

FSM-15 Semi-Automatic Strapping Machine

OPERATION MANUAL



Machine	Semi-Automatic Strapping Machine
Model	FSM-15

Date	April 2018
Issue	1

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1. GENERAL INFORMATION

Congratulations on the purchase of your Fromm Strapping Machine. We trust you will have many years of packaging efficiency.

Before proceeding with the operation or installation of your new machine please read this manual thoroughly and gain a full understanding of the requirements, features and operation of your new machine.

1.1 NOTE OF INSTALLATION

To ensure your machine operates in a safe manner please review the following requirements:

1. Machine standard power is 240V (+- 10%)
2. Machine standard power Hertz is 50Hz. (+- 2%)
3. Machine can operate in temperatures between 0°C - 45°C
4. The position where you place the machine must be flat and have no vibrating machines around the wrapping machine.
5. Please ensure you download and read our Install Guide before attempting it yourself.

1.2 NOTICE OF OPERATION

Before you start using the wrapping machine, please review the following conditions:

1. Before operating, please read the machine operational manual carefully.
2. Make sure there is no object put on the power cable.
3. Make sure there is no object put on the upper elevator unit.
4. Avoid any damp object or water around the electric parts.
5. Do not stand on or across from the machine during operation.
6. When a problem does occur, please check the troubleshooting section for more information and advice.

2. SAFETY INSTRUCTIONS

This manual gives you information on safety instructions, specifications, operation and maintenance of strapping machines.

Before operating or servicing the machine, please review the entire manual and follow the safety instructions carefully.

2.1 Before Operating

The strapping machine can only be operated with polypropylene (P.P.) strapping; do not use polyester (PET) strapping or polyethylene (PE) cord strap.

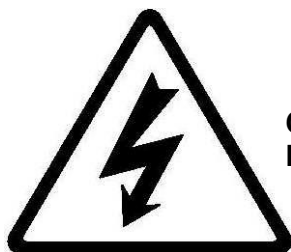
2.2 During Operation

- The weight of the package cannot exceed 100 kg
- The size of the package should not be less than 80mm (width) x 20mm (high)
- Check if the machine emits any smokes or unusual sound when it is running.

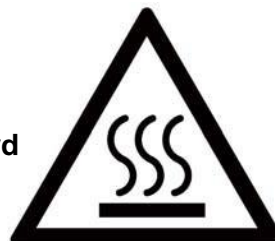
2.3 After operating

- Remove dust and dirt from the unit; pay particular attention to the interior of the arch.
- Turn off the power when the machine is not in use.

2.4 Signs



Caution!
Electric Shock Hazard



Caution!
Hot!
Do Not Touch!

2.5 Maintenance

- Turn off the power before removing either of the top covers.
- Use the correct tools and parts to repair the machine.
- The heater tongue is very hot; do not touch it.

