



# HOT AIR HOPPER DRYER

## Model HAD-751

Item #110269 / #110274 / #110273 / #147956

## INSTRUCTION MANUAL



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## CONTENTS

Specifications .....	i
Safety Summary .....	ii
Description .....	1
Installation .....	1
Operation .....	2
Troubleshooting .....	3
Resetting after Overload .....	4
Replacement Parts (460/3-Phase) .....	5
Replacement Parts (230/3-Phase) .....	6
Replacement Parts (230/1-Phase) .....	7

## ILLUSTRATIONS

Parts Identification Photo .....	8
Electrical Schematics	
Three-phase .....	9
Single-phase .....	10

## SPECIFICATIONS

Voltage .....	230/60/1, 230/60/3 or 460/60/3 (see serial # tag on machine)
Full-Load Amps:	
@230/60/3 .....	24
@460/60/3 .....	12
@230/60/1 .....	38
Control Voltage .....	115 V
Capacity: .....	Up to 300 lbs/hr, depending on material and moisture content
Temperature Control: .....	Solid state controller, 0 to 400°F, with 450°F independent high heat limit
Air-out Connection: .....	1-1/2" NPT; accepts standard 1-7/8" ID hose
Heating Element: .....	7.5 kW, nichrome coil, duct-type
Blower Motor: .....	1 hp, 3450 rpm
Blower: .....	810 cfm at 1" static pressure
Dimensions .....	22-1/4" wide x 25-1/2" deep x 40" high (including exhaust pipe nipple)
Crated Weight .....	200 lbs
Uncrated Weight .....	138 lbs

## SAFETY SUMMARY

This manual uses the following words to show different levels of danger:

**DANGER** means that you are very likely to be killed or injured if you don't take the needed steps to avoid the hazard. This is the highest level of warning.

**WARNING** is for a situation where you could be killed or injured if you don't avoid the hazard.

**CAUTION** means you could receive moderate or minor injuries, or equipment could be damaged if you don't avoid the hazard.

The following are some general alerts that apply to this machine:

### DANGER

LIVE ELECTRIC PARTS could cause DEATH or SHOCK.

Lock out and tag out power before doing service.

Only qualified electricians are to do electrical work.

### WARNING

HOT PARTS AND HOT HOSE COULD CAUSE BURNS.

Avoid contact.

Let cool before touching.

Install insulation on hose. Route hose where it won't be touched.

### WARNING

CHANGES TO MACHINE could cause DEATH, INJURY or DAMAGE.

Do not modify machine without written approval from IMS Company.



## DESCRIPTION

The IMS HAD-751 Hopper Dryer is a hot-air system for drying non-hygroscopic plastic material. It uses a high-pressure, direct-drive blower to blow filtered plant-air through a heating chamber, then through a fabric-insulated aluminum hose to a hopper. There, a dispersion-cone evenly spreads the hot air through the pellets.

The HAD-751 is also effective as a material pre-heater, to enable faster injection cycles.

## INSTALLATION

### 1. Inspect shipment

Inspect shipment. Report any damage to shipper. If there is damage, save carton to show shipper.

Make sure carton includes the HAD-751 dryer; 12' of aluminum hose; 12' (nominal) of fabric hose-insulation; 2 hose clamps and a dispersion head.

### 2. Install hose insulation

Feed flexible aluminum hose through woven fabric hose insulation.

### 3. Connect hose

Attach one end of hose to outlet on top of dryer and other end to dispersion cone. Secure with clamps.

In a long-term installation, cut hose to correct length to cut heat loss and save money.

### 4. Place dispersion cone

Set dispersion cone inside hopper. Run hose so it will not cause any burns or damage when hot, and so there is no stress on dispersion cone or hopper.

### 5. Make electrical connections

Have dryer hard-wired into plant wiring, or use a line cord with a plug for portability. In that case, locate a receptacle at every station where dryer is to be used. In either case, use a strain relief.

