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METAL-SPOOLER 2.0



Table of Contents

Preface	4
Introduction	5
Manufacturer Information	5
Intended Machine Application	5
Supplied Components of the METAL-SPOOLER	6
Main Components and General Description of the METAL-SPOOLER	7
Responsibility and Safety	11
Responsibilities	11
Safety Measures	11
Pictograms	12
Pictograms depicted at the place of danger on the machine	12
Dangerous Zones	14
Dangerous zones for the machine's operator during production	14
Dangerous zones during maintenance and service to the machine	16
Instructions for Operation	18
Control Switch Functions	18
Startup Procedure for the METAL-SPOOLER	20
Calibration Procedure	25
Calibrations by the machine's operator	25
Setting S1 and S2 measuring sensor	25
Setting thread tension	26
Setting the thread guide on the mobile support	26
Transport en Installation	28
Transport	28
Installation	28
5.2.1 Installing the fixed and mobile thread guide	28
Storing the machine.	29
Maintenace (Mechanical)	29
Overview of points that can be sprayed with teflonspray - PTEE spray TF 089 (GRIFFON)	30
Dismantling and Removal	32
(Spare) Parts List	33
Technical data	34
Electrical	34

Mechanical	34
Cycle time	34
Machine packaging	34
Appendices	35
EG – Declaration of Conformity TGEE	36



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
Build Year:	2009
Machine Number:	SP-xxxx (underneath SPOOLER)

1.2 Intended Machine Application

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

external maximum of $\leftarrow 34\text{mm}$.

a span diameter of $\leftarrow 5.4$ tot $\text{Ø}7.5\text{mm}$ 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 METAL-SPOOLER

The METAL-SPOOLER is supplied with the following components:

- base unit

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

- spool holder, supplied in threefold.

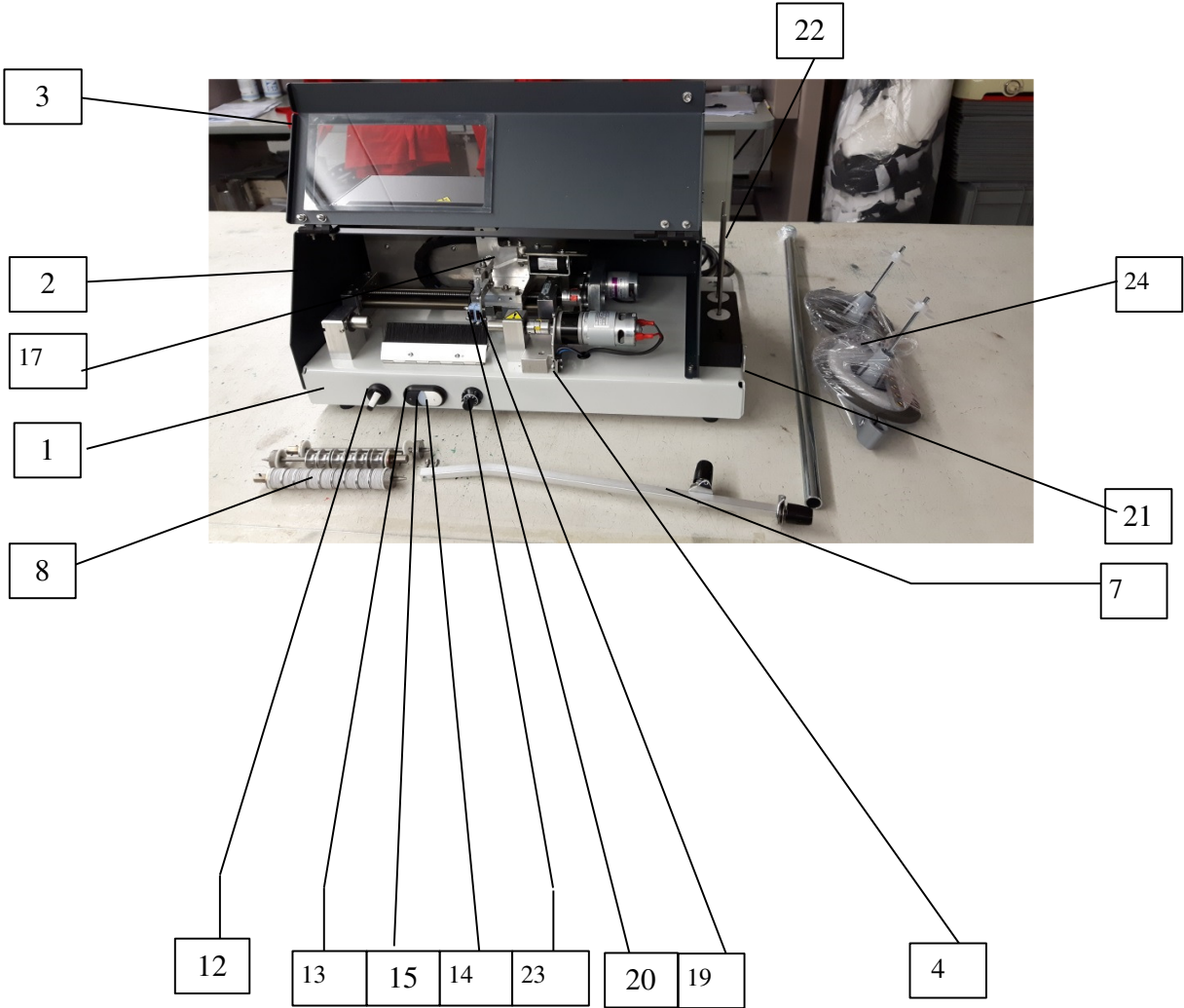
- thread guide with console.

