

METCALFE SP30HI MIXING MACHINE

OPERATION & MAINTENANCE INSTRUCTIONS



OPERATING INSTRUCTIONS

YOUR GUARANTEE IS AT RISK

PLEASE READ THIS DOCUMENT CAREFULLY

MAXIMUM RAW FLOUR LOADINGS

MODEL	BOWL SIZE	MAXIMUM LOAD
SP100	10 Litre	2Kgs. flour per mix
SP200	20 Litre	4Kgs. flour per mix
SP30HI	30 Litre	6Kgs. flour per mix
SP40HI	40 Litre	8Kgs. flour per mix
SP60HI	60 Litre	12Kgs. flour per mix

!! WARNING !!

PUTTING TOO MUCH FLOUR IN THE MIXER WILL DAMAGE THE MACHINE

AND INVALIDATE YOUR GUARANTEE

THESE RECIPES ARE SUGGESTIONS ONLY

	SP100	SP200	SP30HI	SP40HI	SP60HI
Flour - Kgs.	2	4	6	8	12
Water - Litres	1.2	2.4	3.5	4.5	7.5
Time - Mins.	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Dough - Kgs.	3.5	6.5	10	13	20

USING YOUR PLANETARY MIXER

1. Make sure the bowl and attachments are clean and dry
2. Place only the flour in the bowl **first** (see chart)
3. Raise the bowl and close the bowl guard
4. **ONLY USE 1st SPEED FOR MIXING DOUGH**
5. Ensure **RED** stop button is rotated and released
6. Set timer (if fitted) and press **GREEN** button to start machine
7. Add water through guard - mix for preferred minutes
8. Remove dough - clean machine and bowl immediately

!! WARNING !!

**DO NOT PUT MORE THAN THE MAXIMUM AMOUNT OF FLOUR IN THE BOWL,
OR USE THE WRONG MIXING SPEED**

YOUR GUARANTEE IS AT RISK

SOME POSSIBLE PROBLEMS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Machine makes noise while mixing	OVERLOAD !	Remove product to manufacturers specifications
Machine will not run	No power to machine	Check power supply
Machine will not run	Fault at plug *	Check plug and fuse *
Machine will not turn	Bowl guard not closed	Close guard and press green button
Machine will not turn	Bowl not raised	Raise bowl and press green button
Machine will not turn	Red button not re-set	Rotate red switch and then press green button
Machine will not turn	Timer not activated *	Rotate timer and press green button *
Machine will not turn	Timer stopped *	Re-set timer *
Machine will not turn	Interrupted mains supply	Press green button

* ONLY WHERE APPLICABLE - SP100 AND SP200 DO NOT HAVE TIMERS FITTED

IF PROBLEMS PERSIST, PLEASE CALL YOUR SUPPLIER

PLEASE NOTE POWER SUPPLY

MODEL	POWER SUPPLY
SP100 1 Phase	220/240 volt, 50Hz., 13amp, 3-pin wall plug
SP200 1 Phase	220/240 volt, 50Hz., 13amp, 3-pin wall plug
SP30HI 1 Phase	220/240 volt, 50Hz., 20amp, wall isolator
SP40HI 1 Phase	220/240 volt, 50Hz., 20amp, wall isolator
SP60HI 1 Phase	220/240 volt, 50Hz., 30amp, wall isolator
SP60HI 3 Phase	380/415 volt, 50Hz., 30amp, wall isolator

ALL MACHINES ARE FITTED WITH A **GREEN** NO-VOLT RELEASE SWITCH, A **RED** EMERGENCY STOP SWITCH, A MICRO SWITCH OVER-RIDE ON THE BOWL, A MICRO SWITCH OVER-RIDE ON THE BOWL LIFT AND A 15-MINUTE TIMER (**NO TIMER ON SP100 AND SP200**)

WHEN THE BOWL LIFT IS LOWERED AND/OR THE BOWL GUARD IS OPENED, THE MACHINE WILL STOP! TO CONTINUE, RAISE THE BOWL, CLOSE THE GUARD AND PRESS THE **GREEN** START SWITCH **AGAIN!**

IF YOU DO NOT DO THIS, THE MACHINE WILL NOT OPERATE

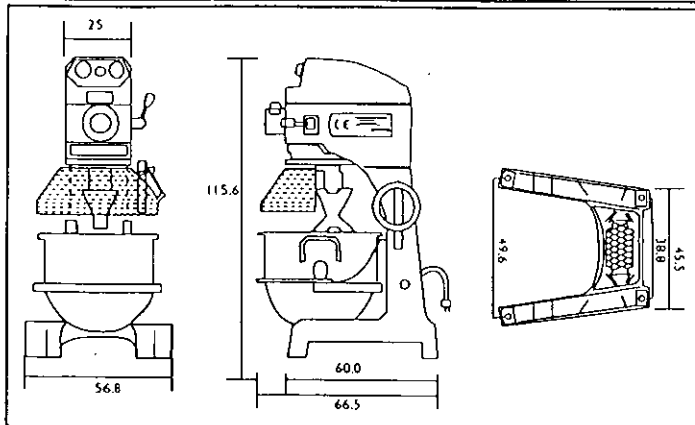
ALWAYS CLEAN THE MACHINE WITH A SOFT CLOTH AND WARM WATER AFTER EACH USE

!! WARNING !!

OVERLOADING THE MACHINE WILL INVALIDATE YOUR GUARANTEE

SP30HI PLANETARY MIXER

SPECIFICATION	
Model	SP30HI
Bowl Size	30 litres
Motor	1 HP (750w)
Electrics	230v/50Hz/1ph
Speeds	1st gear 99 rpm 2nd gear 176 rpm 3rd gear 320 rpm
Dimensions (cm) (hxwxd)	116x 57x 67 130x 63x 75(packd)
Weight	Gross 210kg Net 180kg
Standard Equipment Stainless steel bowl with Beater, Whisk Spiral Dough hook. Attachment Hub. Timer. Fully interlocked bowl guard and bowl lift.	