### DANGER

LIVE ELECTRIC CONTACTS could cause DEATH OR SHOCK.

Lock out and tag out power to circuit before connecting dryer.

Dryer must be grounded.

### WARNING

HOT PARTS AND HOT HOSE could cause BURNS.

- Avoid contact.
- Let cool before touching.
- Install insulation on hose.
- Route hose where it won't be touched.

## OPERATION

### 1. Checking Direction of Motor Rotation (3-phase models only)

The first time you start up dryer, or after connecting to new circuit, check direction of motor rotation as follows:

- a. Turn main breaker on.
- b. Jog blower on then off.
- c. Shining light through motor vents, make sure motor is running in direction of arrow. If it is not running in correct direction:
  - (1) Shut off unit. Lock out and tag out power.
  - (2) Have electrician change any two power wire connections.
  - (3) Power up again.

### 2. Startup

- a. Check air intake filter. Change if dirty.
- b. Turn main breaker on.
- c. Turn blower on.
- d. Turn heating elements on.
- e. Set temperature control to needed temperature.

#### NOTE

For safety, heater will not start unless blower motor is on.

### 3. Length of Drying Time

- a. Heat causes moisture to move from the center of the pellets out to their surface. Hot air carries the moisture away from the surface of the pellets.
- b. Hot-air drying depends on time and temperature. Ask resin supplier to recommend time and temperature for resin you are drying.

Record drying time and temperature for use in future setups.

### 4. Shutdown

- a. Turn off heaters.  
Leave blower on to cool heaters.
- b. When outlet temperature drops to 125°F or so, turn off blower and main breaker.

#### CAUTION

LACK OF AIR WILL DAMAGE HEATERS.

Let heaters cool before you shut off blower.

## TROUBLESHOOTING

1. Unit will not start
  - Is there full line voltage?
  - Is circuit breaker tripped?
  - Is blower motor overload tripped?
  - Are any fuses blown?
  - Check for broken wire or loose power lines at terminal.
  - Is circuit breaker faulty?
  - Check control transformer.
  - Check for defective internal overload on motor.
  - Is motor shaft or bearing seized?
  
2. Unit stops heating
  - Check temperature controller.
  - Check over-temp safety switch.
  - Check heater mercury contactor.
  - Check heater coils.

### DANGER

LIVE ELECTRIC CONTACTS could cause DEATH OR SHOCK.

Lock out and tag out power before doing service.

Only qualified electricians are to do electrical work.

### WARNING

HOT PARTS AND HOT HOSE could cause BURNS.

Avoid contact.

Let cool before touching.



## RESETTING AFTER OVERLOAD

1. Blower Contactor (1M)
  - a. Shut off circuit breaker.
  - b. Lock out and tag out power to circuit that hopper dryer is connected to.
  - c. Open control panel.
  - d. Blower motor overload is on back wall of control area. Press reset button on overload.
  - e. Close and latch control panel.
  - f. Power up and return to operation.

2. Over-Temp Safety Switch

Automatically resets when temperature drops below 400°F.

### DANGER

LIVE ELECTRIC CONTACTS could cause DEATH OR SHOCK.

Lock out and tag out power before doing service.

Only qualified electricians are to do electrical work.

## REPLACEMENT PARTS

for 460V 3-phase

#110273

Blower Motor, 1 hp .....	<b>Inquire</b>
Blower Fan Assy. ....	<b>Inquire</b>
Blower Motor Starter .....	<b>106297</b>
Motor Overload .....	<b>107470</b>
Main Circuit Breaker .....	<b>106260</b>
Amber Indicator Light .....	<b>106263</b>
Transformer .....	<b>108173</b>
Heater Fuse (Qty 3) .....	<b>107475</b>
Primary .....	<b>111930</b>
Transformer Fuse (Qty 2)	
Secondary .....	<b>112284</b>
Transformer Fuse (Qty 1)	
Heater Coil .....	<b>108363</b>
and Rack Assy	
Heater Contactor .....	<b>106192</b>
Thermocouple .....	<b>146646</b>
Over-Temp Safety Switch .....	<b>Inquire</b>
Temperature Controller .....	<b>Inquire</b>
Start/Stop Switch .....	<b>142120</b>
Filter, 14 x 20 x 1" .....	<b>108508</b>



