



MODEL S-4002 TKF

**TACKER SEWER
MACHINE**

PARTS AND SERVICE MANUAL

MACHINE SERIAL No:

PART NUMBER 97.2441.2.001



LIMITED WARRANTY ON NEW AMF REECE EQUIPMENT

Warranty provisions:

A ninety (90) day limited service labor warranty to correct defects in installation, workmanship, or material without charge for labor. This portion of the warranty applies to machines sold as "installed" only.

A one (1) year limited material warranty on major component parts to replace materials with defects. Any new part believed defective must be returned freight prepaid to AMF Reece, Inc. for inspection. If, upon inspection, the part or material is determined to be defective, AMF Reece, Inc. will replace it without charge to the customer for parts or material.

Service labor warranty period shall begin on the completed installation date. Material warranty shall begin on the date the equipment is shipped from AMF Reece, Inc.

Exclusions:

Excluded from both service labor warranty and material warranty are: (1) Consumable parts which would be normally considered replaceable in day-to-day operations. These include parts such as needles, knives, loopers and spreaders. (2) Normal adjustment and routine maintenance. This is the sole responsibility of the customer. (3) Cleaning and lubrication of equipment. (4) Parts found to be altered, broken or damaged due to neglect or improper installation or application. (5) Damage caused by the use of non-Genuine AMF Reece parts. (6) Shipping or delivery charges.

There is no service labor warranty for machines sold as "uninstalled".

Equipment installed without the assistance of a certified technician (either an AMF Reece Employee, a Certified Contractor, or that of an Authorized Distributor) will have the limited material warranty only. Only the defective material will be covered. Any charges associated with the use of an AMF Reece Technician or that of a Distributor to replace the defective part will be the customer's responsibility.

NO OTHER WARRANTY, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, and FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY SELLER OR SELLER'S AGENT IN CONNECTION HEREWITH. UNDER NO CIRCUMSTANCES SHALL SELLER OR SELLER'S AGENT BE LIABLE FOR LOSS OF PROFITS OR ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN OR FAILURE OF THE EQUIPMENT OR ANY PART THEREOF.

WHAT TO DO IF THERE IS A QUESTION REGARDING WARRANTY

If a machine is purchased through an authorized AMF Reece, Inc. distributor, warranty questions should be first directed to that distributor. However, the satisfaction and goodwill of our customers are of primary concern to AMF Reece, Inc. In the event that a warranty matter is not handled to your satisfaction, please contact AMF Reece office:

AMF Reece - Cars s.r.o.
Tovární 837/9c
798 11 Prostejov
Czech Republic
e-mail: info@amfreece-cars.cz

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A - INTRODUCTION

1. BASIC INFORMATION

The sewing machine S-4002 TKF is designed and produced to be very reliable. Important design goals have been to provide a safe machine that is simple and inexpensive to maintain.

The patented rotary needle bar shaft drive, a major benefit, delivers longer needle bar life. The added benefits of lower vibration and less noise, translate into less operator fatigue.

Simple tack length adjustment located outside the machine, eliminates the need for tilt back, while the quick stop repair function delivers safety and makes repairs easier.

Special electronic and mechanical safety devices protect the operator and the machine. There is a special power lock out switch that permits the machine to be locked in the off position, so that it cannot be cycled accidentally. There is an emergency off switch. There is a low air pressure detector that will not permit machine operation if air pressure is dangerously low.

There are safety-warning labels on the machine in all areas that require special care. These must not be removed. If they are lost replace them immediately.

You are the most important safety equipment of all. Be sure you understand the proper operation of the machine. Never remove safety mechanisms or labels. We have made every effort to provide the safest possible machine, but without complete knowledge of how this machine operates, and the use of proper care by the operator, this machine can cause serious injury or death. That is why there are safety warnings throughout these instructions that carry one of these messages.

There are four categories of safety instructions in this manual:

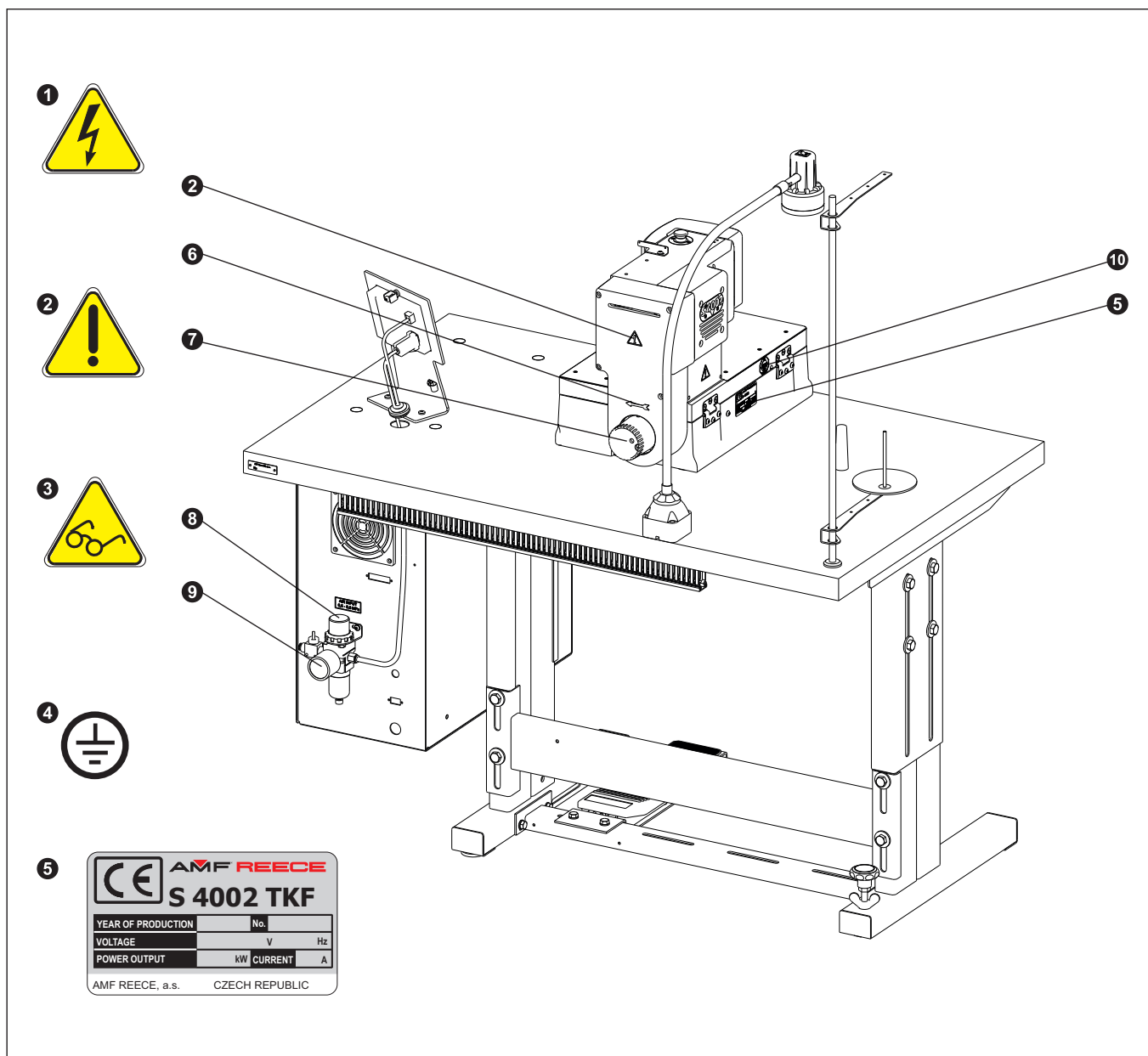
- DANGER!** Ignoring instructions may endanger operator's life.
- CAUTION!** Ignoring instructions may cause a serious injury of the operator or damage the machine.
- WARNING!** Ignoring instructions may cause damage on the machine or injury of the operator.
- NOTICE!** Breaking procedures may cause functional problems of the machine.

We recommend that servicemen from AMF Reece supervise the installation of the machines and initial training of your mechanics and operators.

The most effective method ensuring safety of operators working on the machine is a strict safety program including instructions for safety operation. Operators and servicemen should wear safety glasses.

A - INTRODUCTION

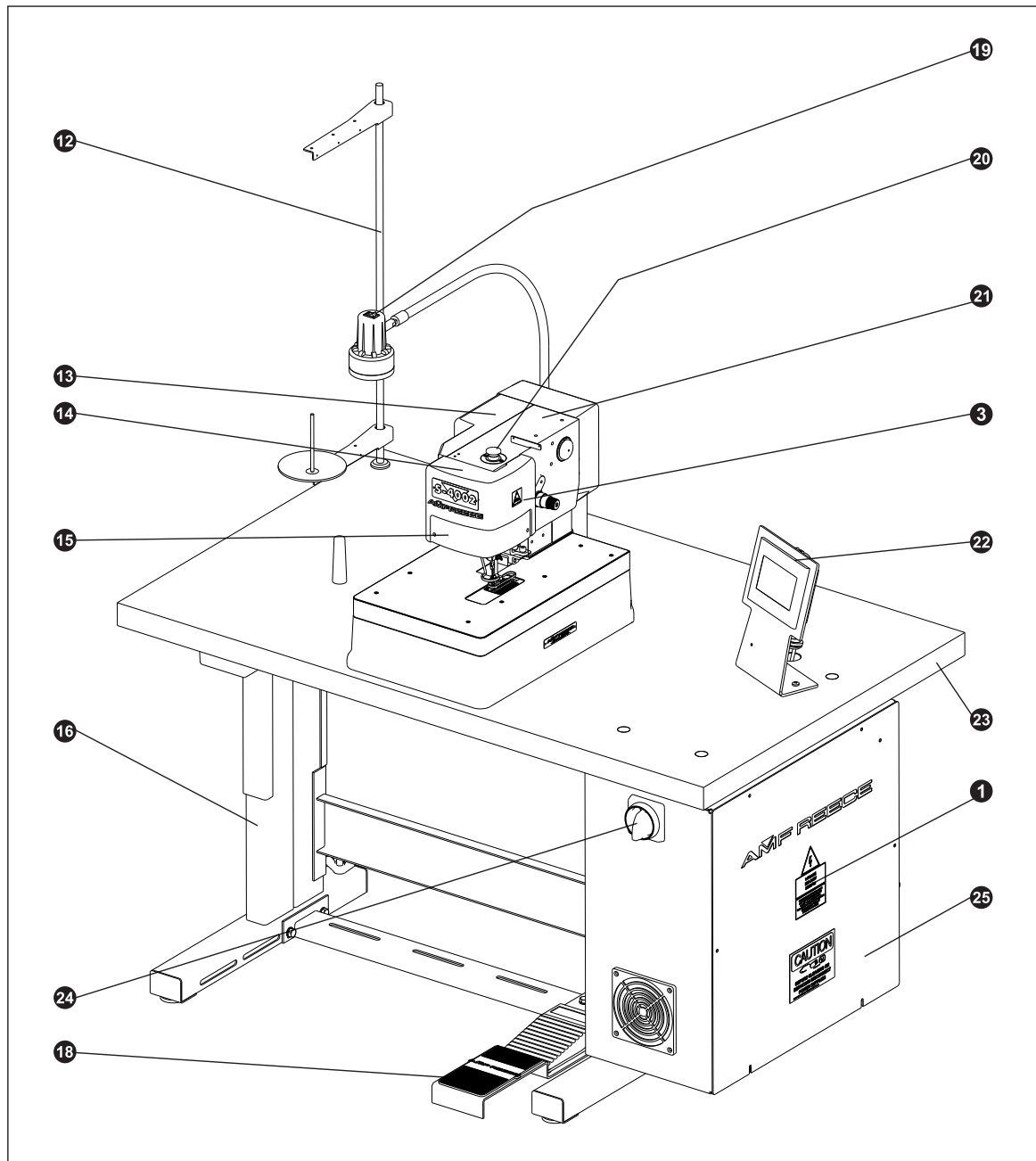
2. SAFETY DEVICE AND LABELS



- | | |
|--|--|
| <ul style="list-style-type: none"> 1 Warning 2 Covers removed, possible injury 3 Warning when opening cover eyes injury danger 4 Grounding 5 Standard label 6 Rotation direction 7 Hand wheel | <ul style="list-style-type: none"> 8 Air pressure regulator 9 Manometer with pressure sensor 10 Label TÜV SÜD 11 Thread stand 12 Head cover 13 Needle bar cover 14 Needle bar cover |
|--|--|

A - INTRODUCTION

3. GENERAL MACHINE PARTS DESCRIPTIONS



- 15 Eye guard
- 16 Stand
- 18 Foot pedal
- 19 Halogen lamp Button
- 20 Emergency Stop Button
- 21 Machine head

- 22 Control panel
- 23 Table top
- 24 Main Switch
- 25 Control box

A - INTRODUCTION

4. TECHNICAL CONDITIONS

Machine type		S-4002 TKF
Description		Electronic controlled chain stitch machine for sewing the tacks.
Sewing speed		1500-3800 stitches/min (750 - 1900 rev/min of the drive shaft)
Stitch density		0.3 - 5 mm
Machine clamp foot height		12.7 mm (1/2")
Sewing length	one row	5-40 mm
	two rows	5-40 mm
Maximum work thickness		to 4 mm (5/32")
Bite range		1.7 - 4.0 mm
Recommended thread		Thread size 80, 100, 120 (Tex 40-60)
Needle system		Needle 750 SC 90/14 (it is possible to order 80/12; 70/10)
Lubrication		Semi-automatic
Operating Conditions		According to IEC 364-3, IEC 364-5-51 temperature from +5°C to 40°C, relative air humidity from 30 to 80 %
Air Requirements pressure		5.5 bar /80 psi/0.55 MPa
Dimensions Head and Table		1150 mm (L) x 700 mm (W) x 710 mm (H)
Dimensions Packed Weight		1300 (L) x 770 (W) x 1150 (H) 200 kg Gross
Table types		Parallel, Crosswise, Universal
Machine db level		Laeg = 74dB; LWA = 87dB; LpC, peak = 103dB
Electrical Requirements		1NPE~60Hz 230V/TN-S (according to EN 60204-ED3)
		1NPE~50Hz 230V/TN-S (according to EN 60204-1 ED3)
Line Circuit Breaker		10A characteristic C (according to EN 60947-2 ED4)
		16A characteristic B (according to EN 60947-2 ED4)

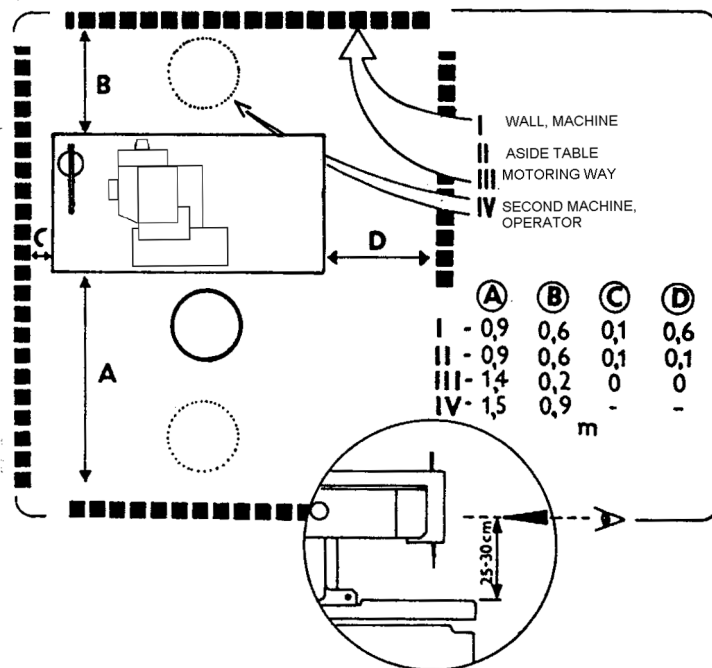
A - INTRODUCTION

5. INSTRUCTIONS FOR OPERATOR SAFETY AND MAINTENANCE

When installing the machine we recommend the minimum clearances noted above around the machine. Read all of the instructions that follow. **DO NOT PUT THE MACHINE INTO OPERATION UNTIL YOU ARE COMPLETELY FAMILIAR WITH ALL INSTALLATION AND OPERATING INSTRUCTIONS.**

DANGER!

- Before connecting the machine to the power supply, be positive that all safety covers are correctly installed.
- Always engage the power lockout switch, or disconnect the main power supply, before removing any safety covers.



WARNING!

- Locate the Emergency Stop button. Be sure you know how to use it.
- Be sure that you have a reliable and uniform power supply.
- Be sure that all electrical supply lines are in good condition and have no signs of damage to avoid electrical shock.
- If any covers become damaged, they must be repaired or replaced immediately.
- Do not touch moving parts of the machine while it is operating.
- Keep clear of the needle.
- Always switch off the main power before changing the needle.
- Before cleaning the machine or performing service to the machine, engage the power lock out switch or disconnect the main power supply.
- When the machine is not in use engage the power lock out switch or disconnect the main power supply.
- When this machine is used incorrectly, or is incorrectly maintained, it can be dangerous. Everyone who uses this machine, or maintains this machine, must be completely familiar with this manual.

CAUTION!

- Perform all regular service as described by this manual.
- If there is any problem with the power supply, turn off the main power switch.
- Do not remove, paint over, damage or in any way change safety labels. If a safety label cannot be easily read, replace it.
- Long hair and loose clothing may be dangerous near any machinery. Always contain long hair and avoid loose clothing, so that it cannot be caught by machinery and cause injury.
- Never use this machine while under the influence of drugs or alcohol.
- If anything seems to be operating incorrectly in the machine call for maintenance assistance immediately.
- Be sure that there is adequate light for safe operation. A normal minimum light level is 750 lux.

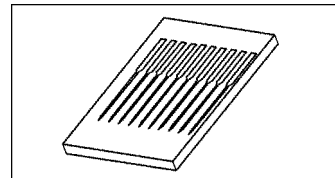
A - INTRODUCTION

6. SPECIAL ACCESSORIES

- machine device, which is not included in the standard equipment of the machine and a customer can order it

Needles 750 SC 80/12, 70/10

- the manufacturer recommends to use these needles when sewing the thin materials
- part number 02.0750.2.100 (80/12), 02.0750.2.109 (70/10)

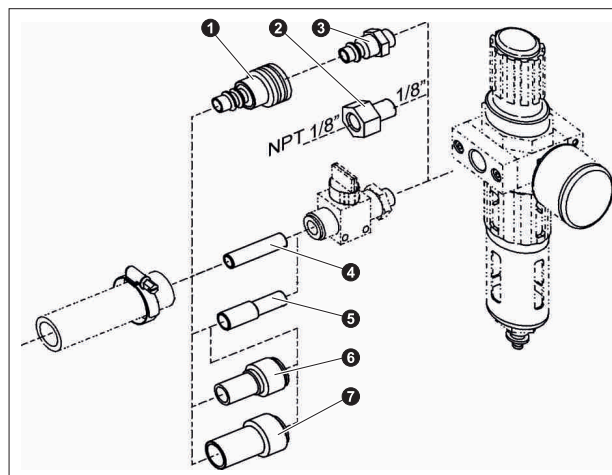


Connector Ø 8 ①

- order it if the connecting tube has the inner diameter 8 mm. The connector Ø 10 is supplied with the machine.
- part number is 12.0008.3.607

Pneumatic Adapter ②

- order it if using 1/8" NPT
- part number 12.0008.3.081



Connector ③

Adapter ② shall be ordered together with ③.

Connectors

- ④ 12.0008.3.464 Ø 8 for connection to the tube with inner Ø 8 mm
- ⑤ 12.0008.3.466 Ø 10 for connection to the tube with inner Ø 10 mm
- ⑥ 12.0008.3.467 Ø 12 for connection to the tube with inner Ø 12 mm*
- ⑦ 12.0008.3.465 Ø 16 for connection to the tube with inner Ø 16 mm*

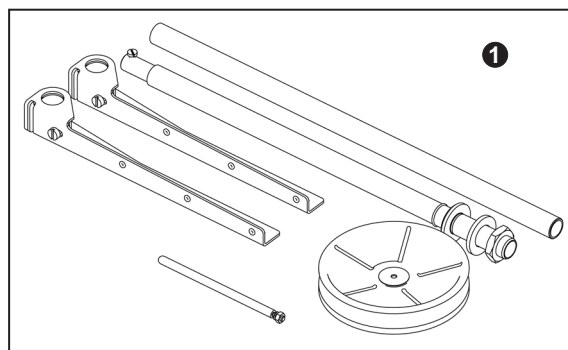
* To connect the tube with inner Ø 12 and Ø 16, it is also necessary to order Ø 10

B - MACHINE INSTALLATION

1. CONTENT OF THE SHIPPING BOX

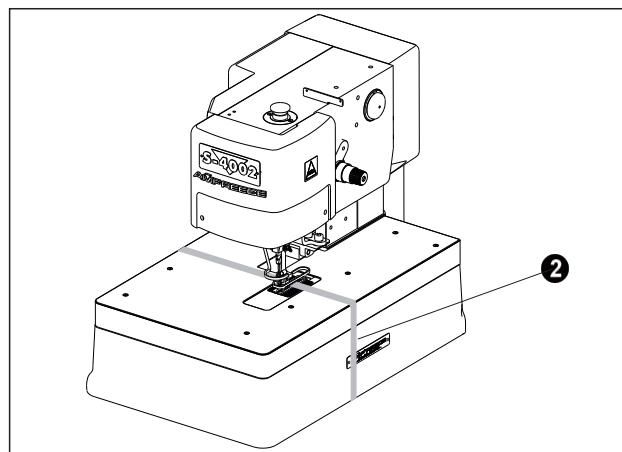
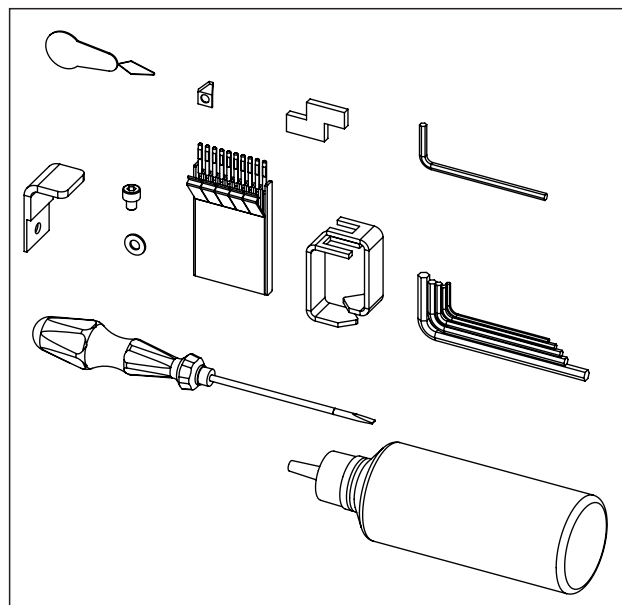
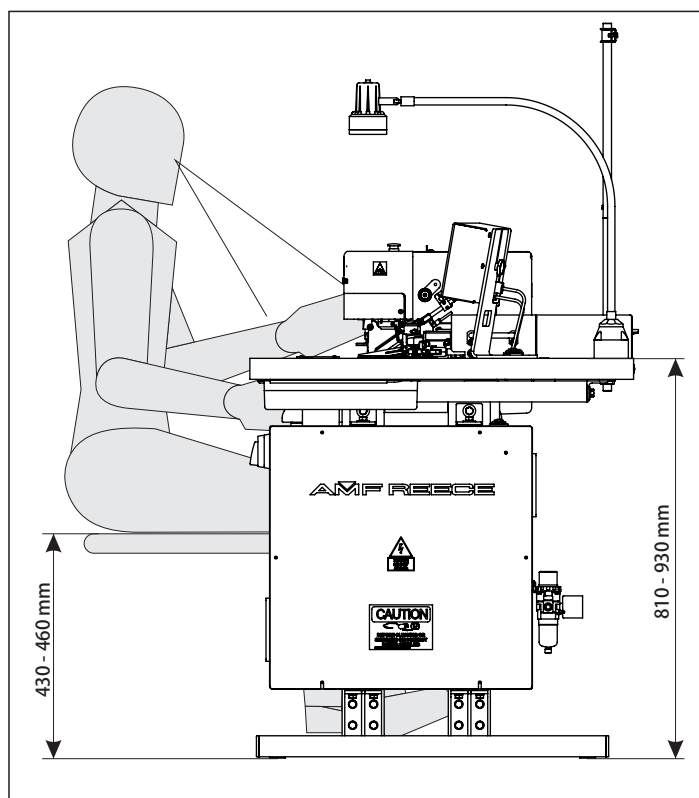
1. The shipment contains one box.
2. There is a carton with accessories, service manual with parts section and thread stand ① in the box.
3. During unpacking the shipment, follow the labels which are on a cover.

CAUTION: If the machine or crate was damaged in shipment inform the freight company immediately. Check the contents of the crate immediately and report any damage or missing items to the manufacturer immediately, late reports will not be considered.



2. ACCESSORIES

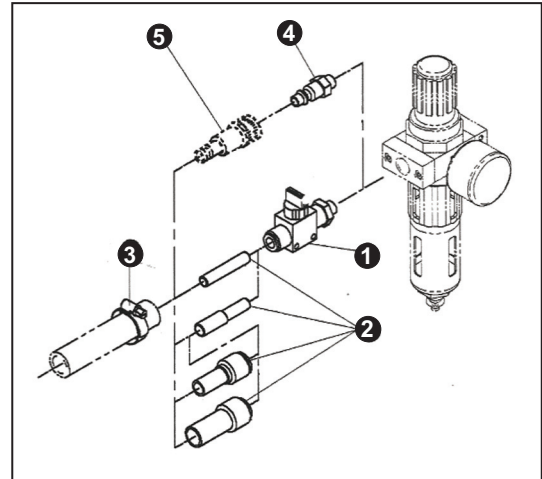
A package of accessories is supplied with this machine, please refer to page **Accessories** for detailed descriptions. The height of the working area is standardly set in range 830 - 850 mm from the manufacturer. When using this height of the working area, recommended height of the operator seat is in range 430 - 460 mm. The height of the table can be set in range 810 - 930 mm by screws. Remove the shipping strap ② after unpacking the machine, the use of this strap is recommended anytime the machine is transported.



B - MACHINE INSTALLATION

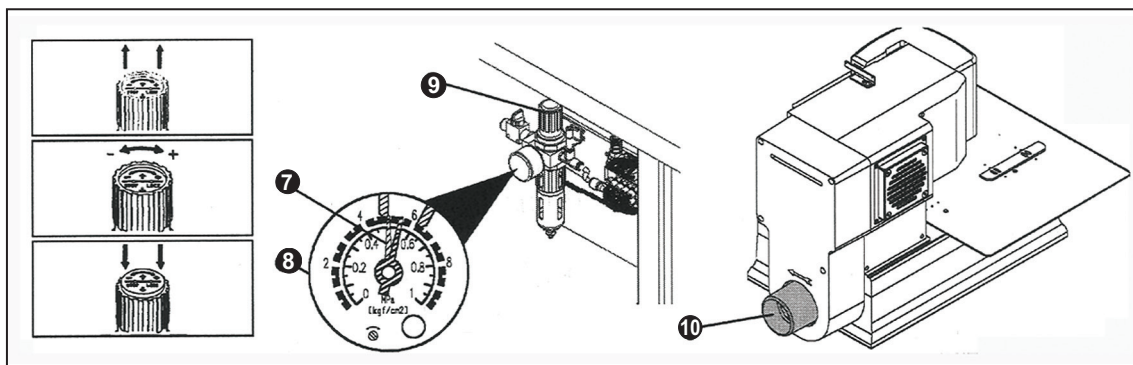
3. POWER AND AIR CONNECTION

1. The machine is equipped with a hand valve **1**. If a customer needs to use a quick coupler **4**, he must order connector **5**. A variety of connectors **2** can be used separately or in combination to adapt to the available input supply hose. It depends on type of the tube which is used by a customer. These connectors are not included in the accessories. A tubing clamp **3** is provided.



2. After air connection check the set air pressure on the dial of the regulator. It should be in range 0.5 - 0.6 MPa. The green pointer **7** indicates the lowest working air pressure 0.5 MPa, which is set from the manufacturer on the manometr regulator **8**. If the air pressure is lower than 0.5 Mpa after connecting the machine to the power supply „Low Pressure“ message appears on the control panel display. To adjust the working pressure, loosen the regulator cap lock **9** and turn the regulator cap clockwise to increase the pressure. Push the regulator cap **9** down.
3. Power supply must be 208 to 230 volts 1 phase, 50 or 60 hertz. Receptacle plug must meet requirements of IEC standard 364-4-41, its circuit breaker must be minimal 10A with characteristic C according to the EN 60947-2 (or 16A with characteristic B). No other devices must not be connected to the circuit breaker of the socket. The hand wheel **10** must turn counter clockwise.

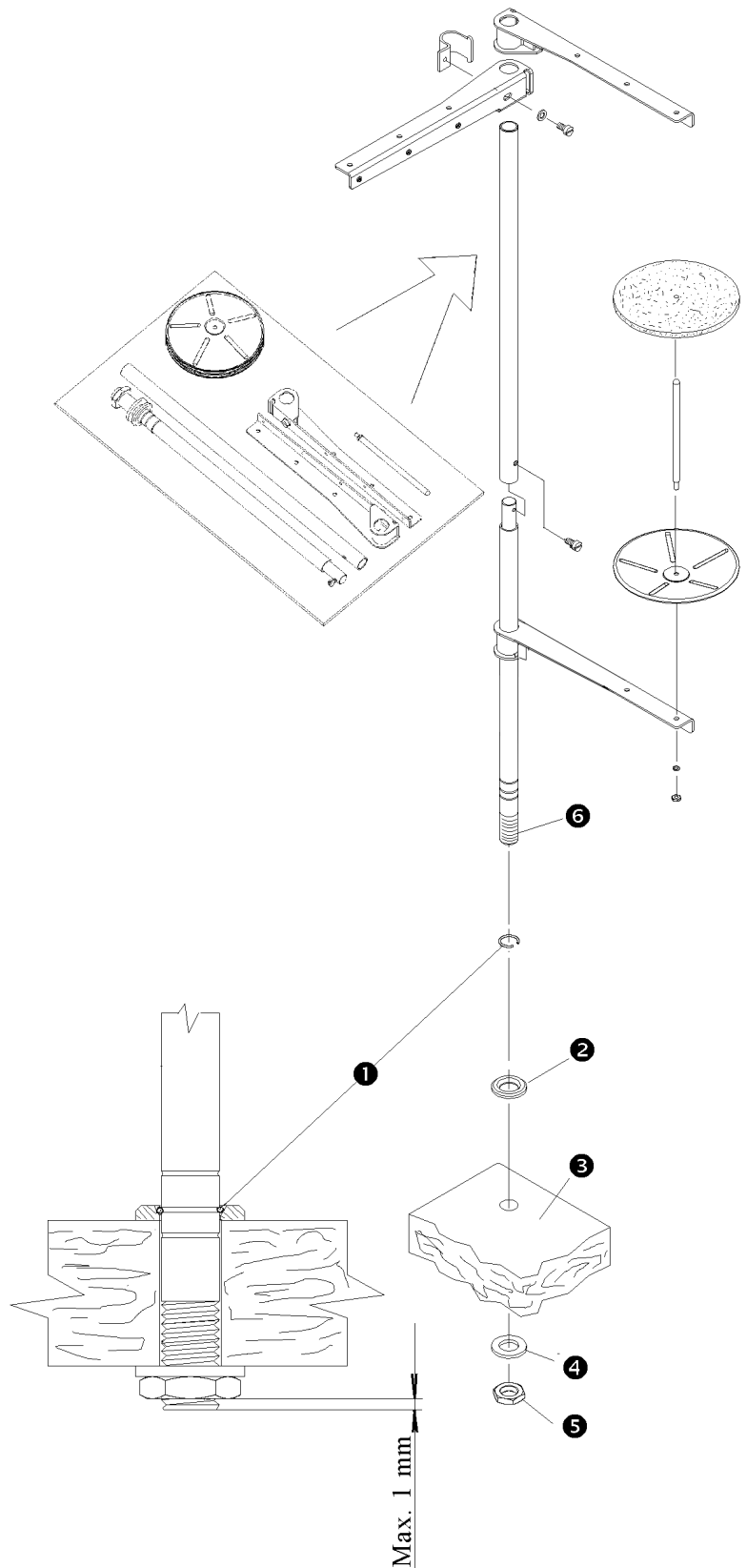
The machine is equipped with a filters which contain capacitors which generate an high frequency leakage current. In order to prevent nuisance tripping, residual current protection device must be protected against these high frequency currents: this is the case for industrial residual current device (example „S“ type).



B - MACHINE INSTALLATION


4. THREAD STAND INSTALLATION

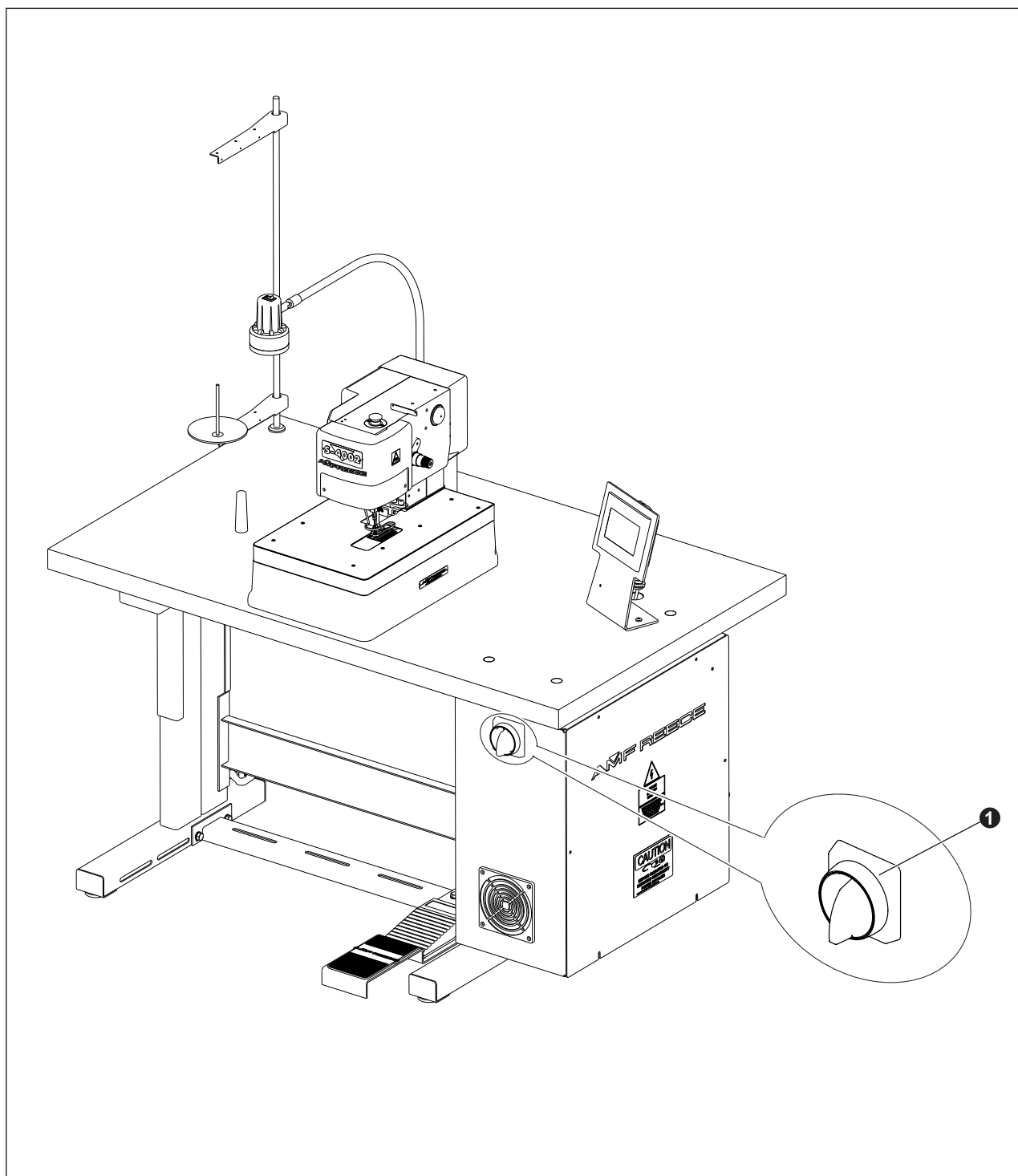
1. Put the thread stand together according to the drawing.
2. Position of the locking ring **1** allows assembly of the thread stand for various thickness of the table top. Threaded end of the post **6** must not extend more than 1 mm (1/32) through the locking nut **5**.
3. Insert the washer **2** and the post into the hole provided in the right rear of the table top **3**. Insert the washer **4** and tighten the nut **5**.



C - CORRECT USAGE

1. POWER UP / HOME POSITION

1. Turn the main power switch on **1**  by turning clockwise to the I position.
2. The machine is ready for operation when the control panel display lights, the Ready message appears on the display.
3. The machine must be in the home position before starting to sew.



C - CORRECT USAGE

2. NEEDLE INSTALLATION

WARNING! Before performing this adjustment, switch the main machine power off to prevent accidental starting of the machine. Disconnect the air supply and dissipate any stored energy.

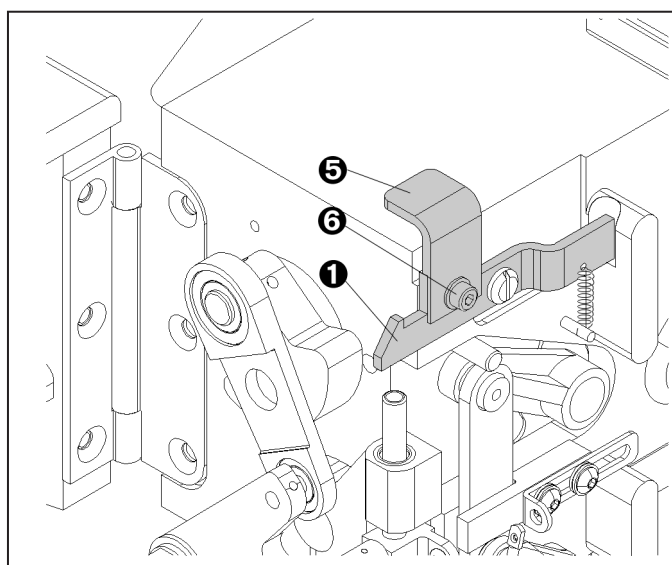
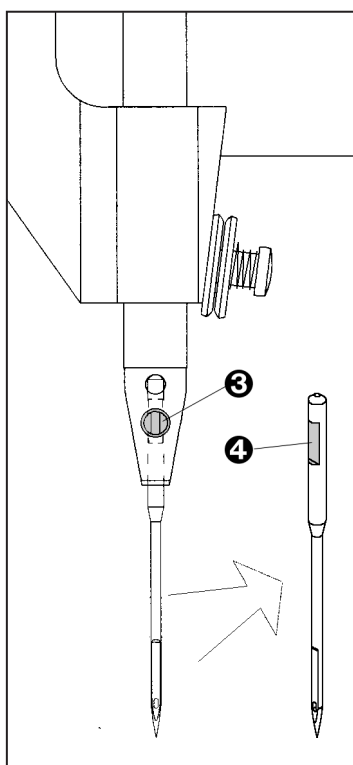
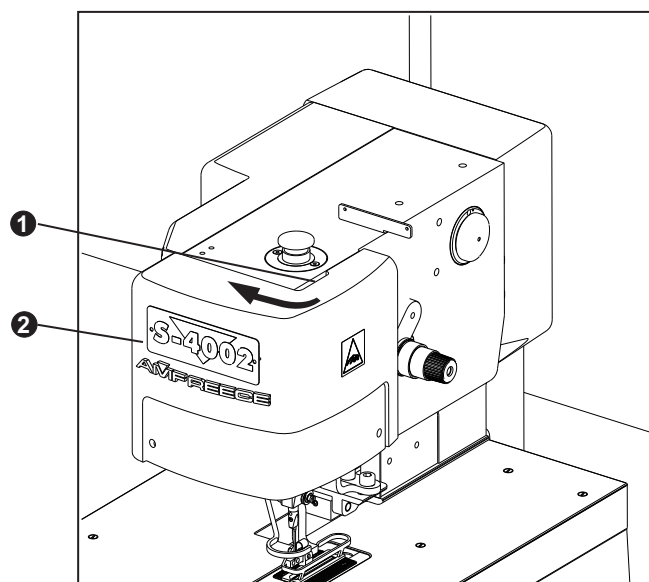
Use needles ordering number 02.0750.2.110 (750SC 90/14) only - see accessories.