Because of continual improvements, strict accuracy of description cannot be guaranteed.

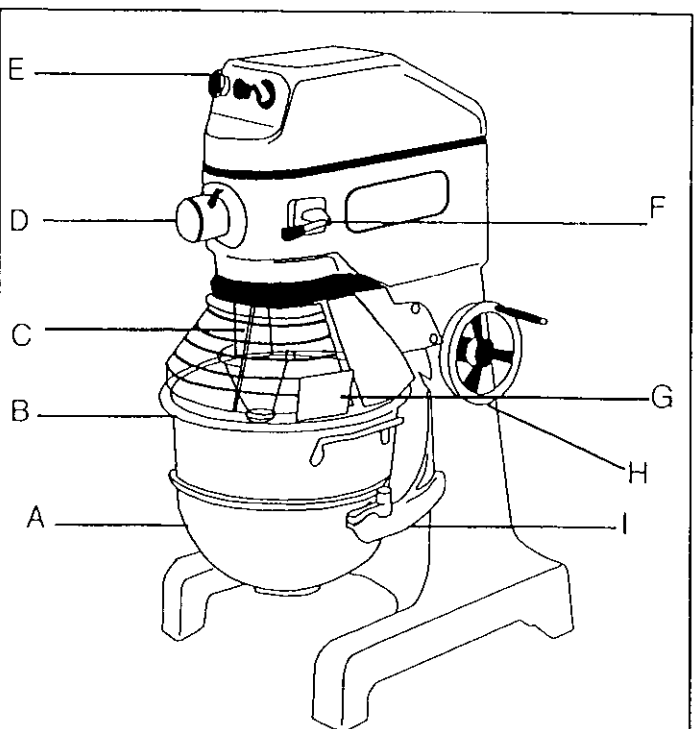
GUARANTEE

Metcalf guarantees that, for a period of 1 year from the date of despatch from our works or the date of sale by one of our approved distributors, it will replace any parts that are defective as a result of faulty design, material or workmanship, provided that no alteration, addition or repair has been carried out except by an authorised Service Agent and provided that such defective part(s) be returned to the Company's nearest authorised representative, carriage paid.

The SP30HI is a floor standing planetary mixer designed for commercial use by the professional caterer. It has a total bowl capacity of 30 litres, combined with a 3 speed gearbox to ensure that all mixing scenarios can be met.

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- | | |
|-------------------|--------------------|
| a) Bowl | f) Gear Lever |
| b) Bowl Guard | g) Additions Chute |
| c) Planetary | h) Bowl Lift Crank |
| d) Attachment Hub | i) Bowl Cradle |
| e) Control Panel | |

Figure 1

INSTALLATION

The machine is supplied factory lubricated and ready to run. It can be positioned on anywhere which is capable of supporting a load of 200Kgs.

ELECTRICAL CONNECTION

Before connecting this machine to the electrical supply, check that the details on the rating plate (located on the rear of the machine) correspond to the details of your electrical connection. The mixer should be fitted to an isolated electrical supply, that is capable of supporting an electrical load of 20amps.

Machines are fitted with a colour coded 3-core cable as follows:-

Brown: Live Blue: Neutral Green/Yellow: Earth

As the colour of the wires may not correspond to the coloured markings identifying the terminals in your plug, you should proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red. The wire which is coloured green/yellow must be connected to the terminal which is marked with the letter E or coloured green. The mixer should be plugged into a switched socket which isolates all poles and has a minimum contact clearance of 3mm and located close to the mixer for use in an emergency and to facilitate servicing.

The machine must be incorporated into a potential equalization system. The leakage current for this appliance is no greater than 1mA/kW. If the electrical supply cable to the machine becomes damaged, it must be replaced by a qualified electrician using cable to the H05-RNF specification or higher and suitable for a 1 h.p. motor load. The inner end of the earth/ground wire is fixed to the machine and this connection must be kept intact. The mixer **MUST** be earthed.

BEFORE USING THIS MIXER

Before using the mixer ensure that all users are familiar with the correct operation of the machine. In particular, care should be taken to ensure that the bowl and mixing tools are correctly fitted and that the bowl guard is in position prior to starting the machine.

SAFETY AT WORK

Never place your hand or any kitchen utensil in the bowl whilst the mixer is in operation. Isolate the machine from the electrical supply by removing the plug from the socket before cleaning or dismantling. Do not use the machine with any cover or guard removed. A notice advising operators of the safe use of this mixer is attached to the machine.

OFFICE, SHOPS & RAILWAY PREMISES ACT, 1963

The above Act requires that this machine and attachments shall be operated only by a properly instructed person or by an employee who is under the supervision of a properly instructed person. The instruction shall include indication of the possible dangers arising and the precautions to be observed. The Act also requires that no person under the age of 18 shall clean a machine if this exposes him to risk of injury from a moving part of that machine or any adjacent machine.

CORRECT USE OF THE MIXER

It is the responsibility of the users to use the mixer sensibly within the recommended limitations. Always follow the instructions on the side of the machine when changing gear. If the motor labours, or the belt slips, stop the machine and reduce the size of the mix immediately. Damage resulting from improper use is not covered by the METCALFE warranty. For operator safety, the machine is fitted with a bowl guard which is electrically interlocked to ensure that the mixer cannot operate unless the guard is correctly positioned and the bowl is raised. For additional safety the mixer has a no-volt release feature which means that in the event of a power failure, the machine will only restart after the control button has been depressed again. This arrangement ensures that when the supply is restored, the machine cannot restart on its own.

SP30HI PLANETARY MIXER

BOWL LIFT & BOWL GUARD

The bowl cradle and guard are electrically interlocked so that the machine will only operate with the bowl cradle in the raised position. In addition to this, the bowl guard must be locked into place by sliding it into position across the top of the bowl to the point where it will slide no further.

Only once the bowl is raised and the guard locked will the machine operate, thus ensuring total user safety at all times.

Once the guard has been opened or the bowl lowered, the machine can only be restarted by pressing the start button.

During the mixing process additional ingredients can be added by means of the chute located on the right hand side of the bowl guard.