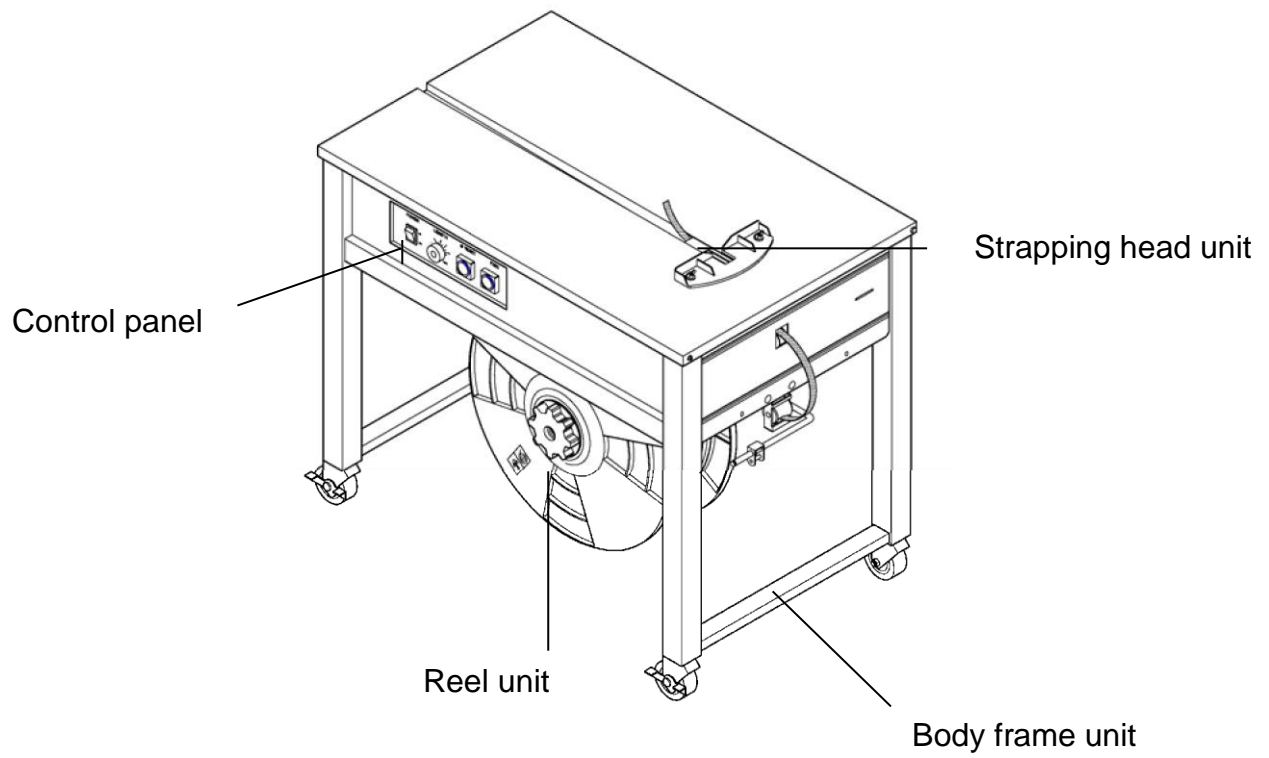
2.6 Storage

- The store room must be dry.
- Do not expose the machine to extreme cold or heat environment.
- Place the machine on an even floor in order to avoid any distortion.

2.7 Other Reminders

- Do not alter or bypass protective interlocks.
- An operation manual must remain attached to the machine at all times.
- Do not alter the equipment or circuitry unless authorized to do so by the manufacturer.
- Do not operate the machine with the table tops or covers removed.
- Never put any part of your body near, under or into a moving machine.
- Do not overload the machine by exceeding the performance limitations specified in this manual.

3. CONSTRUCTION AND FUNCTION OF UNITS



4. GENERAL SAFETY REMARKS

4.1 Basic Operation

The manual and the safety remarks are to be read before use. The operator manual should be kept with the machine at all times. Intervals for maintenance and inspections are to be adhered to. This machine was built with state of the art technology and rigid adherence to safety standards. Unless used properly, it can cause injury to operators or persons in close proximity to the machine. In addition, improper use can cause damage to the machine or property around the machine.

4.2 Basic Safety Precautions

The user is to be instructed in all other generally applicable legal and other mandatory regulations relevant to accident prevention and environmental protection in addition to the operating instructions. For safety reasons, long hair must be tied back or otherwise secured, garments must be close fitting and no jewelry may be worn. Use protective equipment whenever required by circumstances or by law. Carefully observe all safety instructions and warnings attached to the machine and make sure that they are always complete and perfectly legible. Always make certain that persons being trained and instructed in working on or with the machine are permanently supervised by an experienced person. Work on the electrical system and equipment of the machine is only to be carried out by a skilled electrician or by persons under the supervision and guidance of a skilled electrician and in accordance with the rules and regulations of electrical engineering.

4.3 Safety Instructions Governing Specific Operational Phases

Avoid any operation mode that might be unsafe.

All necessary precautions to ensure that the machine is only used being in a safe and reliable state are to be taken. The machine is only to be operated if all protective and safety devices, including removable safety devices, emergency shut-off equipment, noise-protection elements and exhaust systems are in right place and fully functional.

The machine is to be checked for damage and defects at least once per work shift. Any changes including the working behavior of the machine are to be reported to competent persons immediately. If necessary, the machine is to be stopped and locked immediately. In case of any malfunction the machine must be stopped and locked until the defect has been eliminated.

Generally make sure that nobody is at risk before starting up the machine. All personnel that will be operating this machine should be thoroughly trained in all phases of operation and safety. Always tighten unscrewed connections after maintenance and repair. After completing maintenance and repair, all safety devices removed for setting up or repairing the machine must be reinstalled and checked for functionality prior to putting the machine back into service.

To minimize the environmental impact all consumables and replaced parts must be disposed of safely. Before starting the machine, check that the accessories have been stowed away safely. Do not attempt any operation that may be a risk to the stability of the machine.