It is also possible to use needles ordering number 02.0750.2.100 (750 SC 80/12), 02.0750.2.109 (750 SC 70/10) for sewing the thin materials - these needles are not included in the standard machine equipment.

2.1. Using the screwdriver push the latch ① and open the needle bar cover ②.

Note: The accessories contain the lever ⑤ (ordering number 22.0213.0.000) and screw (ordering number 08.6000.4.005) with washer (08.6850.4.000) ⑥, which is possible to fit to the latch. It allows opening of the cover without using the tool.

1. Loosen the screw ③ and remove the needle.
2. Insert the new needle so that the long thread groove ④ is in the rear and the spot for the clamping screw ③ is in line. Do not install a bent or broken needle. Roll the needle on a flat surface to check for straightness.
3. Tighten the screw ③ well.

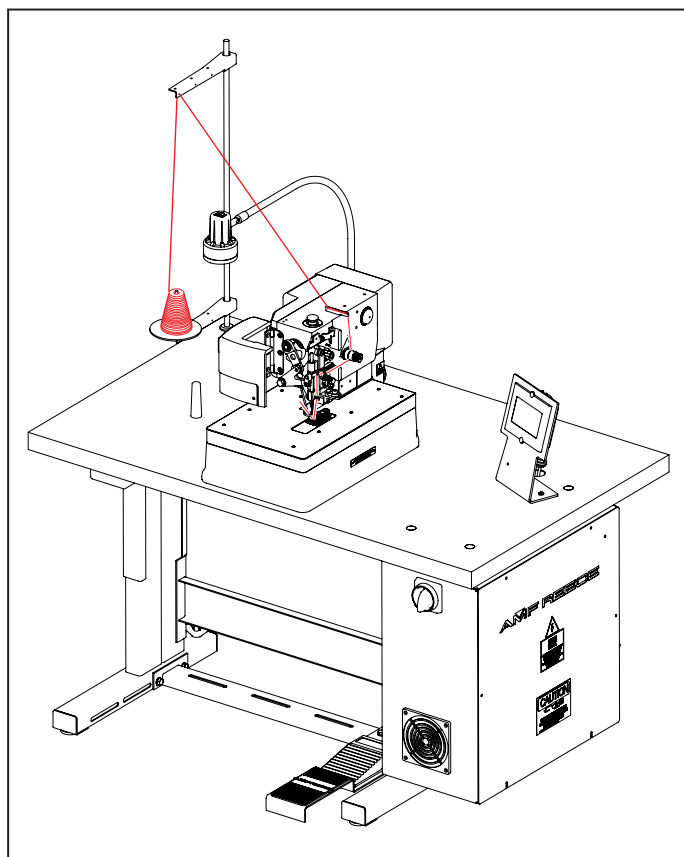
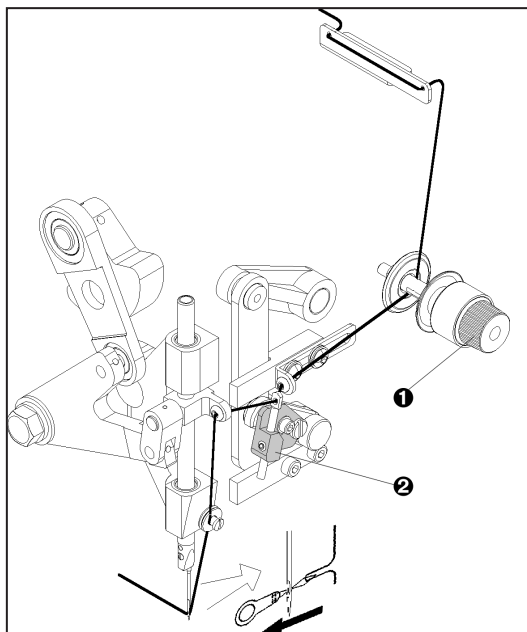


C - CORRECT USAGE

3. THREADING

WARNING! Switch the main machine power off to prevent accidental starting of the machine. Disconnect the air supply and dissipate any stored energy.

When threading, see the pictures below. Change the thread tension by nut **1** according to the sewing conditions. To increase the thread draw off (for example sewing on the thin fabrics) there is an arm **2** installed on the thread draw off lever.



The appearance and quality of the tack may be affected by one or more of the following:


- clamping of the material
- thread tension
- type of thread (size, etc.)
- sewing width
- sewn material (thickness, density)

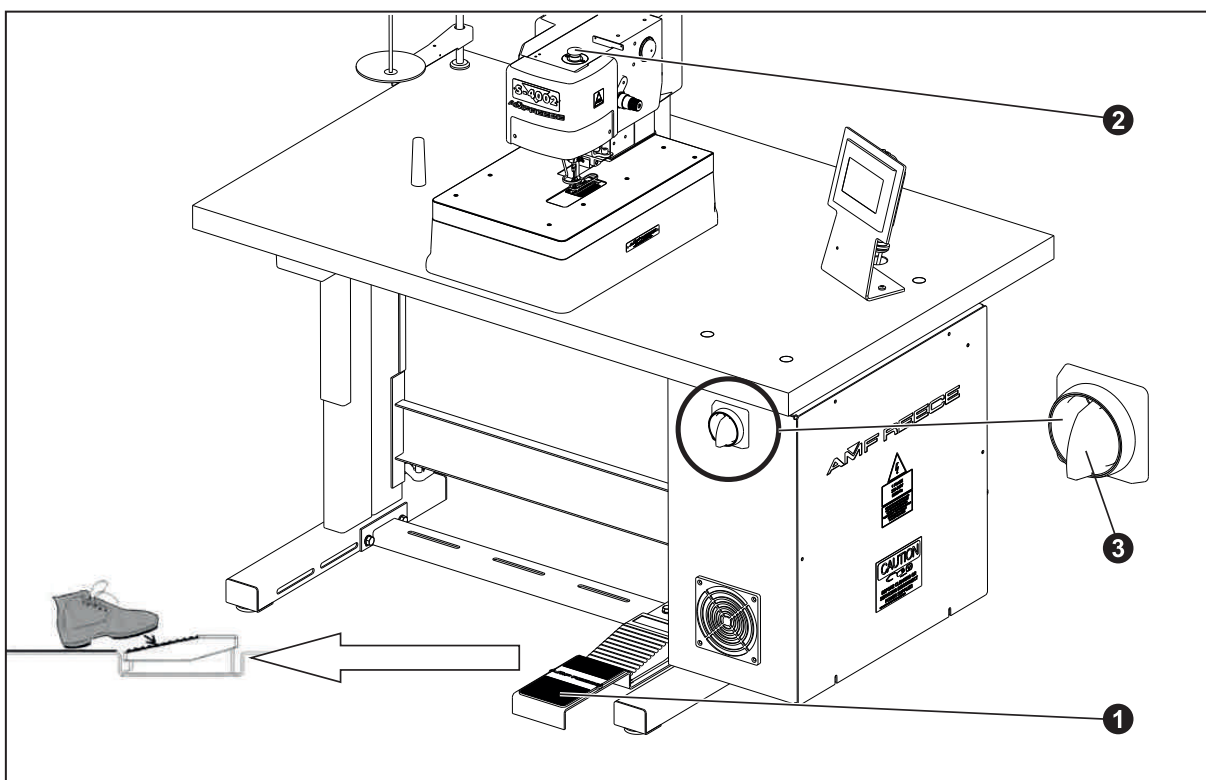
D - MACHINE CONTROLS

1. PROCESS OF SEWING

1. Bring the machine to the home position according to the section C1.
2. Be certain that the machine is threaded correctly according to the section C3 and insert the work under the clamp feet.
3. When the foot pedal **1** is pressed to the first position, the work is clamped by the clamp feet.
(Releasing the foot pedal will rise the clamp feet).

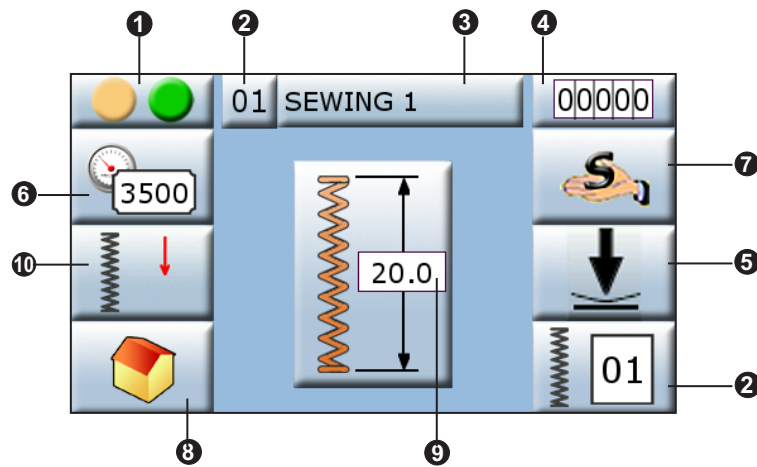
Note: It is possible to set in the program the machine start on first pedal position.

4. When the foot pedal is pressed to its second position, the sewing is started. After finishing the sewing and trimming the thread, the machine returns to the home position and the clamp feet rise.
5. When the clamp feet are up, it is possible to move the sewn work for next sewing.
6. Machine can be stopped in any place of the cycle by pressing the Emergency Stop button **2** which is placed on the machine head. After releasing the Emergency Stop button, pressing the  button and pressing the foot pedal, the machine finishes the sewing.
7. If the foot pedal **1** is pressed before finishing the sewing, the clamp feet will not rise and the machine will sew four cycles instead of two - this is possible to set in program.
8. When the work is done, switch the machine off by the **3** button.



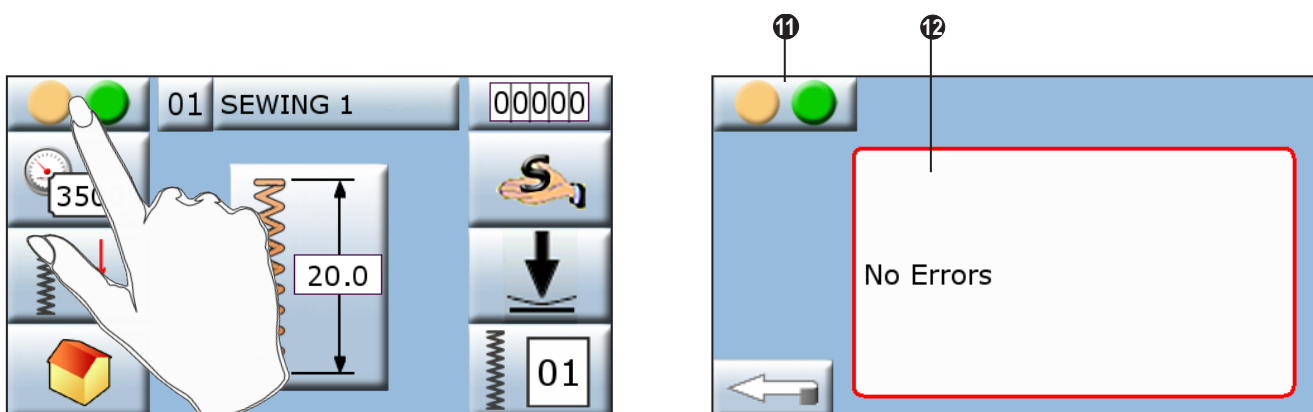
D - MACHINE CONTROLS

2. OPERATOR CONTROL PANEL PUSH BUTTONS AND SWITCHES



- ❶ Machine status / error number signalization.
Press the button to switch to the Error Explanation Screen
- ❷ Tack program number selection / indication.
- ❸ Tack name.
- ❹ Daily counter signalization. Press the button to switch to the Counter Screen.
- ❺ Clamp foot activation for needle threading.
- ❻ Press this button to switch to the Tack Parameters Screen(refer to Chapter D...).
- ❼ Press this button to switch to the Service menu (refer to Chapter D...).
- ❽ Home position establishment.
- ❾ Press this button to switch to the Tack Parameters Settings Screens(refer to Chapter D...).
- ❿ Sewing style

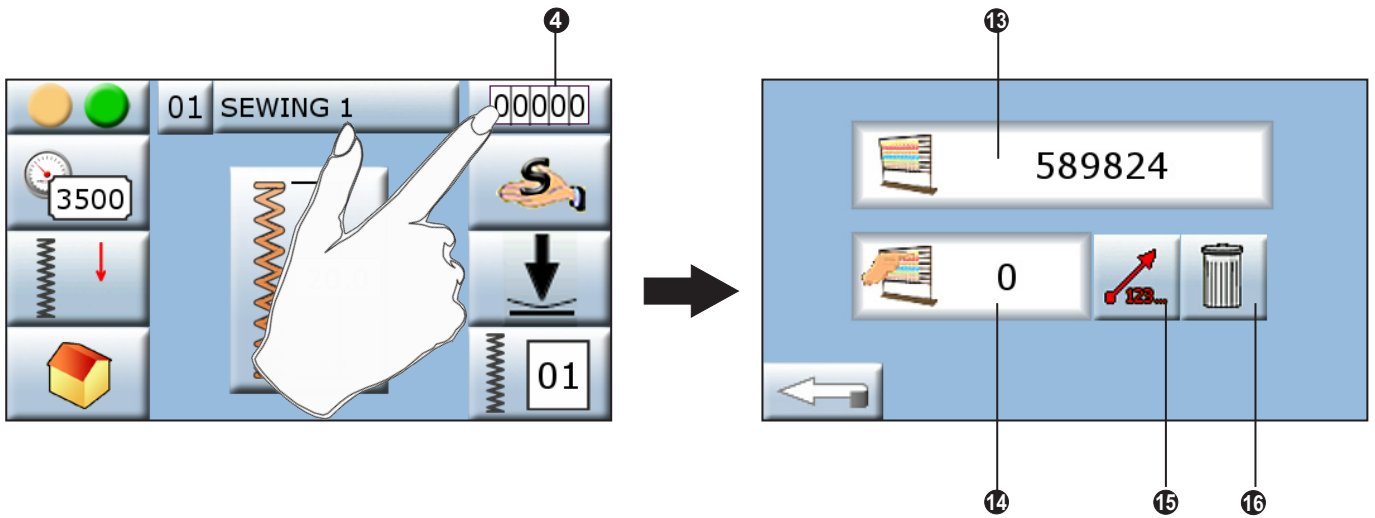
By pressing the button ❶ you switch to the Error Explanation Screen:



- ❶ Error number
- ❷ Error explanation

D - MACHINE CONTROLS

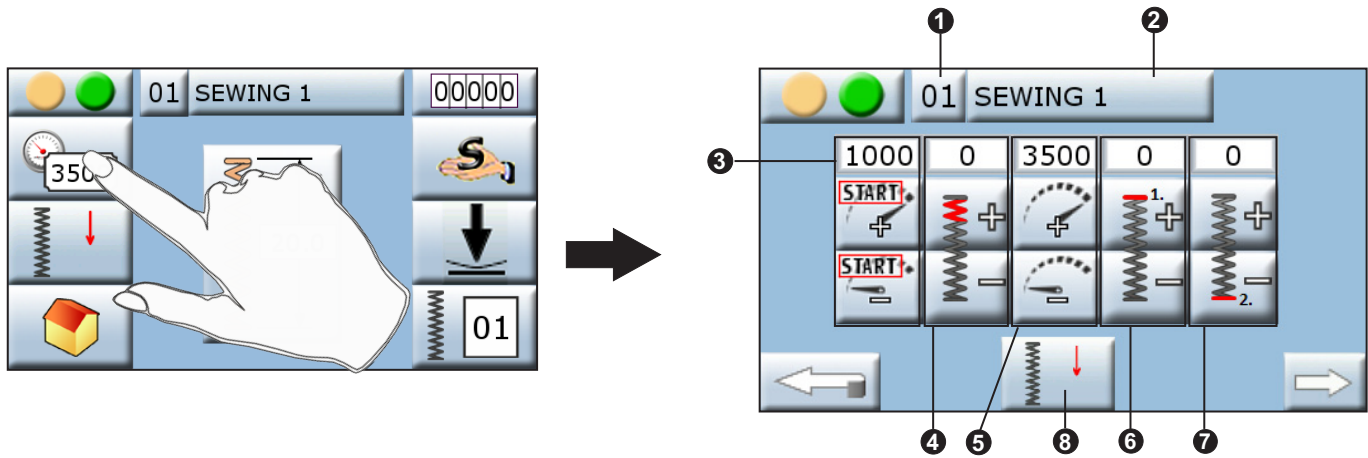
By pressing the button ④ you switch to the Counter Screen:



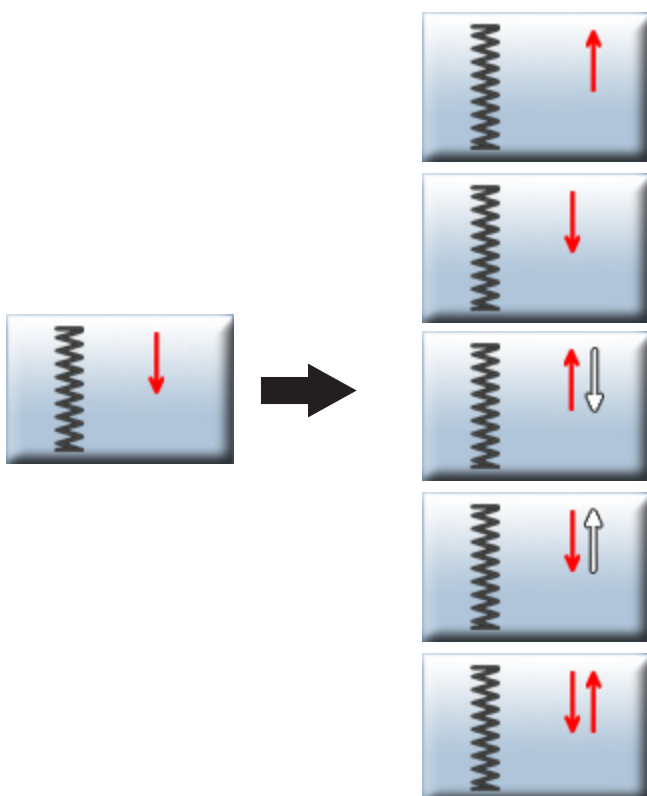
- ⑬ Total counter of tack sewn on the machine
- ⑭ Daily tack counter
- ⑮ Daily counter counting direction (ascending or descending)
- ⑯ Daily counter reset

D - MACHINE CONTROLS

3. TACK PARAMETERS SCREEN

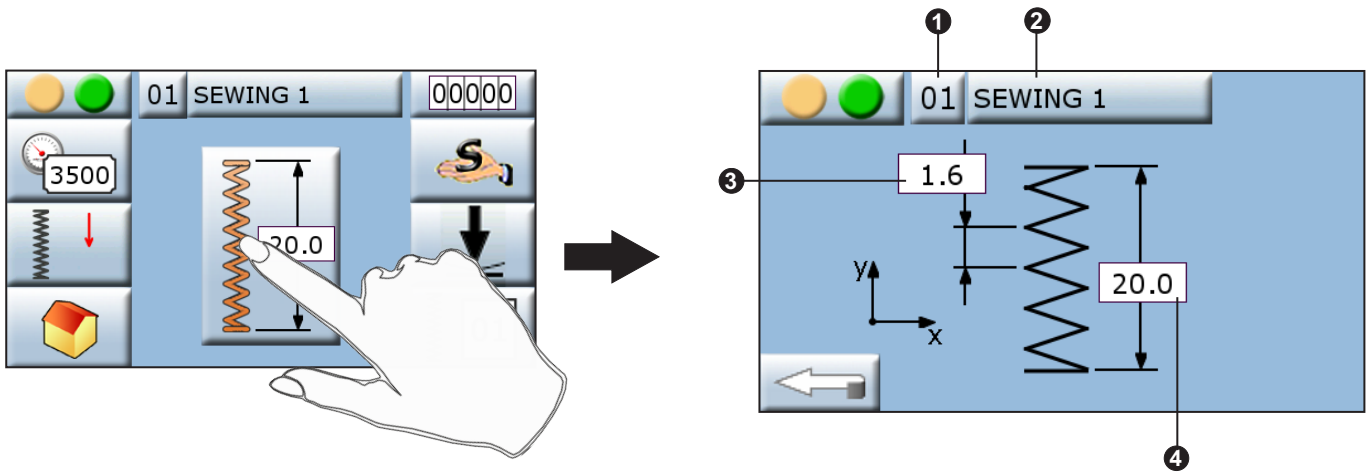


- ① Tack program number selection / indication
- ② Tack name
- ③ Initial slow sewing speed
- ④ Number of stitches being sewn at initial slow sewing speed
- ⑤ Sewing speed
- ⑥ Number of stitches of the first sewn bar tack
- ⑦ Number of stitches of the second sewn bar tack
- ⑧ Sewing style



D - MACHINE CONTROLS

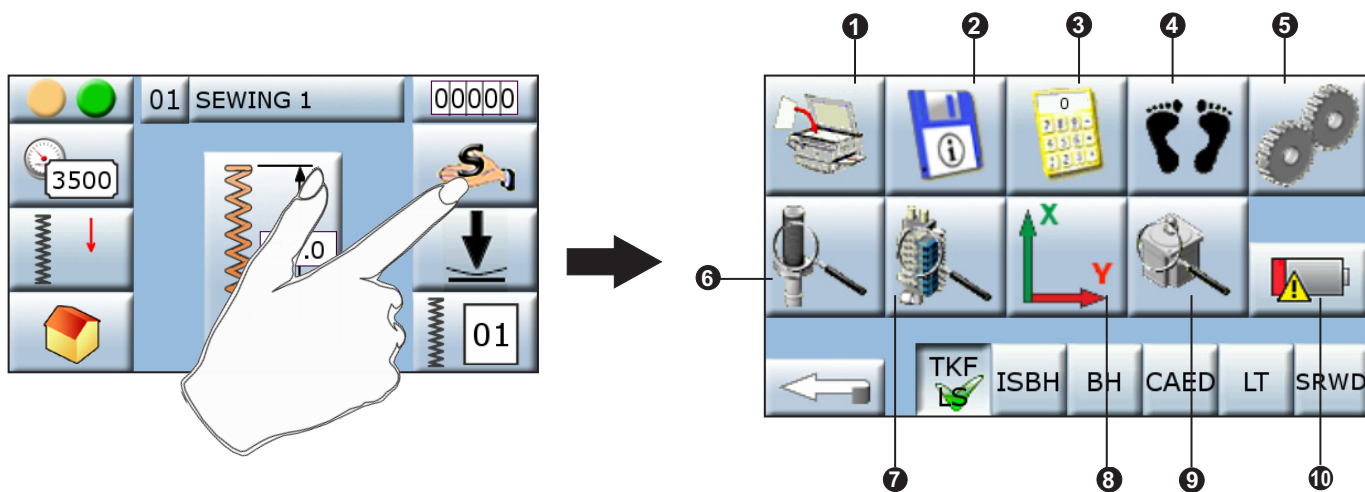
4. TACK PARAMETERS SETTINGS SCREENS



- ❶ Selection of Tack program numbers
- ❷ Tack name
- ❸ Stitch length adjustment
- ❹ Tack length adjustment

D - MACHINE CONTROLS

5. SERVICE MENU



- ❶ Switch to Program Copy Screen (refer to Chapter D5.2)
- ❷ Switch to Software Information Screen (refer to Chapter D5.3)
- ❸ Password Entering (refer to Chapter D5.1)
- ❹ Switch to Tack Step-by-Step Sewing Screen (refer to Chapter D5.4)
- ❺ Switch to Machine Parameters Screen (refer to Chapter D5.5)
- ❻ Switch to Sensors Test Screen (refer to Chapter D5.6)
- ❼ Switch to Valves Test Screen (refer to Chapter D5.7)
- ❽ Switch to X-Y Motors Adjustment Screen (refer to Chapter D5.8)
- ❾ Switch to Sewing Motor Adjustment Screen (refer to Chapter D5.9)
- ❿ Indication of PLC controller battery low status / Switch to Battery Status Screen (refer to Chapter D5.10)

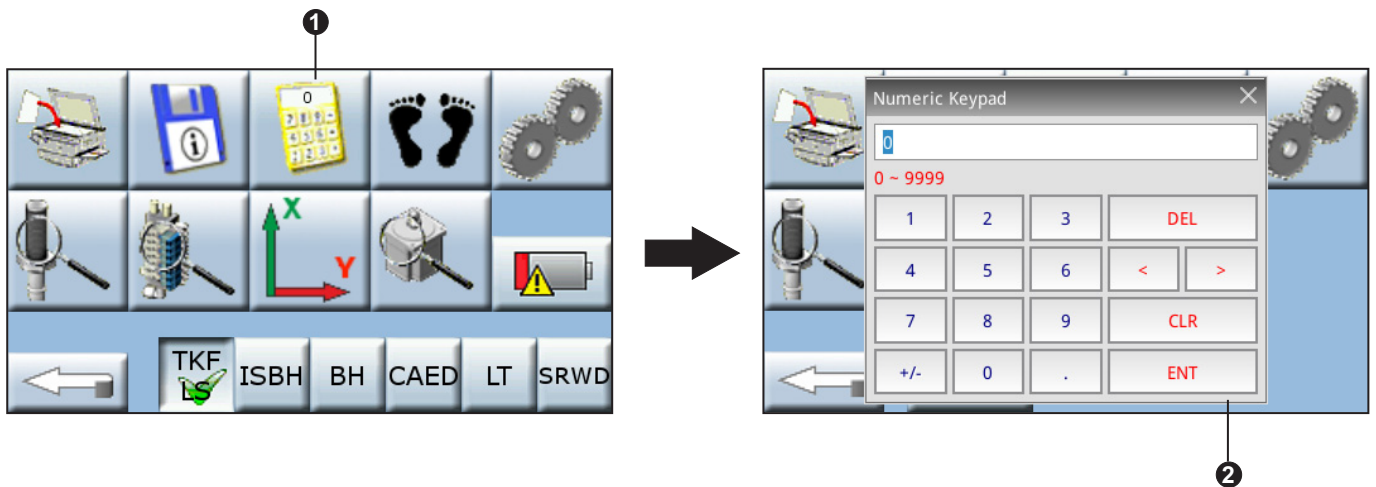
D - MACHINE CONTROLS

5.1. Password Submitting Screen

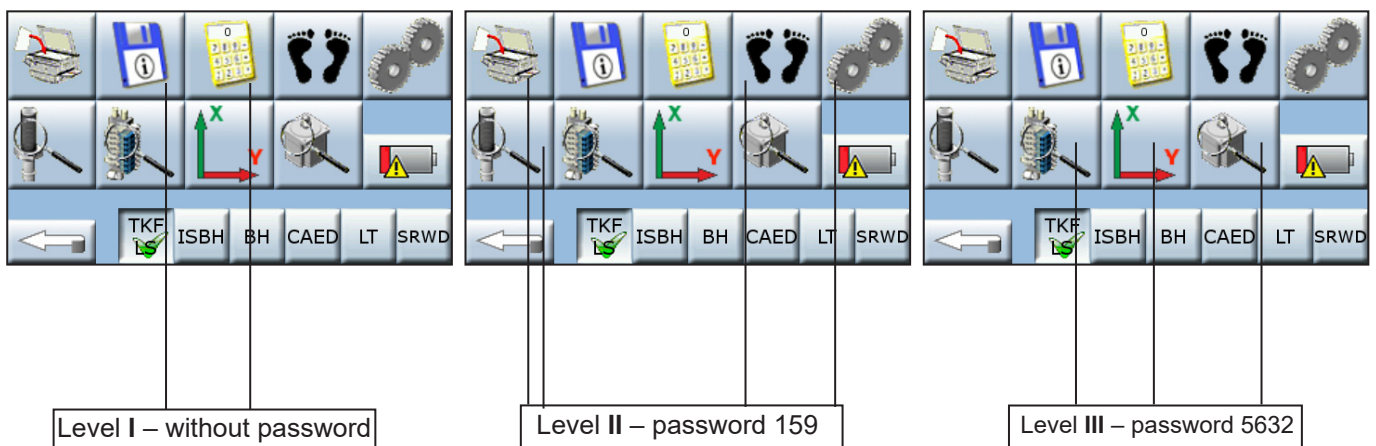
All the tack parameters are protected by the password of level II. Consequently, the tack parameters can be viewed but cannot be changed. Level II password is requested for the change.

Service menu is protected from unqualified parameters change by security passwords. It is split into three levels according to severity and frequency of usage.

Press button **1** on the Service Menu Screen. Numerical keypad appears. Enter the code for the respective level. Validate it by pressing the button **2**.

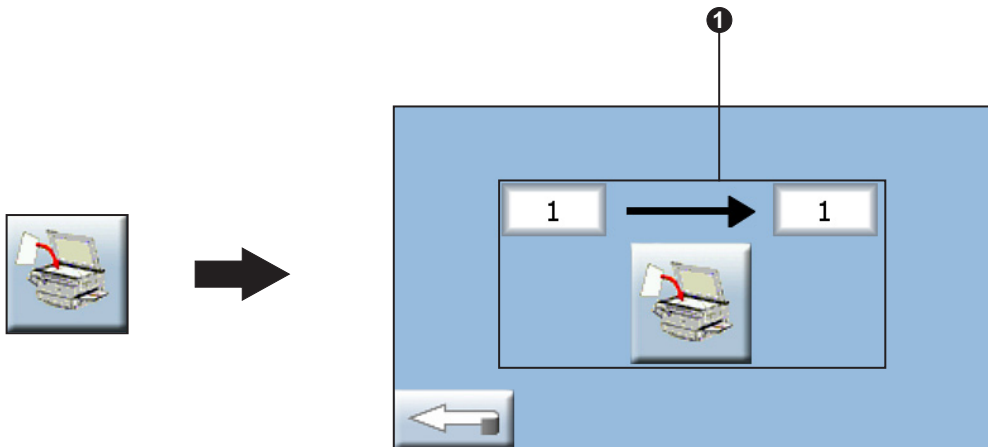


On the screens below there is an overview of protection level of individual service menu buttons together with the respective passwords. E.g., after entering the password of protection level III, all the buttons of level I and II are also activated.



D - MACHINE CONTROLS

5.2. Program Copy Screen



① Copying of a tack program

5.3. Software Information Screen



① Software version numbers

5.4. Tack Step-by-Step Sewing Screen

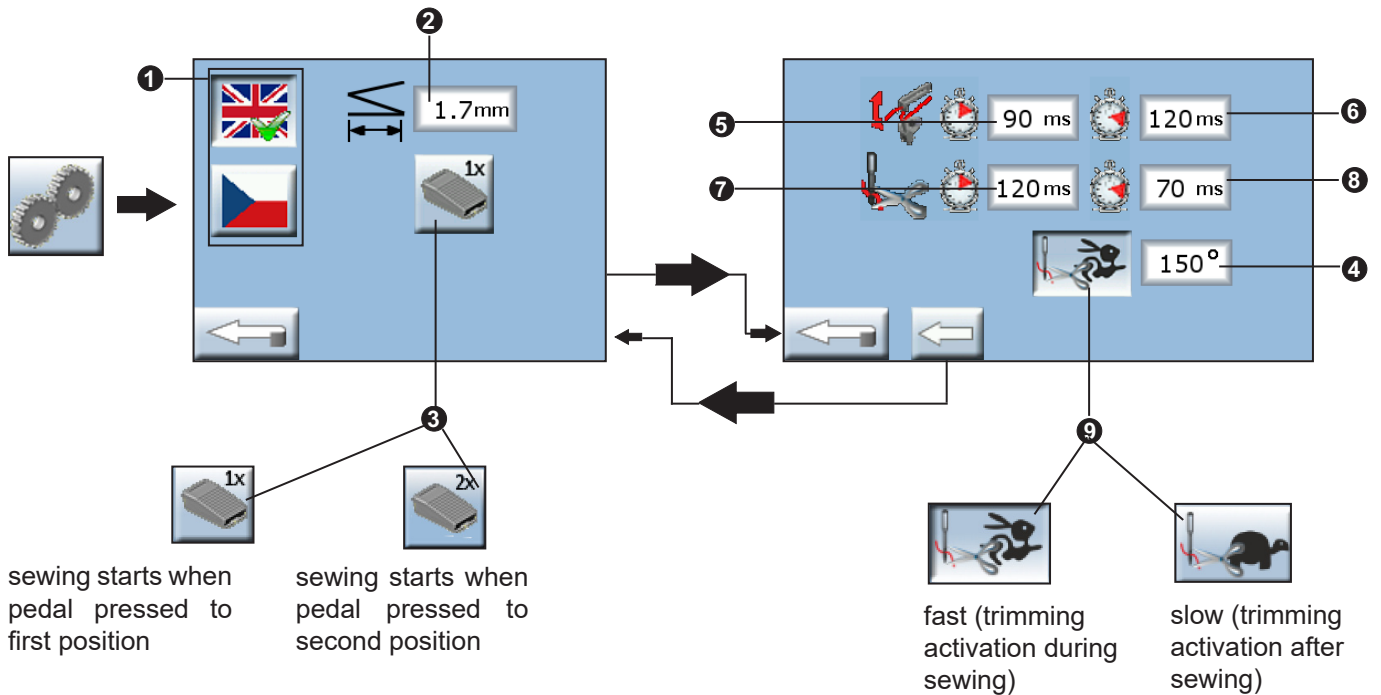


① Activation of tack step-by-step sewing mode
② Proceed to next stitch

D - MACHINE CONTROLS

5.5. Machine Parameters Screen

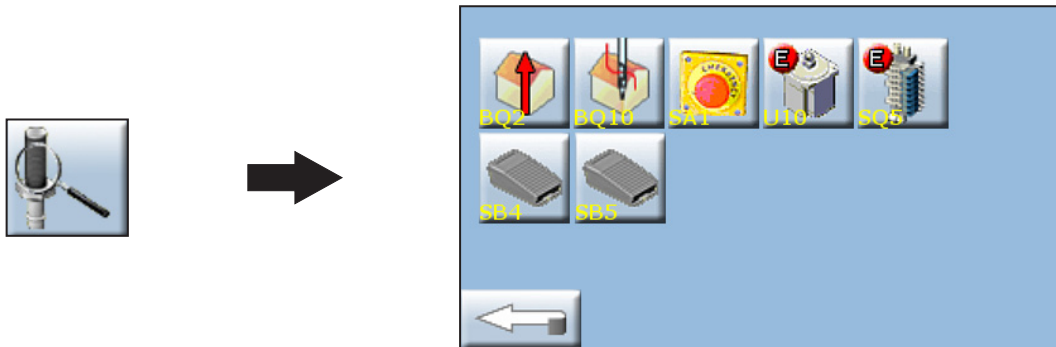
- ❶ Language selection
- ❷ Mechanical bite adjustment – this value must be set according to the adjusted mechanical bite of the sewing head
- ❸ Foot-pedal control setting – sewing start



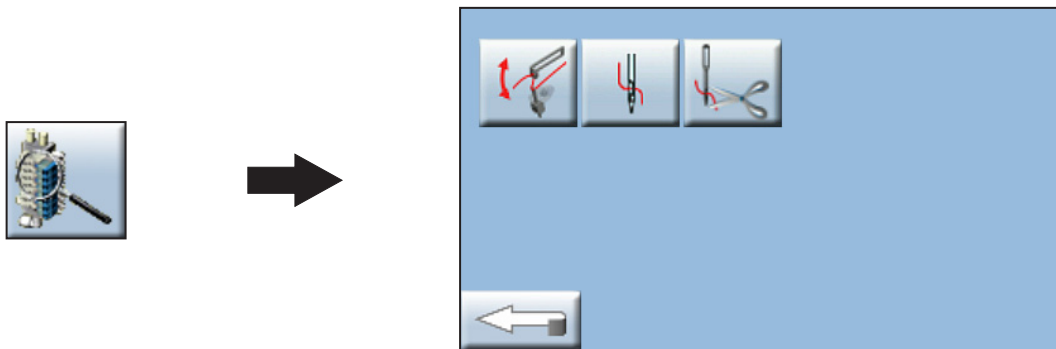
- ❹ Thread trimming position for fast trimming mode (default 150°)
- ❺ Thread draw-off activation delay adjustment (default 90 ms)
- ❻ Thread draw-off activation duration adjustment (default 120 ms)
- ❼ Thread trimming activation delay adjustment (default 120 ms)
- ❽ Thread trimming activation duration adjustment (default 70 ms)
- ❾ Thread trimming mode (default fast trimming)

D - MACHINE CONTROLS

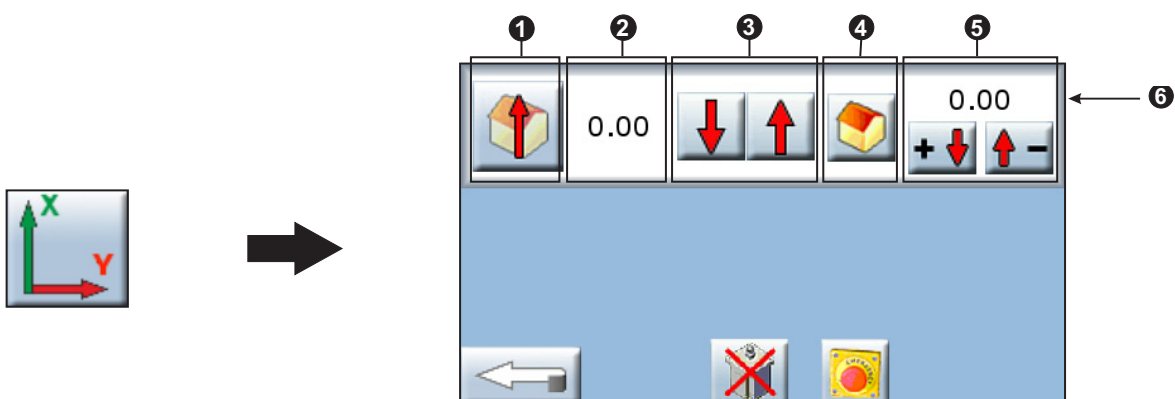
5.6. Sensors Test Screen



5.7. Valves Test Screen



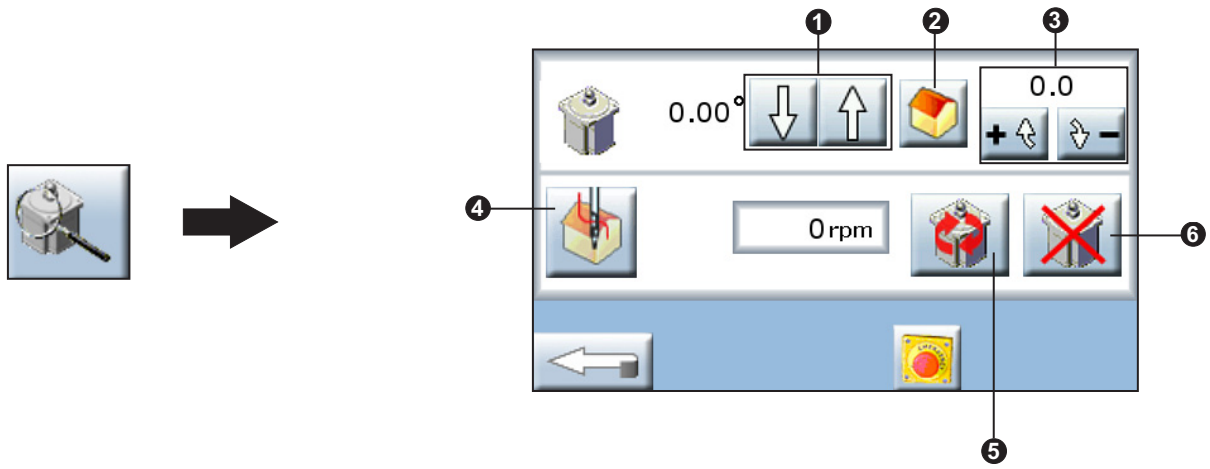
5.8. Y - Motors Adjustment Screen



- ❶ Axis home position sensor
- ❷ Axis current position
- ❸ Axis movement test
- ❹ Axis home position establishment
- ❺ Axis home position electronic correction
- ❻ Axis Y row

D - MACHINE CONTROLS

5.9. Sewing Motor Adjustment Screen

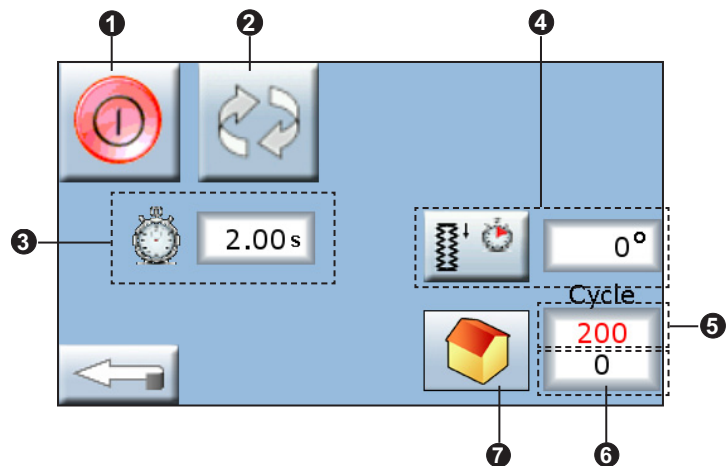


- ① Sewing motor movement test
- ② Sewing motor home position establishment
- ③ Sewing motor home position electronic correction
- ④ Sewing motor home position sensor status
- ⑤ Sewing motor continual run
- ⑥ Sewing motor enable / disable

D - MACHINE CONTROLS

5.10. Automatic Home Position (only for service mechanics)

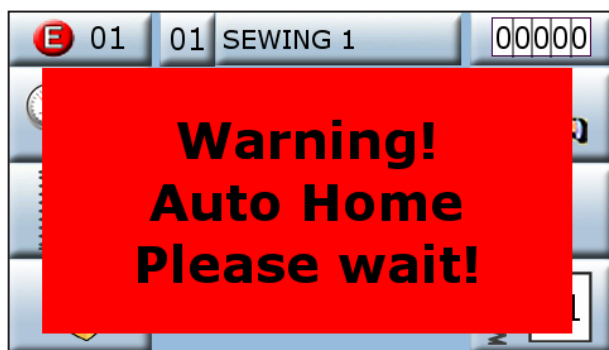
This machine is equipped with automatic home position of stepper motor axes.
This operation is factory set to 200 tacks.