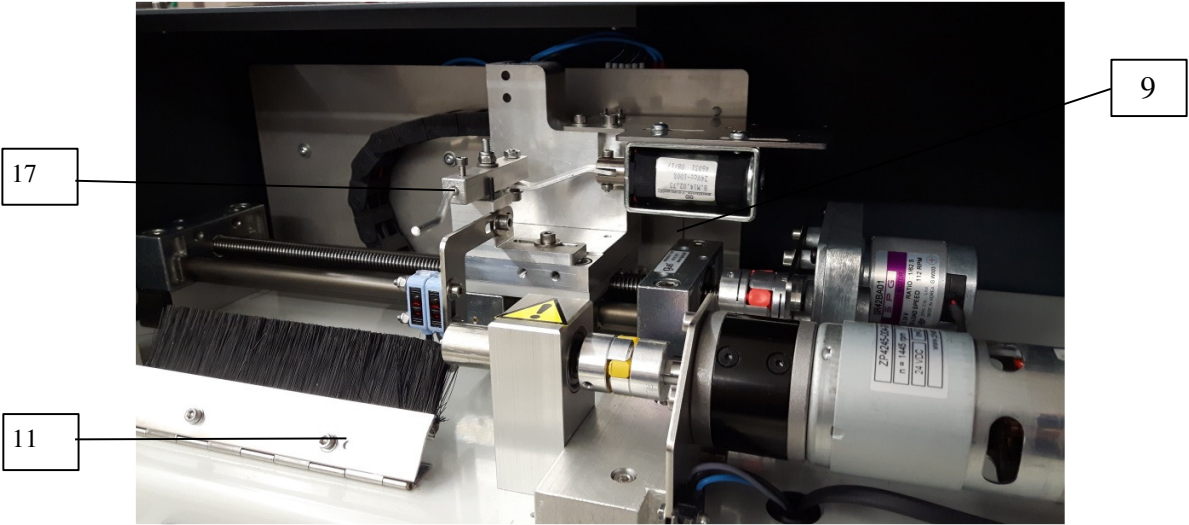
- thread guide for mobile support.

For assembly of the thread guide, see paragraph 5.2.1.

Main Components and General Description of the METAL-SPOOLER

1. Base frame fitted with control switches
2. Fixed protective cover
3. Safety cover
4. Safety switch
5. Storage spool setting
6. Spool settings (storage position empty and filled spools)
7. Thread guide (fixed and mobile)
8. Spool holder
9. Mobile support with thread guidance and swing-arm
10. Spool holder traction
11. Brush
12. Main switch
13. Stop button
14. Start button
15. Function LED
16. Thread coil divider
17. Swing-arm
18. Thread tension settings button 2
19. Sensor S1
20. Sensor S2
21. Cutting blade
22. Storage position spool holder
23. Fine Tuning bobbins for diferend Yarns
24. Thread coil guide





Depending on the client's machine, several separate spools are placed on the spool holder. The holder is placed on the machine. The thread is then fixed and wound several times around the far-right spool. The safety cover is closed and the machine can be started. When the first spool is almost filled, the mobile support switches to the next spool. This cycle is repeated until all spools are filled. Afterwards, the mobile support returns to its 'home' position (far-right) and the spool holder axis traction stops.

It is possible to pause the machine by pressing the stop button, open the safety cover for inspection and closing it afterwards. The cycle can be continued by pressing the start button. The machine will stop automatically when it is finished.

Such a stop can also be used to wind up a smaller number of spools. Someone needs to attend to the machine to realize the planned stop. When sufficient spools are completed, press the stop button twice and the start button once; the machine will stop automatically when it is back in its 'home' position.

Depending on client preference, the machine can be outfitted with a RPM control, which allows the correction of the spool axis RPM rate.

Responsibility and Safety

1.4 Responsibilities

Lees alvorens te beginnen met transport, installatie, bediening, onderhoud of service aan de machine eerst de handleiding goed door. 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.

1.5 Safety Measures

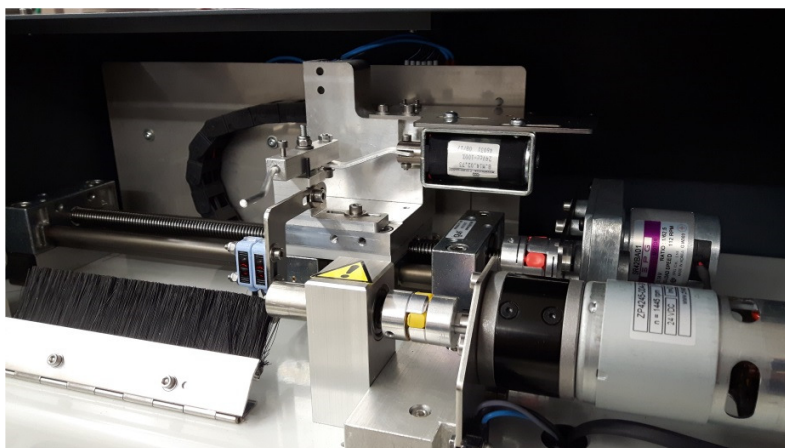
Voor het voorkomen van klem- of knel- of ander gevaar tijdens het gebruik, zijn verschillende voorzieningen getroffen om een veilige bediening te garanderen. De aangebrachte maatregelen mogen alleen door daartoe bevoegde technicus worden verwijderd, t.b.v. onderhoud of service en alleen als dit strikt noodzakelijk is. 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.