TOOL SELECTION

The beater, whisk and dough hook are meant for the work implied by their names. Do not use the beater for dough making or the whisk for anything other than whisking, aerating or mixing light mixtures. Figure 2 shows the typical duties for each of the tools.

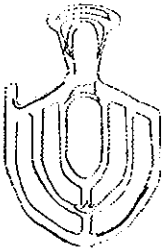
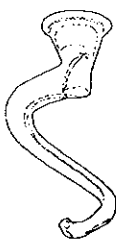
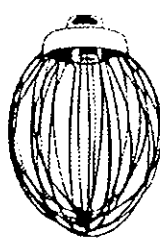
		
<p>Beater</p> <p>Firm mixes such as light pastry, cakes, biscuits, icings, fillings and mashed vegetables.</p>	<p>Spiral Dough Hook</p> <p>Heavy mixes such as dough and pie pastry.</p>	<p>Whisk</p> <p>Light mixes such as whipped cream, mayonnaise, egg whites, pancakes and souffles.</p>

Figure 2

FITTING THE BOWL

With the bowl cradle lowered, place the chosen mixing tool in the bowl and position the bowl on the cradle. There are three location points for the bowl: a) the locking pin at the rear of the bowl locates in the hole in the cradle b) the two holes in the bowl handles which engage on the pins located on the cradle and c) the bowl locking latches. NB Ensure that the bowl is seated correctly on the cradle before securing the bowl locking latches prior to use.

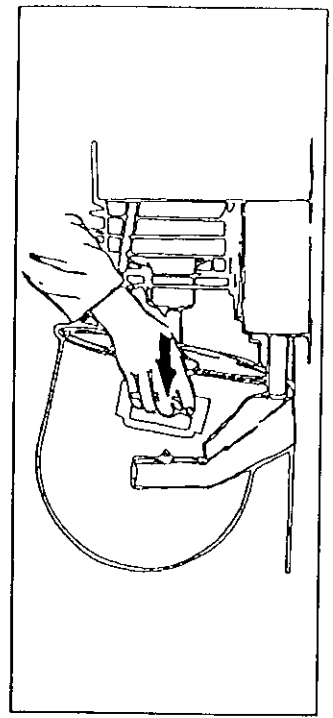


Figure 3

FITTING THE MIXING TOOL

Slide the bayonet fitting of the tool onto the drive shaft and twist clockwise to secure it in position. To remove the mixing tool, slide the tool up the shaft slightly and twist anti-clockwise.

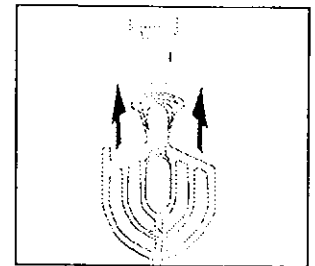


Figure 4

SPEED SELECTION

Before changing speeds, the mixer must always be stopped. The necessary speed can then be selected before restarting the machine by depressing the green start button. The speed selected depends largely on the quantity and consistency of the product. It is recommended that mixing is always started at the lowest speed and progressively increased to the desired setting. In an emergency situation always use the red emergency stop button to stop the machine. Table 1 shows the recommended speeds for the range of tools.

Table 1

	Recommended speed		
	1st gear	2nd gear	3rd gear
Whisk	→		
Beater	→		
Hook	→		

CAPACITY

The following table lists the recommended capacities of finished weights of regular mixes. Although the machine may be capable of mixing larger quantities, it will lead to excessive and premature wear and possible failure. Overloading also results in lengthy processes and unsatisfactory results.

Product	Max'm. Regular Mix (Kg.)	Whisk	Beater	Hook
Mashed potato	12.0		•	•
Pie pastry	12.0		•	
Fruit cake	18.5		•	
Sponge cake	11.5	•	•	
Pound cake	14.0		•	
Madeira	16.0		•	
Steam pudding	16.0		•	•
Fondant (Kg. Sugar)	9.0	•		
Whipping cream	6.8 Litres	•		
Egg whites	1.7 Litres	•		
Mayonnaise	14 Litres	•		
Batter	16 Litres	•	•	
Meat	15.0		•	•
Croissants (Kg. Flour)	7.0			•
Brioche (Kg. Flour)	7.0			•
Light bread dough-2 (65% moisture content)	15.0			•
Heavy bread dough 2 (60% moisture content)	14.0			•
Pizza dough - 2 (50% moisture content)	10.0			•
Pizza dough-2 (40% moisture content)	8.0			•

1. Recommended weight for a finished mix unless otherwise stated
2. Water content e.g. 25# flour / 12.5# water = 50% moisture
3. For pizza dough with lower moisture content consult METCALFE
4. For higher gluten flour reduce dough batch by 25%

CONTROLS

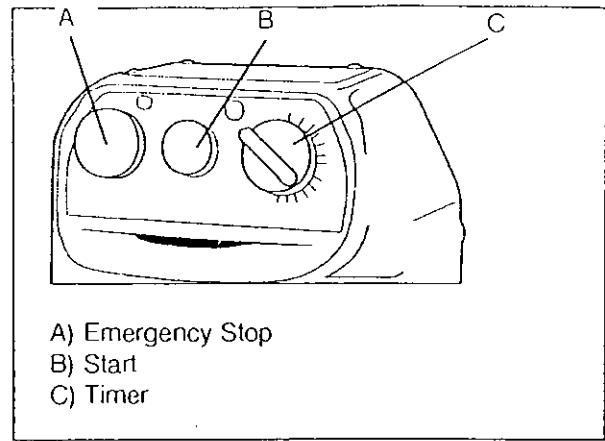


Figure 5

The control panel is shown in Figure 5. The timer is arranged to automatically stop the machine after the selected mixer interval. An untimed position is provided for manually controlled mixing cycles.

Before starting the mixer it is necessary to set the mixing duration or select the manual position – the mixer will not operate in the “0” position.

