

# TGEE International BV

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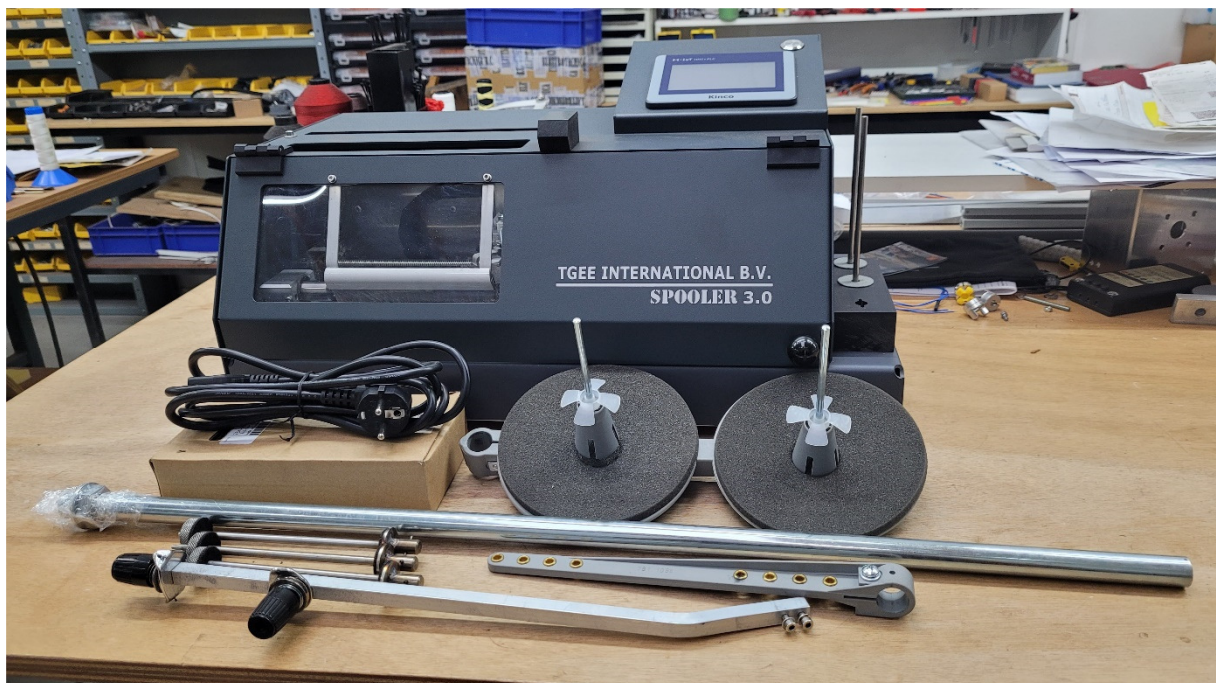
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## TGEE SPOOLER 3.0

Automatic Bobbin Winder

### Technician Manual



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## Preface

Read this user manual carefully before transporting, installing and using the machine.

This machine has been developed and manufactured according to the latest technologies. This means that the machine adheres to the applicable European Guidelines with regards to health and safety. The machine is CE-certified.

The manufacturer is not liable for any unsafe situations, accidents and damages that are the result of:

- ignoring warnings or regulations as depicted on the machine and/or described in this manual.
- insufficient maintenance.
- using the machine for other means other than stated in paragraph 1.2.
- changes to the machine by third parties. This also covers installing replacement parts other than those described in the manual as well as changing the operation system.

This user manual contains relevant information for transport, installation, use, maintenance, repair, and dismantlement. These guidelines are to be closely followed.

## 1 Introduction

### 1.1 Manufacturer Information

Manufacturer:	TGEE - Teus Gijsbertsen Embroidery Engineering
Address:	Zuiderlaan 2, Aalten
Postal Code:	7122 AC
Tel.:	+31(0)623877195
Fax.:	+31(0)543472360

Machine Name:	METAL-SPOOLER 3.0
Build Year:	2022
Machine Number:	SP-xxxx

### 1.2 Intended Machine Application

The METAL-SPOOLER 3.0 is used for the continued, automatic spooling of thread spools from a storage spool. The allowed dimensions of the spool are:

- external maximum of ←34mm.
- a span diameter of ←5.4 tot Ø7.5mm depending on the client's spools.
- and a width depending on the client's spools.

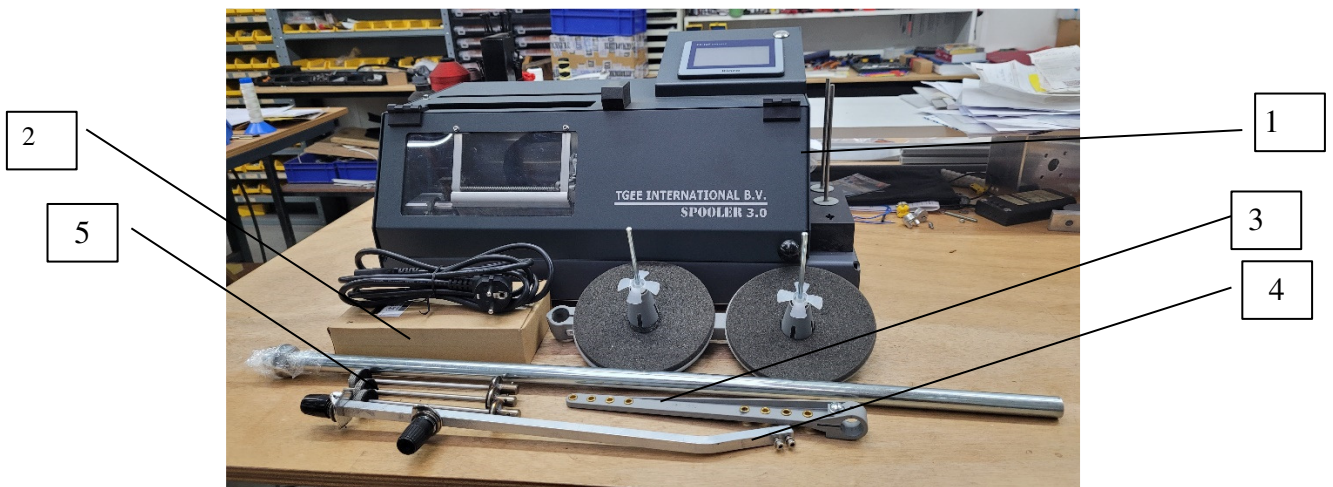
The machine can only be used in the embroidery industry or an industry with similar applications (for example the sewing industry for automotives). Other applications are not allowed. Damages and injury caused by applications other than the above are the sole responsibility of the user.