4.4 Warning of Electrical Dangers

Immediately remove power to the machine in case of trouble in the electrical system. Replace a fuse with one with the same style and ratings; pay particular attention to matching the specified current.

Any electrical work performed on the equipment must be conducted by a skilled electrician or under the supervision of a skilled electrician. All work must be observed good electrical engineering practice and follow safety rules and local wiring standards.

Inspect the electrical equipment of the machine at regular intervals. Tighten any loose connections. Check wiring for scorch marks; replace scorched wiring and determine and correct the reason for the overheating.

When working on live equipment, ensure that a second person is available to cut power in case of an emergency. When appropriate, secure the working area with safety tape and a warning sign. Use insulated tools for electrical work.

Before working on high-voltage assemblies, turn off the power supply. Carefully discharge the supply cable and short-circuit any energy-storage components such as capacitors.

If the equipment was moved, carefully refit and refasten all parts removed for transport before reapplying power.

Before moving the machine, remember to disconnect the power cable.

4.5 Grounding Instructions Shall Include the Following

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock. This product is equipped with a cord that has a grounding wire and an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

If repair or replacement of the cord or plug is necessary, connect the ground wire to the ground terminal of the plug. The wire with green insulation (with or without yellow stripes) is the grounding wire.

Check with a qualified electrician or service person if the grounding instructions are not clear or if in doubt about the proper grounding of the machine. Do not modify the plug provided; if it will not fit the power outlet, have the proper outlet installed by a qualified electrician.

This product is designed for use on a nominal 120 (230) volt AC circuit and has a grounding plug.

DANGER!

Improper installation of the grounding can result in electrocution.

5. MACHINE INFORMATION

5.1 Areas of Application

This plastic strapping machine can be used for a wide range of applications where the minimum package width is at least 80mm, and the minimum height is 20mm. This machine is particularly suitable for heavy packaged goods as well as printed products, boxes, etc.

5.2 Machine Description

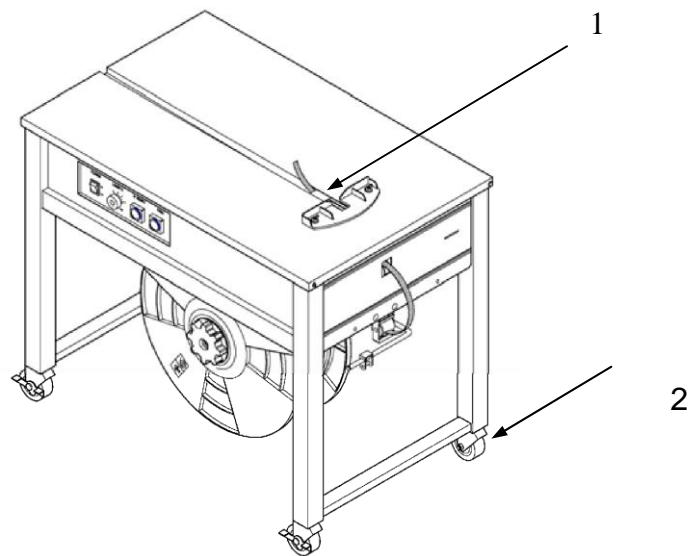
- Semi-automatic plastic strapping machine for use with polypropylene strapping. Heavy duty construction.
- Simple, safe and user-friendly operation.
- Moveable, with large table area high capacity strap reel and stainless steel table. Two locking castors, to ensure safe operation.

5.3 Environment Information

The strapping machine shall be installed in the following conditions:

- Supply voltage: 0.9 - 1.1 nominal supply voltage
- Source frequency: 0.99 - 1.01 nominal frequency
- Ambient temperature: 5°C - 40°C.
- Relative humidity: not exceed 50% at 40°C.
- Please provide a suitable illumination around the machine for safety operation.

5.4 The Safety Devices



Caution!

The heating unit operates at a very high temperature in order to melt the P.P. strapping. To prevent burns, avoid contact with this area. (1)

To move the machine, the two lockable casters (2) must be unlocked. Relock the two casters when the machine is in its new position.

Description of the Safety Devices

The machine is turned on when it is connected to AC power and the main power switch (QS1), located on the front operating panel, is placed in the ON position. After approximately 3 minutes, the heating element will reach its operating temperature and the machine will be ready for use.

If it is necessary to make adjustments inside the machine during operation, after a strap jam for example, the table top can be unscrewed. Observe caution as the machine is still fully functional with the covers removed. If machine with safety switch, when table top is opened, safety switch is activated.

