

# AD-15 / AD-20 / AD-25 / AD-30 AD-285 / AD-50 / UD-50 / AD-65 Installation / Service / Parts Manual For Gas / Electric / Steam

**WARNING:** For your safety the information in this manual must be followed to minimize the risk of fire or explosion and to prevent property damage, personal injury or death.

— Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

— WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**AVERTISSEMENT:** Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

— Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

— QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment.
- Évacuez la pièce, le bâtiment ou la zone.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

— L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.



**American Dryer Corporation**

88 Carrant Road

Fall River MA 02720-4781 USA

Telephone: +1 (508) 678-9000 / Fax: +1 (508) 678-9447

e-mail: techsupport@amdry.com

[www.amdry.com](http://www.amdry.com)

ADC Part No. 450070-8

## Retain This Manual in a Safe Place for Future Reference

This product embodies advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble free operation.

Only qualified technicians should service this equipment.

OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment or specified in the installation manual included with the dryer.

The following "FOR YOUR SAFETY" caution must be posted near the dryer in a prominent location.

### FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

### POUR VOTRE SÉCURITÉ

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

We have tried to make this manual as complete as possible and hope you will find it useful. The manufacturer reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models. The illustrations included in this manual may not depict your particular dryer exactly.

## IMPORTANT

For your convenience, log the following information:

**DATE OF PURCHASE** \_\_\_\_\_ **MODEL NO.** \_\_\_\_\_

**RESELLER'S NAME** \_\_\_\_\_

**SERIAL NUMBER(S)** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Replacement parts can be obtained from your reseller or the ADC factory. When ordering replacement parts from the factory, you can FAX your order to ADC at +1 (508) 678-9447 or telephone your order directly to the ADC Parts Department at +1 (508) 678-9000. Please specify the dryer model number and serial number in addition to the description and part number, so that your order is processed accurately and promptly.

### "IMPORTANT NOTE TO PURCHASER"

Information must be obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions must be posted in a prominent location near the dryer.

## WARNING

### Proposition 65

**Use of this product could expose you to substances from fuel combustion that contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.**

In the State of Massachusetts, the following installation instructions apply:

- Installations and repairs must be performed by a qualified or licensed contractor, plumber, or gasfitter qualified or licensed by the State of Massachusetts.
- If using a ball valve, it shall be a T-handle type.
- A flexible gas connector, when used, must not exceed 3 feet.

### IMPORTANT

You must disconnect and lockout the electric supply and the gas supply or the steam supply before any covers or guards are removed from the machine to allow access for cleaning, adjusting, installation, or testing of any equipment per OSHA (Occupational Safety and Health Administration) standards.

Please observe all safety precautions displayed on the equipment and/or specified in the installation manual included with the dryer.

Before installation, check that the local distribution conditions, nature of gas and pressure, and adjustment of the appliances are compatible.

### CAUTION

Dryer(s) should never be left unattended while in operation.

**When discarding or storing your old clothes dryer, remove the door.**

**Lorsque vous entreposez ou mettez votre sècheuse au rebut, enlevez-en la porte.**

“Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation.”

«Attention: Au moment de l'entretien des commandes, étiquetez tous les fils avant de les débrancher. Des erreurs de câblage peuvent entraîner un fonctionnement inadéquat et dangereux.»

### WARNING

Children should not be allowed to play on or near the dryer(s). Children should be supervised if near dryer(s) in operation.

Under no circumstances should the dryer door switch(es), lint door/drawer switch(es), or heat safety circuit(s) ever be disabled.

The dryer must never be operated with any of the back guards, outer tops, or service panels removed. Personal injury or fire could result.

The dryer must never be operated without the lint filter/screen in place, even if an external lint collection system is used.

### FOR YOUR SAFETY

Do not dry mop heads in the dryer. Do not use dryer in the presence of dry cleaning fumes.

The dryer(s) must not be installed or stored in an area where it will be exposed to water and/or weather.

The wiring diagram for the dryer is located in the front electrical control box area.

## IMPORTANT

RETAIN THIS MANUAL IN A SECURE PLACE FOR FUTURE REFERENCE.

THE PURCHASER SHOULD CONSULT THE LOCAL GAS SUPPLIER FOR PROPER INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS. THE INSTRUCTIONS SHOULD BE POSTED IN A PROMINENT LOCATION.

INSTALL THIS DRYER IN ACCORDANCE WITH LOCAL CODES AND/OR THE NATURAL FUEL GAS CODE ANSI Z223.1 - 1980.

DRYER MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES AND/OR THE NATIONAL ELECTRIC CODE ANSI/NFPA NO. 70-1981

DRYER MUST BE PROPERLY GROUNDED

"THE ELECTRICAL SCHEMATIC DIAGRAM IS LOCATED ON THE REAR SIDE OF THE CONTROL DOOR. ELECTRIC DRYERS ARE PROVIDED WITH POWER CONNECTION DIAGRAMS LOCATED ON THE REAR COVER OF THE OVEN ASSEMBLY, DRYERS EQUIPPED WITH TRANSFORMERS ARE PROVIDED INPUT/OUTPUT CONNECTIONS DIAGRAMS LOCATED ON THE INSIDE OF THE TRANSFORMER WIRING ACCESS COVER."

"REPLACEMENT PARTS AND SERVICE ARE AVAILABLE FROM YOUR DISTRIBUTOR. IF THE DISTRIBUTOR IS UNKNOWN, CONTACT THE AMERICAN DRYER CORPORATION FACTORY."

"A SUFFICIENT SIZED OPENING TO AN OUTSIDE AIR SOURCE MUST BE PROVIDED TO ASSURE AN ADEQUATE SUPPLY OF AIR FOR PROPER GAS COMBUSTION AND EFFICIENT DRYING. THE OPENING SHOULD BE POSITIONED WITHIN A FEW YARDS OF THE REAR OF THE DRYER, AND HAVE A MINIMUM AREA OF TWO TO THREE TIMES THE AREA OF THE EXHAUST DUCT. THE AIR ENTRANCE TO THE DRYER MUST BE FREE OF ANY OBSTRUCTIONS CLOSER THAN THE REAR WALL OF THE BELTGUARD. INADEQUATE AIR SUPPLY AND EXHAUST FACILITIES CAN RESULT IN IMPROPER OPERATION OF THE GAS BURNER OR ELECTRIC OVEN CONTROLS, EXCESSIVE TEMPERATURES, POOR DRYING PERFORMANCE, PREMATURE FAILURE OF CONTROLS AND ELECTRIC HEATER ELEMENTS, DAMAGE TO MATERIALS BEING DRIED, AND REDUCED FIRE SAFETY MARGINS. DO NOT DISABLE THERMOSTAT OR AIRFLOW CONTROLS. DETERMINE THE CAUSE(S), AND MAKE THE PROPER CORRECTIONS."

## GENERAL MAINTENANCE AND SERVICES

JANITORIAL - Clothes drying tumblers produce lint, and the area around each dryer should be kept clean. Besides the usual frequent cleaning of the lint compartment, lint should also be removed from between the basket and the wrappers; from behind the front panel in the lint compartment area; gathered from around the thermostat connections and wiring; from the burner area; and from within the operating controls enclosure. Lint should also be removed from the air vents of the motor frames, and from inside the electrical junction boxes on the rear of the dryer. Exhaust ducts and make-up air inlets should be examined periodically, and freed of lint at elbows and grills. Care should be taken not to pile articles near make-up air vents, exhaust duct exits, over the top or at the back of the dryer. Keep area around dryer free from combustible materials, gasoline and other flammable vapors and liquids. These good housekeeping suggestions should be performed at least three or four times a year, and more frequently as conditions may indicate.

BELT CARE - Motor and drive belts should be examined, and a belt conditioner applied. Cracked or seriously frayed belts should be replaced. Tighten loose belts when necessary and check belt alignment.

LUBRICATION - Motor bearings are sealed and do not require lubrication service. Some tumbler bearing are equipped with grease fittings should be lubricated twice annually with a general purpose lithium base grease. Do not over grease. Rotate shaft and add grease slowly until it begins to show at the seals. Do not use animal or vegetable base lubricants.

GAS CONNECTIONS - Nonpermanent gas connections (unions, flared tube fittings, pilot line connections, gas manifold orifices, etc.) should be checked two or three times annually for leakage that might be caused by vibration. Use a mild soap solution. Do not use a flame at any time to check for leaks.

ELECTRICAL CONNECTIONS - Electric service and grounding connections should be examined for looseness a week after initial installation, again after 3 or 4 weeks of operation, and thereafter, two or three times annually.

IMPORTANT THE PURCHASER SHOULD CONSULT THE LOCAL GAS SUPPLIER FOR PROPER INSTRUCTIONS TO BE FOLLOWED IN THE EVENT GAS IS SMELLED BY THE USER, THESE INSTRUCTIONS SHOULD BE PLACARDED AND POSTED IN A PROMINENT LOCATION.

KEEP THIS MANUAL IN A SECURE PLACE FOR REFERENCE.

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CAUTION - FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

## SECTION I

### INSTALLATION PROCEDURES

### PAGE NUMBER

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Exhaust Duct & Air Intake	2
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### SAFETY PRECAUTIONS

1. Dryer must be grounded in accordance with the National Electrical Code ANSI/NFPA No. 70-1981.
2. Provide adequate clearance for air openings into the combustion chamber.
3. Periodic examination of exhaust system must be made.
4. Area surrounding dryer must be kept clean and free from combustible materials, gasoline, and other flammable vapors and liquids.
5. Installation must conform with local codes, or in absence of local codes, with the National Fuel Gas Code ANSI Z223.1-1980 and National Electric Code ANSI/NFPA No. 70-1981.



# SECTION I

## INSTALLATION

Dryer should be handled in an upright position at all times. This unit should be installed by competent workmen in accordance with local and state codes.

UNCRATING DRYER. Remove carton or slatted crate, packing, and polyethylene cover from dryer. Dryer is fastened to the skid by four bolts. Remove skid by unscrewing these bolts. Two can be reached from the rear of the dryer, and two are located in the lint chamber. Slide the dryer off the skid. Remove foam padding from behind door and install magnet keeper and door handle to door. On gas and electric dryers, install sail switch on burner box. Sail switch, door handle and magnet keeper are shipped in the tumbler. Read and follow instructions carefully.

LOCATION OF DRYER. Position rear of dryer about two feet from wall to allow room for duct work, piping and maintenance. Level dryer using the four legs located in the base. See Page 105

DRYER ENCLOSURE. Bulkheads and partitions should be made of non-combustible materials and must be located twelve inches above dryer top panel. (See Page 105 Installation Connection Data.) Air considerations are important for adequate operation.

EXHAUST DUCT AND AIR INTAKE. See Pages 103 and 104 in Section V. Also see duct locations.

ELECTRICAL CONNECTIONS. The only electrical connection necessary on the gas or steam dryer is to the junction box located at the rear of the dryer, except on ADG-285 dryers, where the electrical connection should be made at the top of the dryer towards the front. See Section V. Use the wiring diagram on the inner side of the control door for connection data. Connect power wiring as per your local code, (minimum #12 copper wire). Check the data plate for the correct voltage for your particular dryer. On electric dryers, the only connections are to the relay in the relay box in the rear of the dryer. See the schematic on the relay cover for the proper connections. (Minimum #10 copper wire heating units.) CAUTION: Use only copper cable for installation connections. The use of aluminum cable will void your warrantee.

Low voltage is a cause of motor overheating and failure. Be sure that your power supply is adequate. Overload protection and individual switches must be installed for each dryer. The dryer motors are internally protected against overloading. (Per local codes.)

GAS CONNECTIONS. All dryers are provided with 1/2 inch N.P.T. gas inlet. See Page 106 for gas inlet locations. Check with your gas supplier for correct line size and pressure for your installation. A built-in pressure regulator reduces all line pressures to 4 inch water column at the pressure tap on the gas valve for natural gas. An external pressure regulator is required to reduce L. P. gas pressure to 10½ inch water column.

A shut off cock and union should be provided at the rear of each dryer for service convenience. Pipe joint sealant compound resistant to liquefied petroleum gases must be used on all gas connections. The gas connections should be tested for leaks. Dryers, as ordered from the factory, are equipped with the proper gas orifices and adjusted air mixture for the type of gas to be used. (See Page 108) If further mixture adjustment is necessary, rotate the air shutter plates until a yellow color is at a minimum in the flame.

INSTALLATION FOR STEAM DRYERS - LOW PRESSURE - It is very important to realize that in the installation of low pressure steam dryers (nine to fifteen P.S.I.G.), that there is very little pressure to push the steam through the system. Therefore, in installation of from three to seven dryers, we strongly recommend the following:

- a. A 3" pipe for main steam line.
- b. A 2" pipe for return steam line.
- c. A 1" pipe from main steam line to dryer.
- d. A 1" pipe from dryer to return.

Perhaps most important of all, the return line from the coil of each dryer should be positioned for a gravity feed to a condensate tank. A separate impulse trap and filter should be well insulated. For proper flow of steam and condensate, piping should be planned and installed in accordance with good commercial steam system practices.

After the first day or two of operation, the filters should be cleaned to remove any piping compound or other foreign material.

In the event of slower drying, the following points should be checked:

- a. Pressure (10-15 P.S.I.G.).
- b. Filters and traps clean and working.
- c. Plumbing checked for proper flow of steam and condensate.
- d. Sufficient make-up air at heat exchanger.
- e. Dryers properly exhausted.

A high pressure steam dryer is also available and is similar to the low pressure unit. Each coil has one-1 inch F.P.T. inlet and one 1/2 inch F.P.T. outlet and is rated for 125 P.S.I.G. maximum pressure.

For steam connections and exhaust location, see Pages 103,104.

## SECTION II

### OPERATING INSTRUCTIONS

### PAGE NUMBER

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Automatic Ignition

5&6

-15#, 25#, 30# and 285# Ignition System

-50# and 65# Ignition System

Maintenance

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-Cleaning

-Lubricating

-Belt Adjustments

## SECTION II

### OPERATING INSTRUCTIONS

LIGHTING PILOTS - Only specially ordered dryers are equipped with pilot ignition.

**IMPORTANT** - Gas cock knob cannot be turned from "Pilot" to "Off" unless knob is depressed.

1. Turn gas cock knob so indicator points to "Off" position and allow 5 minutes for any gas in combustion chamber to escape. (L.P. gas, being heavier than air, may require forced ventilation.)  
NOTE: If knob is in "On" position, turn clockwise to "Pilot" position. Then depress knob and turn to "Off" position.
2. Turn gas cock knob counterclockwise so indicator points to "Pilot" position. Then light the pilot while fully depressing the gas cock knob. Keep knob fully depressed for one full minute.
3. Release gas cock knob. Pilot flame should continue to burn. NOTE: If pilot flame should go out when knob is released, repeat steps 1 through 3, allowing more time for thermocouple or pilot generator to heat up.
4. When pilot stays lighted, operation of gas valve may be given over to thermostat by turning gas cock knob counterclockwise to indicator points to "On" position.

All dryers are thoroughly tested and inspected before leaving our plant. However, a pre-operational test should be taken before the dryer is to be publicly used. It is possible that adjustments have changed in transit.

#### GLO-BAR IGNITION OPERATION - AD-15 through 30 (Fig. #1)

On call for heat from thermostat (supplying 115V power to Amp-Loc Connector), Igniter is energized and Split Coil Valve opens as the following three circuits are made simultaneously:

1. From L-1 side of line through Holding Coil back to ground.
2. From L-1 side of line, flame switch contacts, booster coil, back to ground.
3. From L-1 side of line, flame switch contacts, igniter, back to ground.

Approximately 15 seconds later, igniter attains ignition temperature and flame switch contacts open. Secondary valve will now open as circuit is completed from L-1 side of line through secondary coil and the igniter, back to ground. As this circuit is completed, igniter starts to cool as the current draw is reduced from about

4 amp. to about .1 amp. As the flame switch contacts open, the current flow through the booster coil approaches zero.

Main burner ignition should now become established. Flame from the main burner will then cause the flame switch contacts to remain open. Dryer will continue to operate under these conditions until thermostat opens its contacts.

GLO-BAR IGNITION OPERATION - AD-50 through 65 (Fig. #2)

When the system is energized, current flows through the closed sensor contacts and through the silicone carbide igniter causing it to heat. Gas valve 2 (G.V.2) is shunted by the closed sensor contacts so it is not energized by a circuit through the closed sensor contacts and CR3. CR5 is a back wave diode which maintains current flow through GV1 during the next half cycle when L-1 is negative.

When the igniter reaches ignition temperature, the sensor contacts open. G.V.1 remains energized through the fuse F1, CR2 and the EQSO resistor. G.V.2 is energized on the half cycle when L-2 is positive by a circuit through the silicone carbide igniter, CR1 and fuse F1, CR4 is a back wave diode which maintains current flow through G.V.2 during the next half cycle when L2 is negative.

With both valves energized, gas flows to the burner and is ignited by the hot igniter. In this running mode, the igniter cools since current through it is limited by CR1 and G.V.2.

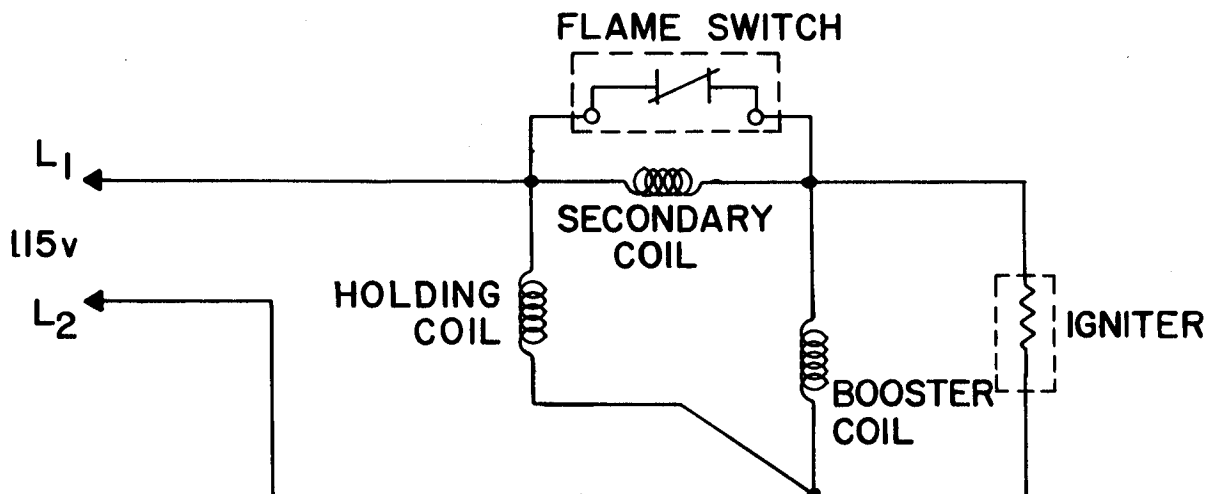
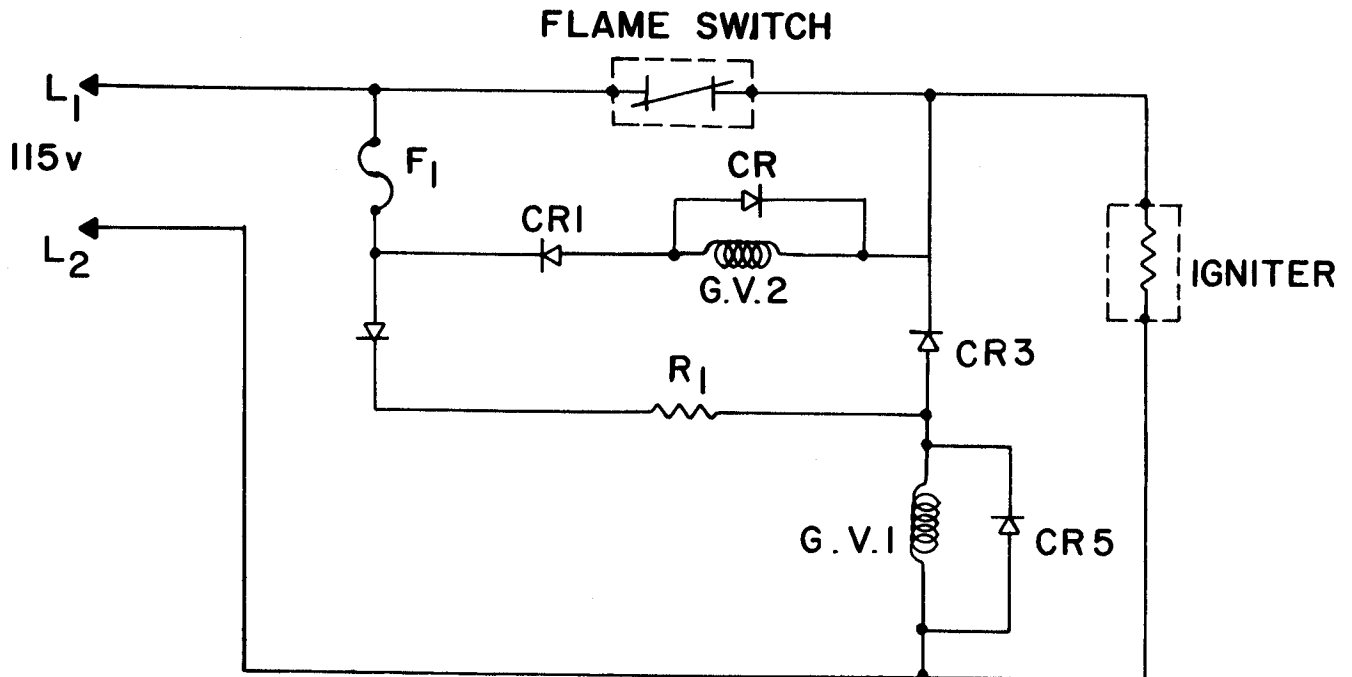


Fig.1 Diagram For GLO-BAR Ignition AD 15-30

Fig.2 Diagram For GLO-BAR Ignition AD 50-65



### MAINTENANCE

CLEANING: Be sure the snap action thermostats, temperature sensor and door switches are kept free from lint accumulation. Clean lint from the bottom and walls of the lint chamber, trap and screens daily or as required. These cleaning requirements are essential to efficient and safe operation. Lint from most fabrics is highly combustible.

LUBRICATION: Apply a drop of oil occasionally to the back draft damper pivots.

BELT ADJUSTMENTS: Make belt adjustments periodically. See Page 15 Do not remove belts.

1. Loosen bolts and jam nut.
2. Advance screw until belts are in proper tension.
3. Retighten bolts and jam nut.
4. Apply a belt conditioner periodically according to the container instructions.

When new belts are installed, proper tension should be set. Do not install new belts with tension from old belts. This could cause belt slippage.

IMPORTANT: The tumbler of the dryer is treated with a protective coating. Tumble old clothes after they have been washed with a mild detergent to remove this coating.

# COMPUTER CONTROLLED HI-LO GAS VALVE SYSTEM

## INTRODUCTION

The computer controlled hi-lo gas valve system developed by American Dryer Corp. is a new advancement in clothes drying. The system consists of a hi-lo gas valve, hi-lo control board, Phase II computer, glo-bar and I R Sensor. With computer control of the gas valve, three stages of gas flow are available: gas on high fire, gas on low fire and gas off. During dryer operation, when the tumbler cavity reaches the selected drying temperature, the computer cycles the gas valve between its high-fire and low-fire stages to maintain a constant drying temperature. The result of this constant drying temperature is a significant decrease in drying time and increase in dryer efficiency.

There is a small and large capacity version of this system. The small capacity system, used on ADG-15 BH, ADG-25 BH and ADG-285 BH dryers, uses a 3/8" hi-lo gas valve and mating hi-lo control board. The larger system uses a 1/2" hi-lo valve and mating hi-lo control board. This system is used on ADG-30 BH, ADG-50 BH, UDG-50 BH, ADG-65 BH and ADG-100 BH dryers.

## SYSTEM COMPONENTS

### 3/8" Hi-Lo Gas Valve

This valve contains the same two redundant on-off solenoid valves as the standard 3/8" glo-bar ignition gas valve, and these two solenoids operate in the same manner and sequence in both valves. The difference in the hi-lo valve is the addition of a hi-lo solenoid located on the valve's side. This hi-lo solenoid is controlled by the hi/lo control board, and this is the solenoid that can vary the gas flow from high-fire (full gas flow) to low-fire (approximately 50 percent of high fire). This solenoid cannot shut off the gas flow entirely. The two on-off redundant solenoids do this.

The 3/8" hi-lo gas valve has four wires connecting it to the hi-lo control board. The black and white wires supply main line voltage (always 115 volts) to the two redundant on-off solenoids, the glo-bar and I R Sensor. The red and blue wires supply voltages to the hi-lo solenoid. With 115 volts across the red and blue wires, the valve is in its high-fire stage. Zero volts to this solenoid results in the low-fire stage.

The internal pressure regulator of the 3/8" hi-lo valve is adjusted in the same manner as the standard 3/8" glo-bar valve. Remove the vent cap on top of the valve and turn the screw located beneath it.

### 3/8" Hi-Lo Control Board (Refer to the Figure on Page 7c)

This board contains all the components of the arc suppressor board used on the standard 3/8" glo-bar ignition system (motor relay, gas valve relay, and arc suppression resistors and capacitors) as well as a hi-lo timing relay and additional hi-lo timing electronic components. Electrical connections to the board consists of a 6 pin Amp connector located in the lower right-hand corner of the board's front, a 10 pin connector located in the upper left-hand corner to the rear of the board and three-1/4" female spade terminals fastened to the board's motor relay. The 6 pin connector joins the board to the computer and provides power to the control board and its switching relays. The 10 pin connector connects the gas valve to the control board. In the 3/8" hi-lo system, only four of the 10 pins are used to connect to the gas valve.

This board is produced in a 115-volt and 230-volt version. Dryers with either a 115 volt single phase power input or a 208 volt three phase four wire system use the 115 volt version of the board. All other voltage input sources use the 230-volt board.

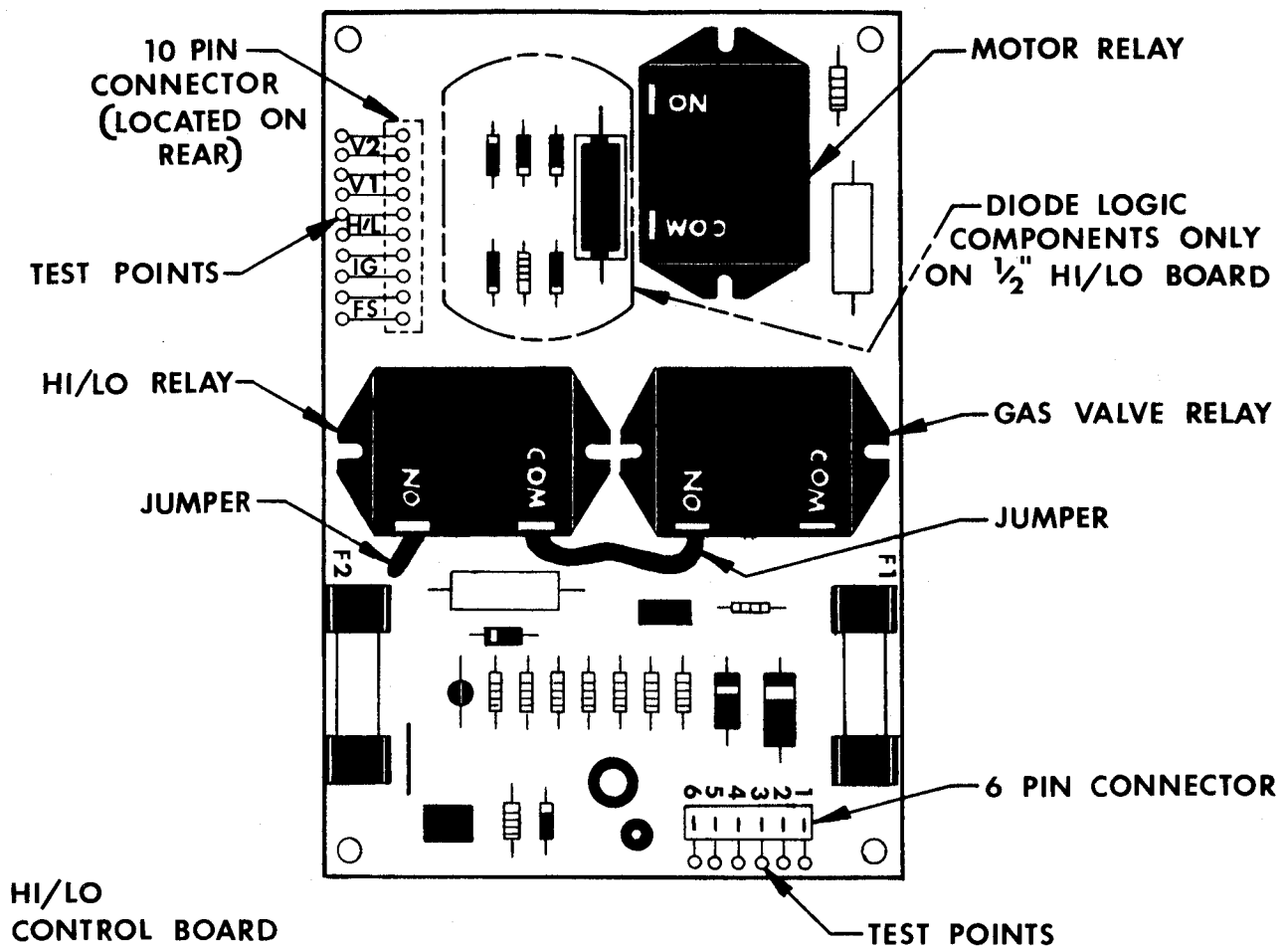
### 1/2" Hi-Lo Gas Valve (Refer to the Figure on Page 7h)

This valve contains the same two redundant on-off solenoid valves as the standard 1/2" glo-bar ignition gas valve, and these two solenoids operate in the same manner and sequence in both valves. The difference of the hi-lo valve is the addition of a hi-lo cap assembly located on top of the valve. This cap assembly, protected by a sheet metal cover, changes the gas flow from high fire to low fire. It cannot shut off gas flow. Only the two redundant solenoids can do this. Removing it's cover, reveals a relay coil and lever arm with the high fire adjustment screw located at the lever arm's end. Power to the relay coil is supplied through the white plastic plug located at the front right bottom of the cap assembly base plate. When 115 volts are applied here, the relay coils pull the lever arm down and the valve is in the high-fire stage. With zero volts to the relay coil, the arm lifts up and the valve is in low fire. To increase the high-fire gas flow, turn the high-fire adjustment screw clockwise. Turn it counterclockwise for a high-fire flow decrease. Low fire has been set at approximately 50 percent of high fire, and it cannot be adjusted. The gas valve is connected to the 10 pin connector on the control board with six wires. The four wires that connect to the top of the valve control the two on-off redundant solenoids, and the two wires running into the white plastic plug control the hi-lo relay coil.



1/2" Hi-Lo Control Board (Refer to the Figure below)

This board contains all the components of the diode logic board and arc suppressor board used on the standard 1/2" glo-bar ignition system (motor relay, gas valve relay and arc suppression resistors and capacitors) as well as a hi-lo timing relay and additional hi-lo timing electronic components. Electrical connections to the board consists of a 6 pin Amp connector located in the lower right-hand corner of the board's front, a 10 pin connector located in the upper left-hand corner to the rear of the board and three-1/4" female spade terminals fastened to the board's motor relay. The 6 pin connector joins the board to the computer and provides power to the control board and its switching relays. The 10 pin connector connects the gas valve, glo-bar and I R Sensor to the control board. This board is produced in a 115-volt and 230-volt version. Dryers with either a 115 volt single phase power input or a 208 volt three phase four wire system use the 115-volt version of the board. All other voltage input sources use the 230-volt board.



## OPERATION SEQUENCE

When the dryer is started and the heat indicator dot in the computer display is on, the first on-off solenoid in the gas valve opens, the valve is put into its high-fire stage and current is supplied to the glo-bar. When the glo-bar reddens and reaches sufficient temperature, the I R Sensor switch opens which opens the second on-off solenoid in the gas valve. This allows gas to flow into the burners and be ignited. When the tumbler cavity reaches the selected drying temperature, the gas flow is reduced to low fire for 15 seconds. At the end of this 15-second period, the computer checks the tumbler temperature. If the tumbler temperature has dropped below the selected drying temperature, then the computer returns the gas valve to its high-fire stage. High fire remains on until the selected drying temperature is again reached. At which point, the low-fire stage is again activated. This high fire-low fire cycling will continue as long as the tumbler's temperature is below the selected drying temperature at the end of the 15-second low-fire stage. As the clothes in the tumbler get dryer, low-fire gas flow will eventually produce enough heat to keep the tumbler at or above the selected drying temperature. When at the end of the 15-second low-fire period the tumbler's temperature is equal to or above the selected drying temperature, the hi-lo control board takes over and keeps the gas valve in its low-fire stage for approximately 23 more seconds. At the end of this 23-second period of low fire, the computer again checks the tumbler's temperature. If the tumbler's temperature has dropped below the selected drying temperature, then the high-fire stage is turned back on. If, however, the tumbler's temperature is still above the selected drying temperature, then the gas flow is shut off. At this point, the glo-bar ignition sequence is restarted.

The dryer will continue to operate until either the drying time runs out (computer in manual mode) or the preset number of drying cycles (dryness level) have been run (automatic mode).

So in the hi-lo drying system, there are two types of drying cycles. The high-fire to low-fire back to high-fire cycles are eventually followed by the high-fire to low-fire to gas off type of cycle. For example, if a noncoin computer is run in the automatic mode and a dryness level of 6 is selected with the range tripler on (total of 18 cycles), the drying sequence may consist of 15 high-to-low back to high-fire cycles followed by 3 high-to-low to gas off cycles. The point at which the clothes become dry enough so that low-fire gas flow is sufficient to hold the tumbler's temperature at or above the selected drying temperature resulting in the gas shutting off, depends on the weight, wetness and type of material in the load. If a dryer is run with no load or an extremely light load, then only high fire-low fire-gas off cycles will be run since the low-fire gas flow is sufficient to maintain the selected drying temperature. Dryers should never be run with no load or a very light load because this is an extremely wasteful way to operate any dryer.

## TROUBLE SHOOTING

To locate any breakdown in the hi-lo system, voltage measurements can be taken at the test points beside the 6 and 10 pin connectors on the hi-lo board's front. Each test point is taken off of a different pin. A table of these voltages follows. When using an Analog meter to measure the voltages, it may be necessary to reverse the meter probes if a voltage reading cannot be obtained.

### 1/2" Hi/Lo System Voltage Chart

<b>10 PIN CONNECTOR TEST POINTS</b>	<b>DRYER STARTED GLO-BAR REDDENS HEAT INDICATOR DOT ON</b>	<b>GAS FLOWS AND IGNITES HEAT INDICATOR DOT ON</b>	<b>DRYER REACHES SELECTED TEMP. HEAT INDICATOR DOT GOES OFF. VALVE IN LO FIRE</b>
<b>V2 <sup>1</sup>/<sub>2</sub></b>		<b>60-70<sub>v</sub></b>	<b>60-70<sub>v</sub></b>
<b>V1 <sup>3</sup>/<sub>4</sub></b>	<b>60-70<sub>v</sub></b>	<b>18-30<sub>v</sub></b>	<b>18-30<sub>v</sub></b>
<b>HL <sup>5</sup>/<sub>6</sub></b>	<b>115<sub>v</sub></b>	<b>115<sub>v</sub></b>	<b>0<sub>v</sub></b>
<b>IG <sup>7</sup>/<sub>8</sub></b>	<b>100-115<sub>v</sub></b>	<b>1-2<sub>v</sub></b>	<b>1-2<sub>v</sub></b>
<b>FS <sup>9</sup>/<sub>10</sub></b>	<b>0<sub>v</sub></b>	<b>115<sub>v</sub></b>	<b>115<sub>v</sub></b>

V1 and V2 supply voltage to the gas valve's two redundant on-off solenoids. HL supplies voltage to the hi-lo relay coil. IG supplies the glo-bar (ignitor), and FS supplies the I R Sensor (flame switch).

