



**MODEL 234 Plus
OPERATION AND MAINTENANCE MANUAL**

International Symbols



Power Off



Power On



Hot Surface



Risk of Electrical Shock



Protective Earth Terminal



Ground



Wet Conditions



Caution



Warning

Safety Summary



WARNING

In case of power cord damage, do not attempt to repair or replace the power cord. Contact the manufacturer or the local distributor.



WARNING

Hot Surface. Avoid contact.



WARNING

If this equipment is used in a manner not specified by the manufacturer, protection may be impaired.



CAUTION

During normal operation, the base of the machine needs to be installed or placed above the wall socket.



CAUTION

The machine is to be operated by one person only.



CAUTION

To reduce the risk of electric shock and injury to persons, disconnect from power supply before servicing and /or cleaning.



CAUTION

Do not handle the plug with wet hands, or machinery under wet conditions.

Congratulations!

Your selection of the Insta Graphic Systems heat seal machine is a sound business decision. Insta equipment is the result of the highest quality engineering and time-tested design. Your new machine combined with Insta's reputation of innovation in the heat-sealing field, insures the continuing capability of delivering the best decorated substrates possible.

This manual describes installation, operation, and maintenance procedures for your new 234 Plus series machine, as well as easy to use instructions for on-the-spot maintenance.

Your 234 Plus series machine will have a long trouble-free life. Read this manual. Keep it with your machine; it's your key to proper operation and lasting service.

General Description

The Model 234 Plus has been strategically designed to generate and evenly distribute tremendous pressure throughout the entire platen. And, its cast-in tubular heating element heats the metal from within, which produces constant and long lasting heat. A successful heat transfer application requires 3 key elements to work in tandem-time, temperature and pressure. The Model 234 Plus has mastered those elements and gets the job done every time.

The manual swing-away machine has proven to be a true customer favorite. The upper platen swings almost a full 180 degrees to the right – leaving the lower platen completely free from constraints. The exposed lower platen provides you with unobstructed access while you load your garments and place your transfers.

Limited Machine Warranty

Insta Graphic Systems warrants this heat seal machine, when operated under normal conditions, to be free from manufacturing defects in material and workmanship for a period of one year on parts (lifetime on the heating element) and 90 days on labor from the invoice date.

This warranty will be effective only when Insta authorizes the original purchaser to return the product to the factory in Cerritos, California, freight prepaid, and only when the product upon examination has proven to be defective.

This warranty does not apply to any machine that has been subjected to misuse, negligence or accident.

Insta shall not be liable for the injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product.

No claim of any kind shall be greater in amount than the sale price of the product or part to which claim is made.

This is the sole warranty given by the company, it is in lieu of any other warranties, expressed or implied, in law or in fact, including the warranties of merchant-ability and fitness for a particular use, and is accepted as such by the purchaser in taking delivery of this product.

FOR USE BY QUALIFIED PERSONNEL ONLY

Installation



DOMESTIC – 234 Plus

Use a **separate** 15 amp AC circuit. Only industrial extension cords with proper wire size should be used: size 16/3 wire for distances up to 25 feet, and size 14/3 for distances up to 50 feet.



INTERNATIONAL – 234 Plus

Use a **designated** 16-amp AC circuit. Only industrial extension cords with proper wire size (2.5 sq. mm) shall be used.



IMPORTANT

The appliance must be plugged into a proper receptacle of the proper size and rating. Equally important the line voltage must be able to accommodate this appliance as well as *other appliances operating on this circuit.*

Specifications

Voltage	120 Volts AC	50/60 Hertz
Model 234 Plus	1750 Watts	14.6 Amps
Voltage	230 Volts AC	50/60 Hertz
Model 234 Plus	2200 Watts	9.6 Amps
Model 234 Plus Machine Weight	97 Pounds (44.0 KG)	

Degree of Protection

IP (Ingress Protection) rating according to IEC 60529.