5.5 Electrical Specifications

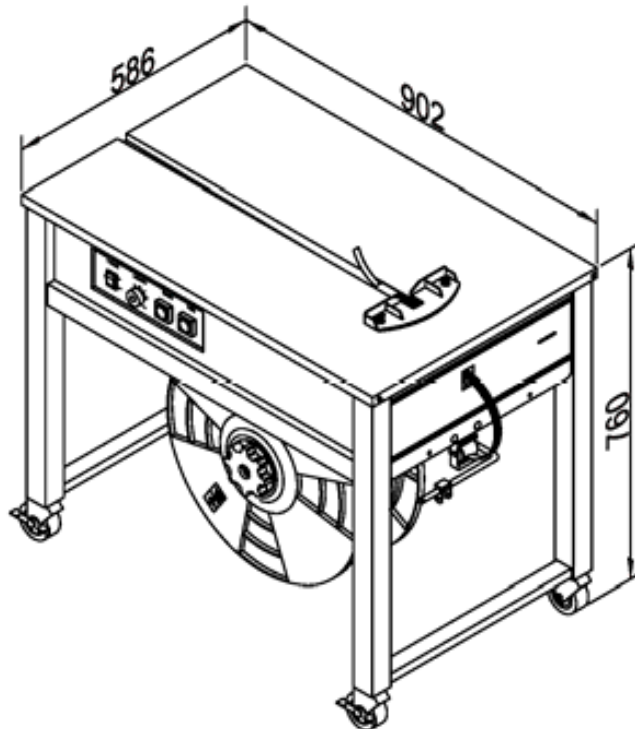
System configuration:	1L+N+PE (Ground)	1L+N+PE (Ground)
Nominal power:	0.5 kw	0.5 kw
Rated current:	7A	10A
Rated voltage:	220V/230V/240V	110V
Rated frequency:	50Hz	60Hz
Type of current:	AC – single phase	AC – single phase

Minimum Requirements

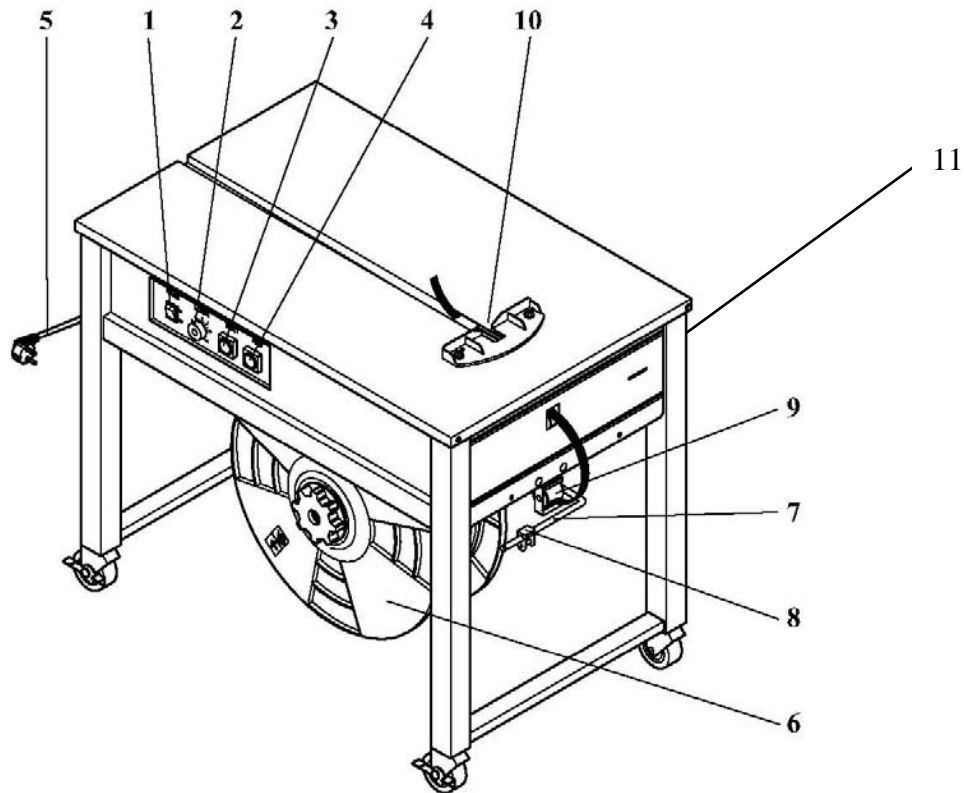
The electrical supply line for the machine must have a minimum cross-section of at least $3C \times 1.0\text{mm}^2$.