- ❶ Master reset (factory set)
- ❷ Machine cycling (testing, running - in)
- ❸ Time of last sewing
- ❹ Time change of synchronization of the movement of needle bar and Y-axis clamping mechanism
- ❺ The number of tack after which an automatic home position occurs
- ❻ The current number of tacks since the last automatic position
- ❼ Home button

During this operation, appears on the screen:

Warning!
Auto Home
Please wait!

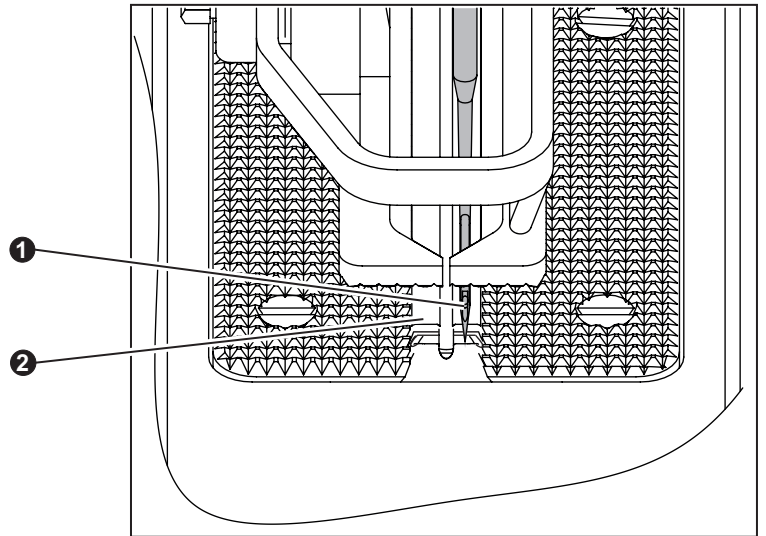


CAUTION: During this operation the operator must take care of safety and do not put his hands in the sewing area!

E - STANDARD MACHINE ADJUSTMENT

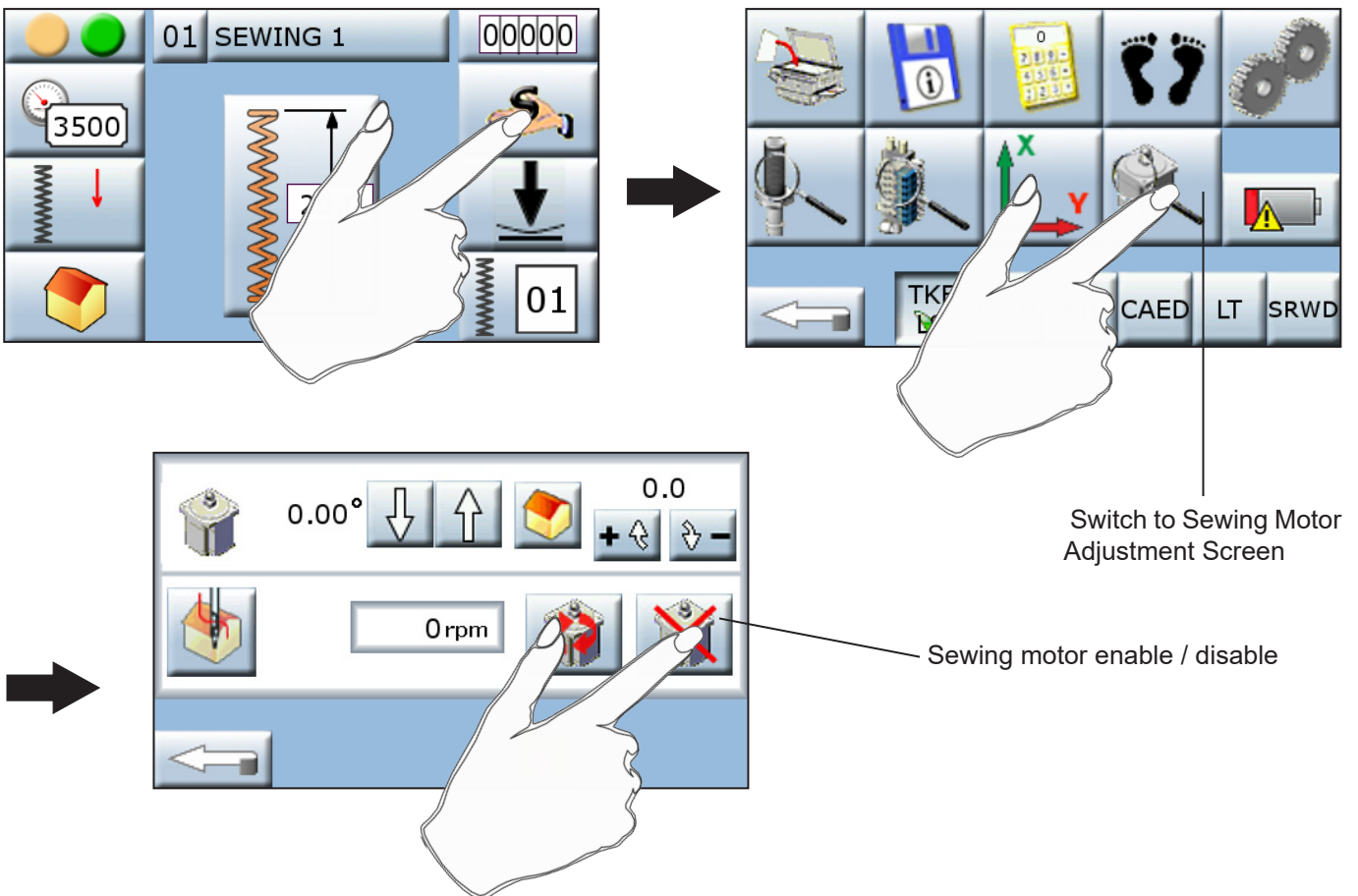
1. MACHINE HOME POSITION

1. The needle bar is in the upper position. The needle ① descends to the right side of the throat plate slot ② during the first stitch.



2. MACHINE ADJUSTMENT BASICS

1. Before making mechanical adjustment disable the sewing motor:



CAUTION: It is not possible to start sewing by pressing the foot pedal when working in Service Mode.

E - STANDARD MACHINE ADJUSTMENT

3. NEEDLE BAR

3.1. Needle Bar Crank Position

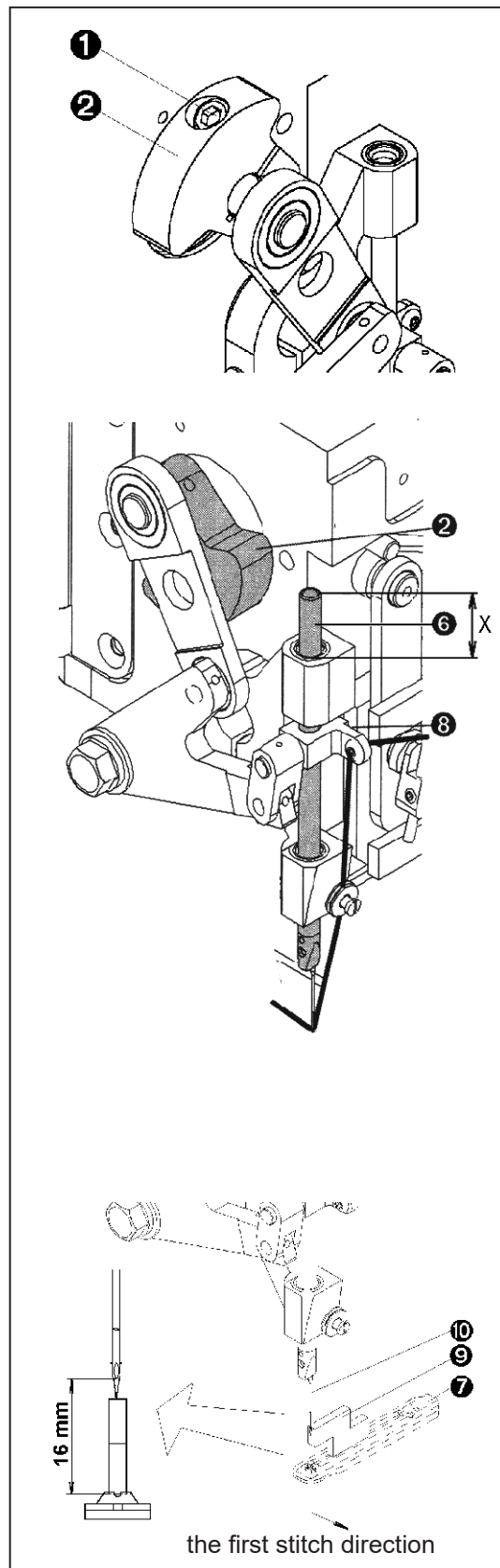
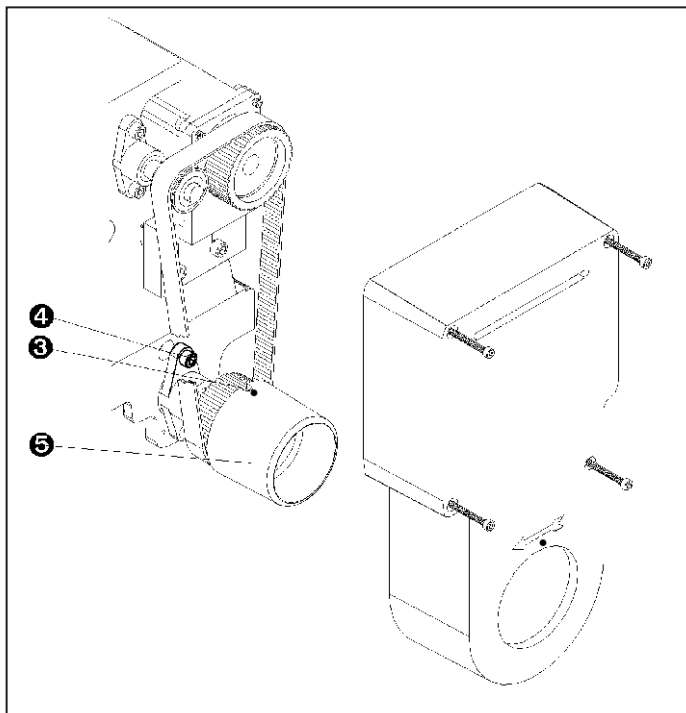
Turn the hand wheel **5** until the mark **3** is at 12 o'clock. The needle bar need to be in the top position. If the needle bar is not in the indicated position turn the hand wheel **5** and loosen lightly the screw **1** in the needle bar crank **2**, hold the hand wheel and turn the crank in the direction to obtain the condition. Check again and tighten the screw **1** when the position is reached.

NOTE: The needle bar should be in the top dead centre position when the mark **3** is at 12 o'clock. To check, turn the hand wheel clockwise and counter-clockwise. The needle bar **6** must move downward in either direction. The needle shall make its first stroke into the right side of the throat plate.

3.2. The Needle Bar Height Adjustment

Adjust the needle bar **6** height to 16 mm (5/8") from the surface of the throat plate **7** to the lower edge of the needle eye. Use height gauge **9**. Loosen the set screw **8** and move the needle bar up or down as necessary.

NOTE: Alternatively, check distance **X** at the top death point=16.8 mm and bottom death point=10.2 mm.



E - STANDARD MACHINE ADJUSTMENT

4. BITE

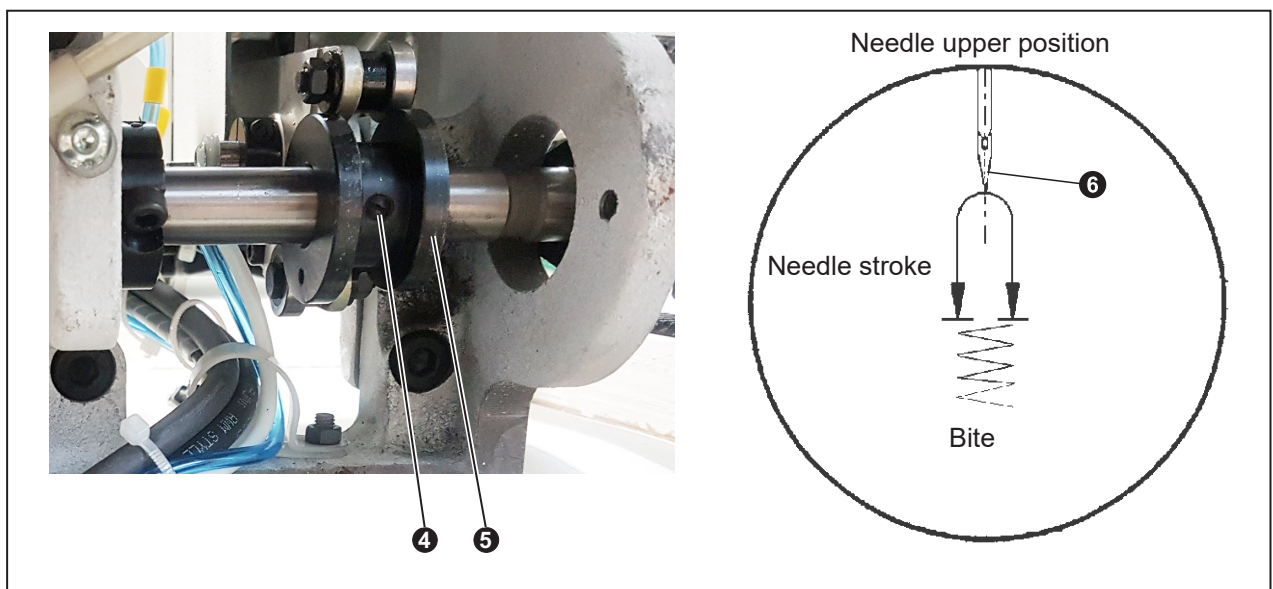
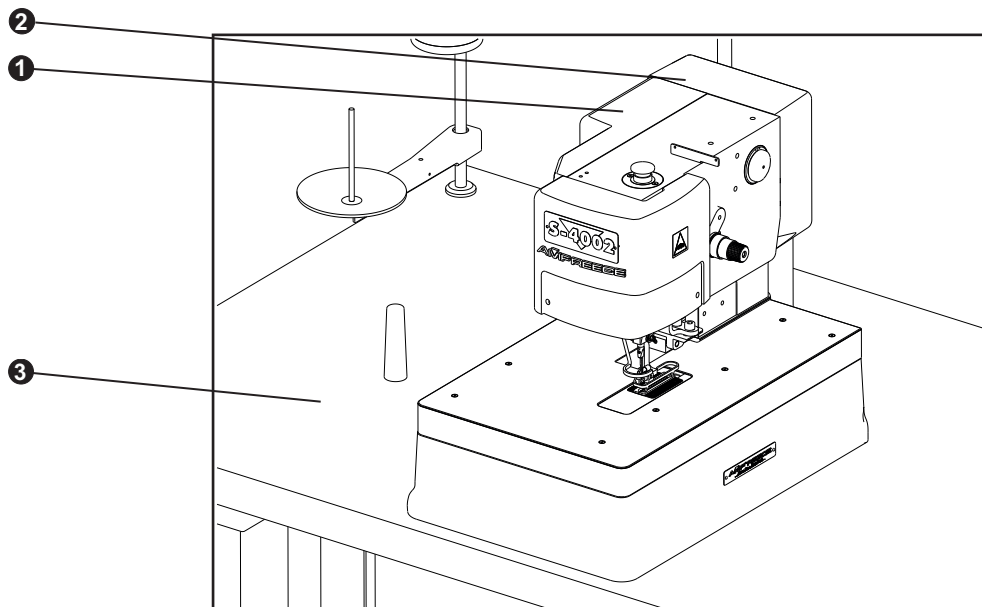
Before the bite adjustment, remove the pulley cover **2** and the head cover **1**.

4.1. Bite Cam Adjustment

1. Check if the machine is in the home position.
2. Tilt the machine on the table **3**. If the adjustment is correct, the second cam locking screw **4** (counter clockwise of the bite cam **5** - view from the front of the machine) must be roughly perpendicular to the bedplate casting.
3. Adjust the position of the bite cam so that the needle bite motion occurs equally with the needle out of the work piece on the up and down stroke.

NOTE: There must be no bite movement before the needle **6** neither comes out of the garment nor after it has descended into the garment - see illustration.

4. Tighten both locking screws **4** securely.

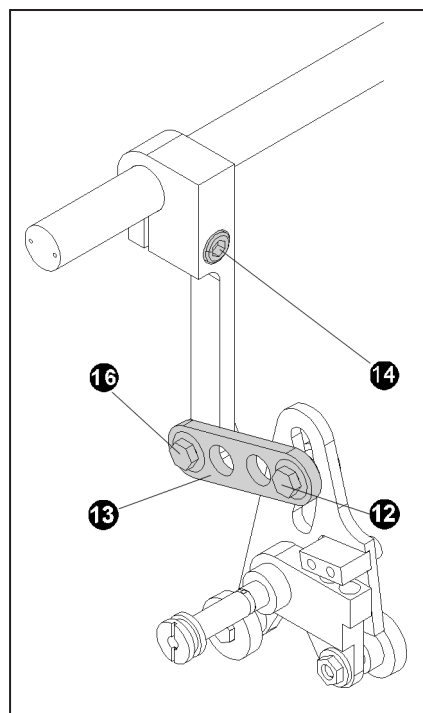


E - STANDARD MACHINE ADJUSTMENT

4.2. Bite Width Adjustment

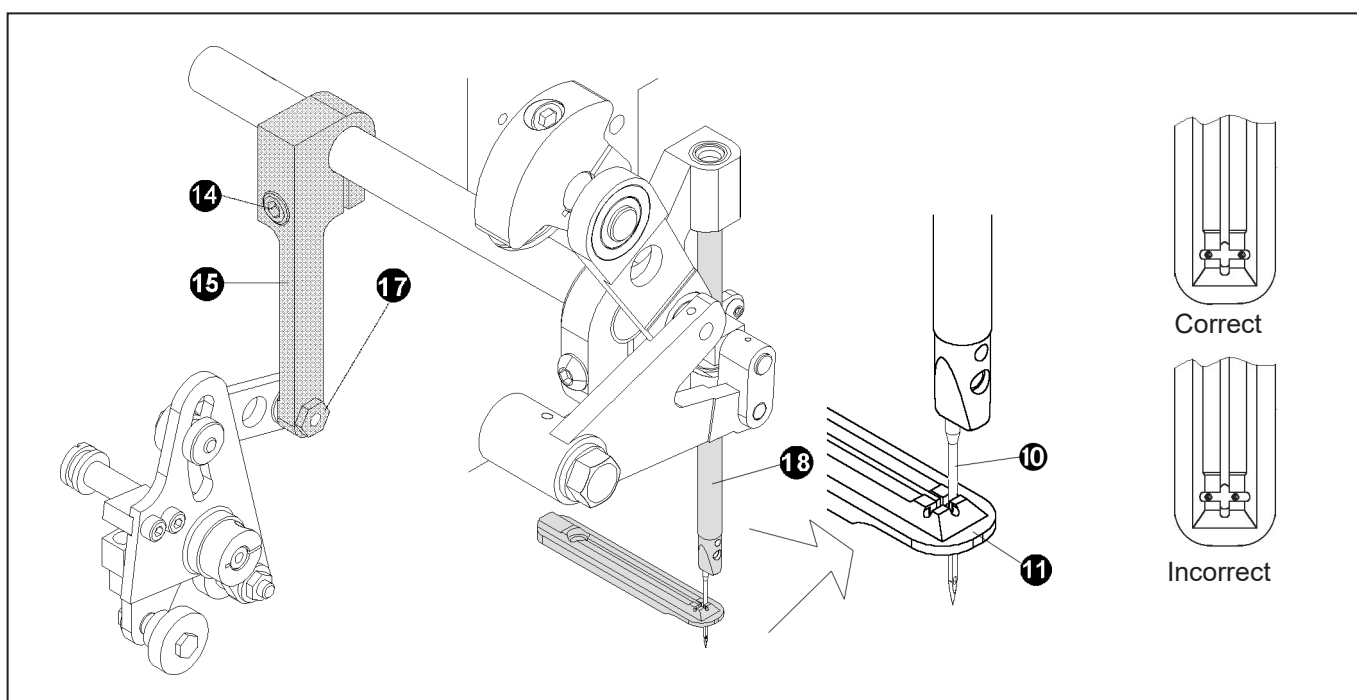
To adjust the bite width, first remove the head cover. The S-4002 is fitted with a regular bite throat plate **11**, that allows a bite range of 1.5 mm (1/16") to 2.3 mm (3/32").

1. loosen the adjusting screw **12**
2. to increase the bite width, raise the bite lever **13**
3. to decrease the bite width, lower the bite lever **13**
4. tighten the adjusting screw **12**



4.3. Centering the Bite Over the Throat Plate

1. with the machine in the home position - loosen the clamping screw **14** on the bite lever **15**
2. for rough adjustment, using the hand wheel, rotate the needle bar to its full down position and move the needle **10** to the right side of the throat plate slot **11**. Turn the hand wheel to the second needle down stroke and compare the needle position on the left side of the throat plate. Continue adjustment until the needle is roughly of equal distance from the right and left sides.
3. tighten the clamping screw **14**
4. for finite adjustment loosen the screw **16** and rotate the eccentric nut **17**. Tighten the locking screw **16**.



E - STANDARD MACHINE ADJUSTMENT

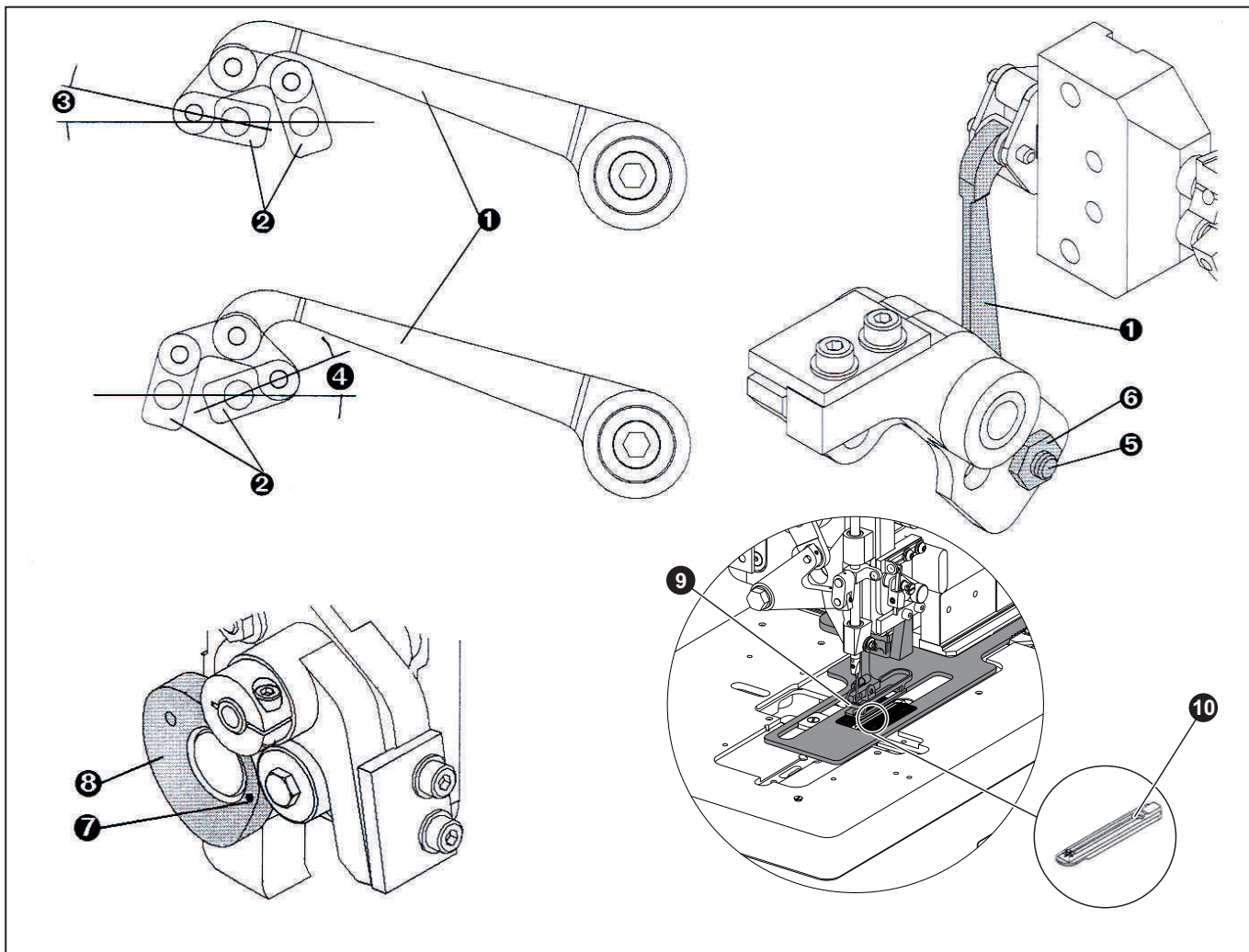
5. LOOPER ADJUSTMENT

Before making the loopers adjustment, follow the below described points:

1. Turn the hand wheel and observe the position of the connecting link **1** at both ends of the looper link arm travel **2**. Angle **A** **3** must equal angle **B** **4**.
2. If incorrect - loosen the hex mounting screw **5** and rotate the eccentric adjusting nut **6** as needed.
3. Tighten the hex mounting screw **5**.

NOTE: The eccentricity also slightly influences the loopers stroke - see the arrows in the picture below. Check the marking of the eccentric situated on the back hex nut - while balancing the eccentric on top the stroke is longer, at bottom it is shorter. Longer stroke means smaller angles (A) and (B), thus the loopers turn more.

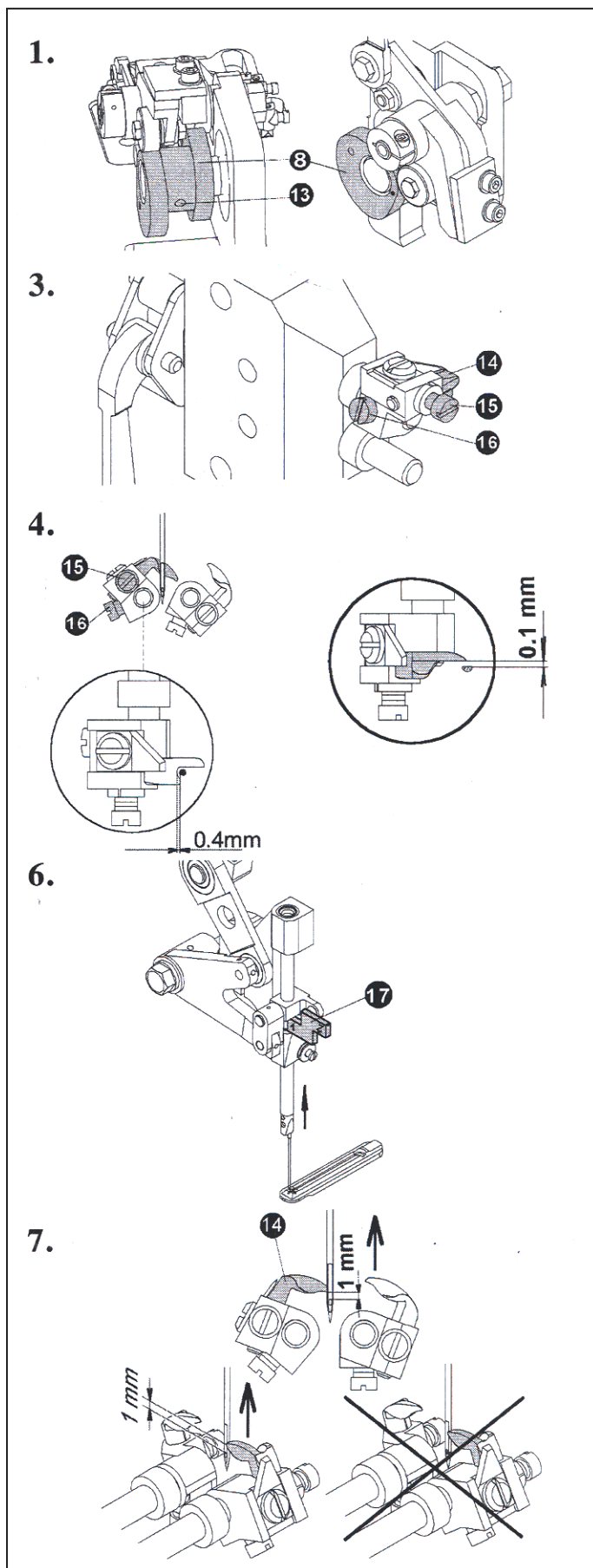
4. Turn the hand wheel and bring the needle bar to the upper position.
5. Check the needle is straight; better use a new needle to set the new timing.
6. Tilt the machine head on the rest pin and check if the mark **7** on the looper cam **8** is visible from the front of the machine (as in the picture). If not, remove the cam and install it correctly.
7. Remove the cover plate, disconnect the main air supply and the tubes from the clamp foot cylinder and remove the clamping assembly **9** from the machine, remove the throat plate **10**, trimming hook cover and trimming hook. Dismantle the loopers with holders.



E - STANDARD MACHINE ADJUSTMENT

The first looper adjustment

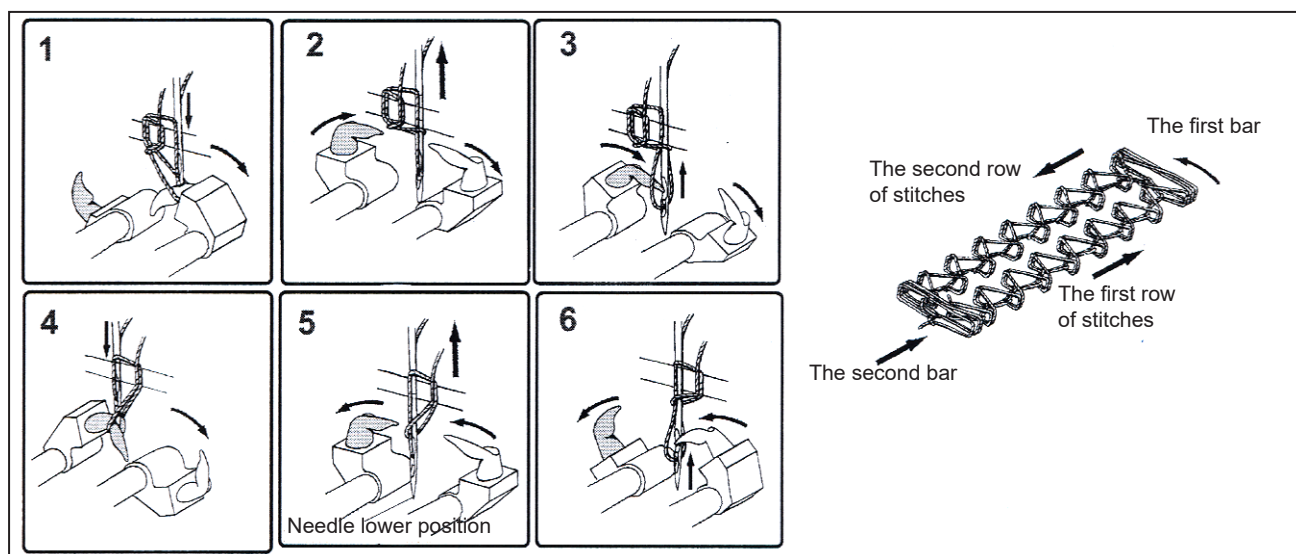
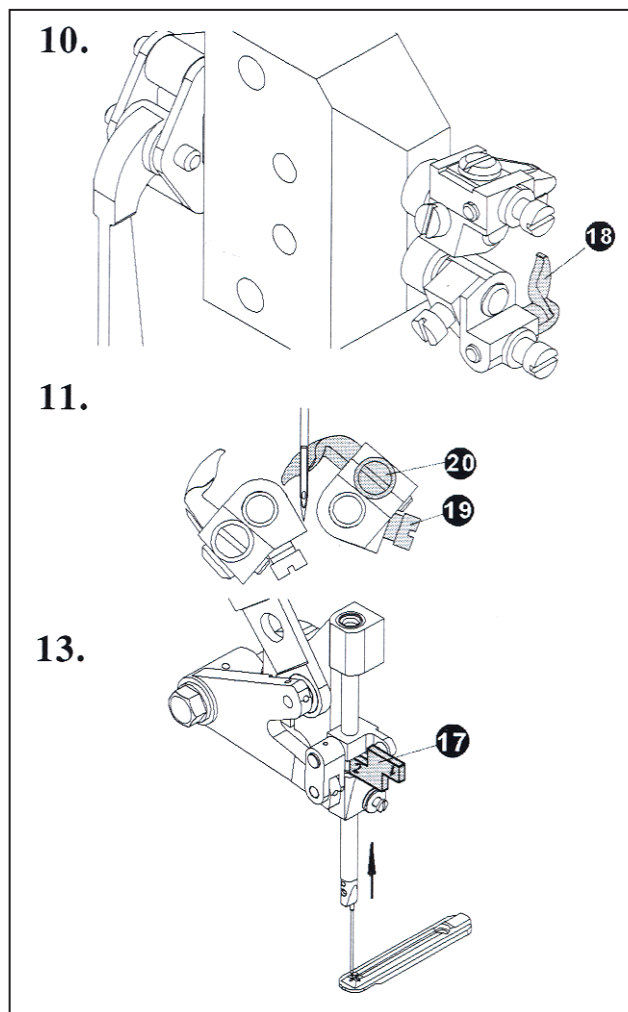
1. Bring the machine to the home position and loosen the screws 13 of the looper cam 8 and adjust the looper cam to the lowest position.
2. Loosen the looper set screw 15 and turn the looper to be perpendicular to the hole in the looper holder.
3. Install the holder with the first looper 14 on the shaft.
4. Loosen the looper holder screw 16 and move the holder so that the needle passes the looper in the center of the looper recess. There must be clearance 0,4 mm between the needle and the looper recess. Tighten the looper holder screw 16.
5. Loosen the looper screw 15 and turn the looper 14 to the needle to obtain the distance 0,1 mm between the needle and the looper tip.
6. Turn the hand wheel counter clockwise and insert the gauge 17 with 1 mark (wider side of the gauge) between the needle bar holder and the needle bar clamp when the needle returns to the home position from the lower position.
7. Check to determine if the tip of the looper is at the centerline of the needle 1 mm above the needles eye.
8. If incorrect - loosen the looper cam screw 13 by the wrench and hold it. Turn the hand wheel (counter clockwise - if the looper tip is higher than 1 mm; clockwise - if less than 1 mm). Tighten both looper cam screws 13 securely.
9. If it is necessary to adjust the looper cam again, check the clearance 0,4 mm between the needle and the looper recess.



E - STANDARD MACHINE ADJUSTMENT

The second looper adjustment

10. Insert the second looper **18** on the looper shaft.
11. Loosen the looper holder screw **19** and move the holder so that the needle passes the center of the looper recess. There must be clearance 0,4 mm between the needle and the looper recess. Tighten the looper holder screw.
12. Loosen the looper screw **20** and turn the looper **18** to the needle to obtain the distance 0,1 mm between the needle and the looper tip.
13. Turn the handwheel counter clockwise, insert gage **17** with mark 2 (narrower side of the gage) between the needle bar holder and needle bar clamp.
14. Check if the looper tip crosses the axis of the needle 1 mm above the needle eye.
15. If it is necessary to adjust the looper cam again, check the first looper adjustment.