### 1.3 Supplied Components of the TGEE 3.0 SPOOLER

The TGEE 3.0 SPOOLER is supplied with the following components:

- 1 base unit
- 2 AC-Adapter (input 100-240V 1.5A 50-60Hz, output 24VDC-3.0A), with earthed plug.
- 3 Yarn cone holder, supplied in threefold.
- 4 thread guide with Yarn tension regulator
- 5 clamping axes bobbins 3x

For assembly of the thread guide, see paragraph 5.2.1.



## 2 Transport en Installation

### 2.1 Transport

The machine is preferably transported horizontally.

### 2.2 Installation

Check the machine and the threads for any form of damage.  
Ensure that the cables are not put under strain or are cut off.

## Installing the fixed and mobile thread guide

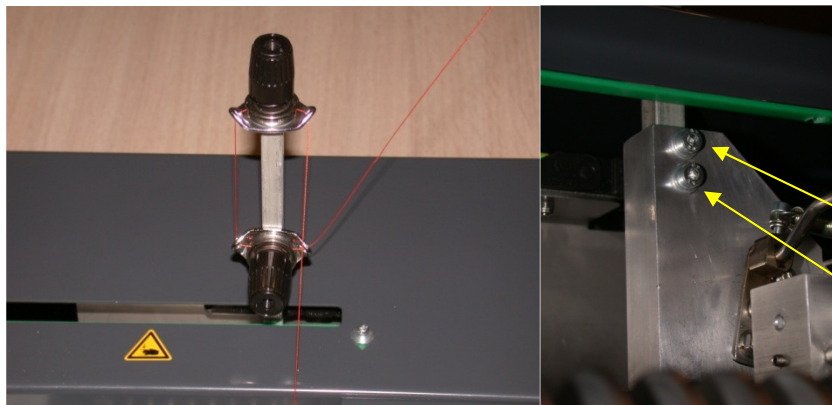
Installation order:

install the console to the fixed thread guide using the big nut on the base frame.



Big Nut

install the rod with the adjustable thread using the two bolts on the mobile support.



Screws

### 2.3 Storing the machine.

Store only in a heated warehouse with a temperature between **-3 and 30 degrees** Celcius and a maximum humidity of 65%.

#### Maintenance (Mechanical)

During maintenance, the main switch needs to be switched off at all times. Maintenance and checkups need to be done by trained technicians.

Daily maintenance: by the operator:

removal of excess thread.

removal of excess dust.

check whether the work station is free of obstacles.

Monthly maintenance: by a trained technician

check the visual situation of the power cable. If the cable is damaged, replace it or contact the machine supplier's customer service.

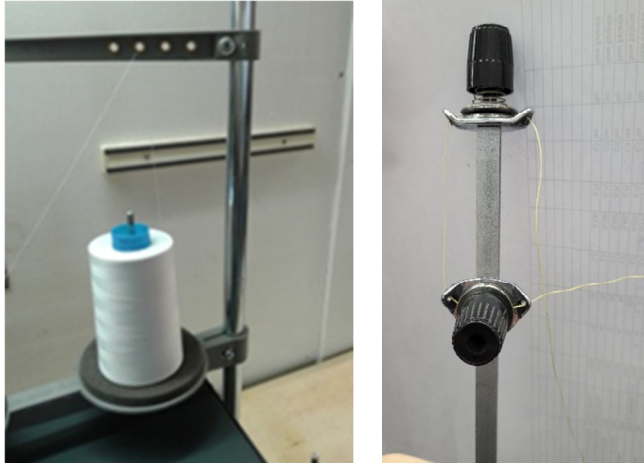
check conductors and bearings on wear and tear and replace if necessary.

check the machine for loose parts and tighten if necessary.

check the spools and guides for wear and tear and replace if necessary.

### 5.2.1 Procedure for attaching the thread

First pull the yarn through the upper arm, with stiff yarn through several rings



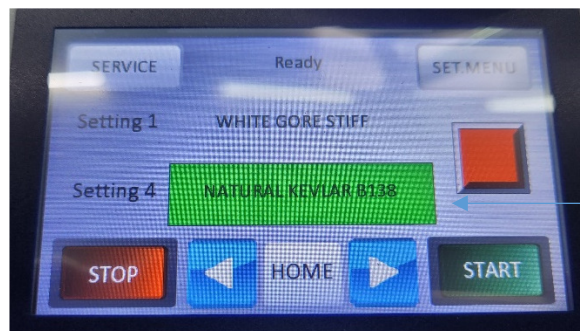
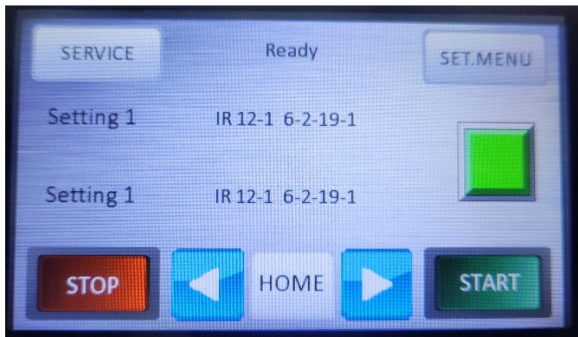
Then to the bottom regulator, from right to left along the bottom (long side), then to the upper regulator from left to right along the back(long side), and then to the bobbins.