1.6 Pictograms

1) Indications of Danger



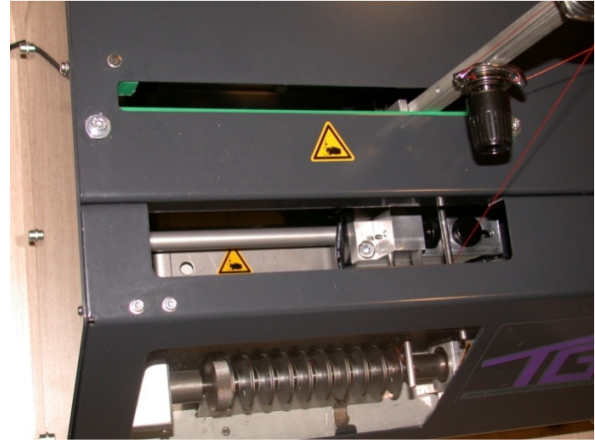
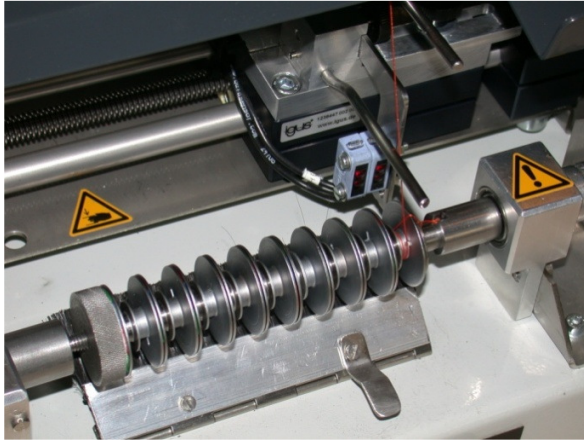
Take care: danger of hands or fingers getting stuck.
Take care: electric charge or general danger.



1.7 Pictograms depicted at the place

of danger on the machine





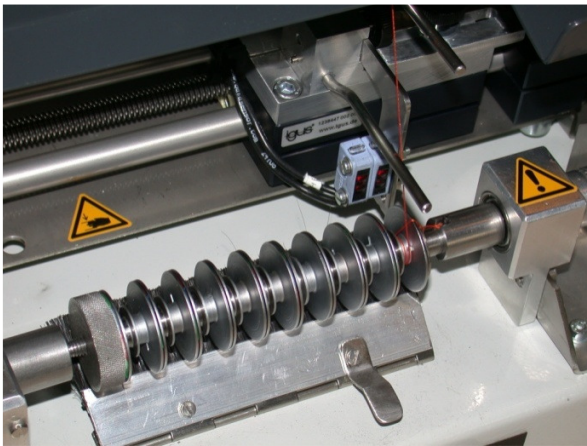
a single possible electric charge warning on the bottom of the protective cover
two general danger pictograms
two possible risk of getting stuck pictograms

1.8 Dangerous Zones

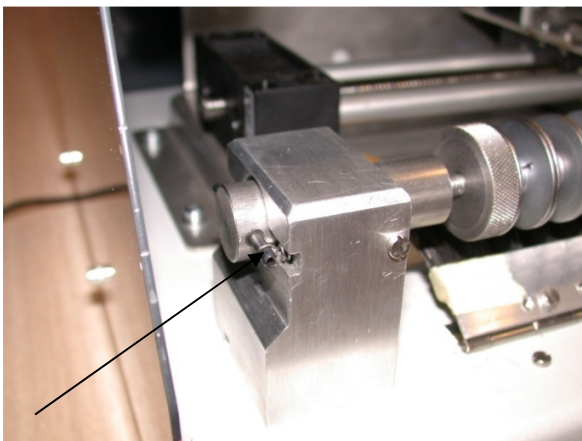
The following situations could lead to injury if they are not dealt with carefully.

1.8.1 Dangerous zones for the machine's operator during production

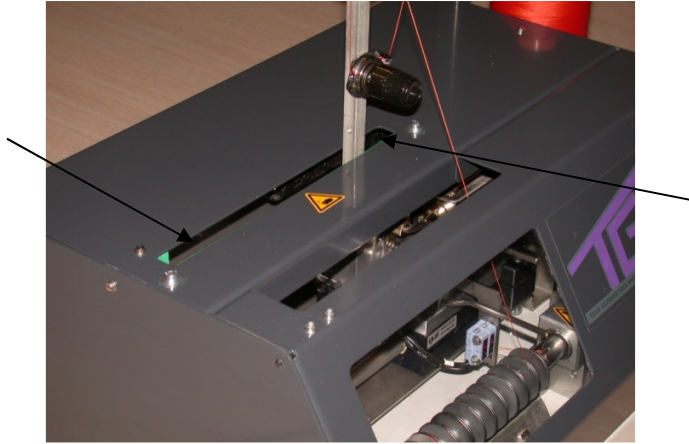
1. Slight injuries to hand or fingers due to the machine's parts when the safety cover is opened, especially when fixing the thread.



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



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



4. 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.



