MK6
Button shank wrapping and heat sealing machine

Service manual for:

Serial No. MMS MK6 - 5000 Onwards

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Button Securing System

02/12

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General

Please always keep these handling instructions close to the machine in case you have to look up for any information.

Only trained people should work with the Mk 6 -. Trained means having read and completely understood the handling instructions.

The MMS Mk.6 button wrapper is fully complying to EC regulations and is specially designed to use the MMS TF thread (960 dtex). The use of any other thread will not give you the desired result (it will unravel) and will seriously damage the machine.

The machine warranty is 12 months and the heating fork warranty is 6 months (a wearing part) from the date of delivery. MMS only accepts warranty claims for material defects.

The machine should only be installed after reading and understanding the instructions. Before installing the machine check for any damage caused in transit.

Safety

The plastic safety tips on the end of the heating fork can reach a maximum temperature of 60°C. A short touch will not burn your fingers, but it is advisable not to try.

The metal parts of the heating fork reach a temperature up to 160°C (!). Do not touch them while the machine is in operation and for 20 min after switching off the machine.

Technical Specifications

Supply voltage for the machine is 115 V to 230 V single phase at 50 or 60Hz.

The power consumption is 30 to 40 VA .

The machine is designed to be operated in an ambient temperature of +10° to +40°C.

Installation

The Mark 6 is designed so it can be positioned as a stand alone unit on top of a work table. Once the correct position has been found the machine should be secured to the table by fastening it with two M6 screws supplied (into the holes in the machine base plate). In the back of the manual is a diagram showing the dimensions for drilling the table top.

Cleaning

Clean the machine with a dry cloth.

The metal parts of the heating fork can be cleaned and maintained with silicon cleaner.

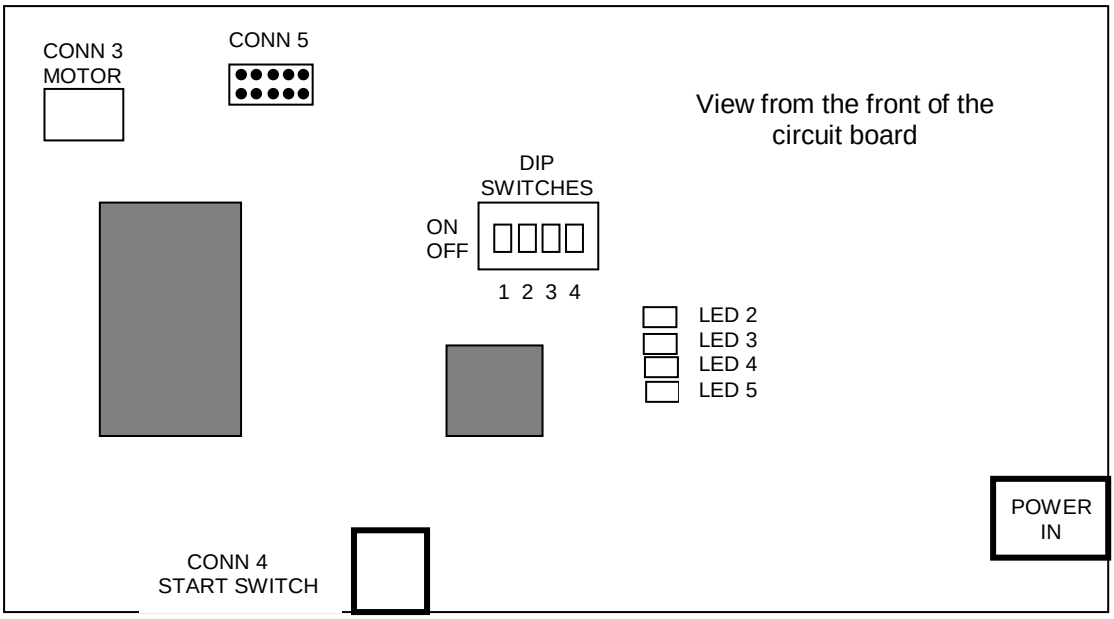
To clean the waste thread from the thread clamp discs(34), unscrew the screw(35) and remove the disks. Clean the waste thread off and reassemble back onto the machine.