TIMED OPERATION

For timed operation turn the timer knob to the desired time (duration is marked from 1 to 15 in graduations of one minute) and start the mixer by pressing the green start button. After the preset interval the mixer will stop. If it is necessary to stop the mixer before the end of the timed period, depress the red stop button.

UNTIMED OPERATION

If you wish to manually control a mix, select the untimed mode by moving the timer knob anti-clockwise until it stops.

CARE OF YOUR MIXER

The mixer is designed for minimum owner maintenance. It may be necessary from time to time to apply a little oil to the rods on which the bowl cradle slides. If so, use a little food quality lubricant, ensuring that there is no excess oil that could contaminate the food mix. Clean the mixer thoroughly after use. The body should be wiped down with a damp cloth after first isolating the machine from the electricity supply. Do not spray the machine with or immerse it in water. Do not forget to clean the rear of the machine and do not allow the rear vents to become blocked as this may result in overheating.

Table 2

Pay particular attention to the bowl pins and any surrounding areas of the cradle to prevent a build up of mix as this could prevent correct location of the bowl. For the same reason ensure that the beater shaft and each of the sockets on the tools are cleaned thoroughly. The bowl and tools should be washed in hot soapy water, rinsed and dried before being put into storage. Do not wash the tools in a dishwasher as the polished finish will be adversely affected by the dishwashing chemicals.

ATTACHMENTS

The range of attachments that can be operated from the attachment hub are listed below. When using an attachment, lubricate the drive stud (D) using a food quality grease or oil. To fix to the mixer refer to Figure 6. Release the thumbscrew (G) and slide the shaft of the attachment into the hub ensuring that the drive stud (D) engages in the socket within the hub. Rotate the attachment to line up the location peg (E) with its mating hole in the hub and push firmly home. Tighten thumbscrew to secure.

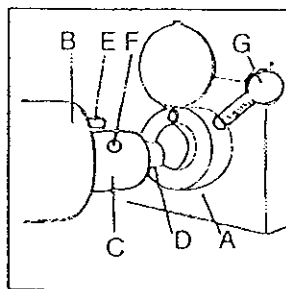


FIGURE 6

Only fit attachments when the mixer is stationary and never when it is operating. Do not use attachments when mixing.

The recommended speed range for some of the attachments available is shown in Table 3

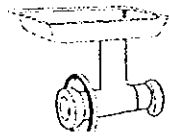
Recommended speed	1 st gear	2 nd gear	3 rd gear
	V99S Veg.Prep	----->	
VH-12 Mincer	----->		

Table 3



V99S

Vegetable Preparation
With a range of 7 plates to slice, grate or shred all types of vegetable and fruit from nuts and cabbage to carrots and cheese.



VH-12 Mincer

A no. 12 mincing attachment which works wonders with meat, fish and vegetables alike.

Figure 7 Range of attachments for use with attachment hub.

MAINTENANCE

Regular maintenance is necessary on all machines if they are to remain in good working order. It is strongly recommended that this be carried out by trained technicians from a METCALFE appointed distributor.

ON A REGULAR BASIS

Clean the machine thoroughly after use and lubricate the rods on which the bowl cradle slides (see CARE OF YOUR MIXER).

ON AN ANNUAL BASIS*

Check that all bolts are tight and bowl guard secure. Check the transmission belt and replace if necessary.

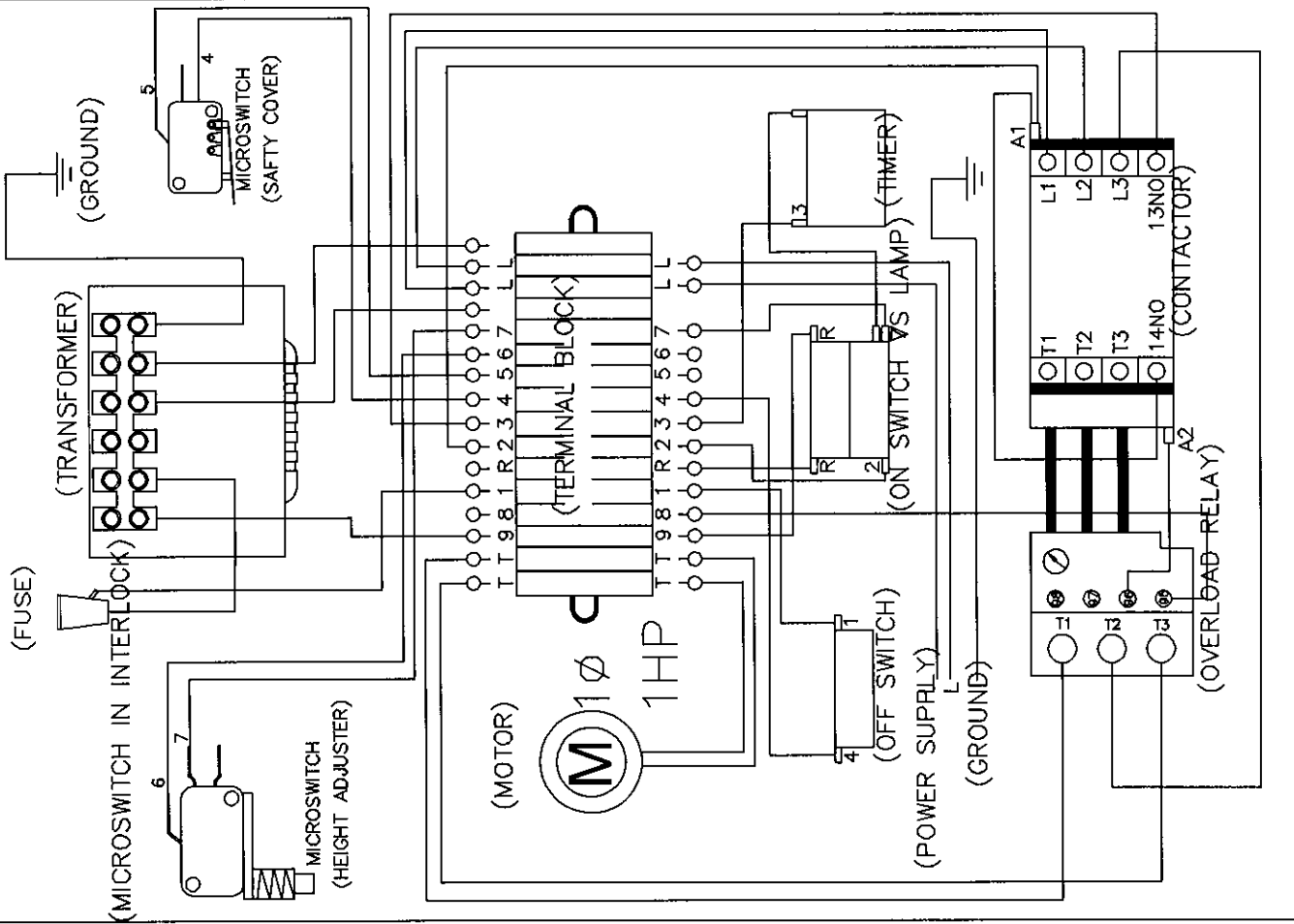
IT IS RECOMMENDED THAT ANY SERVICING OR MAINTENANCE WORK IS CARRIED OUT BY A TRAINED TECHNICIAN OR ELECTRICIAN