### 3/8" Hi-Lo System Voltages

There are 4 wires running from the 10 pin connector to the gas valve on the 3/8" system. Across the white and black wires, you will get 115 volts whenever the heat indicator light is on, or the valve is in its low-fire stage. 115 volts will be across the red and blue wires whenever the valve is in high fire. There will be zero volts here during low fire.

## 6 PIN CONNECTOR VOLTAGES

The voltages at the 6 pin connector are the same for both the 3/8" and 1/2" systems. Pins 1 and 5 supply the power to the microprocessor. The microprocessor turns the dryer motor on by supplying voltage to Pins 2 and 5 which will close the motor control relay. Whenever the motor indicator dot on the computer's display is on, there should be voltage at these two pins. The microprocessor supplies power to the gas valve circuit through Pins 4 and 5. Whenever the heat indicator dot is on, there should be voltage between these two pins. The voltage between Pins 1 and 5, 2 and 5, and 4 and 5 will be either 115 or 230 volts depending on the input power supply of the dryer. Power is supplied to the control board through Pins 3 and 5. The voltage here is always 115 volts.

## L P GAS

In the 3/8" hi-lo gas valve system, there are three changes required when using LP gas. Two of the changes are the same as with the standard glo-bar system: change the burner orifices (see Page 7g hi-lo orifice chart) and put the stem in the pressure regulator. The third change requires removing the manifold at the valve outlet and changing the small orifice located in the outlet port of the valve. This small orifice can be removed with an 11/32 nut driver.

For the 1/2" hi-lo system, the burner orifices must be changed, and the entire gas valve must be changed. The natural gas valve is P/N 140010; and for LP gas, the valve Part No. is 140011.

ORIFICE TABLE		MAIN BURNER ORIFICE SIZE								
HI-LO, HEAT RECLAIMER DRYERS										
MODEL (BTUH)	NATURAL			PROPANE			BUTANE			
	PART NO.	DMS.	REQ'D.	PART NO.	DMS.	REQ'D.	PART NO.	DMS.	REQ'D.	
ADG-15BH (47,000)	140816	36	2	140848	54	2	140847	55	2	
ADG-20BH (60,000)	140818	31	2	140845	53	2	140845	53	2	
ADG-25BH (70,000)	140819	30	2	140800	52	2	140841	1/16	2	
ADG-285BH (72,000)	140819	30	2	140800	52	2	140841	1/16	2	
ADG-30BH (80,000)	140818	31	2	140803	49	2	140802	50	2	
ADG-50BH (95,000)	140819	30	2	140804	48	2	140803	49	2	
UDG-50BH (100,000)	140819	30	2	140805	47	2	140804	48	2	
ADG-65BH (105,000)	140820	29	2	140806	46	2	140804	48	2	
ADG-100BH (210,000)	140820	29	4	140807	45	4	140807	45	4	

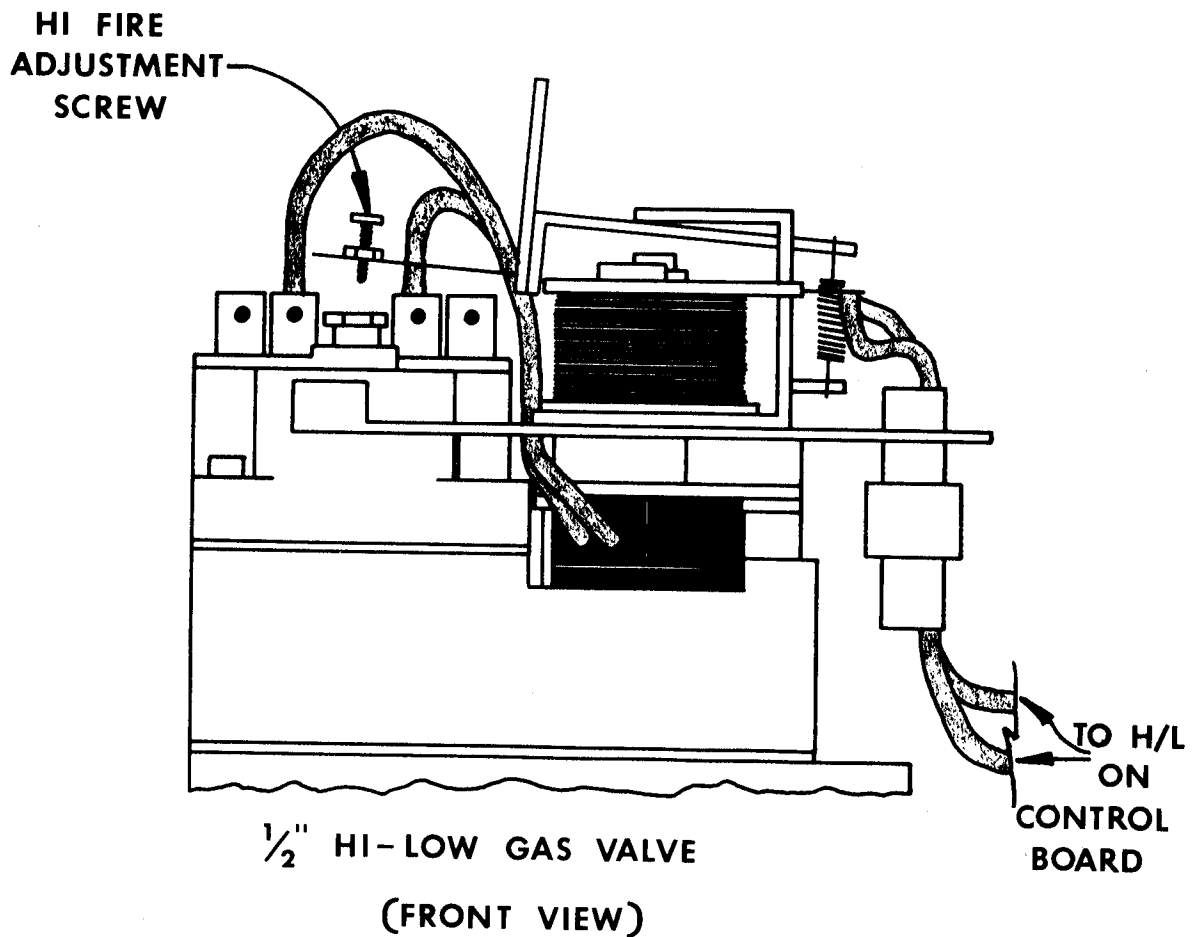
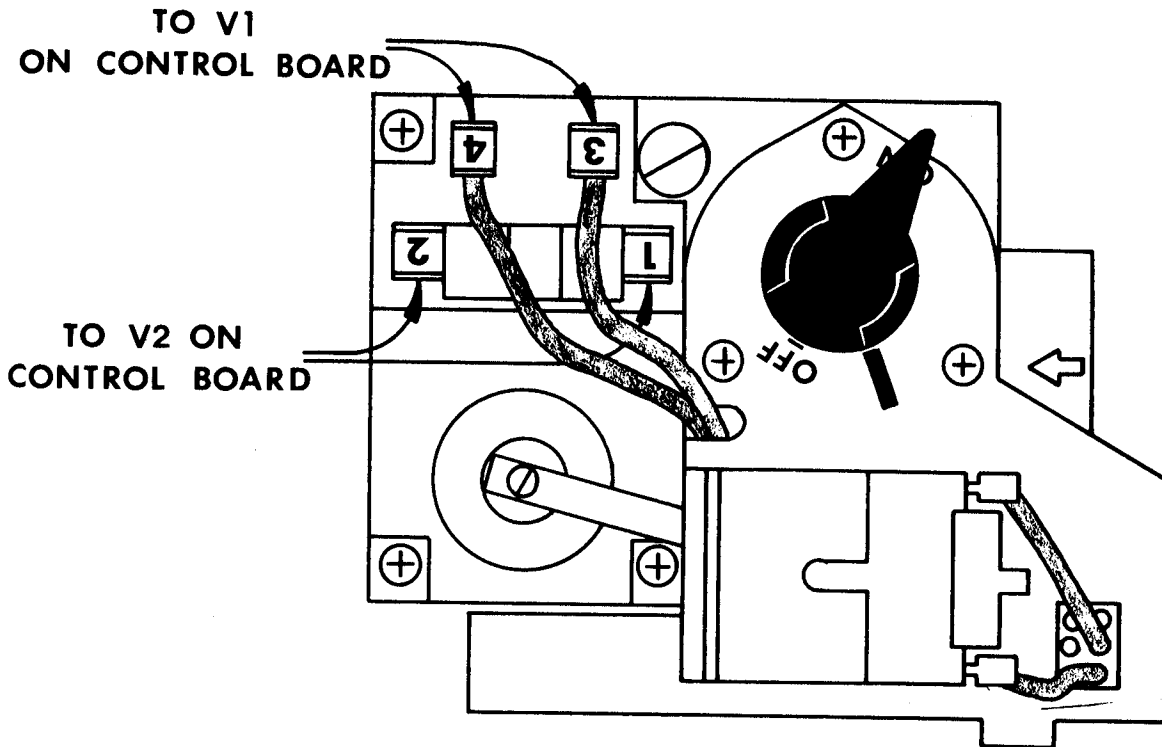
3/8" Hi-Lo System Parts List

3/8" Hi-Lo Gas Valve P/N 140009  
3/8" Hi-Lo Control Board  
-115 Volt 137062  
-230 Volt 137063  
6 Pin Connector Housing 122615  
10 Pin Connector Housing 122614  
Hi-Lo Wire Terminals 122702

1/2" Hi-Lo System Parts List

1/2" Hi-Lo Gas Valve (NAT GAS) 140010  
1/2" Hi-Lo Gas Valve (LP GAS) 140011  
1/2" Hi-Lo Control Board  
-115 Volt 137064  
-230 Volt 137065  
6 Pin Housing 122615  
10 Pin Housing 122614  
Hi-Lo Wire Terminals 122702

**FIGURE 3.- GAS VALVE WITH SOLENOID COVER REMOVED.**



SECTION III 'A'  
SERVICING

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## SECTION III 'A'

### SERVICING

INTRODUCTION: Always turn electrical power OFF when making any electrical correction to the dryer. Any electrical trouble shooting requiring the power to be ON should only be done by a fully licensed electrician.

Electrical switches and thermostats can be checked with an ohm meter, connected across the component. All thermostats are normally closed. Therefore, when sitting at room temperature, they will allow electricity to pass through. On an ohm meter, they will register zero ohms. When a thermostat reaches its preset temperature, it will open, preventing electricity to pass through it. Thermostats can fail in either the closed or open position.

A. Computer Group: Parts used only on computer equipped dryers.

TO REPLACE COMPUTER: (See pages 53,55,57, figure 4)

- a. Disconnect power.
- b. Remove black wiring connector and harness from rear of board.
- c. Remove ground wire.
- d. Remove (4) nuts securing computer to panel.
- e. Carefully unplug flat ribbon wire from keyboard to rear of computer at the black connector on the computer.
- f. Remove computer.
- g. Install by reversing this procedure.

TO REPLACE COIN ACCEPTOR: (See Figure 3 , Page 54)

- a. Turn off power.
- b. Disconnect wiring
- c. Remove (2) nuts.
- d. Remove coin acceptor.

TO REPLACE KEYBOARD: (See pages 53,55,57, figure 1)

- a. Turn off power.
- b. Unplug keyboard ribbon wire from rear of computer board.
- c. Slowly peel off label
- d. Install new keyboard in reverse procedure.

TO REPLACE TEMP. SENSOR: (See Figure 7 , Page 75)

- a. Turn off power.
- b. Locate temp. sensor on thermostat bracket (located above lint-trap).
- c. Remove temperature sensor by pulling sensor straight up.
- d. Install new sensor in reverse procedure being certain that three pins align properly with socket.

TO REPLACE GLO-BAR AND/OR MOTOR RELAYS: (See Figure 9 , Page 53)

- a. Turn off power.
- b. Locate A.S. Printed Board. Inside wire box.
- c. Remove wires to panel, and remove board from nylon standoffs.
- d. Using a soldering iron, remove solder holding the relay to the rear of relay board.
- e. Remove relay.
- f. Install the new relay. The new relay is in the proper position when the three pins protrude through the rear of the P.C. board.
- g. Place a small amount of solder on each pin.
- h. To install board, reverse procedure.

NOTE: Check volts when replacing relay.

B. Automatic Ignition Components:

TO REPLACE EQSO DIODE LOGIC BOARD: (See Figure 13, Page 53)

- a. Turn off power.
- b. Disconnect all 10 wires from board (identify location of each wire for correct re-installation).
- c. Remove board by pressing in locking tabs at each corner of board.
- d. To check if board is faulty, refer to Page 110
- e. Reverse procedure for installing new board.

TO REPLACE GLO-BAR: (See Figure 11, Page 78)

- a. Be sure to disconnect power before removing.
- b. Remove igniter from clip or holder and replace.
- c. Connect wiring.

TO REPLACE I R SENSOR: (See Figure 12, Page 77)

- a. Disconnect power.
- b. Remove wires attached to sensor.
- c. Remove screw holding sensor in place.
- d. Remove sensor.
- e. Replace by reversing removal procedure.

- C. Manual Reset Thermostat: (Page 75) This thermostat will open the heating unit circuit if an excessive temperature occurs, due to a failure of one of the excessive temperature control snap action thermostats. The computer indicator lights, and motor will remain on. This thermostat is a hi temp. protector and only operates on and off in the event the regular thermostats should fail.

TO REPLACE: BE SURE ELECTRICAL POWER IS OFF BEFORE ATTEMPTING TO REPLACE.

- a. Follow same procedure as shown in this section for replacement of temperature control snap action thermostats.

- D. High Limit Snap Action Thermostat: This thermostat is located on the left side of the gas burner and on the rear of the electric oven. This thermostat serves as an added protection against failure of the air switch to open in the event of a motor failure or a reduce draft condition.

TO REPLACE:

- a. Be sure electrical power is off before attempting to replace.
- b. Disconnect leads from thermostat.
- c. Remove screws holding thermostat.
- d. Remove high limit thermostat.
- e. Replace by reversing the removal procedure.

- E. Sail Switch: This switch shuts off the burner circuit only and is located in the rear of the burner on the gas models and on the front of the oven on electric models. When the dryer is operating and there is a proper air flow, the sail switch damper is in the closed position, and the burners ignite. If an improper air flow occurs, the damper will be released and the circuit will open.

TO REPLACE:

- a. Be sure electrical power is off before attempting to replace.
- b. Remove two screws which hold the sail switch box to the burner box.
- c. Disconnect the leads from the switch.
- d. Remove the screws which hold the sail switch mounting bracket to the box.
- e. Remove the screws which hold the sail switch to mounting bracket.
- f. Replace by reversing the removal procedure.

TO ADJUST: With the dryer operating at hi temperature, bend the actuator arm of the switch. Pull sail switch rod away from the burner to a vertical hanging position. The switch should open and extinguish the burner. Let the sail damper return to the burner wall. The sail switch should close to reignite the burner. Check proper open position of switch by opening the loading door and depressing the loading door switch to keep the dryer operating. The burner should remain extinguished until door is closed. CAUTION: Do not abort this switch by taping or screwing sail to burner. This switch should be checked periodically for proper opening to reduce the hazard of fire.

F. Tumbler:

TO REPLACE TUMBLER OR TUMBLER SUPPORT:

1. Remove front panel (See Figure 1 , Page 59)
  - a. Turn off power.
  - b. Open the control door and lint door.
  - c. Disconnect door switch wires at terminal board.
  - d. Remove (8) screws on the front panel. Remove front panel.
2. Remove backguard (See Figure 4 , Page 81)
  - a. Remove nuts.
  - b. Remove backguard.
3. Remove 18" pulley (See Figure 11, Page 67 & Figure 14, Page 68)
  - a. Rotate pulley and roll V-belt out of groove.
  - b. Remove bolt from back of pulley.
  - c. Loosen pulley set screws.
  - d. Remove pulley and key.
  - e. Replace by reversing removal procedure.
4. Removal of tumbler assembly and tumbler support
  - a. Loosen two set screws on both bearings (See Figures 1 & 4, Page 67)(15#, 20# and 25# dryers). These can be reached through the opening on bottom of bearing housing, or ...
  - b. Loosen two set screws on both bearings (See Figures 1 & 6, Page 68)(30#, 285#, 50# and 65# dryers). Two set screws on pillow block bearing can be reached from the top of the bearing. Two set screws on the 1 3/8" flange bearing can be reached through opening on bottom of bearing housing.
  - c. Remove tumbler and tumbler support assembly (See Figures 3 & 4, Page 63) from dryer. If the tumbler cannot be removed freely, strike the end of the shaft with a mallet and block to move shaft past burrs made by set screws. NEVER STRIKE END OF SHAFT WITH A HAMMER. Remove tumbler.

5. Removal of tumbler from tumbler support
  - a. Remove bolt in center of tumbler backwall.
  - b. Remove tie rods.
  - c. Replace either tumbler or tumbler support.
  - d. Reverse the removal procedure for reinstalling.

VERTICAL ALIGNMENT OF TUMBLER: 30#, 285#, 50# & 65# Only  
(Page 68)

- a. Loosen the four bolts on the sides of the bearing box.
- b. Back off jam nuts on adjustment screws.
- c. Turn the screws clockwise evenly to raise tumbler or counterclockwise to lower tumbler.
- d. Rotate tumbler from front and check alignment with opening.
- e. Leave a large gap from the inside ring on the top of the front panel opening to the gasket, and a smaller gap on the bottom to compensate for the tumbler's tilt when clothes are added.
- f. Tighten the two bolts on the sides of the bearing box and tighten the jam nuts to the adjustment bolts.
- g. Check tumbler drive belt for proper tension. Adjust if required.

LATERAL ALIGNMENT OF TUMBLER: 30#, 285#, 50# and 65# only  
(Page 68)

- a. Loosen the two bolts  $\frac{1}{2}$  to 1 turn holding the pillow block bearing to the bearing box.
  - b. Back off the jam nuts on the side adjustment bolts. Adjust bolts to move the tumbler laterally. Rotate tumbler from front and check alignment with opening. The spacing between the tumbler and the inside rim of the front panel should be equal.
  - c. Tighten the bolts holding the pillow block bearing and tighten the jam nuts on the adjustment bolts.
- G. Bearings: Bearing are sealed and need no lubrication. If replacement is needed, follow the replacement instructions outlined on the next page for faulty bearing.

TO REPLACE REAR 1" FLANGE BEARING: 15#, 20# and 25# dryers  
(See Figure 4, Page 67)

- a. Follow steps 2 and 3 of replacement of tumbler or tumbler support.
- b. Remove three nuts holding rear flange bearings to bearing housing.
- c. Loosen set screws on rear flange bearing and remove.

TO REPLACE FRONT 1 1/4" FLANGE BEARING: 15# and 25# dryers  
(See Figure 1, Page 67)

- a. Follow steps "a" through "c" from replacement of 1 " flange bearing.(See Page 14)
- b. Remove four bolts on sides of bearing housing and remove.
- c. Remove three nuts holding front flange bearing to dryer.
- d. Loosen two set screws on front flange bearing and remove with a puller.
- e. Reverse the removal procedure for reinstalling.
- f. Realign tumbler. (See tumbler alignment, Section III)

TO REPLACE REAR PILLOW BLOCK BEARING: 30#, 285#, 50# and 65# dryers (See Figure 6, Page 68)

- a. Follow steps 2 and 3 from replacement of the tumbler or tumbler support.
- b. Loosen jam nuts and adjustment screws.
- c. Loosen set screws from rear bearings.
- d. Remove two bolts holding pillow block bearing to bearing housing and remove.
- e. Replace by reversing the removal procedure.

TO REPLACE FRONT 1 3/8" FLANGE BEARING: 30#, 285#, 50# and 65# dryers (See Figure 1, Page 68)

- a. Follow steps "a" through "d" from replacement of rear pillow block bearing.
- b. Remove four bolts on sides of bearing housing and remove.
- c. Remove four nuts holding front flange bearing to dryer.
- d. Loosen two set screws on front flange bearing and remove.
- e. Replace and reverse the removal procedure for reinstalling.
- f. Realign tumbler. (See tumbler alignment in this section)

- H. V-Belts: V-belts should have a proper tension. If too loose, they will slip; if too tight, excessive wear on the bearing results. If the pulleys are not properly aligned, excessive belt wear results.

TO ALIGN BELTS:

- a. Loosen set screw on motor sheave. (See Figure 6 , Page 73)  
Since the 18" pulley should be flush with the end of the shaft and the idler pulley is self-aligning, position the motor sheave so belts ride evenly on pulleys.
- b. Reposition key as required and tighten set screw.

BELT TENSION ADJUSTMENT: 15#, 25#, 30#, 50# & 65# (Refer to Page 69)

- a. Loosen two bolts (Item 8) on adjustment block (Item 7).
- b. Back off jam nut (Item 5) on adjustment screw (Item 6) and loosen/tighten screw to relax/increase belt tension.
- c. Retighten bolts (Item 8) on adjustment block.

d. Retighten jam nut.

BELT TENSION ADJUSTMENT: 285# (Refer to Page 71)

- a. Loosen two bolts (Item 8) on adjustment block (Item 7).
- b. Back off jam nuts (Item 5) on adjustment screw (Item 19) and loosen/tighten screw to relax/increase belt tension.
- c. Retighten bolts (Item 8) on adjustment block.
- d. Retighten jam nuts.

I. 18" Pulley: Replacement of the 18" pulley is explained under tumbler and tumbler support page.

Idler Pulley: (See Figure 16, Page 69)

- a. Rotate 18" pulley and roll belt out of groove.
- b. Rotate idler pulley and roll belt out of groove.
- c. Remove idler pulley from shaft.
- d. Replace by reversing removal procedure.

J. Automatic Ignition Gas Valve and Components

TO REPLACE AUTOMATIC IGNITION GAS VALVE: (See Figure 5, Page 77)

- a. Turn off gas supply and electrical power.
- b. Disconnect all wiring to valve.
- c. Remove screws holding gas valve piping brackets to burner box.
- d. Disconnect piping from gas valve.
- e. Replace with new gas valve and reverse above procedures for reinstallation.

BURNERS: (See Figure 2, Page 78) The main burners should need no attention during the life cycle of the dryer; but if there is any change in the rating of the gas BTU per cubic foot or specific gravity, the main burner orifices may have to be changed. If converting any dryer from one gas to another, such as natural gas to L.P. gas or L.P. gas to manufactured gas, on the main burner orifice will have to be changed according to Tables 1, 2 and 3 in Section V. Field kits are available from the factory to make these conversions.

PRESSURE REGULATOR: All gas valves are equipped with an internal pressure regulator, except L.P. gas dryers. The pressure regulator insures that the rate of gas consumption is constant. The pressure regulator is preset to 4" W.C. manifold pressure for natural gas. There is a manifold pressure tap just below the solenoid. Remove the plug and connect a manometer or pressure gauge. To adjust manifold pressure, remove cap screw from the regulator well. Turn the slotted head adjustment screw in the well clockwise to increase manifold pressure and

counterclockwise to decrease pressure. Replace cap screw. A conversion kit to modify the gas valve, burner and pilot to utilize a different gas is available also from the factory. Please specify model, serial number and type of gas when ordering.

ON L.P. GAS DRYERS, the internal pressure regulator is locked in the full open position. A pressure of 10 to 11" W.C. must be provided by the gas supplier.

TO REPLACE THE MAIN BURNER ORIFICES: (See Figure 3, Page 77)

- a. Turn gas supply and electrical power off.
- b. Disconnect electrical wiring from gas valve.
- c. Disconnect gas supply line and remove screws holding the pipe bracket on the front lower right-hand side of the burner box.
- d. Remove screws holding the manifold bracket in front of burner box.
- e. Pull valve and manifold assembly back and unscrew main burner orifices and replace. (See Table No. 1 in Section V.)
- f. Reverse the removal procedure for reinstalling.

K Pilot Ignition Gas Valve and Components:

TO REPLACE PILOT IGNITION GAS VALVE:

- a. Turn off gas supply and electrical power.
- b. Disconnect all wiring to valve.
- c. Remove screws holding gas valve piping brackets to burner box.
- d. Disconnect thermocouple and pilot gas supply line from valve.
- e. Disconnect piping from valve.
- f. Replace with new gas valve and reverse above procedure for reinstallation.

BURNERS: The main burners should need no attention during the life cycle of the dryer; but if there is any change in the rating of the gas BTU per cubic foot or specific gravity, the pilot and main burner orifice may have to be changed. If converting any dryer from one gas to another, such as natural gas to L.P. gas or L.P. gas to manufactured gas, the pilot orifice and the main burner orifice will have to be changed according to Table 1, 2 and 3 in Section V. A filter on the pilot gas supply line is required for manufactured gas. Field kits are available from the factory to make these conversions.



- f. Remove pilot orifice from pilot.
- g. Install new pilot orifice.
- h. Replace by reversing the removal procedure.

TO REPLACE THE MAIN BURNER ORIFICES:

- a. Turn gas supply and electrical power off.
  - b. Disconnect gas supply line and remove screws holding the pipe bracket on the front lower right-hand side of the burner box.
  - c. Remove screws holding the manifold bracket in front of the burner box.
  - d. Disconnect thermocouple and pilot gas supply line from pilot valve.
  - e. Pull valve and manifold assembly back and unscrew main burner orifices and replace.
  - f. Reverse the removal procedure for reinstalling.
- L. Motors: (See Figure 9 , Page 73) All motors are equipped with internal thermal overload protection, which stops the motor whenever it becomes overheated. Causes of possible overheating are: (1) overloading tumbler; (2) restricted air circulation around the motor; (3) lint blockage of motor frame vents; (4) belt too tight. If motor overheats, corrective action must be taken. If a motor is suspected of being defective, remove drive belt, remove plate on motor, disconnect wires from terminals and connect motor directly to the line voltage required to generate that motor. Note: Improper voltage is also probable cause of overheating.

TO REPLACE:

- a. Be sure electric power is off.
- b. Remove the V-belt from the motor.
- c. Disconnect wiring harness from motor.
- d. Remove four nuts holding the motor mount to dryer and remove mount.
- e. Remove double nuts on motor shaft (L.H. thread - turn clockwise) and work impellor free from motor shaft by means of an impellor puller to prevent damage to motor shaft.
- f. Loosen set screw on sheave and remove the sheave and key.
- g. Remove four bolts holding motor to motor mount and replace with new motor. Replace by reversing the removal procedure. See Section III, H, for belt adjustment if required.

IMPELLOR: The impellor is fastened to the motor shaft and should need no replacement for the life of the dryer.

TO REPLACE IMPELLOR:

Follow motor replacement procedure steps above.

PILOT: The pilot operates as follows:  
the thermocouple, when heated, holds the automatic valve open. If the pilot blows out, the thermocouple cools and closes pilot valve. This prevents gas from being turned on without igniting. If the pilot does not remain lit, check thermocouple output. If this is adequate, then the pilot valve is defective and must be replaced. If the pilot flame is very low, the pilot line filter may need to be replaced.

THERMOCOUPLE: The thermocouple should generate a minimum of 15 millivolts to keep the pilot reset valve open. In normal operation, it generates 20-25 millivolts. If the output of the thermocouple is low, it should be replaced.

TO REPLACE:

- a. Turn gas and electrical power off.
- b. Disconnect thermocouple and the pilot gas supply line.
- c. Remove the screws.
- d. Work pilot burner assembly free through the opening between the main burners.
- e. Remove thermocouple and replace by reversing the above procedure.

PILOT ORIFICE: The small opening of the pilot orifice can easily be clogged if there is any foreign matter in the line. It is possible to clean the orifice by using compressed air or washing out. If this fails, the orifice should be replaced. The size is stamped on the side of the orifice.

DO NOT USE ANY INSTRUMENTS OR TOOLS TO CLEAN ORIFICES.

TO REPLACE PILOT ORIFICE:

- a. Turn gas and electrical power off.
- b. Disconnect the thermocouple and the pilot gas supply line from the pilot valve.
- c. Remove screws.
- d. Work pilot assembly free through the opening between the main burner.
- e. Remove the pilot gas supply line from the pilot orifice.

M. Main Door Glass and Gasket:

A dull rounded blade made of plastic or hardwood should be used to avoid scratching the glass or tearing the gasket.

TO REPLACE MAIN DOOR GLASS AND GASKET

- a. Remove door from dryer.
- b. Roll inside lip of gasket away from glass starting at the end seam (bottom). Probe the blade under edge of glass and advance tool around the glass.
- c. Pull gasket off edge of door cutout.
- d. Examine end of extruded gasket. Starting at bottom of circle, insert edge of door cutout into thin slot of gasket with the thick slot for the glass toward the inside or rear of the door. Press gasket into place around cutout. Do not cut access length from gasket. Work gasket around circle until ends butt neatly.
- e. Press edge of glass firmly into wide gasket slot at bottom and work glass into slot with tool inserted between rear surface of glass and gasket lip. Advance tool around gasket while pressing edge of glass into slot.
- f. Work butt ends of gasket to obtain a neat, tight joint.
- g. Insert locking lip of gasket into receiving slot, advancing locked lip from end to end.
- h. Reinstall door.

NOTE: A soapy solution applied to the gasket may ease installation of glass.

N. Lint Screen: (See Figure 2, Page 65)

- a. Remove screws and lint screen retainer.
- b. Remove screen.

O. Locks: (See Figure 5, Page 61 and Figure 3, Page 46)

- a. Remove screw holding pawl.
- b. Remove retaining nut away from lock.
- c. Remove lock.
- d. Replace by reversing removal procedure.

P. Main Door Switch: This switch is located in the hinged section of the door and breaks the motor and heating unit circuit when the main door is opened.

TO REPLACE AND ADJUST:

- a. Turn power off.
- b. Open door for accessibility to door switch.
- c. If an adjustment is needed, loosen the two screws holding the main door switch. If the switch is defective, disconnect the wire leads from switch and replace.

Q. Electric Heating Elements: (See Figure 2 , Page 87) These elements produce heat in the electric oven to dry clothes. These elements are rated 3KW, 4KW and 5KW either 208V or 240V. The quantity and rating will vary for different ovens. (The rating is printed on the frame of the element.)

TO REPLACE:

- a. Be sure power is off.
- b. Remove screws on electric oven rear cover.
- c. Disassemble terminal hardware from both terminals of defective element.
- d. Remove sail hanger from sail switch housing.
- e. Remove screws holding sail switch cover plate.
- f. Remove cover plate and slide out defective element.
- g. Replace element by reversing removal procedure.

R. Electric Relay Contactor: (See Figure 24, Page 87) The relay contactor controls power to the electric oven.

TO REPLACE:

- a. Be sure power is off before attempting to replace.
- b. Remove rear cover screws and cover.
- c. Remove side cover screws and cover. Disconnect all wire leads. Identify with color code for proper replacement.
- d. Remove contactor mounting nuts and relay contactor.
- e. Remove nuts holding contactor to its mounting plate.
- f. Replace by reversing removal procedure.
- g. To replace a defective coil only, refer to instruction sheet.

S. Timer Operated Dryer Components: The following parts are used on timer dryers only.

INDICATOR LIGHT: This light indicates that the dryer is either on or off and is located in the control section of the front panel.

TO REPLACE:

- a. Turn off power.
- b. Disconnect indicator light leads from terminal strip.
- c. Remove light from panel.
- d. Replace by reversing procedure.

NOTE: 220 VOLT LIGHTS: Be sure resistor lead is installed on proper connector or terminal.

ROCKER SWITCH: (See Figure 2 , Page48 and Figure 2 , Page 50)  
This switch is used for selection of temperature and is located on the front panel.

TO REPLACE:

- a. Turn power off.
- b. Disconnect leads from the switch.
- c. Remove switch from the Control panel.
- d. Replace switch and connecting leads as per the schematic on control door.

TO REPLACE TIMER: (See Figure 15, Page48 and Figures 15and 16, Page 50)

- a. Turn power off.
- b. Disconnect timer leads from terminal board.
- c. Loosen screw in timer knob and remove.
- d. Remove hex nut which holds timer to the Control panel.
- e. Remove timer from Panel and replace with new unit.
- f. To attach timer to Panel reverse the removal procedure and connect wiring per the schematic located on inside of the control door.

COIN METER: (See Figure 15, Page 51)  
The coin meter controls both the timing motor and dryer operation. Both units operate until the purchased time has expired. The coin meter is located in the Control panel.

TO REPLACE:

- a. Turn power off.
- b. Disconnect leads from the coin meter to the terminal strip.
- c. Remove nuts securing meter to control panel.
- d. Replace unit if needed. If only a switch adjustment is needed, refer to Greenwald literature.
- e. Replace by reversing the removal procedure and connect wiring per the schematic located on inside of the control door.

TEMPERATURE CONTROL SNAP ACTION THERMOSTATS: (Refer to the Illustration on Page 75) These thermostats will open or close the circuit to the heating unit when their preset temperature settings are reached. The thermostats are located under the right wrapper.

TO REPLACE: BE SURE ELECTRICAL POWER IS OFF BEFORE ATTEMPTING TO REPLACE.

- a. Open lint door for accessibility to thermostat group.
- b. Loosen screws, slide bracket assembly forward and remove from support.
- c. Disconnect wiring to the defective thermostat and remove.
- d. Remove screws retaining defective thermostat and remove thermostat.
- e. Replace thermostat by reversing the removal procedure and connect wires to terminal.
- f. Replace bracket assembly by reversing the removal procedure (b) above.

## SECTION III 'B'

### TROUBLE CHART

This trouble chart will help to isolate the most probable component(s) associated with the difficulty described. The experienced technician realizes, however, that a loose connection or broken or shorted wire may be at fault where electrical components are concerned... not necessarily the suspect component itself.

ELECTRICAL PARTS SHOULD ALWAYS BE CHECKED FOR FAILURE BEFORE BEING RETURNED TO THE FACTORY.

This chart should not be misconstrued as a device for use by an untrained person toward making repairs. Only properly licensed technicians should service the equipment.

Observe all safety precautions displayed on the equipment or specified in this manual before and while making repairs.

#### TROUBLE

#### PROBABLE CAUSE AND REMEDY

- |  |   |
|--|---|
| A. The dryer won't start.  | 1. Open fuse box or circuit breaker switch, or blown fuses.<br>2. Improper power supply voltage.  |
| B. The tumbler motor runs, but the tumbler won't revolve. The heating unit is operating. | 1. Broken, damaged or loose V-belt.<br>2. Belts are contaminated (oil, grease, etc.)  |
| C. The dryer starts, but the heating unit is not operating.                              | 1. The manual reset thermostat has tripped or is defective.<br>2. The lint door is open.<br>3. The sail switch is out of adjustment or is defective.<br>4. A defective control relay.<br>5. A defective hi-limit thermostat.<br>6. A defective gas or steam valve solenoid. |
| D. The dryer operates, but is taking too long to dry load.                               | 1. An inadequate exhaust system.<br>2. Insufficient make-up air openings.<br>3. One of the relay contactor coils is defective (208/240V electric dryers).<br>4. Housekeeping. Clean lint drawer and check exhaust ducts for blockage.                                       |

TROUBLE

PROBABLE CAUSE AND REMEDY

- |  |  |
|--|--|
|  | 5. Make-up air openings are closed.                                      |
|  | 6. Extractors are not performing properly.                               |
|  | 7. An exceptionally cold/humid or low barometric pressure atmosphere.    |
|  | 8. The supply gas may have a low heating value. Check with gas supplier. |
| E. The dryer won't stop.                                 | 1. Defective motor contactor.  |
| F. The tumbler is not reversing. (Reversing dryers only) | 1. Defective microprocessor.   |
|  | 2. Defective reversing contactor coil.                                   |
| G. The motor keeps overheating.                          | 1. Either an exceptionally low or high voltage supply.                   |
|  | 2. Motor bearing failure.  |
|  | 3. Motor overload control is defective.                                  |
|  | 4. An idler bearing or tumbler drive bearing failure.                    |
|  | 5. Motor air vents are blocked with lint.                                |
|  | 6. Defective motor.  |
|  | 7. Insufficient make-up air.   |
| H. An excessive noise or vibration in the dryer.         | 1. The tumbler is out of adjustment.                                     |
|  | 2. The V-belt is too loose or too tight.                                 |
|  | 3. Loose tumbler rod.  |
|  | 4. Tumbler bearing or idler bearing failure.                             |
|  | 5. Tumbler adjustment bolts are loose.                                   |
|  | 6. Loose motor mount.  |
|  | 7. Loose hardware.   |
| I. The dryer is cycling on the high limit switch.        | 1. Blower motor failure.   |
|  | 2. An insufficient air supply.   |
|  | 3. Lint trap screen needs cleaning.                                      |
|  | 4. Insufficient exhaust system size or duct restriction.                 |
|  | 5. Lint door open.   |
| J. The motor won't operate.                              | 1. The motor relay coil is defective.                                    |
|  | 2. A defective motor.  |
| K. Dryer does not start-display shows "door".            | 1. Door switch failed-check for continuity with button depressed.        |
|  | 2. Check gray colored wires.   |



TROUBLEPROBABLE CAUSE AND REMEDY

- L. Display shows "DSFL".
3. Check connectors.
  4. Replace door switch.
- M. Dryer does not respond to command at keyboard.
1. Dryer sensor failed-check if sensor is missing from holder.
  2. Check wires leading to sensor from connector to connector.
  3. Replace temperature sensor.
- N. Dryer runs, but heat indicating light in L.E.D. does not come on.
1. Disconnect power.
  2. Check flexible cable from keyboard to micro control unit.
  3. In automatic mode, the problem may be due to a faulty sensor circuit. Refer to L above.
- O. Dryer motor starts, but gas valve and glo-bar do not operate.
1. Computer defective.
- P. Dryer motor starts, gas valve's primary coil operates, but glo-bar does not heat up.
1. Manual reset thermostat is open reset.
  2. Sail switch is open-readjust.
  3. Hi-limit switch open-remove connectors and shunt. MAKE TEST. Replace switch and reconnect wiring. BE SURE TO RECONNECT WIRES TO SWITCH IF SWITCH IS NOT DEFECTIVE.
  4. No voltage supply to gas valve-open connection. Trace circuit with volt or ohm meter. Repair connection or wire.
- Q. Dryer motor starts, gas valve and glo-bar operate, but gas does not come on.
1. Broken glo-bar-replace.
  2. Faulty wire connection to either glo-coil or IR Sensor.
- R. All components are operating, but gas is not ignited.
1. Flame switch defective-replace.
  2. Gas valve defective-replace.
  3. Very low pressure-contact local utility.
- R. All components are operating, but gas is not ignited.
1. Improper position of glo-bar adjust.
  2. Low gas pressure-check manifold pressure.
  3. Adverse air disturbance around front of burner could cause failure of ignition. Determine cause of draft, eliminate it.