18

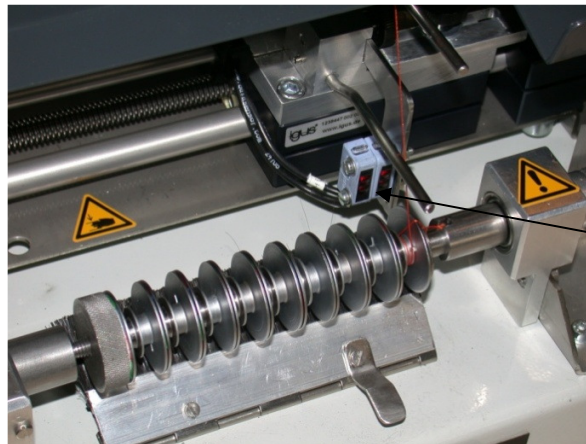
1.8.2 Dangerous zones during maintenance and service to the machine

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

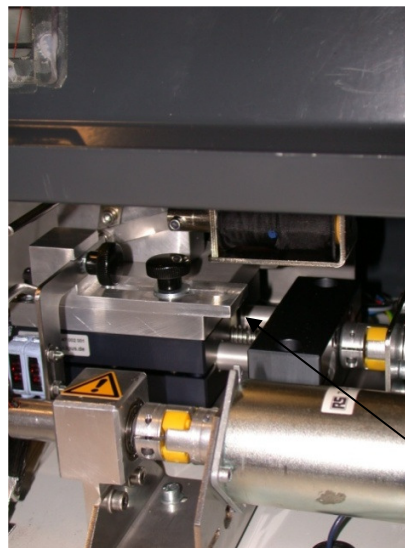
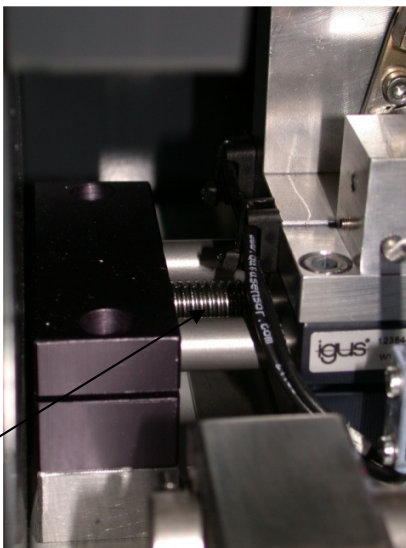
In order to maintain and service the machine, the safety switch needs to be overrided. During testing, the machine's movements can cause several dangerous situations:

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.

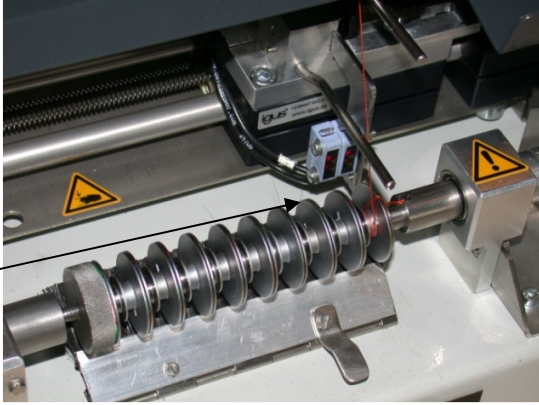
5. Severe with possible possible the mobile support. This safety switch start button Also see



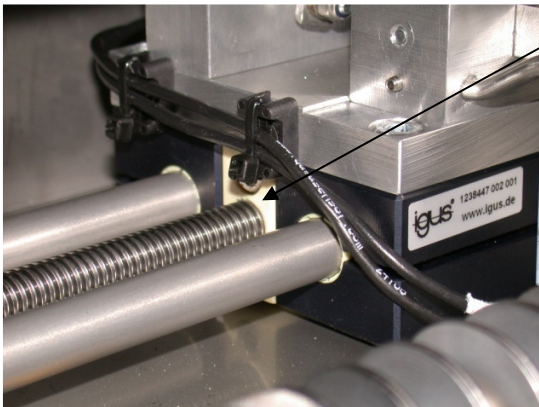
danger of getting stuck permanent injury is between the base frame and support on both sides of the is only possible if the has been disabled and the is continuously pressed. paragraph 3.1.



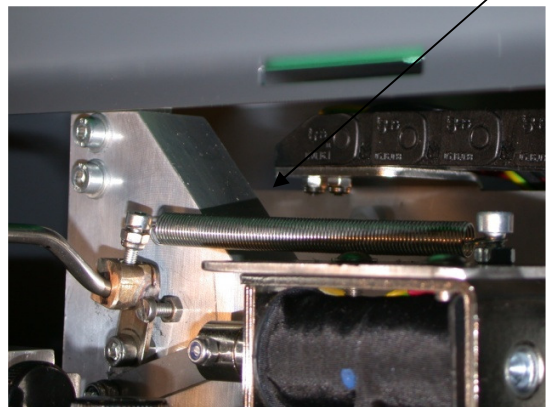
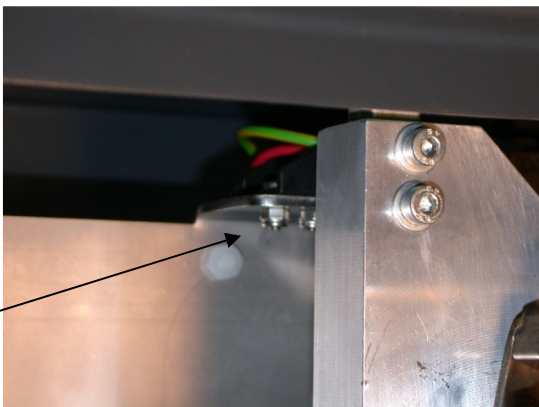
6. Danger of getting stuck between the sensorholder and the base frame's assembly area.



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



8. 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.