ISOLATE THE MIXER FROM THE ELECTRICITY SUPPLY BY REMOVING THE PLUG FROM THE SOCKET BEFORE CLEANING OR SERVICING

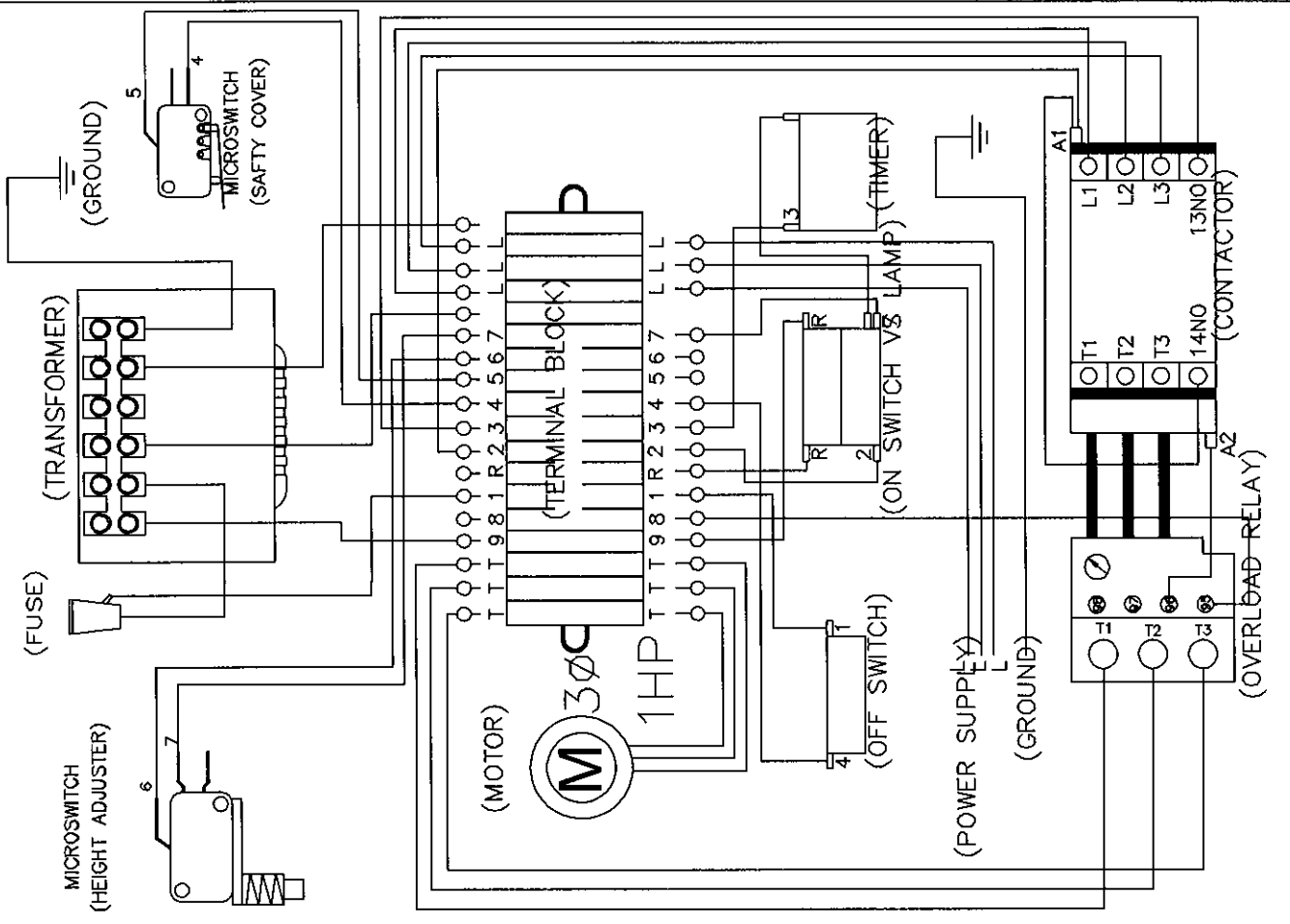
* Carry out on a more frequent basis if machine is arduously used.