5.6 Technical Data

Model	FSM 15
Sealing method	Heat
Net weight	85kg
Max. tension	45kg
Strap width	6mm to 15.5mm
Noise emission	78 dB
Ambient temp	5°c - 40°c



6. MACHINE AND OPERATING ELEMENT

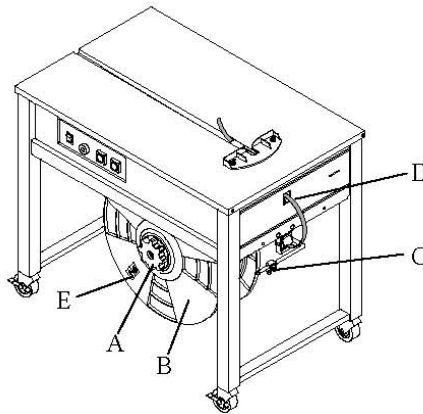


- | | |
|----------------------------------|---|
| 1. Power Switch | The motor starts running when this switch is turned ON. |
| 2. Feeding Length Knob | Strap is automatically fed during the time preset by the knob. |
| 3. Reset Button | To pull strap back into machine and / or to cut off strap. |
| 4. Strap Feed Button | To feed strap out of machine freely. |
| 5. Power Plug | To be connected to a 110V or 220V/230V/240V source. |
| 6. Strap Reel | Slide on strap coil here. (If strap core is 280mm, you can take off the center drum to have core size 200mm.) |
| 7. Brake | Stops the over-rotation of the Strap reel. |
| 8. Strap Guide for Brake | The strap is threaded through this guide. |
| 9. Strap Bypass Guide | The strap is passed through this guide. |
| 10. Strap Insertion Inlet | This is the strap inlet at which the leading strap end is detected. |
| 11. Tension Control | Turn clockwise to increase tension and counter clockwise to decrease tension |

7. OPERATING THE MACHINE

7.1 How to Load and Thread PP Strap

1. Turn reel nut handle (A) left and remove it.
2. Remove the outer flange (B) and install the strap reel.
3. Make sure that the direction of rotation is clockwise © when unrolling.
4. Put the outer flange back on and tighten reel nut handle (A) to the right.
5. Remove all adhesive strips or other adhesive material.
6. Unroll about 1.5 m of strap and make sure that it is not twisted.
7. Thread the strap over © to roller (D) in direction of the arrow.
8. Turn left button (strap feed) to the left until obtaining the length you need.



7.2 How to Operate

1. Turn the power switch ON. The heating element reaches the working temperature at approximately 3 minute.
2. Place a package on the table top (The package must cover the Slide Table).
3. Properly adjust the strap tension according to various package.
4. Place the strap around the package to be strapped and insert the strap into the strapping head until it stops.
5. The strapping and welding sequence should complete.
6. At end of strapping sequence the strap end is fed automatically, and **Feeding Length Knob** is to adjust the strap length.

8. ADJUSTMENTS

8.1 Strap Width

Adjustment for strap in different width can be done with only one Philips recess screw driver and a hex spanner.

The adjustment must be made in two places, A (Strap Outlet), B (Strap Inlet) as shown below.

For A, the width of band guide should be at 12.5mm to 13.0mm when using 9mm and 12mm strap and the width of band guide should be at 15.5mm to 16mm when using 15mm strap.

For B, The width of band guide should be wider by 0.5mm to 1.0mm than the actual strap width.