E - STANDARD MACHINE ADJUSTMENT

6. THREAD DRAW-OFF

6.1. Adjustment of the Draw-Off Lever Position

The correct adjustment ensures a long enough thread tail for starting the sewing of the next tack. Remove the covers because this mechanism adjustment is performed in the rear of the head. Air supply is necessary for this adjustment.

1. Loosen the screw **6**.
2. The piston **7** of the cylinder **8** is in the home position (retracted). Move the lever **9** to the pin **10** with minimal clearance 0.1 mm. Tighten the screw **6**.
3. Check the correct clearance adjustment by switching the valve **11** of the draw-off cylinder (YV1).

6.2. The Thread end Adjustment

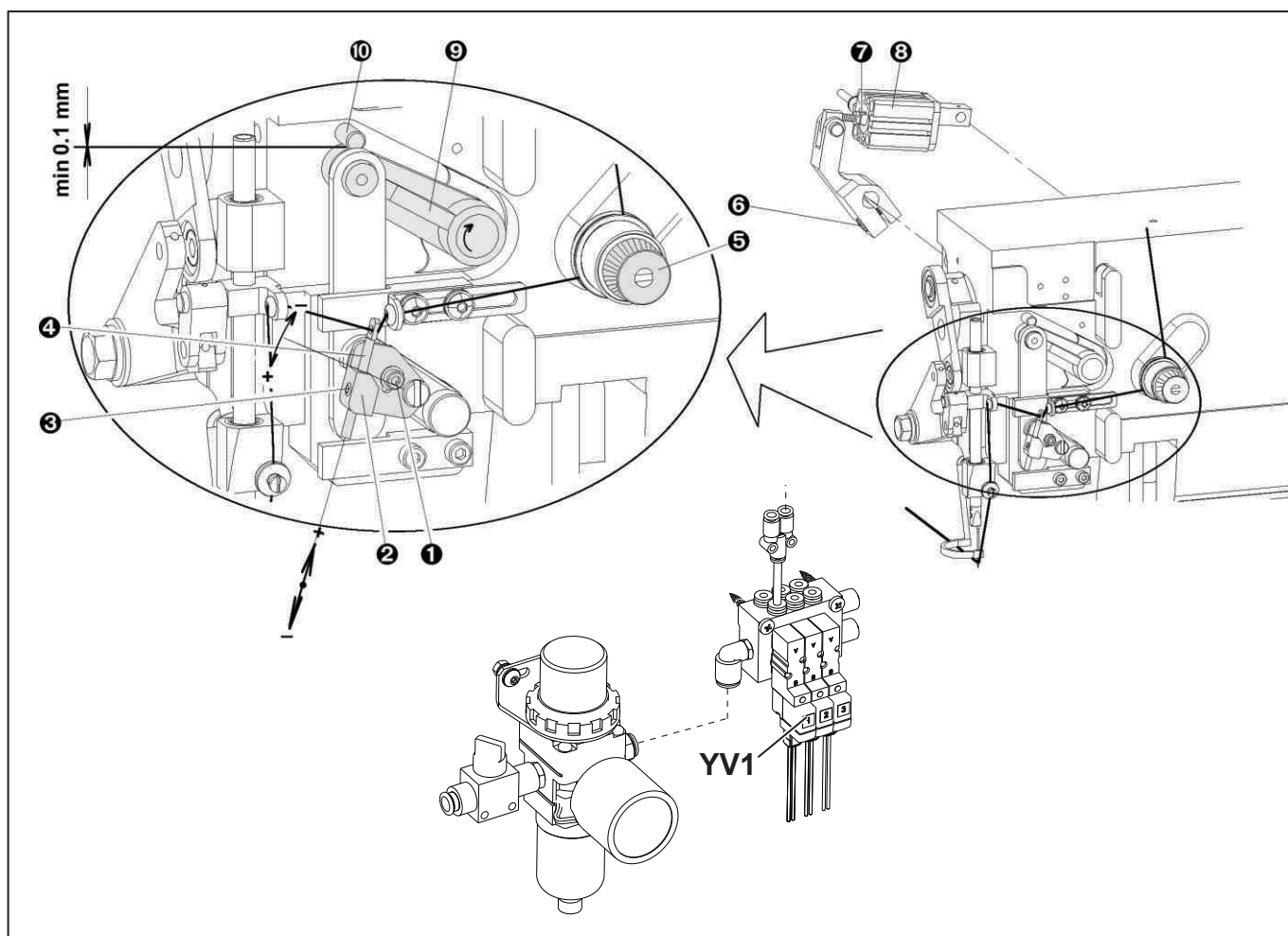
If the first stitches are missing or the tack is not sewn, follow the below mentioned steps:

1. Loosen the screw **1**.
2. Turn the draw-off lever **2** counter clockwise to increase the thread tail length; turn the draw-off lever clockwise to decrease the thread tail length.

6.3. Locking the Stitches

If the skipped stitches problem appears during the sewing, follow the below mentioned steps:

1. Loosen the screw **3**.
2. Move the thread take-up **4** to increase the size of the needle loop.



E - STANDARD MACHINE ADJUSTMENT

7. THREAD TENSION

The thread tension influences the appearance of the tack. A thread tension change may be needed if the thread and fabric change. Check to be certain all parts, which contact the thread, are smooth and polished with no burrs or sharp edges.

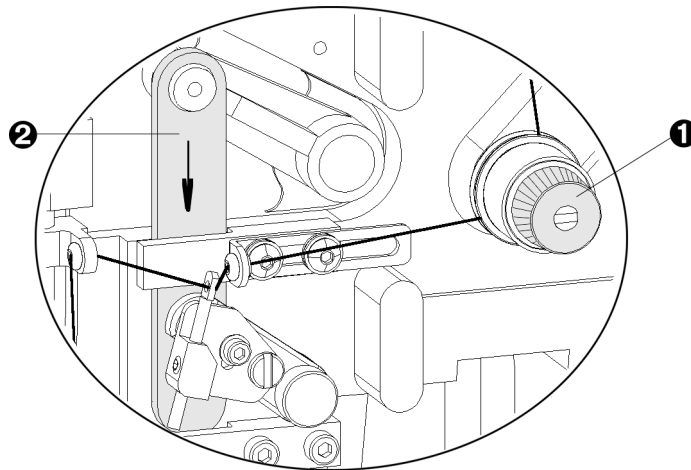
- By turning the tension knob **1** clockwise, the thread tension increases.
- By turning the tension knob **1** anti-clockwise, the thread tension decreases.

NOTE: Too big thread tension can cause the unsightly appearance of the tack when sewing on a thin and elastic material.

7.1. Adjustment of the Tension Discs Opening

The opening of the tension discs is performed when the second bar is sewn. When the tension discs are opened, it is possible:

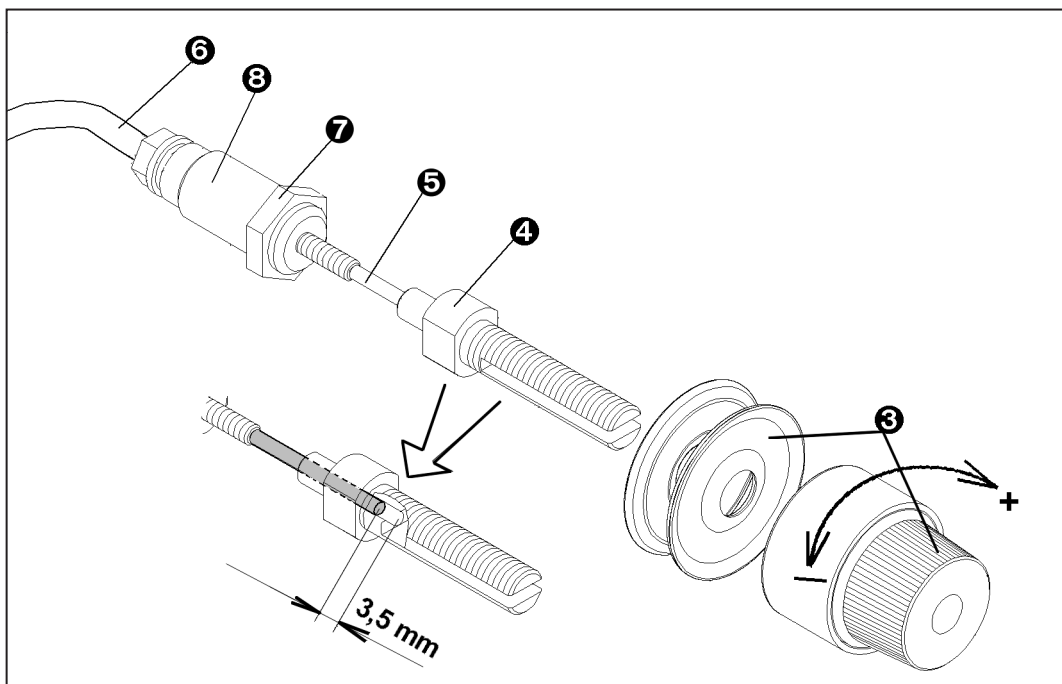
1. To pull the thread from the spool when the draw-off lever **2** receives the impulse for operation.
2. By decreasing or increasing of the air flow it is possible to regulate the tightening of the last stitch of the tack.



E - STANDARD MACHINE ADJUSTMENT

7.2. The Correct Position of the Tension Mechanism

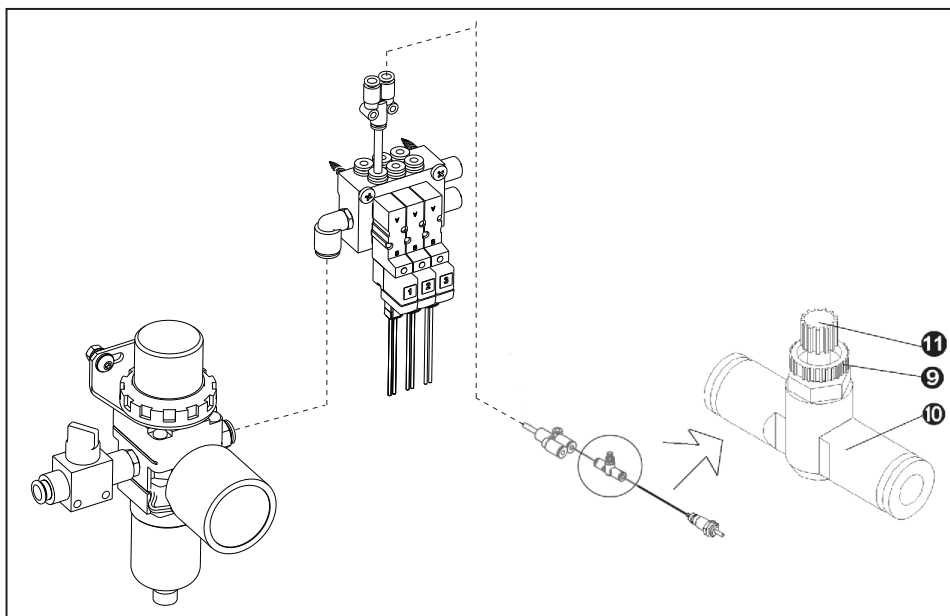
1. Remove the tension assembly **3** from the shaft **4**.
2. Check if the distance between the stud slot edge and the pin **5** is 3.5 mm. If incorrect, it is necessary to adjust the position on the pin.
3. Remove the pulley cover and the head cover to obtain a good access for this adjustment. Switch off the air supply.
4. Disconnect the air tube **6** from the cylinder.
5. Loosen the nut **7** and turn the cylinder **8** as necessary. Turning clockwise the pin is extended. Tighten the nut **7** when the correct measurement is obtained.
6. Connect the air tube **6** to the cylinder, open the air supply and install the covers.



7.3. Regulation of the Tension Discs Opening

If the last stitch is not tightened, follow the below mentioned steps:

1. Loosen the locking nut **9** on the speed controller **10**.
2. To obtain better tightening of the last stitch, tighten screw **11** and lock the nut **9** securely.



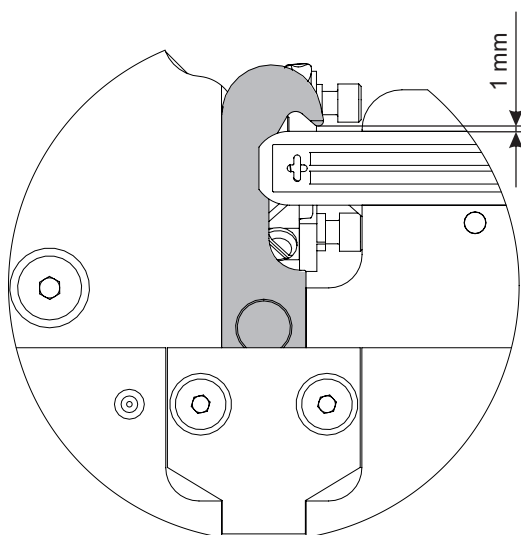
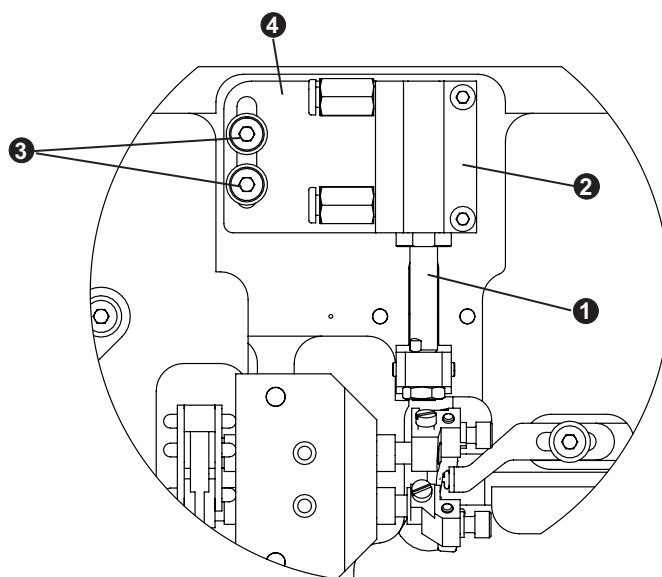
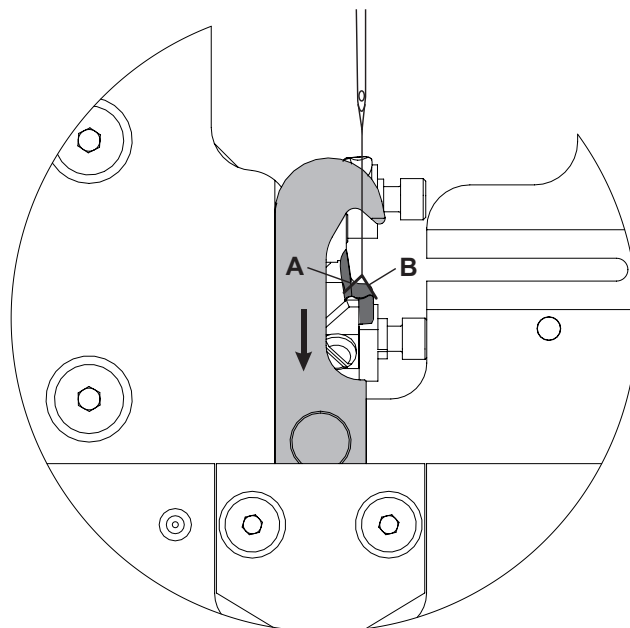
E - STANDARD MACHINE ADJUSTMENT

8. THREAD TRIMMING

Trimming mechanism ensures the correct thread trimming after sewing the last stitch. The trimming hook moves in the direction of arrow, both thread loop legs A and B are pulled forward. When the thread hook approaches the end of the stroke, leg A contact the trimming knife, cutting the thread.

The Trimming Hook ① Adjustment


1. Push the piston ① of the trimming cylinder ② to the maximal position and loosen the screws ③ on the holder ④.
2. Set the clearance 1.0 mm between the throat plate and the point of the trimming hook.
3. Tighten the screws ③ on the holder ④.



E - STANDARD MACHINE ADJUSTMENT

9. MACHINE HEAD CLAMP FOOT ADJUSTMENT

9.1. Clamp Height Adjustment


Make sure the air-supply is switched on and the clamp foot are in up position. If the clamp foot are not in up position, push the  button from the machine touch-screen panel.


1. Loosen the nut ①.
2. Turning the piston-rod ② clockwise the clamp foot ③ get closer to the clamping mat ④, turning it anticlockwise they get further. Default setting is 9 mm.
3. Tighten the nut ①.

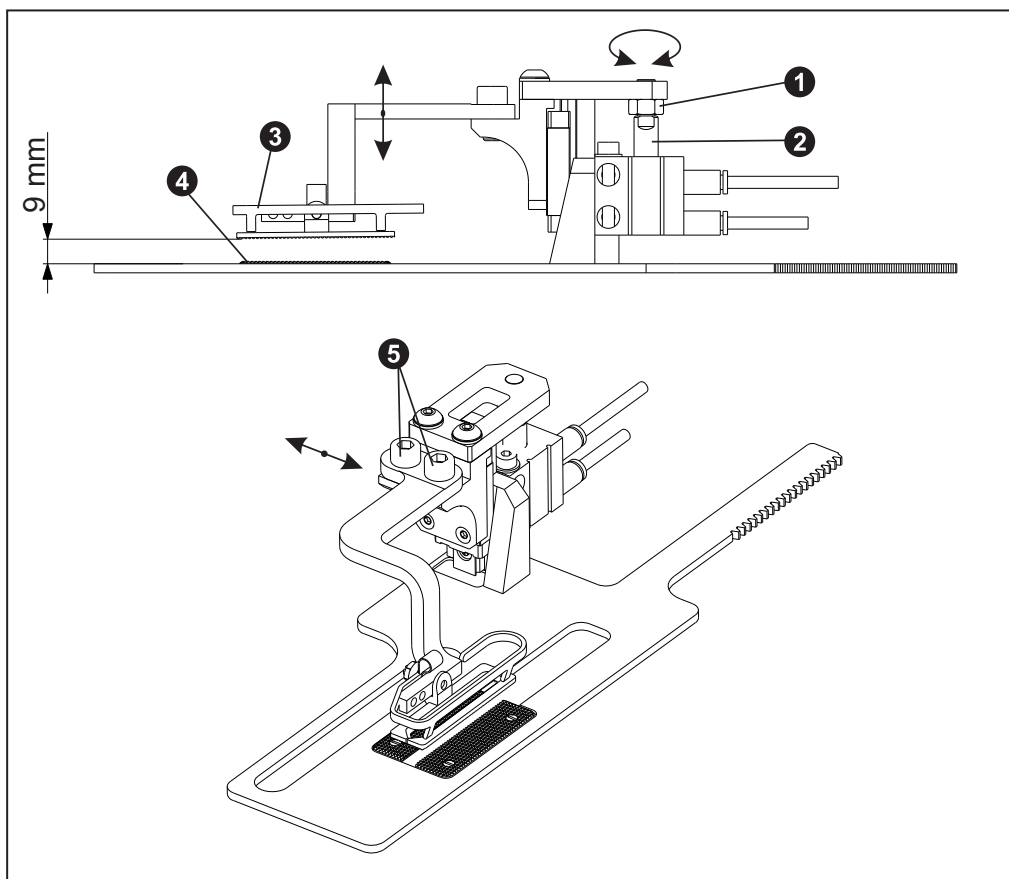
NOTICE:

After the adjustment the clamp foot should be not be higher than the needle tip when the machine is in home position.

9.2. Adjustment of the Clamp Foot

Check the clamp foot are in down position, if they are not push the  button from the machine touch-screen panel.

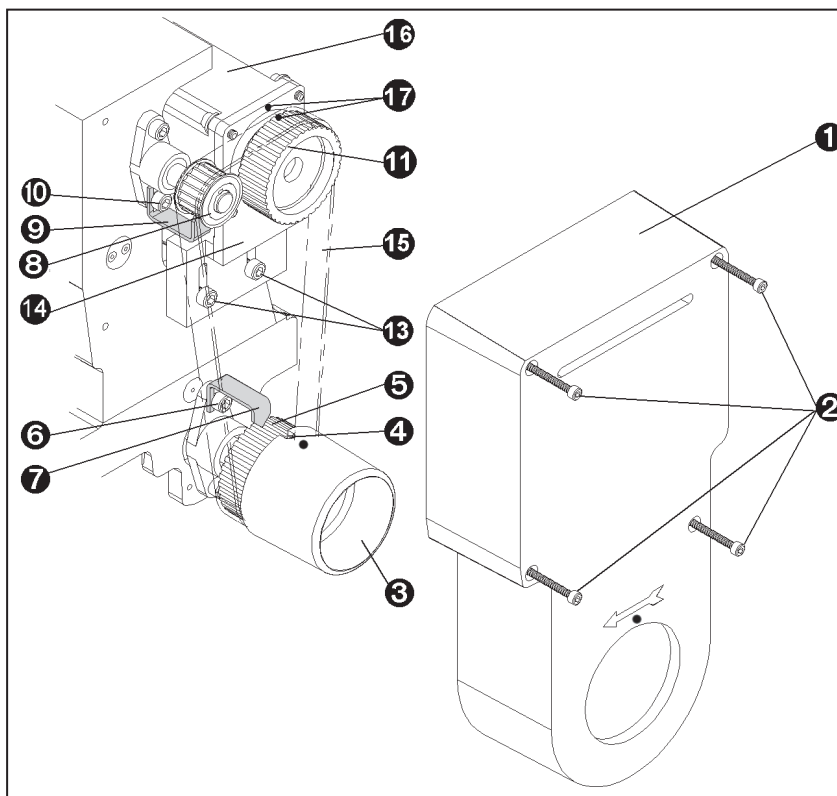
1. Turn the hand-wheel slowly to be sure the needle does not hit the clamp foot ③.
If the needle does hit the clamp foot:
 2. Push the  button to rise the clamp foot.
 3. Loosen the screws ⑤, move the clamp foot arm further from the needle and tighten the screws ⑤ afterwards.
 4. Check the correct adjustment.



E - STANDARD MACHINE ADJUSTMENT

10. CHANGING THE DRIVE BELT

1. Remove the pulley cover **1** after loosening the M4 screws **2**.
2. By turning the handwheel **3** adjust the position of the shaft so that the screw **4** on the pulley **5** is level with screw **6** on the bearing carrier lower shaft.
3. Lock the position by the holder 24.0030.0.000 **7**, which is included in the accessories. Using the screw **6** fix the holder to the bearing holder upper screw.
4. Turn the pulley **8** of the needle bar shaft, until the needle bar reaches the upper position.
5. Lock the position by the holder 24.0024.0.000 **9**, which is included in the accessories. Using the screw **10** fix the holder to the bearing carrier lower mounting screw.
6. Rotate the motor pulley **11** until the marks **17** on the motor pulley and the motor bracket are aligned.
7. Loosen the screws **13** on the motor bracket **14** and move the motor with the machine bracket down to fit the belt.
8. Fit the belt **15** on the shaft pulleys **5**, **8** and motor pulley **11**. To tighten the belt **15**, move the motor bracket **14** with motor **16** up. Tighten the screws **13** to lock the motor bracket. Be sure the marks **17** are aligned.
9. Remove the pulley holders **7**, **9**.
10. Press the pedal to check the adjustment. The needle bar must be in the upper position.
11. Small changes of the needle bar adjustment are possible in the program parameters:



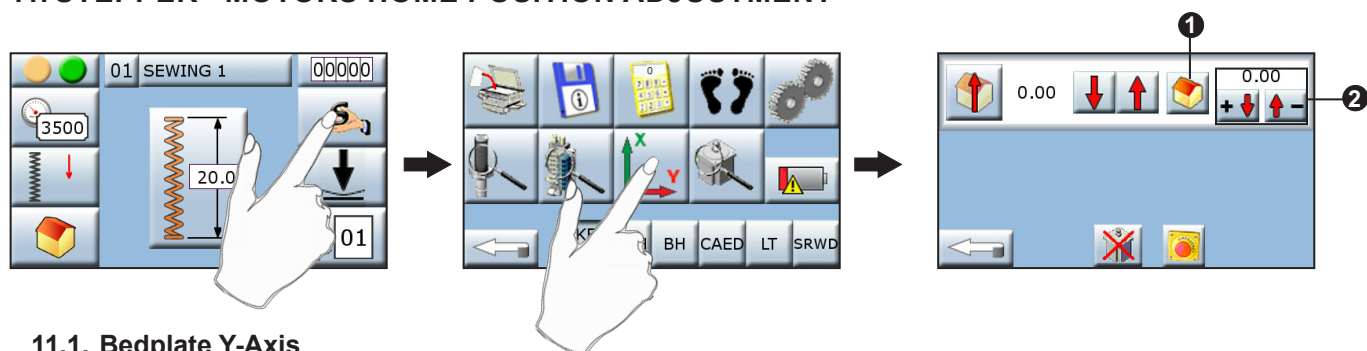
Needle bar did not reach the upper position.

To obtain the correct position of the needle bar, change this value:



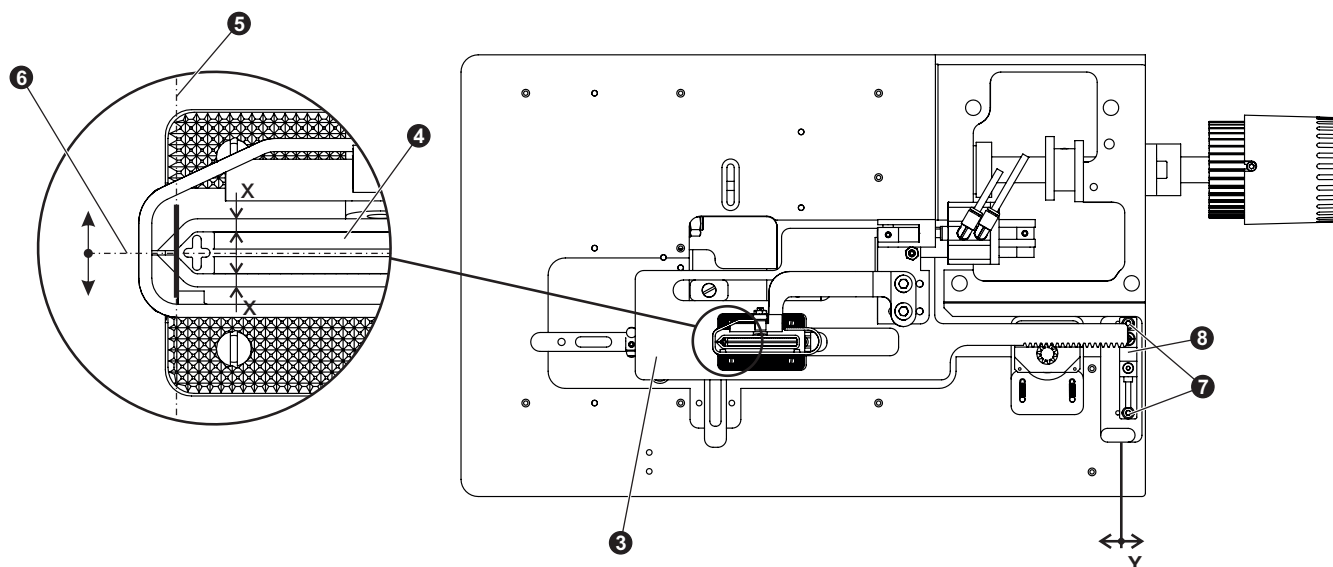
E - STANDARD MACHINE ADJUSTMENT

11. STEPPER - MOTORS HOME POSITION ADJUSTMENT



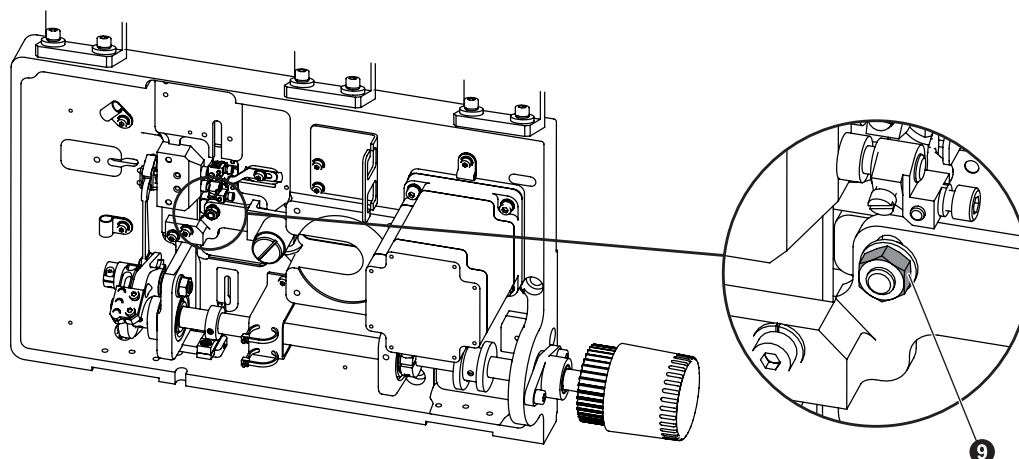
11.1. Bedplate Y-Axis

1. Remove the cover-plate.
2. Press Y-axis home button **1** – now check that the bedplate **3** front inner edge is in one line with the throat-plate **4** front edge as per the picture – line **5**.
3. If this is not the case, loosen the screws **7** and move the sensor **8** as necessary. Press home button **1** again and recheck.
4. You can use Y-axis home position software correction **2** for fine adjustment.



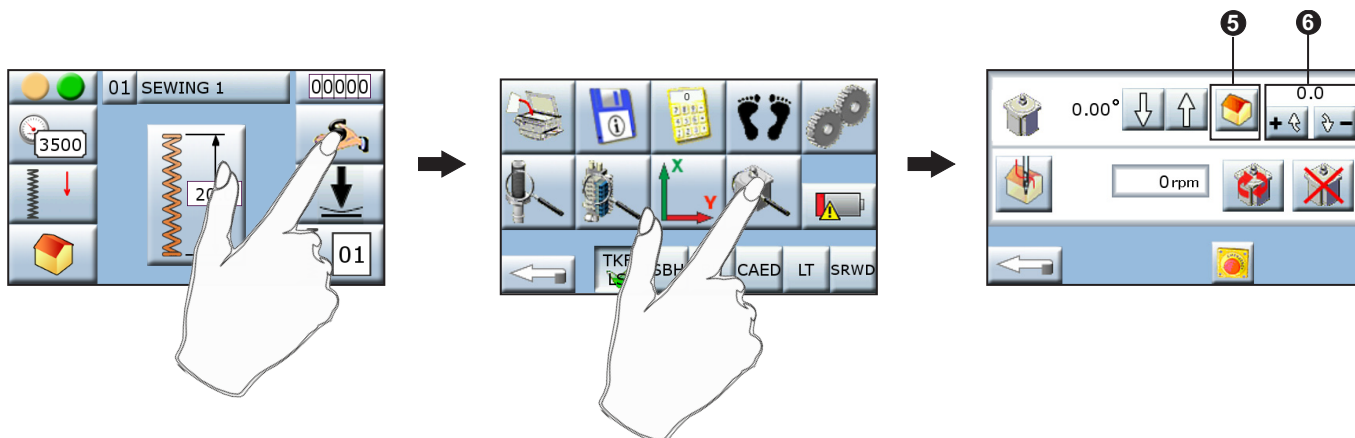
11.2. Bedplate X-Axis

1. Loosen the nut **9**.
2. Move the clamping mechanism **3** so that the clamping washer is in the center of the throat plate **6**, see detail.
3. Tighten the nut **9** and check that the adjustment is correct.

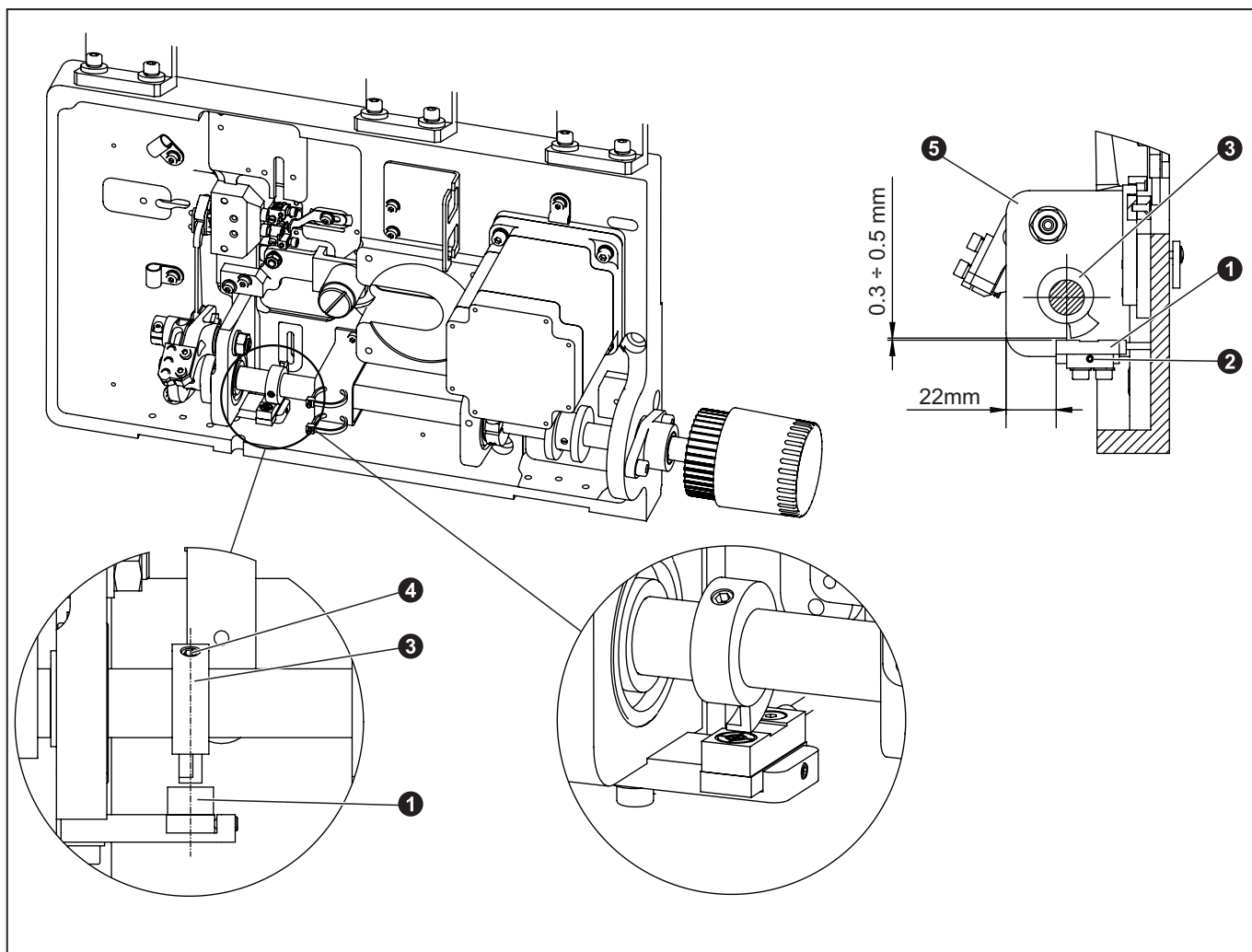


E - STANDARD MACHINE ADJUSTMENT

11.3. Sewing-Motor Home Position Adjustment



1. Check the distance of the sensor **1** from the machine case edge to be 22 mm – refer to the picture below. For adjustment loosen the screw **2**; maintain the distance 0.3 – 0.5 mm between the sensor **1** and ring **3**.
2. Press sewing-motor home button **5**. Check the needle-bar is now in the topmost position.
3. If this is not the case, loosen the screw **4** and adjust the ring **3** accordingly. Keep the ring **3** centre in one line with the sensor **1** center (as per the below picture).
4. You can use servo-motor home position software correction **6** for fine adjustment.



F - MAINTENANCE

Warning:

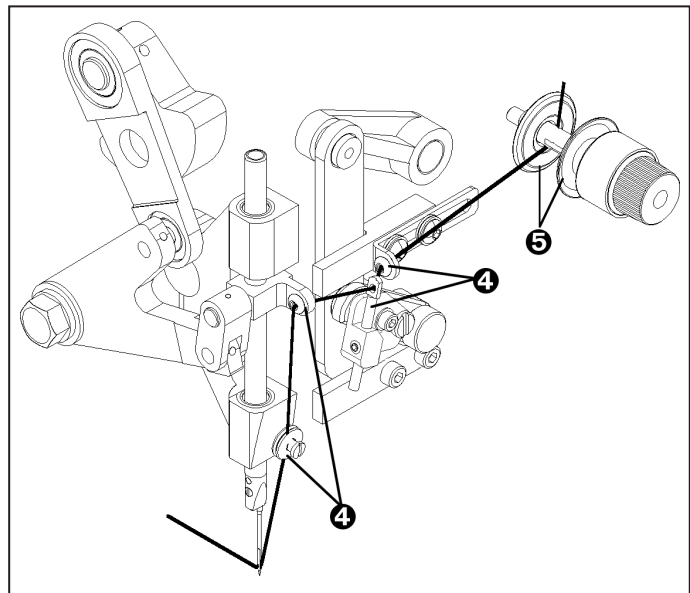
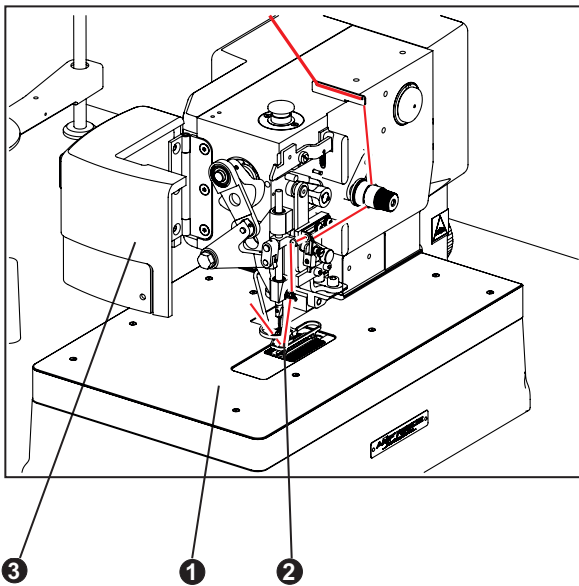
- Check for damage to electrical cables
- Check safety covers for damage and replace if needed immediately
- Keep your hands out of the sewing area
- Do not modify the machine in any way, which could eliminate safety parts
- Do not attach external lights or other devices to the machine's electrical system

Caution:

- Do not neglect periodic maintenance.
- If you have fault in electrical power supply, switch off the operating switch (circuit breaker).
- Do not damage, correct and remove safety labels.
- Do not work with the machine when you are under the influence of the drugs or alcohol.
- User has to ensure the lighting of the working area minimal 750 Luxes.

