

Operation and Maintenance Manual MNL90003
01/10/05 Rev H

MODEL 216/221

Heat Seal Machines



PUT IT ON!

Insta Graphic Systems • 13925 E. 166th. St. • Cerritos, CA 90702 USA • (562) 404-3000 • FAX (562) 404-3010



FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY

Congratulations!

Your selection of the Insta Graphic Systems (IGS) heat seal machine is a sound business decision. IGS equipment is the result of the highest quality engineering and time tested design. Your new machine combined with IGS'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 model 200 series, as well as easy to use instructions for on the spot maintenance. Proper heat sealing instructions and helpful hints are included in a separate brochure.

Your model 200 series machine will have a long trouble-free life. Read this manual and keep it with your machine. It is your key to proper operation and lasting service.

Installation



DOMESTIC

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

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

Limited Machine Warranty

Insta Graphic Systems (IGS) 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 IGS 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.

IGS 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 merchantability and fitness for a particular use, and is accepted as such by the purchaser in taking delivery of this product.

Specifications

Voltage	120 Volts AC	50/60 Hertz
Model 216	Wattage	1500 Watts
Model 221	Wattage	1750 Watts

Voltage	240 Volts AC	50/60 Hertz
Model 216	Wattage	1500 Watts
Model 221	Wattage	2200 Watts

Weight Model 216	75 Pounds (34.1 KG)
Weight Model 221	87 Pounds (39.5 KG)

Operation

1. It is recommended that you review the "How to Apply Instructions" (in our Product Catalog) before beginning heat sealing operations.
2. Push on/off switch to **ON** position.
3. Set desired temperature and swing the upper platen arm to its fully open position, away from lower platen.
4. Allow the machine to warm up for approximately 30 minutes. When the selected temperature is reached, the **green**

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heater lamp adjacent to the power switch will cycle on and off.



NOTE

*The thermometer indicates the internal temperature of the heat platen and will indicate a temperature approximately 25F° (14C°) higher than the actual heat platen surface. The temperature control is calibrated at the factory and indicates the **TRUE** surface temperature of the heat platen.*

5. Set the desired pressure by adjusting the pressure adjust lever on the top of the machine. To increase pressure, pull lever forward.
 6. Place the substrate on lower platen, smoothing out all wrinkles.
 7. Position transfer or lettering on substrate.
 8. Swing the upper arm into position directly over the lower platen.
 9. Close machine by pulling handle down into locked position.
 10. Set timer for desired time cycle.
 11. Bell will ring at end of time cycle. Lift safety lock and pull handle up slowly. 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.
- NOTE**
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.
12. Swing away upper arm to the extreme right hand position and remove substrate.



Preventive Maintenance Suggestions

The IGS 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 which 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 216/221 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. To lubricate adjustment knob and cover retaining screw, raise cover an inch or two and apply heavy machine oil to threads.

NOTE

Wipe off any excess oil or grease. Replace cover, screw, and knob..



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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

Avoid touching hot surfaces while operating the machine.



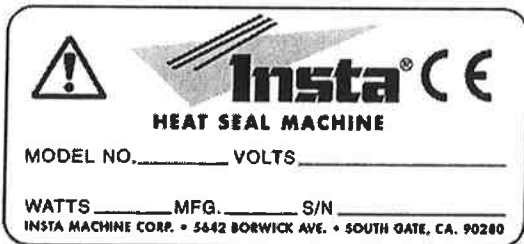
CAUTION

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



CAUTION

When servicing or cleaning the machine, make sure that the power cord is removed from the wall socket.



International Symbols



Power Off



Power On



Hot Surface



Risk of Electrical Shock



Protective Earth Terminal



Ground



Caution - Warning

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Model 216/221 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.

Temperature Control Replacement

NOTE

Disconnect Power Supply



1. Remove knob.
2. Remove the two screws which secure the control to the front panel.
3. Disconnect the wires going to the control.