# How to operate the machine (Operator)

Machine is mechanical the same as it was before the Update to the PLC with display, so now only a manual for the use of the PLC display.



First when the cable connected start with the Mainswitch



This is what you see after Start Up:

**START** and **STOP** as it was before \*)

SERVICE (only for TGEЕ Technician) and SET. MENU (for the operator) for change the settings if needed

Setting 1 and Setting 2: choose 1 of them, important because every setting has a different time setting

**< HOME >**

With the buttons **<** and **>** choose to move the Linearwagon to the Left or Right to set sensor 2 (the left sensor) somewhere in the middle of the free next bobbin, then you can start from there.

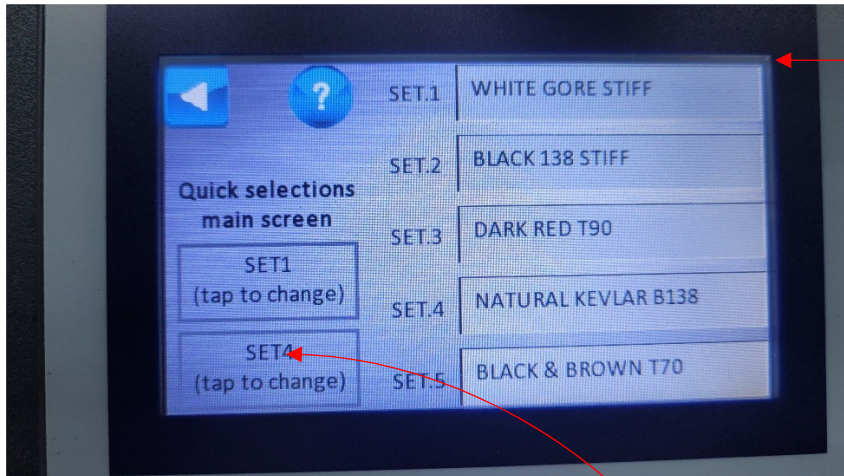
Use HOME when the linearwagon is somewhere in the middle and have to go back in HOME position, to start with a new axle with empty bobbins,

**START** Push and the machine will search for the good position and start winding, also when the machine is stopped when the Sensor 1 is in counting mode (right sensor is blink on) then the Linearwagon is moving to next bobbin, If not blinked on the machine start finish the current bobbin

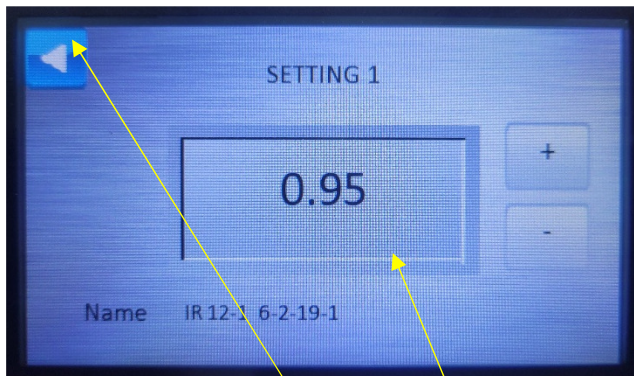
**STOP** This will stop the winding when needed, and also when hold the button the Machine will go back to HOME


**IN CASE OF A PROBLEM OR ERROR: FIRST SWITCH OFF POWER SWITCH!**

Solved the problem and continue the winding process



If the bobbins are too much or too little filled: choose SET. MENU  
 In here you set the Winding time after Sensor 1 (the right one) see the yarn  
 Select a setting (for example SET. 1)



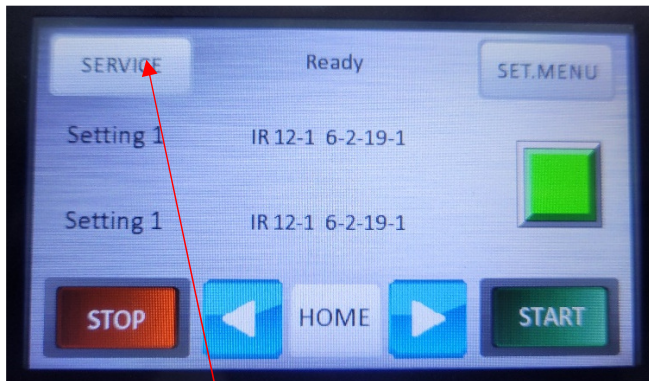
Now push on the number and set a different time: 0.05 make already a big difference. Go back with  to the START Menu

In the SET. Menu we can make 5 different settings for 5 different type of Yarn, we need, 2 of these yarn settings go to the START Menu, choose the 2 you needed.

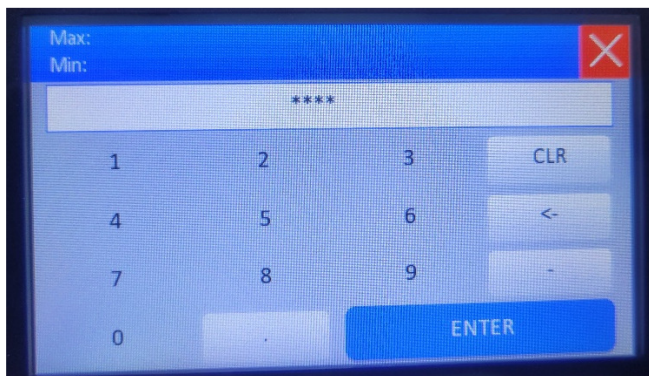
When the machine is running or not, and the display is not used the screen goes into screensaver, so nothing to see, touch 1x on the screen and you see the graphic again.