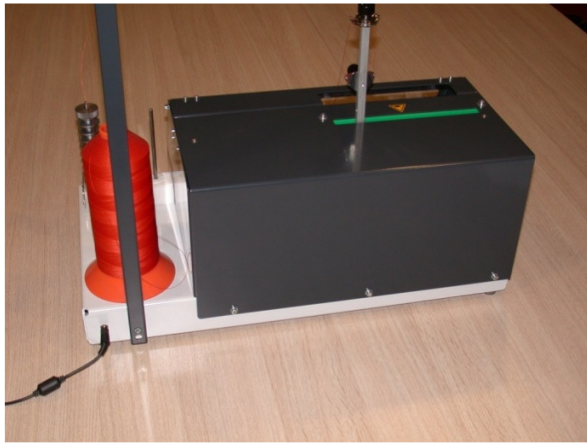


2 Instructions for Operation

Any action regarding the RSG-SPOOLER must be executed by only one machine operator.

Before starting the machine, please consider the following aspects:

- Ensure that the safety cover is closed.
- Connect the 2.5mm power plug to the power-jack plug on the METAL-SPOOLER's back.



- Connect the power source to a earthed outlet.
- Before using the machine, check whether or not dirt or objects are in or on the machine.

2.1 Control Switch Functions



Main switch:

Powers the machine on or off.

Start button: (white button)

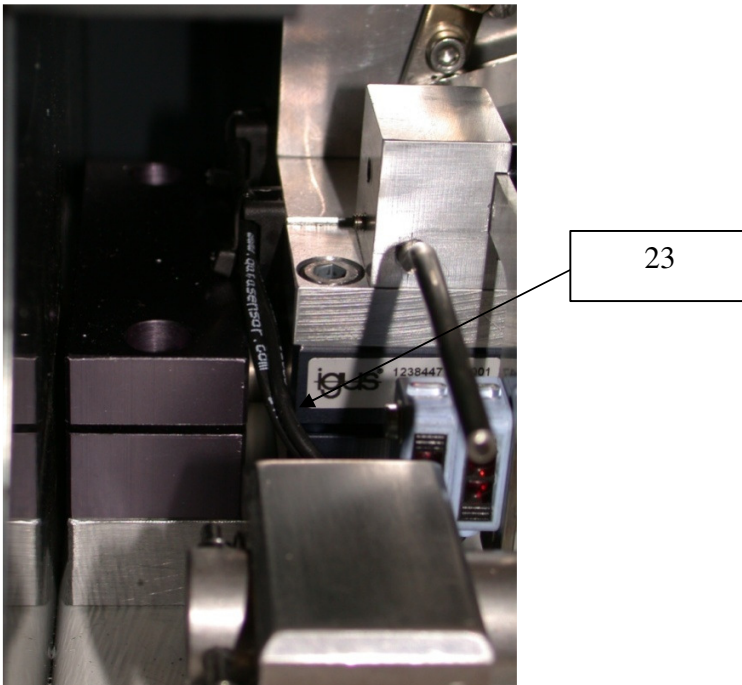
Starts the spooling cycle.

Returns the mobile support to its 'home' position.

By continued pressure the support moves until the button is released. The support stops after S1 passes the first available spool side.

NOTE:

It is not allowed to continuously press the start button so that the mobile support gets stuck against the left side of the base frame. In this case, the traction is strained and the machine can break down.

**Stop button: (black button)**

Press once to pause the active program.

Press again the end the active program.

Function LED:

Is not lit when the main switch is switched off. Is not lit when machine operates properly.

Is continuously lit when the main switch is activated.

LED blinks when the machine is on pause (press once on the stop button).

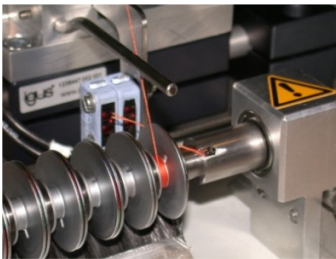
Rotary knob for setting:

By adjusting this rotary knob you can change the windings on the bobbin, more or less

Startup Procedure for the METAL-SPOOLER

Step nr.	Control Element	Position	Action	Effect
1.		Machine's surroundings.	Check whether there are obstacles.	
2.	Main switch.	Front of the machine.	Switch to setting '1'.	Machine is on 'stand-by', the function LED is lit.
3.	Start button.	Front of the machine.	Press white start button.	Machine switches to 'home' position (far-right).
4		Front of the machine.	Open safety cover.	
5		Back and front of the machine.	Fix the storage spool and guide the thread through the thread guide rings and attach it to the resilient fixtures.	Machine is ready for placement of spool holder.

Step nr.	Control Element	Position	Action	Effect
5a	<p>Procedure for attaching the thread</p> <p>Firstly, guide the thread through the thread guide on the console.</p> <p>Secondly, guide the thread through the far right guide ring, guide it 360° around the vertical resilient fixtures and then upwards through the left guide ring.</p> <p>Finally, guide the thread from below the left guide ring, to the back of the resilient fixtures and guide it downwards through the right guide ring towards the spools.</p>			
6.	Spool holder with serrated bolt.	Machine's surroundings.	Attach the spools to the spool holder axis and tighten the bolt by hand.	
7.	Spool holder and thread.	Front of the machine.	Place the spool holder by, through use of the serrated bolt, pressing it against the resilient fastener head. Turn the bajonet clips in such a way that these are centered with the thread between the traction and the fastener.	Spool holder is attached (photo shows a spool after it has been turned).

Step nr.	Control Element	Position	Action	Effect
8.	Spool holder.	Front of the machine.	Turn the thread 3 to 5 times on the spool on the bajonet clip's side. Turn counter-clockwise from this position.	
9	Spool holder.	Front of the machine.	Turn the spool holder so that the thread is stretched; or pull the thread tightly at the mobile thread guide where it first enters the thread guide on the console.	Machine ready for automatic use.
10.	Safety cover.	Front of the machine.	Close the safety cover.	
11	Start button.	Front of the machine.	Press The RPM of the spool axis (optional) can be adjusted by means of the RPM control.	Automatic cycle starts.