NOTE

There is only one wire going to the terminal (this is the **HOT** side of the line). The other terminal has two wires--one from the heating elements and one from the lamp



4. Carefully remove the capillary tube clamp and temperature sensing bulb from the rear of the upper heat platen.

NOTE

Do not squeeze or sharply bend the thin capillary tube which connects the temperature control of the sensing bulb.



5. Make sure that the temperature sensing bulb on the new control is straight. Carefully straighten if necessary.
6. Carefully insert the new sensing bulb into the upper heat platen. If necessary, the sensing bulb (**NOT THE CAPILLARY BULB**) may be grasped **GENTLY** with a pair of pliers to aid in installation.

NOTE

Do **not** grasp capillary tube with pliers.

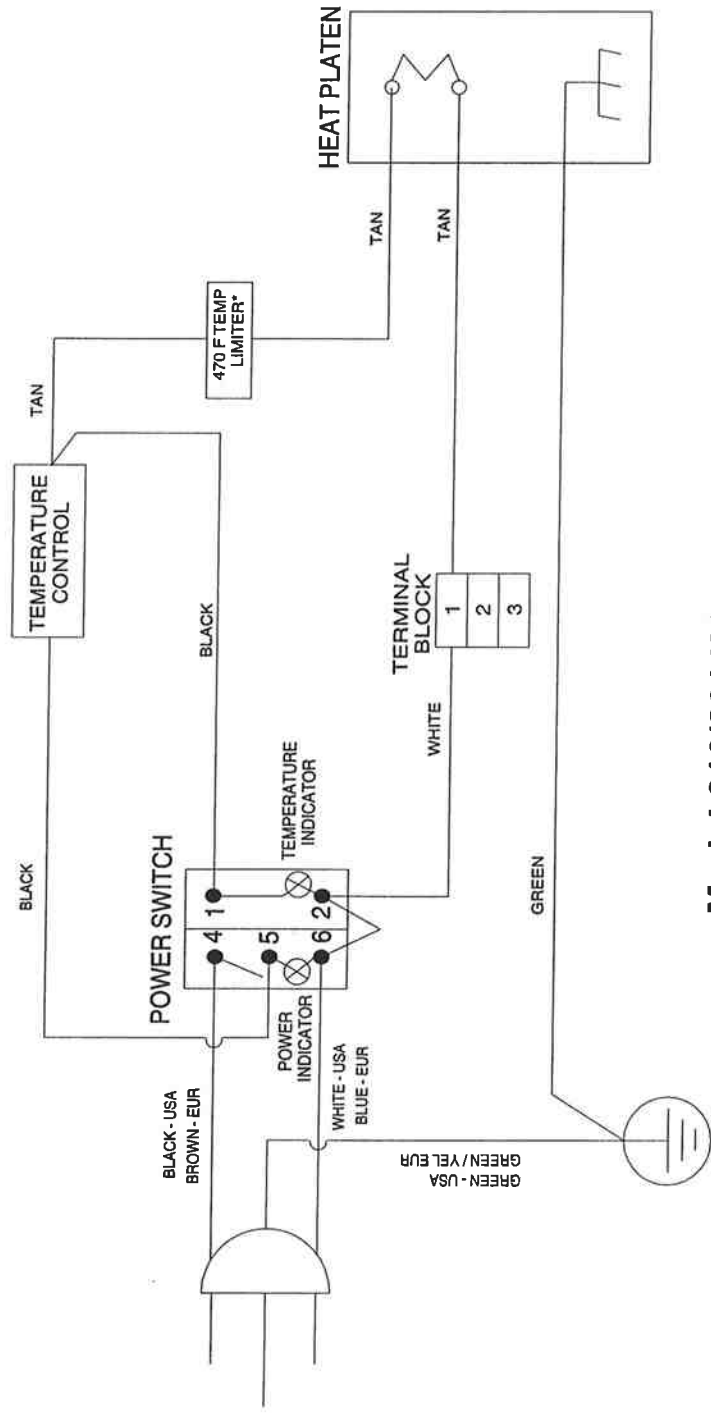


7. Reinstall the capillary tube clamp.
8. Reconnect the three (3) wires to temperature control as stated in Step 3.
9. Insert the two screws which secure the control to the front panel.
10. Replace the knob with the pointer indexed to the **OFF** position.