NOTE

IEC 60529 does not specify sealing effectiveness against the following: mechanical damage of the equipment; the risk of explosion; certain types of liquid conditions, e.g. those that are produced by condensation; corrosive vapours; fungus; vermin

IP54 = IP
 1st Digit 5
 2nd Digit 4

1 st Digit	Protection from solid objects	2 nd Digit	Protection from moisture
0	Non protected	0	Non protected
1	Objects greater than 50mm	1	Dripping water
2	Objects greater than 12mm	2	Dripping water when tilted up to 15 deg.
3	Objects greater than 2.5mm	3	Spraying water
4	Objects greater than 1mm	4	Splashing water
5	Dust protected	5	Water jets
6	Dust tight	6	Heavy seas
--	---	7	.15m – 1m immersion
--	---	8	1m + submersion

Operation

1. Turn the power on by pressing the **POWER** button on the controller.
2. Set desired temperature and time. Swing the upper platen arm to its fully open position, away from lower platen. (See Solid State Controller section)
3. Allow the machine to warm up until the selected temperature is reached.
4. Set the desired pressure by adjusting the pressure knob on the top of the machine. To reduce pressure, turn knob counter-clockwise.
5. Place the substrate on lower platen, smoothing out all wrinkles.
6. Position transfer or lettering on substrate.
7. Swing the upper arm into position directly over the lower platen.
8. Close machine by pulling handle down into locked position.
9. The timer will start automatically and a buzzer will beep at the end of the time cycle.
10. Lift safety lock and pull handle up slowly and move upper platen handle to its full open position. This technique will avoid transfer paper (cover) from being pulled off prematurely due to suction from the separating platens.



CAUTION

For safety purposes, it is necessary to push the handle into the locked position after it is lifted. This will eliminate the accidental lowering of the heat platen handle.

11. Swing away arm to the extreme right hand position and remove substrate.



WARNING

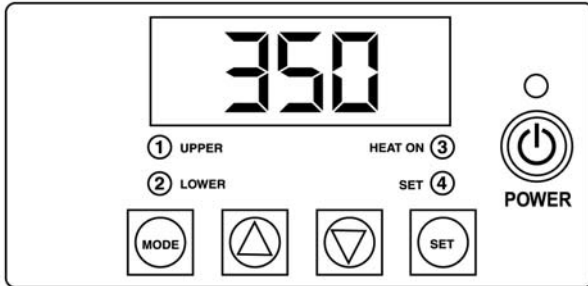
If this equipment is used in a manner not specified by the manufacturer, protection may be impaired.

Environmental Conditions

Only operate Insta heat seal machines under suitable environmental conditions.

1. Placed on a even, non flammable surface.
2. Can support a minimum of 300 lbs. if placed above a platform.
3. Do not restrict access to the main power switch.
4. Maintain a clearance around any forms of liquid.
5. Do not over extend the power cord.
6. The operational voltage should not be 10% max/min of the rated value.
7. Avoid voltage spikes.

Operation Timer/Temperature Control



Temperature

Fahrenheit/Centigrade (Celsius) Conversion

The temperature controller can be programmed to display either °F or °C

1. Press the **MODE** button until the temperature is displayed.
2. Push and hold the **UP and DOWN** buttons for 5 seconds.

Solid State Controller

This controller has two (2) control features:

1. Temperature - Temperature may be set from 221-446°F (105-230°C).
2. Time - Time may be set from 1 second to 99.59 minutes.

Controller Operation

1. If the temperature is not being displayed, press the **MODE** button until temperature is displayed.
2. Push and hold **SET** button and simultaneously push UP (↑) or DOWN (↓) arrow buttons to the desired temperature setting.
3. Press the **MODE** button until time is displayed.
4. Push and hold **SET** button and simultaneously push UP (↑) or DOWN (↓) arrow buttons to the desired timer setting.

Timer

- The controller has a count down timer that automatically activates a buzzer at the completion of the application.
- Timer display is minutes:seconds. Range is **00:00** to **99:59**, Colons (:) flash while timer is running.