Operating options

The Mk.6 is equiped with DIP switches on the circuit board to allow for the machine to be used in different modes depending upon the preference of the user. The factory settings give the most reliable results therefore we recommend that these are not changed but for special cases, these modes can be changed by altering the dip switches.

DIP switch settings on PCB

SW 1 OFF = Wrap, Seal, Wrap ON = Allow Wrap, wrap, wrap without check for seal
SW 2 OFF = Buzzer on ON = Buzzer silent
SW 3 OFF = Buzz during sealing ON = Buzz at end of seal cycle
SW 4 OFF = Future use



The DIP switches are located in the centre of the circuit board. These can be switched to achieve different operating modes as follows : (note – disconnect the power to the machine before opening the cover to make the adjustments).

Bonding essential before next wrapping

This is the factory setting and it is achieved with switch 1 ON. In this standard form the mk.6 will only allow the operator to wrap a button and then heat seal it in sequence. The next button cannot be wrapped until the shank is heat-sealed for the full amount of time (preset). This time is indicated by a sonic beeping noise and also visually by the LED changing to red. Once the bonding time is finished then the LED will return to its green state and the beep noise will stop. This mode is the preferred one as it guarantees that the operator bonds the shank.
If is preferred that the machine should not require this bonding guarantee then it can be switched off by moving switch 1 to the ON position.