Step nr.	Control Element	Position	Action	Effect
	<p>The spool cycle starts, now you have the following options:</p> <p>control stop by pressing the stop button. This stops all the moving parts so that it is possible to open the safety cover to check whether the process is working properly. Close safety cover. The process can be started again by pressing the start button.</p> <p>cycle stop by pressing the stop button twice → automatic cycle ends. By pressing the start button, the mobile support returns to its 'home' position.</p> <p>startup after cycle stop (a number of spools are already filled), press the start button and keep pressing it until the S2 sensor is exactly at the empty spool. Release the start button and the machine will automatically find the correct position and will start the automatic cycle.</p> <p>automatic cycle stop can occur after a thread breaks or because the supply spool is empty. The machine will automatically switch off after a certain amount of time if one of these situations occurs. Press the stop button and then the start button; the mobile support will return to its 'home' position. Open the safety cover and solve the problem. See startup after cycle stop for continuing the spool cycle.</p> <p>cycle stop after all the spools have been filled. The spool holder traction will stop, the mobile support will automatically return to its 'home' position and will stop the spool holder's traction. The machine is in a rest position so that you can continue with the next step.</p>			
12.	<p>Automatic cycle stop after all the spools are completely filled</p> <p>(The safety cover is still closed)</p> <p>After the final spool is filled, the mobile support will automatically return to its 'home' position.</p>			
13.	Safety cover	Front of the machine.	Open the safety cover.	
14.	Spool holder.	Front of the machine.	Press the spool holder against the spring of the resilient fastener head and remove the spool holder.	Spool holder is removed.

Step nr.	Control Element	Position	Action	Effect
15.	Spool holder.	Right front side of the machine.	Cut the thread as closely to the far left spool and place the spool holder in its storage position.	It is possible to repeat Step nr. 6 up to and including step nr. 14. Alternatively, switch off the machine. The spools can be removed separately and the thread can be cut by using the cutting blade.
16.	Safety cover.	Front of the machine.	Close the safety cover.	
17.	Main switch.	Front of the machine.	Switch to setting '0'.	The machine's electrical circuit is disabled.

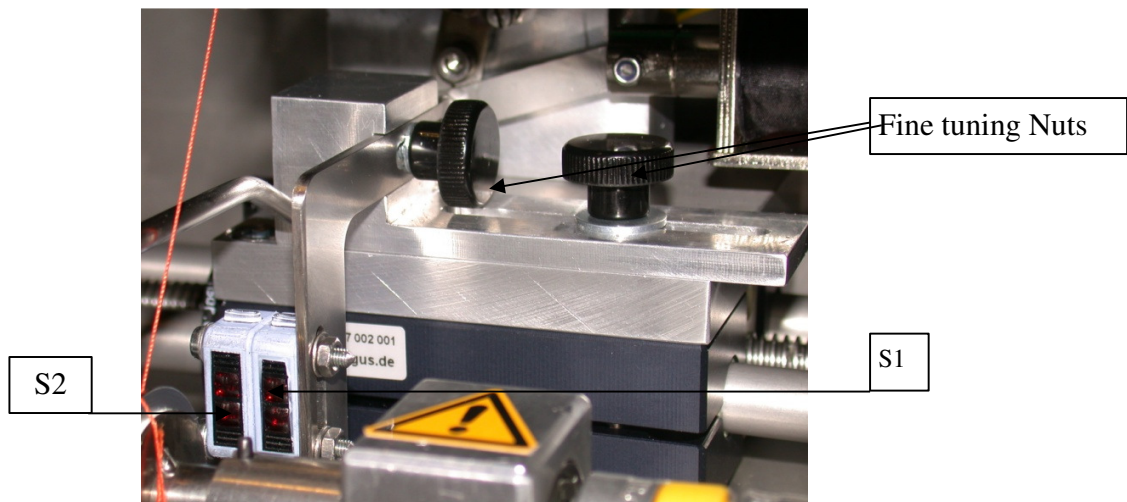
3 Calibration Procedure

The following calibrations to the machine may only be executed by authorized personnel. This is indicated at the separate procedures. Other calibrations to the machine are to be conducted by or under the supervision of TGEE service personnel or the service personnel of TGEE's distributors. During service and or maintenance work, the main switch is to be disabled.

3.1 Calibrations by the machine's operator

3.1.1 Setting S1 and S2 measuring sensor

Loosen the bolts and set the desired distance. Tighten the bolts. The distances can vary when using different thread colors.

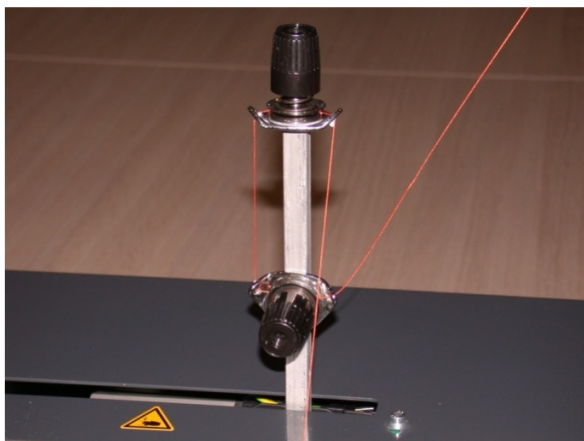


S1 controls the amount of thread one needs on the spool.

S2 controls where the mobile support stops. This switches on the edge of the spool.

3.1.2 Setting thread tension

In order to control thread tension during spooling, the operator can twist the screw in order to increase (twist right) or decrease tension (twist left). The tension is a setting based on the operator's experience.