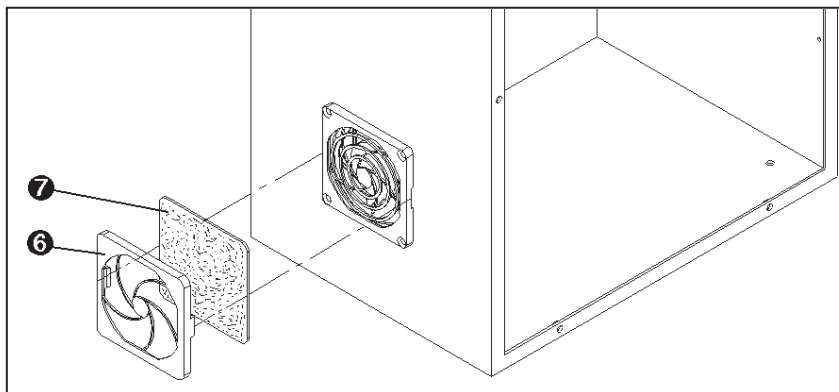
1. MACHINE CLEANING AND MAINTENANCE

1. Switch the power off and disconnect airsupply.
2. For cleaning and oiling, remove the cover **1** and take out the clamp feet mechanism **2**. Clean the clamping area from the fabric and thread lints.
3. Open the needle bar cover **3** and clean the thread lints from the guides **4** and thread tension **5**.
4. Clean the thread lints and fabric from the sewing area - throat plate, loopers.
5. Lubricate the machine according to the section G 4.



F - MAINTENANCE

6. Remove the filter cover **6** with cleaning pad **7**. Remove the dust from the cleaning pad or in case of considerable dirt, wash it using a mild detergent.
Perform the same cleaning on the rear fan.
7. The filter and regulator maintenance
Bowl assembly - polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. Clean only with a neutral detergent.
Auto drain - Drain line length should be shorter than 5 m. Be sure not to have any upward turns in the drain line which would prevent drainage.



If the unit has no function it is necessary to:

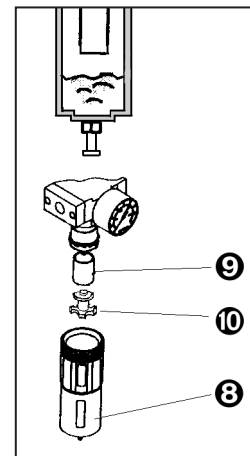
- a) check if the supplied pressure is higher than the set pressure of the regulator
- b) check if the valve assembly is clean
- c) check the membrane or spring because of damage
- d) check if the air flow direction is correct

Change of the filter element

Conditions

- low flow rate
- high pressure drop
- when the pressure drops to 0.7 bar
- filter element change after one year (in case it has not been changed)

- a) unscrew the polycarbonate bowl **8**
- b) take the filter element out **9** with baffle **10**
- c) change old filter element with new one
- d) fit the baffle **10** into new filter element **9** and place them both back
- e) place the polycarbonate bowl back



8. Check the mechanisms especially in the sewing area by sight.
9. When the maintenance and checking are finished, insert the clamp feet mechanism to the machine.

F - MAINTENANCE

2. PERIODIC MAINTENANCE

once a day (8 hours of operation)




- cleaning of the sewing mechanism area and inner frame of the machine
- lubrication of mechanisms - see section G4.

once a week (40 hours of operation)

- visual check - external and internal mechanisms
- fill oil into reservoir with oil level indicator, or sooner if required

once a month (160 hours of operation)

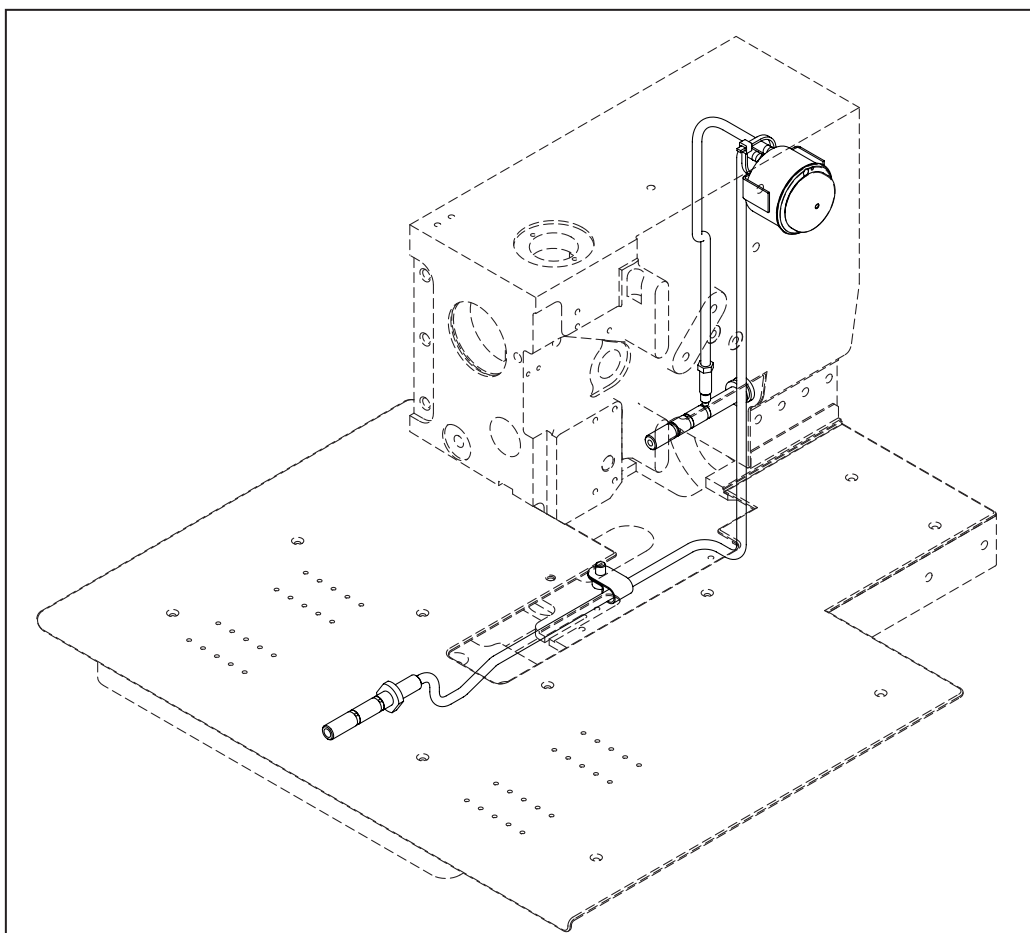
- check of the clearance in sewing mechanism drive
- check of the screw connections tightening (obtain values below)
- check of condensate in regulator
- check of dirty of cleaning pads in control box

Recommended values for screws tightening (Nm):			
			
M3	0,5	0,6	0,8
M4	1,2	1,5	2,0
M5	2,5	3,0	4,0
M6	4,0	5,0	7,0
M8		8,0	16,0
M10		10,0	30,0

3. LUBRICATION DIAGRAM

The machine is mostly equipped with needle and ball bearings, which in combination with single lubrication circuit decrease the requirements for maintenance.

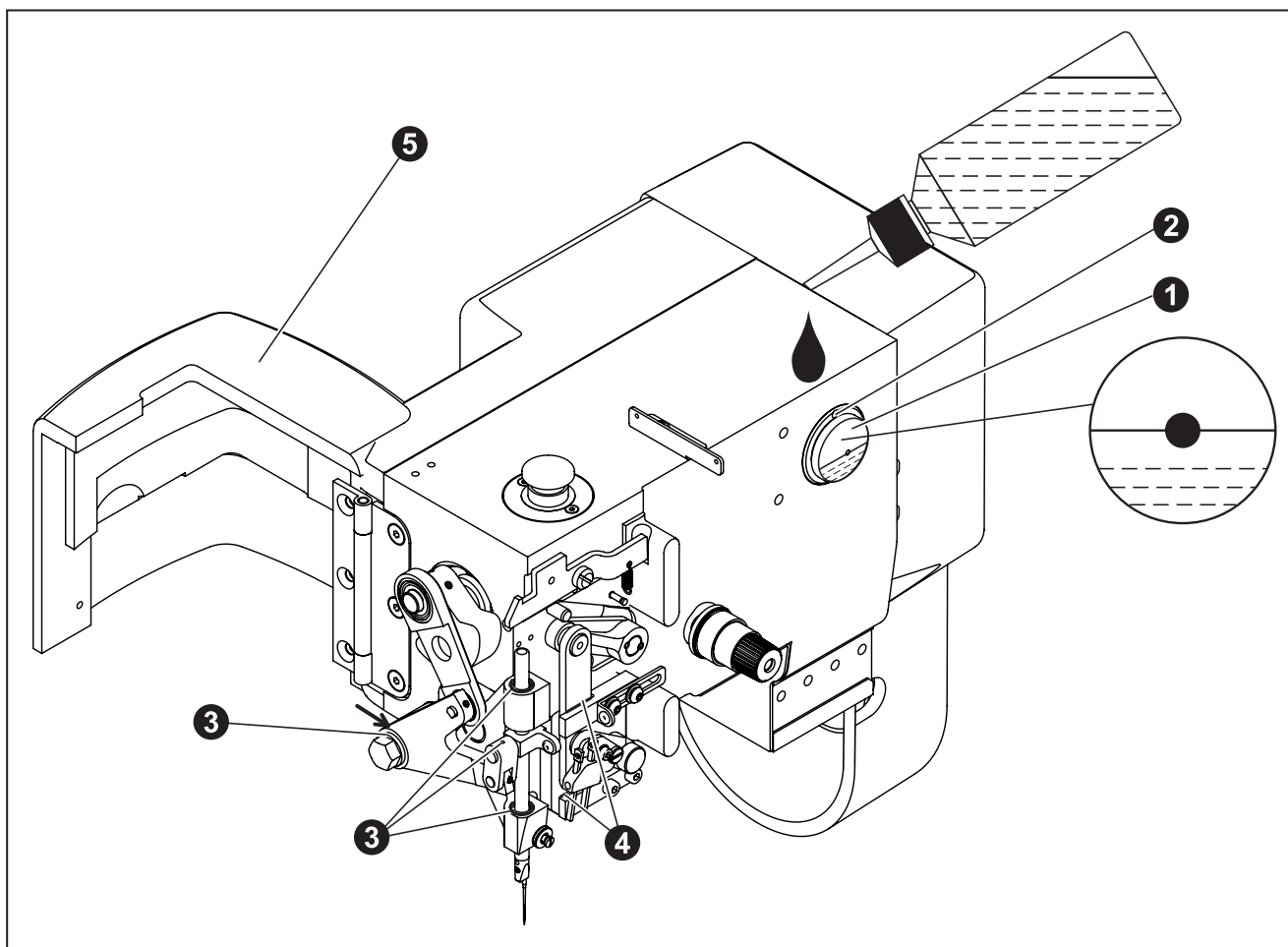
Circuit I - with the oil supply in oil indicator for lubrication of the bite and looper levers. In case of replacement of any part of distribution, it is possible to order the tube kits and wicks. To connect the tubes - see picture.



F - MAINTENANCE

4. MACHINE LUBRICATION

1. It is necessary to lubricate the places shown below before the machine is switched on for the first time or after a long idle period. Use oil ESSO TERESSO 32 or similar quality.
2. The amount of oil in the reservoir **1** is indicated by the red mark. Too much oil may cause its overflowing from the base area.
3. The reservoir is fitted through the hole **2** in front of the gage.
4. The points for lubrication of the needle bar mechanism **3** and draw-off mechanism **4** are shown in the illustration below (after opening the needle bar cover **5**). Lubricate the main cam worm gear through the hole **6**. Lubricate all of these points every 8 hours.



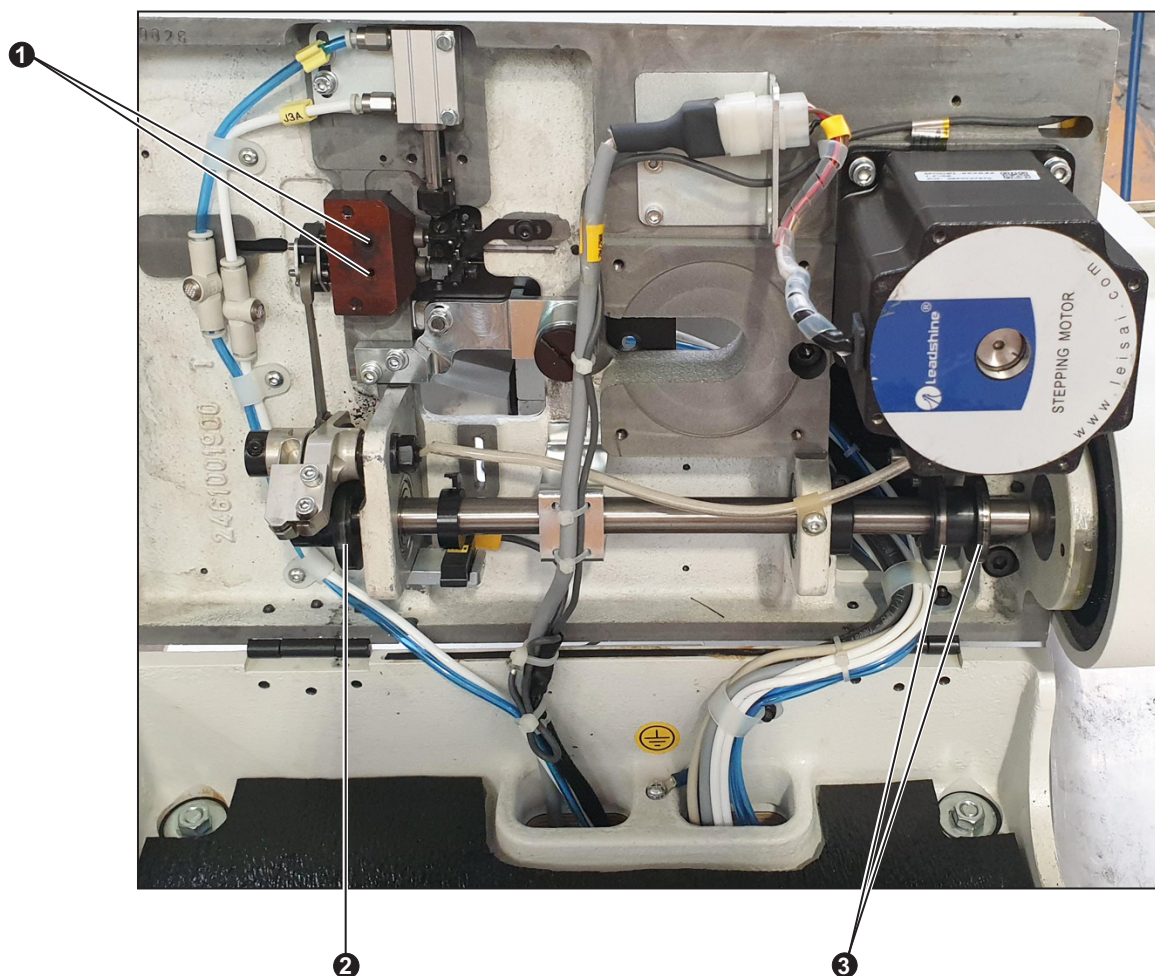
F - MAINTENANCE

5. Tilt the machine head on the rest pin and lubricate the places shown in the picture.

- ① looper shafts
- ② looper cam surfaces
- ③ bite cam surfaces

Tilt the sewing head back into the sewing position.

6. After lubrication it is important to sew minimum 10 tacks on scrap fabric to dispel any excess oil. Wipe all visible excess oil from the mechanism in the work area.



F - MAINTENANCE

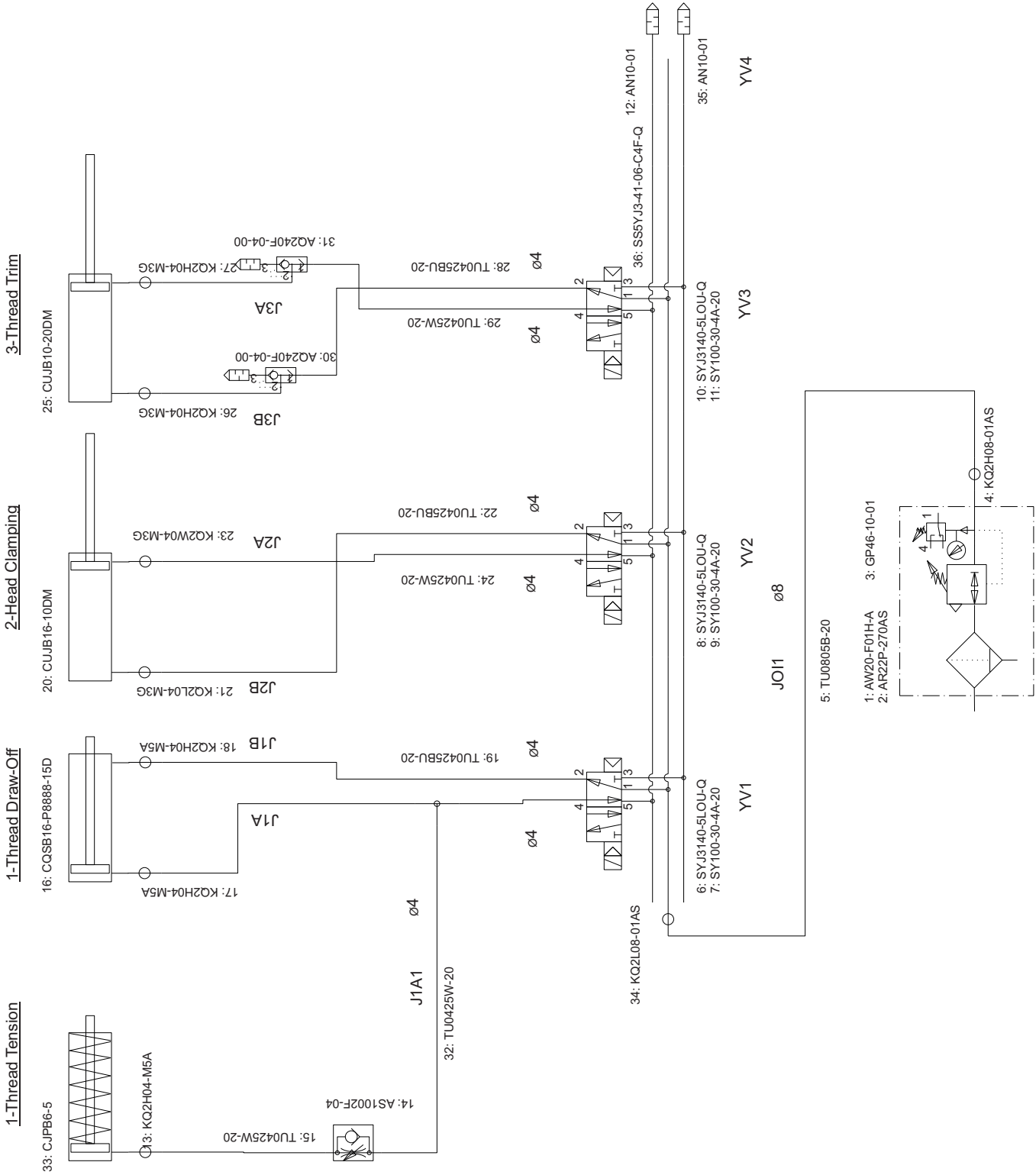
5. MACHINE DISPOSAL

1. To ensure machine ecological disposal, it is necessary to remove nonmetallic parts from the machine. To take these parts out, it is necessary to perform the partial dismantling of the machine, remove covers, dismantle the machine arm and remove the frame.
2. Aluminium and diralumin parts must be treated separately, also nonferrous metal parts and plastic parts.
3. Parts mentioned in point 2 can be found in the spare parts manual with these marks:
 - aluminium parts
 - non-ferrous metal parts
 - plastic and non-metalic parts

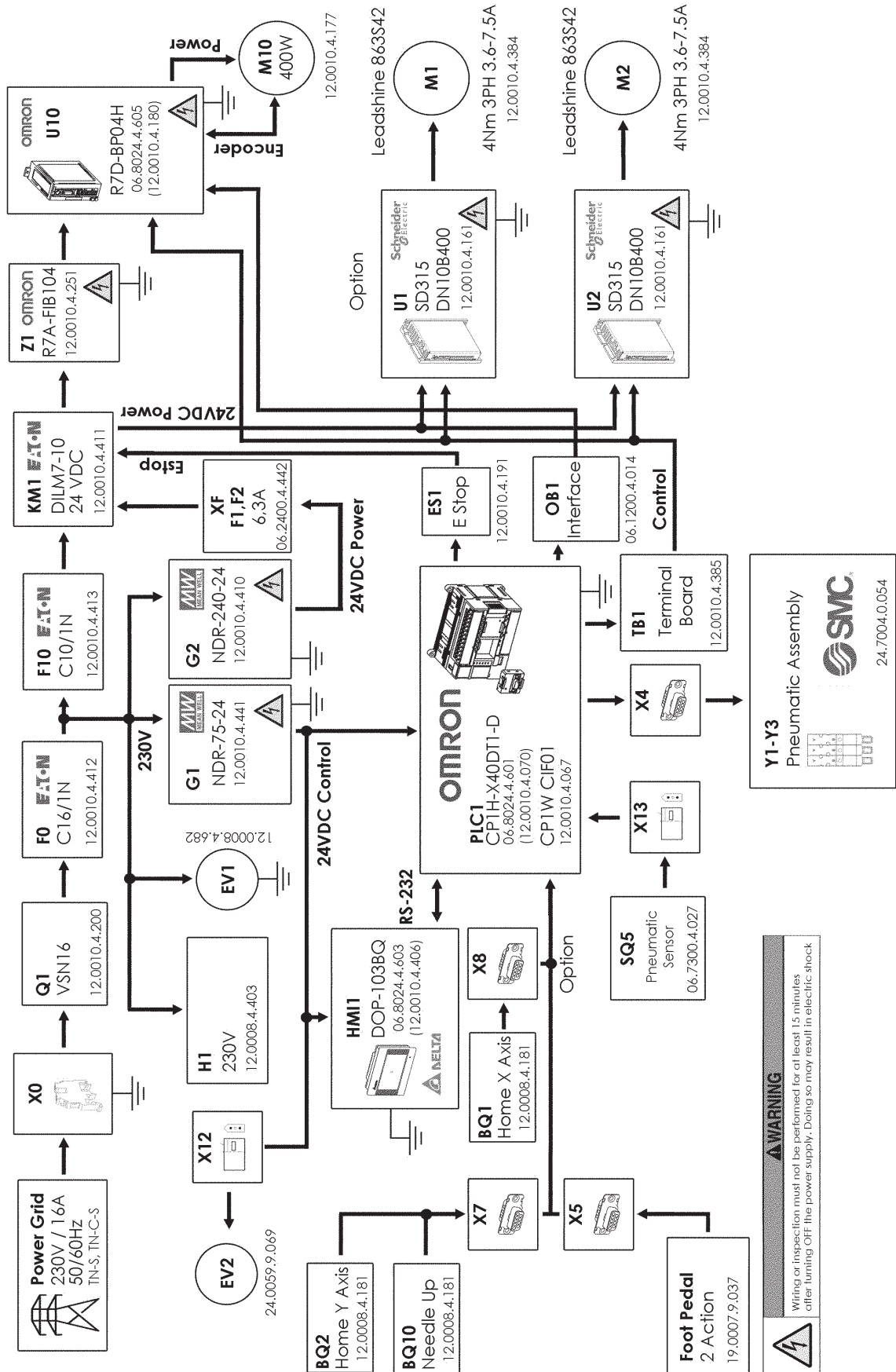
G - PNEUMATIC DIAGRAM

1. PNEUMATIC DIAGRAM

S-4002 TKF



H - ELECTRICAL DIAGRAM



WARNING
Wiring or inspection must not be performed for at least 15 minutes after turning OFF the power supply. Doing so may result in electric shock.

TROUBLESHOOTING

1. MECHANICAL FAULTS.....	2-2
2. ELECTRICAL FAULTS.....	2-4
3. ERROR MESSAGES OF THE CONTROL PANEL.....	2-6
4. ERROR MESSAGES OF THE SERVO.....	2-7
5. MOTOR INTERFACE.....	2-9

TROUBLESHOOTING

1. MECHANICAL FAULTS



FAULT	POSSIBLE CAUSE	PROBABLE SOLUTION
Thread breakage	Needle, looper, throat plate damaged	Change damaged parts
	Incorrect needle and sewing mechanism adjustment	Check the adjustment of the mechanisms
	Thread tension is too tight	Adjust correct tension
	Incorrect threading	See section C3 for checking.
	Thread guides polished incorrectly	Polish
	Poor thread quality	Replace thread
	Thread	Use recommended thread sizes - see section A4
Machine fails to sew	Needle, looper, throat plate damaged	Change damaged parts
	Incorrectly adjusted needle bar height	See section E3 for checking
	Incorrectly adjusted clearance between needle and throat plate	See section E4 for checking
	Incorrect loopers timing	See section E5 for checking
Stitchskip at the beginning of sewing	Needle, looper, throat plate damaged	Change damaged parts
	Needle thread end is too short	See section E6.2
	Incorrectly adjusted needle bar height	See section E3
	Incorrectly adjusted clearance between needle and throat plate	See section E4
	Incorrect loopers timing	See section E5
	Incorrectly adjusted clamp feet pressure	See section E9
Stitch skip during sewing	Needle, looper, throat plate damaged	Change damaged parts
	Incorrectly adjusted needle bar height	See section E3
	Incorrectly adjusted clearance between needle and throat plate	See section E4
	Incorrect loopers timing	See section E5
	Incorrect thread tension adjustment	Adjust the tension correctly see section E7
	Incorrect threading	See section C3
	Thread loops are too small	See section E6.3
	Incorrectly adjusted clamp feet pressure	See section E9
	The clamp feet are adjusted too far from the sewing	See section E9

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	PROBABLE SOLUTION
Thread not Trimmed at the end of the cycle	Trimming knife damaged	Replace knife
	Wrong adjustment of pulling hook	See section E8
	Throttle valve regulating tension disc is too loose.	See section E7
	Incorrect loopers timing	See section E5
Sewingmotor turns, machine does not sew	Belt broken or loose	See section E10 for changing
Zero pressure on regulator	Shut off valve closed	Open shut off valve
Low air pressure	Filter element dirty	Change the filter element
	Air fitting or tubing obstruction	Check supply lines

TROUBLESHOOTING

2. ELECTRICAL FAULTS

FAULT	POSSIBLE CAUSE	PROBABLE SOLUTION
Main switch  in On position with no indication LEDs turned on and no fan spin	Faulty powerline connection	Check main powerline electrical grid connection and the affiliated circuit breaker
	Main MCB F0 tripped	Pull the operation lever of F0 breaker into the On position
	Faulty power switch Q1	Replace the switch part number 12.0010.4.200
	DC power supply G1 failure	Replace the power supply part number 12.0010.4.410
Machine turned on with no display function	Cable from the display disconnected or damaged	Check the display connection possibly order new one part number 06.2400.4.
	Faulty display	Replace display part number 06.8024.4.603
	Faulty com module of the PLC system	Replace CIF01 Module part number 12.0010.4.067
Sewing doesn't start when the foot pedal is triggered while Main contactor KM1 is engaged.	DC power supply G1 failure	Replace the power supply part number 12.0010.4.410
	Faulty contactor KM1	Replace contactor part number 12.0010.4.411
	Needle Drive MCB F10 tripped	Pull the operation lever of F0 into the On position
	Faulty filter Z1	Replace electronic filter part number 12.0010.4.251
	Servodriver U10 flashing orange and red	Call support or replace servodriver U10 part number 06.8024.0.605
	Error in sewing motor circuit	Switch the machine off for 5 minutes then turn it back on. If fails, call AMF Reece service.
Sewing doesn't start when the foot pedal is triggered while Main contactor KM1 is not engaged.	Make sure the machine is ready for operation	Press key in the display  (see section D1, point 6)
	Contactors KM1 damaged	Replace contactor part number 12.0010.4.411
	Check the emergency stop button	Replace button part number 12.0010.4.191
	Control unit PLC error	Replace the control unit part number 12.0010.4.409
The needle does not stop in the top position	Misaligned position of the sensor BQ10 incorrectly adjusted	Adjust according to section E17
	Faulty sensor BQ10	Replace the sensor part number 12.0008.4.181
	Check the servo amplifier OB1	To set the servo amplifier - call AMF Reece service, alternatively replace motor (page 2-9) and servo amplifier (page 2-9)

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	PROBABLE SOLUTION
Machine is sewing with no pneumatic response.	Connector is not connected properly to the slot X4	Check the connector X4 connection
	PLC error.	Check the G1 DC powerline for correct voltage value and PLC indication LEDs.
No LED shines on driver U1	Burnt fuse F1	Replace fuse F1 T6.3A 12.0008.4.065
	Check G2 Power supply	Replace in G2 p/n 12.0010.4.410
No LED shines on driver U2	Burnt fuse F2	Replace fuse F2 T6.3A 12.0008.4.065
	Check G2 Power supply	Replace in G2 p/n 12.0010.4.410
Foot pedal does not work	Test pedal input - refer to chapter D5.6	Replug the connector X4 connection
		Change pedal 06.8800.0.001
Axis X motor does not establishes home position	Axis X motor failure	Test motor Axis X - refer to chapter D5.8
	Sensor BQ1 failure	Test sensor BQ1
Axis Y motor does not establish home position	Axis Y motor failure	Test motor Axis Y - refer to chapter D5.8
	Sensor BQ2 failure	Test sensor BQ2

TROUBLESHOOTING

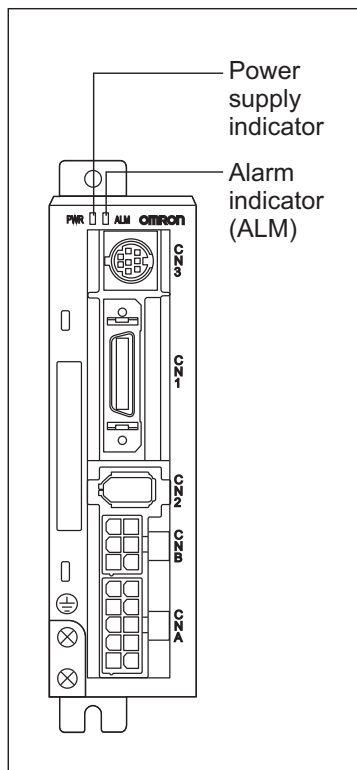
3. ERROR MESSAGES OF THE CONTROL PANEL

Error Nr.	DESCRIPTION
Error 01	Machine is not in home position. Press home button to bring the machine to the home position.
Error 04	Low air pressure. Air pressure is bellow 4.0 bar. Check the air supply.
Error 12	X axis timeout positioning error. Check X axis home sensor, stepper motor, driver and X axis mechanism.
Error 13	Y axis timeout positioning error. Check Y axis home sensor, stepper motor, driver and Y axis mechanism.
Error 16	Servo timeout positioning error. Check servo-driver, sensor and sewing mechanisms.
Error 20	Servomotor error. Check error message on servo-driver display.
Error 25	Servo-driver recovery time. Wait please
Error 31	Software in PLC and HMI are not compatible.
Error 40	Service mode.
Error 99	Emergency stop button pressed. Release the Emergency stop button.

TROUBLESHOOTING

4. ERROR MESSAGES OF THE SERVO

The following messages can be seen on the servo, which is placed inside the control box. In order to eliminate these messages, switch off the machine for 1 minute. Then switch the machine on again. The error message should not appear on the display. If the message appears - call AMF Reece service.



PWR - Power supply indication:

INDICATOR	STATUS
Lit green	Voltage is good
Lit orange - Flashes at a 1 sec. intervals	Warning - i.e.: - Exceeded power - Exceeded feed back - Default of inner fan
Lit red	Alarm - default

ALM - Default indication (Alarm indicator):
in case default appears, the indicator is switched on.

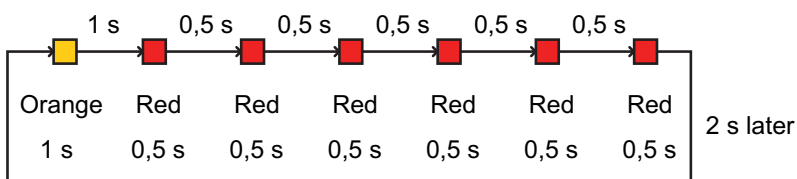
Alarm indicator on the Servo Drive

The alarm LED indicator on the front of the Servo Drive lights up if an error is detected. The indicator shows the alarm code by the number of orange and red flashes.

Example:

When an overload alarm (alarm code 16) has occurred and the Unit has stopped the indicator will flash in orange and 6 times in red.

Orange 10s digit, Red: 1s digit



TROUBLESHOOTING

Alarm code	Error detection function	Detection details and cause of error	Alarm reset possible
11	Power supply undervoltage	The DC voltage of the main circuit fell below the specified value while the RUN Command Input was ON	Yes
12	Overvoltage	The DC voltage of the main circuit is abnormally high	Yes
14	Overcurrent	Overcurrent flowed to the IGBT. Servomotor power line ground fault or short circuit	No
15	Built-in resistor overheat	The resistor in the Servo Drive is abnormally overheating	No
16	Overload	Operation was performed with torque significantly exceeding the rated level for several seconds to several tens of seconds.	Yes
18	Regeneration overload	The regeneration energy exceeded the processing capacity of the regeneration resistor.	No
21	Encoder disconnection detected	The encoder wiring is disconnected.	No
23	Encoder data error	Data from the encoder is abnormal.	No
24	Deviation counter overflow	The number of accumulated pulses in the deviation counter exceeded the setting in the Deviation Counter Overflow Level (Pn63)	Yes
26	Overspeed	The servomotor exceeded the maximum number of rotations. If the torque function was used, the Servomotor's rotation speed exceeded the settings in the Overspeed Detection Level Setting (Pn70 and Pn73)	Yes
27	Electronic gear setting error	The section in Electronic Gear Ratio Numerator 1 (Pn46) or Electronic Gear Ratio Numerator 2 (Pn47) is appropriate.	Yes
29	Deviation counter overflow	The number of accumulated pulses for the deviation counter exceeded 134,217,728.	Yes
34	Overrun limit error	The servomotor exceeded the allowable operating range set in the Overrun Limit Setting (Pn26).	Yes
36	Parameter error	Data in the parameter saving area was corrupted when data was read from the FEPRM at power ON.	No
37	Parameter corruption	The checksum didn't match when data was read from the FEPRM at power ON.	No
38	Drive prohibit input error	The forward drive prohibit and reverse drive prohibit inputs are both turned OFF.	Yes
48	Encoder phase Z error	A phase-Z pulse was not detected regularly	No
49	Encoder CS signal error	A logic error of the CS signal was detected	No
95	Encoder CS signal error	The combination of the Servomotor and Servo Drive is not appropriate. The encoder was not connected when the power supply was turned ON.	No
96	LSI setting error	Excessive noise caused the LSI setting not to be completed properly.	No
Others	Other errors	The servo Drive's self-diagnosis function detected an error in the Servo Drive.	No

TROUBLESHOOTING

5. MOTOR INTERFACE

The following interface is in between the PLC and individual motor drivers:

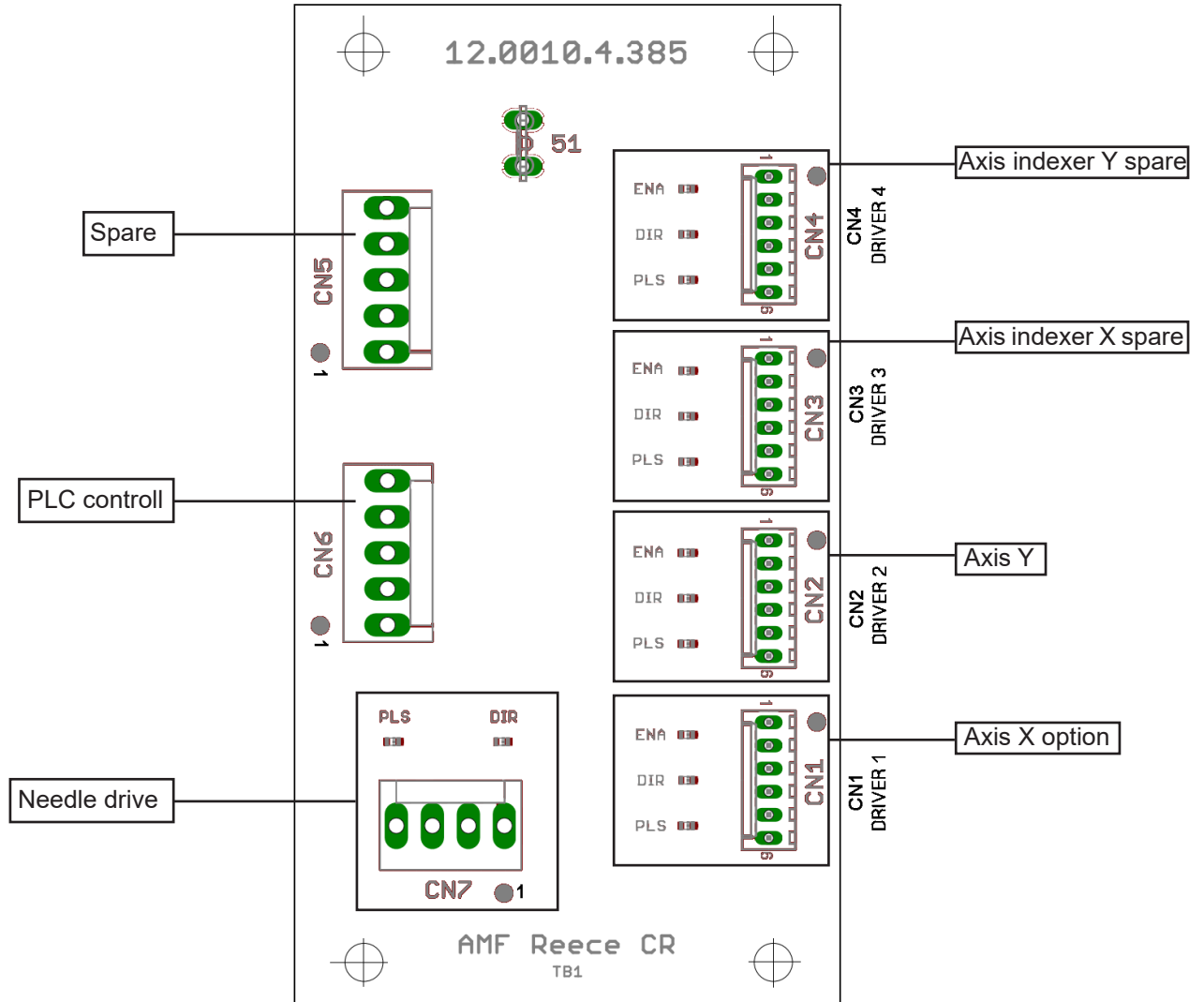
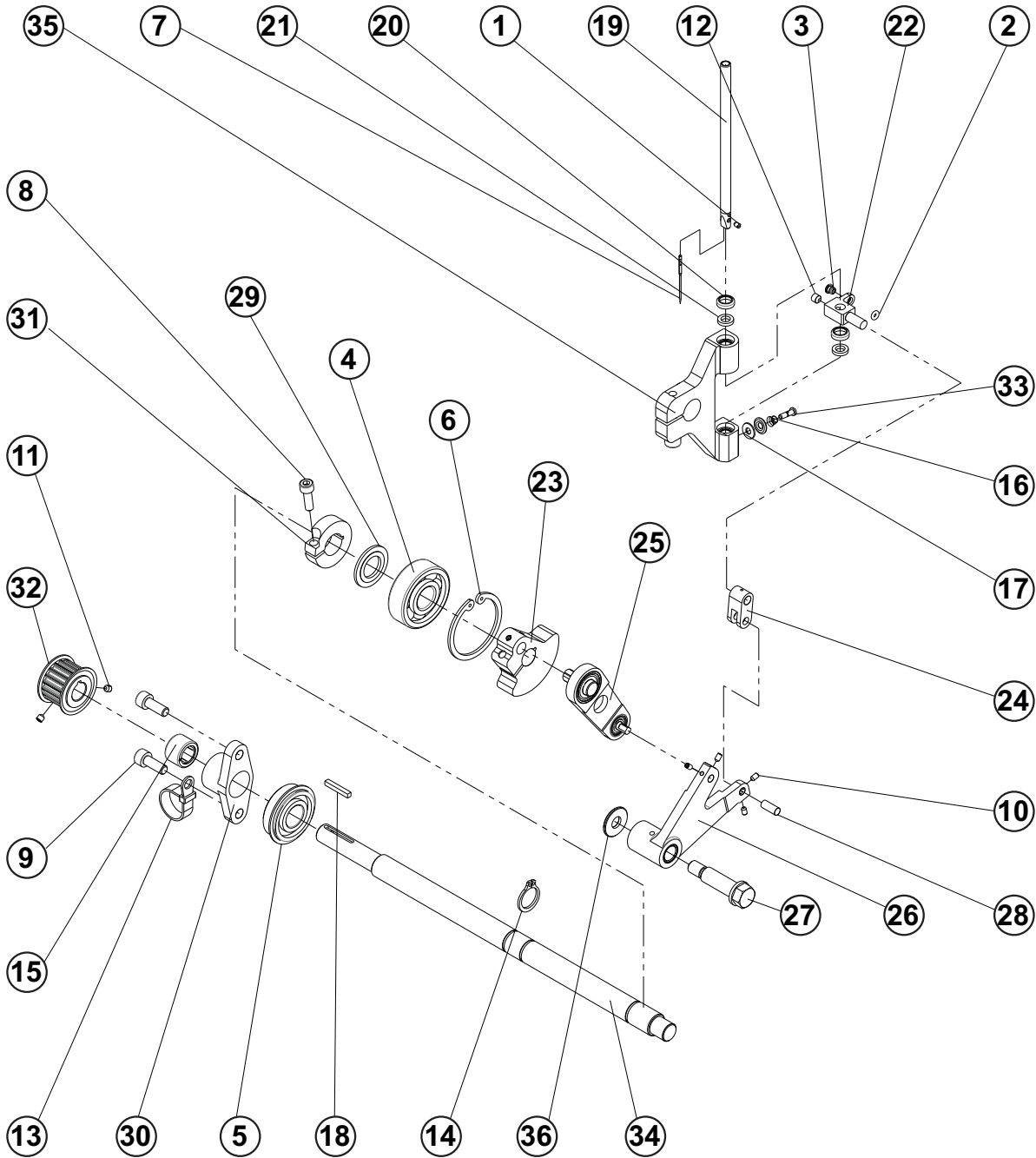