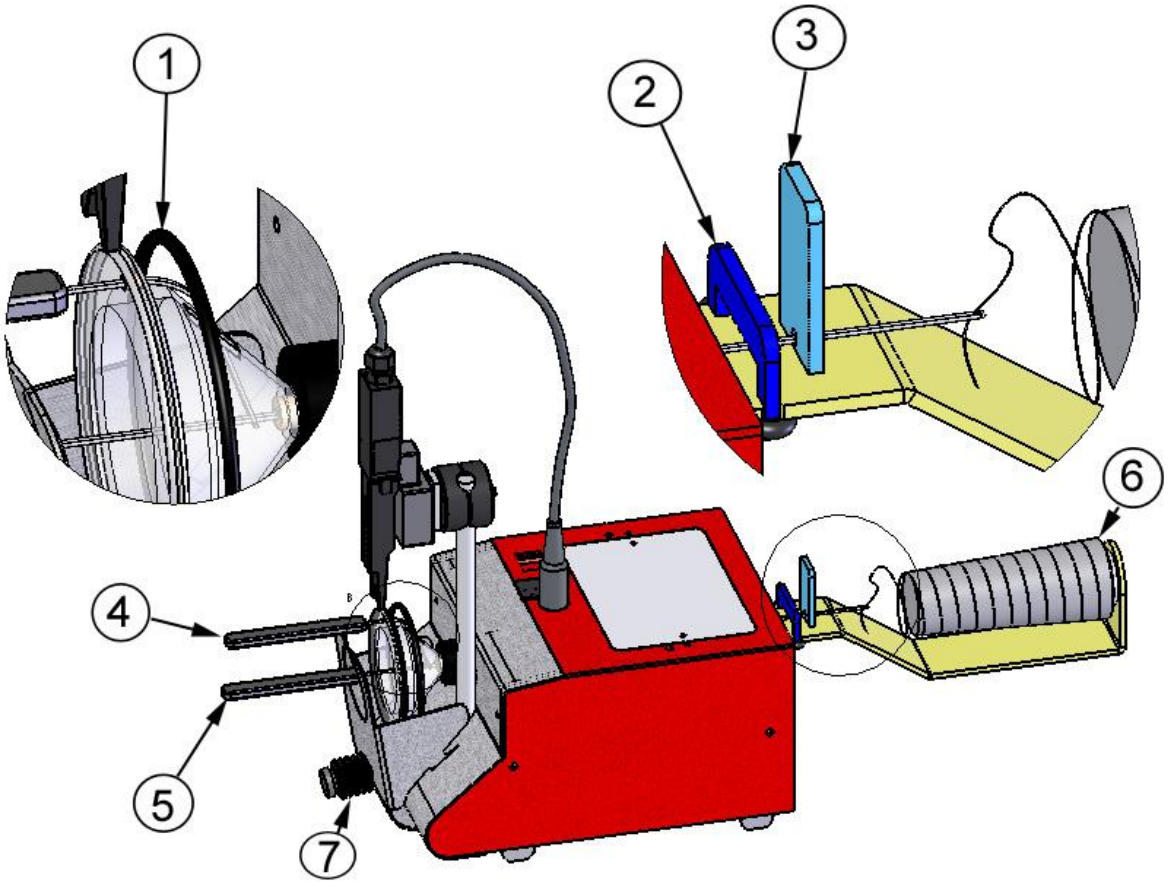
Audible beep

If switch 2 is off (factory setting) then the audible beep is heard. This beep can be disabled by moving switch 2 to ON.

Audible beep during bonding

This is the factory setting. It means that during the bonding process there is an audible beep to indicate to the operator how long the button shank should be kept in the heating fork. After the shank is bonded for the required length of time (0.6 seconds) the beeping stops. If Switch 3 is set to ON then the audible beep is heard only after the operator has help the button in to the fork for the correct length of time.

Threading



Attention: Before you start threading switch off the power switch !

Put the thread cone onto the cone holder (6).
Lift up the rubber-O-ring (1) from its seat around the whipping bell(31) and move it towards the machine.
Take the short threading needle(4) and guide it through the hole in front of the whipping bell and through the opening just behind the hole. The short needle should now be in position in front of the hollow axle of the machine.
Take the long threading needle and put it through the short needle and then through the hollow axle. Lift up the U shaped tension weight (2) and push the long threading needle so that it goes through the wight and then through the hole in the tension guide pillar(3).
Insert the thread into the long threading needle.
Withdraw the long needle completely so that the thread hangs out of the front of the machine.
Withdraw the short needle completely so that the thread is hanging out of the hole in the whipping bell.
Replace the rubber O ring(1) into its seat.
Pull the thread to remove any slack and then wrap it around the black plastic discs(7). (Make sure that the screw that secures these discs(7) is not tightened too tight as this would make it difficult to lock the thread in).

Operating instructions

Switching on

Press the power switch which is located at the rear of the machine to the ON position. The L.E.D should light up.

If the LED on the top of the machine flashes red and green the heating element is heating up. The machine will not function until the heating fork is at its optimum temperature and the LED has changed to a constant green and two short audible beeps are heard.

If the heating element is heating up from cold it will take about 5 minutes to reach operating temperature, if the heating element is already warm the heating time will be reduced accordingly.

Number of Wraps

To adjust the amount of wraps around the button shank first locate the selector switch and then press the + or – above or below the number you want to increase or decrease.

- For short shanks (shirts) approximately 10 wraps
- For medium shanks (jackets) approximately 16 wraps
- For long shanks (coats) approximately 25 wraps

Wrapping A Button Shank

When the machine is ready to run the LED(9) will be green.

Hold the garment in both hands with your thumbs at the back of the button and place the button in the slot in the whipping plate.

Press the whipping plate smoothly towards the whipping bell with the thumbs still behind the button.

The wrapping will start. LED turns off to indicate that wrapping is in progress. Remain in this position until the wrapping has stopped. When the wrapping has stopped the LED will light up red.

Remove the wrapped button shank from the whipping plate and move it into the heating fork. During bonding the LED will stay red and an audible beep will sound until the bonding time has elapsed (about 0.6 seconds). During this bonding period break off the two pieces of thread from the shank then wrap the end of the thread that comes from the whipping bell around the thread clamp. When the bonding time is elapsed the LED will change to green and the beep will stop to indicate that the machine is ready to wrap the next button shank.