## SCOPE - PHASE II COMPUTER DRYERS

THE AMERICAN COMPUTERIZED DRYER IS THE MOST ADVANCED, ENERGY EFFICIENT DRYER OF ITS TIME. IT USES AS ITS CONTROLS A COMPUTER BASED MICROPROCESSOR. THIS MICRO-PROCESSOR, COMBINED WITH A SMALL TEMPERATURE SENSOR, REPLACES THE MECHANICAL TIMERS, SWITCHES AND THERMOSTATS WITH RELIABLE SOLID STATE COMPONENTS. A SLIGHT TOUCH TO THE PRESSURE SENSITIVE KEYBOARD ALLOWS THE USER TO PROGRAM THE DRYER TO HIS EXACT NEEDS, WHILE THE LED DISPLAY PROVIDES AN ACCURATE DESCRIPTION OF ITS OPERATIONAL CYCLES.

THE MICROPROCESSOR IS EQUIPPED WITH MANY FEATURES, INCLUDING TROUBLE SHOOTING FOR EASE IN MAINTENANCE.

THE FOLLOWING PROVIDES THE OPERATOR AND TECHNICIAN INFORMATION AND INSTRUCTIONS TO PROPERLY OPERATE AND SERVICE THE DRYER. THIS INFORMATION SHOULD BE POSTED IN A PROMINENT LOCATION NEAR THE DRYER.

### COIN COMPUTER DRYERS

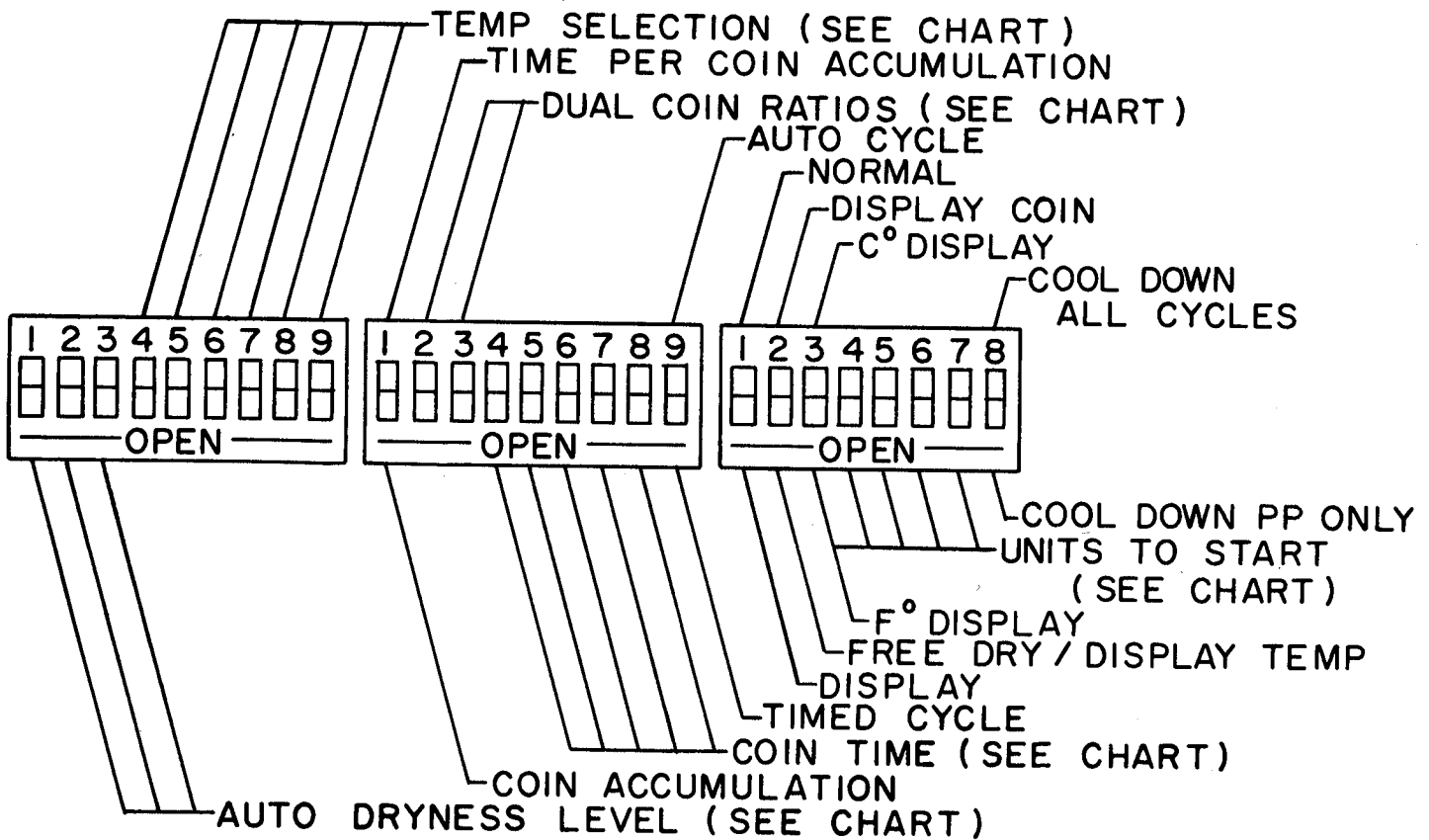
#### I. COIN COMPUTER FEATURES

1. TIME PER COIN IS ADJUSTABLE FROM 1 MINUTE TO 32 MINUTES IN 1 MINUTE INCREMENTS.
2. THE NUMBER OF COINS NEEDED TO START THE DRYER IS ADJUSTABLE FROM 1 TO 16 COINS. THE COMPUTER CAN ALSO BE SET TO EITHER GIVE MORE TIME FOR EACH ADDITIONAL COIN INSERTED, OR TO GIVE ADDITIONAL TIME ONLY IF THE SAME NUMBER OF COINS TO START THE DRYER HAVE BEEN INSERTED.
3. THE COMPUTER CAN BE OPERATED IN EITHER THE STANDARD (TIMED) MODE OR THE AUTOMATIC MODE.
4. AUTOMATIC MODE - THE DRYER WILL RUN FOR A PRESET LEVEL OF DRYNESS, OR UNTIL A PRESET MAXIMUM TIME LIMIT HAS BEEN REACHED. DRYNESS LEVEL IS ADJUSTABLE FROM 1 (LESS DRY) TO 8 (MORE DRY). THE TIME LIMIT IS ADJUSTABLE FROM 1 TO 32 MINUTES PER COIN, IN 1 MINUTE INCREMENTS.
5. COOL DOWN IS 2 MINUTES FOR HIGH AND LOW TEMPERATURES AND 3 MINUTES FOR PERMANENT PRESS. RESETTING A DIP SWITCH WILL ELIMINATE COOL DOWN FROM HIGH AND LOW CYCLES, AND CHANGE PERMANENT PRESS COOL DOWN TO 2 MINUTES.
6. COMPUTER AUTOMATICALLY ADJUSTS FOR 50 OR 60 CYCLE OPERATION.
7. COMPUTER HAS COIN COUNTING ABILITY.
8. COMPUTER CAN BE SET TO RUN IN A "FREE DRY" MODE.
9. TEMPERATURE DISPLAY IS AVAILABLE IN EITHER FAHRENHEIT OR CENTIGRADE.
10. A SLIGHT BEEP TONE SIGNIFIES A COMMAND ENTRY, SUCH AS TEMPERATURE OR DRYNESS LEVEL; AND ALSO SOUNDS FOR 5 SECONDS AT THE END OF A CYCLE.
11. THE DRYER TEMPERATURE IS ADJUSTABLE: HI TEMP - 190<sup>0</sup>, 180<sup>0</sup>, and 170<sup>0</sup>. PERM PRESS - 160<sup>0</sup>, 150<sup>0</sup>, 140<sup>0</sup>. LO TEMP - 130<sup>0</sup>, 120<sup>0</sup>, 110<sup>0</sup>.
12. THE COMPUTER HAS TROUBLE SHOOTING MONITORING OF THE TEMPERATURE SENSOR CIRCUIT, HEAT CIRCUIT, MOTOR CIRCUIT, AND DOOR SWITCH CIRCUIT.
13. DUAL COIN ACCEPTOR IS OPTIONAL.

#### II. A COIN COMPUTER DIP SWITCH CAPABILITIES

THERE ARE THREE BANKS OF SPST DIP SWITCHES LOCATED ON THE BACK OF THE COMPUTER. THESE SWITCHES HAVE BEEN FACTORY SET TO MEET THE USERS REQUIREMENTS. THESE SWITCHES SHOULD NOT BE CHANGED UNLESS THE OPERATIONAL REQUIREMENTS OF THE DRYER CHANGES. THE DIP SWITCHES HAVE THE FOLLOWING CAPABILITIES:

# DIP SWITCHES-COIN OPERATED DRYER



## LEFT HAND BANK OF DIP SWITCHES

#1, 2, and 3 - WHEN THE COMPUTER IS IN THE AUTOMATIC MODE, THESE SWITCHES SET THE DRYNESS LEVEL, WHICH IS ADJUSTABLE FROM 1 (LESS DRY) THRU 8 (MORE DRY). WITH ALL THREE SWITCHES CLOSED, THE DRYNESS LEVEL IS 1. OPENING ALL THREE SETS A DRYNESS LEVEL OF 8. ANY DRYNESS LEVEL BETWEEN 1 AND 8 IS ACHIEVEABLE BY PROPERLY SETTING THESE SWITCHES. IF THE DRYER IS RUNNING IN THE STANDARD (TIMED) MODE, CLOSE THESE SWITCHES.

## DRYNESS LEVEL

		1	2	3	4	5	6	7	8
DIP SWITCH NOS. (LEFT BANK)	1	C	O	C	O	C	O	C	O
	2	C	C	O	O	C	C	O	O
	3	C	C	C	C	O	O	O	O

- INDICATES SWITCH IN CLOSED POSITION
- INDICATES SWITCH IN OPEN POSITION

#4 THRU #9 - THESE SWITCHES CONTROL THE HI, LO, AND PERM PRESS OPERATING TEMPERATURES OF THE DRYER. (REFER TO TEMP SELECTION CHART) EXAMPLE: SET HI TEMP FOR 190°, LO TEMP FOR 120°, and PP TEMP FOR 140°. DIP SWITCH #4 OPEN, AND #5 OPEN; #6 CLOSED, #7 OPEN; #8 OPEN, AND #9 CLOSED.

## TEMPERATURE SELECTIONS

HI:	4-OPENED, 5-CLOSED = 170°F 4-CLOSED, 5-OPENED = 180°F 4-OPENED, 5-OPENED = 190°F
LO:	6-OPENED, 7-CLOSED = 110°F 6-CLOSED, 7-OPENED = 120°F 6-OPENED, 7-OPENED = 130°F
PP:	8-OPENED, 9-CLOSED = 140°F 8-CLOSED, 9-OPENED = 150°F 8-OPENED, 9-OPENED = 160°F

## MIDDLE BANK OF SWITCHES

#1 - THIS SWITCH CONTROLS HOW THE COMPUTER ASSIGNS DRYING TIME. CLOSE THIS SWITCH AND THE COMPUTER ASSIGNS DRYING TIME FOR EACH COIN INSERTED AFTER ENOUGH COINS HAVE BEEN INSERTED TO START THE DRYER. OPEN THIS SWITCH, AND THE CUSTOMER WILL HAVE TO INSERT THE SAME NUMBER OF COINS IT TOOK TO START THE DRYER TO GET ADDITIONAL DRYING TIME. EXAMPLE: SET THE COMPUTER FOR 2 COINS TO START FOR 20 MINUTES TIME. IF THIS SWITCH IS CLOSED, INSERTING A THIRD COIN WILL RESULT IN AN ADDITIONAL 10 MINUTES OF DRYING TIME, A FOURTH COIN INSERTED YIELDS 10 MORE MINUTES OF DRYING TIME, A FIFTH COIN YIELDS 10 MORE MINUTES, ETC. (50 MINUTES TOTAL). IF THIS SWITCH IS OPENED, AFTER 2 COINS HAVE BEEN INSERTED TO START THE DRYER, 2 MORE COINS WOULD HAVE TO BE INSERTED TO GET AN ADDITIONAL 20 MINUTES. INSERTING A THIRD COIN AFTER THE FIRST 2 COINS WOULD GIVE NO EXTRA DRYING TIME. EACH PAIR OF COINS INSERTED WILL YIELD AN ADDITIONAL 20 MINUTES. THIS SWITCH WORKS IN CONJUNCTION WITH THE COIN TIME SWITCHES (4 THRU 8 IN THE MIDDLE BANK) AND UNITS TO START SWITCHES (3 THRU 7 IN THE RIGHT BANK). REFER TO THE DIP SWITCH PROGRAMMING EXAMPLES FOR FURTHER EXPLANATION.

#2 AND 3 - WHEN THE DRYER IS EQUIPPED WITH A DUAL COIN ACCEPTOR, THESE SWITCHES MUST BE SET TO MATCH THE RATIO OF THE LARGER COIN VALUE TO THE SMALLER COIN VALUE. EXAMPLE: A DRYER IS EQUIPPED WITH A DUAL COIN ACCEPTOR WHICH TAKES DIMES (.10) AND QUARTERS (.25) THE RATIO HERE IS  $.25/.10 = 2.5$  TO 1. SWITCH #2 IS OPENED AND SWITCH #3 IS CLOSED. RATIOS OF 2 TO 1, 4 TO 1, AND 5 TO 1 ARE ALSO AVAILABLE.

### DUAL COIN ACCEPTOR RATIOS

2 CLOSED, 3 CLOSED = RATIO	2:1
2 OPENED, 3 CLOSED = RATIO	2.5:1
2 CLOSED, 3 OPENED = RATIO	4:1
2 OPENED, 3 OPENED = RATIO	5:1

#4 THRU 8 - IN THE STANDARD (TIMED) MODE, THESE SWITCHES CONTROL THE AMOUNT OF DRY TIME PER COIN INSERTED. THIS IS ADJUSTABLE FROM 1 MINUTE TO 32 MINUTES IN 1 MINUTE

INCREMENTS. IN THE AUTOMATIC MODE, THESE SWITCHES SET THE MAXIMUM DRYING TIME; SO IF THE DRYER DOES NOT REACH THE DRYNESS LEVEL WITHIN THIS MAXIMUM TIME, THE DRYER WILL SHUT OFF. THIS SAFEGUARDS AGAINST THE USER OVERLOADING THE DRYER.

TIME ADJUSTMENT CHART USED FOR SETTING:

TIME PER COIN

TOTAL TIME (COIN ACCUMULATION MODE)

MAXIMUM TIME (AUTOMATIC CYCLE)

		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32																					
	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31																						
DIP SW. NO.	4	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O			
	5	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O	
	6	C	C	C	C	O	O	O	O	C	C	C	C	O	O	O	O	C	C	C	C	O	O	O	O	C	C	C	C	O	O	O	O	C	C	O	O	
	7	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

- INDICATES SWITCH IN CLOSED POSITION
- INDICATES SWITCH IN OPEN POSITION

#9 - WITH THIS SWITCH IN THE OPEN POSITION, THE DRYER WILL RUN IN THE STANDARD (TIMED) MODE; WHICH MEANS THE DRYER WILL RUN FOR A LENGTH OF TIME DETERMINED BY THE NUMBER OF COINS INSERTED INTO THE DRYER. WITH THIS SWITCH CLOSED, THE AUTOMATIC MODE WILL BE RUN. THE DRYER WILL RUN UNTIL THE SELECTED DRYNESS LEVEL IS REACHED, OR UNTIL THE MAXIMUM TIME LIMIT IS EXCEEDED.

RIGHT HAND BANK OF SWITCHES

#1 AND 2 - OPENING SWITCH 1 AND CLOSING 2 WILL DISPLAY THE NUMBER OF COINS INSERTED INTO THE COMPUTER. PRESSING THE PERM PRESS BUTTON, WHEN DISPLAYING THE COIN COUNT, WILL ZERO THE COUNT. IF SWITCH 2 IS OPENED WHILE 1 IS CLOSED, THE DRYER WILL RUN IN THE "FREE DRY" MODE. THEREFORE, NO COINS NEED TO BE INSERTED FOR THE DRYER TO OPERATE. PRESS THE TEMPERATURE DESIRED AND THE "ENTER/START" BUTTON TO START THE DRYER. THE DRYER WILL OPERATE IN THE AUTOMATIC MODE, SO SWITCHES 1, 2 AND 3 IN THE

LEFT BANK MUST BE SET FOR THE DESIRED DRYNESS LEVEL. IT IS NOT REQUIRED TO CLOSE SWITCH 9 IN THE MIDDLE BANK OR SET THE UNITS TO START. IF SWITCHES 1 AND 2 ARE OPENED WHEN THE DRYER IS RUNNING, THE COMPUTER WILL DISPLAY THE OPERATING TEMPERATURE OF THE DRYER. THIS IS USEFUL FOR SERVICING THE DRYER. OPENING SWITCH 3 WILL DISPLAY TEMPERATURE IN FAHRENHEIT, AND CLOSING IT DISPLAYS CENTIGRADE. THESE SWITCHES SHOULD BE RETURNED TO THEIR ORIGINAL POSITION AFTER SERVICING. FOR NORMAL DRYER OPERATION, SWITCHES 1 AND 2 SHOULD BE CLOSED.

#3 THRU 7 - SINGLE COIN ACCEPTOR COMPUTERS

THESE SWITCHES CONTROL THE NUMBER OF COINS IT WILL TAKE TO START THE DRYER. THIS IS ADJUSTABLE FROM 1 THRU 16 IN INCREMENTS OF 1. WITH SWITCHES 4 THRU 7 CLOSED, ONE COIN IS REQUIRED TO START THE DRYER. WITH SWITCHES 4 THRU 7 OPEN, SIXTEEN COINS ARE REQUIRED FOR STARTING. EXAMPLE: 2 COINS TO START DRYER. REFER TO FOLLOWING CHART, 3 CLOSED, 4 OPEN, 5 CLOSED, 6 CLOSED, 7 CLOSED. SWITCH 3 SHOULD ALWAYS BE CLOSED DURING OPERATION ON SINGLE COIN ACCEPTOR COMPUTERS.

#3 THRU 7 - DUAL COIN ACCEPTOR COMPUTERS

IT IS NECESSARY TO THINK IN TERMS OF THE SMALLER COIN VALUE WHEN SETTING THE COIN UNITS TO START. EXAMPLE: A COMPUTER DRYER IS EQUIPPED WITH A 10¢ AND 25¢ COIN ACCEPTOR. YOU WANT THE DRYER TO START FOR 35¢, SET THE COIN UNITS TO START AT 3.5 (3 1/2 DIMES). SWITCH 3 SHOULD BE OPEN, 4 CLOSED, 5 OPEN, 6 CLOSED, 7 CLOSED. IF THE STARTING PRICE IS 50¢, SET THE COIN UNITS TO START AT 5 (5 DIMES). SWITCH 3 SHOULD BE CLOSED, 4 CLOSED, 5 CLOSED, 6 OPEN, 7 CLOSED. THE COMPUTER THINKS IN TERMS OF THE SMALLER COIN VALUE.

**NUMBER OF COIN UNIT TO START**

**(EXAMPLE: DUAL COIN 10¢ = 1 UNIT, 25¢ = 2.5 UNITS)**

		1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16.5
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DIP SW. NO.	3	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
	4	C	C	O	O	C	C	O	O	C	C	O	O	C	C	O	O
	5	C	C	C	C	O	O	O	O	C	C	C	C	O	O	O	O
	6	C	C	C	C	C	C	C	O	O	O	O	O	O	C	C	C
7	C	C	C	C	C	C	C	C	C	C	O	O	O	O	O	O	

INDICATES SWITCH IN CLOSED POSITION

INDICATES SWITCH IN OPEN POSITION

#8 - IF THIS SWITCH IS CLOSED, COOL DOWN IS 2 MINUTES ON THE HI AND LO TEMPERATURE CYCLES, AND 3 MINUTES FOR PERM PRESS. IF THIS SWITCH IS OPEN, COOL DOWN IS ELIMINATED FROM HI AND LO CYCLES, AND REDUCED TO 2 MINUTES ON PERM PRESS CYCLES.

## DIP SWITCH LEGEND

	CLOSED	OPEN
1		AUTO DRYNESS + 1
2		AUTO DRYNESS + 2
3		AUTO DRYNESS + 4
HI TEMP		
4	OPEN 190°	CLOSED 180°
5	OPEN 190°	CLOSED 170°
LO TEMP		
6	OPEN 130°	CLOSED 120°
7	OPEN 130°	CLOSED 110°
PERM PRESS		
8	OPEN 160°	CLOSED 150°
9	OPEN 160°	CLOSED 140°

	TIME PER COIN ACCUM.	COIN ACCUMULATION
DUAL COIN ACCEPTOR RATIOS		
2	CLOSED 1:2	OPEN 1:2.5
3	CLOSED 1:2	OPEN 1:4
4		OPEN 1:5
4		COIN TIME + 1
5		" " + 2
6		" " + 4
7		" " + 8
8		" " + 16
9	AUTO CYCLE	TIMED CYCLE

	NORMAL	DISPLAY
2	DISPLAY COIN	FREE DRY / DISPLAY TEMP
3	TEMP IN C°	TEMP IN F° UNITS TO START .5
4		UNITS TO START + 1
5		" " + 2
6		" " + 4
7		" " + 8
8	COOL DN. ALL TEMPS.	COOL DN. P.P. ONLY

## II B. OPERATIONAL FEATURES AND DIP SWITCH PROGRAMMING

### STANDARD (TIMED) CYCLE

ON TURNING ON POWER, LED DISPLAY WILL SHOW "FILL". THE DOOR MUST BE CLOSED DURING ALL DATA ENTRY.

DURING OPERATION, IN THE STANDARD MODE, TIME IN MINUTES WILL BE DISPLAYED IN THE RIGHT TWO DIGITS; AND THE OPERATING CODE WILL BE DISPLAYED IN THE LEFT TWO DIGITS OF THE DISPLAY. THE CODE IS AS FOLLOWS:

HI - HIGH TEMPERATURE (170<sup>0</sup>, 180<sup>0</sup>, 190<sup>0</sup>)

PP - PERMANENT PRESS (140<sup>0</sup>, 150<sup>0</sup>, 160<sup>0</sup>)

LO - LOW TEMPERATURE (110<sup>0</sup>, 120<sup>0</sup>, 130<sup>0</sup>)

WHEN THE MACHINE HAS BEEN ACTIVATED BY THE INSERTION OF COINS, THE TIME WILL CONTINUE TO RUN UNTIL THE PRESET TIME PER COIN HAS ELAPSED, AT WHICH TIME THE DRYER WILL ENTER COOL DOWN. THE OPERATING PROCEDURE IS AS FOLLOWS:

1. INSERT COIN(S). DISPLAY SHOWS NUMBER OF COINS INSERTED.
2. SELECT TEMPERATURE. DISPLAY SHOWS TEMPERATURE SELECTED AND DRYING TIME.
3. PRESS "START" BUTTON.

IF THE DOOR IS OPENED DURING A CYCLE, BOTH MOTOR AND HEAT WILL STOP. CONTINUATION OF THE CYCLE WILL RESUME ONLY AFTER THE DOOR HAS BEEN CLOSED AND THE START BUTTON DEPRESSED. HOWEVER, THE COMPUTER DISPLAY WILL CONTINUE TO COUNT DOWN TIME WHILE THE DOOR IS OPEN.

AT THE END OF A COMPLETE CYCLE, THE DISPLAY WILL RETURN TO THE "FILL" POSITION. THE DRYER WILL RUN IN THE STANDARD (TIMED) CYCLE IF DIP SWITCH 9, IN THE MIDDLE BANK, IS OPENED.

### EXAMPLES

#### SINGLE COIN ACCEPTOR COMPUTER

- A. DESIRED SETTING - 10 MINUTES PER COIN, 2 COINS TO START, EACH ADDITIONAL COIN INSERTED YIELDS 10 MORE MINUTES.
1. TIME PER COIN MODE - CLOSE DIP SWITCH 1 IN THE MIDDLE BANK.
  2. COIN TIME (10 MINUTES PER COIN) - OPEN DIP SWITCHES 4 AND 7, CLOSE SWITCHES 5, 6 AND 8 IN THE MIDDLE BANK.



3. COINS TO START (TWO) - OPEN DIP SWITCH 4 AND CLOSE 3, 5, 6 AND 7 IN THE RIGHT BANK
- B. DESIRED SETTING - 3 COINS TO START, 17 MINUTES FOR 3 COINS, 3 ADDITIONAL COINS REQUIRED FOR 17 MORE MINUTES.
1. COIN ACCUMULATION MODE - OPEN DIP SWITCH 1 IN THE MIDDLE BANK.
  2. COIN TIME (17 MINUTES FOR 3 COINS) - SET COIN TIME AT 17 MINUTES. CLOSE SWITCHES 4, 5, 6, 7 AND OPEN 8 IN THE MIDDLE BANK.
  3. COINS TO START (THREE) - CLOSE SWITCHES 3, 4, 6 AND 7, OPEN SWITCH 5 IN THE RIGHT BANK.

#### EXAMPLES

#### 10¢ AND 25¢ DUAL COIN ACCEPTOR COMPUTER

- A. DESIRED SETTING - 4 MINUTES PER DIME, (10 MINUTES PER QUARTER), 40 CENTS TO START (4 COIN UNITS TO START), EACH ADDITIONAL COIN INSERTED YIELDS ADDITIONAL TIME.
1. TIME PER COIN ACCUMULATION - CLOSE SWITCH 1 IN THE MIDDLE BANK.
  2. COIN TIME (4 MINUTES PER COIN UNIT) - SET AT 4 MINUTES, OPEN SWITCHES 4 AND 5, AND CLOSE SWITCHES 6, 7 AND 8 IN THE MIDDLE BANK.
  3. COIN UNITS TO START (4 COIN UNITS TO START) - SET AT 4, CLOSE SWITCHES 3, 6, AND 7, OPEN SWITCHES 4 AND 5 IN THE RIGHT BANK.
  4. SET COIN RATIO AT 2.5 TO 1 - OPEN SWITCH 2 AND CLOSE 3 IN THE MIDDLE BANK.
- B. DESIRED SETTING - 45 CENTS TO START (4.5 COIN UNITS), 25 MINUTES FOR 45 CENTS, ADDITIONAL 45 CENTS REQUIRED FOR AN ADDITIONAL 25 MINUTES.
1. COIN ACCUMULATION MODE - OPEN SWITCH 1 IN THE MIDDLE BANK.
  2. COIN TIME - SET AT 25 MINUTES, CLOSE SWITCHES 4, 5, AND 6, OPEN SWITCHES 7 AND 8 IN THE MIDDLE BANK.
  3. COIN UNITS TO START - SET AT 4.5, OPEN SWITCHES 3, 4 AND 5 AND CLOSE SWITCHES 6 AND 7 IN THE RIGHT HAND BANK.
  4. SET COIN RATIO AT 2.5 TO 1.

#### AUTOMATIC CYCLE

BY CLOSING SWITCH 9, IN THE MIDDLE BANK OF SWITCHES, THE DRYER IS PLACED IN THE

AUTOMATIC MODE. THE MACHINE WILL CYCLE UNTIL A PRESET LEVEL OF DRYNESS HAS BEEN REACHED, OR UNTIL A MAXIMUM PERIOD OF TIME HAS BEEN REACHED. THE DISPLAY WILL SHOW THE TEMPERATURE SELECTED AND ELAPSE TIME COUNTING UP FROM "0" UNTIL THE DRYING IS COMPLETE AT WHICH TIME THE DRYER WILL SHUT OFF AND DISPLAY WILL READ "FILL".

THE AUTOMATIC DRYNESS LEVEL IS ADJUSTABLE FROM 1 (LESS DRY) TO 8 (MORE DRY). WITH SWITCHES 1, 2 AND 3 IN THE LEFT BANK CLOSED, THE MACHINE IS AT LEVEL ONE. OPENING ANY OF THESE SWITCHES IN COMBINATION ADDS TO THE DRYNESS LEVEL. SWITCHES 4, 5, 6, 7 AND 8, IN THE MIDDLE BANK, CONTROL THE MAXIMUM TIME. DIP SWITCHES 3, 4, 5, 6 AND 7 IN THE RIGHT BANK CONTROL THE COIN UNITS TO START.

#### EXAMPLE

##### SINGLE COIN ACCEPTOR

- A. DESIRED SETTING - AUTOMATIC MODE, DRYNESS LEVEL OF 5, 2 COINS TO START, MAXIMUM TIME 30 MINUTES, 15 MINUTES ADDITIONAL MAXIMUM TIME FOR EACH ADDITIONAL COIN.
1. TIME PER COIN MODE - CLOSE SWITCH 1 IN THE MIDDLE BANK.
  2. DRYNESS LEVEL OF 5 - CLOSE SWITCHES 1 AND 2, OPEN SWITCH 3 IN THE LEFT BANK.
  3. COINS TO START (2) - CLOSE SWITCHES 3, 5, 6 AND 7; AND OPEN SWITCH 4 IN THE RIGHT BANK.
  4. MAXIMUM TIME (15 MINUTES PER COIN) - CLOSE SWITCHES 4 AND 8, AND OPEN SWITCHES 5, 6 AND 7 IN THE MIDDLE BANK.

#### EXAMPLE

##### 10¢ AND 25¢ DUAL COIN ACCEPTOR

- B DESIRED SETTING - AUTOMATIC MODE, DRYNESS LEVEL OF 7, 65¢ TO START (6.5 COIN UNITS) MAXIMUM TIME OF 24 MINUTES, ADDITIONAL 65¢ REQUIRED FOR AN ADDITIONAL 24 MINUTES MAXIMUM TIME.
1. COIN ACCUMULATION MODE - OPEN SWITCH 1 IN MIDDLE BANK.
  2. DRYNESS LEVEL OF 7 - CLOSE SWITCH 1 AND OPEN SWITCHES 2 AND 3 IN LEFT BANK.

3. COIN UNITS TO START (6.5) - OPEN SWITCHES 3, 4 AND 6; AND CLOSE SWITCHES 5 AND 7 IN RIGHT BANK.
4. MAXIMUM TIME (24 MINUTES) - OPEN SWITCHES 4, 5, 6 AND 8; AND CLOSE SWITCH 7 IN MIDDLE BANK.

WHEN IN THE AUTOMATIC MODE, INSERTING ADDITIONAL COINS ONCE THE DRYER HAS STARTED ADDS ONLY TO THE MAXIMUM DRYING TIME. THE DRYNESS LEVEL CANNOT BE INCREASED BY ADDITIONAL COINS.

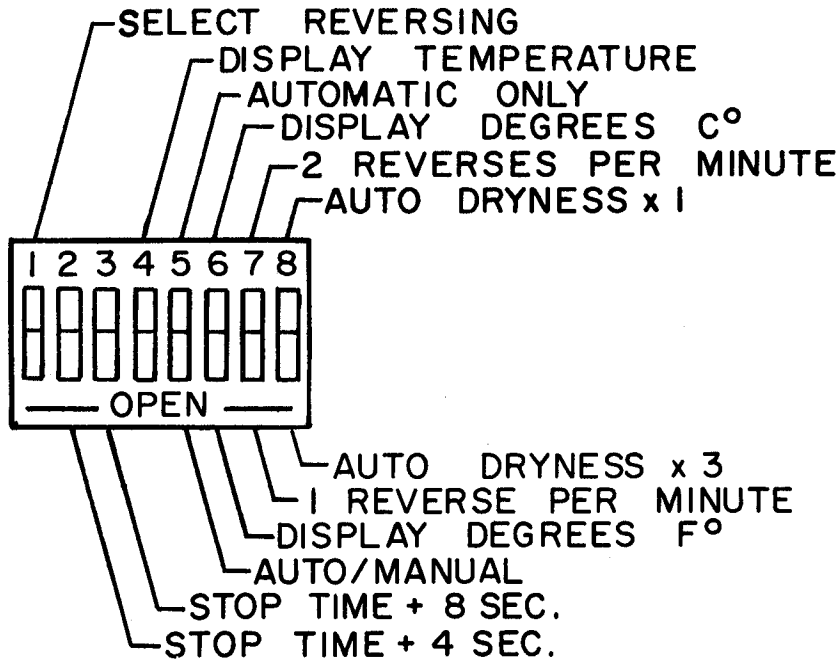
## NON-COIN COMPUTER DRYER

### NON-COIN FEATURES

1. AUTOMATIC OPERATION - USER SELECTS FABRIC AND LEVEL OF DRYNESS DESIRED. THE DRYER AUTOMATICALLY TURNS HEAT OFF WHEN LEVEL OF DRYNESS HAS BEEN REACHED, AND GOES INTO COOL DOWN FOR 5 MINUTES OR UNTIL A TEMPERATURE OF 100<sup>0</sup>F IS REACHED.
2. MANUAL OPERATION - USER SELECTS DRYING TIME AND COOLING TIME (UP TO 99 MINUTES EACH) AND TYPE OF FABRIC THAT IS BEING DRYED.
3. NINE FABRIC SELECTIONS (TEMPERATURE RANGE FROM 110<sup>0</sup>F TO 190<sup>0</sup>F).
4. TEMPERATURE DISPLAY IS AVAILABLE IN EITHER FAHRENHEIT OR CENTIGRADE.
5. TROUBLE SHOOTING - DETECTS TROUBLE IN THE DOOR CIRCUIT, TEMPERATURE CIRCUIT, MOTOR CIRCUIT AND HEAT CIRCUIT.
6. A SLIGHT BEEP TONE SIGNIFIES A COMMAND ENTRY SUCH AS TEMPERATURE OR DRYNESS, AND ALSO SOUNDS FOR 5 SECONDS AT THE END OF A CYCLE.
7. THE COMPUTER AUTOMATICALLY ADJUSTS FOR 50 CYCLE OR 60 CYCLE OPERATION.
8. THE DRYNESS LEVEL IS ADJUSTABLE FROM 1 (LESS DRY) TO 9 (MORE DRY) WITH A RANGE TRIPLER WHICH ALLOWS A TOTAL DRYNESS LEVEL OF 27 TO BE REACHED.
9. REVERSING DRYERS (OPTIONAL):
  - A. REVERSING DRYERS HAVE THE OPTION TO SELECT REVERSING OR SINGLE DIRECTION DRUM ROTATION.
  - B. THE NUMBER OF REVERSES PER MINUTE IS SELECTABLE (1 OR 2 REVERSES PER MINUTE).
  - C. REVERSING STOP TIME IS ADJUSTABLE FROM 6-18 SECONDS IN 4 MINUTE INCREMENTS.