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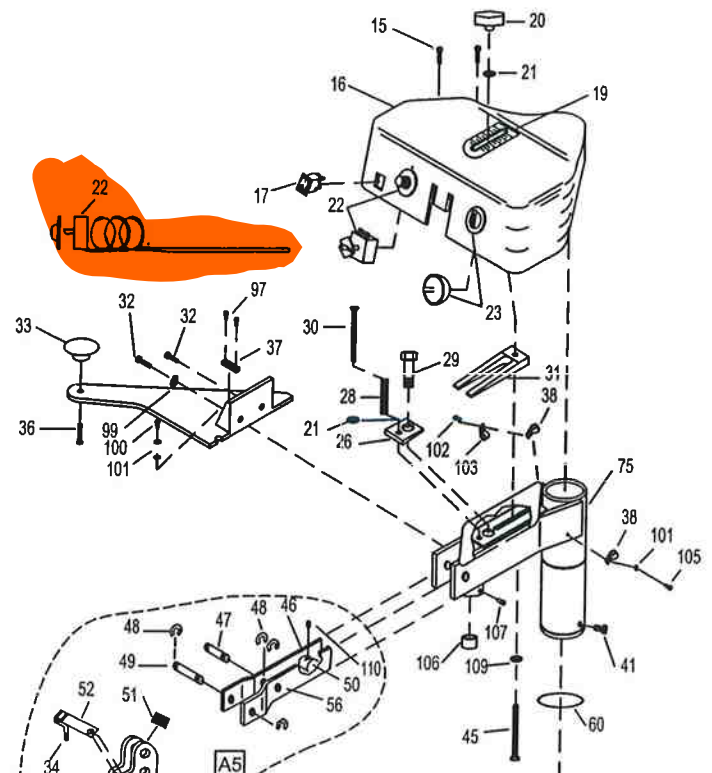
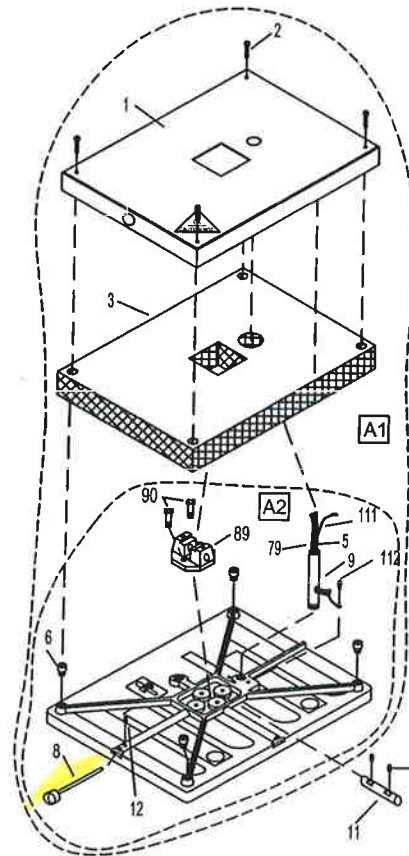
Heat Platen Removal

1. Remove temperature control as explained in the **Temperature Control Replacement** section.
2. Disconnect the two heat platen wires which come up through the guide post, **one from the terminal block and one from the lamp.**
3. Remove the heat platen wire clamps.
4. Place some padding on the base of the machine to protect the Teflon coating on the heat platen during disassembly.
5. Using an Allen wrench, loosen the two lower pivot pin set screws.
6. Using a long, thin punch or screw driver, drive the lower pivot pin from the platen.
7. Swing the arm to the extreme right and slowly lower the heat platen until the guide post clears the bushing. The wires may then be pulled free.
8. Reverse this procedure to install.