Preventive Maintenance Suggestions

The Insta heat seal machines are relatively maintenance free. For long trouble-free life, the following preventive maintenance should be followed:

1. Do not heat seal items such as buttons, pins, snaps, or zippers that tend to cut the silicone rubber pad or scratch the Teflon heat platen.
2. Periodically clean the Teflon-coated heat platen with a non-abrasive piece of cloth. Stubborn stains may be cleaned, **when platen is cool**, with mineral spirits.
3. When the heat platen is hot and not in use, keep in open position (away from the silicone rubber pad).
4. To prevent soiling of substrate, periodic wiping of the entire exterior machine, including platens, with a clean rag is recommended. If necessary, use mineral spirits for cleaning a **cold** machine. Since mineral spirits are flammable, use precautions and keep away from sparks, flame, or hot heat platen.
5. The Model 234 machines require periodic lubrication with a high-temperature, non-melting grease (MPPL023).
 - A. Lubricate the post, handle and cam assembly depending upon usage. (Once every month if used continuously.)
 - B. There are four (4) points of lubrication:
 - a) Post
 - b) Lower Cam
 - c) Guide Post
 - d) Upper Pin Area

In addition, occasionally apply a few drops of heavy machine oil to the upper portion of the cam assembly.

General Maintenance

It is recommended that you have the following items available:

- A. Regular screw driver
- B. Phillips head screw driver
- C. Small adjustable wrench
- D. Needle nose pliers with insulated handle
- E. Set of Allen wrenches
- F. Grease gun
- G. Special high temperature grease MPPL023

With the above items you should be able to accomplish most repairs.



WARNING

Power cord replacement should be from the manufacturer only (because it requires a specially prepared cord).

Replacement of Silicone Rubber Pads

1. Make sure heat platen is cool.
2. Use tube of MPPC006 adhesive to bond silicone rubber pad to metal platen.

NOTE: *Read instructions on the tube package*
3. Be sure that the surface of the silicone platen is clean. Use a **mild** solvent such as **mineral spirits**.
4. The pad and metal must be thoroughly dry and clean, before starting the bonding operation.
5. Apply adhesive sealant to the metal platen. Spread a thin even coat and apply pad immediately. Apply pressure and position pad making sure that there is no air entrapment.

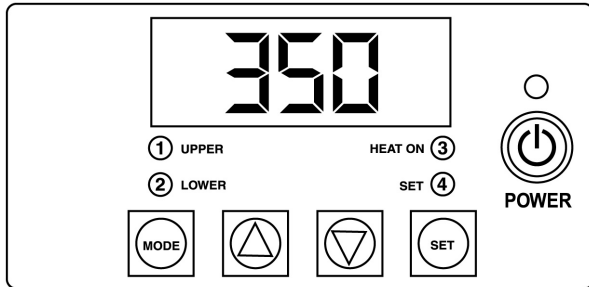
NOTE: *A serrated blade such as used for laying down rubber floor tiles would be helpful.*

6. Allow to cure overnight under low pressure at normal room temperature.

Automatic Shut Off

Model 234 Plus

(234 Plus Controller P/N MPC90270 ; Rev. 6.27)



The Automatic Shut Off is designed to save electrical consumption when the user is not engaged in the usage of the Insta heat seal machines.

By default, the timer for Automatic Shut Off is set to **2 hours** during activation and cannot be changed. Any disturbances such as the key press, or heat press cycle will reset the timer.

The timer for Automatic Shut Off will begin after every key press or heat press cycle.



NOTE

The Automatic Shut Off feature is activated.

Automatic Shut Off

1. Turn on the machine by pressing **POWER**.

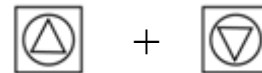


- a) ONE beep indicates the Automatic Shut Off is **OFF**.
- b) TWO beeps indicates the Automatic Shut Off is **ON**.

2. Press on the **MODE** once in order to display the **TIME SETTING**.



3. With the TIME SETTING displayed, press and hold the **UP + DOWN ARROWS** for **3 to 5 seconds**.



- a) ONE beep indicates the Automatic Shut Off is **OFF**.
- b) TWO beeps indicates the Automatic Shut Off is **ON**.