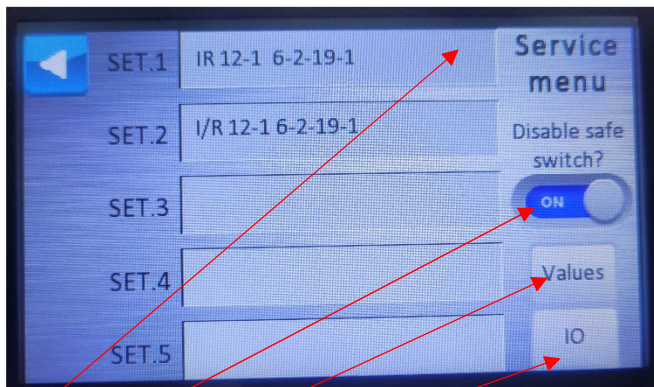
# Technician Part: (Technician)



Go to SERVICE



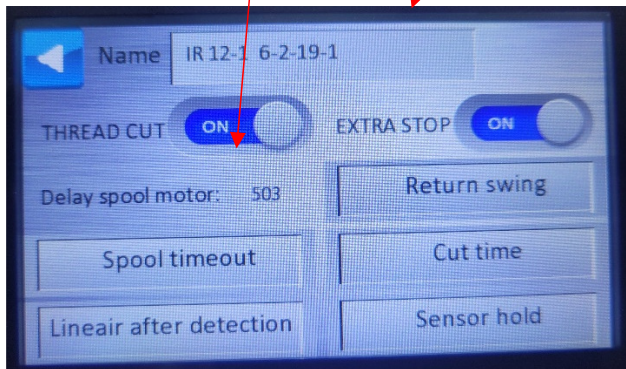
Give in the code to go into the SERVICE menu: code is 0149



A B C D

**A** Here you set: the name of the setting,  
and a **important number**

when we working with a STOP in the changes: **Delay spool motor** – the number is in miliseconds so 503 is a half second, this is the time the spoolmotor is running after the lineair wagon is running, so with 503 the lineairwagon start and after a ½ second the spool motor stops running.



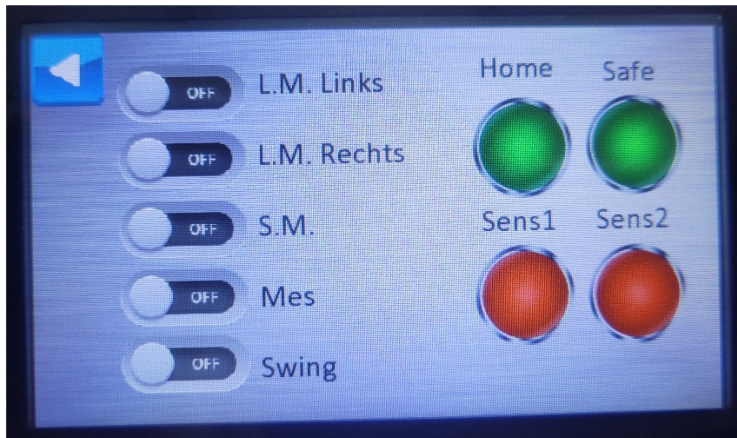
Here we say: do we use TREAD CUT or EXTRA STOP will depend on: can we cut the tread yes or no, in Automotive we have often thick tread so can not be cut, and then the cutter is also not build up. Wen we have bounded tread or thick tread it is sometimes good to use the STOP wen the machine chances from bobbin to bobbin

The other 5 setting we can do also in Values, and there it go faster, so that is what we do

**B** Here you set: with or without working with the SAVE SWITCH, only wen you give Service turn out, do not use in operational mode

	Lin. Spool time	Sp. time out	Lin. time out	Lin. after dect.	Retu. swing	Cut time	Sens hold	T.C.	E.S.
Set. 1	5.70	6	32	1.50	0.75	0.75	1.20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Set. 2	1.90	6	32	1.50	0.75	0.85	1.20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Set. 3	4.00	6	32	1.50	0.75	0.75	1.20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Set. 4	3.50	6	32	1.50	0.75	1.00	1.20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Set. 5	5.50	6	32	1.50	0.75	0.85	1.20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

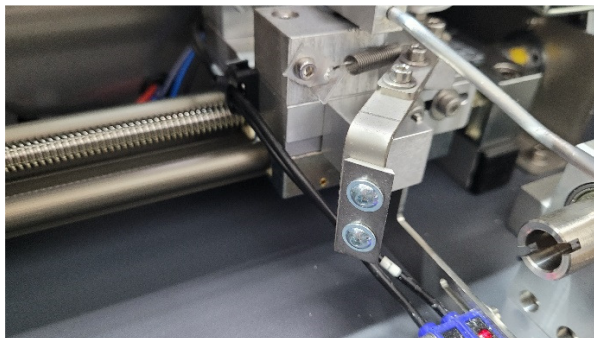
**C** Values: here you set all the time settings, and T.C. (Tread Cut), E.S. (Extra Stop) very fast, for all the 5 settings



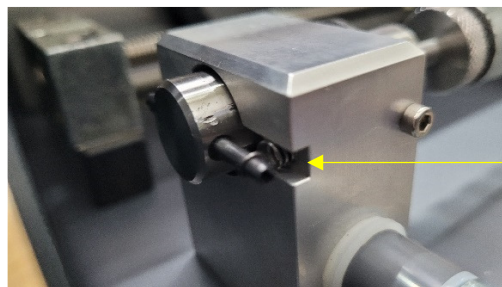
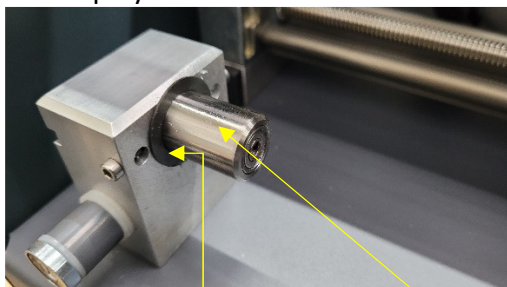
**D** IO: here you can test the parts separate, L.M Links and L.M. Rechts start only wen the machine is in HOME mode

The lights for Home, Save, Sens 1, Sens 2 light up green wen they activated.