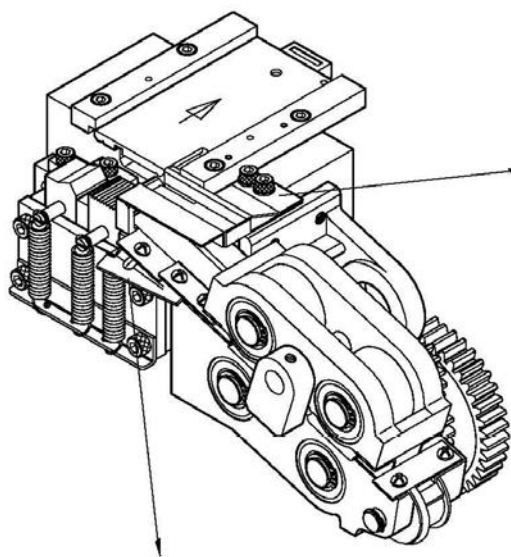


Fig. A Strap Outlet

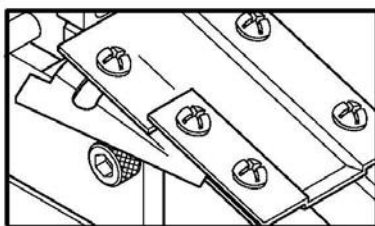
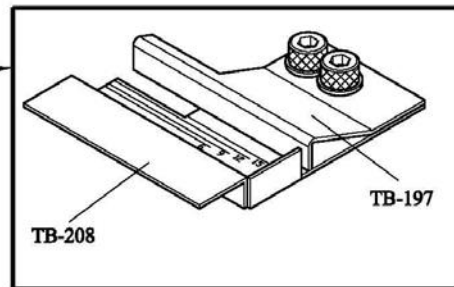


Fig. B Strap Inlet

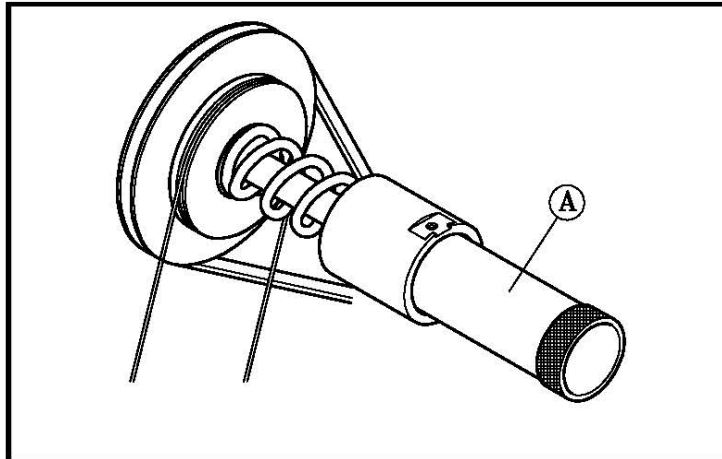


The adjustment is made with the guide located on the top of the table. Make both adjustments by loosening two screws and applying the strap which is to be used.

8.2 Outside Tension Adjustment

The adjustment is made by tensioning adjustment nut A which is located at the back of the machine.

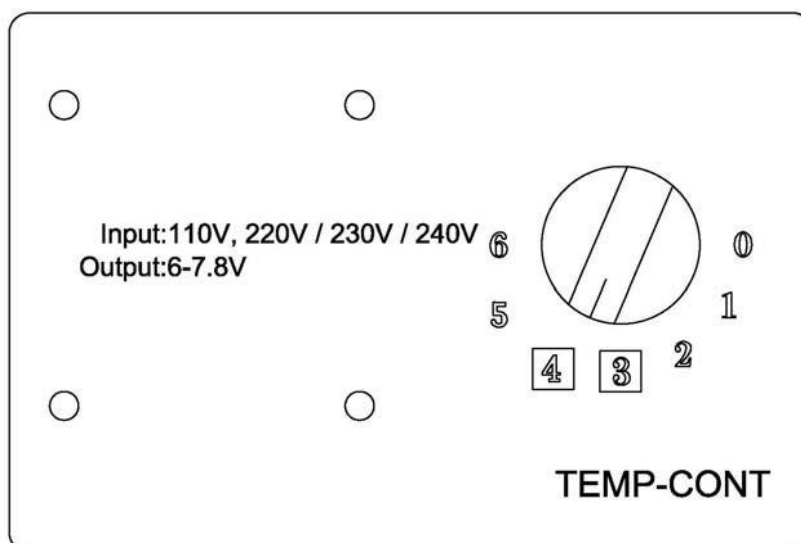
Tensioning adjustment nut A is turned clockwise to increase the strength and counterclockwise to decrease strength.



8.3 Heater temperature

Set the knob to position 3 or 4. Adjust the heater temperature by selecting a position between 1 and 6. Choose the suitable temperature, bearing in mind the environmental conditions of the machine.

If the heater temperature is too high or too low, a proper seal will not be obtained. Gradually increase or reduce the position until obtaining an optimum seal.



9. MAINTENANCE

Warning:

Before any maintenance or repairs on the machine, set the Power Switch to "O" (OFF). Wait about 5 minutes for cooling down the heater to avoid burns with this area.

9.1 Cleaning and Lubrication

The high reliability and long service life of the strapping machine will depend on regular cleaning and maintenance.