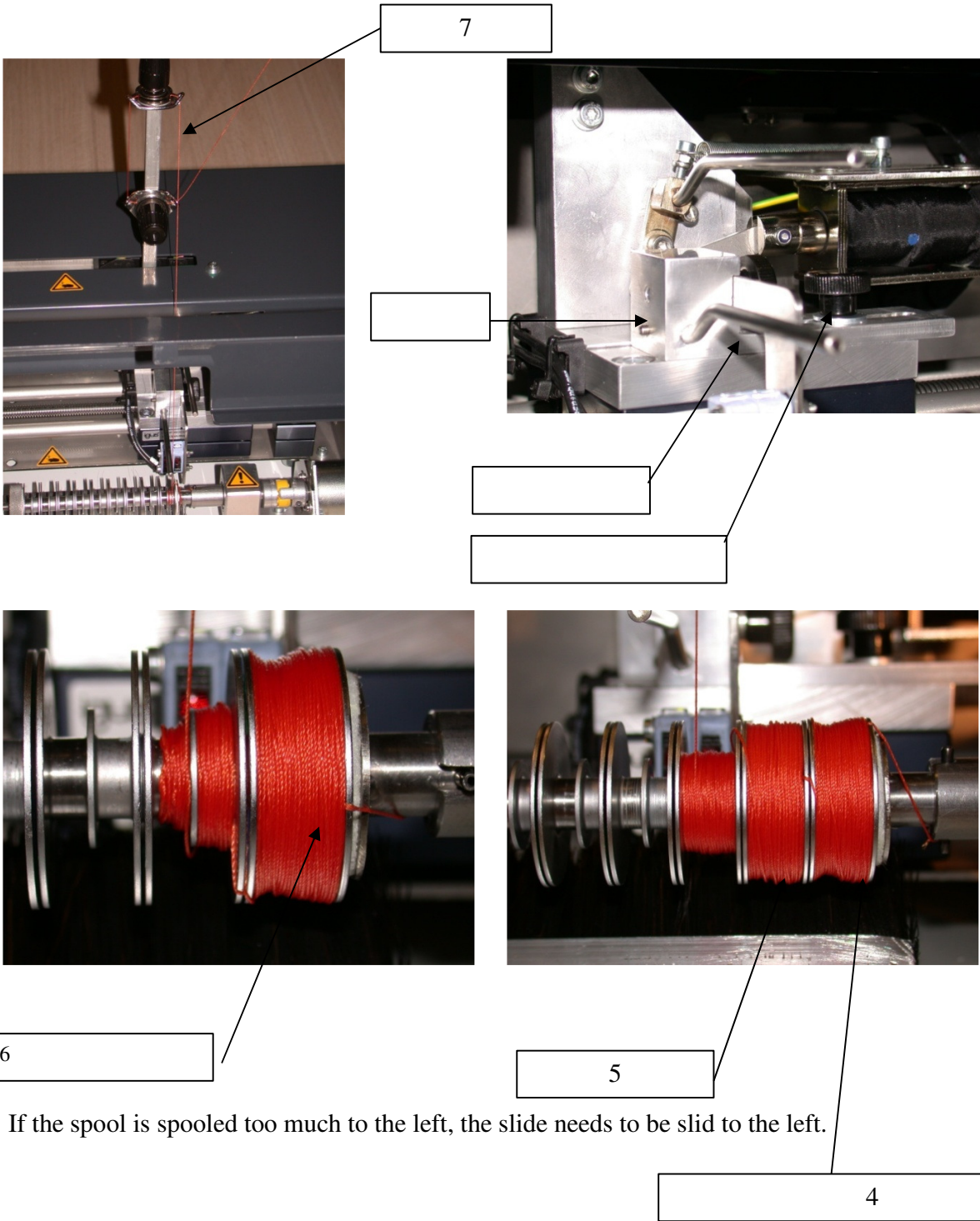


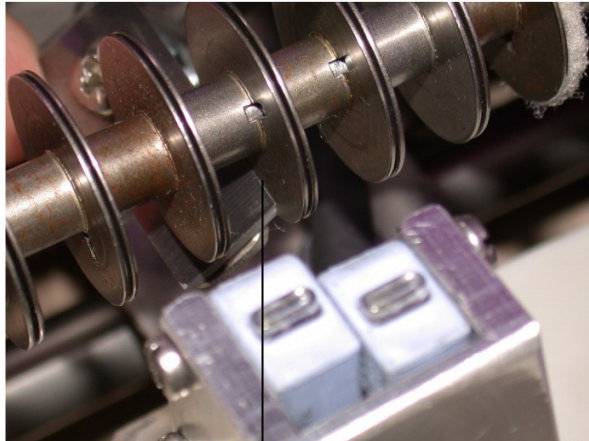
support

3.1.3 Setting the thread guide on the mobile

Depending on the applied spool type, it is necessary to move the thread end of the horizontal thread guide on the mobile support in order to get a symmetrical pattern. It is necessary to do the following:

- press the stop button
- open the safety cover
- loosen the right screw
- slide the slide a little to the right if the spool is heavy on the right side
- tighten the right screw
- close the safety cover
- continue the automatic cycle by pressing the start button (the result is visible when the thread is spooled on the next spool).
- Repeat the above if the setting does not meet your requirements.