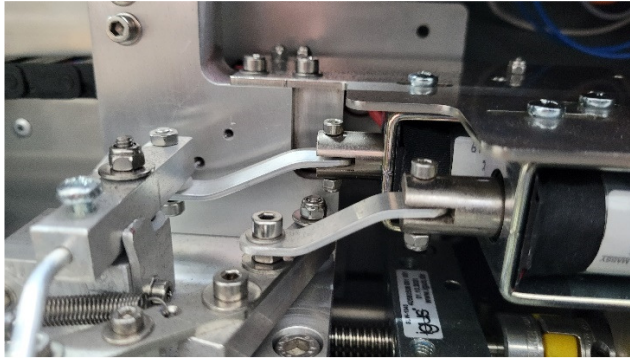
### Main Components and General Description of the TGEE SPOOLER 3.0



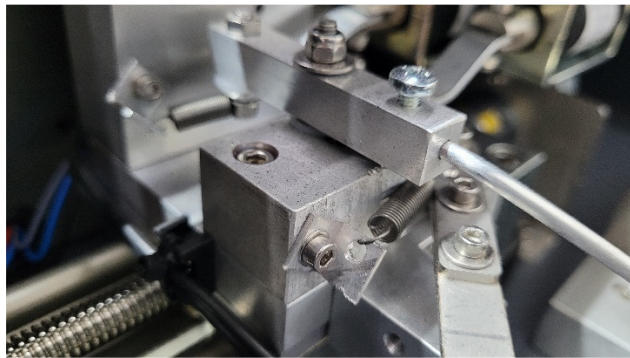
The knife is used when the yarn is not too thick, otherwise cut manually, this is adjustable on the display



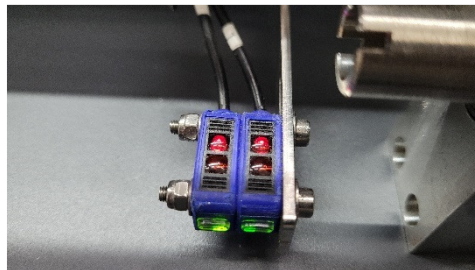
The clamping block: provide an oil film on the sliding shaft to prevent vibration, if there is too much clearance on the shaft replace the plain bearings, if the springs are stretched: replace,



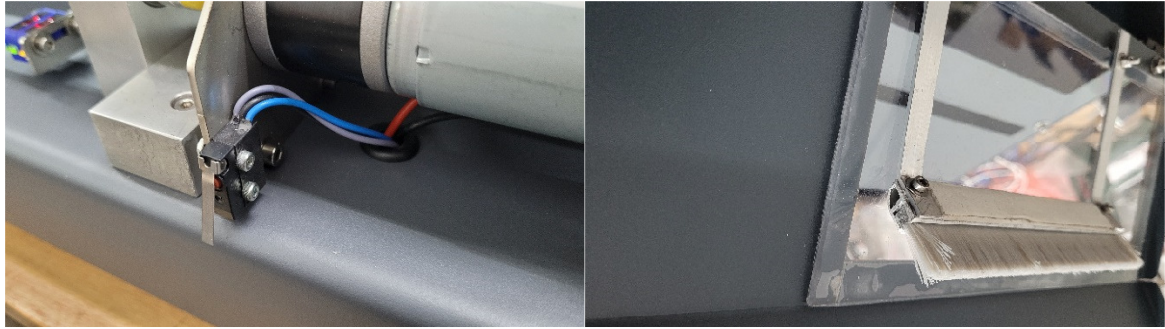
The solenoids control the swing arm and the blade, do not adjust anything if not necessary, after prolonged use the shift rods can wear out: then replace.



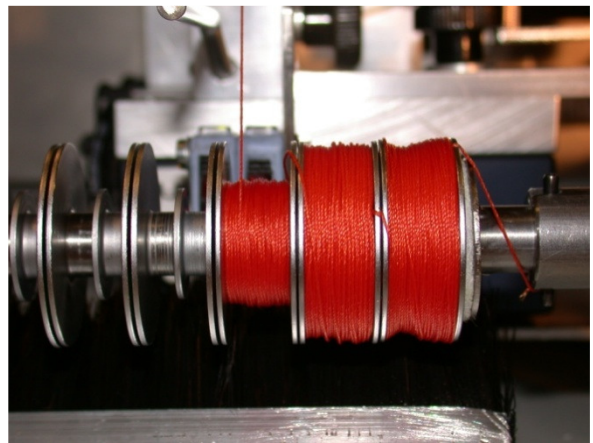
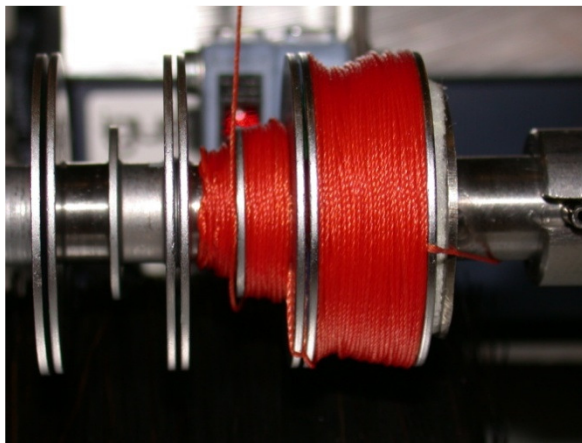
The solenoids are pulled back by the external springs, if stretched: replace