## REPLACEMENT PARTS

for 230V 3-phase

#110274

Blower Motor, 1 hp .....	<b>Inquire</b>
Blower Fan Assy. ....	<b>Inquire</b>
Blower Motor Starter .....	<b>106297</b>
Motor Overload .....	<b>106133</b>
Main Circuit Breaker .....	<b>106184</b>
Amber Indicator Lights .....	<b>106263</b>
Transformer .....	<b>108173</b>
Heater Fuse (Qty 3) .....	<b>107314</b>
Primary .....	<b>111930</b>
Transformer Fuse (Qty 2)	
Secondary .....	<b>112284</b>
Transformer Fuse (Qty1)	
Heater Coil .....	<b>108372</b>
and Rack Assy	
Heater Contactor .....	<b>106192</b>
Thermocouple .....	<b>146646</b>
Over-Temp Safety Switch .....	<b>Inquire</b>
Temperature Controller .....	<b>Inquire</b>
Start/Stop Switch .....	<b>142120</b>
Filter, 14 x 20 x 1" .....	<b>108508</b>

## REPLACEMENT PARTS

for 230V 1 phase

#110269

Blower Motor, 1 hp .....	<b>Inquire</b>
Blower Fan Assy. ....	<b>Inquire</b>
Blower Motor Starter .....	<b>106297</b>
Motor Overload .....	<b>106352</b>
Main Circuit Breaker .....	<b>108377</b>
Amber Indicator Light .....	<b>106263</b>
Transformer .....	<b>108173</b>
Heater Fuse (Qty 2) .....	<b>107314</b>
Primary .....	<b>111930</b>
Transformer Fuse (Qty 2)	
Secondary .....	<b>112284</b>
Transformer Fuse (Qty 1)	
Heater Coil .....	<b>108364</b>
and Rack Assy	
Heater Contactor .....	<b>106196</b>
Thermocouple .....	<b>146646</b>
Over-Temp Safety Switch .....	<b>Inquire</b>
Temperature Controller .....	<b>Inquire</b>
Start/Stop Switch .....	<b>142120</b>
Filter, 14 x 20 x 1" .....	<b>108508</b>