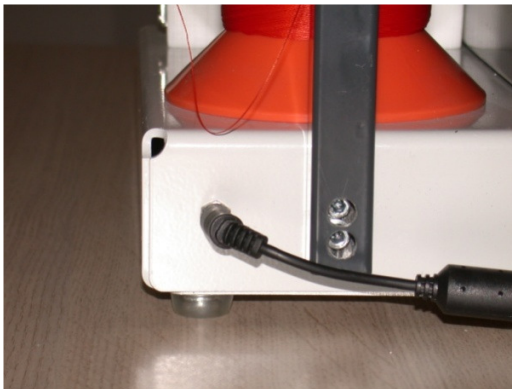




4 Transport en Installation

4.1 Transport

The



of
are

machine is preferably transported horizontally.

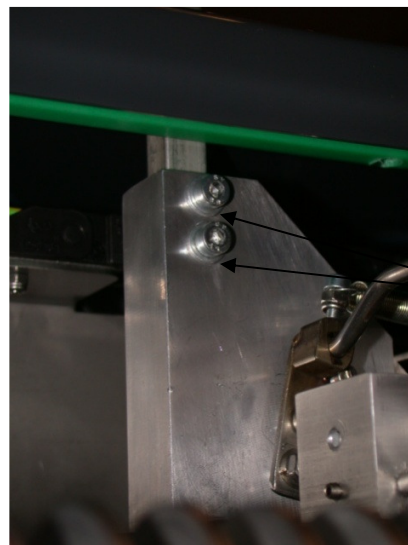
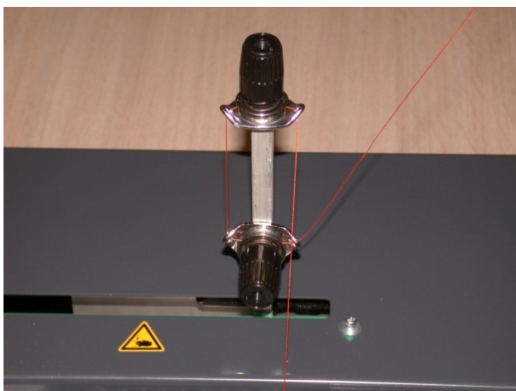
4.2 Installation

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

5.2.1 Installing the fixed and mobile thread guide

Installation order:

install the console to the fixed thread guide using the two bolts on the base frame.



24

install the
rod with the

adjustable thread using the two bolts on the mobile support.

4.3 Storing the machine.

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

Maintenace (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.

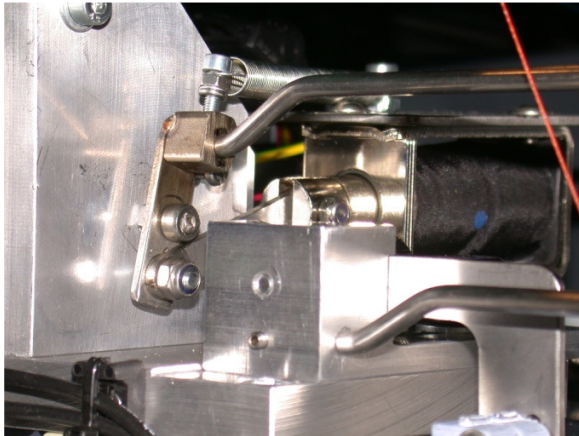
- if necessary, spray the movable parts with a very tiny amount of teflon spray and remove the excess material.

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

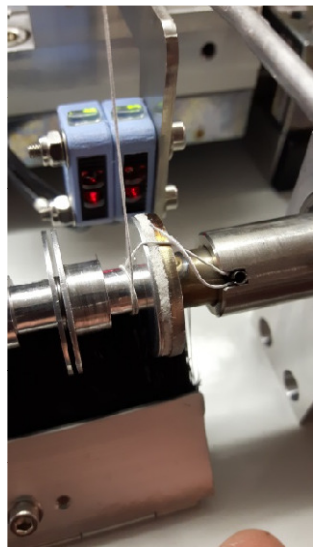
4.4 Overview of points that can be sprayed with teflonspray - PTEE spray TF 089 (GRIFFON)

Advised teflon spray:
PTFE spray TF 089 (GRIFFON)

Spray the pivot points of the swing mechanism monthly with a small amount of spray.



This part need sometimes a little oil left and right side of the part, otherwise it will give a little fibration in the machine (use the oil we deliver with the machine).



The best way to start with the tread



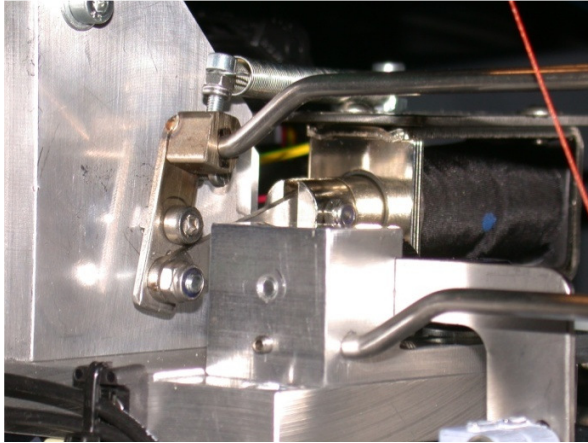
The proper way the treaddirection into te machine



Use this extra part, otherwise the yarn will stuck.

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.

5 (Spare) Parts List

For wear and tear and spare parts, we would like to redirect you to TGEE's website:
www.tgee.eu

Technical data

5.1 Electrical

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

5.2 Mechanical

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

5.3 Cycle time

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

5.4 Machine packaging

Mass	: -
Dimensions of box (lxbxh)	: -

6 Appendices

10.1 EG - Declaration of Conformity TGEE

6.1 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 (underneath SPOOLER)

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__

Dhr. T.J. Gijsbertsen