### II. NON-COIN COMPUTER DIP SWITCH CAPABILITIES

THE DIP SWITCH IS AN EIGHT POSITION RED AND WHITE SPST SWITCH MOUNTED ON THE BACK OF THE COMPUTER. IT HAS THE FOLLOWING CAPABILITIES:



DIP SWITCH LEGEND		
NO.	OPEN	CLOSE
1		SELECT REV.
2	STOP+4SEC	
3	STOP+8SEC	
4		DISP. TEMP.
5	AUTO/MAN	AUTO ONLY
6	DISPLAY F	DISPLAY C
7	1 REV/MIN	2 REV/MIN
8	DRY x 3	DRY x 1

SWITCH #1 - ON DRYERS EQUIPPED WITH THE REVERSING TUMBLER OPTION, BY PUTTING THIS SWITCH INTO THE CLOSED POSITION, THE OPERATOR CAN SELECT EITHER REVERSING OR NON-REVERSING TUMBLER ACTION WHEN PROGRAMMING THE COMPUTER AT THE START OF EACH DRYING LOAD. WHEN THIS DIP SWITCH IS PUT INTO THE OPEN POSITION, THE TUMBLER WILL ALWAYS HAVE REVERSE ACTION. ON NON-REVERSING DRYERS, THIS SWITCH SHOULD BE OPENED.

SWITCH #2 & 3 - IT IS IMPORTANT ON REVERSING DRYERS, THAT THE TUMBLER COME TO A COMPLETE STOP BEFORE IT CHANGES ITS ROTATIONAL DIRECTION. THESE TWO SWITCHES CONTROL THIS STOP TIME. WHEN BOTH SWITCHES ARE IN THE CLOSED POSITION, THE STOP TIME IS 6 SECONDS. WHEN SWITCH 2 IS OPENED AND 3 IS CLOSED, THE STOP TIME IS 10 SECONDS. WHEN SWITCH 2 IS CLOSED AND 3 IS OPENED, THE STOP TIME IS 14 SECONDS. WHEN BOTH SWITCHES ARE OPENED, THE STOP TIME IS 18 SECONDS. ON NON-REVERSING DRYERS, THESE SWITCHES SHOULD BE CLOSED.

SWITCH #4 - IF SWITCH 4 IS CLOSED, THE COMPUTER WILL DISPLAY THE OPERATING TEMPERATURE OF THE DRYER. THIS IS ONLY USED FOR SERVICING THE DRYER. THIS SWITCH SHOULD BE CLOSED ONLY AFTER THE DRYER IS RUNNING. FOR NORMAL DRYER

OPERATION, THIS SWITCH MUST BE IN THE OPEN POSITION.

SWITCH #5 - BY PLACING THIS SWITCH INTO THE CLOSED POSITION, THE DRYER WILL ONLY OPERATE IN THE AUTOMATIC MODE. ON DRYERS EQUIPPED WITH THE OPTIONAL AUTOMATIC/MANUAL KEYBOARD, THIS SWITCH SHOULD BE PUT INTO THE OPENED POSITION.

SWITCH #6 - WHEN THE DRYER IS BEING SERVICED, THE OPERATING TEMPERATURE OF THE DRYER CAN BE DISPLAYED (DIP SWITCH 4 IS CLOSED) IN EITHER FAHRENHEIT (SWITCH 6 OPEN) OR CENTIGRADE (SWITCH 6 CLOSED)

SWITCH #7 - ON DRYERS EQUIPPED WITH THE OPTIONAL REVERSING TUMBLER, THE NUMBER OF REVERSES PER MINUTE CAN BE SET BY THIS DIP SWITCH. THE TUMBLER WILL REVERSE ONCE PER MINUTE IF THIS SWITCH IS OPENED, OR TWICE PER MINUTE IF THIS SWITCH IS CLOSED. ON NON-REVERSING DRYERS, THE POSITION OF THE SWITCH IS UNIMPORTANT.

SWITCH #8 - WHEN THE COMPUTER IS BEING PROGRAMMED IN THE AUTOMATIC MODE, A DRYNESS LEVEL OF 1 THRU 9 MUST BE SELECTED. IN SOME CASES, A DRYNESS LEVEL OF MORE THAN 9 IS REQUIRED. IF THIS SWITCH IS OPENED, THE COMPUTER WILL TRIPLE THE DRYNESS LEVEL SELECTED (FOR A MAXIMUM LEVEL OF 27).

THE DIP SWITCHES HAVE BEEN FACTORY SET FOR THE CUSTOMERS REQUIREMENTS. THESE SWITCHES SHOULD ONLY BE CHANGED IF THE DRYERS OPERATIONAL REQUIREMENTS CHANGE.

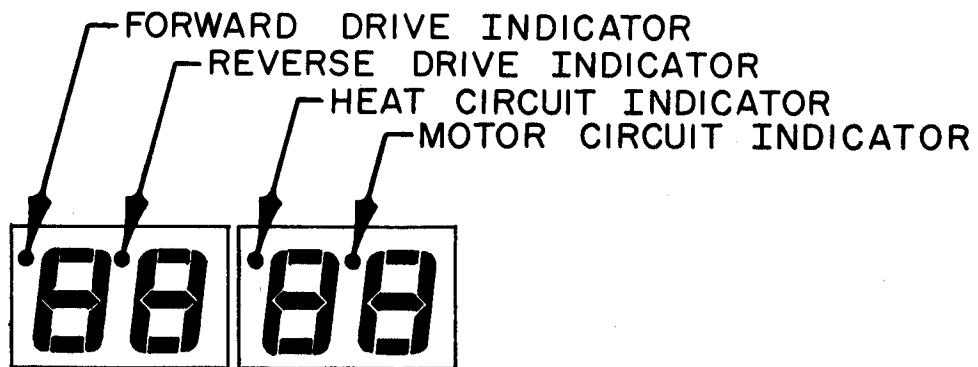
### III. OPERATING INSTRUCTIONS - NON-COIN COMPUTER DRYER

THE DOOR MUST BE CLOSED FOR ALL DATA ENTRIES. DURING DATA ENTRY, PRESSING "CLEAR/STOP" ONCE WILL CLEAR PRESENT ENTRY. PRESSING IT TWICE IN SUCCESSION, RESETS THE COMPUTER TO ITS INITIAL POSITION. IF THE DOOR IS OPENED DURING A CYCLE, BOTH TUMBLER AND HEAT WILL STOP. THE CYCLE WILL CONTINUE ONLY AFTER THE DOOR IS CLOSED AND "ENTER/START" IS PRESSED. HOWEVER, THE COMPUTER WILL CONTINUE TO COUNT THE TIME WHILE THE DOOR IS OPENED.

COMPUTER DISPLAY CODES

- FILL - EMPTY MACHINE PRIOR TO DATA ENTRY (AUTO/MANUAL DRYER)
- F\_D\_ - DISPLAY PRIOR TO DATA ENTRY WHEN AUTO CYCLE IS SELECTED,  
OR INDICATES EMPTY MACHINE FOR AUTO ONLY MACHINE.
- LD - LOAD DRYING TIME (MANUAL MODE)
- LC - LOAD COOLING TIME (MANUAL MODE)
- F - FABRIC SELECTION (MANUAL MODE)
- SR - SELECT REVERSING (REVERSING DRYERS WITH REVERSE/NO REVERSE  
SELECTABILITY)
- DR - MACHINE IS OPERATING IN DRYING MODE
- CL - MACHINE IS OPERATING IN COOL DOWN MODE
- CC - CYCLE COMPLETE, DRYER HAS FINISHED A COMPLETE CYCLE AND  
SHUT OFF.
- DSFL - TEMPERATURE SENSOR FAILURE
- DOOR - DOOR SWITCH FAILURE, OR ATTEMPTED START HAS BEEN MADE WITH  
DOOR OPEN.

THE NON-COIN COMPUTER DRYER IS AVAILABLE IN AN AUTOMATIC ONLY MODE, OR AN AUTO-MATIC/MANUAL SELECTABLE MODE. IT CAN ALSO HAVE THE REVERSING TUMBLER OPTION. THE FOLLOWING IS THE COMPUTER PROGRAMMING PROCEDURE FOR EACH OF THESE TYPES OF DRYERS.




A. AUTOMATIC ONLY (NON-REVERSING DRYERS)

DIP SWITCH SETTINGS - SWITCH 1 OPEN, 2 CLOSED, 3 CLOSED, 4 OPEN, 5 CLOSED, 6 UNIMPORTANT, 7 UNIMPORTANT, 8 CLOSED (OPEN FOR DRYNESS LEVEL TRIPLER).

1. DISPLAY SHOWS "F\_D\_".
2. ENTER FABRIC SELECTION; "1 - 9" SELECTION APPEARS AFTER THE LETTER "F\_" IN DISPLAY.
3. ENTER DESIRED DRYNESS LEVEL; "1 (LESS DRY) THRU 9 (MORE DRY)" SELECTION APPEARS AFTER LETTER "D\_" IN DISPLAY.
4. PRESS "ENTER/START".
5. DISPLAY READS "dr00" AND WILL COUNT UPWARD UNTIL PRE-SET DRYNESS LEVEL IS REACHED.
6. AT THE END OF DRYING CYCLE, THE DRYER THEN STARTS THE COOLING CYCLE FOR 5 MINUTES, OR UNTIL THE TEMPERATURE DROPS TO APPROXIMATELY 100<sup>0</sup>. DURING THE COOLING CYCLE, THE DISPLAY SHOWS CL IN THE LEFT TWO DIGITS, WHILE THE ELAPSED TIME FROM THE INITIAL START IS DISPLAYED IN THE RIGHT TWO DIGITS.
7. AT THE END OF THE COOLING CYCLE, AN AUDIBLE TONE WILL SOUND, AND THE DISPLAY WILL SHOW "CC00" MEANING THE CYCLE IS COMPLETE. DOOR MUST NOW BE OPENED TO CANCEL "CC00" DISPLAY.

B. AUTOMATIC/MANUAL PROGRAM SELECTABLE ("AUTO" SELECTED, NON-REVERSING DRYERS).


DIP SWITCH SETTINGS - SWITCH 1 OPEN, 2 CLOSED, 3 CLOSED, 4 OPEN, 5 OPEN, 6 UNIMPORTANT, 7 UNIMPORTANT, 8 CLOSED (OPEN FOR DRYNESS LEVEL TRIPLER).

1. DISPLAY SHOWS "FILL".
2. ENTER AUTO SELECTION, PRESS 
3. DISPLAY SHOWS "F\_D\_".
4. REFER TO SECTION A "AUTO ONLY" INSTRUCTIONS.



C. AUTOMATIC/MANUAL PROGRAM SELECTABLE ("MANUAL" SELECTED NON-REVERSING DRYERS)

DIP SWITCH SETTINGS - SWITCH 1 OPEN, 2 CLOSED, 3 CLOSED, 4 OPEN, 5 OPEN, 6 UNIM-  
PORTANT, 7 UNIMPORTANT, 8 UNIMPORTANT

1. DISPLAY SHOWS "FILL".
2. ENTER MANUAL SELECTION, PRESS 
3. DISPLAY SHOWS "Ld \_ \_"
4. ENTER DRYING TIME (1 THRU 99 MINUTES).
5. PRESS "ENTER/START".
6. DISPLAY SHOWS "LC \_ \_".
7. ENTER COOLING TIME (1 THRU 99 MINUTES).
8. PRESS "ENTER/START".
9. DISPLAY SHOWS "F \_".
10. ENTER FABRIC (TEMP) (1 THRU 9).
11. PRESS "ENTER/START"
12. DISPLAY SHOWS "**dr** AND DRYING TIME ENTERED", DISPLAY WILL THEN COUNT DOWN UNTIL  
SELECTED TIME REACHES ZERO.
13. DISPLAY SHOWS "CL AND COOL TIME ENTERED", DISPLAY WILL THEN COUNT DOWN UNTIL  
SELECTED TIME REACHES ZERO.
14. AT THE END OF THE COOLING CYCLE, AN AUDIBLE TONE WILL SOUND, AND THE DISPLAY  
WILL SHOW "CCOO" MEANING CYCLE IS COMPLETE. DOOR MUST NOW BE OPENED TO  
CANCEL DISPLAY.

D. MICRO PROCESSOR REVERSING DRYER

1. FOR DRYERS EQUIPPED WITH REVERSING OPTION, DRYER WILL ALWAYS HAVE REVERSING  
ACTION IF DIP SWITCH 1 IS IN THE OPEN POSITION.
2. FOR DRYERS EQUIPPED WITH REVERSING OPTION AND PROGRAMMED FOR REVERSE ACTION  
SELECTABILITY, (DIP SWITCH 1 IS IN THE CLOSED POSITION).....
  - 2A. AUTO SELECTED - FOLLOW STEPS 1 THRU 4 UNDER "AUTO ONLY" INSTRUCTIONS OF  
SECTION A. AFTER COMPLETING STEP 4, DISPLAY WILL SHOW "SR \_ \_".

1. PRESS "ENTER/START" IF REVERSING ACTION IS DESIRED.
  2. PRESS "0" FOR NON-REVERSING.
- 2B. MANUAL SELECTED - FOLLOW STEPS 1 THRU 11 FOR "MANUAL SELECTED" OPERATION OF SECTION C. AFTER COMPLETING STEP 11, DISPLAY WILL SHOW "SR \_ \_".
1. PRESS "ENTER/START" IF REVERSING ACTION IS DESIRED.
  2. PRESS "0" FOR NON-REVERSING.
- DIP SWITCHES 2, 3 AND 7 MUST ALSO BE SET FOR TUMBLER STOP TIME AND REVERSES PER MINUTE



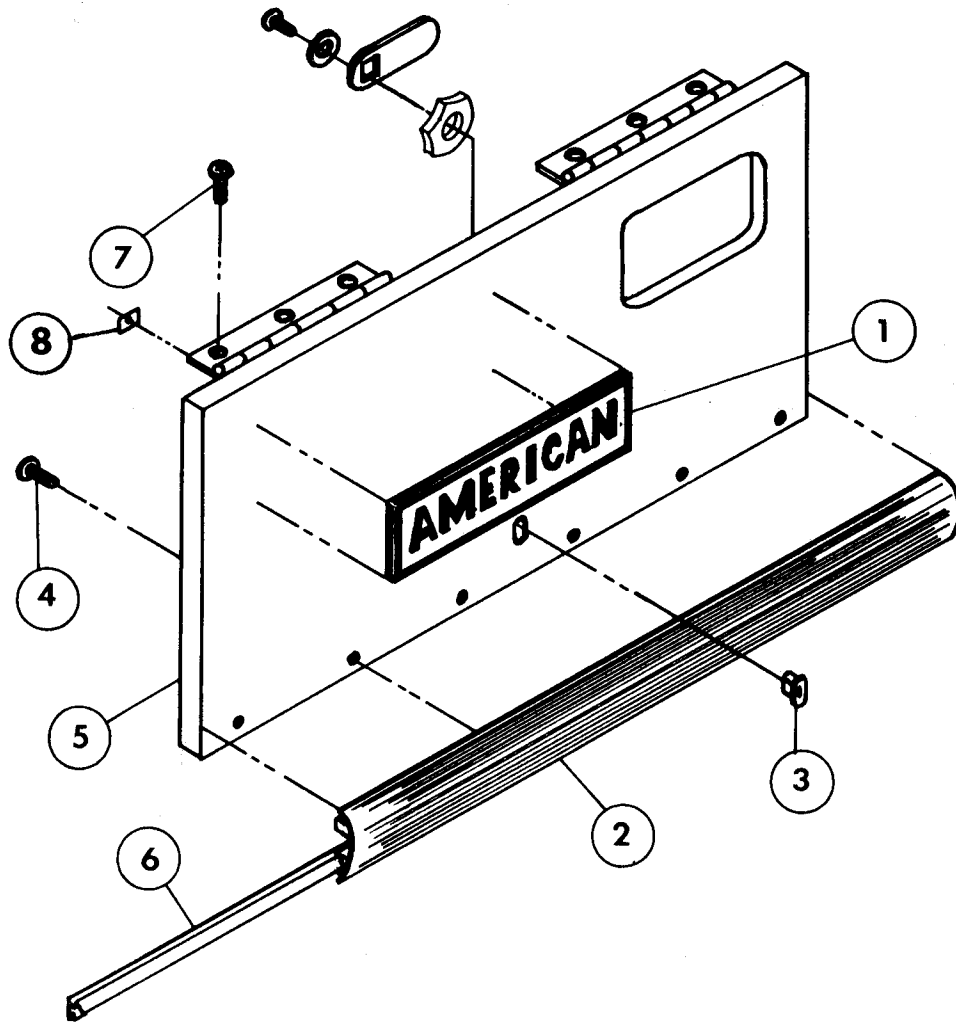
I M P O R T A N T

When ordering parts specify: Dryer Model Number and Serial Number in addition to the Part Number so we can fill your order accurately and promptly.

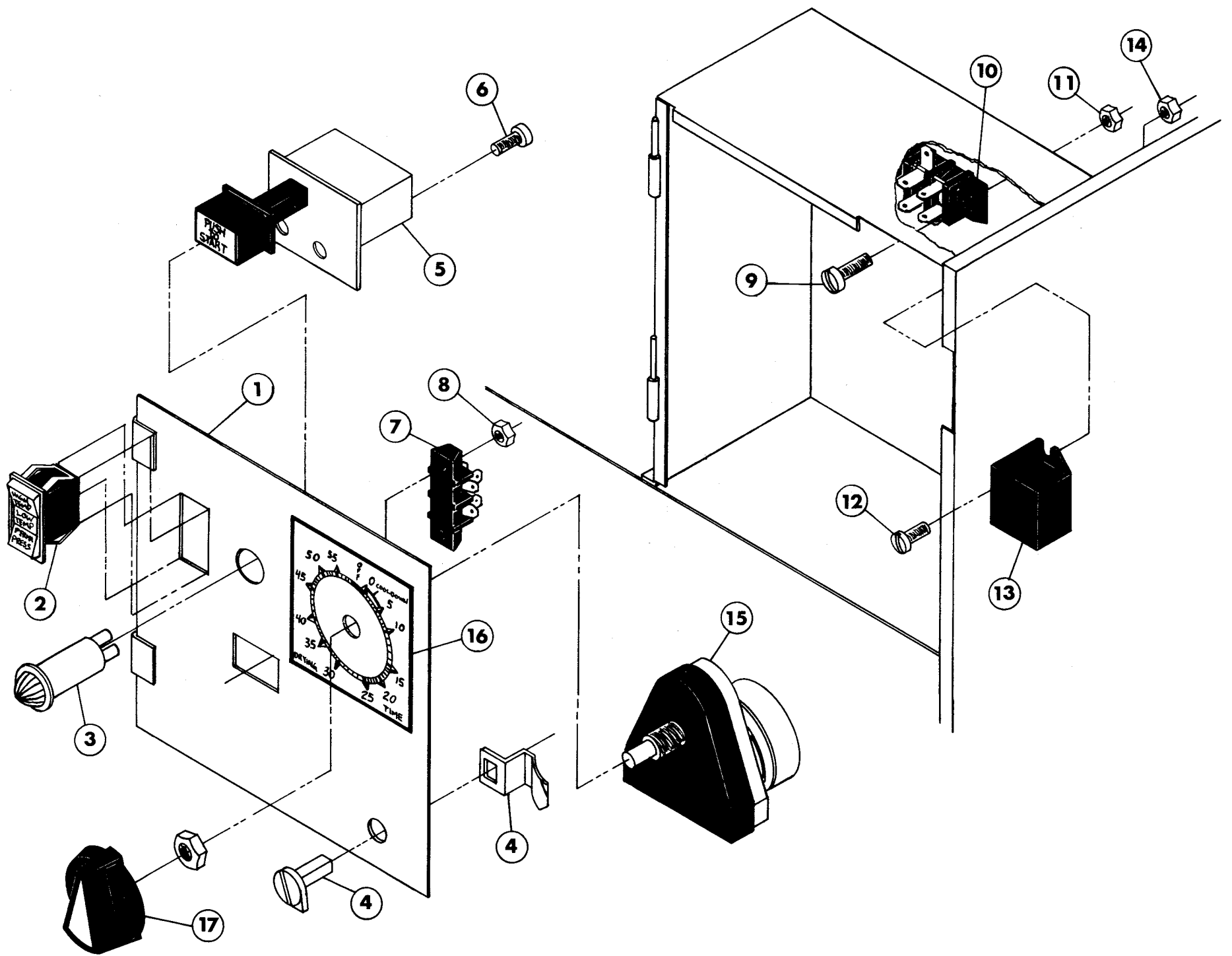
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PARTS MANUAL

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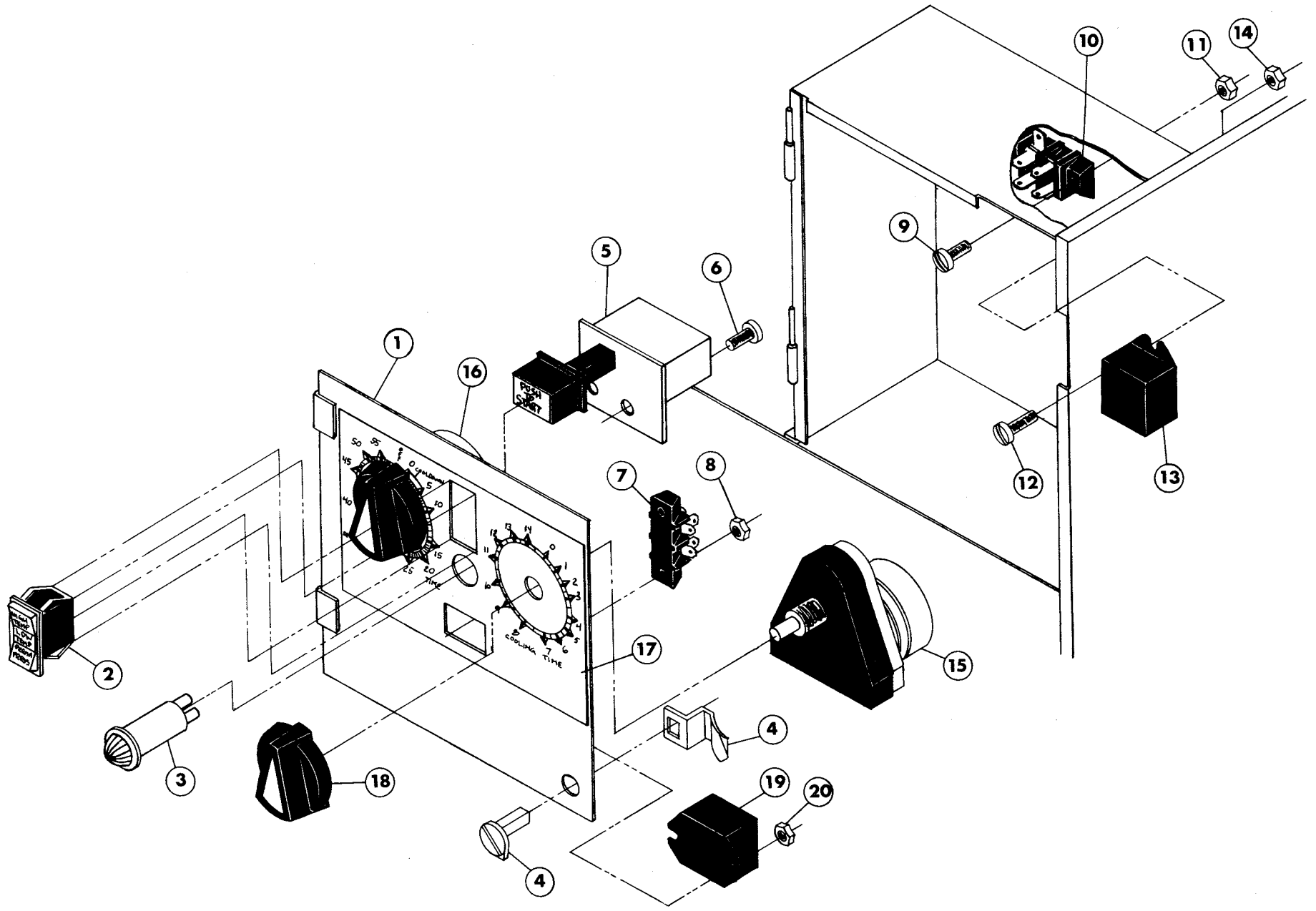
NOTE: The illustration on the following pages may not necessarily depict exactly your specific dryer. These illustrations are a composite of the various dryer models. Be sure to check the descriptions of the parts ordering. If the part desired is not illustrated, please check page 94.



ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD		
			15	20	25	30	285	50	50	65
1	112302	American computer nameplate	1	1	1	1	1	1	1	1
	112312	U D nameplate							1	
2	300201	Trim strip 31"	1			1				
	300203	Trim strip 34"			1			1		
	300202	Trim strip 38"							1	1
	300204	Trim strip 28"						1		
3	160002	MK100 Lock (coin units)	1	1	1	1	1	1		
	160003	Dummy lock (noncoin)	1	1	1	1	1	1	1	1
	160200	Knob latch (not shown)	1	1	1	1	1	1	1	1
4	150201	Round head machine screw	6	6	6	6	6	6	6	6
5	800008	Control door assy. (less lock)	1			1				
	800010	Control door assy. (less lock)		1	1			1		
	800009	Control door assy. (less lock)							1	1
	800014	Control door assy. (less lock)					1			
6	102307	Bumper (sold by foot)	1	1	1	1	1	1	1	1
7	150300	#10 x 1/2 Hex washer tek	6	6	6	6	6	6	6	6
8	154002	1/8 Push on fastener	2	2	2	2	2	2	2	2

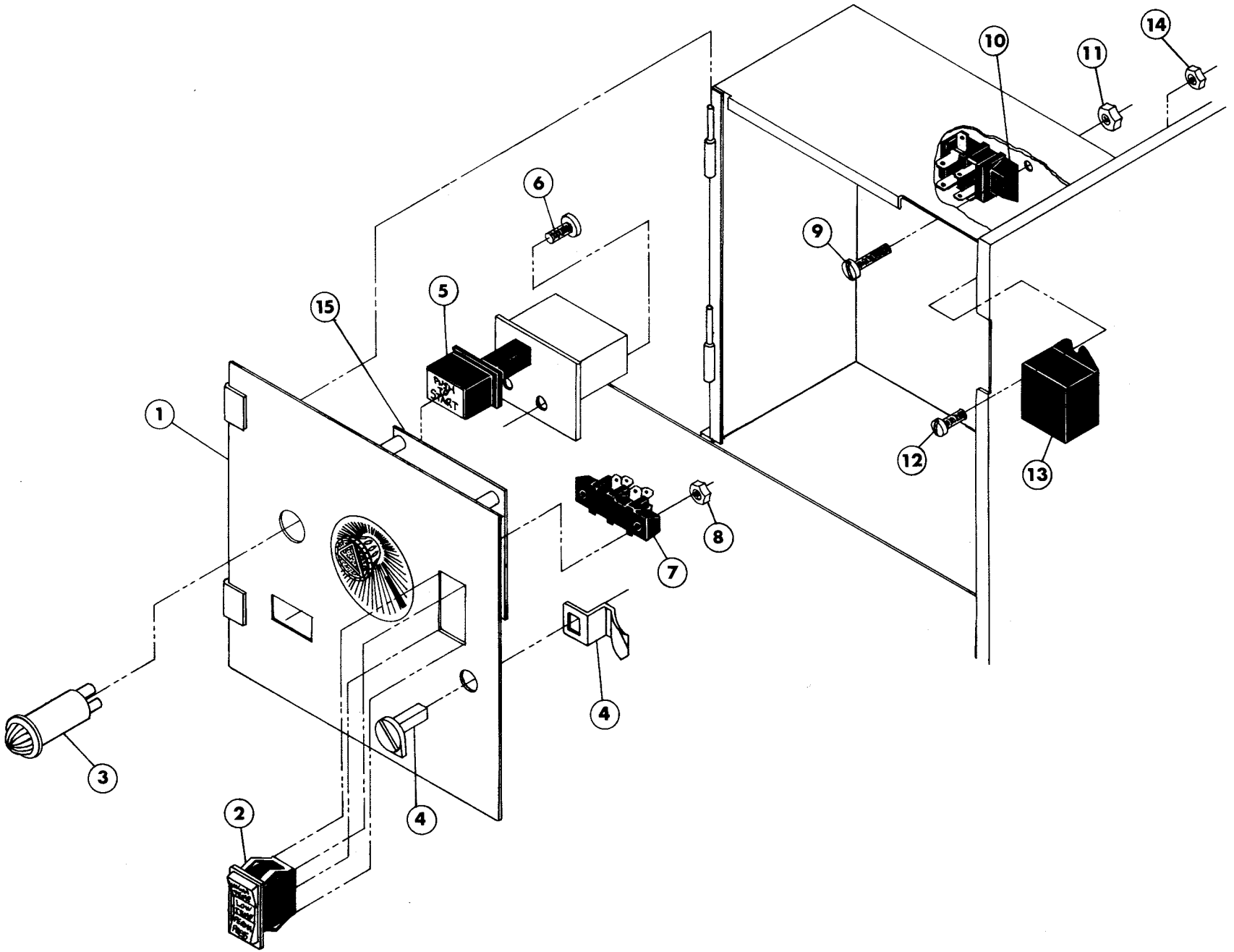


ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	800080	1	Single timer control panel less timer & knob 110V
	800082	1	Single timer control panel less timer & knob 220V
	800050	1	Single timer control panel only
2	122400	1	Rocker switch
3	123000	1	Indicator light 110V
	123001	1	Indicator light 220V
4	160005	1	Latch fastener
5	131812	1	Push to start switch 110V
	131813	1	Push to start switch 220V
6	150207	2	10-32 x 1/2 Round hd. mach. screws
7	120707	1	Terminal strip (2 pos.)
8	152013	2	6-32 Hex nuts
9	150002	2	6-32 Round hd. mach. screws
10	120709	1	Terminal strip
11	152013	2	6-32 Hex nut
12	150001	2	6-32 x 1/2 Round hd. mach. screw
13	131814	1	110V Relay
	131815	1	220V Relay
14	151000	2	6-32 Pal nut
15	124016	1	110V 60 min. timer
	124018	1	220V 60 min. timer
16	112048	1	Single timer label
17	124103	1	Timer Knob

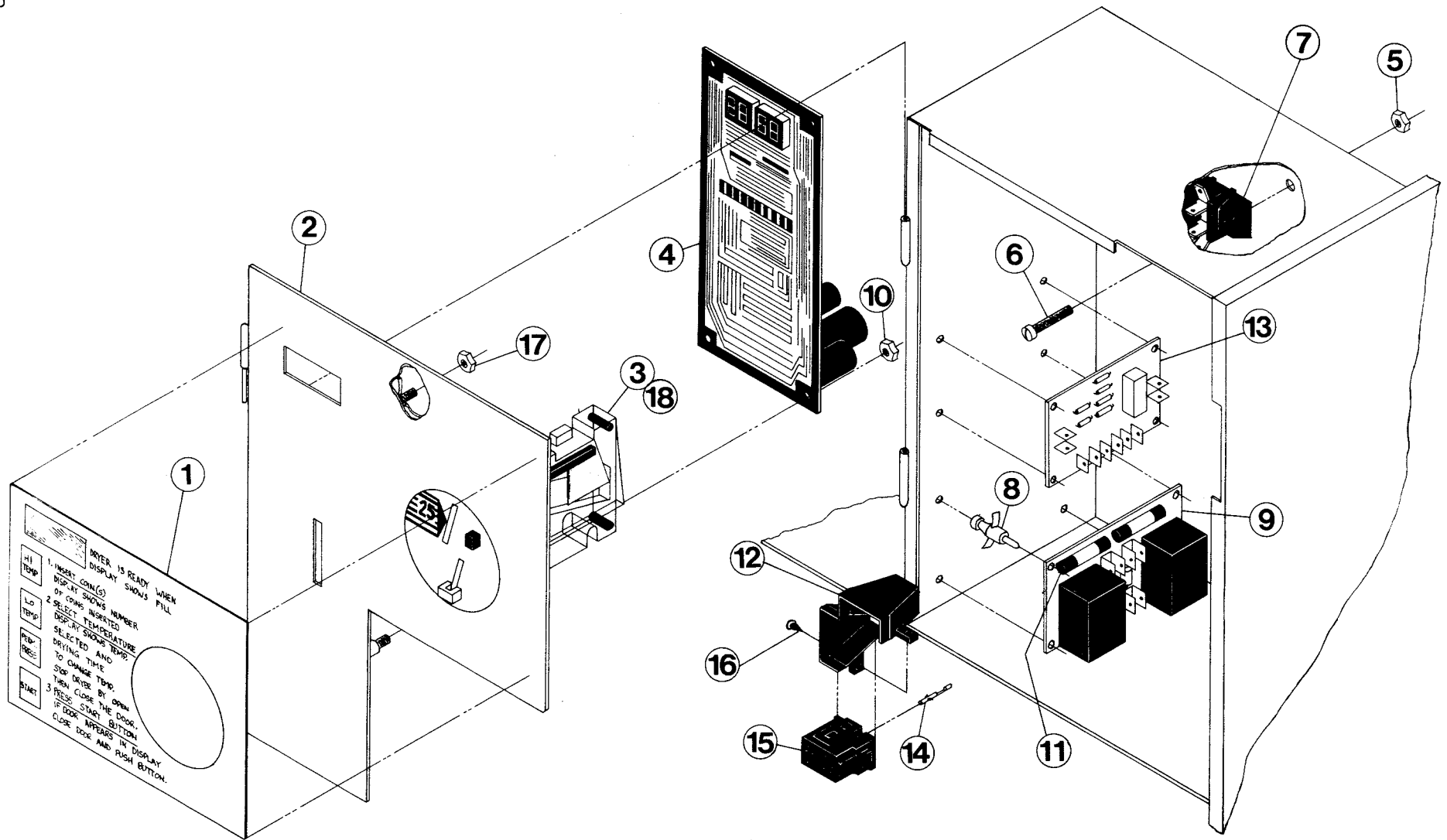




ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	800081	1	Dual timer control panel less timers & knob 110V
	800083	1	Dual timer control panel less timers & knob 220V
	800051	1	Dual timer control panel only
2	122400	1	Rocker switch
3	123000	1	Indicator light 110V
	123001	1	Indicator light 220V
4	160005	1	Latch fastener
5	131812	1	Push to start switch 110V
	131813	1	Push to start switch 220V
6	150207	2	10-32 x 1/2 Round hd. mach. screws
7	120708	1	Terminal strip (3 Pos.)
8	152013	2	6-32 Hex nuts
9	150002	2	6-32 Round hd. mach. screws
10	120709	1	Terminal strip
11	152013	2	6-32 Hex nuts
12	150001	2	6-32 x 1/2 Round hd. mach. screws
13	131814	1	110V Relay
	131815	1	220V Relay
14	151000	2	6-32 Pal nuts
15	124015	1	110V 15 Min. timer
	124017	1	220V 15 Min. timer
16	124016	1	110V 60 Min. timer
	124018	1	220V 60 Min. timer
17	112047	1	Dual timer label
18	124103	2	Timer knobs
19	131030	1	110V Dual timer relay
	131031	1	220V Dual timer relay

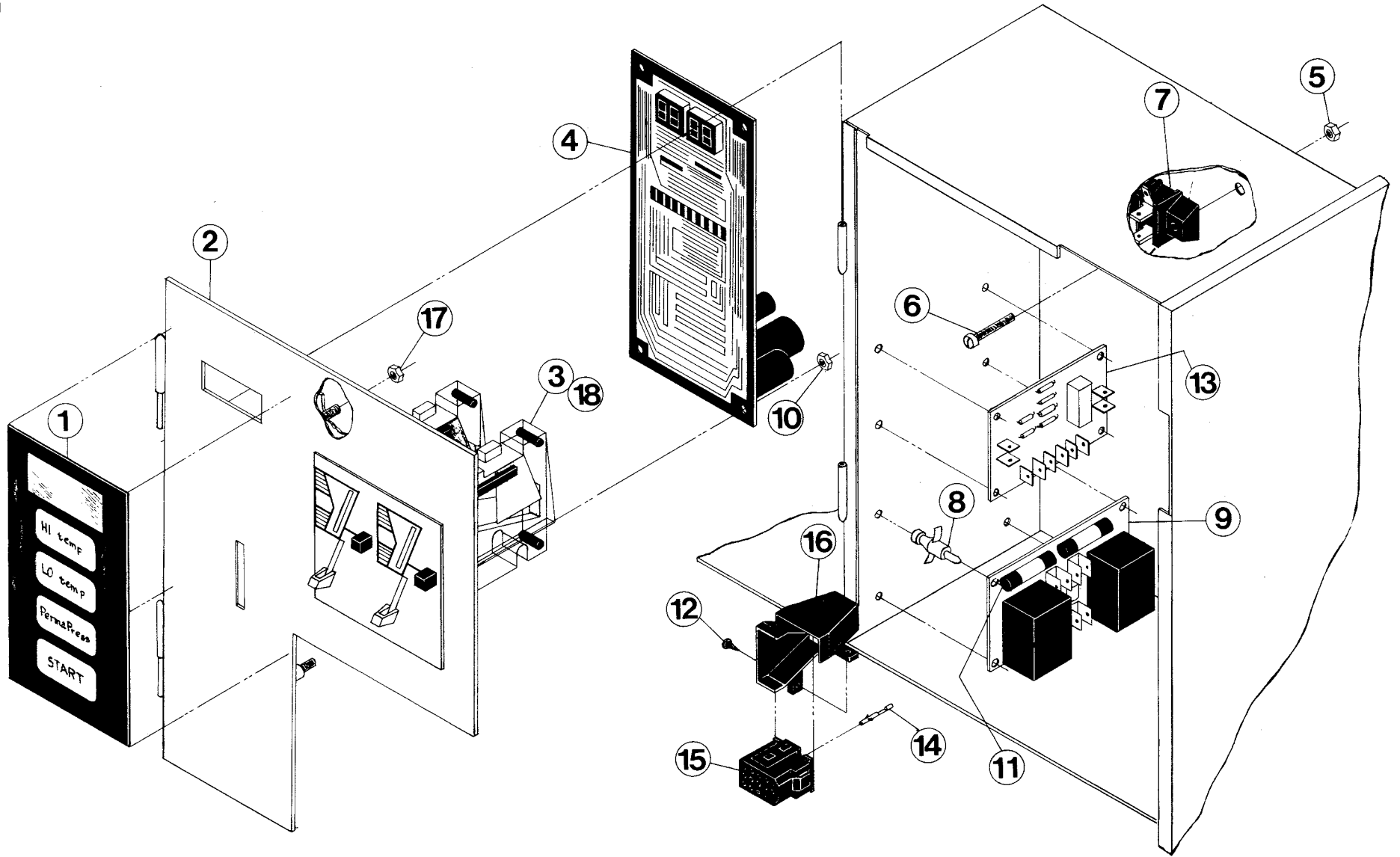


ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	800070	1	Coin meter control panel less coin meter 110V
	800071	1	Coin meter control panel less coin meter 220V
	800052	1	Coin meter control panel only
	800072	1	Dual coin meter control panel less coin meter 110V
	800073	1	Dual coin meter control panel less coin meter 220V
	800055	1	Dual coin meter control panel only
2	122400	1	Rocker switch
3	123000	1	Indicator light 110V
	123001	1	Indicator light 220V
4	160005	1	Latch fastener
5	131812	1	Push to start switch 110V
	131813	1	Push to start switch 220V
6	150207	2	10-32 x 1/2 Round hd. mach. screws
7	120707	1	Terminal strip (2 Pos.)
8	152013	2	6-32 Hex nuts
9	150002	2	6-32 Round hd. mach. screws
10	120709	1	Terminal strip
11	152013	2	6-32 Hex nuts
12	150001	2	6-32 x 1/2 Round hd. mach. screws
13	131814	1	110V Relay
	131815	1	220V Relay
14	151000	2	6-32 Pal nuts
15	125000	1	25¢ 110V Meter P.P. (Specify timing required)
	125001	1	10¢ 110V Meter P.P. (Specify timing required)
	125003	1	25¢ 220V Meter P.P. (Specify timing required)
	125300	1	Dual coin meter P.P. 110V (Specify time)
	125500	1	2 Point cam
	125501	1	3 Point cam
	125502	1	4 Point cam
	125503	1	5 Point cam
	125504	1	6 Point cam
	125506	1	8 Point cam
	125507	1	9 Point cam
	125508	1	10 Point cam
	125509	1	11 Point cam
	125510	1	12 Point cam
	125511	1	1 Hour meter clock 110V
	125512	1	1 Hour 220V/50 meter motor
125513	1	30 Min. timer motor 240V/50	
125532	1	1 Hour meter clock 220V	
125515	1	PP meter time or C.D. switch, with arm	
125516	1	PP meter PP switch A.C.	