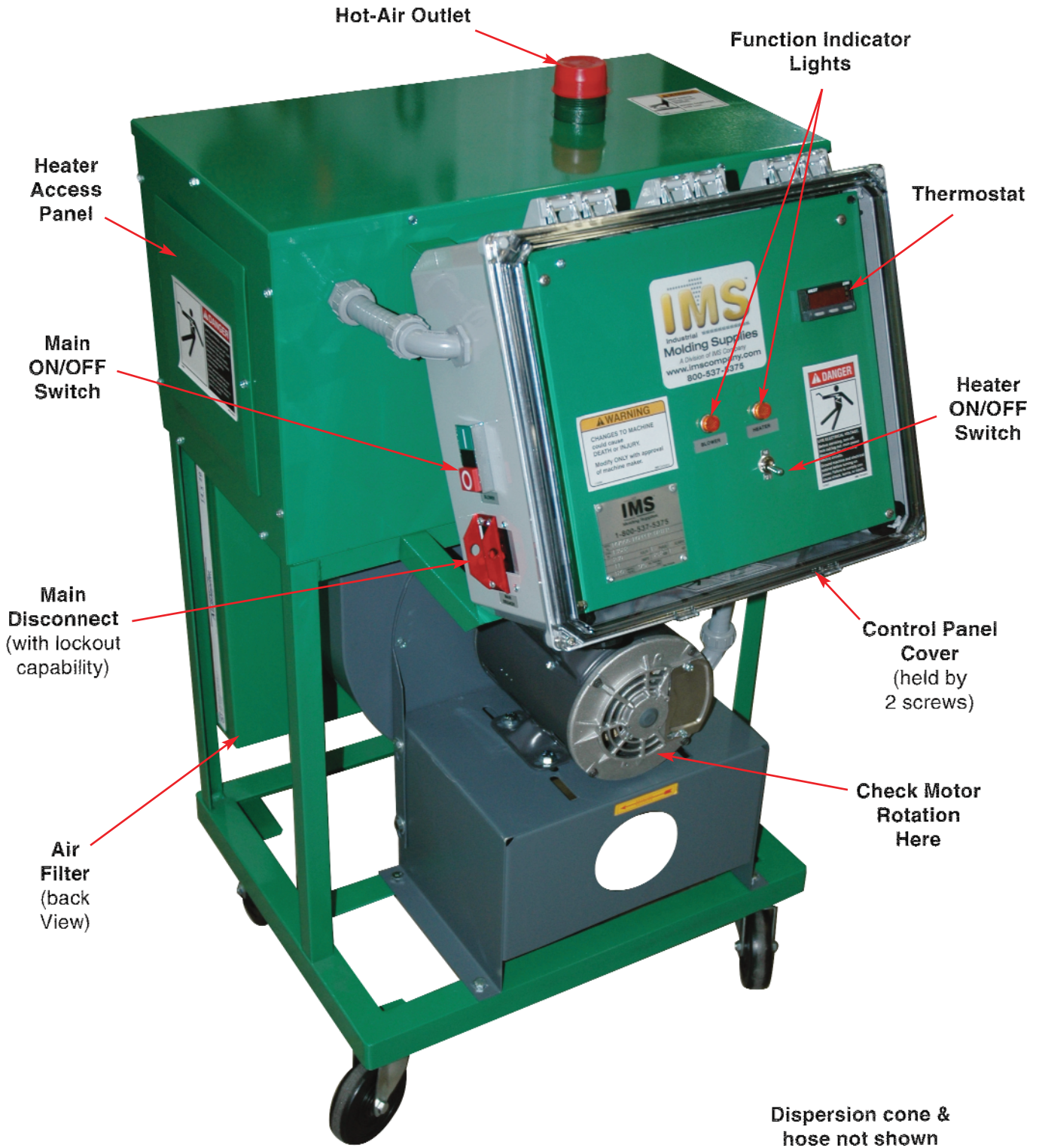
## REPLACEMENT PARTS

for 230V 1 phase  
#147956

Blower Motor, 1 hp .....	161333
Blower Fan Assy. ....	Inquire
Blower Motor Starter .....	106297
Motor Overload .....	106352
Main Circuit Breaker .....	106174
Amber Indicator Light .....	106263
Transformer .....	108173
Heater Fuse (Qty 2) .....	158920
Primary .....	111930
Transformer Fuse (Qty 2)	
Secondary .....	112284
Transformer Fuse (Qty 1)	
Heater Coil .....	108364*
and Rack Assy	
Heater Contactor .....	161350
Thermocouple .....	146646
Over-Temp Safety Switch .....	Inquire
Temperature Controller .....	Inquire
Start/Stop Switch .....	142120
Filter, 14 x 20 x 1" .....	108508

