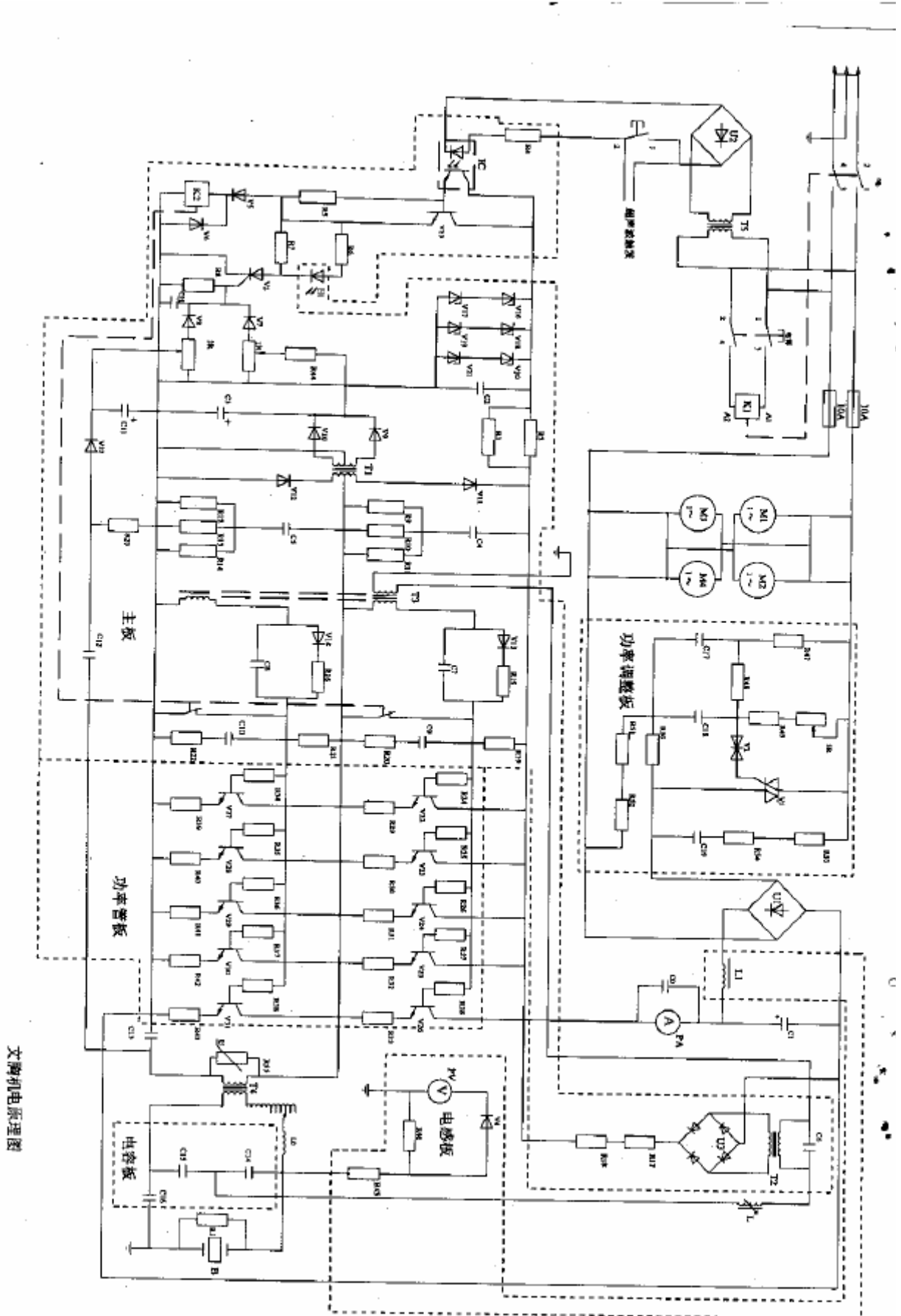
1. It depends on how complicated of the cutting pattern to adding / release pressure - Pressure (13).
2. Sharp cutter can use with less pressure.
3. Fabric thickness.
4. Weak in output vibration, pressure should be added.
5. High speed should use high pressure.

- iv. If the Loading (12) reading over 2A or no response, stoop and restart again o see if back to about

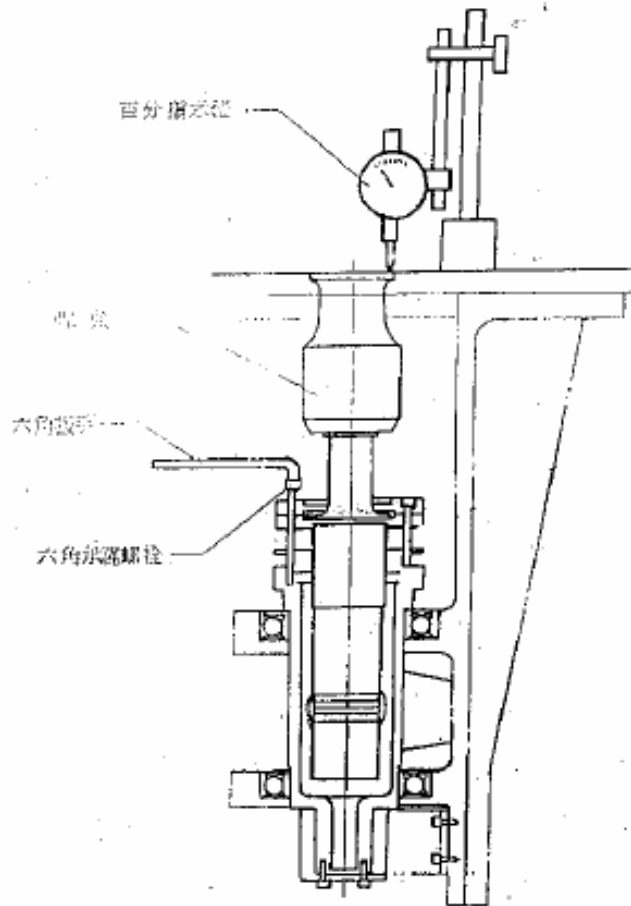
between 0.5-1A level. If over, the ultrasonic generator and converter may burn out.

VI. Maintenance and Recommendation

- i. Converter (7, 8, 9) is in high voltage, don't touch it when working.
- ii. Don't touch the horn rotating metal platform with higher pressure to prevent figure burnt.
- iii. Don't touch the mechanical parts when the machine is running or turn on.
- iv. Suggest to have head phone when the machine running.
- v. No smoking is allowed in the machine area.
- vi. Beware of long clothes when operate the machine.
- vii. Before maintenance, un-plug the electric supply.
- viii. For the Air Filter at the right side lower corner of the machine (the way of compress air comes in), if carrying water, clear it and make it dry before start.



文牌机电原理图



图四：模头校平度示意图