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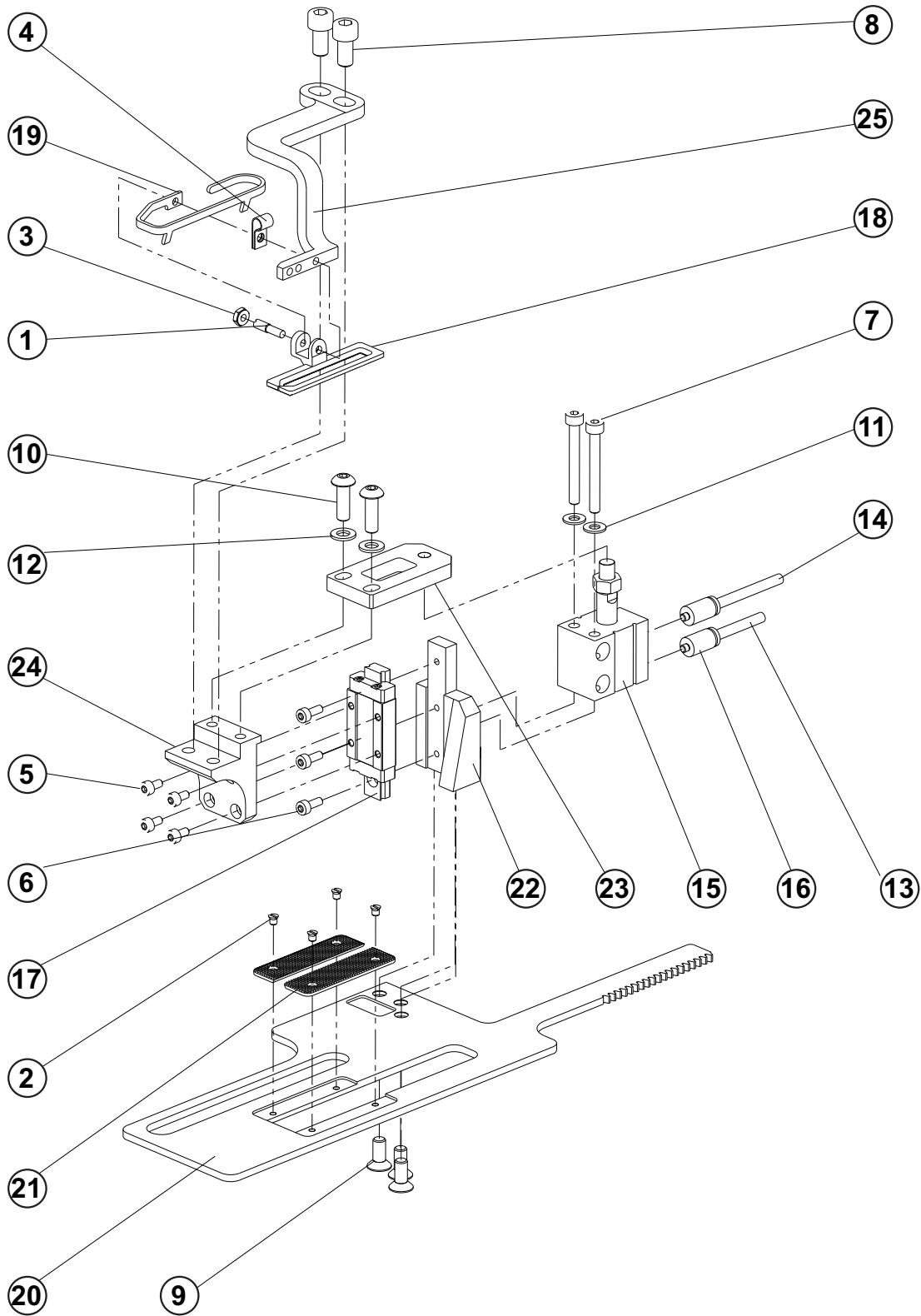
NEEDLE BAR



NEEDLE BAR

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.2193.0.000	SCREW-SET	1
02	01.6551.0.000	O-RING	1
03	01.7447.1.000	GUIDE	1
04	01.7804.0.000	BEARING	1
05	01.7805.0.000	BEARING	1
06	01.7809.0.000	RETAINING RING	1
07	02.0750.2.110	NEEDLE	1
08	08.6000.5.016	SCREW M5-16	1
09	08.6000.6.016	SCREW M6-16	2
10	08.6400.3.005	SCREW M3-5	4
11	08.6400.4.004	SCREW M4-4	2
12	08.6400.5.005	SCREW M5-5	1
13	12.0010.4.013	CABEL BINDER	1
14	12.1045.2.001	RETAINING RING 15	1
15	12.2050.0.003	BEARING	1
16	17.0026.2.077	SPRING	1
17	17.0082.8.017	TENSION DISC	2
18	22.0175.0.000	KEY	1
19	22.0195.0.000	NEEDLE BAR	1
20	22.0230.0.000	RING	2
21	22.0239.0.000	FELT	2
22	22.0520.0.000	CLAMP, NEEDLE BAR	1
23	22.0525.0.050	CRANK ASSY.	1
24	22.0530.0.000	CONNECT. LINK, NEEDLE BAR	1
25	22.0535.0.100	NEEDLE BAR CRANK LINK ASSY.	1
26	22.0540.0.000	N.B. CONNECTION LINK PIN	1
27	22.0541.0.000	N.B.SHOULDER SCREW	1
28	22.0542.0.000	N.B. CONNECTINK LINK PIN	1
29	22.0545.0.000	WASHER	1
30	24.0001.0.000	BEARING CARRIER UPPER SHAFT	1
31	24.0002.0.000	CLAMP COLLAR	1
32	24.0048.0.000	NEEDLE BAR PULLEY	1
33	24.0100.0.000	SCREW M3.5X0.35-11	1
34	24.0500.0.000	NEEDLE BAR DRIVE SHAFT	1
35	24.0510.0.000	NEEDLE BAR HOLDER	1
36	24.0546.0.000	WASHER	1

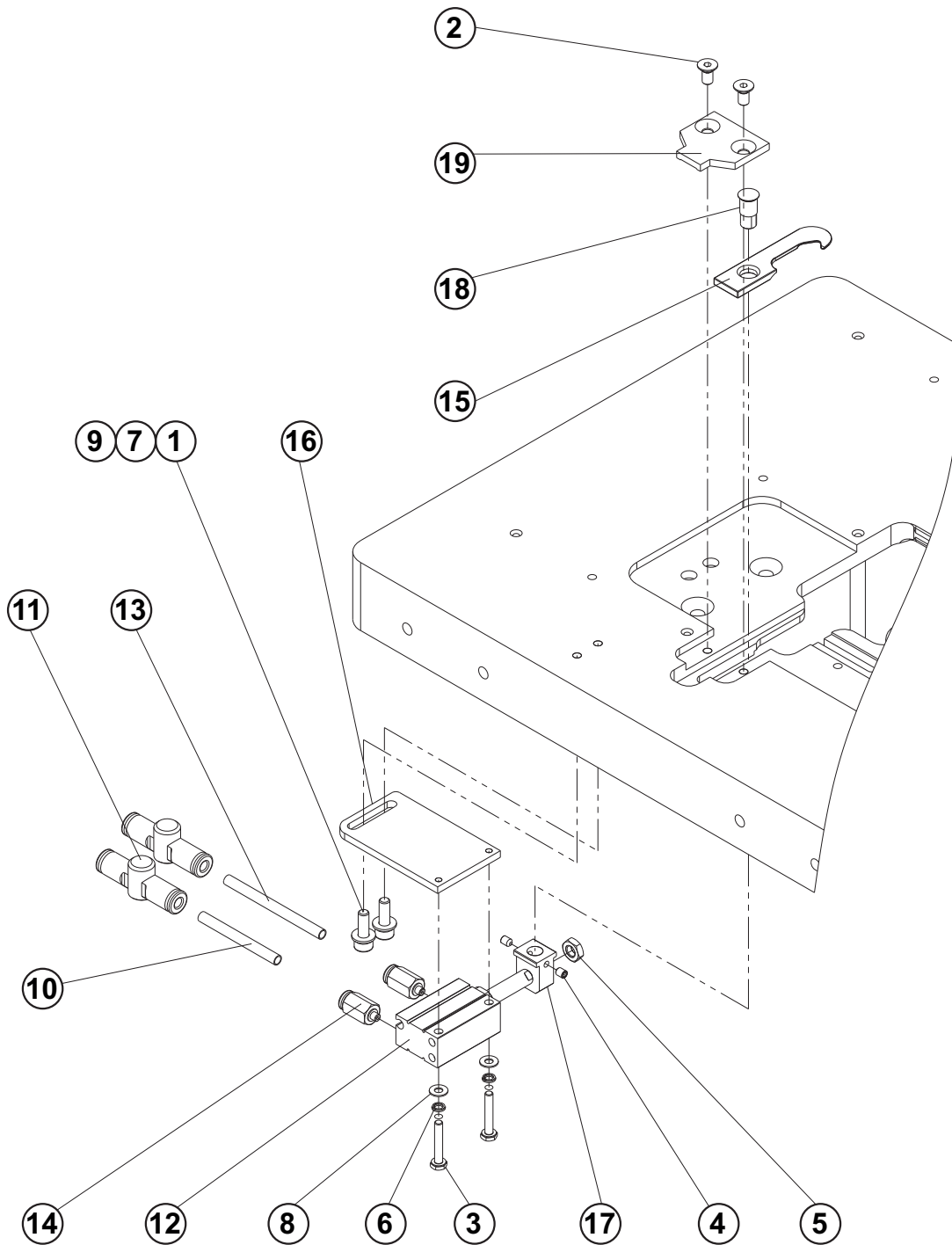
CLAMPING



CLAMPING

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.1125.0.000	SCREW-SET-SHOULDER	1
02	01.2376.0.000	SCREW-FLAT HEAD	4
03	01.3065.0.000	NUT-HEX	1
04	01.5174.0.000	SPRING-SPACER	1
05	08.6002.3.006	SCREW M3-6	4
06	08.6002.3.008	SCREW M3-8	3
07	08.6002.4.035	SCREW M4-35	2
08	08.6002.6.012	SCREW M6-12	2
09	08.6102.5.012	SCREW M5-12	3
10	08.6202.5.016	SCREW M5-16	2
11	08.6850.4.000	WASHER M4	2
12	08.6852.5.000	WASHER 5,3	2
13	12.0008.3.416	AIR TUBE- J2B	1
14	12.0010.3.080	AIR TUBING - J2A	1
15	12.0010.3.194	CYLINDER	1
16	12.0010.3.227	CONNECTOR	2
17	12.2070.1.019	LINEAR GUIDE S	1
18	20.0650.0.640	CLAMP FOOT 1 1/2"	1
19	20.0767.1.022	NEEDLE GUARD 1 1/2"	1
20	24.0125.2.000	CLAMPING PLATE TKF	1
21	24.3229.0.000	CLAMPING MAT-STANDARD BITE	2
22	24.3230.0.000	BRACKET	1
23	24.3231.0.000	HOLDER	1
24	24.3232.0.000	CLAMP ARM BRACKET	1
25	24.3233.0.000	CLAMP ARM	1

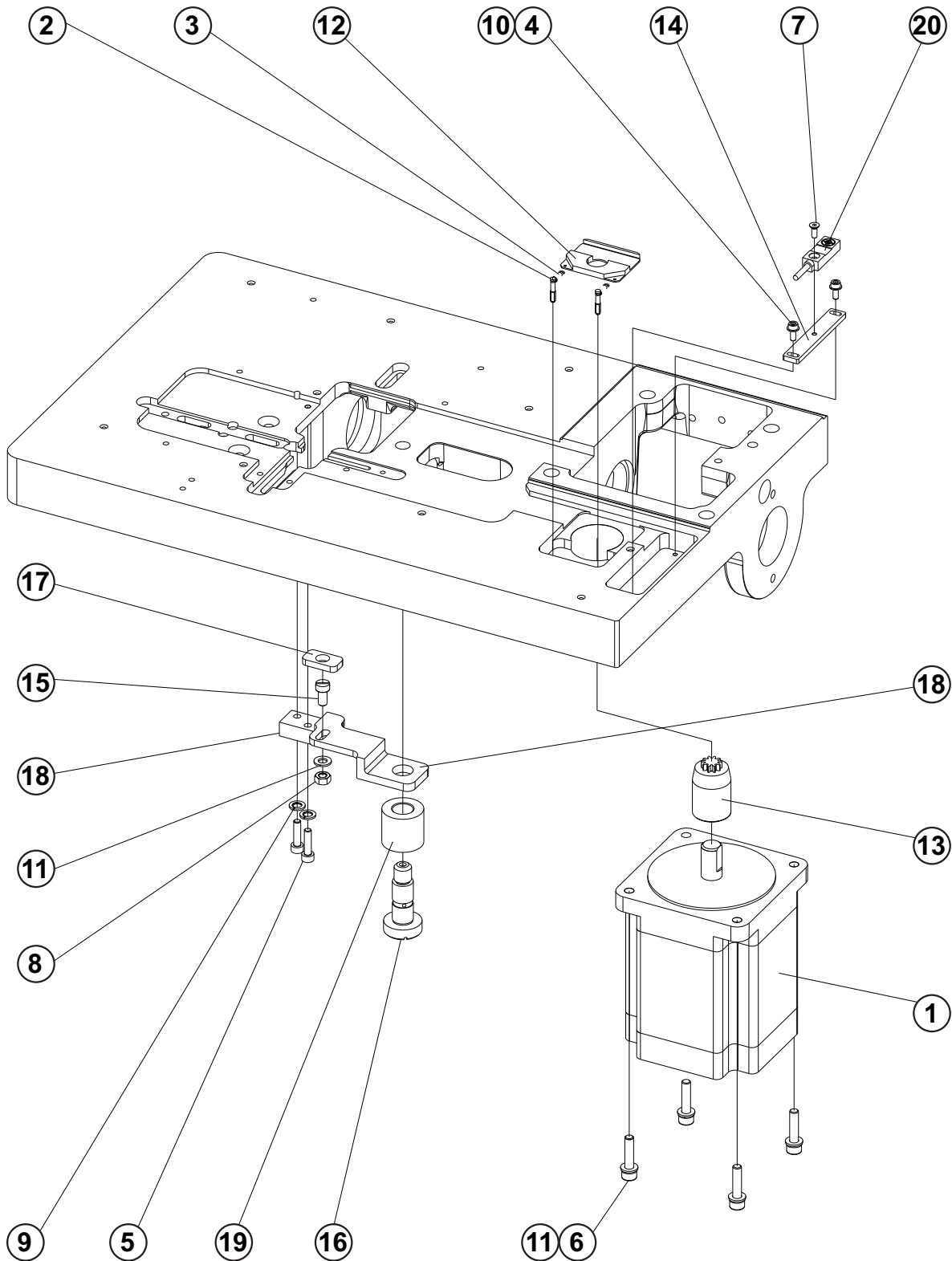
THREAD TRIMMER



THREAD TRIMMER

DET	PART NUMBER	DESCRIPTION	QTY.
01	08.6002.4.012	SCREW M4-12	2
02	08.6102.4.008	SCREW M4-8	2
03	08.6312.3.018	SCREW	2
04	08.6402.3.004	SCREW M3-4	2
05	08.6712.5.000	NUT M5	1
06	08.6802.3.000	SPRING WASHER M3	2
07	08.6802.4.000	SPRING WASHER M4	2
08	08.6852.3.000	WASHER M3	2
09	08.6852.4.000	WASHER M4	2
10	12.0008.3.416	AIR TUBE- J3B	
11	12.0008.3.804	QUICK EXHAUST VALVE	2
12	12.0010.3.034	CYLINDER	1
13	12.0010.3.080	AIR TUBE- J3A	
14	12.0010.3.119	CONNECTOR	2
15	24.0093.3.004	HOOK, TRIMMER	1
16	24.0175.0.000	TRIMMER CYLINDER HOLDER	1
17	24.0176.0.000	CONNECTING LINK PIN	1
18	24.0177.0.000	TRIMMER HOOK, PIN	1
19	24.0408.0.000	HOOK COVER	1

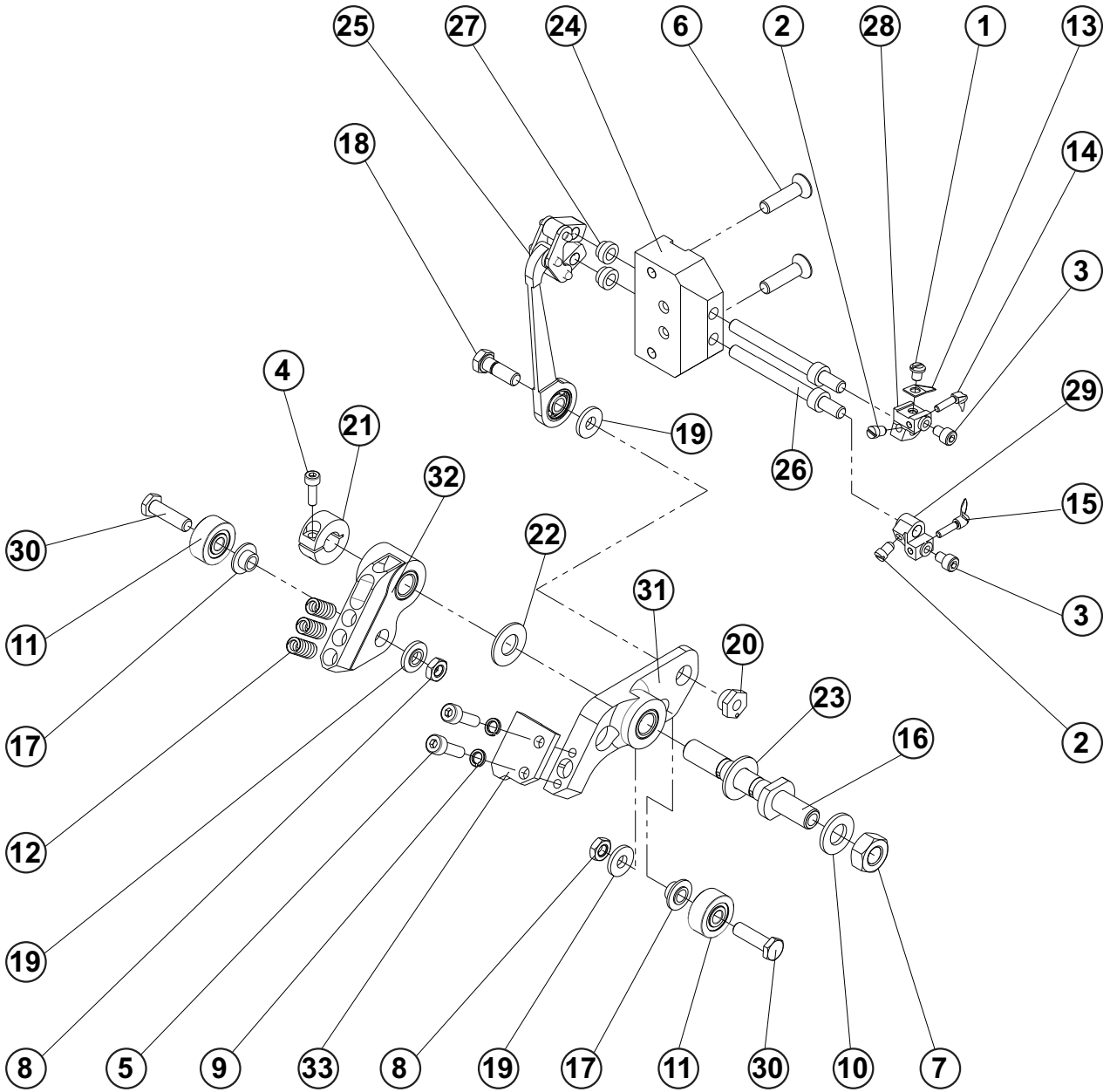
FEED MECHANISM



FEED MECHANISM

DET	PART NUMBER	DESCRIPTION	QTY.
01	06.2400.0.652	STEPPER MOTOR SM2/ Y ASSY.	1
02	07.6045.0.037	PIN 3-16	2
03	07.6440.0.033	SPRING	2
04	08.6002.3.008	SCREW M3-8	2
05	08.6002.4.016	SCREW M4-16	2
06	08.6002.5.022	SCREW M5-22	4
07	08.6102.3.008	SCREW M3-8	1
08	08.6702.5.000	NUT M5	1
09	08.6802.5.000	SPRING WASHER M5	6
10	08.6852.3.000	WASHER M3	2
11	08.6852.5.000	WASHER 5,3	5
12	24.0061.2.000	M*RETAINER, CLAMP PLATE	1
13	24.0178.0.000	GEAR 10z ASSY.	1
14	24.0181.0.000	HOME SENSOR BRACKET	1
15	24.0184.1.000	SLIDESTONE RETAINING SCREW	1
16	24.0185.0.000	STUD	1
17	24.2631.0.000	CLAMP PLATE SLIDESTONE	1
18	24.3227.0.000	CLAMP PLATE LEVER	1
19	24.3228.0.000	SPACER-TKF	1
20	06.2400.4.657	SENSOR ASSEMBLY	1

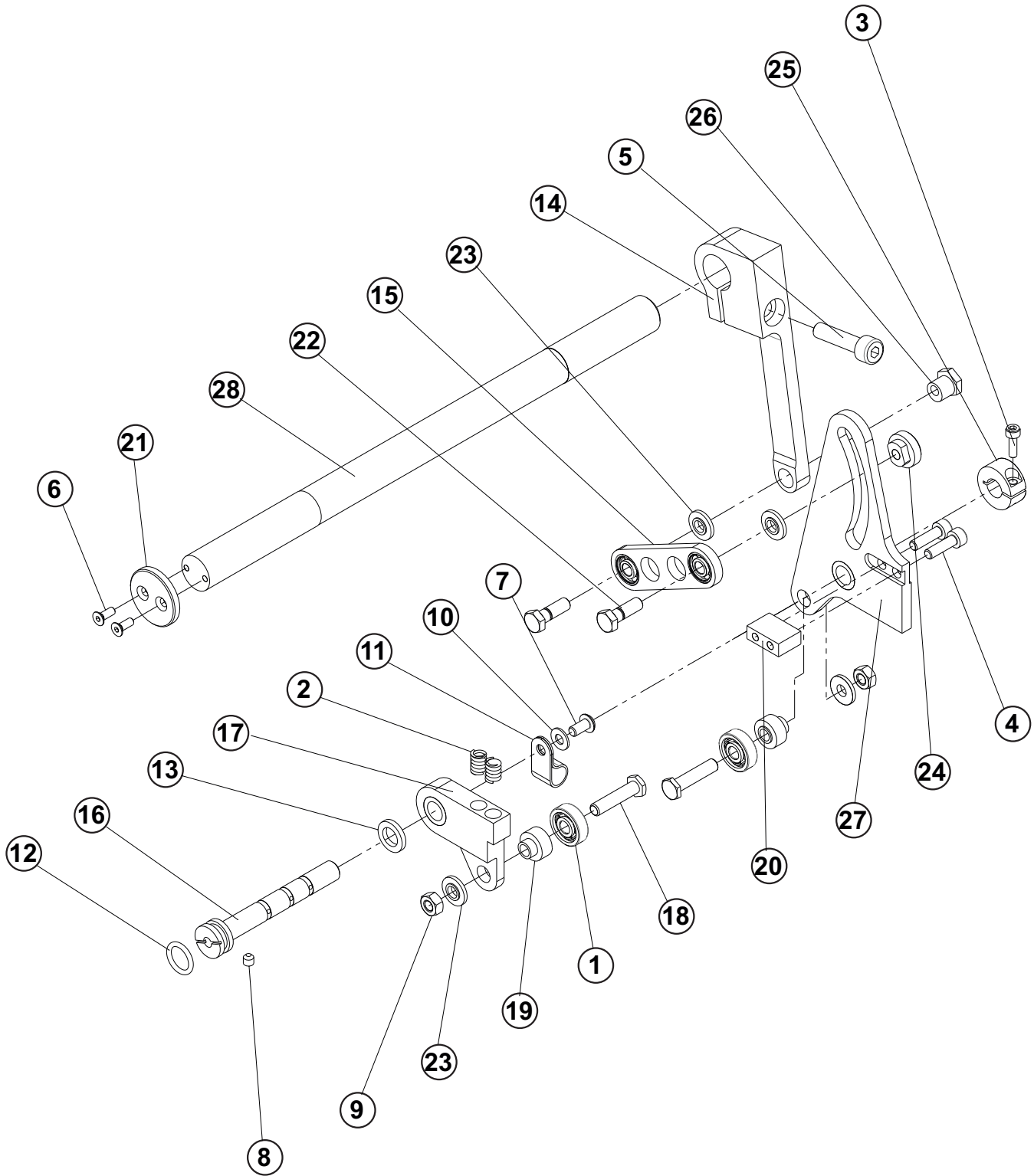
LOOPER MECHANISM



LOOPER MECHANISM

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.1382.0.000	SCREW 6-40x4	1
02	01.1397.0.000	SCREW 6-40x4,8	2
03	24.0197.0.000	SCREW 6-40x4	2
04	08.6000.3.010	SCREW M3-10	1
05	08.6000.4.014	SCREW M4-14	2
06	08.6100.5.020	SCREW M5-20	2
07	08.6700.8.000	NUT M8	1
08	08.6710.5.000	NUT M5	2
09	08.6800.4.000	WASHER 4	2
10	08.6850.8.000	WASHER 8	1
11	12.2010.1.002	BEARING LR	2
12	12.3010.0.037	SPRING	3
13	20.0094.0.000	KNIFE - TRIMMER	1
14	20.0111.0.000	FIRST LOOPER	1
15	20.0112.0.000	SECOND LOOPER	1
16	22.0022.0.000	PIVOT SHAFT	1
17	22.0031.0.000	BEARING SPACER	2
18	22.0064.0.000	BITE SHOULDER SCREW	1
19	22.0100.0.000	SHOULDER WASHER	3
20	22.0105.0.000	LOOPER ECCENTRIC NUT	1
21	22.0183.0.000	RING	1
22	22.0232.0.000	WASHER	1
23	22.0233.0.000	WASHER	1
24	22.2410.0.000	LOOPER SHAFT BLOCK	1
25	22.2425.0.050	LOOPER LINK ASSY.	1
26	22.2440.0.000	LOOPER SHAFT	2
27	22.2442.0.000	LOOPER SPACER	2
28	23.2106.0.000	FIRST LOOPER HOLDER	1
29	23.2107.0.000	SECOND LOOPER HOLDER	1
30	24.0066.0.000	SCREW	2
31	24.0188.0.000	R.H.LOOPER CAM FOLLOWER PLAT	1
32	24.0189.0.000	LOOPER CAM FOLLOWER PLATE	1
33	24.0190.0.000	SPRING RETAINER BLOCK	1

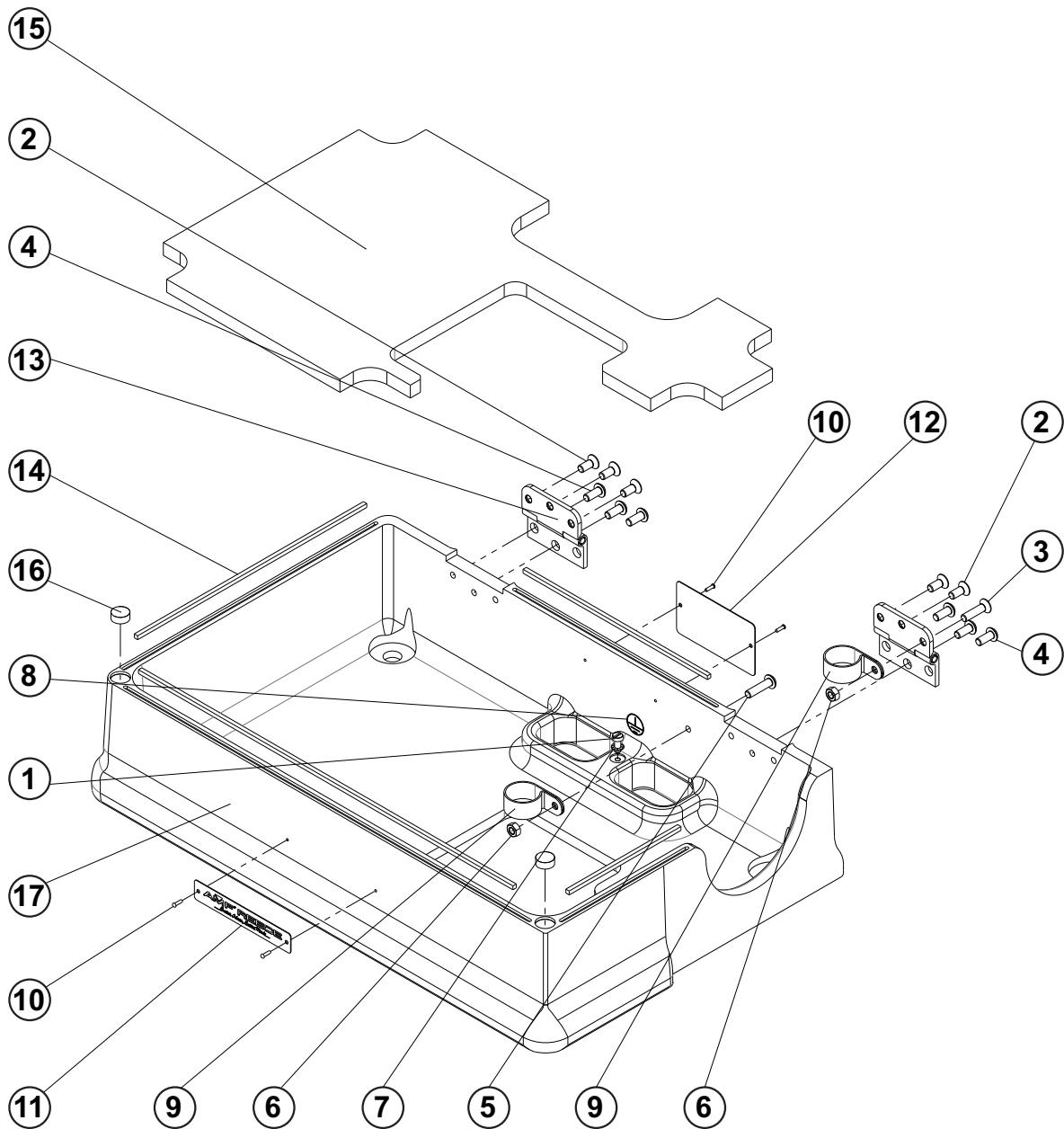
BITE MECHANISM



BITE MECHANISM

DET	PART NUMBER	DESCRIPTION	QTY.
01	07.6321.0.025	BEARING	2
02	07.6440.0.028	SPRING	2
03	08.6000.3.010	SCREW M3-10	1
04	08.6000.4.014	SCREW M4-14	2
05	08.6000.6.025	SCREW M6-25	1
06	08.6100.3.008	SCREW M3-8	2
07	08.6200.4.008	SCREW M4-8	1
08	08.6400.4.004	SCREW M4-4	1
09	08.6700.5.000	NUT M5	2
10	08.6850.4.000	WASHER M4	1
11	12.0008.4.280	CLAMP CABLE	1
12	12.0008.6.800	O-RING 10x2	1
13	17.0019.1.062	WASHER	1
14	22.0008.0.000	BITE LEVER	1
15	22.0009.0.050	BITE ADJUSTING LINK ASSY.	1
16	22.0020.0.000	BITE PIVOT SHAFT	1
17	22.0027.0.000	RIGHT CAM FOLLOWER	1
18	22.0028.0.000	SCREW, BITE FOLLOWER	2
19	22.0029.0.000	BITE FOLLOWER BEARING SPACER	2
20	22.0030.0.000	BITE FOLLOWER SPRING RETAINER	1
21	22.0063.0.000	BITE SHAFT RETAINER	1
22	22.0064.0.000	BITE SHOULDER SCREW	2
23	22.0100.0.000	SHOULDER WASHER	4
24	22.0110.0.000	SHOULDER NUT M5	1
25	22.0183.0.000	RING	1
26	22.0214.0.000	ECENTRIC NUT M5	1
27	24.0033.0.000	LEFT CAM FOLLOWER	1
28	24.0055.0.000	BITE SHAFT	1

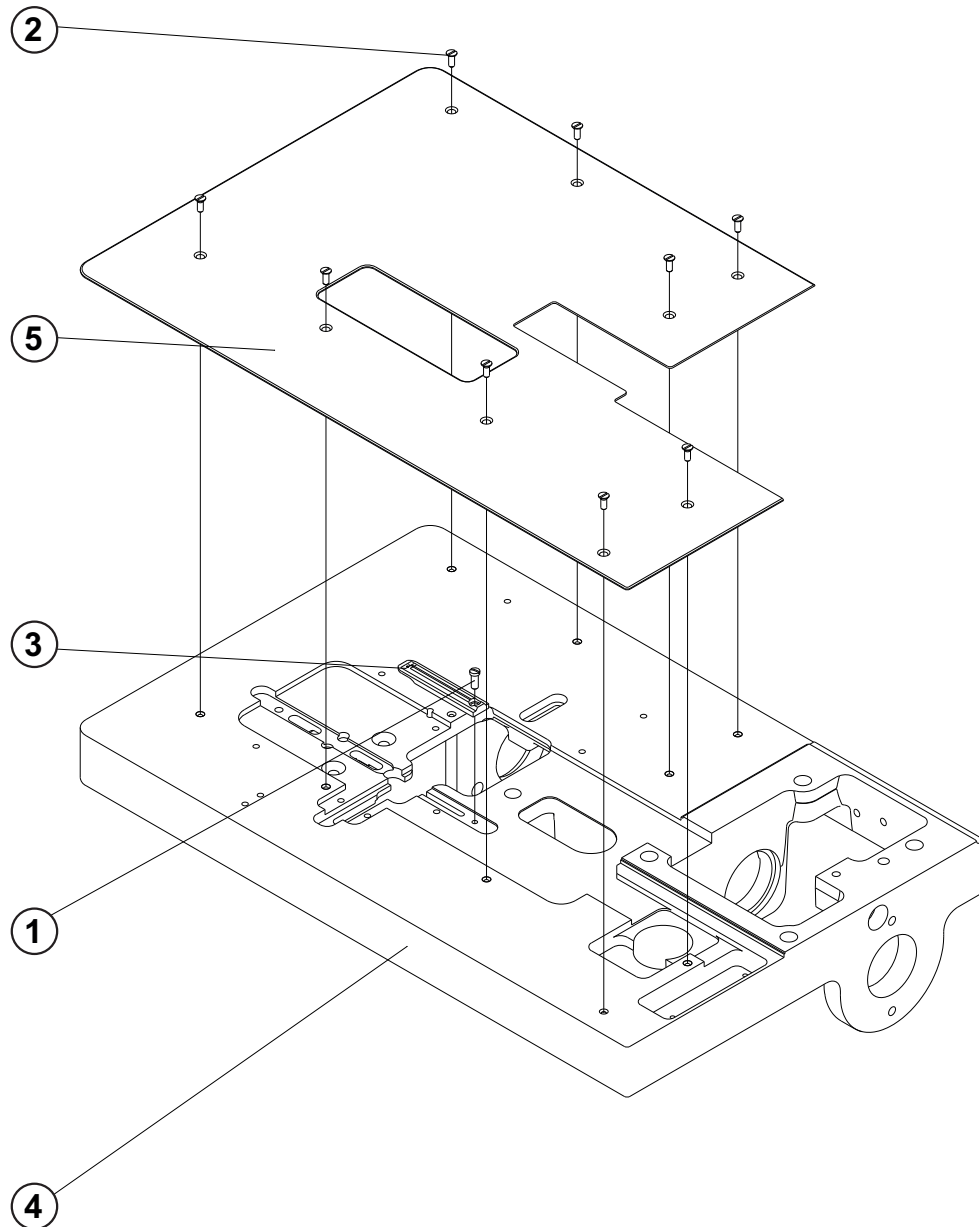
BASE



BASE

DET	PART NUMBER	DESCRIPTION	QTY.
01	08.6012.4.010	SCREW M4-10	1
02	08.6100.5.012	SCREW M5-12	5
03	08.6100.5.020	SCREW M5-20	1
04	08.6200.5.012	SCREW M5-12	6
05	08.6200.5.020	SCREW M5-20	1
06	08.6700.5.000	NUT M5	2
07	08.6832.4.000	WASHER M4	1
08	12.0008.4.052	LABEL GROUND	1
09	12.0008.4.197	CLAMP	2
10	12.1016.0.002	NAIL 1.86x6.35 (1/4)	4
11	12.8000.1.047	LABEL - AMF REECE	1
12	12.8000.1.083	LABEL CE S-4002	1
13	22.1010.0.000	HINGE	2
14	24.0038.1.000	BASE GASKET	1
15	24.0111.1.000	BASE SOUND DEADENER	1
16	24.0191.0.000	FELT	2
17	24.6005.2.000	BASE S-4002	1