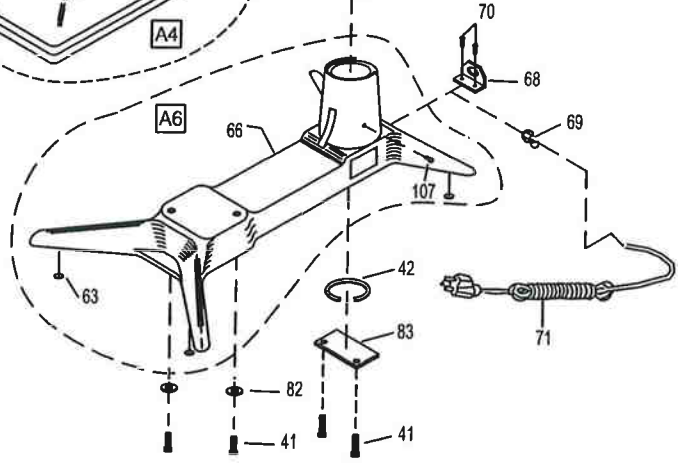
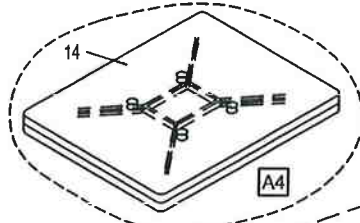
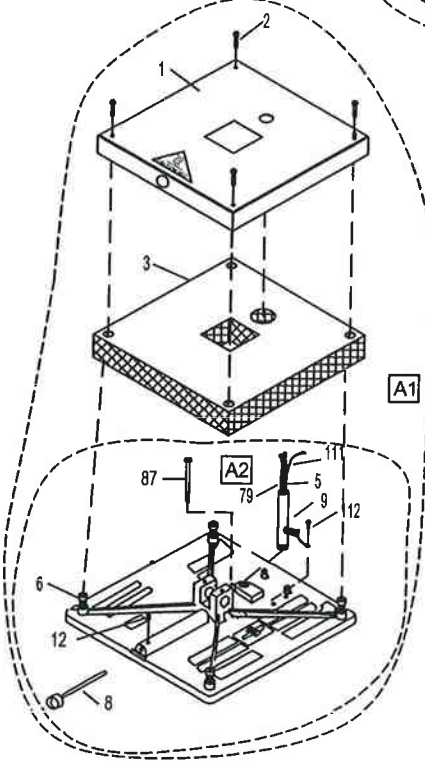