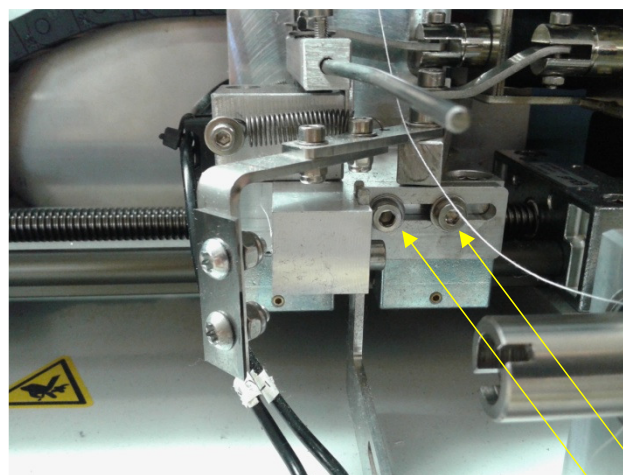
The sensors: sensor on the right (no. 1) sees the yarn approaching and at 15 mm the sensor sees the yarn and switches the PLC, sensor on the left (no. 2) looks at the side of the bobbin, as the linear carriage makes the change to the next spool this sensor ensures the correct position, always keep these 2 sensors clean from dust and dirt. Check from time to time that the red dot of the sensor is exactly in the middle of the bobbin diameter, not the bobbin width, which is not always in the middle



Safety switch, only when the valve is closed will the machine work (the technician may switch it off when he/she performs maintenance on the machine)  
The valve must also be closed for the spoolprocess to run smoothly, otherwise the bobbins that are ready will un-wind themselves, the brush holds the yarn in position.

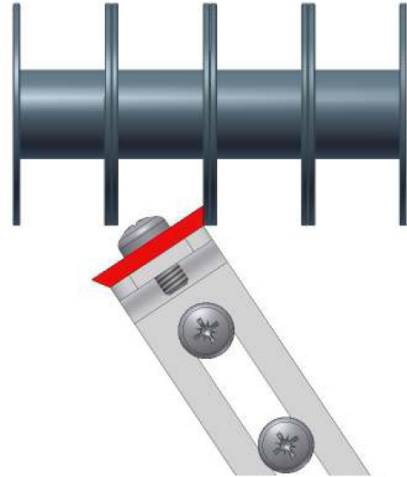
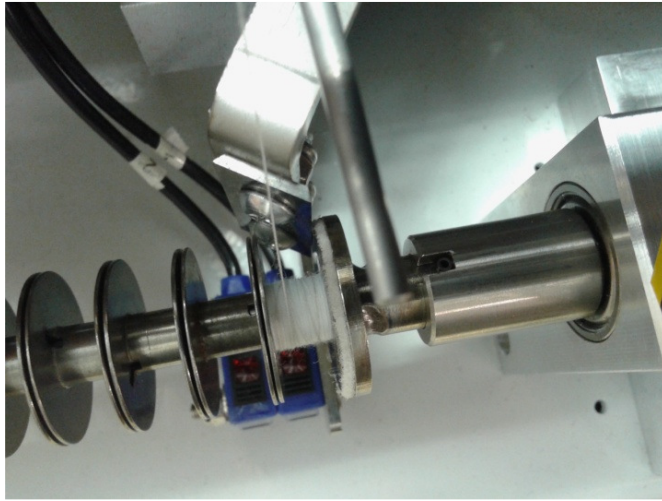


On the left you can see that the bobbin is not winding up properly, on the right you can see that the machine is winding up well there

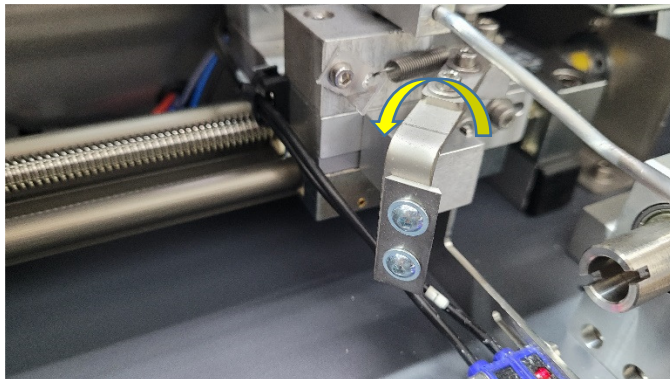


If the bobbin goes too much to the left adjust this sensor block (2 screws) a little to the left, if the bobbin goes too much to the right adjust this sensor block a little to the right, the position of the thread regulator will change relative to the center of the bobbin , for an optimal result, these 2 points must be perfectly aligned

## Setting of the automatic cutting knife, if needed



Adjusting the blade, the blade will cut the yarn, not the side of the bobbin,



If the knife does not cut well, bend it slightly with pliers

# Responsibility and Safety

## 2.4 Responsibilities

Read the manual carefully before transporting, installing, operating, maintaining or servicing the machine.

It is not allowed to adapt or change the machine without the manufacturer's permission.

This manual contains vital information for an optimal and safe operating environment of the machine.

Installation, maintenance and other service activities may only be executed by authorized personnel.

The machine can only be operated by one person.

## 2.5 Safety Measures

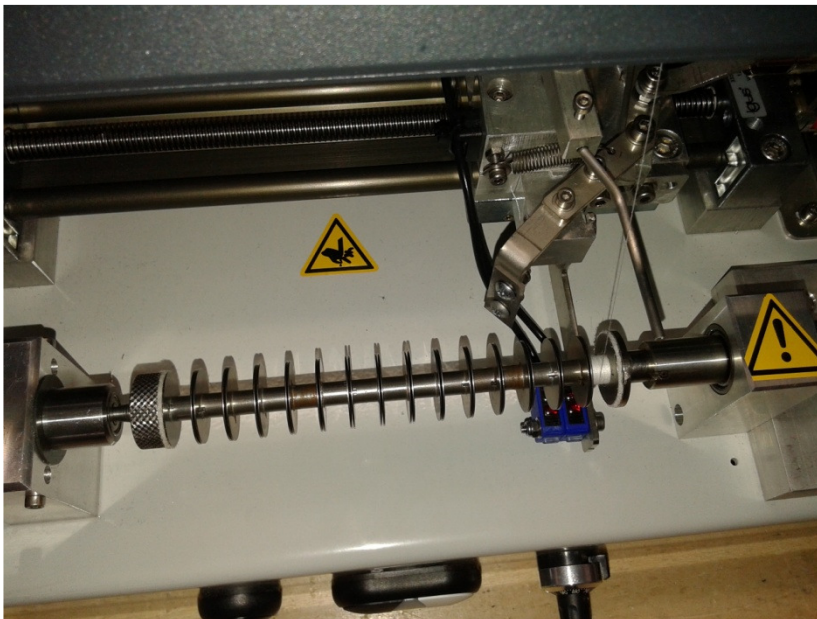
Various measures have been taken to ensure safe operation to prevent pinching, crushing or other danger during use. The measures applied may only be removed by an authorized technician for maintenance or service and only if this is strictly necessary. Several safety measures have been implemented to guarantee safe and secure operation of the machine and to prevent getting stuck, wounded or any other form of danger.