Long button shanks

Longer button shanks can be perfectly wrapped using the automatic version of the machine (mk.11) The mk.6 can be used to achieve a satisfactory result on medium length shanks (approximately 5mm) if the operator moves the whipping plate backwards and forwards during the whipping cycle.

TF Thread

MMS UK button securing machines have been developed to use heat seal TF elastomeric thread. So that the optimum speed, button security and efficiency is achieved during each cycle it is recommended that the original MMS TF thread is used. The use of other thread may cause performance problems and damage to components. For these reasons the warranty may be void if non MMS thread is used.

Heat sealed button security

The shank of the button attachment is the most stressed part of the garment and therefore to prevent button loss this shank must be reinforced.
TF (TF = thermofusion) thread is specially designed for button wrapping with securing effect. The unique elastomeric gripping force and the heat sealing are the key to button loss prevention as the thread permanently squeezes the attaching threads. The button is secured and the slim button shank prevents the button holes from bulging and the button has a clean finish and tail free shank

The MMS TF thread

Strong heat sealing layer

- Bonds wrapping threads together
- Eliminates loose ends and tails
- Prevents loosening during use

Coloured component

- Increases overall strength
- No colour fading due to washing
- 60 colours

Flexible elastane core

- High flexibility
- Unmatched grip
- Resistant to washing fatigue
- High internal strength
- 330% elasticity