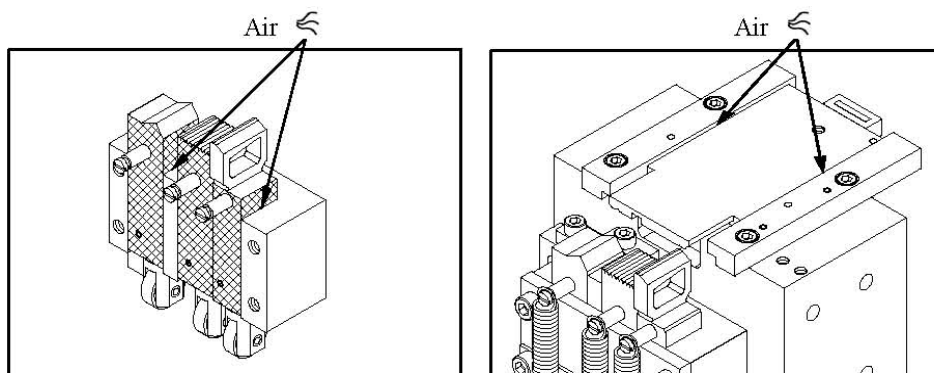
ATTENTION!

All the important strap transport components, such as the tension rollers and the strap guides, must be kept free from oil and grease. (lubricant)

The lubricant has to be non-resinous. The lubricant is SAE 30

Only use original spare parts supplied by manufacturer.

Use air gun to clean the circled positions (nearby the cutters, strap guide daily
Remove plastic residue in the machine.



10. TROUBLESHOOTING

10.1 SUGGESTED MAINTENANCE

Fromm Packaging Australia recommends servicing every six months as a minimum, but many machines have different service intervals depending on condition and throughput. It's best to discuss your servicing requirements with Fromm Packaging.

10.2 WARRANTY PERIODS

To provide you with peace of mind all Fromm stretch wrapping, strapping and carton taping equipment includes a two year warranty from the date of delivery to your site. The warranty includes all deficiencies clearly resulting from poor manufacturing or faulty materials. Damage claims as a result of production shutdowns and claims for damage to persons and to property resulting from warranty deficiencies covering structural components and non-wearing parts effective from the date of delivery to your site.

The warranty excludes:

- Wearing parts (rollers, motors and belts),
- Deficiencies resulting from improper installing, incorrect handling and maintain the equipment,
- Disregard of directions in the operation manual,
- Unauthorised repair work to the equipment,
- Use of consumable products not recommended by the supplier of the equipment.

We reserve the right to modify the product any time in order to improve the quality.

10.3 FROMM PACKAGING AUSTRALIA SERVICE TECHNICIANS

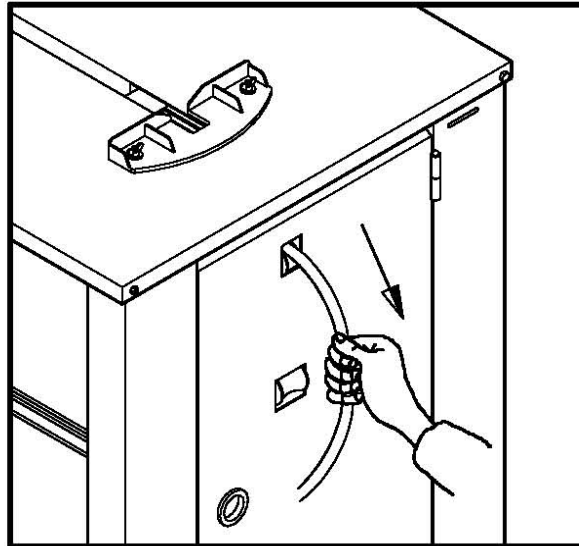
Fromm service technicians are trained to service all stretch wrapping, strapping and carton taping machines which we sell and are your on-site expert support to optimise the performance and reliability of your packaging equipment.

With technical offices in Sydney, Brisbane and Melbourne metro areas we are on hand to ensure your equipment is running smoothly. Customers located outside metropolitan areas we offer phone support and can organise onsite technical support when required.