Take care that the measures are applied before the main switch is activated and the machine is taken into production again.

Several safety measures have been implemented on the machine:

Several pictograms, see paragraph 2.3 and 2.4.

Safety cover which controls a security switch. The machine will stop working when the cover is opened.



## 2.6 Pictograms

### 1) Indications of Danger



Take care: danger of hands or fingers getting stuck.  
Take care: electric charge or general danger.

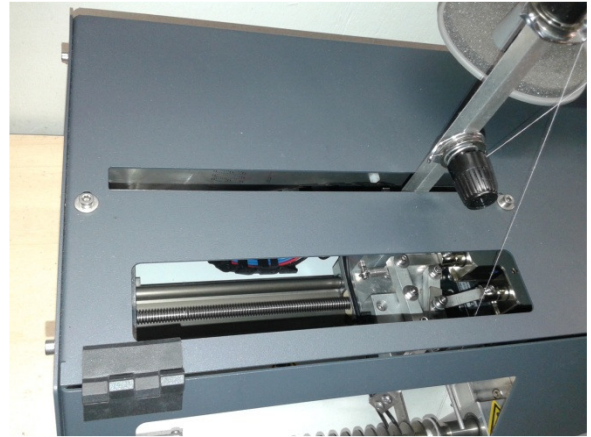
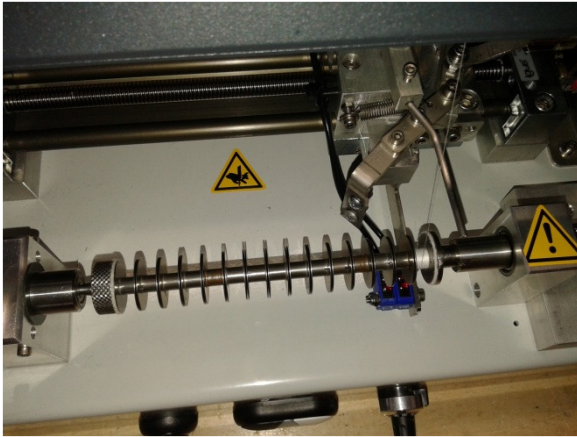


## 2.7 Pictograms depicted at the place

of danger on the machine







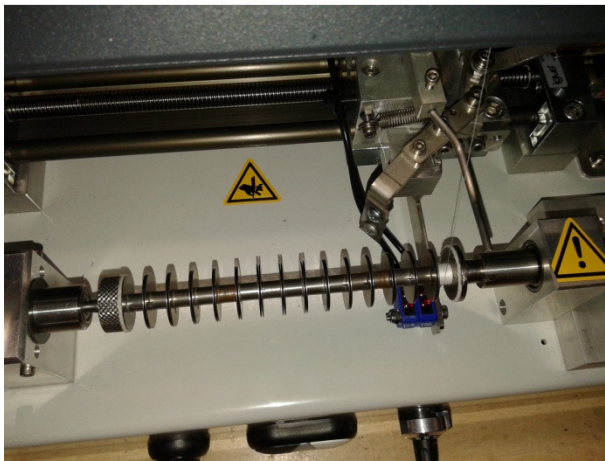
a single possible electric charge warning on the bottom of the protective cover  
two general danger pictograms  
two possible risk of getting stuck pictograms

### Dangerous Zones

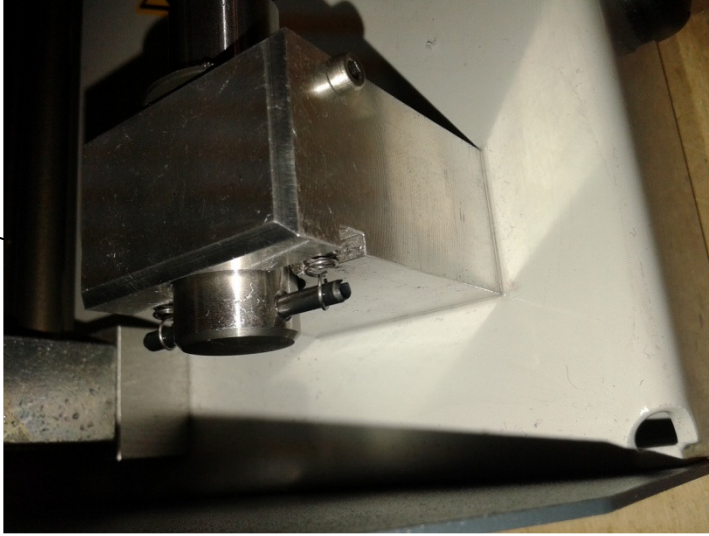
The following situations could lead to injury if they are not dealt with carefully.

#### 2.7.1 Dangerous zones for the machine's operator during production

1. Slight injuries to hand or fingers due to the machine's parts when the safety cover is opened, especially when fixing the thread.