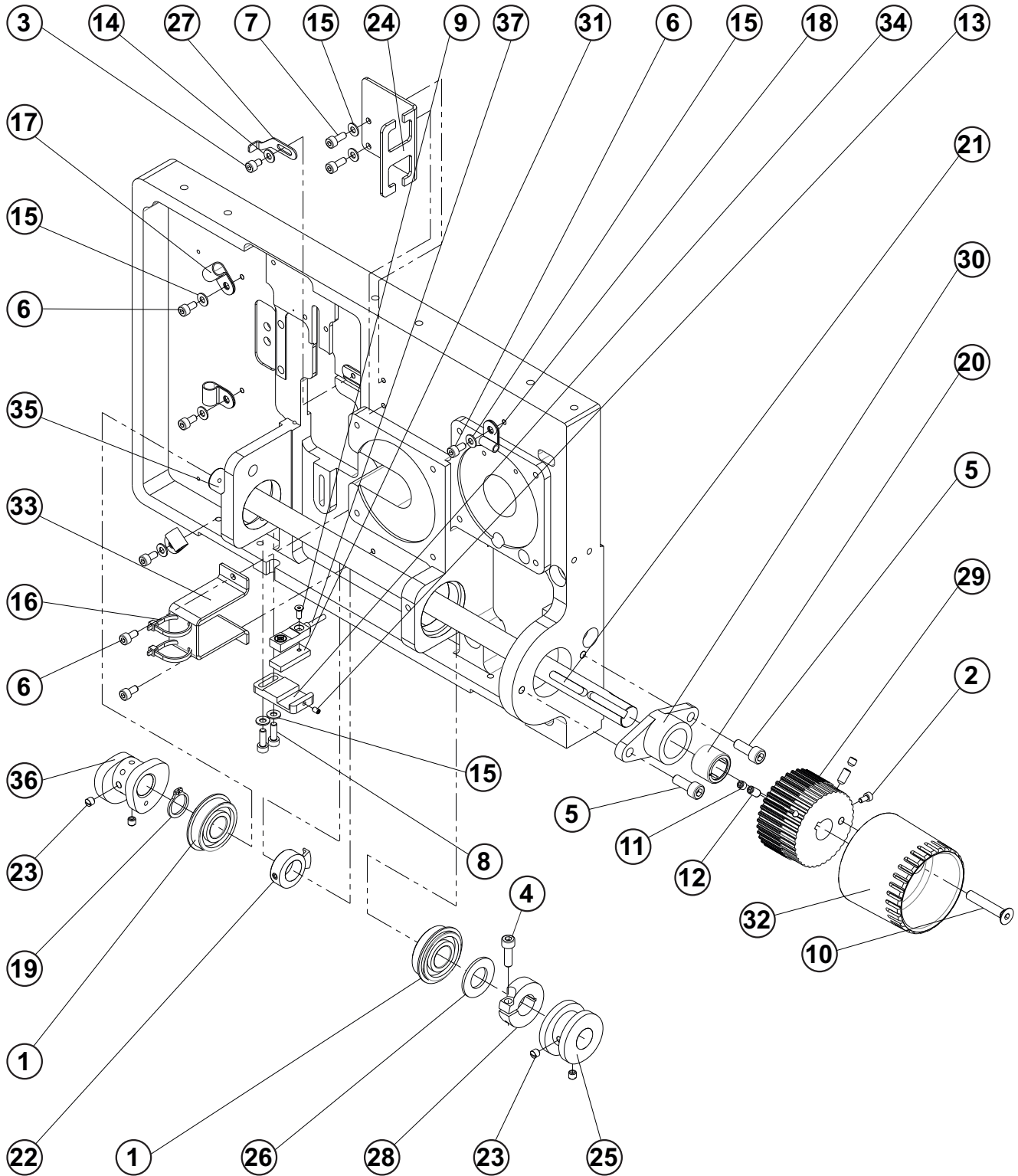
BEDPLATE TOP



BEDPLATE TOP

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.2084.0.000	SCREW	1
02	08.6112.3.008	SCREW M3-8	9
03	22.3034.0.000	THROAT PLATE	1
04	24.6100.6.000	BEDPLATE S-4002 UNIVERSA	1
05	24.6103.2.000	COVER PLATE TKF	1

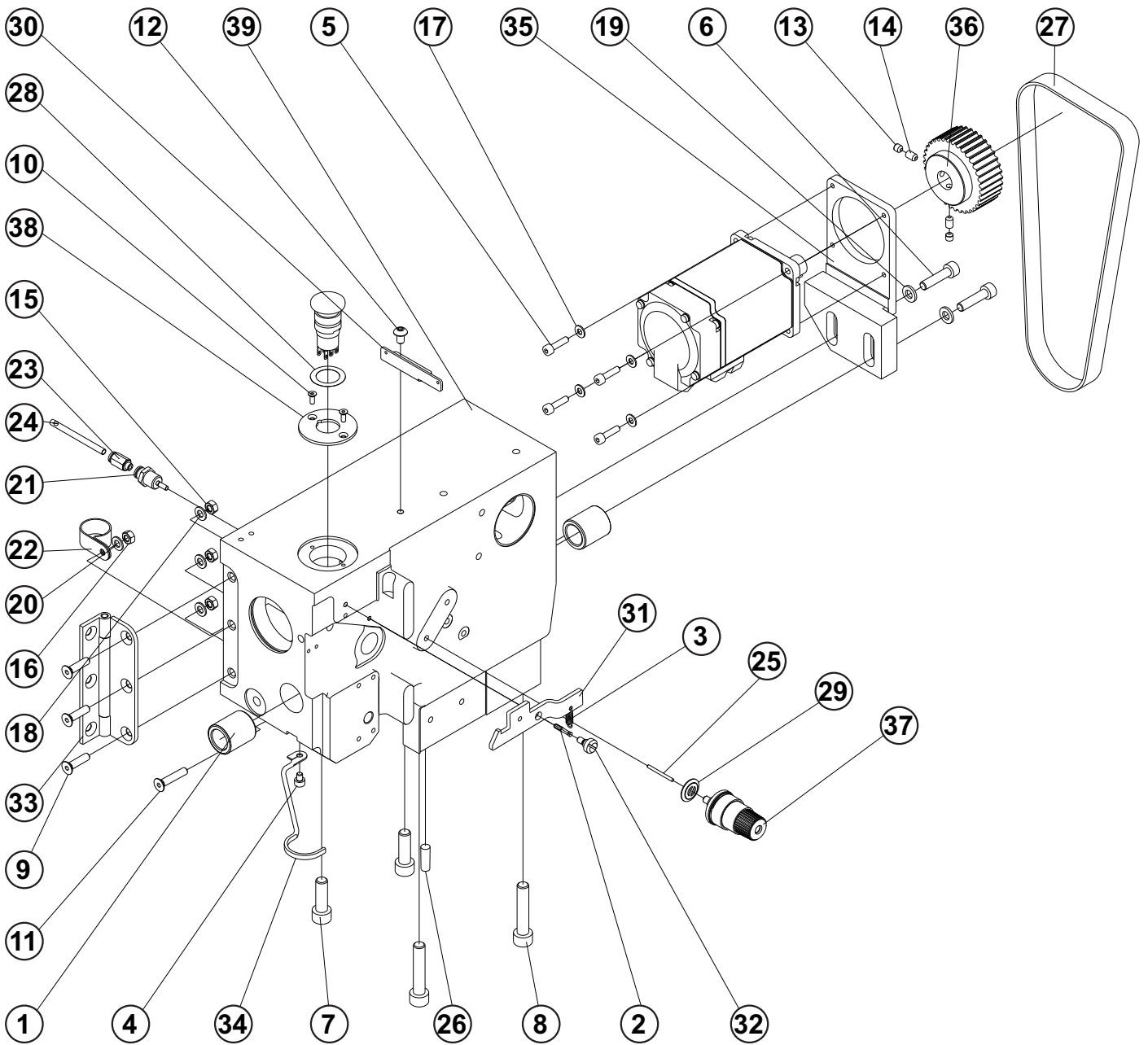
BEDPLATE BOTTOM



BEDPLATE BOTTOM

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.7805.0.000	BEARING	2
02	08.6000.3.006	SCREW M3-6	1
03	08.6000.4.006	SCREW M4-6	1
04	08.6000.5.016	SCREW M5-16	1
05	08.6000.6.016	SCREW M6-16	2
06	08.6002.4.008	SCREW M4-8	6
07	08.6002.4.010	SCREW M4-10	2
08	08.6002.4.012	SCREW M4-12	2
09	08.6100.3.008	SCREW M3-8	1
10	08.6100.6.035	SCREW M6-35	1
11	08.6400.5.005	SCREW M5-5	2
12	08.6400.5.010	SCREW M5-10	2
13	08.6402.3.005	SCREW M3-5	1
14	08.6850.4.000	WASHER M4	1
15	08.6852.4.000	WASHER M4	8
16	12.0008.3.023	TY-WRAP	2
17	12.0008.4.225	CLAMP	3
18	12.0008.4.277	CLAMP	1
19	12.1045.2.001	RETAINING RING 15	1
20	12.2050.0.005	BEARING	1
21	12.4030.0.002	KEY 5h9x5x30	1
22	15.4410.0.400	SENSOR RING	1
23	17.0011.1.149	SCREW M5x0,5-5	4
24	19.0082.3.464	HOLDER	1
25	22.0006.0.000	BITE CAM	1
26	22.0545.0.000	WASHER	1
27	22.3219.0.000	NEEDLE GUARD	1
28	24.0002.0.000	CLAMP COLLAR	1
29	24.0018.0.000	MAIN SHAFT DRIVE PULLEY	1
30	24.0019.0.000	BEARING CARRIER LOWER SHAFT	1
31	24.0027.0.000	SENSOR MOUNTING PLATE	1
32	24.0051.0.066	HAND WHEEL	1
33	24.0192.0.000	CABLE HOLDER	1
34	24.0193.0.000	SENZOR BRACKET-N.B.POS.	1
35	24.1000.0.000	MAIN SHAFT	1
36	24.2400.0.000	LOOPER CAM	1
37	06.2400.0.657	SENSOR ASSEMBLY	1

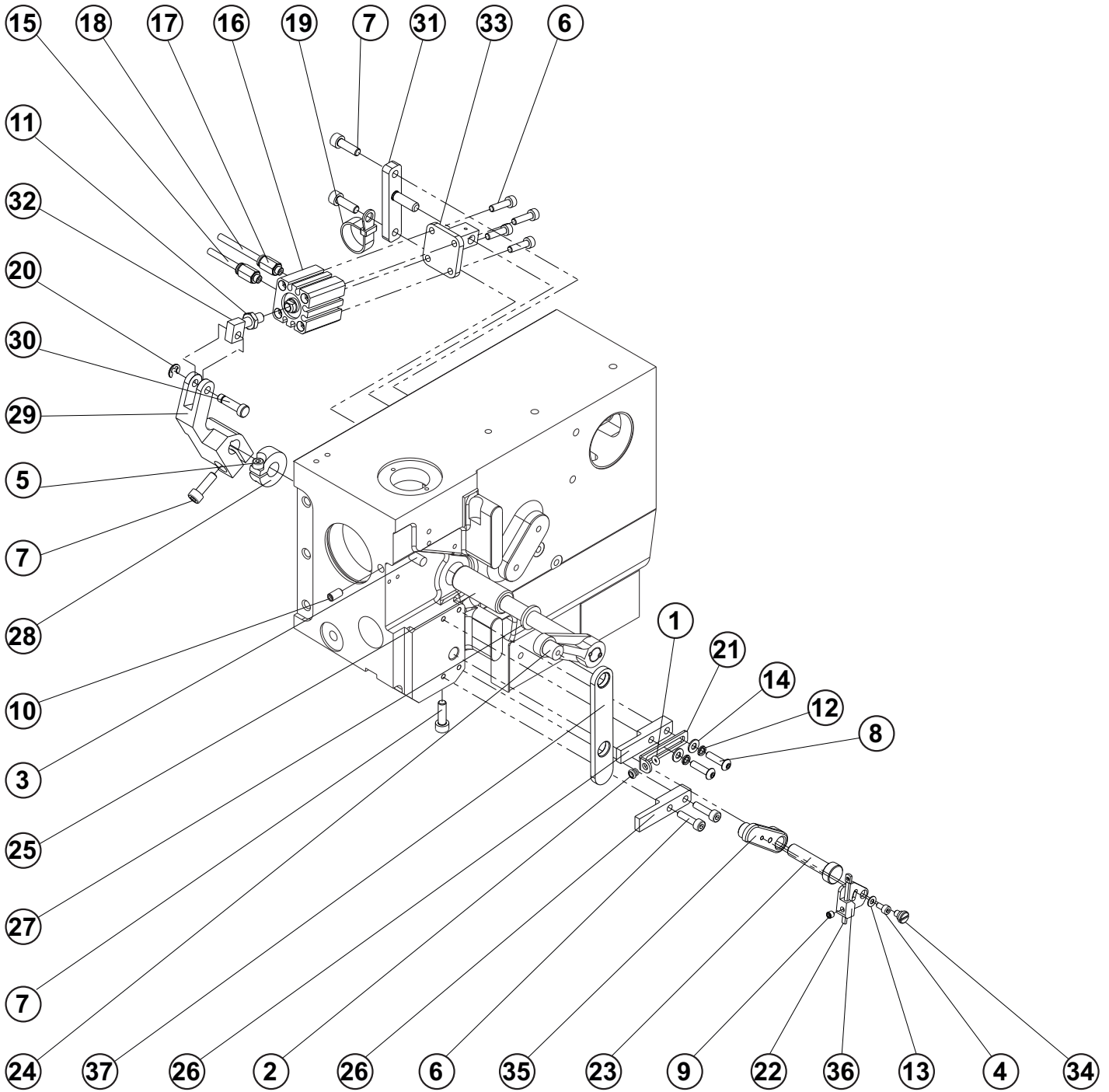
HEAD



HEAD

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.7806.0.000	BUSHING 15/22-25	2
02	07.6045.0.037	PIN 3-16	1
03	07.6440.0.051	SPRING	1
04	08.6000.4.005	SCREW M4-5	1
05	08.6000.4.016	SCREW M4-16	4
06	08.6000.6.025	SCREW M6-25	2
07	08.6000.8.025	SCREW M8-25	2
08	08.6000.8.040	SCREW M8-40	2
09	08.6100.5.020	SCREW M5-20	3
10	08.6102.3.008	SCREW M3-8	2
11	08.6102.5.025	SCREW M5-25	1
12	08.6200.5.008	SCREW M5-8	1
13	08.6400.5.005	SCREW M5-5	2
14	08.6400.5.008	SCREW M5-8	2
15	08.6700.5.000	NUTM5	3
16	08.6702.5.000	NUTM5	1
17	08.6850.4.000	WASHER M4	4
18	08.6850.5.000	WASHER 5,3	3
19	08.6850.6.000	WASHER 6,4	2
20	08.6852.5.000	WASHER 5,3	1
21	12.0008.3.413	CYLINDER	1
22	12.0008.4.100	CLAMP	1
23	12.0010.3.027	CONNECTOR	1
24	12.0010.3.080	AIR TUBE- J1A1	
25	12.1010.2.003	PIN 2m6-24	1
26	12.1011.0.001	PIN 6-20	1
27	12.5050.2.009	BELT	1
28	12.8000.0.047	LABEL, EMERGENCYSTOP	1
29	17.0082.8.082	TENSION DISC	1
30	22.0054.0.000	UPPER THREAD GUIDE	1
31	22.0058.0.000	SEWING HEAD LATCH	1
32	22.0062.0.000	SCREW M4-3	1
33	22.6002.0.000	HEAD HINGE ASSY .	1
34	24.0044.0.000	NEEDLE GUARD	1
35	24.0106.1.000	MOTOR BRACKET	1
36	24.0108.0.000	MOTOR PULLEY- MITSUBISHI	1
37	24.0119.0.050	TENSION DISC ASSY .	1
38	24.0148.0.000	COVER, EMERGENCYSTOP	1
39	24.6000.5.000	HEAD BH, ISBH, TKF , LS	1

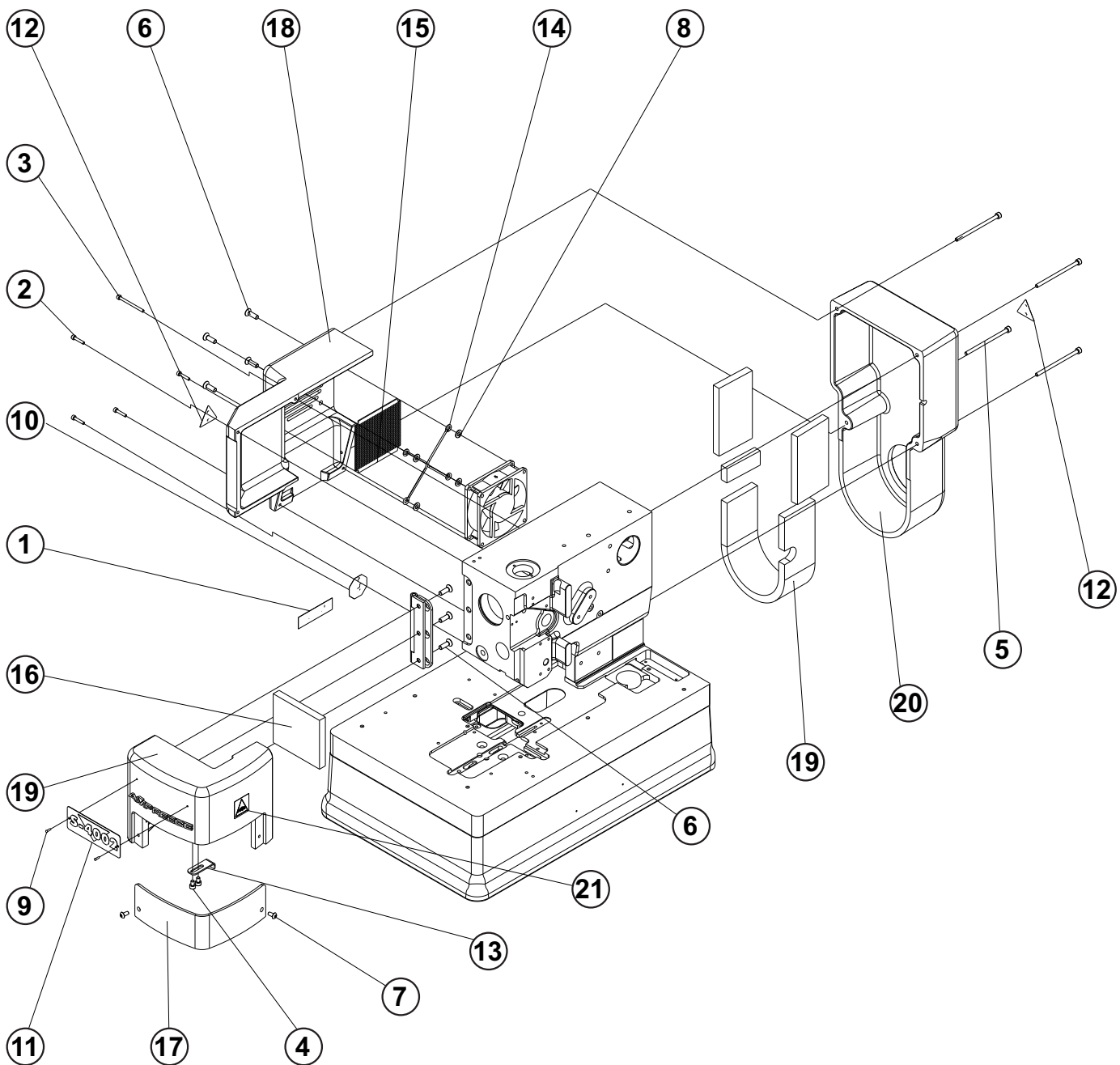
THREAD DRAW-OFF



THREAD DRAW-OFF

DET	PART NUMBER	DESCRIPTION	QTY.
01	01.6551.0.000	O-RING 1,78x2.57	1
02	01.7447.1.000	GUIDE	1
03	07.6045.0.053	PIN 6m6X20	1
04	08.6000.3.006	SCREW M3-6	1
05	08.6000.4.010	SCREW M4-10	1
06	08.6000.4.016	SCREW M4-16	6
07	08.6000.5.016	SCREW M5-16	4
08	08.6200.4.016	SCREW M4-16	2
09	08.6400.4.004	SCREW M4-4	1
10	08.6400.5.010	SCREW M5-10	1
11	08.6710.6.000	NUT M6	1
12	08.6800.4.000	WASHER 4	2
13	08.6850.3.000	WASHER 3,2	1
14	08.6850.4.000	WASHER M4	2
15	12.0008.3.416	AIR TUBE- J1B	
16	12.0008.3.433	CYLINDER	1
17	12.0010.3.027	CONNECTOR	2
18	12.0010.3.080	AIR TUBE- J1A	
19	12.0010.4.013	CABEL BINDER 200x7,8	1
20	12.1045.0.004	RETAINING RING 4	1
21	22.0046.0.000	HREAD GUIDE BRACKET	1
22	22.0091.0.000	HREAD TAKE-UP	1
23	22.0161.0.000	PIVOT ECCENTRIC	1
24	22.1415.0.050	KNIFE	1
25	22.1422.0.000	KNIFE SHAFT BUSHING	1
26	22.1436.0.000	RETAINER DRIVE PLATE	2
27	24.0009.0.000	WASHER	1
28	24.0010.0.000	CLAMP COLLAR 10H7	1
29	24.0011.0.000	KNIFE DRIVE LEVER	1
30	24.0014.0.000	PIVOT	1
31	24.0016.0.000	CYLINDER PIVOT STUD ASSEMBLY	1
32	24.0037.0.000	DRAW BAR CYLINDER	1
33	24.0039.1.000	ENSION RELEASE BRACKET	1
34	24.0061.0.000	HREAD TAKE-UP SHOULDER SCREW	1
35	24.0062.0.000	KNIFE GUIDE LINK	1
36	24.0063.0.000	HREAD TAKE-UP	1
37	24.1430.1.000	DRIVE PLATE	1

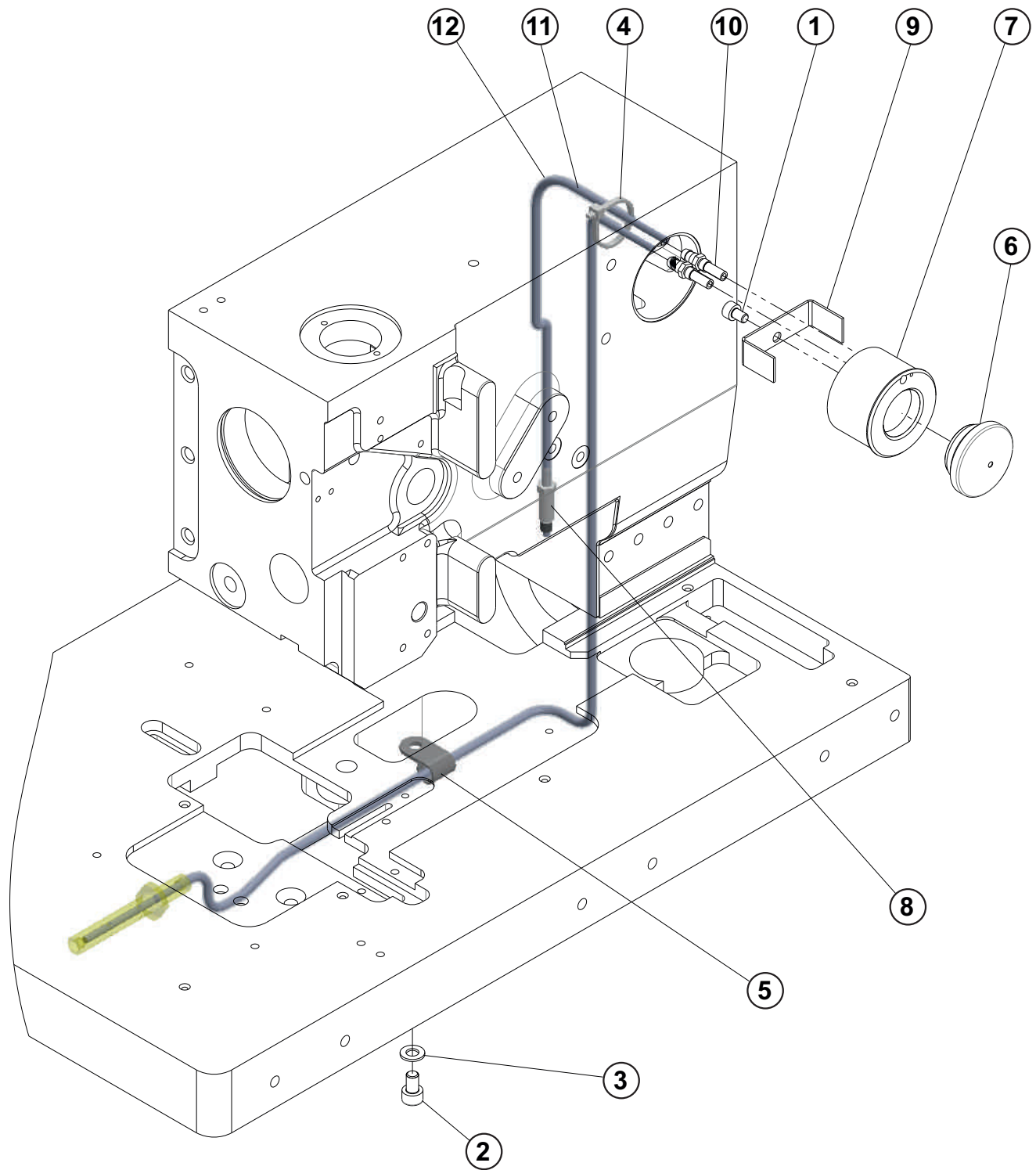
COVERS



COVERS

DET	PART NUMBER	DESCRIPTION	QTY.
01	05.1394.0.000	LABEL (REECE SINCE....) 50x14	1
02	08.6000.3.016	SCREW M3-16	4
03	08.6000.3.040	SCREW M3-40	1
04	08.6000.4.006	SCREW M4-6	2
05	08.6000.4.070	SCREW M4-70	4
06	08.6100.5.016	SCREW M5-16	7
07	08.6200.4.008	SCREW M4-8	2
08	08.6850.5.000	WASHER 5,3	4
09	12.1016.0.002	NAIL 1.86x6.35 (1/4)	2
10	12.8000.0.438	LABEL- GUALITY	1
11	12.8000.1.061	LABELS-4002	1
12	17.0097.5.174	LABEL- WARNING	2
13	22.0057.0.000	COVER LATCH	1
14	24.0067.0.000	FAN RACK	1
15	24.0068.0.000	NET	1
16	24.0112.0.000	COVER SOUND DEADENER	1
17	24.0154.0.000	EYE SHIELD	1
18	24.6001.5.000	HEAD COVER - S4002 UNIVERSAL	1
19	24.6003.0.000	NEEDLE BAR COVER	1
20	24.6004.1.001	PULLEYCOVER - CROSSWISE TABLE	1
21	27513603	LABEL, CAUTION(SUPERIOR IMAGE)	1

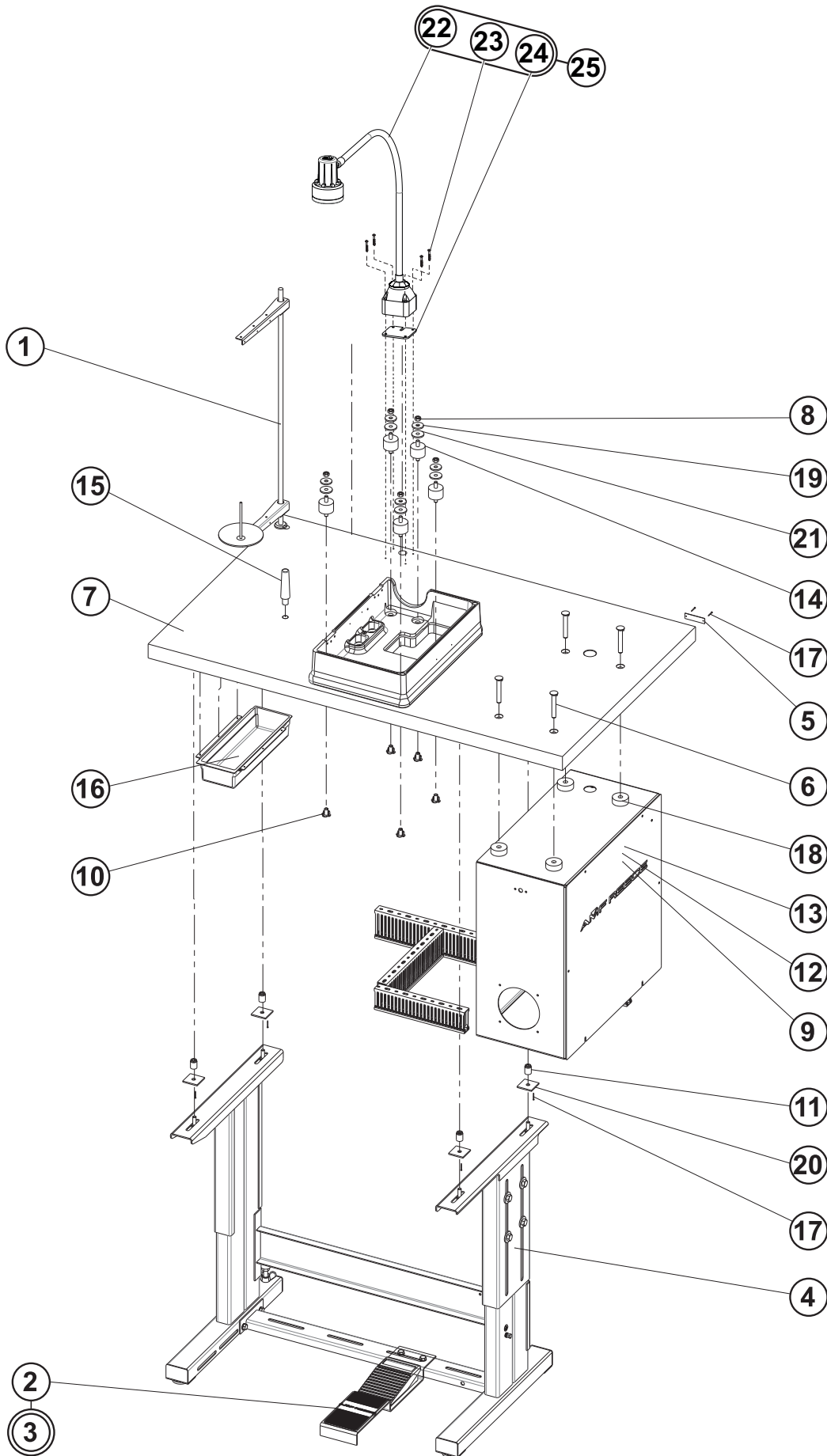
LUBRICATION



LUBRICATION

DET	PART NUMBER	DESCRIPTION	QTY.
01	08.6000.4.006	SCREW M4-6	1
02	08.6002.5.008	SCREW M5-8	1
03	08.6852.5.000	WASHER 5,3	1
04	12.0008.3.023	TY-WRAP	1
05	12.0008.4.225	CLAMP	1
06	17.0095.1.329	OIL INDICATOR	1
07	22.0104.0.000	OIL GAUGE RESERVOIR	1
08	22.0108.0.000	WICK HOLDER	1
09	22.0120.0.000	HOLDER	1
10	22.0229.0.000	STRAIGHT FITTING	2
11	24.0139.1.000	LUBRICATING WICK KIT	1
12	24.0141.1.000	OIL TUBING KIT	1

TABLE



TABLE

DET	PART NUMBER	DESCRIPTION	QTY.
01	22.0219.0.000	THREAD STAND	1
02	19.0007.9.037	PEDAL ASSEMBLY	(1)
03	06.8800.0.001	PEDAL	(1)
04	04.1416.1.003	LABEL	1
05	04.9000.2.123	FRAME KIT ASSY.	1
06	04.9015.0.362	SCREW	4
07	04.9024.0.905	TABLE TOP CROSSWISE	1
08	08.6700.8.000	NUT M8	5
09	08.6702.0.000	NUT M10	4
10	08.6742.8.000	NUT M8	5
11	08.6752.8.000	NUT M8	4
12	08.6802.0.000	SPRING WASHER M10	4
13	08.6852.0.000	WASHER 10,5	4
14	12.0008.6.801	SHOCK MOUNT	5
15	12.0008.6.900	MACHINE REST TABLE PIN	1
16	12.0008.6.901	BOX	1
17	12.1016.1.000	NAIL 1,6x20	6
18	15.6005.0.990	SHOCK MOUNT	4
19	17.0019.0.441	WASHER	5
20	17.0094.0.200	WASHER	4
21	17.0095.1.272	RUBBER WASHER	5
22	12.0010.4.390	LAMP	(1)
23	08.6962.4.025	VRUT	(1)
24	04.9024.0.951	LAMP WASHER	(1)
25	06.2400.0.621	LED LAMP KIT	1

TABLE - ROLLER KIT - EXTRA PARTS

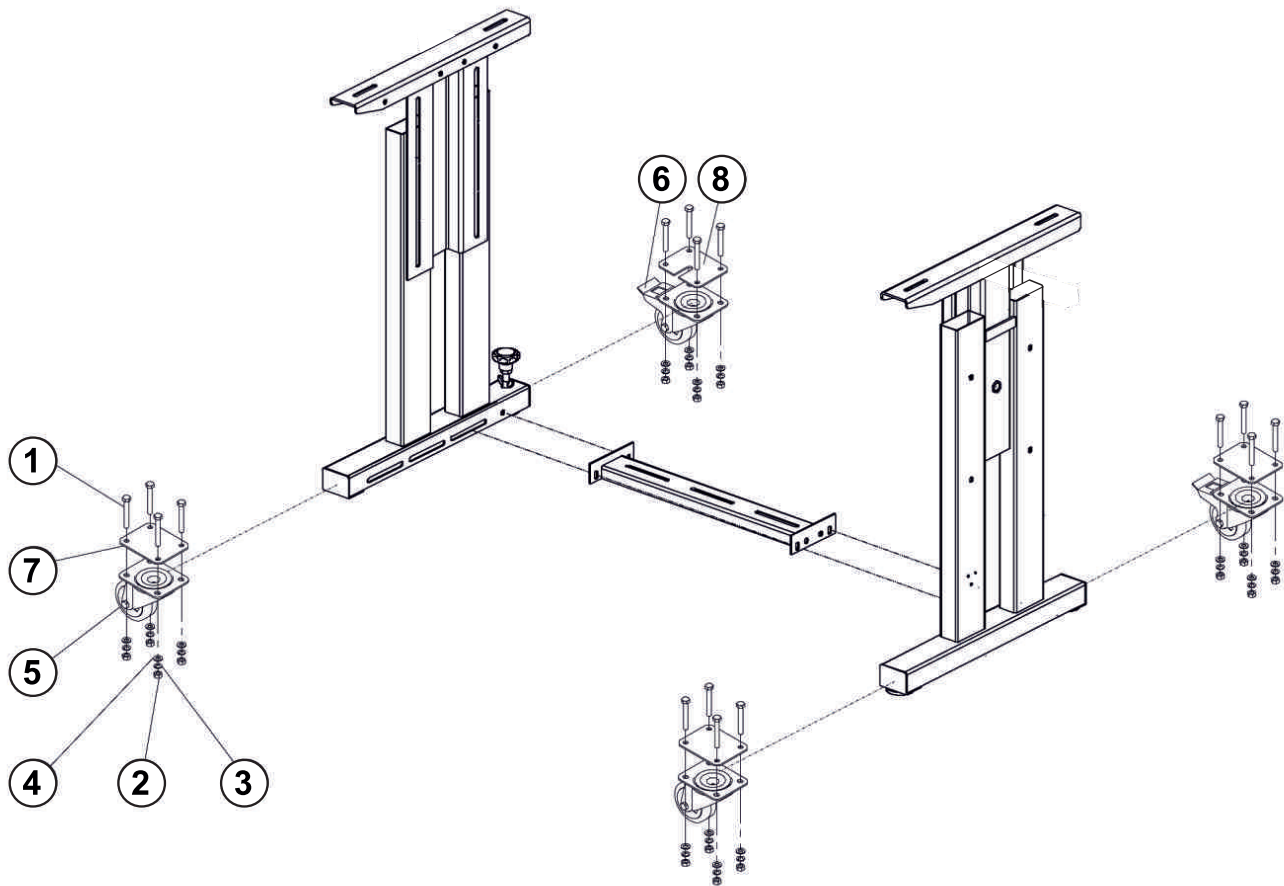
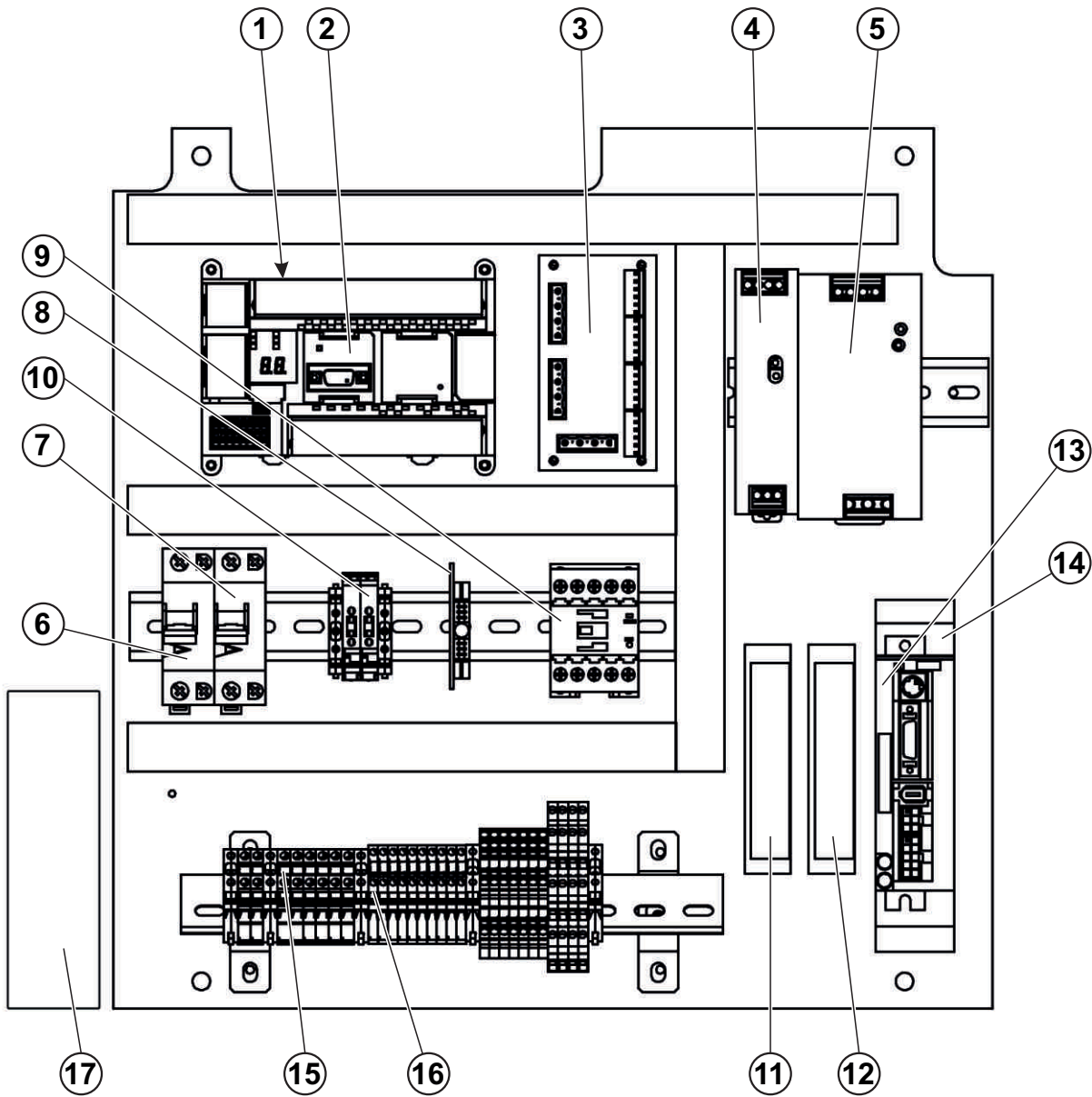