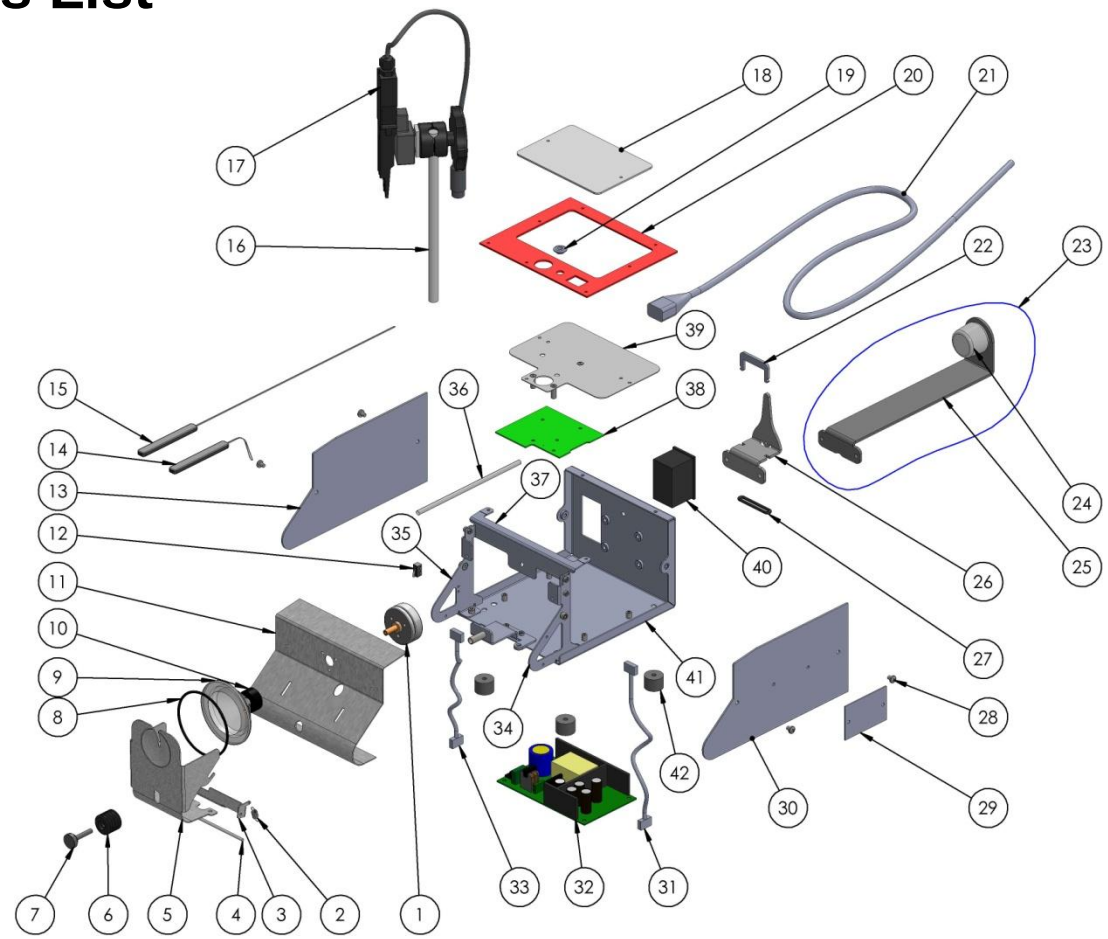
Fault Finding/Error Messages

Fault	Cause	Solution
Machine will not start	No power	Check power to machine
	Fork not warm – LED flashes red / green	Wait for heating up
	Fork faulty – LED flashes red (fast)	Fit new heating fork Check heater connection
	Motor jammed (flashing LED)	Check for free running of motor
	LED Red-Waiting for seal - mode 1	Seal shank until LED green
	Wrap select not set between 8-98	Set correct wraps
	Wrap selection switch faulty	Replace the circuit board
Machine will not start then three fast beeps sound which repeat after a delay	Start switch faulty or jammed	Replace start switch or free off mechanism
Wrapping too slack	Threaded up incorrectly	Re thread machine (page 6)
	Worn o-ring on whipping bell	Replace o-ring
Thread breaks	Sharp edges on parts in contact with the thread	Check all parts and polish any burrs.
	Thread catching	Check the cone condition
	Threaded up incorrectly	Check for correct threading(page 6)
Wrapping is slow	Motor faulty or jammed	Check motor