Model 216/221 Wiring Diagram

221



216



216 / 221 EXPLOSION DRAWING 10/14/04

NO	PART NAME	MODEL	MODEL	MODEL	MODEL
		216	216	221	221
		120V AC	240V AC	120V AC	230V AC
1	SHROUD, HEAT	MPSS215	MPSS215	MPSS220	MPSS220
2	SCREW, PAN HD #10 x 1.00 LG	MPSS143	MPSS143	MPSS143	MPSS143
3	INSULATION, FIBERGLASS	MPSP251	MPSP251	MPSP254	MPSP254
5	TUBING, SHRINK TFE AWG7	MPPS131	MPPS131	MPPS131	MPPS131
6	INSULATORS SPACER (4/SET)	MPSI089	MPSI089	MPSI089	MPSI089
8	THERMOMETER, STEM	MPPT056	MPPT056	MPPT056	MPPT056
9	POST, GUIDE HEAT PLATEN	MPSP085	MPSP085	MPSP085	MPSP085
11	PIN, PIVOT PLATEN	MPSP083	MPSP083	MPSP083	MPSP083
12	SCREW, SET 1/4-20 x .375 LONG	MHSST142038	MHSST142038	MHSST142038	MHSST142038
14	PAD, SILICONE RUBBER	MPPP030	MPPP030	MPPP031	MPPP031
15	SCREW, PHILLIPS, PAN HD 10-24 x .50 LG	MHSP102412	MHSP102412	MHSP102412	MHSP102412
16	HOUSING, INSTRUMENT	MPSH200	MPSH200	MPSH200	MPSH200
17	SWITCH, POWER ASSEMBLY	MPPS230	MPPS230	MPPS230	MPPS230
18	WIRE ASS'Y (WHITE)	MPPW221	MPPW221	MPPW221	MPPW221
19	LABEL, SCALE OVERLAY (PRESSURE ADJ.)	MPPL012	MPPL012	MPPL012	MPPL012
20	KNOB, PRESSURE ADJUST	MPPK019	MPPK019	MPPK019	MPPK019
21	WASHER, SAE 5/16" I.D.	MHWSAE516	MHWSAE516	MHWSAE516	MHWSAE516
22	TEMPERATURE CONTROL ASSEMBLY	MPPT052	MPPT052	MPPT052	MPPT052
23	TIMER, BELL	MPPT058	MPPT058	MPPT058	MPPT058
25	HANDLE, SWING AWAY	MPH90002	MPH90002	MPH90002	MPH90002
26	WASHER, WEDGE	MPSP010	MPSP010	MPSP010	MPSP010
28	SPRING, TENSION	MPSS200	MPSS200	MPSS200	MPSS200
29	BOLT, HEX 1/2-13 x 3.00 LONG	MHBH12133	MHBH12133	MHBH12133	MHBH12133
30	SCREW, FLAT HD 5/16-18 x 2.00 LONG	MHSF516182	MHSF516182	MHSF516182	MHSF516182
31	CAM WEDGE	MPSP001	MPSP001	MPSP001	MPSP001
32	SCREW, SOCKET HD 1/4-20 x .625 LONG	MHSSH142058	MHSSH142058	MHSSH142058	MHSSH142058
33	KNOB, HANDLE (MUSHROOM)	MPPK017	MPPK017	MPPK017	MPPK017
34	CAP, VINYL BLACK 5/16" x .281 LONG	MPC90006	MPC90006	MPC90006	MPC90006
36	SCREW, BUTTON HD 1/4-20 x .875 LONG	MHSB142078	MHSB142078	MHSB142078	MHSB142078
37	TERMINAL BLOCK	MPPT201	MPPT201	MPPT201	MPPT201
38	CLAMP, CABLE 5/16	MHCC516	MHCC516	MHCC516	MHCC516
41	SCREW, SOCKET HD 5/16-18 x .750 LONG	MHSSH5161834	MHSSH5161834	MHSSH5161834	MHSSH5161834
42	RING, SNAP	MPSR268	MPSR268	MPSR268	MPSR268
45	BOLT, CARRIAGE BOLT 5/16-18 x 2.750 LG	MHBC51618234	MHBC51618234	MHBC51618234	MHBC51618234
46	PRESSURE ADJUST LEVER (LH)	MPSP2201	MPSP2201	MPSP2201	MPSP2201
47	PIN, PIVOT (LOWER)	MPSP2211	MPSP2211	MPSP2211	MPSP2211
48	CLIPS, "E"	MPSC240	MPSC240	MPSC240	MPSC240
49	PIN, CAM PIVOT (UPPER)	MPSP262	MPSP262	MPSP262	MPSP262
50	NUT, PRESSURE ADJUSTMENT	MPSP2209	MPSP2209	MPSP2209	MPSP2209
51	SPRING, CAM	MPSS201	MPSS201	MPSS201	MPSS201
52	SAFETY LOCK	MPSL241	MPSL241	MPSL241	MPSL241
54	FITTING, GREASE (SHORT)	MPSF145	MPSF145	MPSF145	MPSF145
55	PIN, ROLL (SAFETY LOCK)	MPSR141	MPSR141	MPSR141	MPSR141
56	PRESSURE ADJUST LEVER (RH)	MPSP2200	MPSP2200	MPSP2200	MPSP2200
57	CAM	MPSC218	MPSC218	MPSC218	MPSC218
58	SCREW, BUTTON HD 5/16-18 x 1.00 LONG	MHSB516181	MHSB516181	MHSB516181	MHSB516181
59	NUT, HEX JAM 5/16-18	MHNNHJ51618	MHNNHJ51618	MHNNHJ51618	MHNNHJ51618
60	RING, "O" POST	MPSS273	MPSS273	MPSS273	MPSS273
63	FEET, RUBBER (6/SET)	MPF90004	MPF90004	MPF90004	MPF90004
68	BRACKET, POWER CORD	MPSS163	MPSS163	MPSS163	MPSS163
69	STRAIN, RELIEF	MPSS168	MPSS168	MPSS168	MPSS168
70	SCREW, PHILLIPS, PAN HD 10-24 x .375 LG	MHSP102438	MHSP102438	MHSP102438	MHSP102438
71	CORD, POWER (USA MODEL)	MPPW141	MPPW142	MPPW141	MPPW142
71A	CORD, POWER (EUROPEAN MODEL)	N/A	MPPW202	N/A	MPPW202
71B	CORD, POWER (UK MODEL)	N/A	MPPW203	N/A	MPPW203
72	WIRE ASS'Y (BLACK)	MPPW222	MPPW222	MPPW222	MPPW222
75	POST, ARM ASSEMBLY	MPSP235A	MPSP235A	MPSP235A	MPSP235A
79	WIRE, HEATER	MPPW700	MPPW700	MPPW700	MPPW700
82	WASHER, CUT 5/16 I.D.	MHWSAE516	MHWSAE516	MHWSAE516	MHWSAE516
83	PLATE, REAR POST	MPSP2303	MPSP2303	MPSP2303	MPSP2303
86	SCREW, SOCKET HD 5/16-18 x 1.00 LONG	MHSSH516181	MHSSH516181	MHSSH516181	MHSSH516181
89	CLEVIS, UPPER PLATEN	N/A	N/A	MPSP221	MPSP221