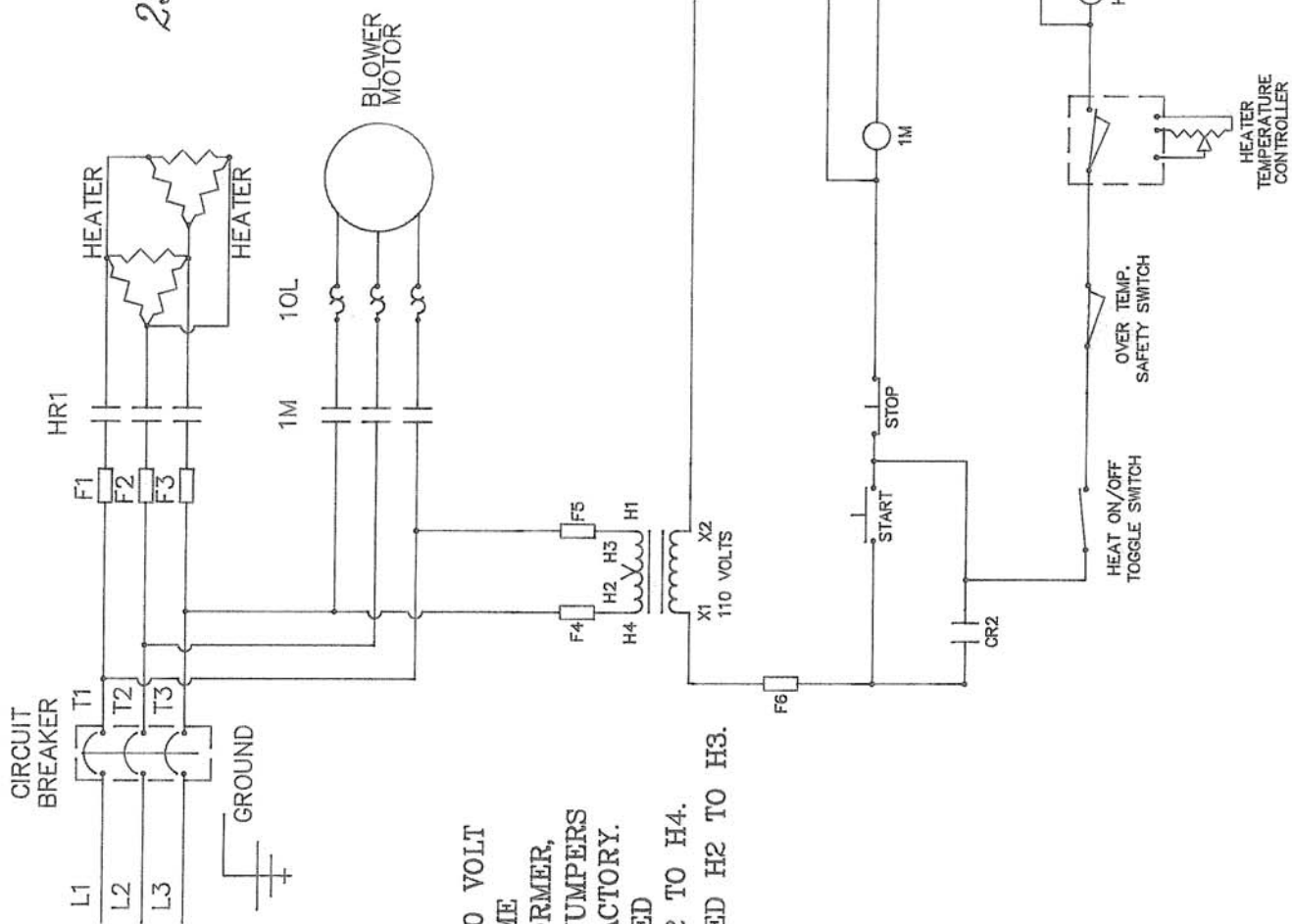
\* Wired Parallel

# Model HAD-751





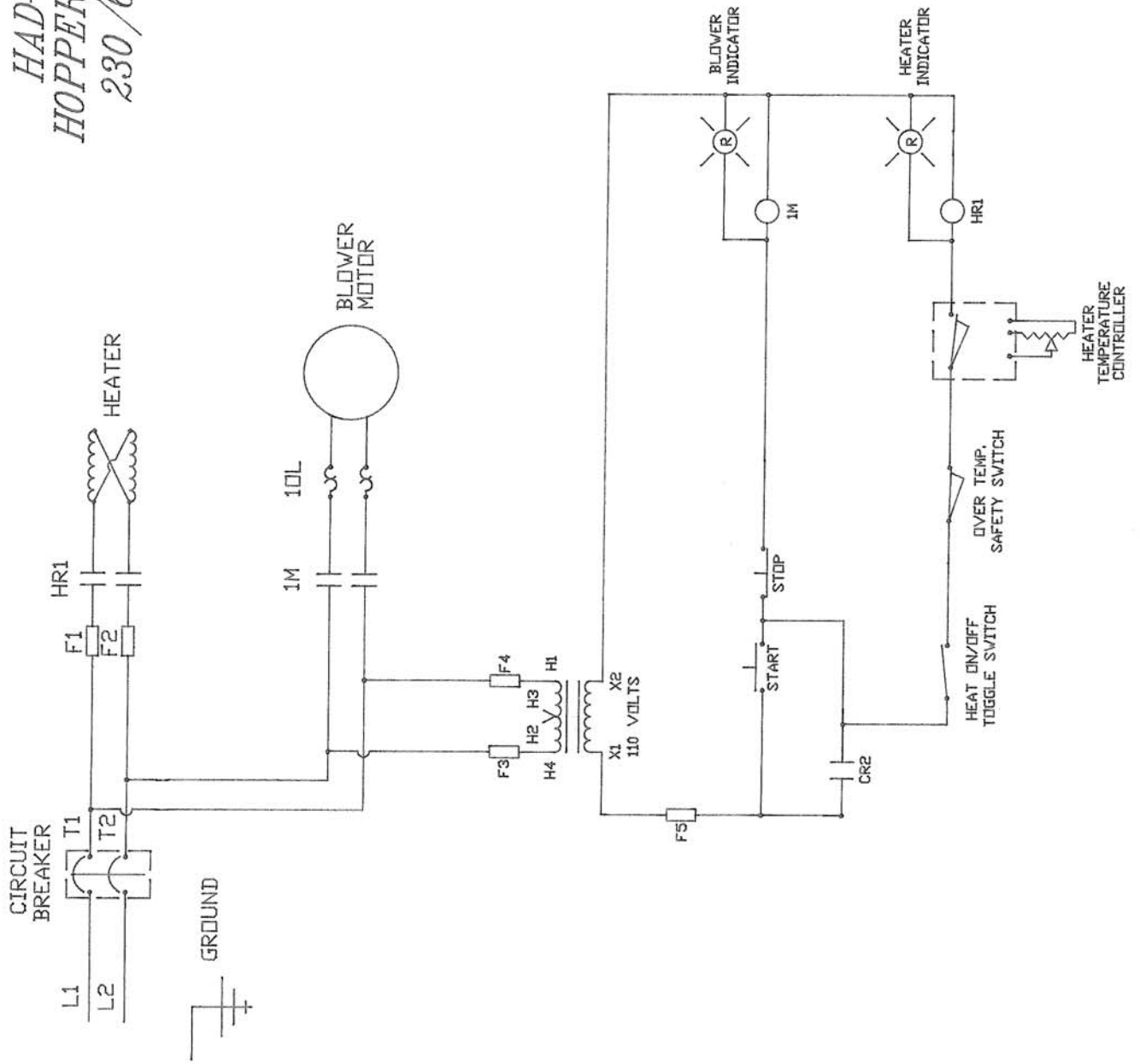
*HAD-751  
HOPPER DRYER  
230/60/3 & 460/60/3*



NOTE:

230 VOLT AND 460 VOLT  
MODELS HAVE SAME  
CONTROL TRANSFORMER,  
WITH DIFFERENT JUMPERS  
INSTALLED AT FACTORY.  
230 V IS JUMPED  
H1 TO H3 AND H2 TO H4.  
460 V IS JUMPED H2 TO H3.

# HAD-751 HOPPER DRYER 230/60/1



# MAINTENANCE RECORDS AND NOTES