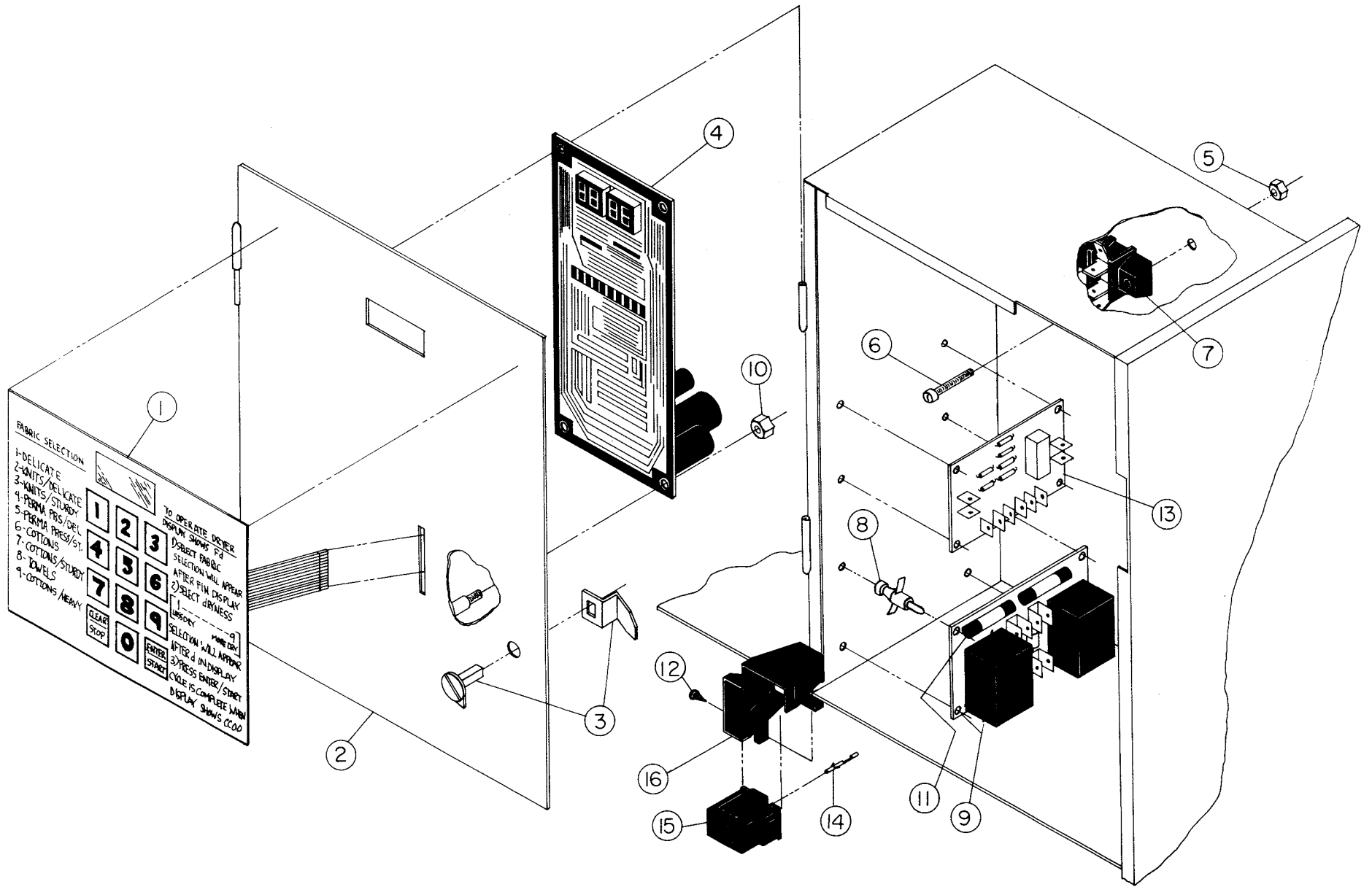
ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
	800099	1	Control panel complete-less coin acceptor
1	112514	1	Coin label switch assy.
2	800059	1	Control panel only
3*	125425	1	10¢ Coin acceptor
	125426	1	25¢ Coin acceptor
	125427	1	10 NP Coin acceptor
	125428	1	5 Bel Franc coin acceptor
	125430	1	100 Yen coin acceptor
	125435	1	French Franc acceptor
	125440	1	.20 Australia acceptor
	125441	1	.10 Australia acceptor
	125442	1	1 Danish Krone acceptor
	125448	1	20 Pence English acceptor
	125449	1	1 Pound English acceptor
4	137050	1	Micro controller (coin operated)
5	151000	2	6-32 Hex nuts
6	150002	2	6-32 Round head screws
7	120709	1	Terminal strip
8	137013	8	Stand-off
9	137061	1	Suppressor board less relay (M.P. only)
	131915	1 or 2	Relay 110V (M.P. only)
	131930	1 or 2	Relay 220V (M.P. only)
10	152001	4	8-32 Hex nuts
11	136052	2	4 AMP fuse (M.P. only)
12	137022	1	Strain relief
13	140150	1	Diode logic board
14	137021	15	Connector socket
15	137020	1	15 Pin connector
16	150301	1	8-18 x 7/16 Phil. hd. tek screws
17	152001	2	8-32 Hex nuts
18	125445	1	Replacement microswitch

\*Consult factory for coin acceptors of foreign coin denominations not listed.



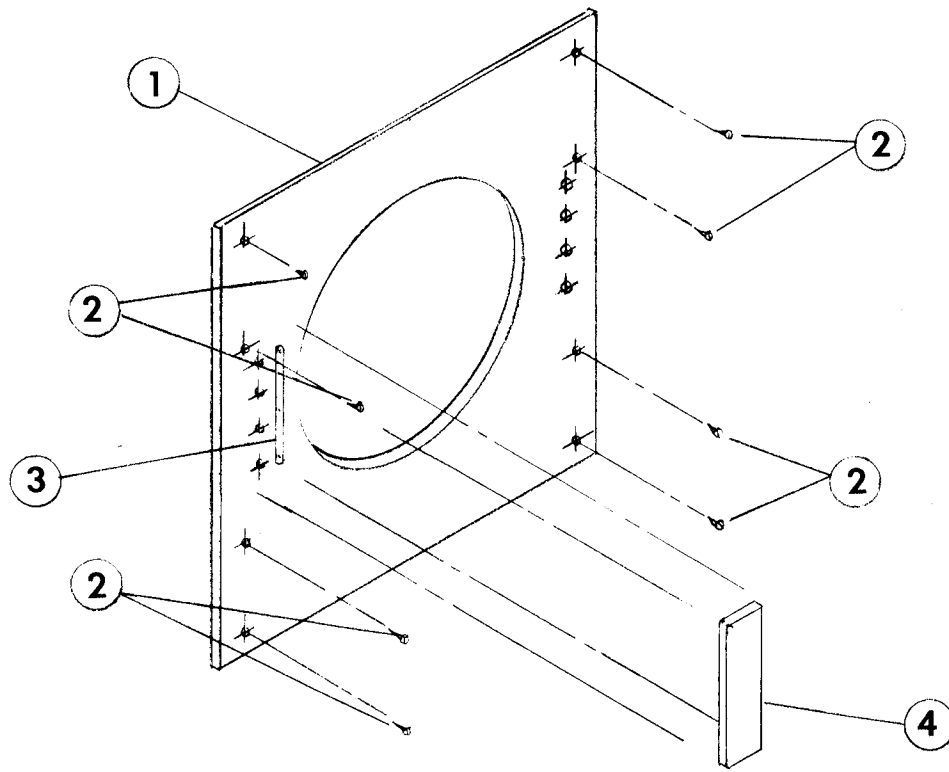
ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
	800041	1	Dual coin panel complete-less coin acceptor
1	112515	1	Decal dual coin keyboard
2	800040	1	Control panel only
3*	125450	1	Dual coin acceptor 10¢ & 25¢
	125443	1	Dual coin acceptor 10 pence & 50 pence
	125444	1	Dual coin acceptor 20 pence & 50 pence
	125446	1	Dual coin acceptor 10 pence & 20 pence
	125447	1	Dual coin acceptor 1 pound & 20 pence
	125451	1	Dual coin acceptor 1 krone & 5 kroner
4	137050	1	Micro controller (coin operated)
5	151000	2	6-32 Hex nuts
6	150002	2	6-32 Round head machine screws
7	120709	1	Terminal strip
8	137013	8	Stand off
9	137061	1	Suppressor board less relays (M.P. only)
	131915	1 or 2	Relay 110V (M.P. only)
	131930	1 or 2	Relay 220V (M.P. only)
10	152001	4	8-32 Hex nuts
11	136052	2	4 AMP fuse (M.P. only)
12	150301	1	8-18 x 7/16 Phil. hd. tek screws
13	140150	1	Diode logic board
14	137021	15	Connector socket
15	137020	1	15 Pin connector
16	137022	1	Strain relief
17	152001	2	8-32 Hex nuts
18	125445	1	Replacement microswitch

\*Consult factory for coin acceptors of foreign coin denominations not listed.

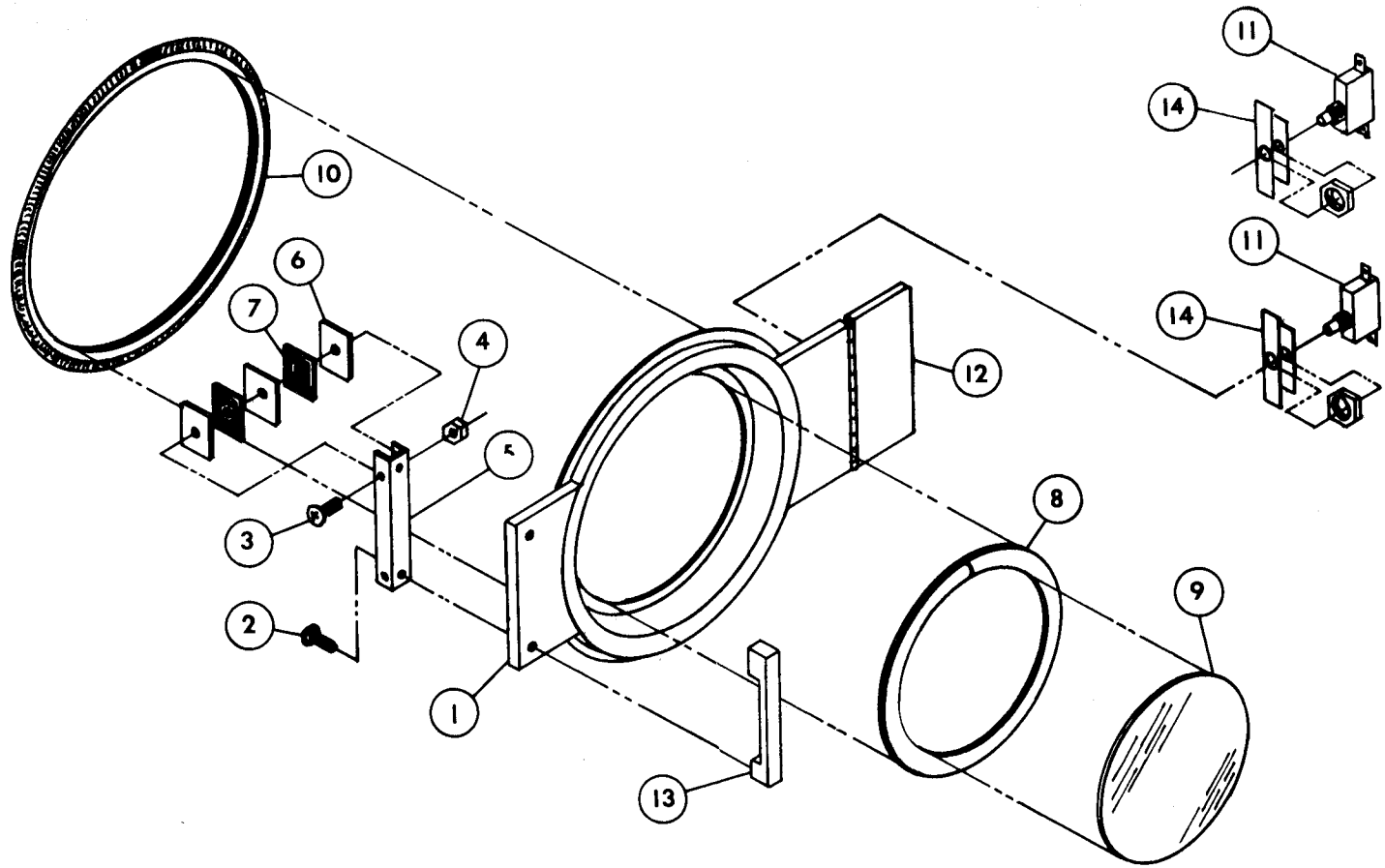




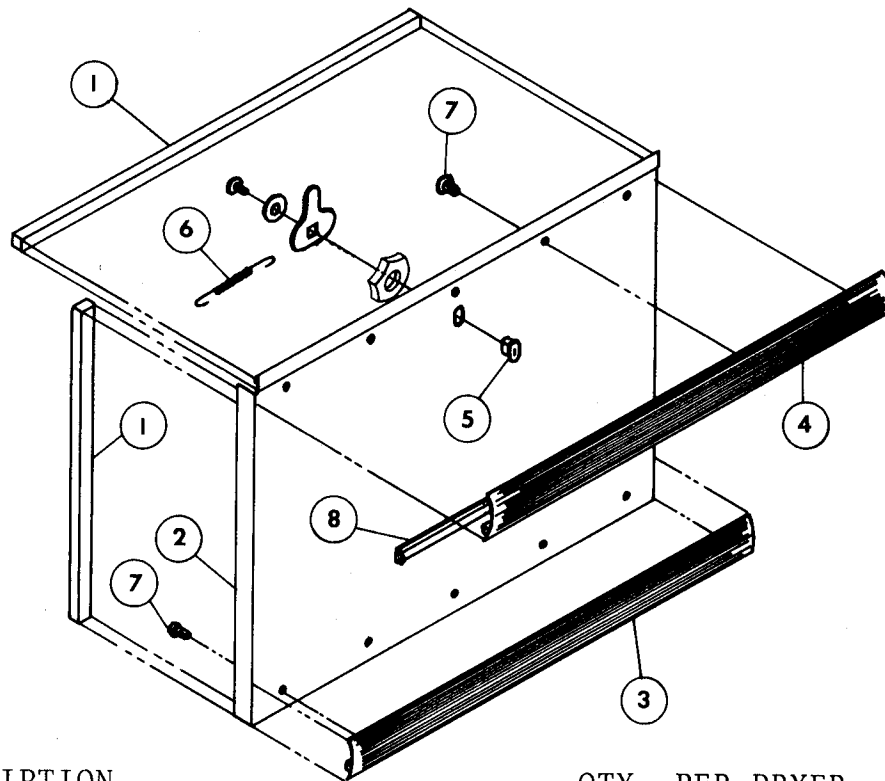
ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
	800095	1	Automatic control panel complete
	800096	1	Manual/Automatic control panel complete
	800097	1	Reversing Automatic control panel complete
	800098	1	Reversing Automatic/Manual control panel comp.
1	112511	1	Automatic keyboard label assy.
	112501	1	Decal automatic/manual dryer
	112503	1	Decal-fabric selection (not shown)
	112504	1	Decal-Reversing selectable (not shown)
2	800057	1	Control panel only
3	160005	1	Latch fastener
4	137051	1	Micro Controller (nonreversing dryers)
	137052	1	Micro Controller (reversing dryers)
5	151000	2	6-32 nuts
6	150002	2	6-32 round head machine screws
7	120709	1	Terminal strip.
8	137013	8	Stand-off
9	137061	1	Suppressor board less relays (M.P. only)
	131915	1 or 2	Relay 110V (M.P. only)
	131930	1 or 2	Relay 220V (M.P. only)
10	152001	4	8-32 Hex nuts
11	136052	2	4 AMP fuse (M.P. only)
12	150301	1	8-18 x 7/16 Phil. hd. tek screws
13	140150	1	Diode logic board
14	137021	15	Connector socket
15	137020	1	15 pin connector
16	137022	1	Strain relief



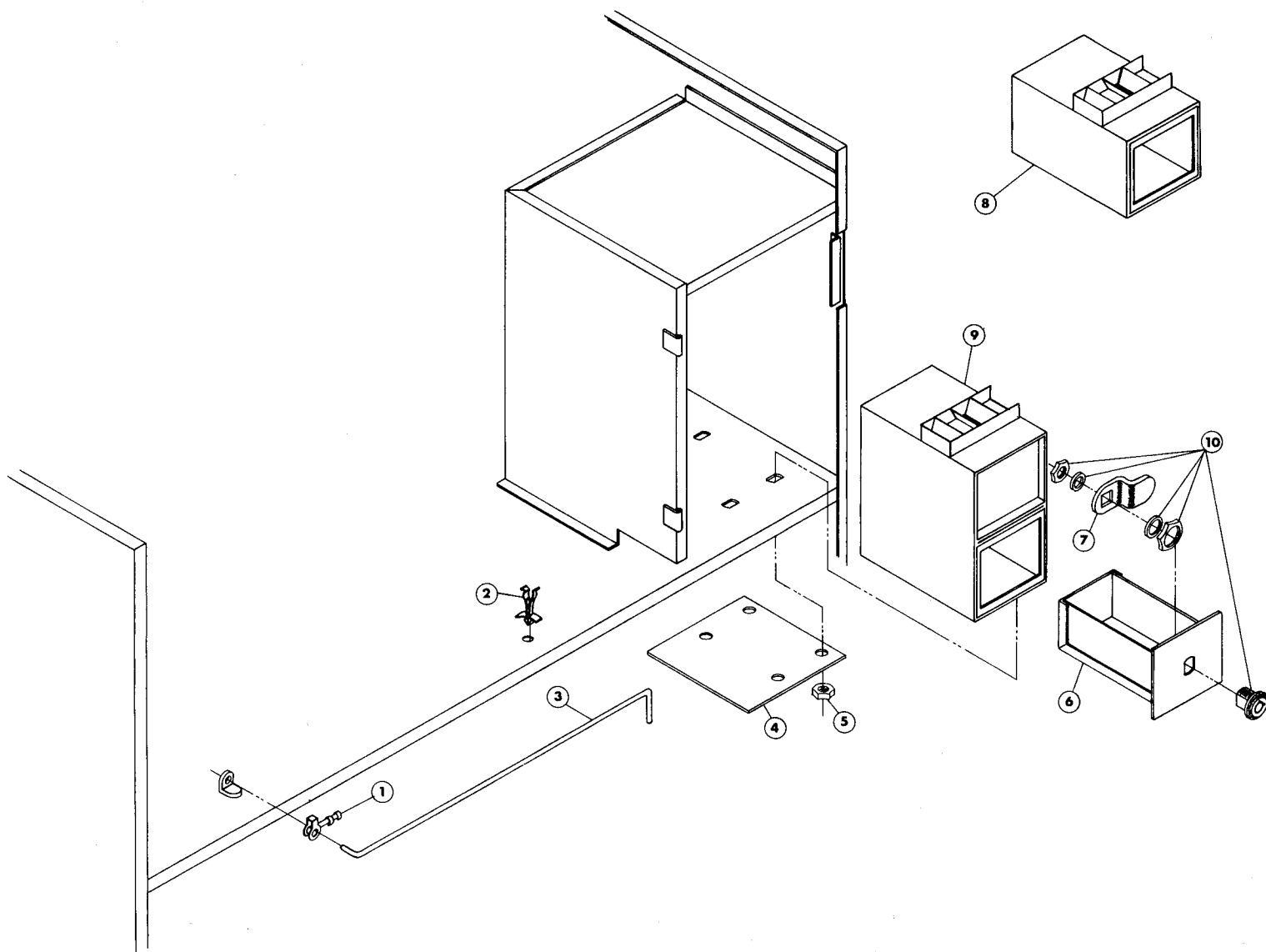
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD		
			15	20	25	30	285	50	50	65
1	313450	Standard front panel	1			1				
	313451	Standard front panel		1	1			1		
	313460	Standard front panel					1			
	313452	Standard front panel							1	1
	800360	Front panel with insulation	1			1				
	800361	Front panel with insulation (R.H.)		1	1			1		
	800362	Front panel with insulation (L.H.)		1	1			1		
	800365	Front panel with insulation					1			
	800363	Front panel with insulation (R.H.)							1	1
800364	Front panel with insulation (L.H.)							1	1	
2	150200	P.H. machine screw	8	8	8	8	8	8	8	8
3	313902	Striker pad	1	1	1	1	1	1	1	1
4	313400	Left hinge pad	1			1				
	313401	Left hinge pad		1	1			1		



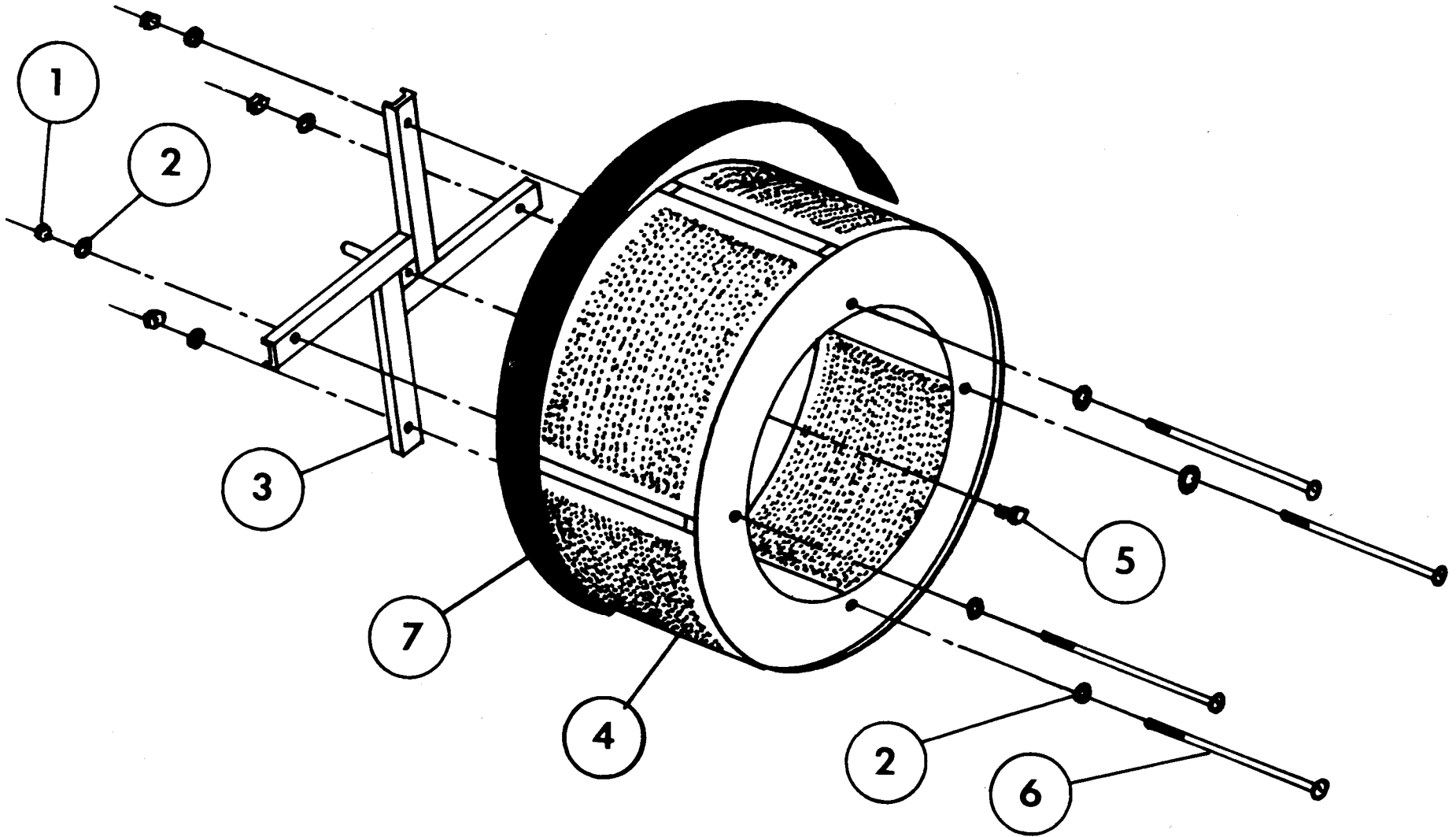
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD			
			15	20	25	30	285	50	50	65	
	800117	Main door complete assembly	1				1				
	800118	Main door complete assembly		1	1				1		
	800120	Main door complete assembly					1				
	800119	Main door complete assembly								1	1
1	800114	Main door less accessories	1			1					
	800115	Main door less accessories		1	1				1		
	800121	Main door less accessories					1				
	800116	Main door less accessories								1	1
2	150111	Door handle screws	2	2	2	2	2	2	2	2	2
3	150002	6-32 x 1 R.H. machine screw	2	2	2	2	2	2	2	2	2
4	152000	6-32 Hex nuts	2	2	2	2	2	2	2	2	2
5	306803	Magnet holder	1	1	1	1	1	1	1	1	1
6	306802	Magnet keeper	6	6	6	6	6	6	6	6	6
7	102102	Magnets	4	4	4	4	4	4	4	4	4
8	102305	Glass gasket 63"	1	1	1	1	1	1	1	1	1
9	102203	Door glass 19 1/2"	1	1	1	1	1	1	1	1	1
10	102306	Door gasket 67"	1	1	1	1	1	1	1	1	1
11	122100	Main door switch (non M.P.)	1	1	1	1			1	1	1
	122001	Main door switch						1			
	137006	Main door switch (with M.P.)	1	1	1	1			1	1	1
	137007	Main door switch (with M.P.)						1			
12	313403	Right hinge pad only	1			1					
	313404	Right hinge pad only		1	1				1		
	313409	Right hinge pad only						1			
	313405	Right hinge pad only								1	1
13	170202	Main door handle (10 1/4 Long)	1	1	1	1	1	1	1	1	1
14	313203	Main door switch bracket	1	1	1	1		2	1	1	1



ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD		
			15	20	25	30	285	50	50	65
1	117600	Noise suppressor (sold by foot).	3	3	3	3	3	3	3	3
2	800215	Lint door assembly.	1							
	800218	Lint door assembly.		1						
	800219	Lint door assembly.			1			1		
	800216	Lint door assembly.				1				
	800217	Ling door assembly.							1	1
	800224	Lint door assembly.					1			
	800220	Lint door assembly (hinged type).	1							
	800221	Lint door assembly (hinged type).		1						
	800223	Lint door assembly (hinged type).			1			1		
	800222	Lint door assembly (hinged type).				1				
	800230	Lint door assembly with insulation	1							
	800231	Lint door assembly with insulation		1						
	800232	Lint door assembly with insulation			1			1		
	800233	Lint door assembly with insulation				1				
	800234	Lint door assembly with insulation					1			
	800235	Lint door assembly with insulation							1	1
	108120	Chain, drop lint door								
3	300006	Kick trim 31".	1			1				
	300008	Kick trim 34".		1	1			1		
	300007	Kick trim 38".							1	1
	300009	Kick trim 28".					1			
4	300201	Middle trim 31".	1			1				
	300203	Middle trim 34".		1	1			1		
	300202	Middle trim 38".							1	1
	300204	Middle trim 28".					1			
5	160001	Lint door lock (coin only).	1	1	1	1	1	1	1	1
	160200	Lint door latch (knob).	1	1	1	1	1	1	1	1
	160003	Dummy lock (std. noncoin).	1	1	1	1	1	1	1	1
6	157000	Spring.	1	1	1	1	1	1	1	1
7	150201	#10 x 1/2" RH machine screw.	10	10	10	10	10	10	10	10

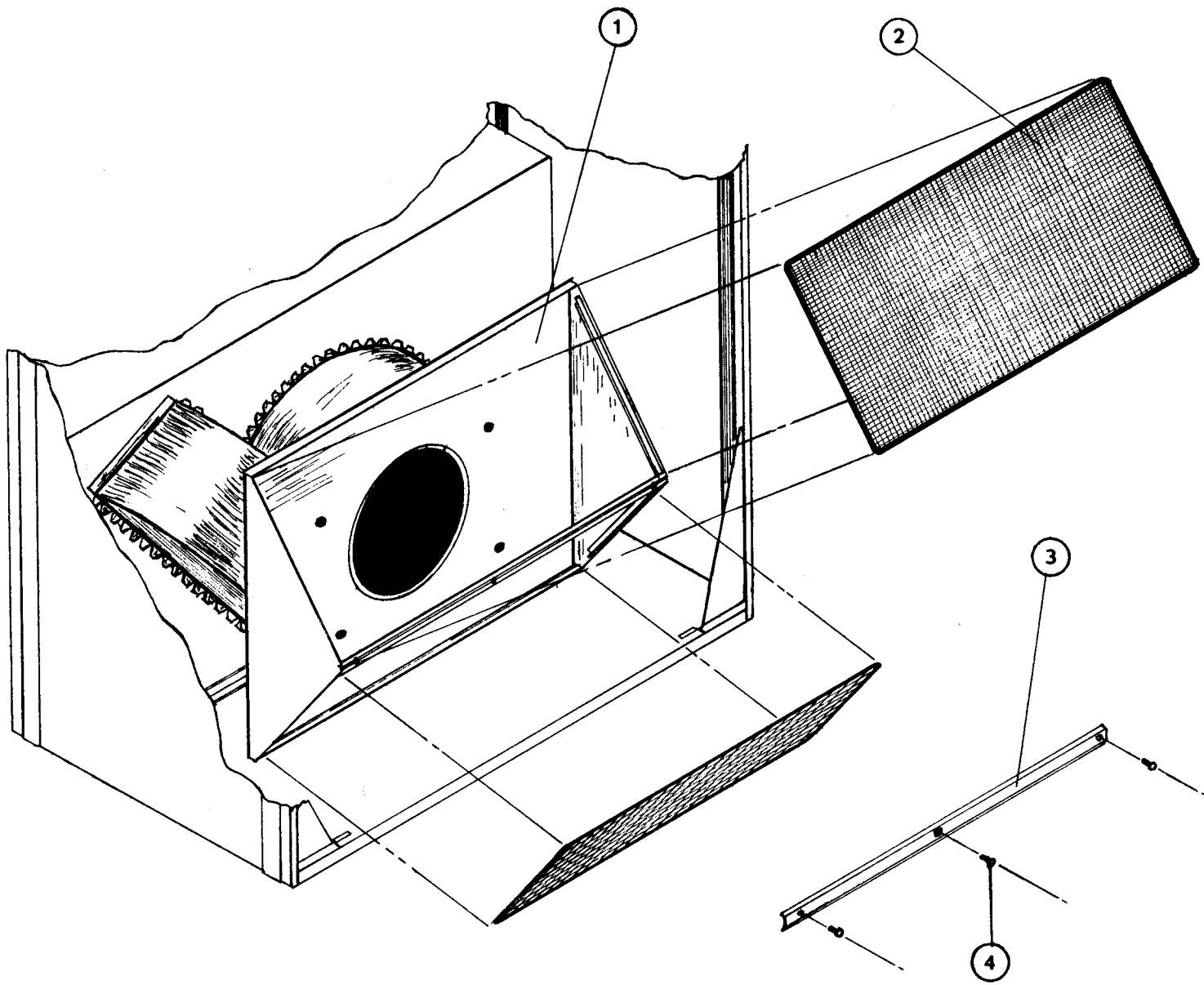


ITEM NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					
			AD-15	20	25	30	285	50
1	102601	Rod retaining clip	1	1	1	1	1	1
2	102600	Support rod catch	1	1	1	1	1	1
3	102502	Control door support rod	1	1	1	1		1
	102503	Control door support rod					1	
4	309250	Coin vault slot cover					1	
5	152014	Free spin wash nut	4	4	4	4	4	4
6	802212	Coin box	1	1	1	1	1	1
7	160006	1/4 Turn cam	1	1	1	1	1	1
8	802110	Reg. coin vault assembly	1	1	1	1		1
	802112	M.P. & Dual coin vault assembly	1	1	1	1		1
9	802130	Reg. coin vault assembly					1	
	802131	M.P. & Dual coin vault assembly					1	
10	160007	1/4 Turn lock	1	1	1	1	1	1