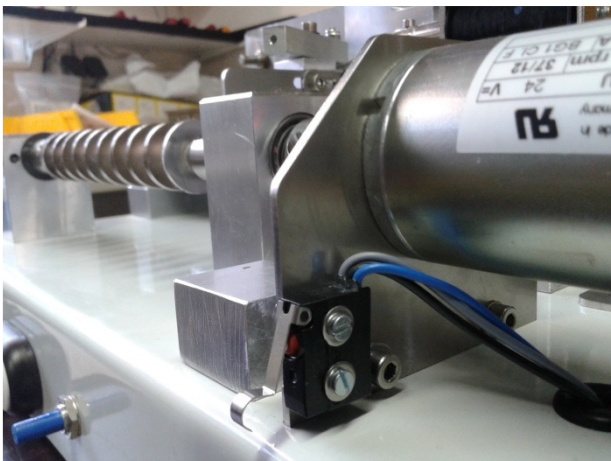
2. Slight danger of getting fingers stuck between fastener head and fastener coil during placement or removing of the spool holder.



Danger of getting several fingers in between the fixed cover and the mobile thread guide.



3. During normal use, no dangerous situations can arise as the machine is fitted with a safety switch that stops the machine's movements the moment the safety cover is opened.



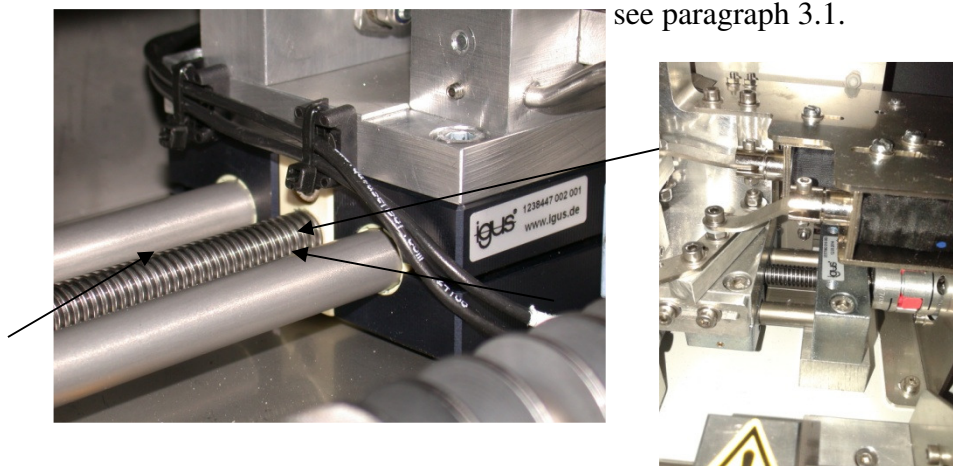
## 2.7.2 Dangerous zones during maintenance and service to the machine

Lees deze aandachtig door. For maintenance and service personnel there are several dangerous situations that can arise when the machine is in production.

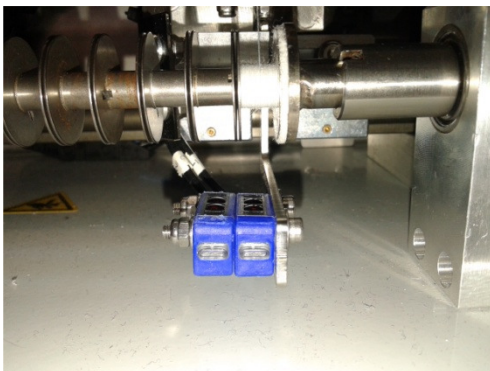
In order to maintain and service the machine, the safety switch needs to be overrided. During testing, the machine's movements can cause several dangerous situations:

Take care that all the machine's parts are back in position before the main switch is activated and the machine is back in use.

4. Severe danger of getting stuck with possible permanent injury is possible between the base frame and the mobile support on both sides of the support. This is only possible if the safety switch has been disabled and the start button is continuously pressed. Also



5. Danger of getting stuck between the sensorholder and the base frame's assembly area.



6. Danger of getting stuck or pulled in at the traction coil and the mobile support on both sides of the bolt position.

Danger of getting stuck between the mobile support and the cable fixture on the back panel. This is only possible if the safety switch has been disabled.

### 3 (Spare) Parts List

For wear and tear and spare parts, we would like to redirect you to TGEE's website:  
[www.tgee.eu](http://www.tgee.eu)

Technical data

#### 3.1 Electrical

Power supply: Adapter (input 100-240V 1.5A 50-60Hz, output 24VDC-3.0A),  
supplied with earthed plug.

#### 3.2 Mechanical

Mass : 16 kg  
Base dimensions (lxbxh) : ca 560x330x220 mm  
Max. height : ca 750 mm

#### 3.3 Cycle time

The cycle time is, amongst others, dependent on the spool types used.

#### 3.4 Machine packaging

Mass : -  
Dimensions of box (lxbxh) : -

### **Dismantling and Removal**

When dismantling the machine, metal and plastic parts can be disposed of at a suitable location.

Dismantling has to be done by authorized personnel or by a specialized company.

Traction parts are to be disposed of in an environmentally safe manner.

## 4 Appendices

### 4.1 EG – Declaration of Conformity TGEE

Appendix A

EG-DECLARATION OF CONFORMITY FOR MACHINES  
(Conform Appendix II, sub A of Guideline 2006/42/EG)

Manufacturer : TGEE - Teus Gijsbertsen Embroidery Engineering International BV

Adres : Zuiderlaan 2  
7122 AC Aalten

hereby declares that:

Machine type : METAL-SPOOLER  
Machine number : SP xxxx

adheres to the terms of the Machine guideline (Guideline 2006/42/EG, as in its latest version) and the national laws regarding the execution of this guideline;

adheres to the terms of the following other EG-guide lines:

Low voltage and EMC. Guide line

and that

- the following (parts of) harmonized norms are applied:

EN 292-1, EN 292-2, EN 294, EN 60204-1, and EN 50065-1

- the following (parts of) national technical norms and specifications are used:

n/a

Signed at: Aalten Holland , \_\_\_\_ - \_\_\_\_\_ 20\_\_

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Dhr. T.J. Gijsbertsen