		MODEL	MODEL	MODEL	MODEL
		216	216	221	221
NO	PART NAME	120V AC	240V AC	120V AC	230V AC
90	BOLT, HEX 5/16-18 x 1.0 IN LG STAINLESS	N/A	N/A	MHBH516181S	MHBH516181S
97	SCREW, RD HD 4-40 .625" LG	MHSR44058	MHSR44058	MHSR44058	MHSR44058
100	SCREW, PAN HD 8-32 x 0.375 IN LG	MHSP83238	MHSP83238	MHSP83238	MHSP83238
101	WASHER, #8 SAE	MHWSAE8	MHWSAE8	MHWSAE8	MHWSAE8
102	SCREW, SOCKET HD 1/4-20 x 0.5 IN LONG	MHSSH142012	MHSSH142012	MHSSH142012	MHSSH142012
103	CLAMP, CABLE METAL 3/8 IN	MHCC38	MHCC38	MHCC38	MHCC38
105	SCREW, PAN HEAD 8-32 x 0.375 IN LG	MHSP83238	MHSP83238	MHSP83238	MHSP83238
106	BUSHING, GUIDE POST	MPSB070	MPSB070	MPSB070	MPSB070
107	FITTING, GREASE (LONG)	MPSF144	MPSF144	MPSF144	MPSF144
109	WASHER, WAVE 0.5 IN	MH5806282	MH5806282	MH5806282	MH5806282
110	SCREW, SET 8-32 x 0.1875 IN LONG	MHSST832316	MHSST832316	MHSST832316	MHSST832316
111	WIRE, GROUND	MPW90125	MPW90125	MPW90125	MPW90125
112	SCREW, PAN HD 6-23 x 0.25 LG	MHSP63214	MHSP63214	MHSP63214	MHSP63214
A1	PLATEN, HEAT ASSEMBLY	MPP2161A	MPP2162A	MPP2211A	MPP2212A
A2	PLATEN, HEAT (WIRING ONLY)	MPP2161W	MPP2162W	MPP2211W	MPP2212W
A3	HANDLE, PRESSURE ASSEMBLY	MPSH515	MPSH515	MPSH515	MPSH515
A4	PLATEN, LOWER ASS'Y	MASP010	MASP010	MASP007	MASP007
A5	CAM / PRESSURE LEVER ASS'Y	MPSC201	MPSC201	MPSC201	MPSC201
A6	BASE ASS'Y	MPSB204A	MPSB221	MPSB221	MPSB221

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