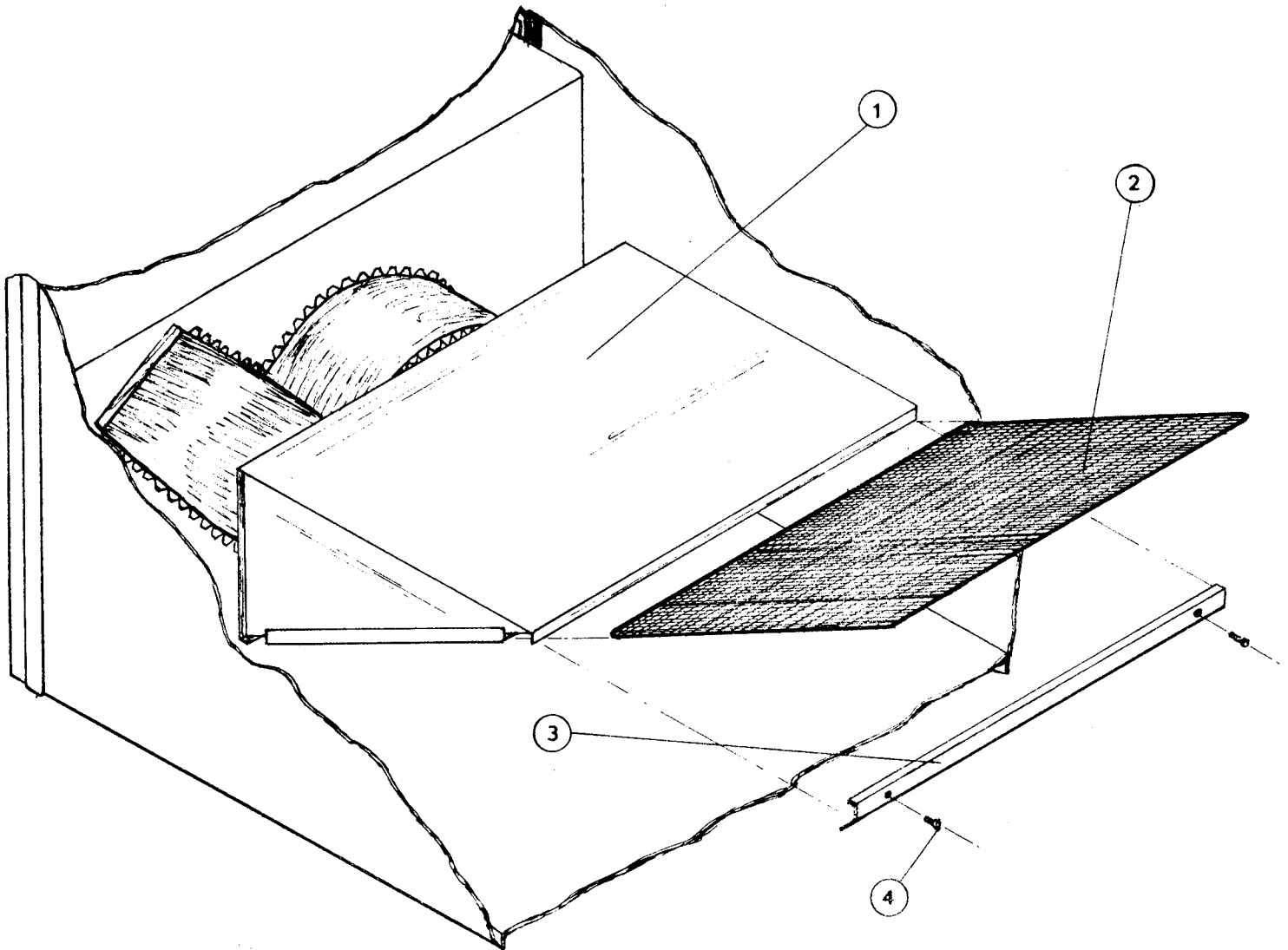
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD		
			15	20	25	30	285	50	50	65
	800812	Tumbler & tumbler support comp. (1 1/4)	1							
	800813	Tumbler & tumbler support comp. (1 1/4)	1							
	800814	Tumbler & tumbler support comp. (1 1/4)		1						
	800803	Tumbler & tumbler sup. comp. (1 3/8)				1				
	800815	Tumbler & tumbler sup. comp. (1 3/8)					1			
	800805	Tumbler & tumbler sup. comp. (1 3/8)						1		
	800817	Tumbler & tumb. sup. comp. rev. (1 3/4)						1		
	800806	Tumbler & tumbler sup. comp. (1 3/8)							1	
	800818	Tumbler & tumb. sup. comp. rev. (1 3/4)							1	
	800819	Tumbler & tumb. sup. comp. rev. (1 3/4)								1
1	152004	5/16-18 Hex nut	4	4	4	4	3		4	
	152005	3/8-16 Hex nut						4		4
2	153001	5/16 Flat washer	8	8	8	8	6		8	
	153004	3/8 Flat washer						8		8
3	800610	Tumbler support only (1 1/4)	1							
	800611	Tumbler support only (1 1/4)		1	1					
	800603	Tumbler support only (1 3/8)				1				
	800612	Tumbler support only (1 3/8)					1			
	800605	Tumbler support only (1 3/8)						1		
	800608	Tumbler support only rev. (1 3/8)						1		
	800614	Tumbler support only rev. (1 3/4)						1		
	800606	Tumbler support only (1 3/8)							1	1
	800609	Tumbler support only rev. (1 3/8)							1	1
	800615	Tumbler support only rev. (1 3/4)							1	1
	800613	Tumbler support only (1 3/4)								1
4*	800700	Tumbler only	1							
	800701	Tumbler only		1						
	800702	Tumbler only			1					
	800703	Tumbler only				1				
	800709	Tumbler only					1			
	800705	Tumbler only						1		
	800706	Tumbler only							1	
	800708	Tumbler only								1
5	150518	5/16-18 x 3/8 Soc. But. hd. sc. pl.	1	1	1	1	1	1	1	1
6	100900	5/16-18 x 17 1/2 Tie rod	4	4						
	100901	5/16-18 x 20 1/2 Tie rod			4					
	100902	5/16-18 x 31				4	3		4	
	100903	3/8-16 x 38 1/2 Tie rod						4		
	100905	3/8-16 x 37 Tie rod								4
7	116002	Felt collar	1			1				
	116001	Felt collar		1	1			1		
	116003	Felt collar					1			
	116000	Felt collar							1	1

\*Note for stainless steel tumbler only, contact factory for proper number.

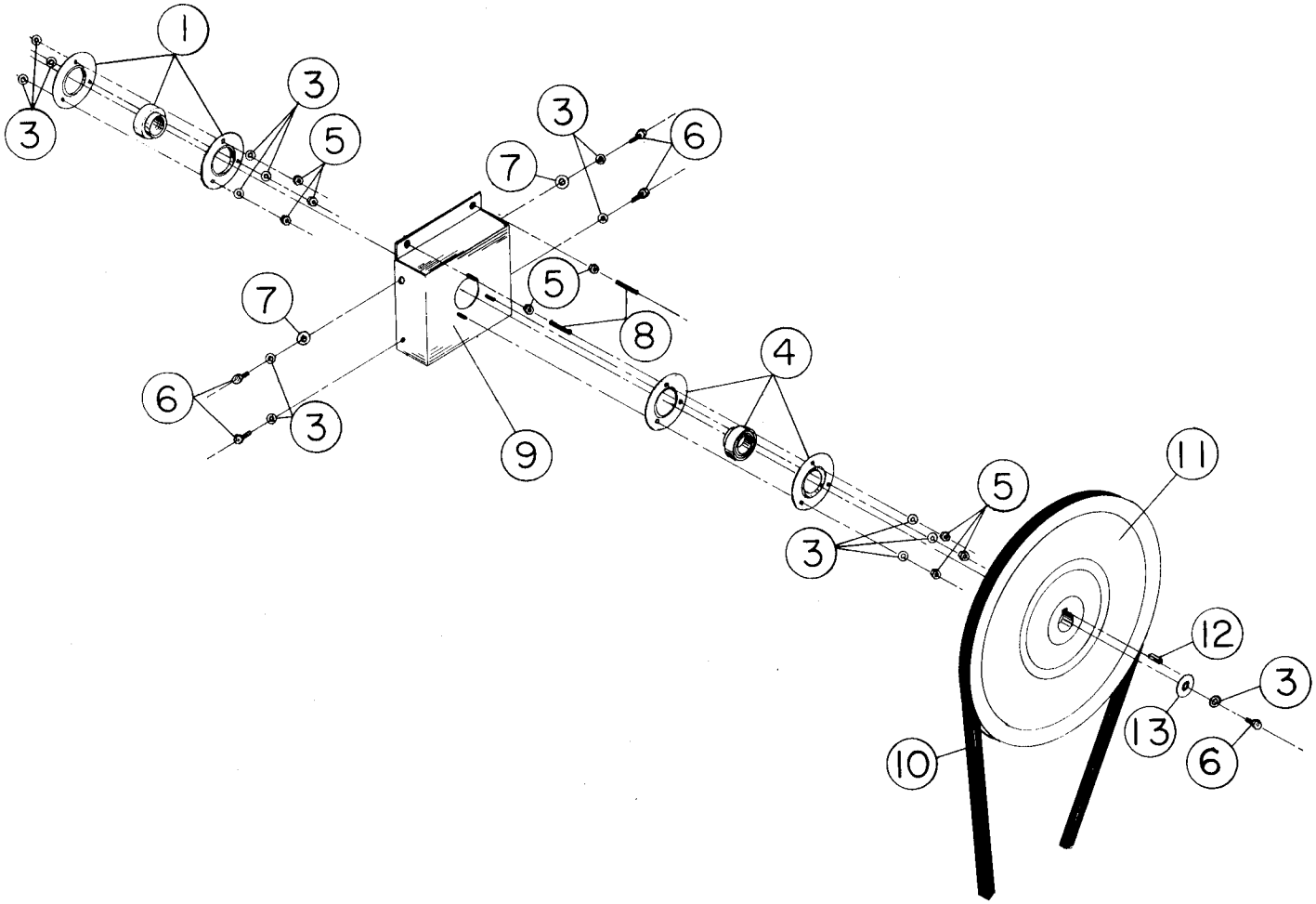


ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER		
			AD-15	20	25
1	800403	Sm. lint trap only	1	1	1
	800400	Sm. lint trap comp. assembly	1	1	1
2	800500	Lint screens	2	2	2
3	304100	Lint screen hold down	1	1	1
4	150300	10 x ½ SDS screws	3	3	3

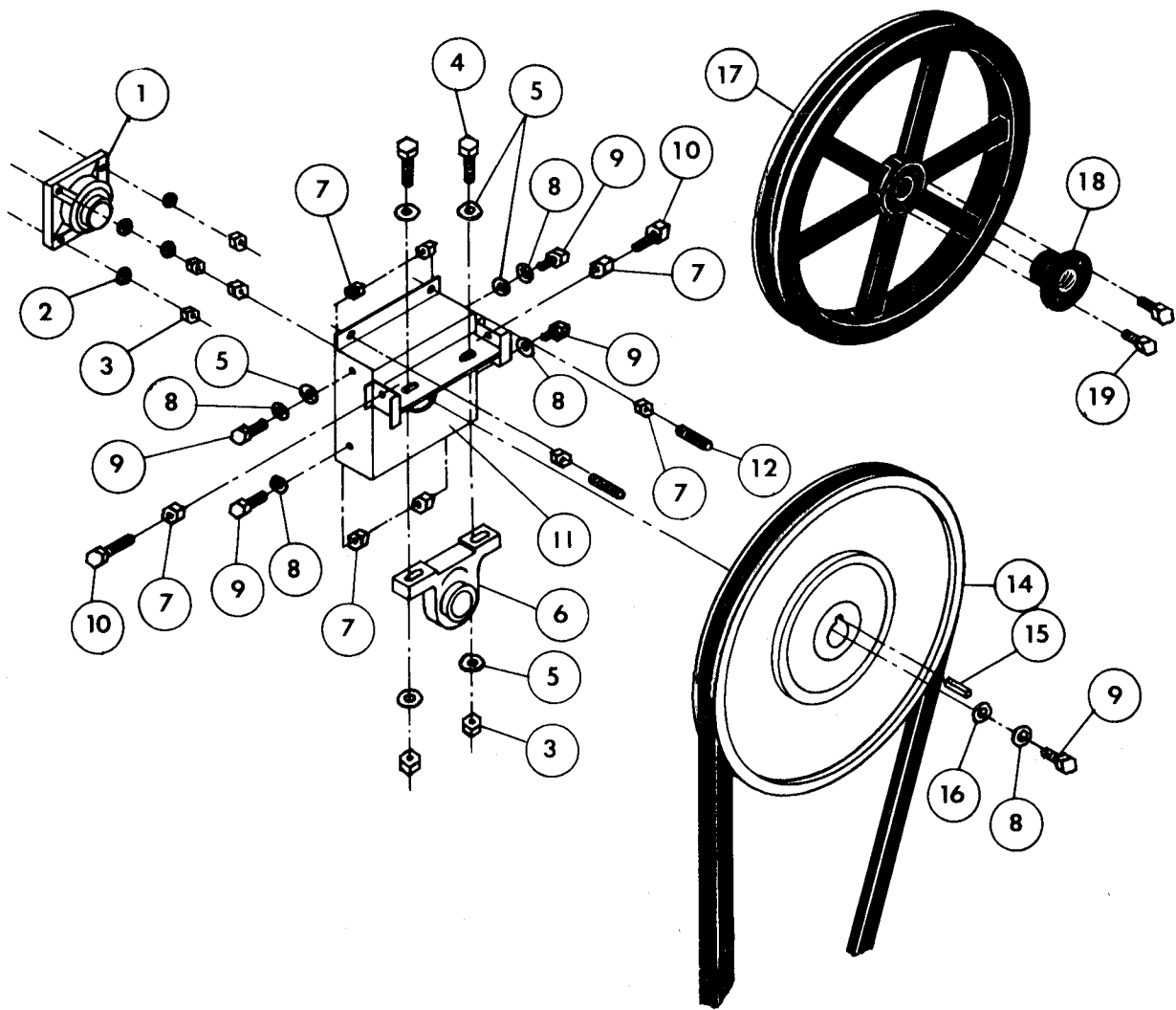




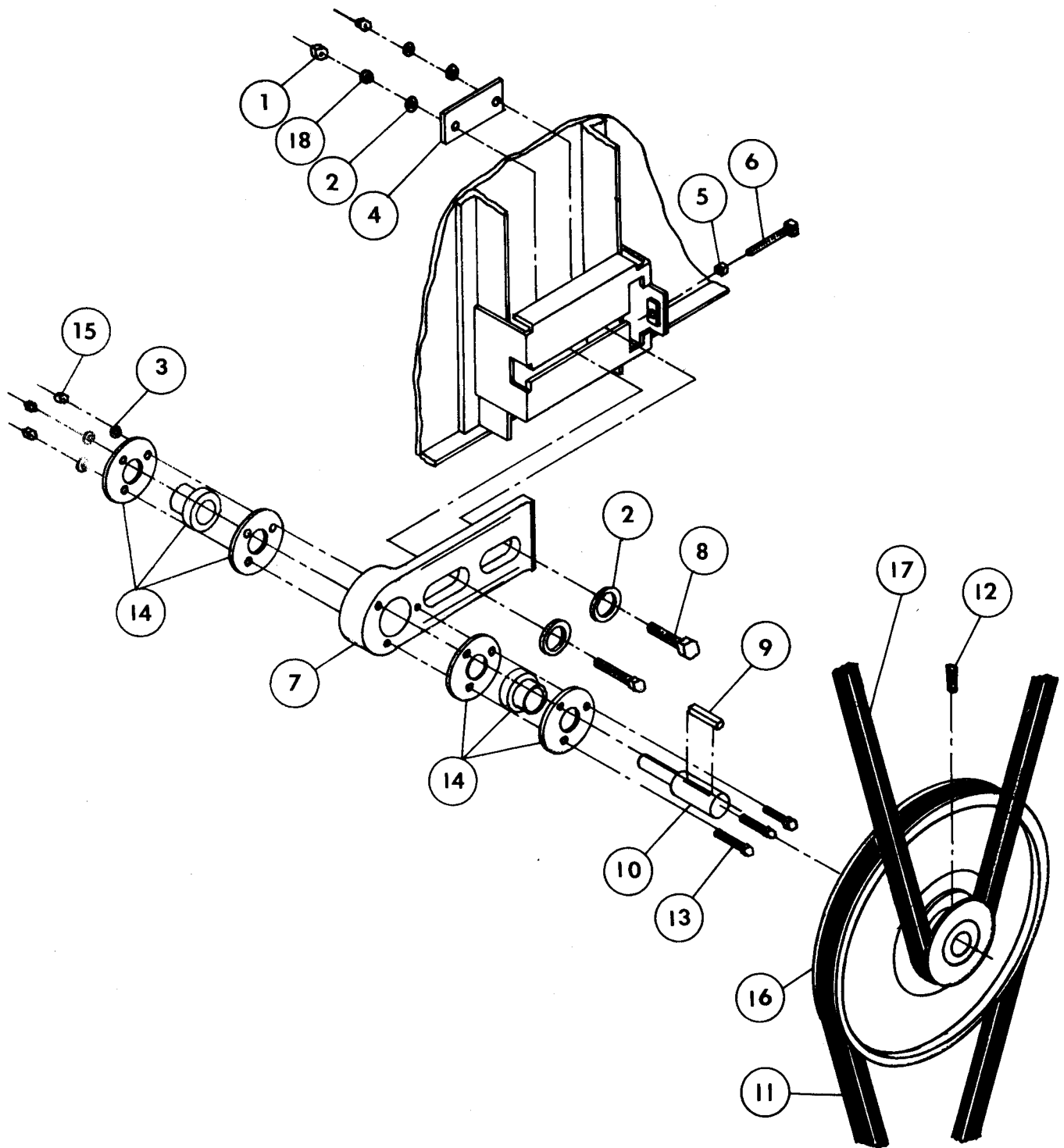
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER ORDER			UD	
			30	285	50	50	65
1	800409	Lint trap only	1				
	800408	Lint trap comp. assembly	1				
	800411	Lint trap only		1			
	800410	Lint trap comp. assembly		1			
	800404	Lint trap only			1	1	1
	800402	Lint trap comp. assembly			1	1	1
	800406	Lint trap only (Rev.)			1	1	1
	800407	Lint trap comp. assembly (Rev.)			1	1	1
2	800503	Lint screen	1	1			
	800501	Lint screen			1	1	1
3	304102	Lint screen hold down	1	1			
	304101	Lint screen hold down			1	1	1
4	150300	10 x ½ SDS screws	2	2	2	2	2



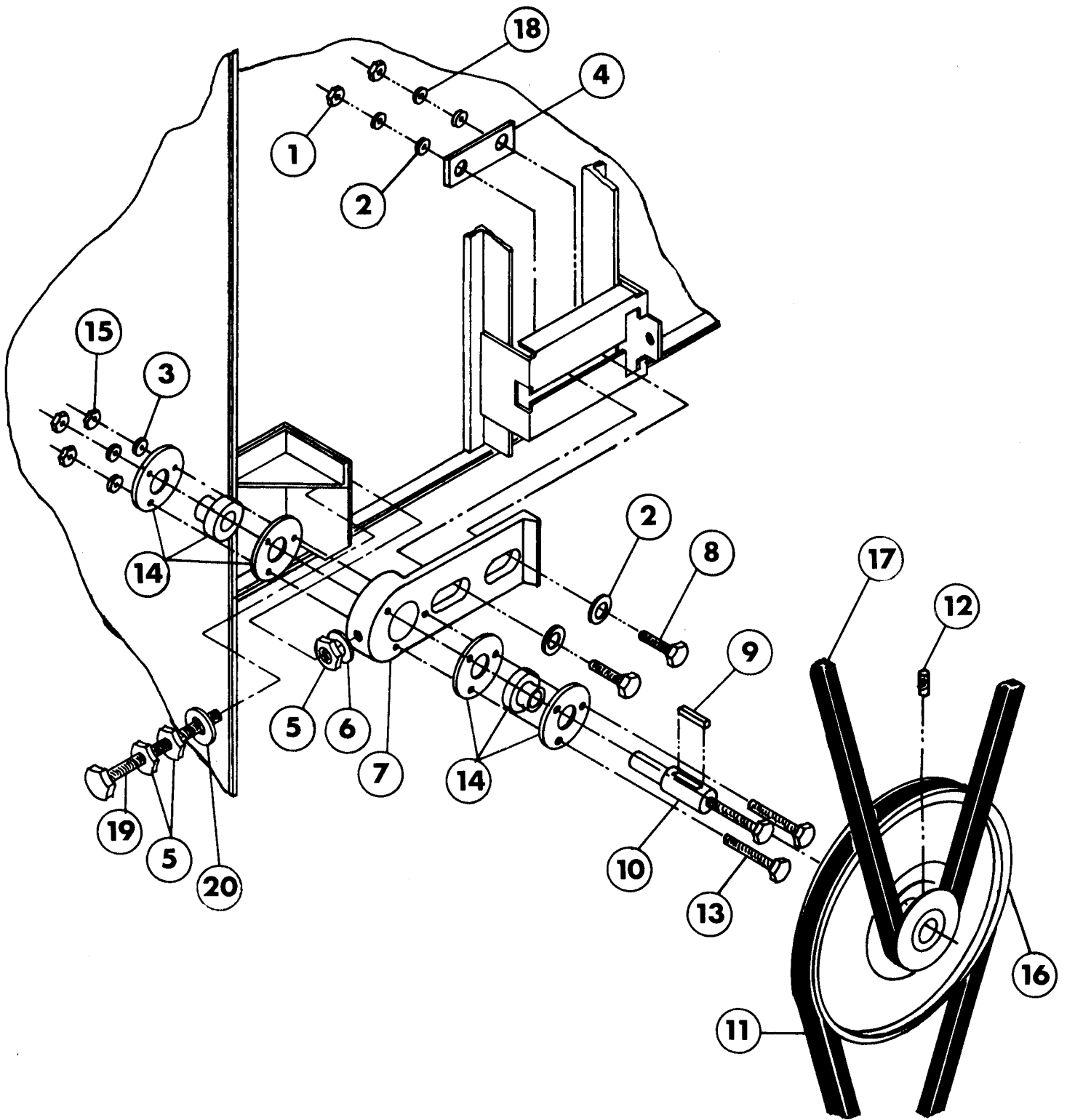
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER		
			15	20	25
1	100213	1 1/4" Flange bearing	1	1	1
3	153002	5/16 Lock washer	14	14	14
4	100201	1" Flange bearing	1	1	1
5	152004	5/16"-18 Hex nut	12	12	12
6	150501	5/16"-18x3/4 H.H. machine bolt	5	5	5
7	153004	3/8" Flat washer	2	2	2
8	150608	5/16"-18 x 1 1/4 set screw	2	2	2
9	801100	Bearing housing w/ hardware	1	1	1
10		Belt (see idler assembly Page 69)	1	1	1
11	101100	18" Pulley	1	1	1
12	100700	1/4" x 1/4" x 1" Key	1	1	1
13	153003	3/8" x 1 1/2" Fender washer	1	1	1
	154301	5/16"-18 x 5/16" Set screw (not shown)	2	2	2



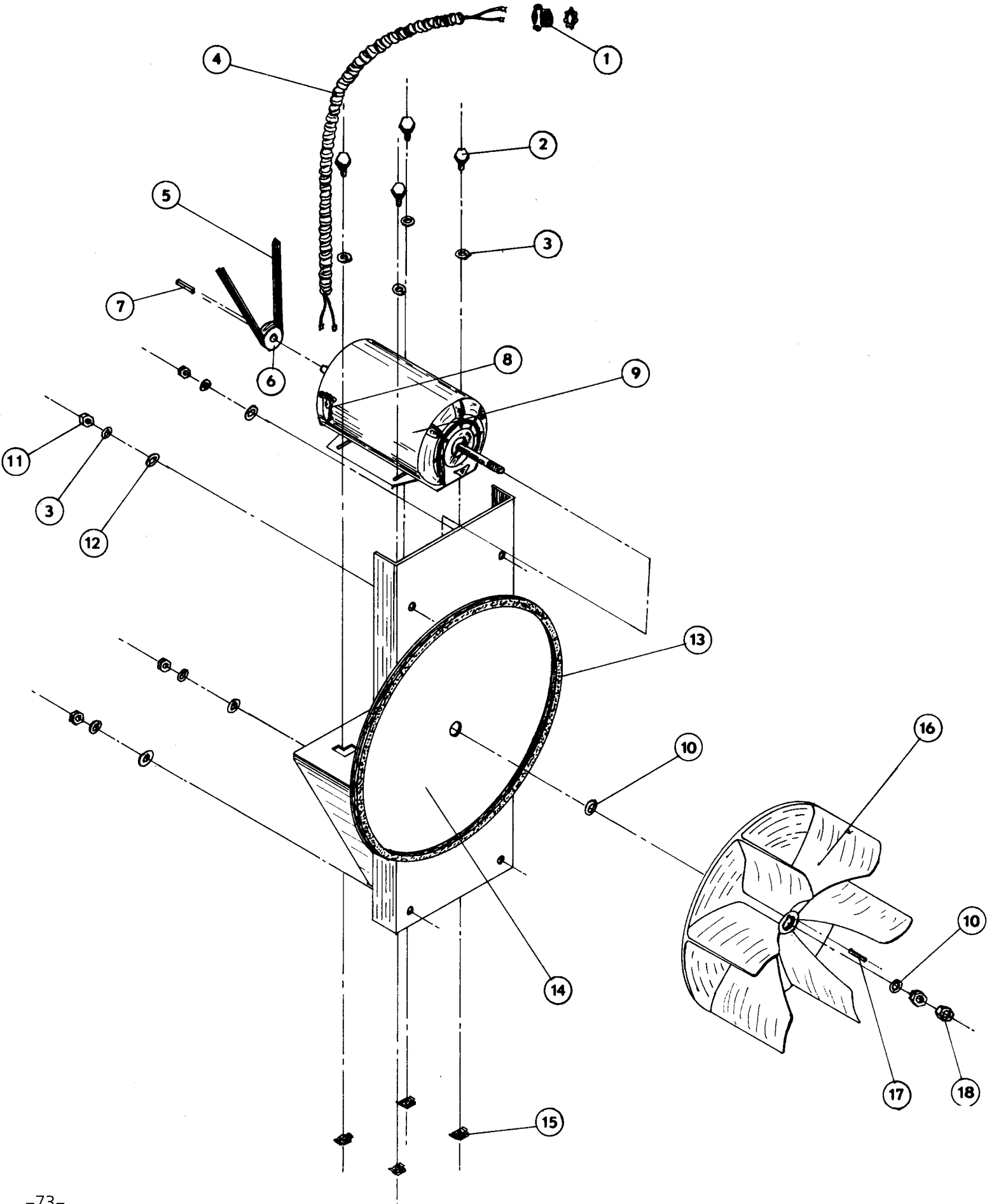
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER				
			30	285	50	UD 50	65
1	100203	1 3/8 Flange bearing	1	1	1	1	1
	100220	1 3/4 Flange bearing			1	1	1
2	153005	3/8" Lock washer	4	4	4	4	4
	153025	9/16" Lock washer			4	4	4
3	152005	3/8"-16 Hex nuts	4	4	4	4	4
	152050	9/16"-12 Hex nuts			4	4	4
4	150600	3/8"-16 x 1 1/2" H.H. Machine bolt	2	2	2	2	2
5	153004	3/8" Flat washers	6	6	6	6	6
6	100202	1 3/8" Pillow block bearing	1	1	1	1	1
7	152004	5/16"-18 Hex nuts	8	8	8	8	8
8	153002	5/16" Lock washer	5	5	5	5	5
9	150501	5/16"-18 x 3/4" H.H. machine bolt	5	5	5	5	5
10	150503	5/16"-18 x 2" H.H. machine bolt	2	2	2	2	2
11	801101	Bearing house assy. w/ hardware	1	1	1	1	1
12	150608	5/16"-18 x 1 1/4 set screw	2	2	2	2	2
14	101100	18 Pulley	1	1	1	1	1
15	100700	1/4 x 1/4 x 1" key	1	1	1	1	1
16	153003	3/8 x 1 1/2 Fender washer	1	1	1	1	1
17	101118	18 3/4 C.I. pulley (rev. only)			1	1	1
18	101119	1 3/8 Taper lock-hub (rev. only)			1	1	1
19		Bolts, taper lock-hub(Incl. in kit only)			2	2	2
	154301	5/16-18 x 5/16 Set screw	1	1	1	1	1



ITEM NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD	
			15	20	25	30	50	50	65
1	152005	3/8 - 16 Hex nut.	2	2	2	2	2	2	2
2	153004	3/8 Flat washer.	4	4	4	4	4	4	4
3	153007	1/4 Flat washer.	3	3	3	3	3	3	3
4	311612	Square washer.	1	1	1	1	1	1	1
5	152004	5/16 - 18 Hex nut.	1	1	1	1	1	1	1
6	150509	5/16 - 18 x 3" hex machine bolt.	1	1	1	1	1	1	1
7	100402	Idler bearing mount.	1	1	1	1	1	1	1
	801007	Idler assembly, complete	1	1	1	1	1	1	1
8	150600	3/8 - 16 x 1 1/2 hex machine bolt.	2	2	2	2	2	2	2
9	100708	3/16 sq. x 2 1/16 key.	1	1	1	1	1	1	1
10	100403	Idler shaft.	1	1	1	1	1	1	1
11	100110	Belt, 4L500 motor to idler.	1	1	1	1			
	100117	Belt, 4L620 motor to idler.						1	1
	100112	Belt, 4L590 motor to idler.						1	
12	154301	Set screws 5/16 - 18 x 5/16.	(As required)						
13	150521	1/4 20 x 2 G.B.	3	3	3	3	3	3	3
14	100214	5/8" bearing.	2	2	2	2	2	2	2
15	152002	1/4 - 20 hex nut.	3	3	3	3	3	3	3
16	101129	9" x 2 1/2" pulley.	1	1	1	1			
	101140	14" x 3" pulley.					1	1	1
17	100106	Belt, 5L690 tumbler to idler						1	1
	100108	Belt, 5L680 tumbler to idler	1	1	1	1	1		
18	153005	3/8" lock washer	2	2	2	2	2	2	2



ITEM NO.	PART NO.	DESCRIPTION	QUANTITY PER DRYER ADBH-285
1	152005	3/8 - 16 hex nut.	2
2	153004	3/8 flat washer.	4
3	153007	1/4 flat washer.	3
4	311612	Sqaure washer	1
5	152004	5/16 - 18 Hex nut.	3
6	153002	5/16 Lock washer.	1
7	100404	Idler bearing mount.	1
	801008	Idler assembly, complete.	1
8	150600	3/8 - 16 x 1 1/2 hex machine bolt	2
9	100708	3/16 sq. x 2 1/16 key.	1
10	100403	Idler shaft.	1
11	100103	Belt, 4L510, motor to idler.	1
12	154301	Set screws 5/16 -18 x 5/16.	(As required)
13	150521	1/4 20 x 2 G.B.	3
14	100214	5/8" bearing.	2
15	152002	1/4 - 20 hex nut.	3
16	101129	9" x 2 1/2" pulley.	1
17	100111	Belt, 5L650 tumbler to idler.	1
18	153005	3/8" Lock washer.	2
19	150613	5/16 - 18 x 4" Hex machine bolt.	1
20	153001	5/16 Flat washer	1