4. Repeat step 3 in order to turn ON or OFF the Automatic Shut Off.

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Safety and Danger Zone Diagram

Do not handle the machinery with wet hands

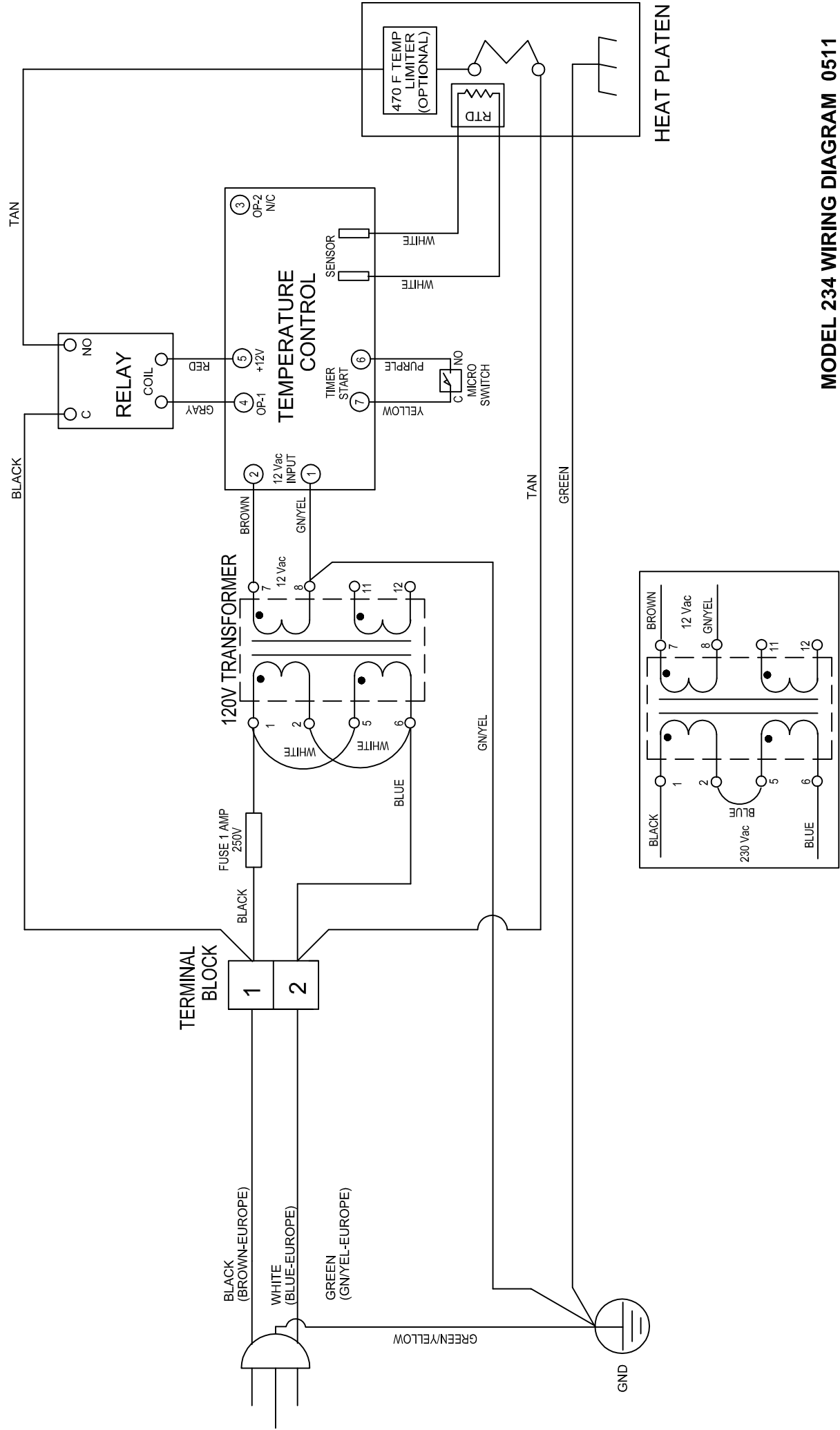
Hot Surface. Avoid contact with Upper Platen Shroud and Aluminum Casting