Refer to parts list and exploded view diagrams on pages 8-11

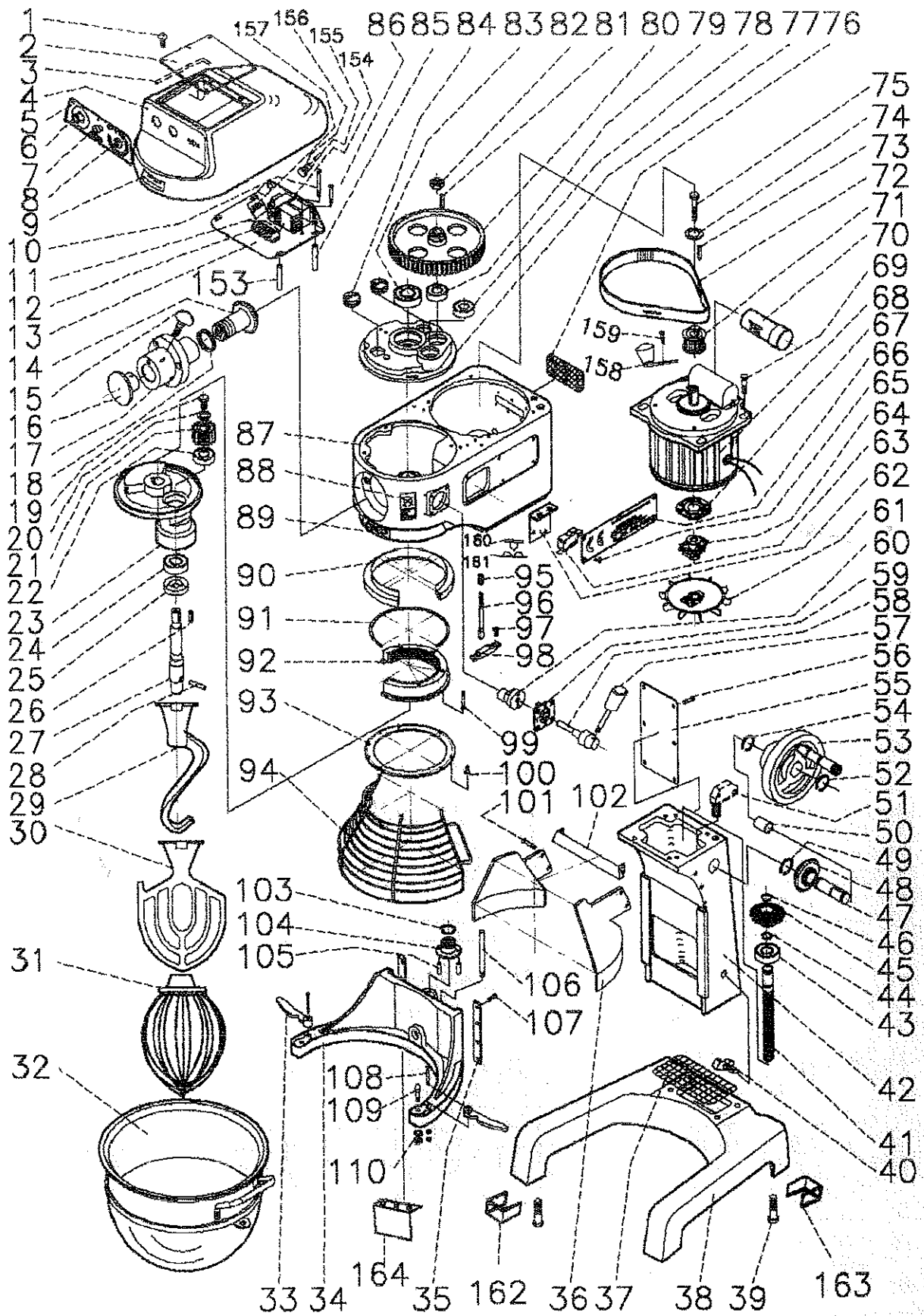
SP-30HI Wiring Diagram- Single Phase(CE)



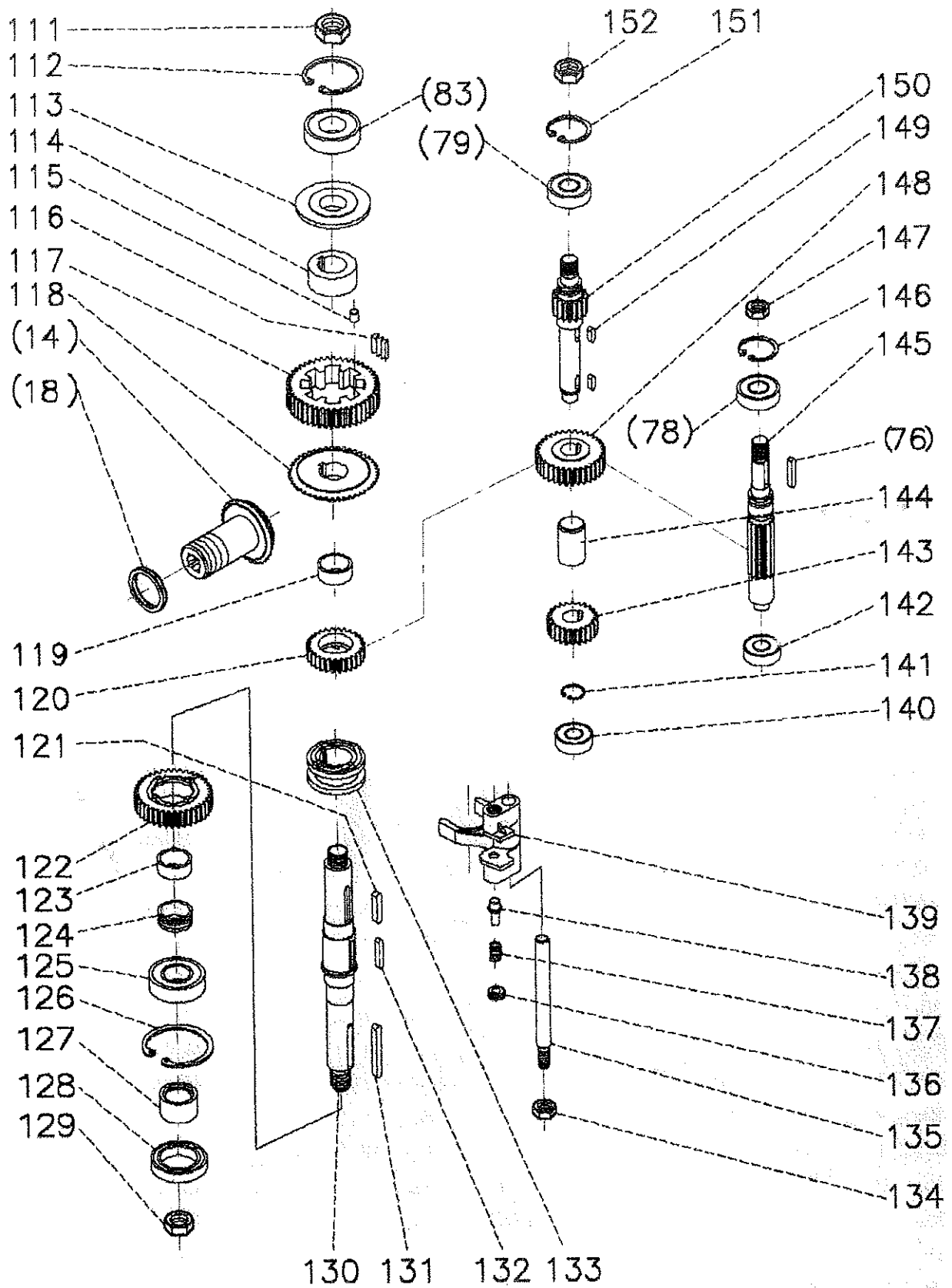
SP-30HI Wiring Diagram- Three Phase (CE)