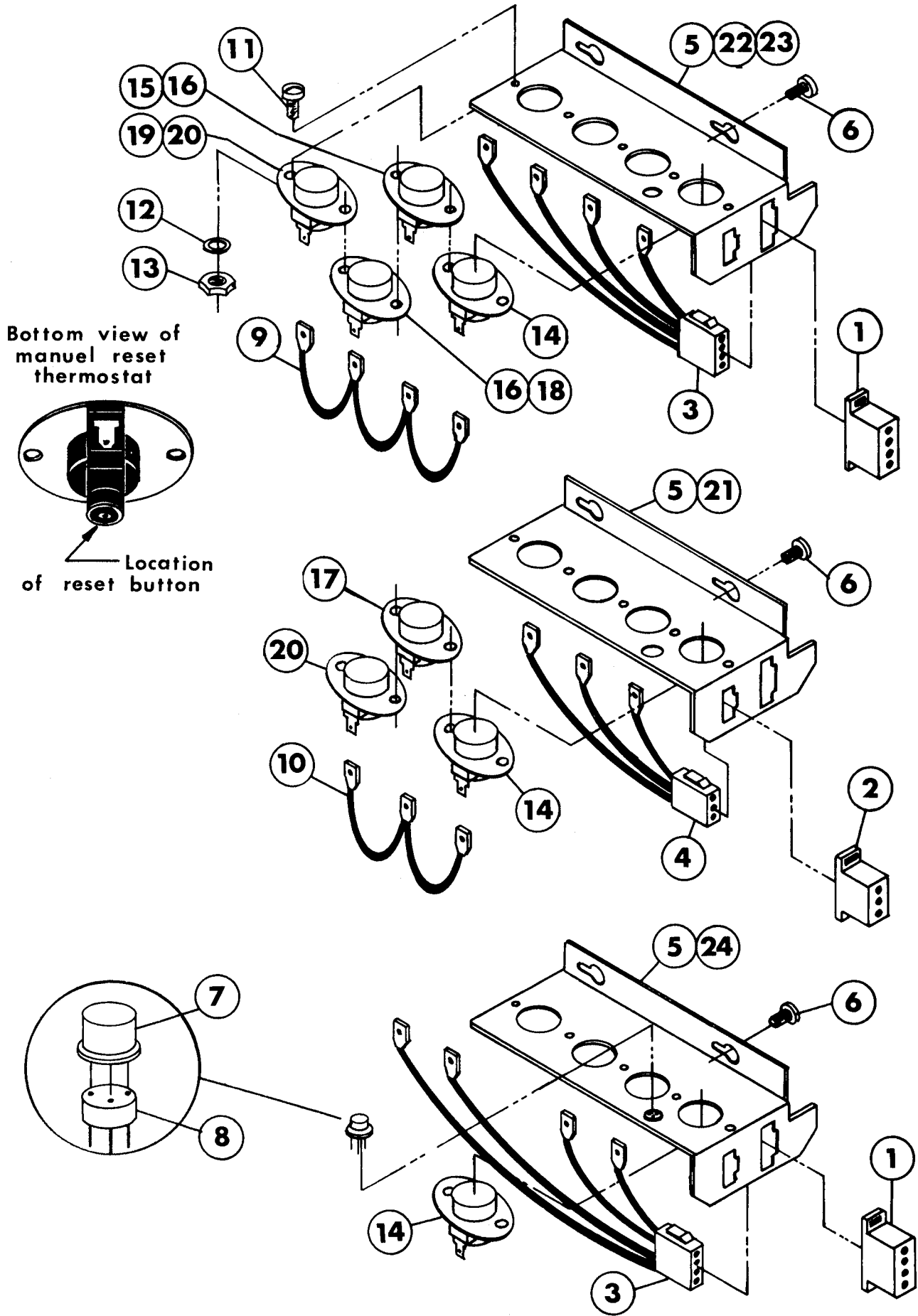




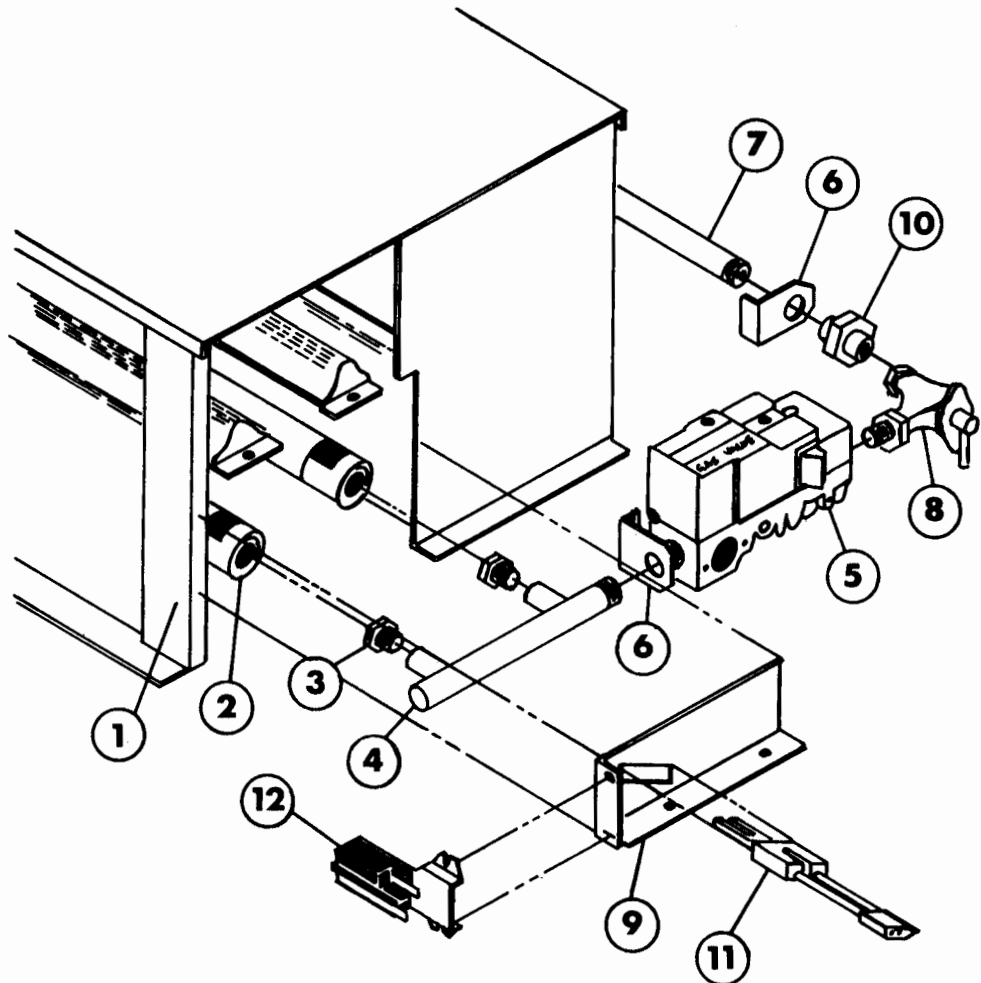
ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER					UD		
			15	20	25	30	285	50	50	65
1	120100	3/8 Straight connector	1	1	1	1	1	1	1	1
2	150501	5/16-18 x 3/4 Machine bolt	4	4	4	4	4	4	4	4
3	153002	5/16 Lock washer	8	8	8	8	8	9	9	9
4	***	Motor harness								
5	100110	Belt 4L500 motor to idler	1	1	1	1				
	100103	Belt 4L510 motor to idler					1			
	100112	Belt 4L590 motor to idler						1		
	100117	Belt 4L620 motor to idler							1	1
6	***	Sheave								
7	100701	3/16" x 3/16" x 1" Key			1	1	1	1	1	1
8	120200	3/8" 90° angle connector	1	1	1	1	1	1	1	1
9	***	Motor								
10	153006	1/2" Spec. motor washer	2	2	2	2	2	2	2	2
11	152004	5/16" - 18 Hex nut	4	4	4	4	4	5	5	5
12	153001	5/16" Flat washer	4	4	4	4	4	5	5	5
13	117600	Motor mount gasket								
14	800900	1/2 HP motor mount only 48 frame	1							
	800901	1/2 HP motor mount only 48 frame		1			1			
	800902	1/2 HP motor mount only 48 frame			1					
	800914	1/2 HP motor mount only 48 frame				1				
	800905	3/4 HP motor mount only 56 frame						1		
	800906	3/4 HP motor mount only 56 frame							1	
	800915	3/4 HP motor mount only 56 frame								1
15	154000	5/16" - 18 Tinnerman nut	4	4	4	4	4	4	4	4
16	***	Impeller								
17	100702	1/8" x 1/8" x 1 1/2" Key	1	1	1	1	1	1	1	1
18	152006	1/2" - 20 L. H. nut	2	2	2	2	2	2	2	2

\*\*\* For Part No. and dryer usage, see the following pages:

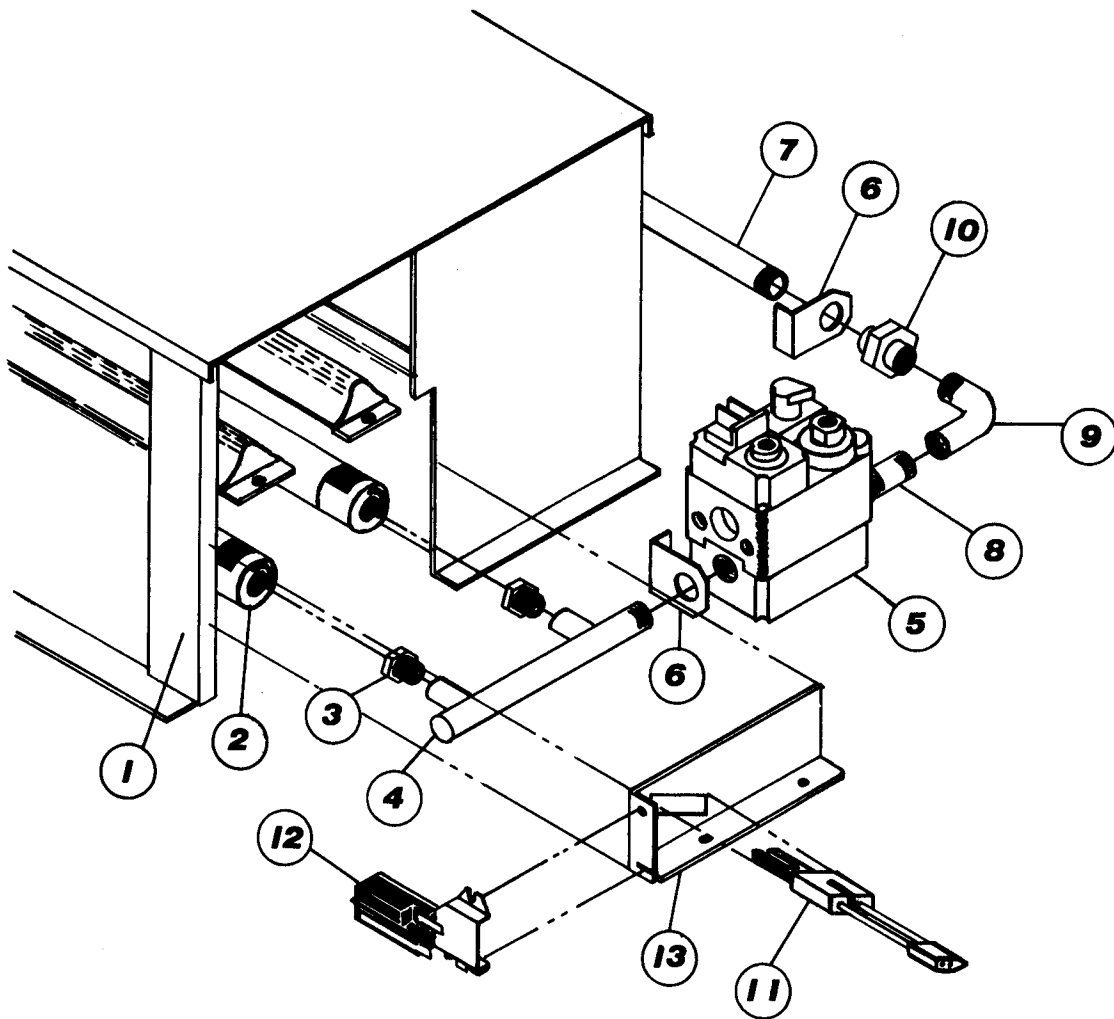
15# - Page 96	285# - Page 98
20# - Page 96	50# - Page 98
25# - Page 97	UD50# - Page 99
30# - Page 97	65# - Page 100



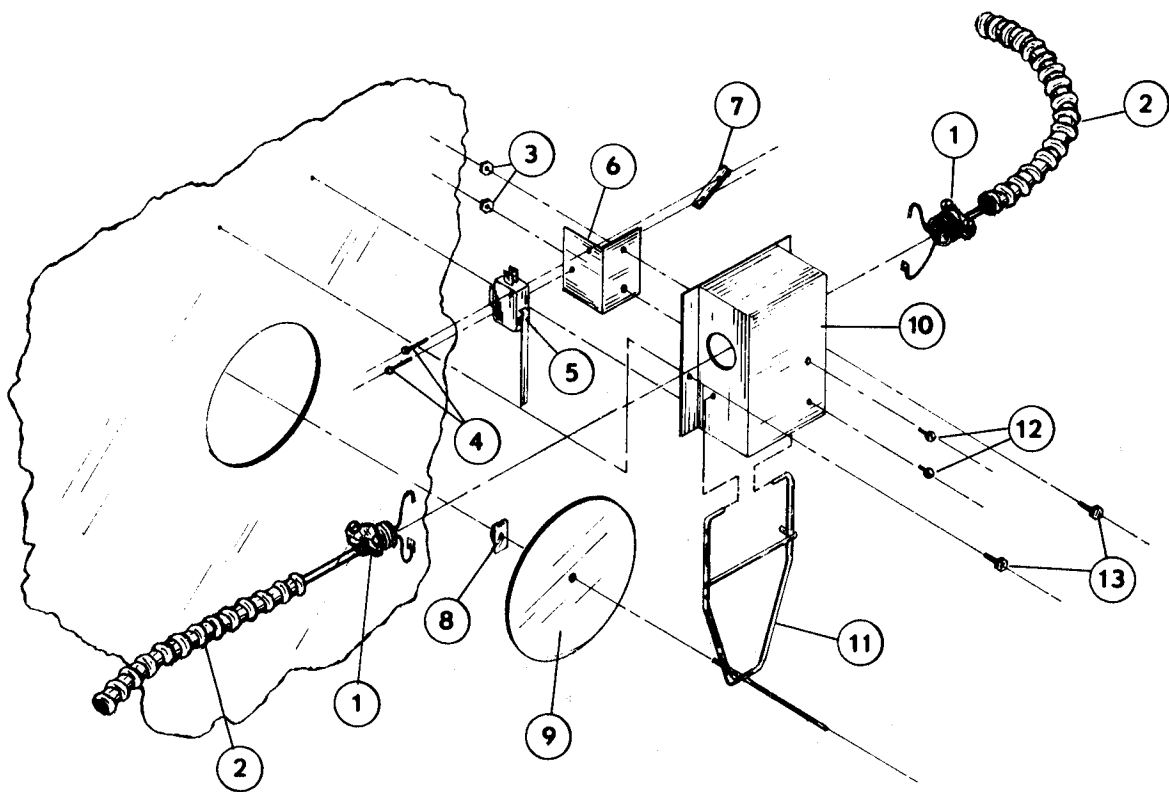
ILLUS. NO.	PART NO.	DESCRIPTION	STD MP	NON MP	B 50	UD 50
1	122605	4 Pin socket (female)	1		1	1
2	122609	3 Pin socket (female)		1		
3	122604	4 Pin connector (male)	1		1	1
4	122608	3 Pin connector (male)		1		
5	801406	Sensor brkt. only	1	1	1	1
6	150300	10 x ½ Hex washer TEK	2	2	2	2
7	137010	Temperature sensor	1			
8	137011	Sensor holder	1			
9	831701	Jumper 4 sensors			1	1
10	831700	Jumper 3 sensors		1		
11	150001	6 - 32 x ½ R. H. mach. screw	2	4	5	5
12	153008	#6 Lockwasher	2	4	5	5
13	152000	6 - 32 Hex nut	2	4	5	5
14	130301	Manual reset thermostat L225	1	1	1	1
15	130105	Temp. sensor 100°			1	
16	130109	Temp. sensor 140°			1	1
17	130100	Temp. sensor 150°		1		
18	130107	Temp. sensor 160°				1
19	130106	Temp. sensor 170°			1	
20	130101	Temp. sensor 180°		1		1
21	801405	Sensor brkt. complete		1		
22	801410	Sensor brkt. complete			1	
23	801411	Sensor brkt. complete				1
24	801425	Sensor brkt. complete M.P.	1		1	1
	801412	Australian sensor brkt. complete				
	801422	Australian sensor brkt. complete (M.P.)				



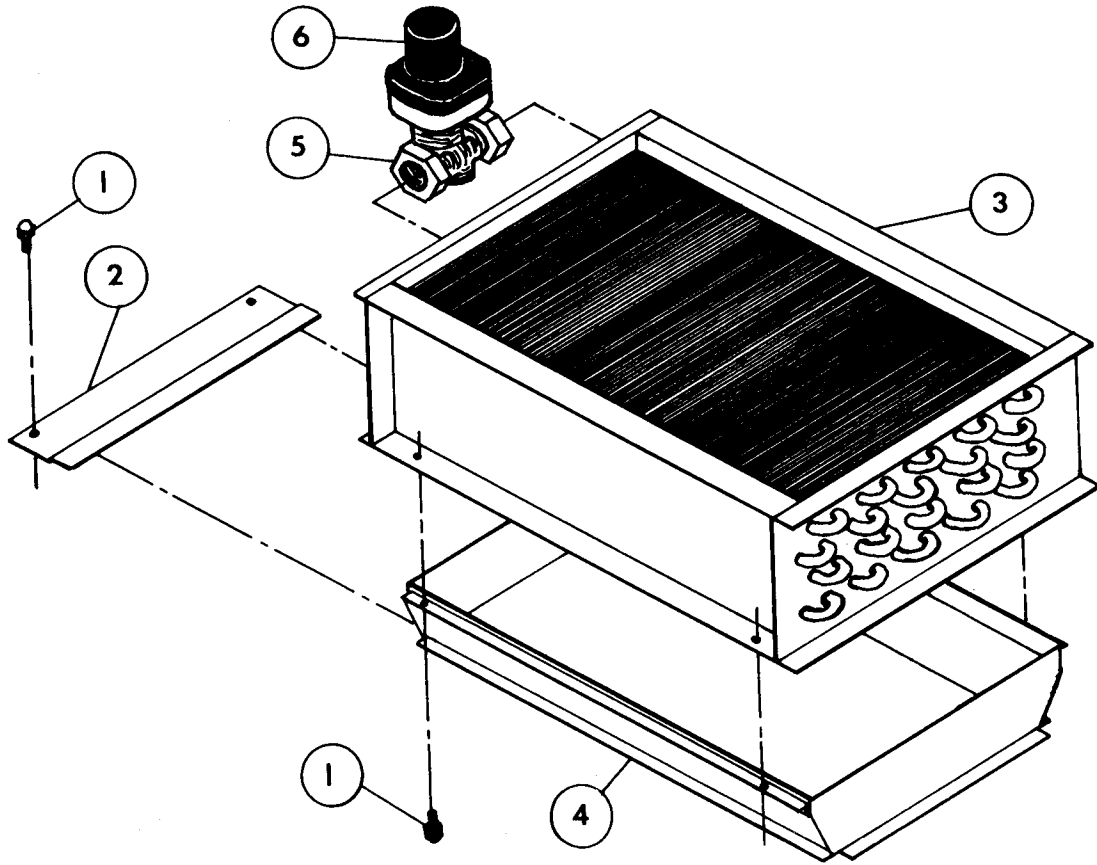
ITEM NO.	PART NO.	DESCRIPTION	QTY. PER DRYER				
			15	20	25	30	285
1	804003	Burner box	1	1	1		
	804004	Burner box				1	1
2	141104	Burner	2	2	2		2
	141105	Burner				2	
3		Orifice-See chart Section 5					
4	141206	Manifold 3/8	1	1	1	1	1
5	140004	Gas valve 3/8 White Rogers (Nat.)	1	1	1	1	1
6		Pipe brkt.-Specify size					
7		Inlet pipe-Specify size					
8	141305	3/8 Union shut-off (body only)	1	1	1	1	1
9	802705	Glo-bar mounting brkt.	1	1	1	1	1
10		Union-Specify size					
11	128910	Glo-bar	1	1	1	1	1
12	130500	I.R. Sensor	1	1	1	1	1
	808700	Burner assy. less orifice GB (NAT)	1	1	1		
	808702	Burner assy. less orifice GB (NAT)				1	
	808800	Burner assy. less orifice GB (L.P.)	1	1	1		
	808802	Burner assy. less orifice GB (L.P.)				1	
	809540	Burner assy. less orif,GB HR (NAT)	1	1	1		
	809541	Burner assy. less orif,GB HR (NAT)				1	
	809544	Burner assy. less orif,GB HR (NAT)					1
	809545	Burner assy. less orif,GB HR (L.P.)	1	1	1		
	809546	Burner assy. less orif,GB HR (L.P.)				1	
	809549	Burner assy. less orif,GB HR (L.P.)					1



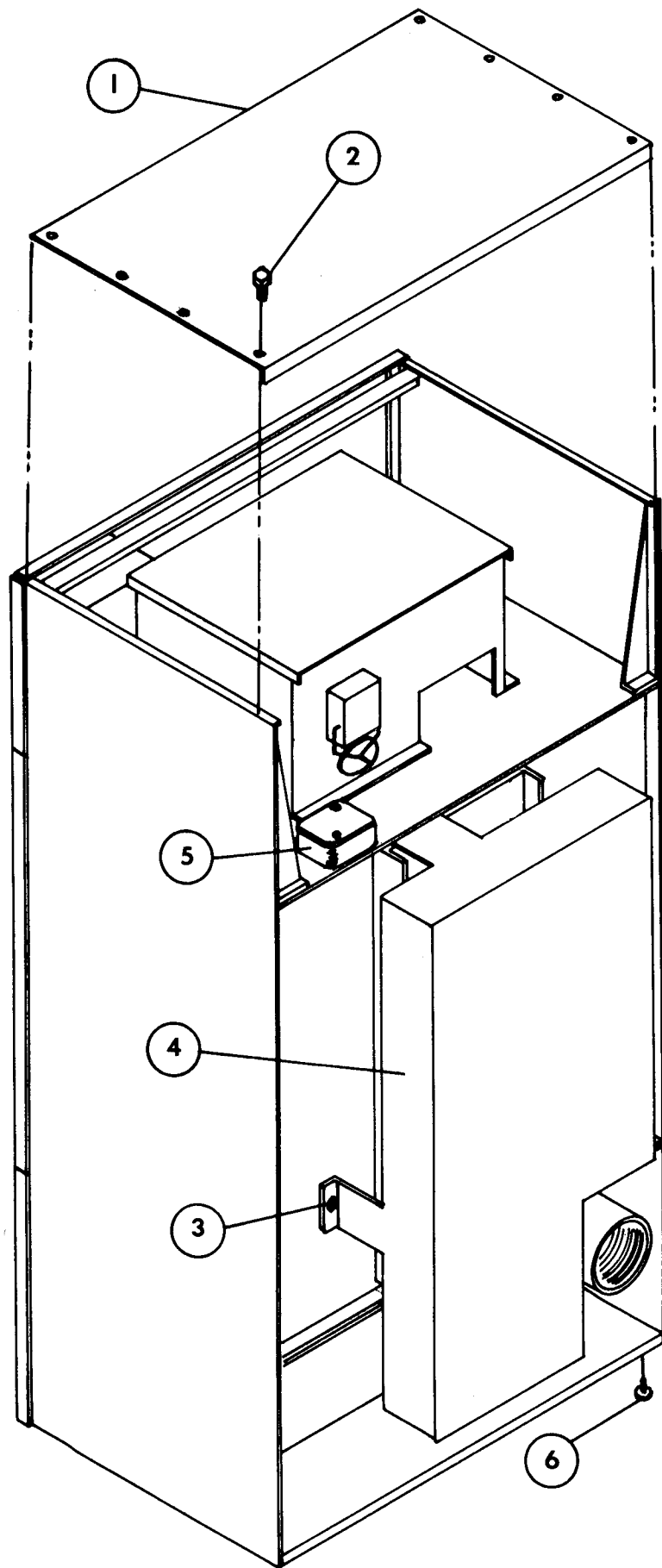
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY PER DRY1		
			AD-50	UD-50	6
1	804004	Burner box	1		
	804005	Burner box		1	1
2	141105	Burner	2	3	3
3		Orifice-See chart Section 5			
4	141205	1/2 Manifold (2 Port)	1		
	141203	1/2 Manifold (3 Port)		1	1
5	140005	1/2 Gas valve White Rogers	1	1	1
6		Pipe Brkt.-Specify size			
7		Inlet pipe-Specify size			
8		Nipple-Specify size			
9		Elbow-Specify size			
10		Union-Specify size			
11	128910	Glo-bar	1	1	1
12	130500	I.R. Sensor	1	1	1
13	802705	Glo-bar mounting brkt.	1	1	1
	808703	Burner assy. less orif.GB (NAT)	1		
	808704	Burner assy. less orif.GB (NAT)		1	1
	808803	Burner assy. less orif.GB (L.P.)	1		
	808804	Burner assy. less orif.GB (L.P.)		1	1
	809542	Burner assy. less orif.GB HR (NAT)	1		
	809543	Burner assy. less orif.GB HR (NAT)		1	1
	809547	Burner assy. less orif,GB HR (L.P.)	1		
	809548	Burner assy. less orif,GB HR (L.P.)		1	1



ILLUS NO.	PART NO.	DESCRIPTION	QUANTITY PER DRYER						UD	
			AD-15#	20#	25#	30#	285	50#	50#	65#
1	120100	3/8" straight connector	2	2	2	2	2	2	2	2
2	830000	sail switch-hi limit harness	1	1	1					
	830003	sail switch-hi limit harness				1	1	1	1	1
	830100	sail switch-elec.harness	1	1	1	1				
	830104	sail switch-elec.harness						1	1	1
3	152001	8 x 32 hex nuts	2	2	2	2	2	2	2	2
4	150303	#4 x 5/8" pan head scw.	2	2	2	2	2	2	2	2
5	122200	sail switch	1	1	1	1	1	1	1	1
6	319203	sail switch mount brkt.	1	1	1	1	1	1	1	1
7	154004	twin speed nut	1	1	1	1	1	1	1	1
8	154001	10-24 speed nut	1	1	1	1	1	1	1	1
9	319202	sail switch damper	1	1	1	1	1	1	1	1
10	802800	sail switch box	1	1	1	1	1	1	1	1
11	105500	sail switch rod	1	1	1	1	1	1	1	1
12	150102	8-32 x 3/8" pan head	2	2	2	2	2	2	2	2
13	150300	#10 x 1/2" SDS teks	2	2	2	2	2	2	2	2
	802801	sail switch box comp. less harness	1	1	1	1	1	1	1	1

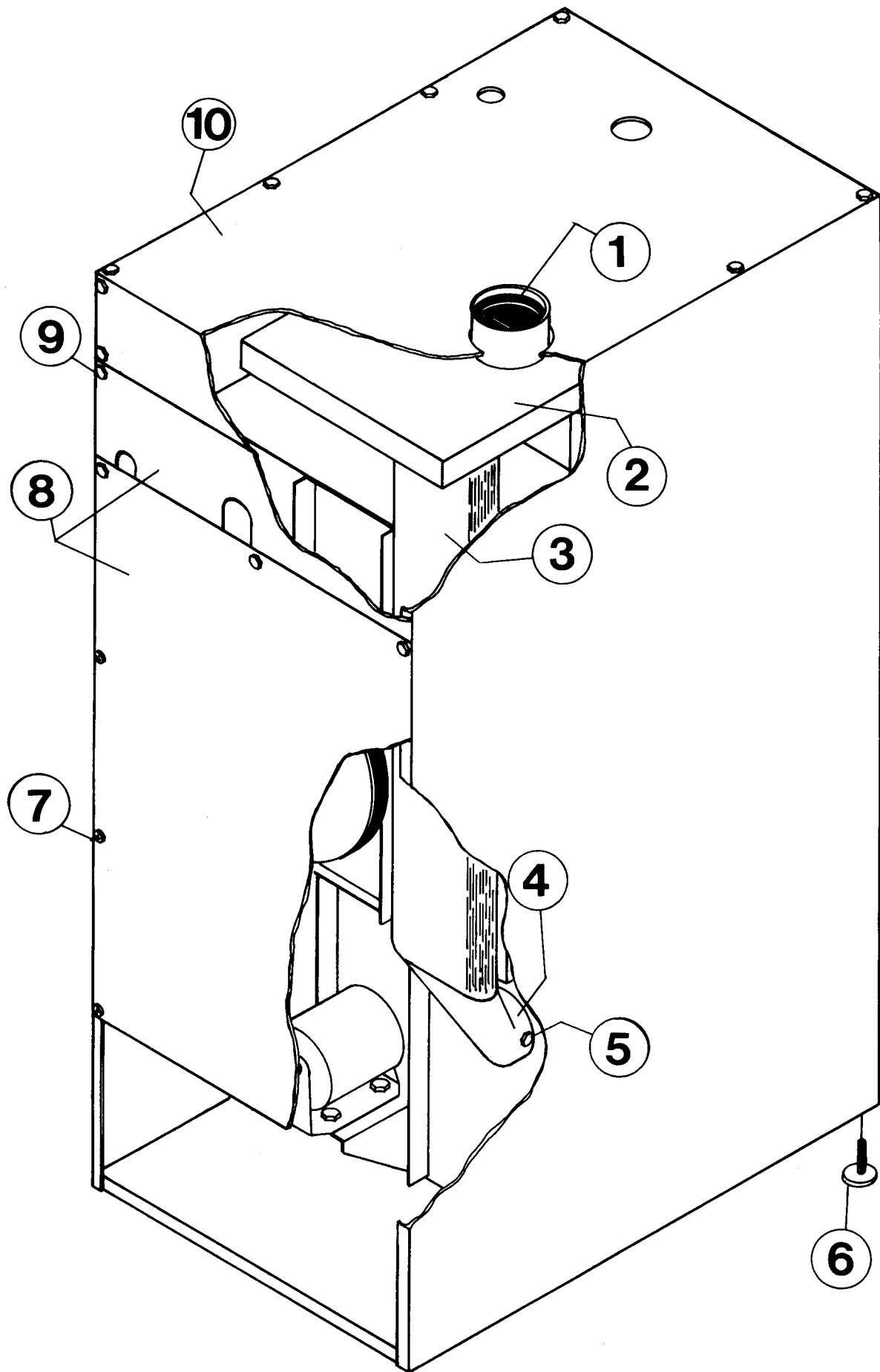


ILLUS. NO.	PART NO.	DESCRIPTION	UD							
			15	20	25	30	50	50	65	65
1	150300	#10 x 1/2" SDS TEKS.	6	6	6	6	6	6	6	6
2	323400	Steam rack hold down.	1	1	1	1	1	1	1	1
3	165000	Sm. steam coil (hi pressure).	1	1	1					
	165001	Sm. steam coil (lo pressure).	1	1	1					
	165002	Lg. steam coil (hi pressure).				1	1	1	1	1
	165003	Lg. steam coil (lo pressure).				1	1	1	1	1
4	803503	Sm. steam rack (lo pressure).	1	1	1					
	803502	Sm. steam rack (hi pressure).	1	1	1					
	803501	Lg. steam rack (lo pressure).				1	1	1	1	1
	803500	Lg. steam rack (hi pressure).				1	1	1	1	1
5	165100	1" steam valve 110 HP & LP.	1	1	1	1	1	1	1	1
	165101	1" steam valve 220 HP & LP.	1	1	1	1	1	1	1	1
	165102	1 1/4" steam valve 110 LP.				1	1	1	1	1
	165103	1 1/4" steam valve 220 LP.				1	1	1	1	1
6	165206	1" steam solenoid 120V/60.	(As required)							
	165207	1" steam solenoid 240V/60.	(As required)							
	165208	1 1/4" steam solenoid 120V/60.	(As required)							
	165209	1 1/4" steam solenoid 240V/60.	(As required)							
	165210	1" steam solenoid 240V/50.	(As required)							
	834800	Steam solenoid harness	1	1	1					
	834803	Steam solenoid harness				1				
	834805	Steam solenoid harness					1	1	1	1

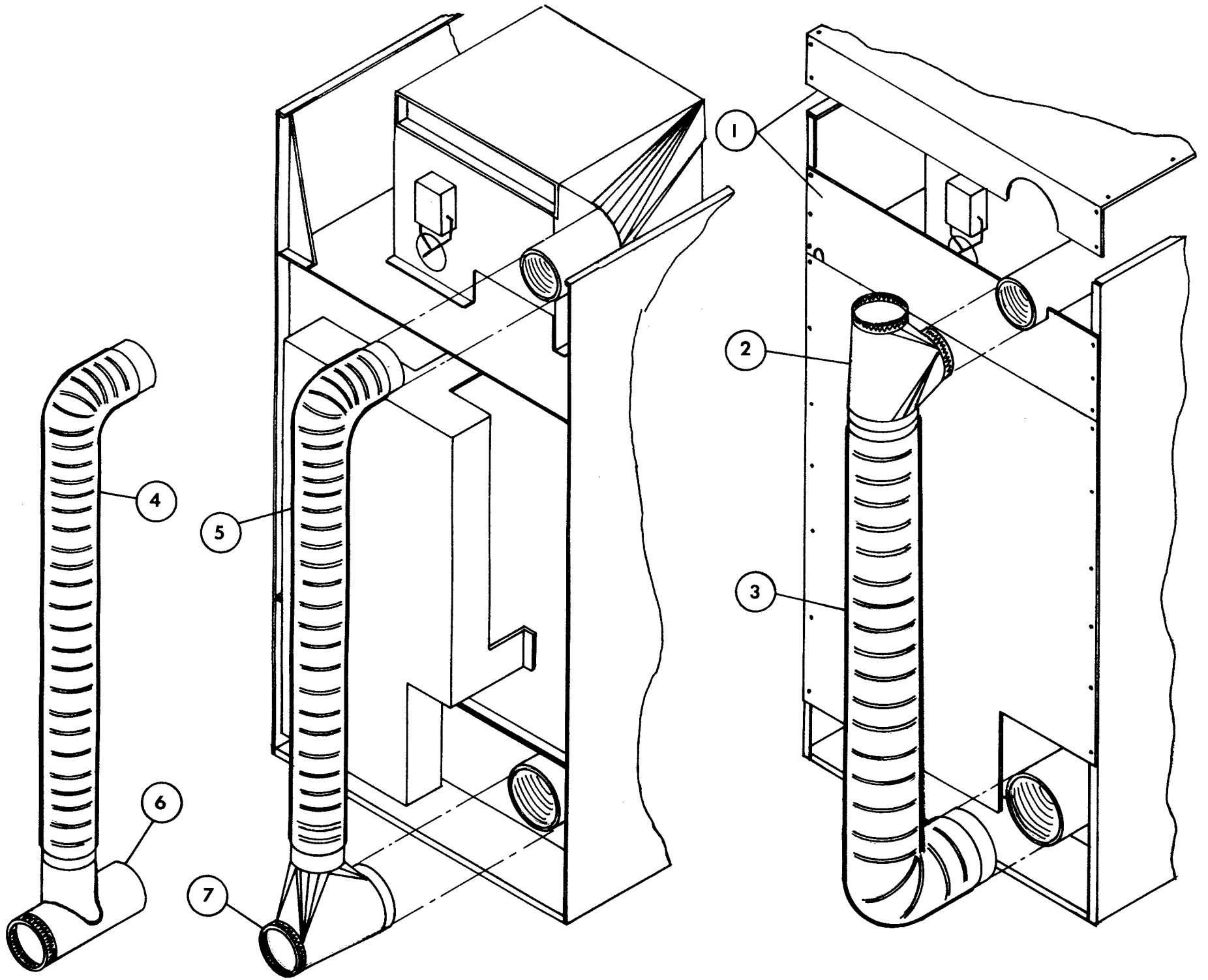




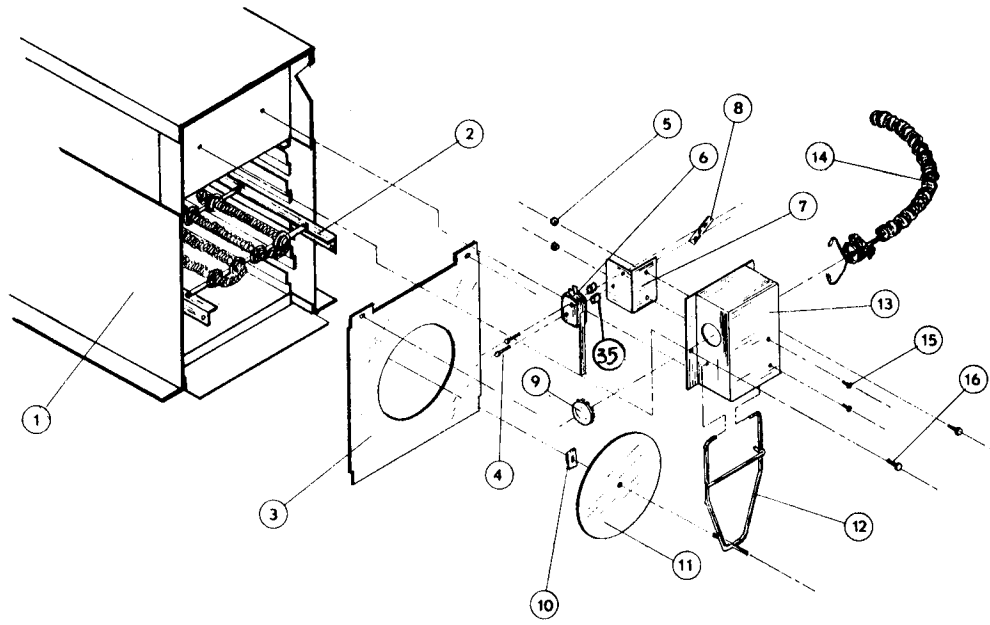
ILLUS. NO.	PART NO.	DESCRIPTION	QUANTITY PER DRYER							UD		
			AD-15	20	25	30	285	50	50	65		
1	312512	Outer top panel (gas).	1									
	312514	Outer top panel (gas).		1								
	312515	Outer top panel (gas).			1							
	312511	Outer top panel (gas).				1						
	312518	Outer top panel (gas).							1			
	312513	Outer top panel (gas).								1		
	312517	Outer top panel (gas).									1	
2	150300	#10 - ½ SDS.	5	5	5	7		7	7	7		
3	152002	Hex nut ¼" - 20.	1	1	1	1		1	1	1		
4	801520	New back guard.	1	1	1							
	801521	New back guard.				1		1	1	1		
5	121100	Junction box.	1	1	1	1		1	1	1		
6	103500	Leveling leg.	4	4	4	4		4	4	4		