TABLE - ROLLER KIT - EXTRA PARTS

DET	PART NUMBER	DESCRIPTION	QTY.
01	08.6312.8.060	SCREW M8-60	16
02	08.6702.8.000	NUT M8	16
03	08.6802.8.000	SPRING WASHER M8	16
04	08.6852.8.000	WASHER M8	16
05	12.0008.6.527	ROLLER	2
06	12.0008.6.528	ROLLER WITH BRAKE	2
07	24.0170.0.000	PLATE	3
08	24.0171.0.000	PLATE	1

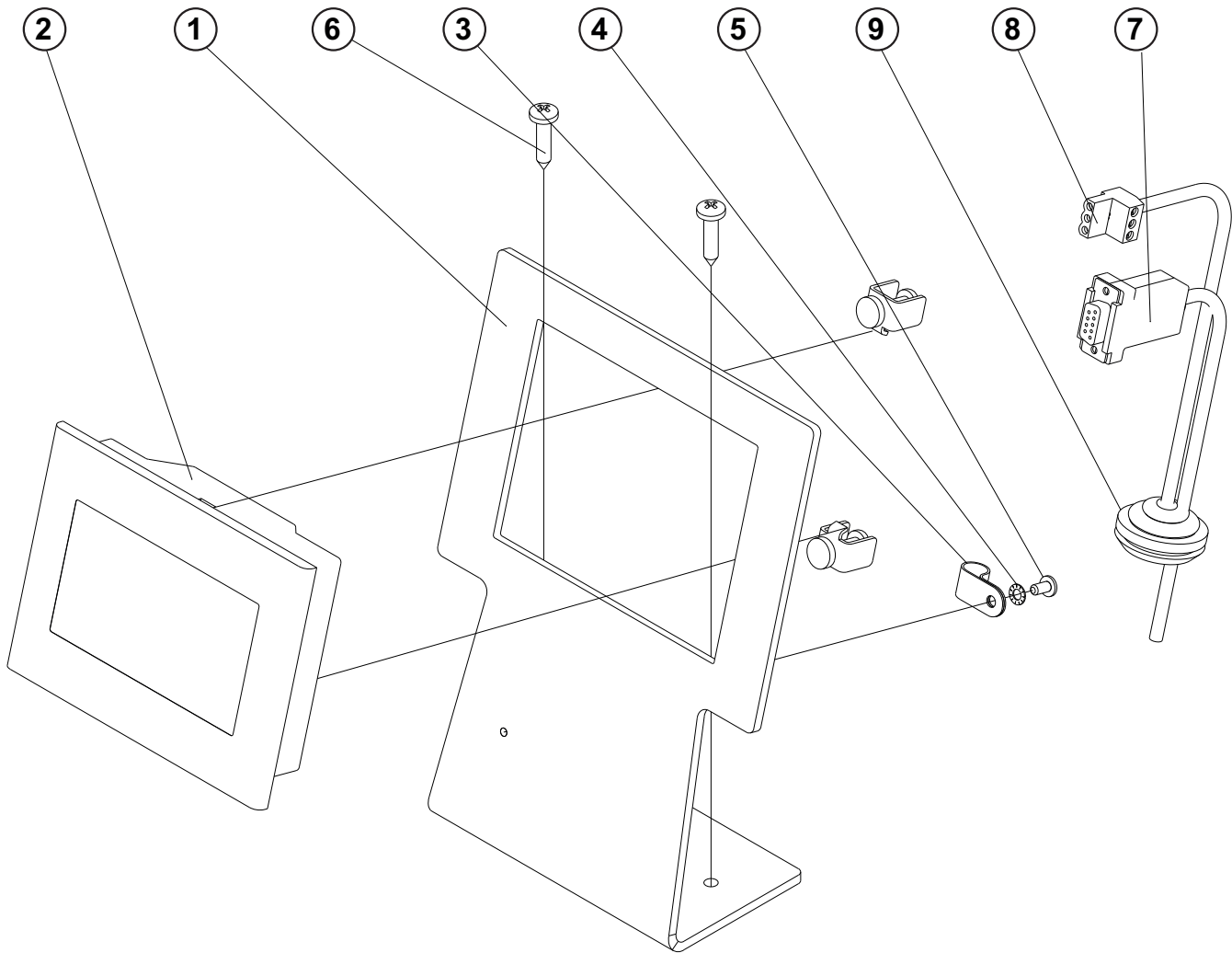
ELECTRICAL



ELECTRICAL

DET	PART NUMBER	DESCRIPTION	QTY.
01	06.8424.4.601	OMRON CP1H-X40DT1-D	1
01	12.0010.4.163	PLC REPLACEMENT BATTERY	1
02	12.0010.4.067	OMRON CP1W CIF01	1
03	12.0010.4.385	TERMINAL BOARD	1
04	12.0010.4.441	MEANWELL NDR-75-24	1
05	12.0010.4.440	MEANWELL NDR-240-24	1
06	12.0010.4.412	EATON C16/1N	1
07	12.0010.4.413	EATON C10/1N	1
08	06.1200.4.014	OPTICAL INTERFACE BOARD	1
09	12.0010.4.411	DILM7-10 24VDC	1
10	06.2400.4.442	FUSE TERMINAL	1
10	12.0008.4.065	FUSE TERMINAL	2
11	12.0010.4.161	SCHNEIDER SD315 (OPTION)	1
12	12.0010.4.161	SCHNEIDER SD315	1
13	06.8024.4.605	OMRON R7D-BP04H	1
13	06.2400.4.445	SERVO DRIVER CABLE	1
14	12.0010.4.251	OMRON R7A-FIB104	1
15	06.2400.4.443	MAIN POWER TERMINAL	1
16	06.2400.4.444	CONTROL TERMINAL	1
17	12.0008.4.682	ENCLOSURE FAN	1

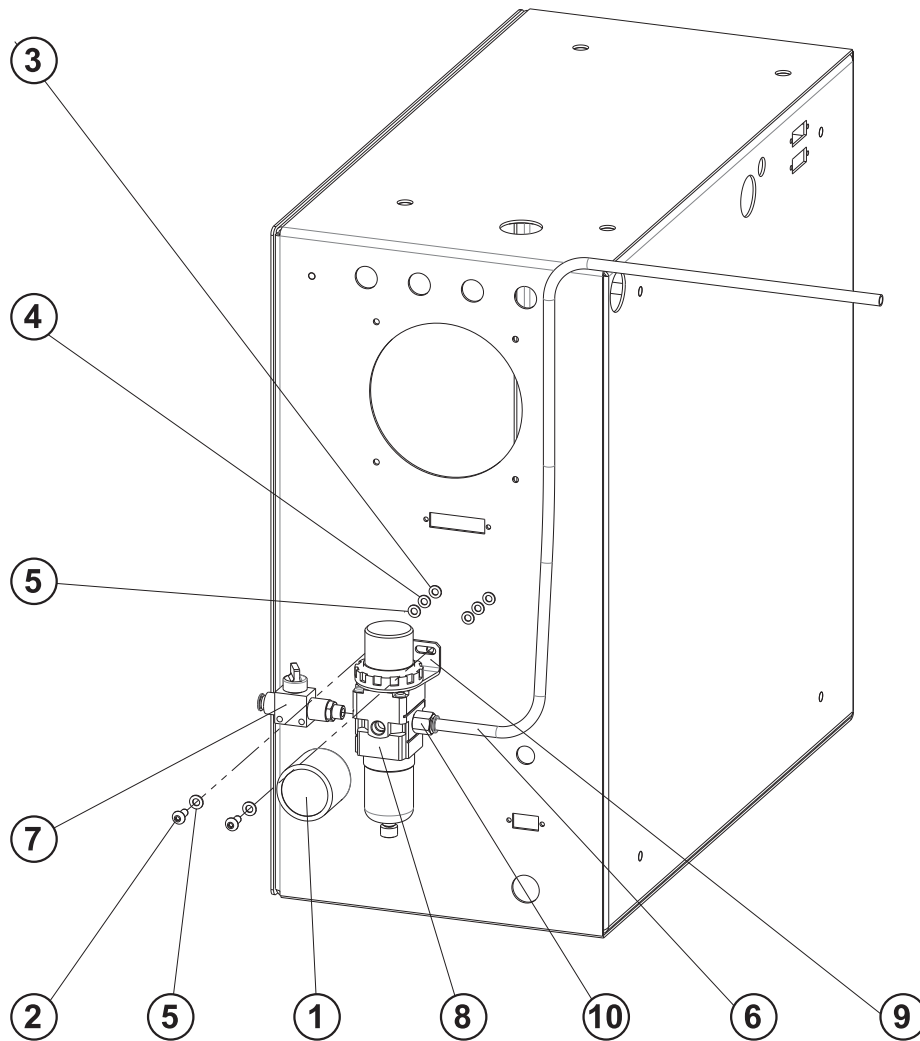
PANEL KIT



PANEL KIT

DET	PART NUMBER	DESCRIPTION	QTY.
01	24.0198.0.000	PANEL HOLDER - DELTA	1
02	12.0010.4.406	DISPLAY DOP - 103BQ DELTA	1
03	07.6600.0.004	CLAMP CABLE UCF-1,5	1
04	08.6832.4.000	WASHER M4	1
05	08.6032.4.008	SCREW M4-8	1
06	08.6663.5.025	SCREW 4,8-25	2
07	06.2400.0.023	CABLE DISPLAY DELTA	1
08	06.2400.0.019	CABLE DISPLAY DELTA POWER	1
09	12.0008.4.366	RUBBER PLUG 29	1

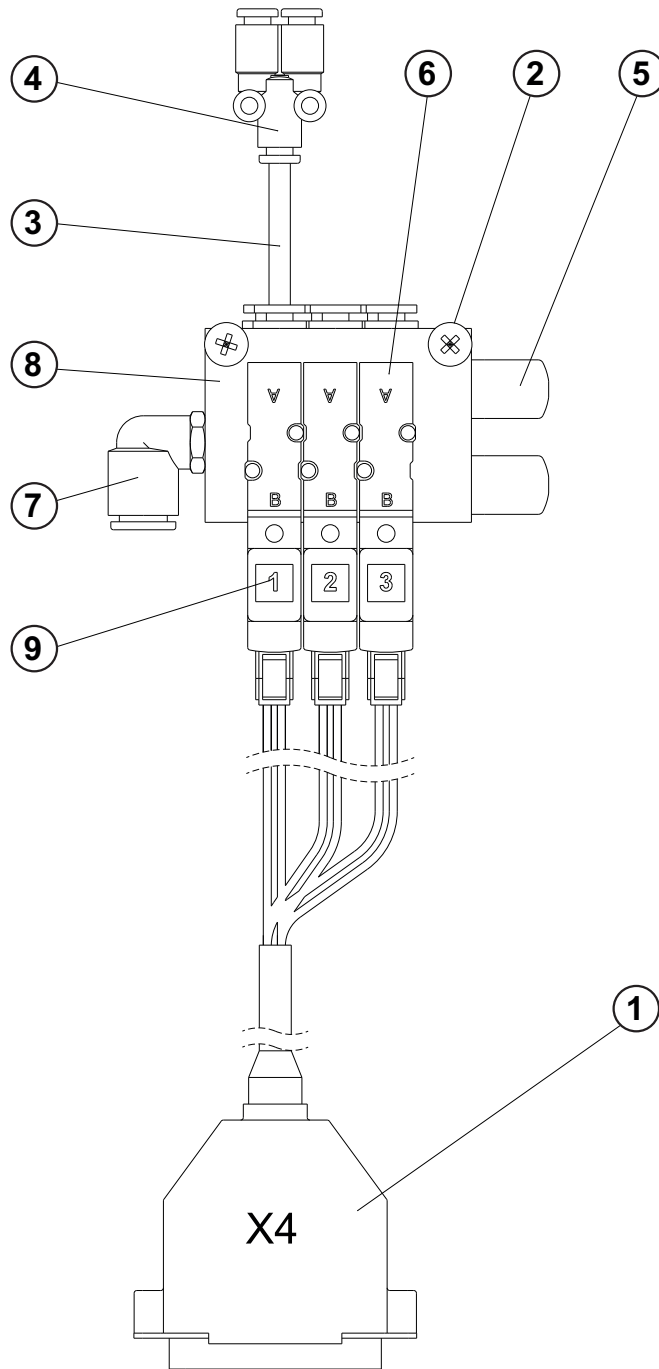
FILTER REGULATOR



FILTER REGULATOR

DET	PART NUMBER	DESCRIPTION	QTY.
01	06.7300.0.027	PRESSURE GAUGE	1
02	08.6202.5.012	SCREW M5x12	2
03	08.6702.5.000	NUT M5	2
04	08.6802.5.000	SPRING WASHER M5	2
05	08.6852.5.000	WASHER 5,3	4
06	12.0008.3.415	AIR TUBE	-
07	12.0008.3.463	HAND VALVE	1
08	12.0010.3.137	FILTER REGULATOR	1
09	12.0010.3.138	REGULATOR BRACKET	1
10	12.0010.3.141	CONNECTOR	1

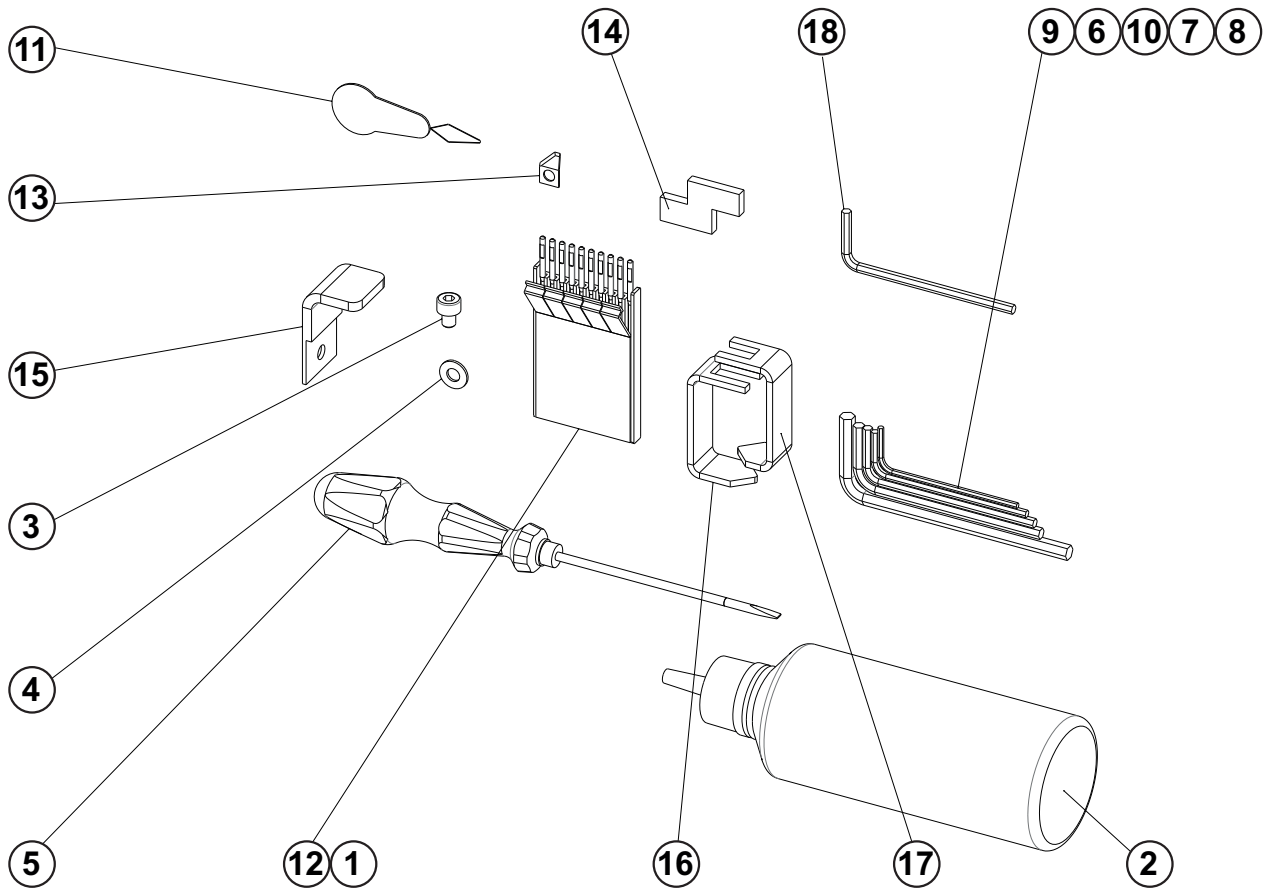
VALVE BLOCK



VALVE BLOCK

DET	PART NUMBER	DESCRIPTION	QTY.
01	06.2400.4.640	CABLE ASSY . X4 - S4002 TKF/LS	1
02	08.6663.4.038	SCREW 4,2-38	2
03	12.0008.3.416	AIR TUBE- J1A	
04	12.0010.3.037	CONNECTOR	1
05	12.0010.3.099	SILENCER AN10-01	2
06	12.0010.3.105	5/2 VALVE	3
07	12.0010.3.106	CONNECTOR	1
08	12.0010.3.257	MANIFOLD PLATE	1
09	12.8000.0.446	LABELS - VALVES 1-30	1

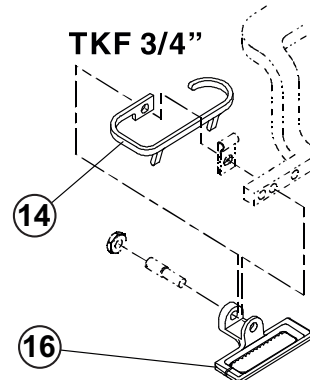
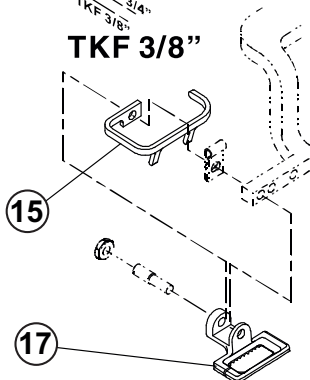
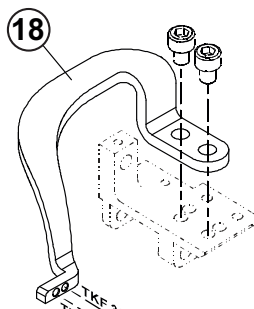
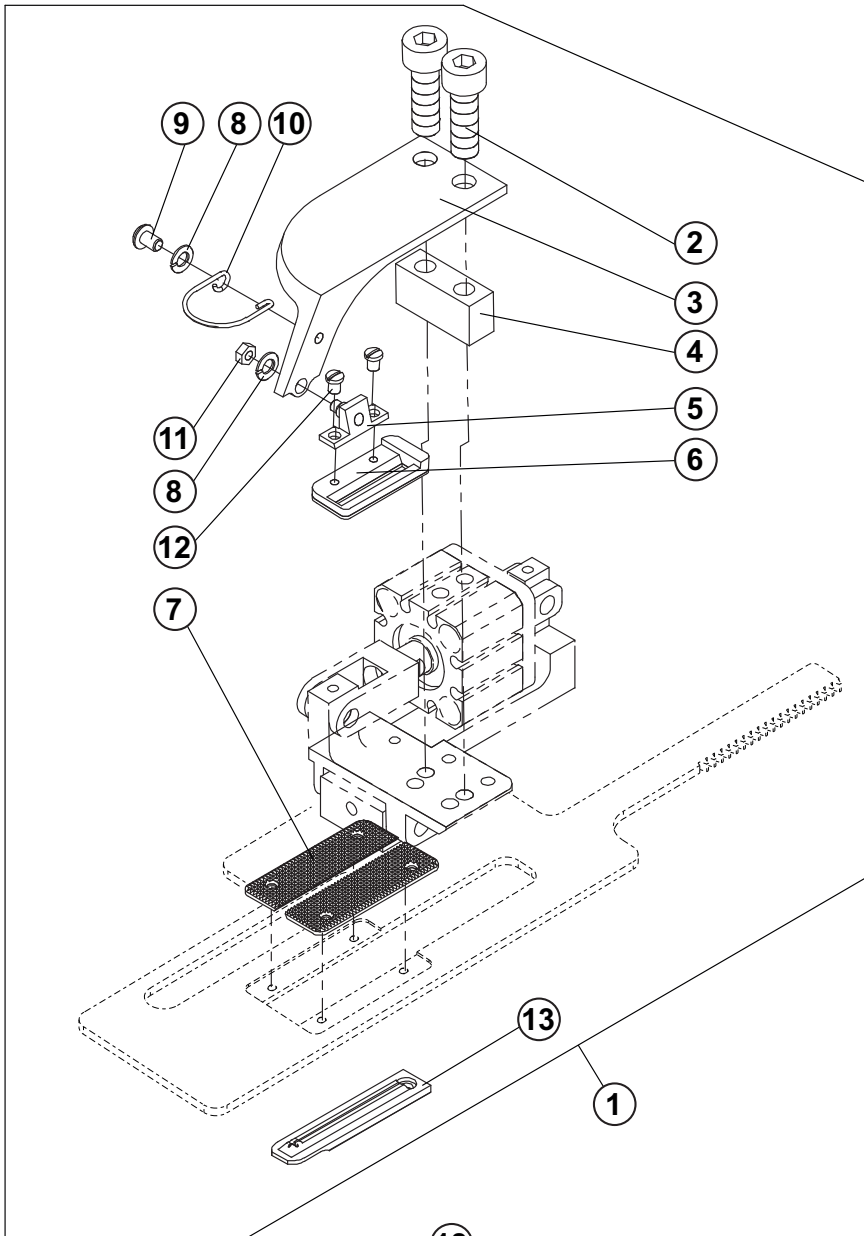
ACCESSORIES



ACCESSORIES

DET	PART NUMBER	DESCRIPTION	QTY.
01	02.0750.2.110	NEEDLE	10
02	05.1322.0.000	OIL RESERVOIR	1
03	08.6000.4.005	SCREW M4-5	1
04	08.6850.4.000	WASHER M4	1
05	12.0008.6.001	SCREWDRIVER 2,5 -75	1
06	12.0008.6.100	ALLEN WRENCH 2 mm	1
07	12.0008.6.101	ALLEN WRENCH 3	1
08	12.0008.6.102	ALLEN WRENCH 4	1
09	12.0008.6.105	ALLEN WRENCH 1,5 mm	1
10	12.0008.6.112	ALLEN WRENCH 2,5	1
11	12.0008.6.200	NEEDLE THREADER	1
12	12.0008.6.968	NEEDLES BOX	1
13	20.0094.0.000	KNIFE - TRIMMER	1
14	22.0209.0.000	GAUGE, LOOPER	1
15	22.0213.0.000	BRACKET	1
16	24.0024.0.000	NEEDLE BAR SHAFT PULLEY BRACKET	1
17	24.0030.0.000	MAIN SHAFT PULLEY BRACKET	1
18	22979047	ALLEN WRENCH 7/64	1

EXTRA PARTS



EXTRA PARTS

DET	PART NUMBER	DESCRIPTION	QTY.
01	03.5524.0.032	CLAMPING BITE 1,5-2 mm	1
02	08.6000.6.025	SCREW M6-25	(2)
03	24.3218.0.000	CLAMP ARM	(1)
04	24.3219.0.000	DISTANCE	(1)
05	22.3251.0.000	BRACEKT ASSEMBLY	(1)
06	24.3217.0.000	CLAMP FOOT-NAROW BITE	(1)
07	24.3215.0.000	CLAMPING MAT - NAROW BITE	(2)
08	08.6800.4.000	WASHER 4,1	(2)
09	08.6200.4.006	SCREW M4-6	(1)
10	24.3306.0.000	NEEDLE GUARDS	(1)
11	22.0179.0.000	NUT	(1)
12	01.2563.0.000	0,52x0,17L SCREW	(2)
13	24.3216.0.000	THROAT PLATE - NAROW BITE	(1)
14	20.0767.1.003	NEEDLE GUARD *3/4"	
15	20.0767.1.002	NEEDLE GUARD *3/8"	
16	20.0650.0.340	CLAMP FOOT *3/4"	
17	20.0650.0.240	CLAMP FOOT *3/8"	
18	24.3208.0.000	CLAMPING ARM	1

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27513603	3-25	21	1	07.6045.0.037	3-9	2	2	08.6002.5.022	3-9	6	4
01.1125.0.000	3-5	1	1	07.6045.0.037	3-21	2	1	08.6002.6.012	3-5	8	2
01.1382.0.000	3-11	1	1	07.6045.0.053	3-23	3	1	08.6012.4.010	3-15	1	1
01.1397.0.000	3-11	2	2	07.6321.0.025	3-13	1	2	08.6032.4.008	3-35	5	1
01.2084.0.000	3-17	1	1	07.6440.0.028	3-13	2	2	08.6100.3.008	3-13	6	2
01.2193.0.000	3-3	1	1	07.6440.0.033	3-9	3	2	08.6100.3.008	3-19	9	1
01.2376.0.000	3-5	2	4	07.6440.0.051	3-21	3	1	08.6100.5.012	3-15	2	5
01.2563.0.000	3-43	12	(2)	07.6600.0.004	3-35	3	1	08.6100.5.016	3-25	06	7
01.3065.0.000	3-5	3	1	08.6000.3.006	3-19	2	1	08.6100.5.020	3-15	3	1
01.5174.0.000	3-5	4	1	08.6000.3.006	3-23	4	1	08.6100.5.020	3-21	9	3
01.6551.0.000	3-3	2	1	08.6000.3.010	3-11	4	1	08.6100.5.020	3-11	6	2
01.6551.0.000	3-23	1	1	08.6000.3.010	3-13	3	1	08.6100.6.035	3-19	10	1
01.7447.1.000	3-3	3	1	08.6000.3.016	3-25	02	4	08.6102.3.008	3-9	7	1
01.7447.1.000	3-23	2	1	08.6000.3.040	3-25	03	1	08.6102.3.008	3-21	10	2
01.7804.0.000	3-3	4	1	08.6000.4.005	3-21	4	1	08.6102.4.008	3-7	2	2
01.7805.0.000	3-3	5	1	08.6000.4.005	3-41	3	1	08.6102.5.012	3-5	9	3
01.7805.0.000	3-19	1	2	08.6000.4.006	3-25	04	2	08.6102.5.025	3-21	11	1
01.7806.0.000	3-21	1	2	08.6000.4.006	3-27	1	1	08.6112.3.008	3-17	2	9
01.7809.0.000	3-3	6	1	08.6000.4.006	3-19	3	1	08.6200.4.006	3-43	9	(1)
02.0750.2.110	3-3	7	1	08.6000.4.010	3-23	5	1	08.6200.4.008	3-25	07	2
02.0750.2.110	3-41	1	10	08.6000.4.014	3-11	5	2	08.6200.4.008	3-13	7	1
03.5524.0.032	3-43	1	1	08.6000.4.014	3-13	4	2	08.6200.4.016	3-23	8	2
04.1416.1.003	3-29	4	1	08.6000.4.016	3-21	5	4	08.6200.5.008	3-21	12	1
04.9000.2.123	3-29	5	1	08.6000.4.016	3-23	6	6	08.6200.5.012	3-15	4	6
04.9015.0.362	3-29	6	4	08.6000.4.070	3-25	5	4	08.6200.5.020	3-15	5	1
04.9024.0.905	3-29	7	1	08.6000.5.016	3-3	8	1	08.6202.5.012	3-37	2	2
04.9024.0.951	3-29	24	(1)	08.6000.5.016	3-19	4	1	08.6202.5.016	3-5	10	2
05.1322.0.000	3-41	2	1	08.6000.5.016	3-23	7	4	08.6312.3.018	3-7	3	2
05.1394.0.000	3-25	01	1	08.6000.6.016	3-3	9	2	08.6312.8.060	3-31	1	16
06.1200.4.014	3-33	8	1	08.6000.6.016	3-19	5	2	08.6400.3.005	3-3	10	4
06.2400.0.019	3-35	8	1	08.6000.6.025	3-21	6	2	08.6400.4.004	3-3	11	2
06.2400.0.023	3-35	7	1	08.6000.6.025	3-43	2	(2)	08.6400.4.004	3-13	8	1
06.2400.0.621	3-29	25	1	08.6000.6.025	3-13	5	1	08.6400.4.004	3-23	9	1
06.2400.0.652	3-9	1	1	08.6000.8.025	3-21	7	2	08.6400.5.005	3-3	12	1
06.2400.0.657	3-19	37	1	08.6000.8.040	3-21	8	2	08.6400.5.005	3-21	13	2
06.2400.4.442	3-33	10	1	08.6002.3.006	3-5	5	4	08.6400.5.005	3-19	11	2
06.2400.4.443	3-33	15	1	08.6002.3.008	3-5	6	3	08.6400.5.008	3-21	14	2
06.2400.4.444	3-33	16	1	08.6002.3.008	3-9	4	2	08.6400.5.010	3-19	12	2
06.2400.4.445	3-33	13	1	08.6002.4.008	3-19	6	6	08.6400.5.010	3-23	10	1
06.2400.4.640	3-39	1	1	08.6002.4.010	3-19	7	2	08.6402.3.004	3-7	4	2
06.2400.4.657	3-9	20	1	08.6002.4.012	3-7	1	2	08.6402.3.005	3-19	13	1
06.7300.0.027	3-37	1	1	08.6002.4.012	3-19	8	2	08.6663.4.038	3-39	2	2
06.8024.4.605	3-33	13	1	08.6002.4.016	3-9	5	2	08.6663.5.025	3-35	6	2
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08.6700.5.000	3-13	9	2	08.6852.8.000	3-31	4	16	12.0010.3.099	3-39	5	2
08.6700.8.000	3-11	7	1	08.6962.4.025	3-29	23	(1)	12.0010.3.105	3-39	6	3
08.6700.8.000	3-29	8	5	12.0008.3.023	3-27	4	1	12.0010.3.106	3-39	7	1
08.6702.0.000	3-29	9	4	12.0008.3.023	3-19	16	2	12.0010.3.119	3-7	14	2
08.6702.5.000	3-9	8	1	12.0008.3.413	3-21	21	1	12.0010.3.137	3-37	8	1
08.6702.5.000	3-21	16	1	12.0008.3.415	3-37	6	-	12.0010.3.138	3-37	9	1
08.6702.5.000	3-37	3	2	12.0008.3.416	3-5	13	1	12.0010.3.141	3-37	10	1
08.6702.8.000	3-31	2	16	12.0008.3.416	3-7	10	0	12.0010.3.194	3-5	15	1
08.6710.5.000	3-11	8	2	12.0008.3.416	3-39	3	0	12.0010.3.227	3-5	16	2
08.6710.6.000	3-23	11	1	12.0008.3.416	3-23	15	0	12.0010.3.257	3-39	8	1
08.6712.5.000	3-7	5	1	12.0008.3.433	3-23	16	1	12.0010.4.013	3-3	13	1
08.6742.8.000	3-29	10	5	12.0008.3.463	3-37	7	1	12.0010.4.013	3-23	19	1
08.6752.8.000	3-29	11	4	12.0008.3.804	3-7	11	2	12.0010.4.067	3-33	2	1
08.6800.4.000	3-43	8	(2)	12.0008.4.052	3-15	8	1	12.0010.4.161	3-33	11	1
08.6800.4.000	3-11	9	2	12.0008.4.065	3-33	10	2	12.0010.4.161	3-33	12	1
08.6800.4.000	3-23	12	2	12.0008.4.100	3-21	22	1	12.0010.4.163	3-33	1	1
08.6802.0.000	3-29	12	4	12.0008.4.197	3-15	9	2	12.0010.4.251	3-33	14	1
08.6802.3.000	3-7	6	2	12.0008.4.225	3-27	5	1	12.0010.4.385	3-33	3	1
08.6802.4.000	3-7	7	2	12.0008.4.225	3-19	17	3	12.0010.4.390	3-29	22	(1)
08.6802.5.000	3-9	9	6	12.0008.4.277	3-19	18	1	12.0010.4.406	3-35	2	1
08.6802.5.000	3-37	4	2	12.0008.4.280	3-13	11	1	12.0010.4.411	3-33	9	1
08.6802.8.000	3-31	3	16	12.0008.4.366	3-35	9	1	12.0010.4.412	3-33	6	1
08.6832.4.000	3-15	7	1	12.0008.4.682	3-33	17	1	12.0010.4.413	3-33	7	1
08.6832.4.000	3-35	4	1	12.0008.6.001	3-41	5	1	12.0010.4.440	3-33	5	1
08.6850.3.000	3-23	13	1	12.0008.6.100	3-41	6	1	12.0010.4.441	3-33	4	1
08.6850.4.000	3-5	11	2	12.0008.6.101	3-41	7	1	12.1010.2.003	3-21	25	1
08.6850.4.000	3-21	17	4	12.0008.6.102	3-41	8	1	12.1011.0.001	3-21	26	1
08.6850.4.000	3-41	4	1	12.0008.6.105	3-41	9	1	12.1016.0.002	3-15	10	4
08.6850.4.000	3-13	10	1	12.0008.6.112	3-41	10	1	12.1016.0.002	3-25	09	2
08.6850.4.000	3-19	14	1	12.0008.6.200	3-41	11	1	12.1016.1.000	3-29	17	6
08.6850.4.000	3-23	14	2	12.0008.6.527	3-31	5	2	12.1045.0.004	3-23	20	1
08.6850.5.000	3-21	18	3	12.0008.6.528	3-31	6	2	12.1045.2.001	3-3	14	1
08.6850.5.000	3-25	08	4	12.0008.6.800	3-13	12	1	12.1045.2.001	3-19	19	1
08.6850.6.000	3-21	19	2	12.0008.6.801	3-29	14	5	12.2010.1.002	3-11	11	2
08.6850.8.000	3-11	10	1	12.0008.6.900	3-29	15	1	12.2050.0.003	3-3	15	1
08.6852.0.000	3-29	13	4	12.0008.6.901	3-29	16	1	12.2050.0.005	3-19	20	1
08.6852.3.000	3-7	8	2	12.0008.6.968	3-41	12	1	12.2070.1.019	3-5	17	1
08.6852.3.000	3-9	10	2	12.0010.3.027	3-21	23	1	12.3010.0.037	3-11	12	3
08.6852.4.000	3-7	9	2	12.0010.3.027	3-23	17	2	12.4030.0.002	3-19	21	1
08.6852.4.000	3-19	15	8	12.0010.3.034	3-7	12	1	12.5050.2.009	3-21	27	1
08.6852.5.000	3-5	12	2	12.0010.3.037	3-39	4	1	12.8000.0.047	3-21	28	1
08.6852.5.000	3-9	11	5	12.0010.3.080	3-5	14	1	12.8000.0.438	3-25	10	1
08.6852.5.000	3-21	20	1	12.0010.3.080	3-7	13	0	12.8000.0.446	3-39	9	1
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12.8000.1.083	3-15	12	1	22.0100.0.000	3-13	23	4	24.0002.0.000	3-3	31	1
15.4410.0.400	3-19	22	1	22.0104.0.000	3-27	7	1	24.0002.0.000	3-19	28	1
15.6005.0.990	3-29	18	4	22.0105.0.000	3-11	20	1	24.0009.0.000	3-23	27	1
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17.0019.1.062	3-13	13	1	22.0120.0.000	3-27	9	1	24.0014.0.000	3-23	30	1
17.0026.2.077	3-3	16	1	22.0161.0.000	3-23	23	1	24.0016.0.000	3-23	31	1
17.0082.8.017	3-3	17	2	22.0175.0.000	3-3	18	1	24.0018.0.000	3-19	29	1
17.0082.8.082	3-21	29	1	22.0179.0.000	3-43	11	(1)	24.0019.0.000	3-19	30	1
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17.0095.1.272	3-29	21	5	22.0183.0.000	3-13	25	1	24.0027.0.000	3-19	31	1
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19.0082.3.464	3-19	24	1	22.0214.0.000	3-13	26	1	24.0038.1.000	3-15	14	1
20.0094.0.000	3-41	13	1	22.0219.0.000	3-29	1	1	24.0039.1.000	3-23	33	1
20.0094.0.000	3-11	13	1	22.0229.0.000	3-27	10	2	24.0044.0.000	3-21	34	1
20.0111.0.000	3-11	14	1	22.0230.0.000	3-3	20	2	24.0048.0.000	3-3	32	1
20.0112.0.000	3-11	15	1	22.0232.0.000	3-11	22	1	24.0051.0.066	3-19	32	1
20.0650.0.240	3-43	17	0	22.0233.0.000	3-11	23	1	24.0055.0.000	3-13	28	1
20.0650.0.340	3-43	16	0	22.0239.0.000	3-3	21	2	24.0061.0.000	3-23	34	1
20.0650.0.640	3-5	18	1	22.0520.0.000	3-3	22	1	24.0061.2.000	3-9	12	1
20.0767.1.002	3-43	15	0	22.0525.0.050	3-3	23	1	24.0062.0.000	3-23	35	1
20.0767.1.003	3-43	14	0	22.0530.0.000	3-3	24	1	24.0063.0.000	3-23	36	1
20.0767.1.022	3-5	19	1	22.0535.0.100	3-3	25	1	24.0066.0.000	3-11	30	2
22.0006.0.000	3-19	25	1	22.0540.0.000	3-3	26	1	24.0067.0.000	3-25	14	1
22.0008.0.000	3-13	14	1	22.0541.0.000	3-3	27	1	24.0068.0.000	3-25	15	1
22.0009.0.050	3-13	15	1	22.0542.0.000	3-3	28	1	24.0093.3.004	3-7	15	1
22.0020.0.000	3-13	16	1	22.0545.0.000	3-3	29	1	24.0100.0.000	3-3	33	1
22.0022.0.000	3-11	16	1	22.0545.0.000	3-19	26	1	24.0106.1.000	3-21	35	1
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22.0029.0.000	3-13	19	2	22.1422.0.000	3-23	25	1	24.0112.0.000	3-25	16	1
22.0030.0.000	3-13	20	1	22.1436.0.000	3-23	26	2	24.0119.0.050	3-21	37	1
22.0031.0.000	3-11	17	2	22.2410.0.000	3-11	24	1	24.0125.2.000	3-5	20	1
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22.0054.0.000	3-21	30	1	22.2440.0.000	3-11	26	2	24.0141.1.000	3-27	12	1
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