Main Body Assembly SP-30HI PLANETARY MIXER



GearBox Assembly SP-30HI PLANETARY MIXER



MAINTENANCE MANUAL

SP-30HI

ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1.	6	SCREWS (M5x0.8)	41.	1	SCREW SHAFT
2.	1	COVER	42.	1	PILLAR MIDDLE
3.	1	RING	43.	1	BALL BEARING #6005zz
4.	1	COVER-TRANSMISSION	44.	1	C-RING (STW25)
5.	1	OPERATE PLATE	45.	1	OBLIQUE GEAR (30T)
6.	1	EMERGENCY STOP BUTTON	46.	1	C-RING (STW25)
7.	1	START BUTTON	47.	1	SHAFT
8.	1	TIMER	48.	1	OBLIQUE GEAR (30T)
9.	1	VISUAL MARKS	49.	1	C-RING (STW25)
10.	2	SCREWS (M8x1.25)	50.	1	OILLESS BEARING
11.	1	CONTACTOR	51.	1	MICROSWITCH
12.	15	CONNECTING BLOCK	52.	1	C-RING (STW25)
13.	1	BASE ELECTRIC	53.	1	HAND WHEEL
14.	1	LEVEL DRIVE GEAR (35T)	54.	1	C-RING (STW25)
15.	1	THUMB SCREW	55.	1	BEHIND PLATE
16.	1	PLUG-ATTACHMENT HOLE	56.	6	SCREWS (M5x0.8)
17.	1	HUB-ATTACHMENT	57.	1	ARM WRENCH
18.	1	WASHER-THRUST	58.	1	SHAFT WRENCH
19.	1	SCREWS (M8x1.25)	59.	1	COVER
20.	1	WASHER	60.	1	SHAFT BIAS
21.	1	PINION-BEATER (21T)	61.	1	FAN COOLING
22.	1	BALL BEARING #6204zz	62.	1	FIXED SEAT
23.	1	PLANETARY HOLE	63.	1	MICROSWITCH
24.	1	BALL BEARING #6206zz	64.	1	CLUTCH
25.	1	SEAL OIL (TC35x62x10)	65.	6	SCREWS (M4x0.7)
26.	1	LEVEL KEY	66.	1	ENGRAVE PLATE
27.	1	SHAFT PLANETARY	67.	1	PLATINUM SWITCH
28.	1	PIN	68.	1	1 HP MOTOR
29.	1	KNEADER	69.	4	SCREWS (M8x1.25)
30.	1	PADDLE(LEAF-TYPE)	70.	1	CAPACITOR
31.	1	WHISK	71.	1	WHEEL BELT (20T)
32.	1	BOWL (30 QUART)	72.	1	BELT (S8M-800)
33.	2	STEADY HOOK	73.	1	LEVEL KEY
34.	1	CRADLE	74.	1	WASHER
35.	2	ESCORT PLANK	75.	1	SCREWS (M8x1.25)
36.	2	BEHIND INTERLOCK GUARING	76.	1	VENTILATION PLATE
37.	1	NET	77.	1	ABOVE COVER
38.	1	BASE	78.	1	BALL BEARING #6204z
39.	4	L 45mm - W 3/8" SCREWS	79.	1	BALL BEARING #6204z
40.	1	CIRCUIT BREAKER	80.	1	BELT TRANSMISSION PULLY (85T)