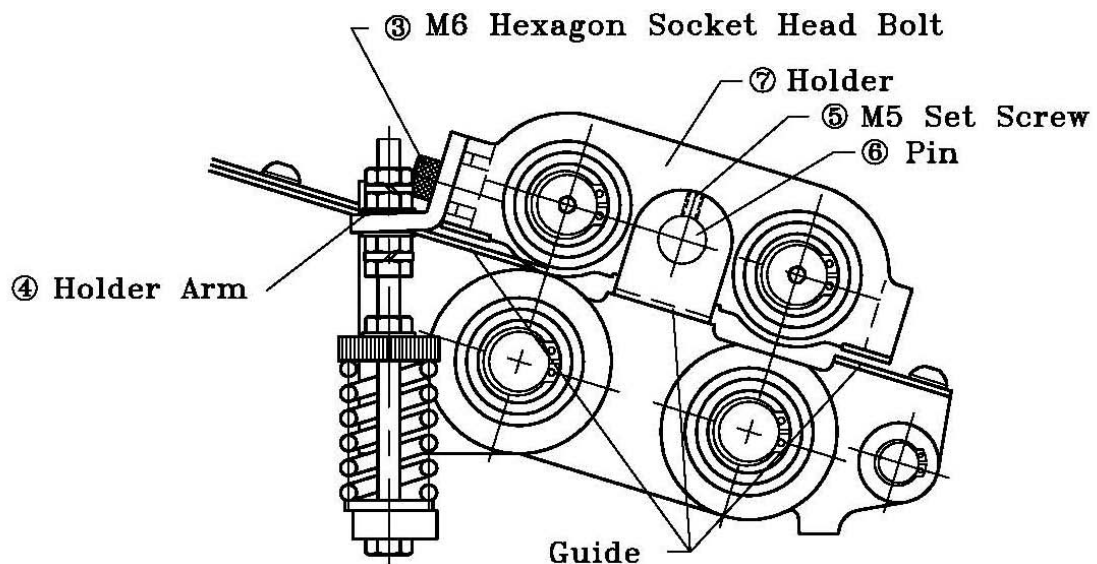
10.4 Possible Troubleshooting Causes and Remedies

Strap Jams in the Groove

Step1. Turn the power switch off and pull out the strap strongly in tensioning direction.



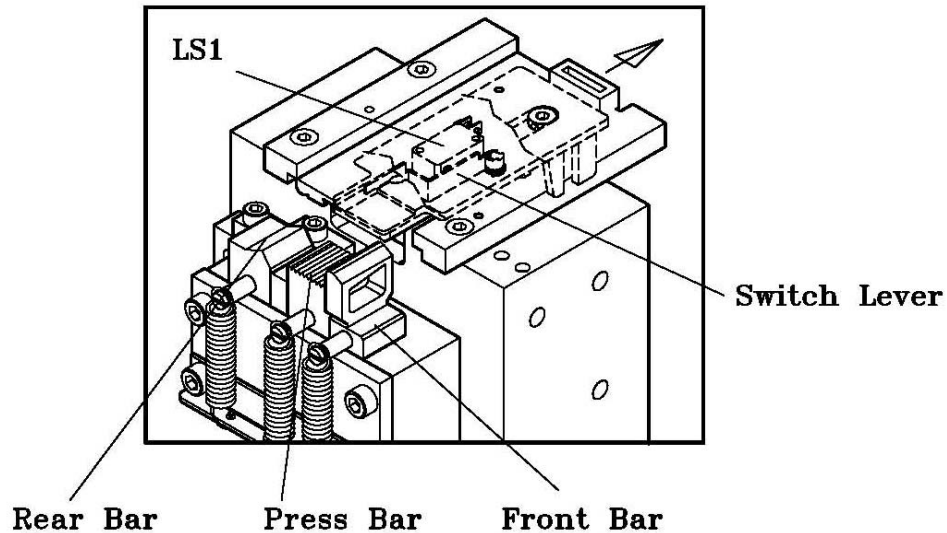
Step2. In case this remedy does not work due to strap jam, follow the instructions listed below.



- Loosen M5 Set screw (Part No. 5)
- Remove Pin (Part No. 6) then lift Holder (Part No. 7) and repeat step 1. If this is not successful, continue
- Remove Strap Inlet Guides (Page 12 (B))
- Remove M6 Hexagon Bolts (Part No. 3)
- Remove Holder Arm (Part No. 4) from Holder (Part No. 7)
- Lift out Holder (Part No. 7) and eliminate jam.
- Reassemble from (f.) back to (a.)

The Strap Does Not Feed Past the Infeed Guide

- This failure is caused if the front bar is in the raised position (previous cycle has not been completed).
- Turn the Power switch "off ", then "on" again.
- If this does not eliminate the failure, adjust the lever for LS1 to allow LS1 to be activated and de-activated correctly.



11. CONTACT FROMM PACKAGING AUSTRALIA

For any questions please contact Fromm Packaging Australia

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Email: info@fromm-pack.com.au

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