Machinery should be operated under a secure flat surface

Keep hands clear



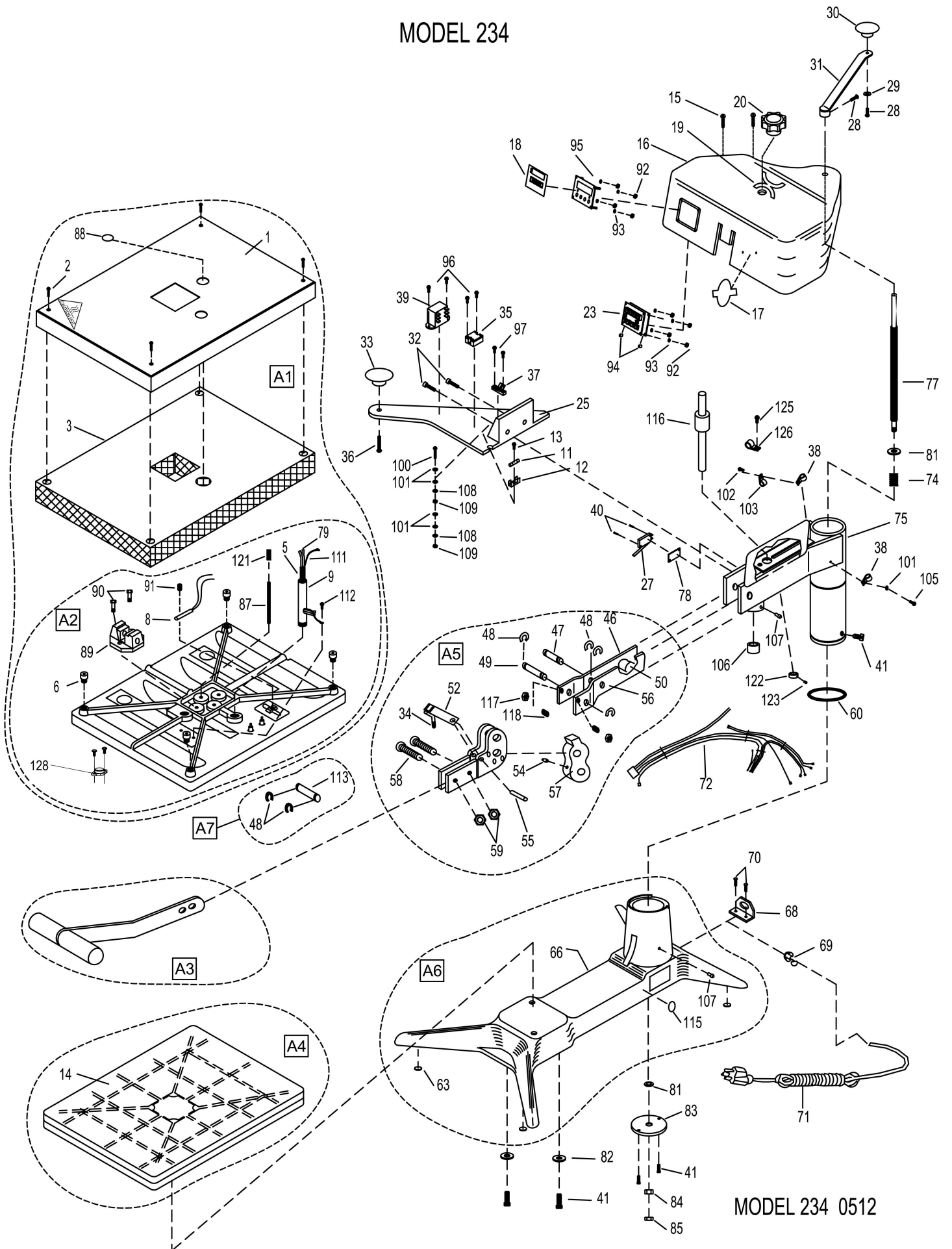
MODEL 234



MODEL 234 WIRING DIAGRAM 0511

230V TRANSFORMER

MODEL 234



MODEL 234 0512

P/N	PART NAME	MODEL VOLTAGE	
		120V AC	230V AC
1	SHROUD, HEAT	MPSS228	MPSS228
2	SCREW, PAN HD #10 x 1" LG PHIL SH METAL	MPSS143	MPSS143
3	INSULATION, FIBERGLASS	MPI90158	MPI90158
5	TUBING, SHRINK TFE AWG7	MPPS131	MPPS131
6	INSULATORS, SPACER (4/SET)	MPSI089	MPSI089
8	SENSOR, TEMPERATURE	MPPS210	MPPS210
9	GUIDE POST	MPSP084	MPSP084
11	FUSE (1 AMP, 250V)	MPPF701R	MPPF701R
12	FUSE HOLDER	MPPF708	MPPF708
13	SCREW, PHILLIP PAN HEAD 2-56 x .25 LONG	MHSP25614	MHSP25614
14	PAD, SILICONE RUBBER	MPP031	MPP031
15	SCREW, PHILLIP PAN HEAD 10-24 x 0.5 LONG	MHSP102412	MHSP102412
16	HOUSING, INSTRUMENT	MPSH234P	MPSH234P
17	TMT LOGO PLATE	MPTMT234	MPTMT234
18	LABEL, OVERLAY	MPL90177	MPL90177
19	LABEL PRESSURE OVERLAY 234P	MPL90442	MPL90442
20	KNOB, PRESSURE ADJUST	MPPK018	MPPK018
23	CONTROLLER, DIGITAL	MPC90270	MPC90270
25	HANDLE, SWING AWAY	MPH90002	MPH90002
27	SWITCH, MICRO	MPPS043	MPPS043
28	SCREW, BUT HD 1/4-20 X .75" LG	MHSB142034	MHSB142034
29	WASHER, SAE 1/4"	MHWSAE14	MHWSAE14
30	KNOB, HANDLE (MUSHROOM)	MPPK017	MPPK017
31	PRESSURE ADJUSTMENT CRANK ASSEMBLY	MPSP90322	MPSP90322