MAINTENANCE MANUAL

SP-30HI

ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
81.	1	LEVEL KEY	123.	1	BUSK CLUTCH
82.	1	NUT STOP	124.	1	HEET
83.	1	BALL BEARING #6205z	125.	1	BALL BEARING #6306z
84.	2	OIL PLUG	126.	1	C-RING (STW72)
85.	2	SUPPORT TUBE (∅ 8x80)	127.	1	GUARD OIL BUSK
86.	4	SCREWS (M8x1.25)	128.	1	SEAL OIL (TC45x72x12)
87.	1	CASE TRANSMISSION	129.	2	NUT STOP
88.	1	VISUAL MARKS	130.	1	SHAFT DRIVEN
89.	1	VISUAL MARKS	131.	1	LEVEL KEY
90.	1	SLIDE SHEATH	132.	1	LEVEL KEY
91.	1	MAT	133.	1	SLEEVE CLUTCH
92.	1	PLANETARY INTERNAL GEAR (67T)	134.	2	NUT STOP
93.	1	FIXED SLICE	135.	1	ROD-SHIFTER GUIDE
94.	1	FRONT INTERLOCK GUARDING	136.	2	RETAINER SPRING
95.	1	SPRING	137.	2	SPRING-SHIFTER YOKE
96.	1	TOUCH SHAFT	138.	2	PLUNGER-SHIFTER YOKE
97.	2	SCREWS (M4x0.7)	139.	1	YOKE-SHIFTER
98.	1	TOUCH MASS	140.	1	BALL BEARING #6204
99.	6	SCREWS (M8x1.25)	141.	1	C-RING (STW24)
100.	6	SCREWS(M5x0.8)	142.	1	BALL BEARING #6204
101.	4	SCREWS (M8x1.25)	143.	1	GEAR (20T)
102.	1	FRONT GUARD SLAB	144.	1	SPACER BUSK
103.	1	C-RING (STW35)	145.	1	SHAFT MASTER (15T)
104.	1	SCREW SLEEVE	146.	1	C-RING (STW42)
105.	2	PIN	147.	1	NUT STOP
106.	1	TOUCH SHAFT	148.	1	GEAR (29T)
107.	8	SCREWS (M8x1.25)	149.	1	LEVEL
108.	2	SCREWS (M10x1.5)	150.	1	SHAFT TRANSMISSION (13T)
109.	2	DOWEL SCREW	151.	1	C-RING (STW47)
110.	8	NUT STOP	152.	1	NUT STOP
111.	1	NUT STOP	153.	2	SUPPORT TUBE (∅ 8x61)
112.	1	C-RING (STW52)	154.	1	OVERLOAD RELAY
113.	1	LEAD-IN OIL PAD	155.	1	FUSE 1A (5x20)
114.	1	TO GUARD AGAINST BUSK	156.	1	FUSE FIXTUER
115.	8	ROLL PILLAR	157.	1	24V OLT TRANSFORMER
116.	8	SPRING SLICE	158.	1	BELT SUPPORT WHEEL
117.	1	GEAR SLOW SPEED (52T)	159.	2	SCREWS(M8x1.25)
118.	1	GEAR BEVEL (52T)	160.	1	SAFETY GUARD SPRING LOCK
119.	1	BUSK CLUTCH	161.	1	SAFETY GUARD SPRING LOCK FIXTURE
120.	1	GEAR CLUTCH (36T)	162.	2	FRONT FEET RUBBER MATS
121.	1	LEVEL KEY	163.	2	BOCK FEET RUBBER MATS
122.	1	GEAR CLUTCH (45T)	164.	1	S/S COVER OF BOWL CRADLE

SP30HI PLANETARY MIXER

		FAULT FINDING	
FAULT	CHECK	POSSIBLE REASON AND ACTION REQUIRED	
No power to mixer	Check plug socket Check wiring in plug Check fuse in plug Check or change cable Check microswitch	Mixer not plugged into a live socket or not switched on Plug incorrectly wired - rewire correctly Possible faulty fuse - replace fuse Cable damaged or split - replace cable Limit switch damaged or faulty - replace switch	
Mixer fails to operate	Check bowl guard/ lift Check timer position Check transmission belt Check gear change lever	Machine will not operate with guards open Mixer will operate on timer or manual position only. Belt damaged or broken - replace belt Machine will not operate if out of gear - put in gear	
Mixer becomes noisy	Check bowl and tools Check work surface Check bearing for wear Check gearbox	Ensure that bowl and tool are correctly seated. Uneven surfaces create excessive resonance Worn bearings - replace bearings Damaged or faulty gearbox - replace gearbox	
Mixer loses power	Check capacity Check transmission belt Check shaft bias	Overloading of bowl - reduce load Belt damaged or worn - replace belt Damaged shaft bias - replace shaft bias	
Motor overheating	Check capacity/speed Check supply voltage	Refer to Tables 2 and 3 for details Voltage should correspond to rating plate.	
Oil on planetary shaft	Check oil seal	Worn oil seal - change oil seal	

WE RECOMMEND THAT THE ABOVE ACTIONS BE CARRIED OUT BY A TRAINED TECHNICIAN

ISOLATE THE MIXER FROM THE ELECTRICAL SUPPLY BY REMOVING THE PLUG FROM THE SOCKET BEFORE CLEANING OR SERVICING

metcalfe WARRANTY

All **METCALFE** products are guaranteed against defects in material and workmanship for a period of one year from date of Invoice, except where specially noted.

The Company's obligation under this warranty is limited to repairing or replacing, without charge, any part or parts found to be defective under normal use, in accordance to the specified operations manual and capacity ratings.

On all return to factory warranty items, it is the responsibility of the purchaser to return the entire unit to the factory, properly packed and labelled.

All repairs, alterations or replacement of materials or parts not authorised by **METCALFE** will automatically void all warranties in their entirety.

There is a limited **6-month warranty** on the following

- Mixer attachments (beater, whisk and dough hook)
- Parts purchased or supplied for the repair of **METCALFE** equipment

This warranty does not cover the following

- Failure due to neglect, abuse, careless handling or misuse of machine
- Failure caused due to improper maintenance
- Blender clutches
- Knives and gears on can openers
- Sharpening of slicer blades

METCALFE and its suppliers reserve the right to make changes in design and specification to any product without prior notification.

Electrical PAT Certificate

Test Detail	Results
Item:	
Class:	Class 1 / Class 2
Date:	/ /
Appliance ID:	
User ID:	M.C.E.
Visual:	
Earth Current:	amps
Class 1 Earth Result/RPE:	Ω
RISO:	MΩ
1 EA:	MA
Class 2 RISO:	MΩ
1 EA:	MA
Insulation (500V):	MΩ
Load:	KVA
Leakage:	MA
Polarity (leads only):	

Test Detail	Results
Item:	
Class:	Class 1 / Class 2
Date:	/ /
Appliance ID:	
User ID:	M.C.E.
Visual:	
Earth Current:	amps
Class 1 Earth Result/RPE:	Ω
RISO:	MΩ
1 EA:	MA
Class 2 RISO:	MΩ
1 EA:	MA
Insulation (500V):	MΩ
Load:	KVA
Leakage:	MA
Polarity (leads only):	

Electrical PAT Certificate

Test Detail	Results
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Load:	KVA
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Test Detail	Results
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Load:	KVA
Leakage:	MA
Polarity (leads only):	