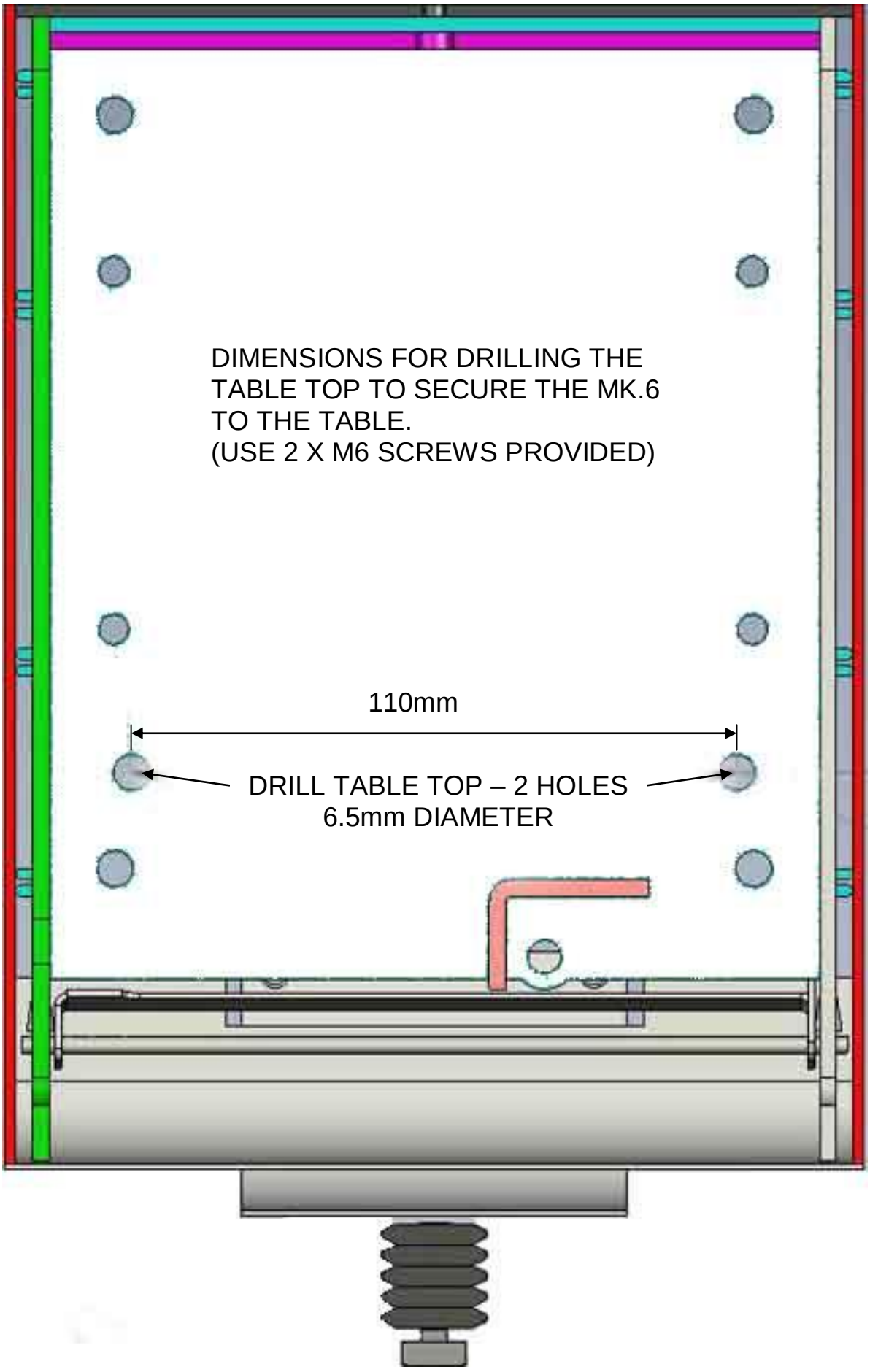
LED indicator on PCB

L2 ON = SEALSW pressed
L3 ON = HEATER ON
L4 ON = MOTOR STALL
L5 ON = STARTSW pressed

9. Parts List



No.	Description	Part No.	Quantity	No.	Description	Part No.	Quantity
1	Motor	104385	1		Large cone holder asm	104530	
2	Spring	101391	1	24	Cone holder - white	104340	1
3	Pivot bracket	111350	1	25	Cone holder asm	104528	1
4	Pivot pin	111189	1		Large cone holder asm	104530	
5	Whipping plate	104514	1	26	Thread guide bracket	104543	1
6	Thread clamp disc	104245	4	27	O ring- tension device	104536	1
7	Thread clamp screw	104240	1	28	Screw – side panel	92130	4
8	Rubber o ring	104229	1	29	Union Jack	109600	1
9	Whipping bell	104227	1	30	Side panel - RH	111365	1
10	Whipping bell clamp	104230	1	31	Low voltage harness	104365	1
11	Front plate	111320	1	32	Power supply	104390	1
12	Start switch harness	104377	1	33	Harness - mains	104382	1
13	Side panel - LH	111305	1	34	Rib - RH	111335	1
14	Threader needle short	TN1	1	35	Rib - LH	111340	1
15	Threader needle long	TN2	1	36	Thread tube	104542	1
16	Fork post	104518	1	37	Top spar	111325	1
17	Heating fork	104218	1	38	Circuit board/counter	104373	1
18	Facia plate	104520	1	39	PCB mount plate	104527	1
19	LED grommet	104363	1	40	Mains switch unit	104380	1
20	Top plate	111315	1		Fuse - mains	101826	1
21	Mains power lead-euro	104397	1	41	Frame	111300	1
	Mains power lead-UK	104398		42	Foot	109870	1
22	Tension U	104538	1				
23	Cone holder asm	104528	1				


DIMENSIONS FOR DRILLING THE
TABLE TOP TO SECURE THE MK.6
TO THE TABLE.
(USE 2 X M6 SCREWS PROVIDED)
110mm
DRILL TABLE TOP – 2 HOLES
6.5mm DIAMETER