32	SCREW, SOCKET HD 1/4-20 x 0.50 LONG	MHSSH142012	MHSSH142012
33	KNOB, MUSHROOM	MPPK017	MPPK017
34	CAP, VINYL BLACK 5/16" x .281 LONG	MPC90006	MPC90006
35	RELAY	MPR90217	MPR90217
36	SCREW, BUTTON HD 1/4-20 x 0.875 LONG	MHSB142078	MHSB142078
37	TERMINAL BLOCK	MPB90006	MPB90006
38	CLAMP, CABLE 1/4 IN	MHCC14	MHCC14
39A	TRANSFORMER (USA MODEL)	MPT90001	MPT90001
39B	TRANSFORMER (EUROPEAN MODEL)	MPT90319	MPT90319
40	SCREW, ROUND HEAD 4-40 x 0.625 LONG	MHSR44058	MHSR44058
41	SCREW, SOCKET HD 5/16-18 x 1/2 LONG	MHSSH5161812	MHSSH5161812
46	PRESSURE ADJUST LEVER (LH)	MPSP2221	MPSP2221
47	PIN, PIVOT (LOWER)	MPSP2211	MPSP2211
48	E-CLIPS	MPSC240	MPSC240
49	PIN, CAM PIVOT (UPPER)	MPSP262	MPSP262
50	NUT, PRESSURE ADJUSTMENT	MPSP2209	MPSP2209
52	SAFETY LOCK	MPSL240	MPSL240
54	FITTING, GREASE (SHORT)	MPSF145	MPSF145
55	PIN, ROLL (SAFETY LOCK)	MPSR141	MPSR141
56	PRESSURE ADJUST LEVER (RH)	MPSP2220	MPSP2220
57	CAM	MPSC220	MPSC220
58	SCREW, BUTTON HD 5/16-18 x 1.00 LONG	MHSB516181	MHSB516181
59	NUT, HEX JAM 5/16-18	MHNHJ51618	MHNHJ51618
60	O'RING	MPSS273	MPSS273
63	FEET, RUBBER (4/SET)	MPF90004	MPF90004
66	BASE	MPSB204	MPSB204
68	BRACKET, STRAIN RELIEF CORD	MPSS163	MPSS163
69	STRAIN, RELIEF	MPSS168	MPSS168
70	SCREW, PHILLIP PAN HEAD 10-32 x 0.375 LONG	MHSP103238S	MHSP103238S

P/N	PART NAME	MODEL VOLTAGE	
		120V AC	230V AC
71	POWER CORD (USA MODEL)	MPPW141	MPPW142
71A	POWER CORD (EUROPEAN MODEL)	N/A	MPPW202
71B	POWER CORD (UK MODEL)	N/A	MPPW203
72	WIRE HARNESS	MPW90361	MPW90361
74	SPRING, CAM	MPSS201	MPSS201
75	POST, ARM ASSY 234P	MPSP234P	MPSP234P
77	SCREW, PRESSURE ADJUSTMENT	MPSS070	MPSS070
78	INSULATION, MICRO SWITCH	MH700214	MH700214
79	WIRE, HEATER	MPPW700	MPPW700
81	WASHER, SAE 1/2"	MHWSAE12	MHWSAE12
82	WASHER, CUT 5/16 I.D.	MHWC516	MHWC516
83	PLATE, POST STOP	MPSP20450	MPSP20450
84	NUT, JAM 1/2-20	MHNHJ1220	MHNHJ1220
85	NUT, JAM SELF-LOCKING 1/2-20	MHNHJSL1220	MHNHJSL1220
87	STUD THREADED 1/4-20 x 3.50 LONG	MPS90277	MPS90277
88	PLUG, BUTTON 7/8 IN	MPP90006	MPP90006
89	CLEVIS	MPSP221	MPSP221
90	BOLT, HEX 5/16-18 X 1.0 IN LONG SST	MHBH516181S	MHBH516181S
91	SCREW, SOCKET SET 3/8-16 x 0.5 IN	MHSST381612	MHSST381612
92	NUT, HEX 6-32	MHNH632	MHNH632
93	WASHER, SHIM #6 (.031)	MH311150019	MH311150019
94	SPACER, LONG NYLON 0.166 ID X 1/4 IN	MH110969111	MH110969111
95	PLATE, CONTROLLER	MPP90011	MPP90011
96	SCREW, PHILLIP PAN HEAD 8-32 x 0.25 IN	MHSP83214	MHSP83214
97	SCREW, PHILLIP PAN HEAD 8-32 x 0.5 IN	MHSP83212	MHSP83212
100	SCREW, PHILLIP PAN HEAD 8-32 x 1.0 IN	MHSP8321	MHSP8321
101	WASHER, #8 SAE	MHWSAE8	MHWSAE8
102	SCREW, SOCKET HEAD 1/4-20 x .50 IN	MHSSH142012	MHSSH142012
103	CLAMP, CABLE METAL 3/8 IN.	MHCC38	MHCC38
105	SCREW, PHILLIP PAN HEAD 8-32 x .375 IN	MHSP83238	MHSP83238
106	BUSHING, GUIDE POST	MPSB070	MPSB070
107	FITTING, GREASE (LONG)	MPSF144	MPSF144
108	WASHER LOCK INT #8	MHWLIT8	MHWLIT8
109	NUT, HEX 8-32	MHNH832	MHNH832
111	GROUND WIRE	MPW90125	MPW90125
112	SCREW, PHILLIP PAN 8-32 x 0.25 LG	MHSP83214	MHSP83214
113	LUG PIN	MPP0139	MPP0139
115	LABEL, ROHS/WEE	MPL90175	MPL90175
116	PRESSURE ADJ SCREW	MPS90295	MPS90295
117	NUT, HEX 3/8-1	MHNH3816	MHNH3816
118	DETENT, PLUNGER SPRING 3/8-16	MPSP134	MPSP134
121	SPRING, COMPRESSION	MP290276	MP290276
122	LOCK NUT, PRESSURE ADJ	MPSP247	MPSP247
123	SET SCREW 10-32 x 3/16 LONG	MHSST1032316	MHSST1032316
125	SCREW, PHILLIP PAN HEAD 8-32 x 0.375 LONG	MHSP83238	MHSP83238
126	CLAMP, CABLE METAL 1/2 IN	MHCC12	MHCC12
127	SCREW, SOCKET HD 5/16-18 x 0.75 LONG	MHSSHS161834	MHSSHS161834
128	HIGH TEMP LIMITER	MH009-002	MH009-002
A1	PLATEN, HEAT ASSY	MPSP082	MPSP092
A2	PLATEN, UPPER (WIRING ONLY)	MPSP090	MPSP091
A3	HANDLE, PRESSURE ASS'Y	MPSH515	MPSH515
A4	PLATEN, LOWER ASSY	MPP90160	MPP90160
A5	CAM/PRESSURE LEVER ASSY	MPSC201	MPSC201
A6	BASE ASSY	MPSB234A	MPSB234A
A7	LUG PIN ASSY	MPP90141	MPP90141
A8	STUD, MICROSWITCH ACTIVATOR ASSY 234	MPS90358	MPS90358

FOR USE BY QUALIFIED PERSONNEL ONLY

Notes:

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