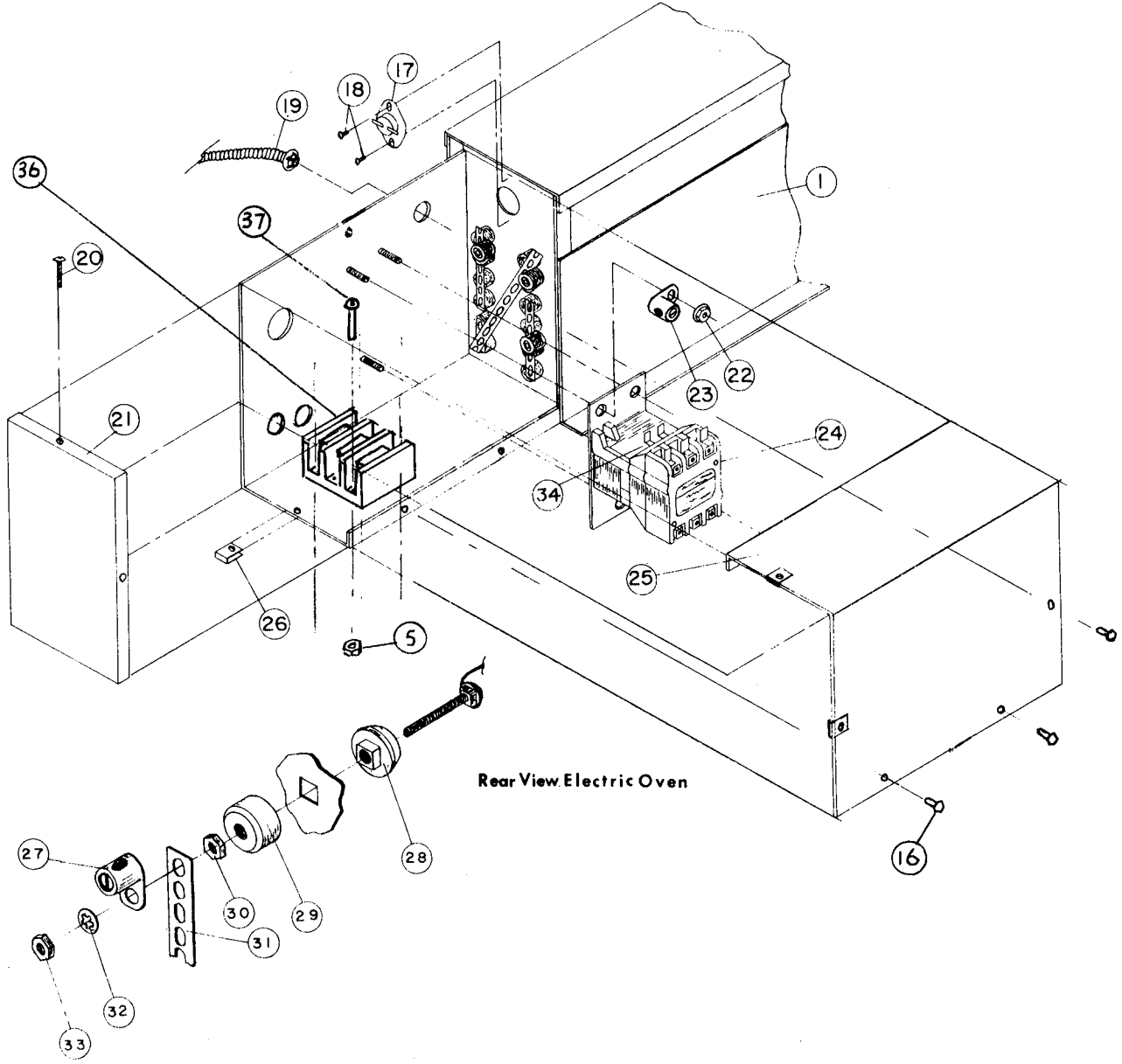
ILLUS. NO.	PART NO.	QTY.	DESCRIPTION MODEL 285 ONLY
1	104000	1	6" Damper
2	809544	1	GB Nat gas burner complete less orifice
	809549	1	GB L.P. gas burner complete less orifice
	804010	1	GB Burner box only (with damper)
3	143517	1	42" Long oval duct
4	143515	1	90° Boot round to oval
5	150300	2	#10 Hex washer teks
6	103500	4	Leveling legs
7	150301	6	8 - 18 x 7/17 Phil Hd. Screw
8	330626	1	Backguard
9	150300	18	#10 Hex washer teks
10	330620	1	Outertop



ITEM NO.	PART NO.	DESCRIPTION	QUANTITY PER DRYER							UD		
			AD-15	20	25	30	285	50	50	65		
1	330620	Outer top.								1		
2	143501	8 x 6 x 6 Tee.								1		
3	143510	8" flexible exhaust.								1		
4	143514	5" flexible exhaust.	1	1								
5	143509	6" flexible exhaust.				1	1			1	1	1
6	143513	6 x 6 x 5 Tee.	1	1								
7	143501	8 x 6 x 6 Tee.				1	1	1		1	1	1

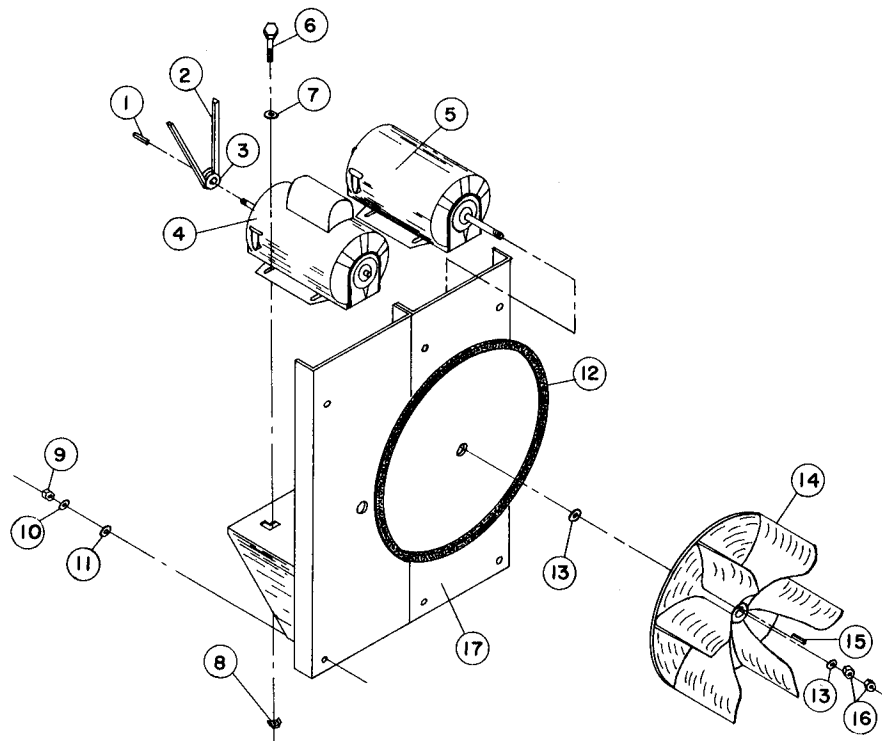


Front View Electric Oven



Rear View Electric Oven

ILLUS. NO	PART NO	DESCRIPTION	QUANTITY PER DRYER					UD	
			AD-15#	20#	25#	30#	50#	50	65#
1	803000	sm. elec. oven box only	1	1	1				
	803001	lg. elec. oven box only				1	1	1	1
2	120010	4KW 208V 22" electric element (varies)				x	x	x	x
	120011	4KW 240V 22" electric element (varies)				x	x	x	x
	120012	5KW 208V 22" electric element (varies)				x	x	x	x
	120013	5KW 240V 22" electric element (varies)				x	x	x	x
	120006	3KW 208V 12 5/8" elec element	x	x	x	(varies)			
	120007	3KW 240V 12 5/8" elec element	x	x	x	(varies)			
	120008	4KW 208V 12 5/8" elec element	x	x	x	(varies)			
	120009	4KW 240V 12 5/8" elec element	x	x	x	(varies)			
3	803100	electric oven front cover	1	1	1	1	1	1	1
4	150303	#4 x 5/8" pan head screws	2	2	2	2	2	2	2
5	152001	8-32 hex nut	2	2	2	2	2	2	2
6	122200	sail switch only	1	1	1	1	1	1	1
7	319203	sail switch mount. bracket	1	1	1	1	1	1	1
8	154004	twin speed nut	1	1	1	1	1	1	1
10	154001	10-24 speed nut	1	1	1	1	1	1	1
11	319202	sail switch damper	1	1	1	1	1	1	1
12	105500	elec. oven sail switch rod	1	1	1	1	1	1	1
13	802800	sail switch box	1	1	1	1	1	1	1
14	830100	elec. oven sail switch harness	1	1	1	1			
	830104	elec. oven sail switch harness					1	1	1
15	150102	8-32 x 3/8" pan head screws	2	2	2	2	2	2	2
16	150300	#10 x 1/2" SDS teks	6	6	6	6	6	6	6
17	130400	L-290 high limit	1	1	1	1	1	1	1
18	150301	8-18 x 7/16" #2 SDS teks	2	2	2	2	2	2	2
19	830109	elec oven hi-limit harness	1	1	1				
	830112	elec oven hi-limit harness				1	1	1	1
20	150402	10-24 x 5/8" truss head	4	4	4	4	4	4	4
21	321001	sm. relay box cover	1	1	1				
	321000	lg. relay box cover				1	1	1	1
22	152001	8-32 hex nut	4	4	4	4	4	4	4
23	121010	70A 14-4 terminal lug	1	1	1	1	1	1	1
24	131302	110V (50A) relay	1	1	1	1			
	131303	220V (50A) relay	1	1	1	1	1	1	1
	131304	110V (62A) relay	1	1					
	131305	220V (62A) relay			1	1	1	1	1
	131306	110V (75A) relay	1	1	1	1	1	1	1
	131307	220V (75A) relay	1	1	1	1	1	1	1
	131308	110V (93A) relay		1	1	1	1	1	1
	131309	220V (93A) relay				1	1	1	1
25	321300	sm. relay box right side	1	1	1				
	321301	lg. relay box right side				1	1	1	1
26	154001	10-24 speed nut	4	4	4	4	4	4	4
27	121010	terminal lug connector-varies (1 per phase)	x	x	x	x	x	x	x
28	120081	internal ceramic insulator varies (2 per element)	x	x	x	x	x	x	x
29	120080	external ceramic insulator varies (2 per element)	x	x	x	x	x	x	x
30	152008	10-32 hex nut varies (4 per element)	x	x	x	x	x	x	x
31	121011	bus bar hook up (set)	1	1	1	1	1	1	1
32	153009	#10 star washer varies (2 per element)	x	x	x	x	x	x	x
33	152008	10-32 hex nut varies (4 per element)	x	x	x	x	x	x	x
36	120706	power dist. block 3 pole					1	1	1
37	150103	8-32 x 3/4 round head screw					4	4	4
NOT SHOWN									
	136002	fuse holder	2	2	2	2	2	2	2
	136054	fuse 15A 250V	2	2	2	2	2	2	2

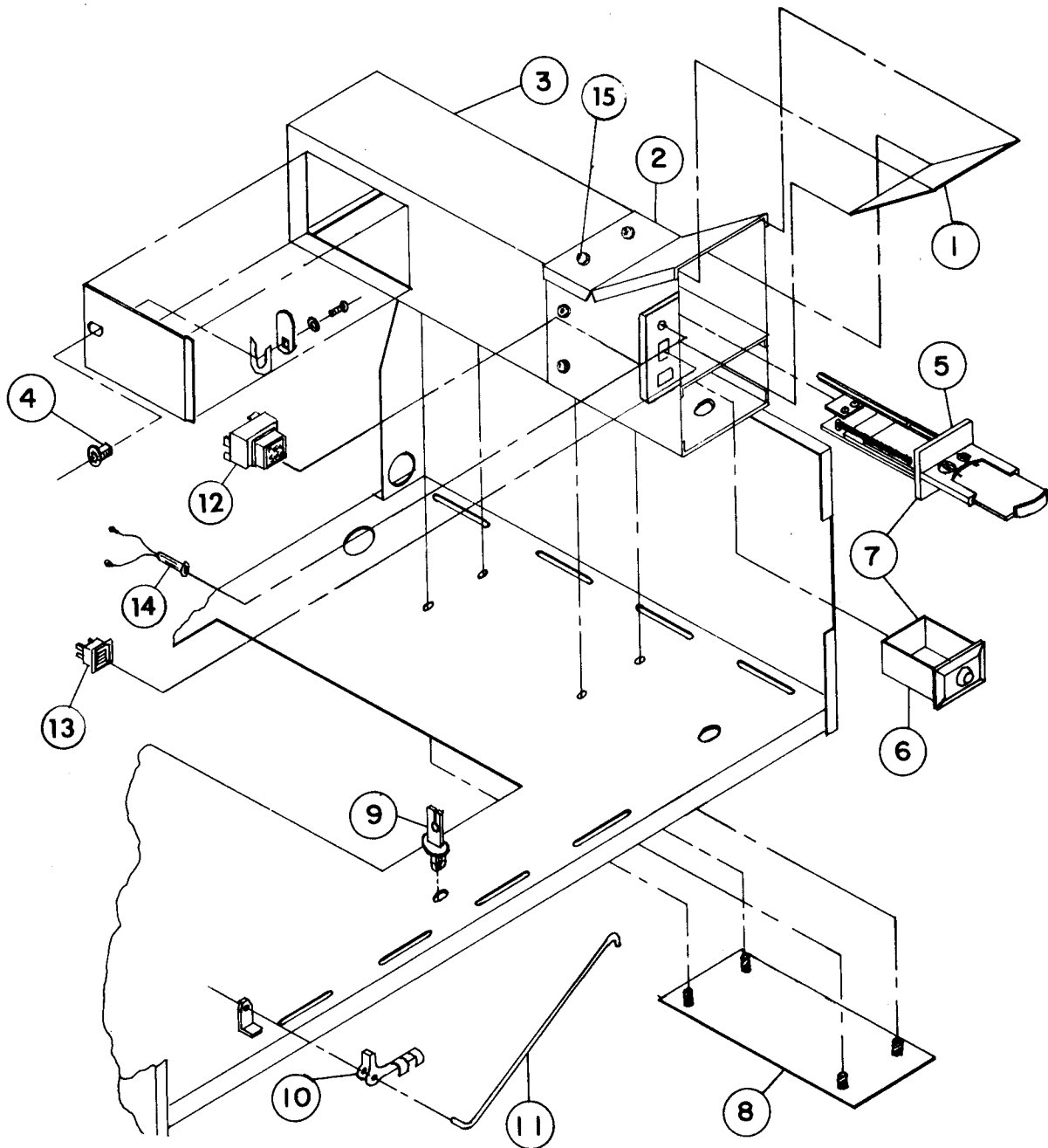


ILLUS. NO.	PART NO.	DESCRIPTION	QTY. PER DRYER		
			AD-50	UD-50	65
1	100701	3/16" x 3/16" x 1" Key	2	2	2
2	100112	4L590 Belt	1		
	100117	4L620 Belt		1	1
3	***	Sheave			
4	***	Motor (tumble)			
5	***	Motor (blower)			
6	150501	5/16-18 x 3/4 HH machine bolt	8	8	8
7	153002	5/16 Lock washer	8	8	8
8	154000	5/16 Tinnerman nut	8	8	8
9	152004	5/16-18 Hex nut	6	6	6
10	153002	5/16" Lock washer	6	6	6
11	153001	5/16" Flat washer	6	6	6
12	800912	Rev. dual motor mount only	1	1	
	800916	Rev. dual motor mount only			1
13	153006	1/2 Spec motor washer	2	2	2
14	***	Impeller			
15	100702	1/8 x 1/8 x 1 1/2 Key	1	1	1
16	152006	1/2- 20 L.H. Nut	2	2	2
17	***	Motor mount assy. complete			

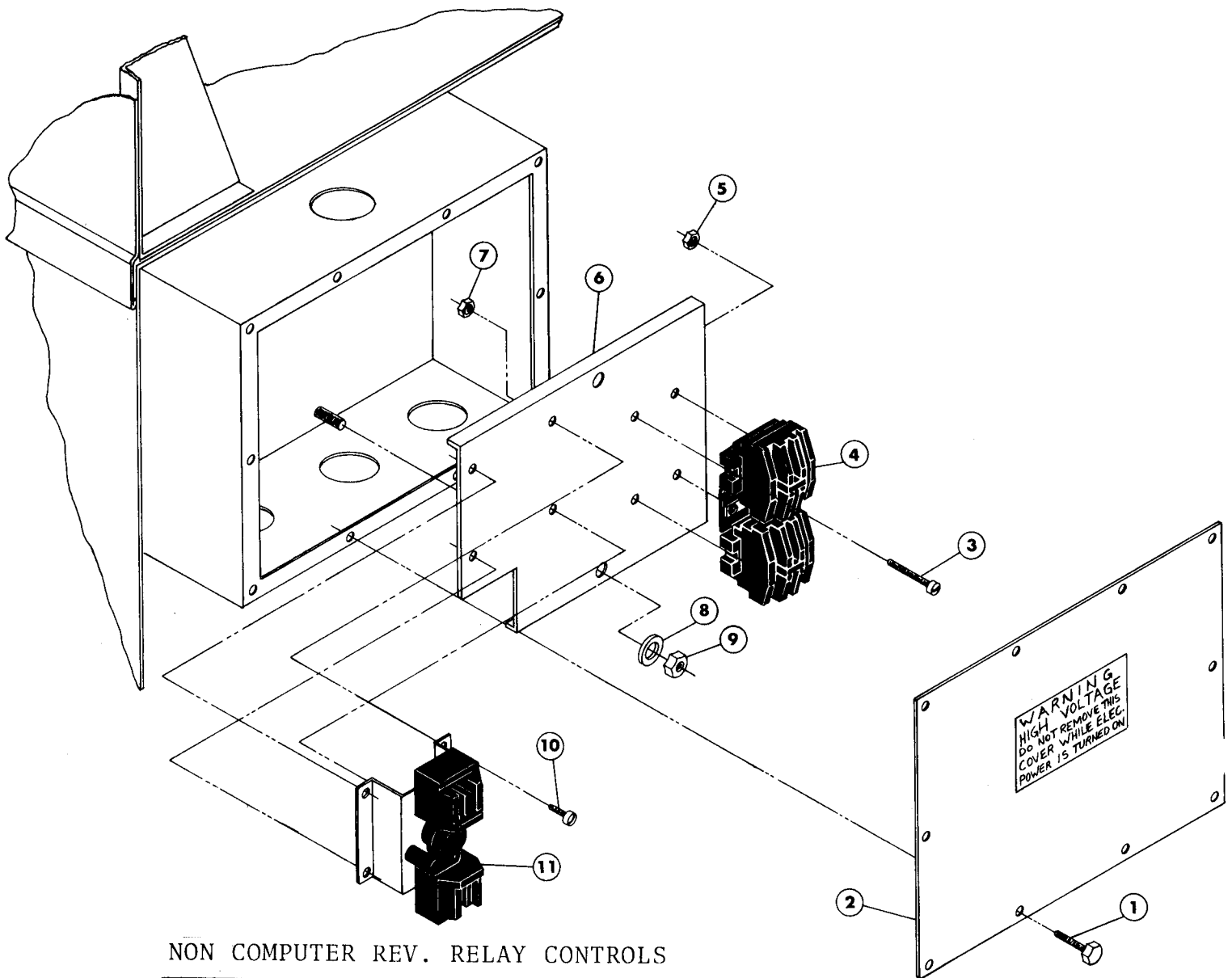
\*\*\* For Part No. and dryer usage, see the following pages:

AD-50# Page 98  
 UD-50# Page 99  
 AD-65# Page 100



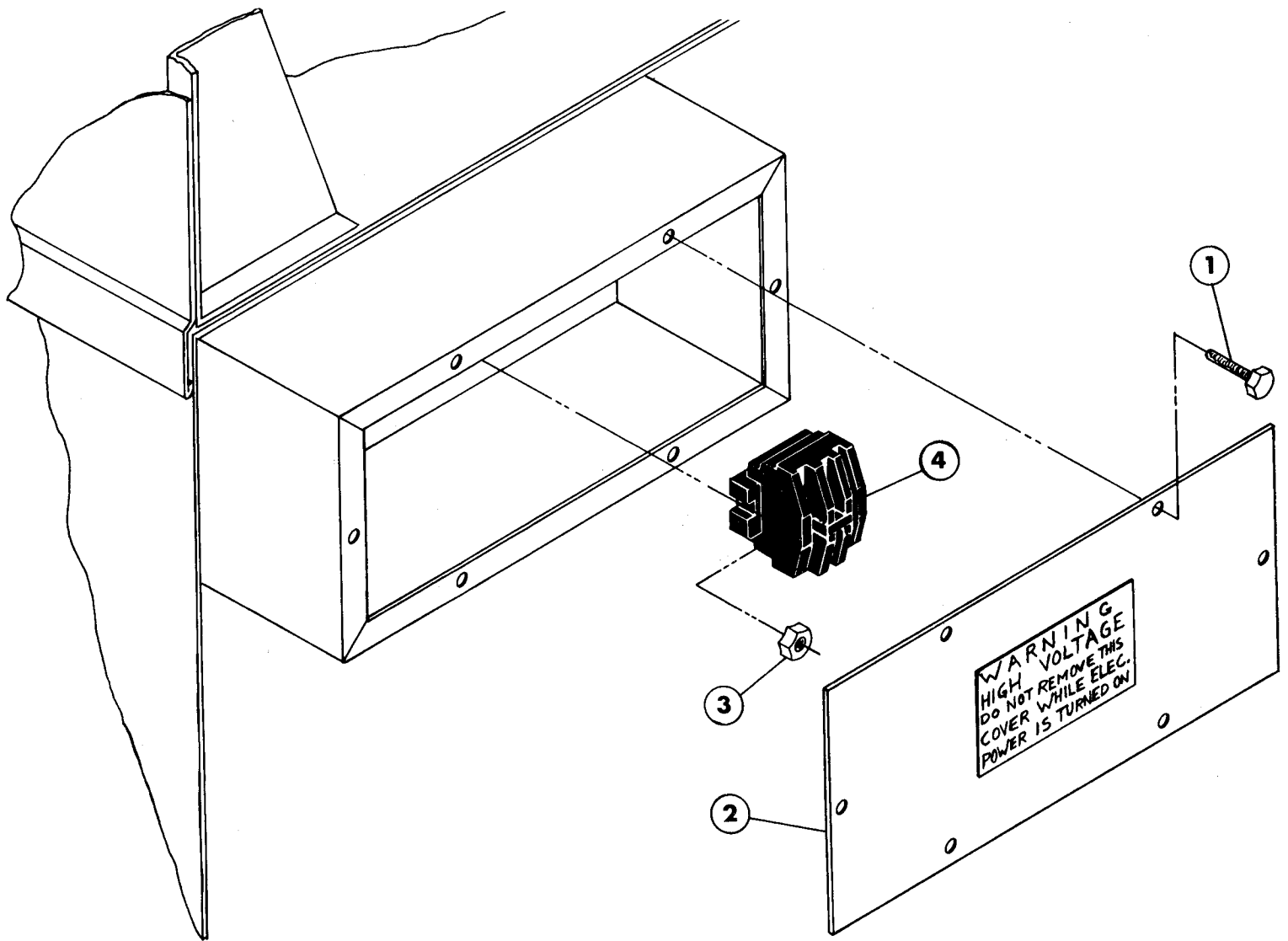


ILLUS NO.	PART NO.	DESCRIPTION	QUANTITY PER DRYER			
			AD-15#	20#	25#	30#
1	315404	stainless steel mirror	1	1	1	1
2	801700	slide meter extension	1	1	1	1
3	125900	slide meter case with 110V PP Acc.	1	1	1	1
4	125901	wiring box lock	1	1	1	1
5		typical chute(supp.by other)	1	1	1	1
6		typical coin box (by other)	1	1	1	1
7		typical kit (by other)	1	1	1	1
8	801701	slide meter mtng. plate	1	1	1	1
9	102600	support rod catch	1	1	1	1
10	102601	rod retaining clip	1	1	1	1
11	102502	control door support rod	1	1	1	1
12	131812	push to start switch	1	1	1	1
13	122400	heat selector switch	1	1	1	1
14	123000	indicating light (110V)	1	1	1	1
	123001	indicating light (220V)	1	1	1	1
15	154203	drive rivets	6	6	6	6



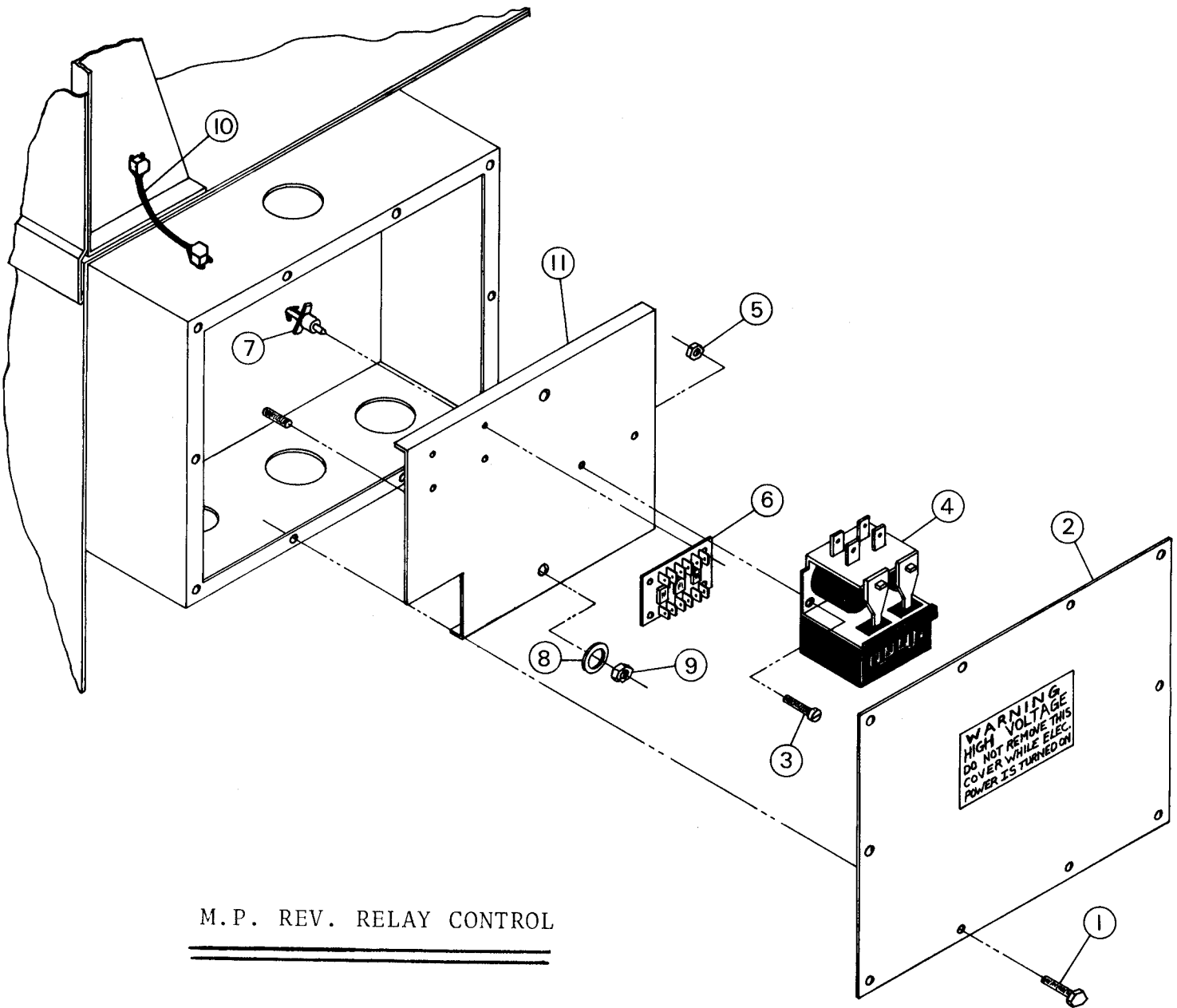
NON COMPUTER REV. RELAY CONTROLS

ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	150300	10	10-32 x 1/2 H.H. SDS
2	322808	1	Cover plate
3	150106	4	8-32 x 1 Round hd. mach. screw
4	132403	1	Furnas 50/60 HZ Dual contactor 44 NB 30 AG 240V
	132401	1	Dunco rev. contactor 208V
	132404	1	Dunco rev. contactor 230V
5	151001	4	8-32 Pal nut
6	322807	1	Mounting panel only
	803607	1	Relay mounting panel complete 60HZ
	803609	1	Relay mounting panel complete 50HZ
7	151001	4	8-32 Pal nut
8	153002	2	5/16 Lock washer
9	152004	2	5/16-18 Hex nut
10	150108	4	8-32 Ph. mach. screw
11	132200	1	Reversing timer control 60HZ
	132202	1	Reversing timer control 50HZ



3Ø NON REV. MOTOR CONTROLS

ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	150300	6	10-32 x 1/2 H.H. SDS
2	311913	1	Cover plate
3	151001	2	8-32 Pal nut
4	132400	1	Impeller contactor 220V



M.P. REV. RELAY CONTROL

ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	150300	10	10-32 x 1/2 H.H. SDS
2	322808	1	Cover plate
3	150108	2	8-32 x 1/2 P.H. mach. screw
4	132401	1	220V Struthers Dunn 50/60 HZ relay
	132404	1	208V Struthers Dunn 50/60 HZ relay
5	151001	2	8-32 Pal nut
6	137060	1	A.S. Board
7	137013	4	Standoff
8	153002	2	5/16 Lock washer
9	152004	2	5/16-18 Hex nut
10	831708	1	Ground Wire
11	322807	1	Reversing panel only

ADDITIONAL PARTS AVAILABLE BUT NOT ILLUSTRATED

PART NO.	DESCRIPTION
120300	3/8" 45 angle conn.
120500	3/8" jiffy clip.
120701	Terminal block (4).
120800	Line Connector.
120801	Insulators for LDS
120802	Red butt conn.
120902	74 B wire nut.
121100	Junction box.
121101	Junction box cover.
121500	Harness ties.
132000	277-30 Transformer.
142600	1/2" black union.
142702	1/2" x 2 1/2" nipple.
142801	1/2" x 14" pipe.
154100	8 -32 riv-nut.
154200	5/32 pop rivet.
154201	5/32 drive rivet.
154203	1/4" drive rivet.
160100	Key for coin box.
160101	Key for D233-A.
160102	Key for E-41-A.
160103	AM 100 lock.
160104	MK 100 lock.
160300	Straight cam.
309104	Electric oven support, 50#, UD-50# and 65#.
314000	Timer plate (exterior mount).
315209	Meter case CB face plate.
831900	Main door switch harness.(non-m.p.)
831901	Main door switch jumper. (non-m.p.)
880000	Parts kit sm.
880100	Parts kit lg.

ALL TOUCH UP PAINT SOLD IN 1/2 PINT.

White touch-up paint.  
Fresh avocado touch-up paint.  
Cornflower blue touch-up paint.  
Almond touch-up paint.  
Golden wheat touch-up paint.

## ELECTRIC OVEN &amp; CONTACTOR TABLE

## DRYERS UTILIZING ASSY.

ASSY #	OVEN KW	VOLT	PH	# OF WIRE SERVICE	AMPS LINE	AMPS LEG	CONTACTOR PART NO.	MIN. SIZE SUP. WIRE	AD-15 & AD-20	AD-25	AD-30 & UD-50	AD-50 & AD-65
815000	12KW	208V	1Ø		57.7		131305	6	X			
815001	15KW	208V	1Ø		72.1		131307	4	X			
815002	18KW	208V	1Ø		86.5		131309	4	X	X		
815003	20KW	208V	1Ø		96		131312	4				X
815004	20KW	208V	1Ø		96		131312	4		X		
815005	20KW	208V	1Ø		96		131312	4			X	
815100	12KW	208V	3Ø	3WIRE	33.3		131311	10	X			
815101	15KW	208V	3Ø	3WIRE	41.6		131303	8			X	
815102	18KW	208V	3Ø	3WIRE	50		131303	6	X	X		
815103	24KW	208V	3Ø	3WIRE	66.6	38.5	131303	8		X		
815104	24KW	208V	3Ø	3WIRE	66.6	38.5	131303	8				X
815105	30KW	208V	3Ø	3WIRE	83.3	48.2	131305	6			X	
815106	30KW	208V	3Ø	3WIRE	83.3	48.2	131305	6				X
815107	30KW	208V	3Ø	3WIRE	83.3	48.2	131305	6			X	
815200	12KW	230V	1Ø		50		131303	6	X			
815201	15KW	230V	1Ø		62.5		131307	6	X			
815202	18KW	230V	1Ø		75		131307	4	X	X		
815203	20KW	230V	1Ø		83.3		131309	4				X
815204	20KW	230V	1Ø		83.3		131309	4		X		
815205	20KW	230V	1Ø		83.3		131309	4			X	
815300	12KW	230V	3Ø	3WIRE	28.4		131311	10	X			
815301	15KW	230V	3Ø	3WIRE	36.1		131311	8			X	
815302	18KW	230V	3Ø	3WIRE	43		131303	8	X	X		
815303	24KW	230V	3Ø	3WIRE	57.7	33.3	131311	10		X		
815304	24KW	230V	3Ø	3WIRE	57.7	33.3	131311	10				X
815305	30KW	230V	3Ø	3WIRE	72.2	41.7	131303	8			X	
815306	30KW	230V	3Ø	3WIRE	72.2	41.7	131303	8				X
815307	24KW	230V	3Ø	3WIRE	57.7	33.3	131311	10			X	
815400	15KW	380V	3Ø	3&4WIRE	22.8		131311	10	X	X		
815401	21KW	380V	3Ø	3&4WIRE	31.9		131311	10		X		
815402	21KW	380V	3Ø	3&4WIRE	31.9		131311	10				X
815403	27KW	380V	3Ø	3&4WIRE	41.1		131303	8				X
815404	21KW	380V	3Ø	3&4WIRE	31.9		131311	10			X	
815405	27KW	380V	3Ø	3&4WIRE	41.1		131303	8			X	
815500	18KW	416V	3Ø	3&4WIRE	27.4		131311	10	X	X		
815501	24KW	416V	3Ø	3&4WIRE	36.4		131311	8		X		
815602	24KW	416V	3Ø	3&4WIRE	36.4		131311	8				X
815603	30KW	416V	3Ø	3&4WIRE	45.6		131303	8				X
815604	24KW	416V	3Ø	3&4WIRE	36.4		131311	8			X	
815605	30KW	416V	3Ø	3&4WIRE	45.6		131303	8			X	
815700	18KW	480V	3Ø	3&4WIRE	21.7		131311	10	X	X		
815701	24KW	480V	3Ø	3&4WIRE	28.9		131311	10		X		
815702	24KW	480V	3Ø	3&4WIRE	28.9		131311	10				X
815703	30KW	480V	3Ø	3&4WIRE	36.1		131311	8				X
815704	24KW	480V	3Ø	3&4WIRE	28.9		131311	10			X	
815705	30KW	480V	3Ø	3&4WIRE	36.1		131311	8			X	

<b>Model AD-15</b>				MOTOR	IMPELLER	SHEAVE	MOTOR	MOTOR	POWER
				PART#	PART#	PART#	MOUNT	HARNESS	HARNESS
MOTOR SIZE							ASS'Y	PART#	PART#
							COMP.		
1/2 HP 100/50/1 GAS	100000	11"	101102	803710	840000	840020			
1/2 HP 208-460/60/3 H.R.	100013	11"	101105	803782	840004	840024			
1/2 HP 100/50/1 STM.	100000	12"	101102	803713	840000	840035			
1/2 HP 100/60/1 GAS	100000	11"	101115	803714	840000	840020			
1/2 HP 100/60/1 STM.	100000	12"	101115	803715	840000	840035			
1/2 HP 115/60/1 GAS	100000	11"	101104	803700	840000	840020			
1/2 HP 115/60/1 ELE.	100000	11"	101104	803700	840008				
1/2 HP 115/60/1 STM.	100000	12"	101104	803704	840000	840035			
1/2 HP 115/60/1 H.R.	100000	11"	101104	803700	840000	840020			
1/2 HP 230/60/1 GAS	100001	11"	101104	803701	840000	840020			
1/2 HP 230/60/1 ELE.	100001	11"	101104	803701	840008				
1/2 HP 230/60/1 STM.	100001	12"	101104	803705	840000	840035			
1/2 HP 230/60/1 H.R.	100001	11"	101104	803701	840000	840020			
1/2 HP 240/50/1 GAS	100035	11"	101106	803708	840000	840020			
1/2 HP 240/50/1 ELE.	100035	11"	101106	803708	840008				
1/2 HP 240/50/1 STM.	100035	12"	101106	803711	840000	840035			
1/2 HP 240/50/1 H.R.	100035	11"	101106	803708	840000	840020			
1/2 HP 208-460/50/3 GAS	100013	11"	101106	803780	840004	840024			
1/2 HP 208-460/50/3 ELE.	100013	11"	101106	803780	840011	840101			
1/2 HP 208-460/50/3 STM.	100013	12"	101106	803781	840004	840040			
1/2 HP 208-460/50/3 H.R.	100013	11"	101106	803780	840004	840024			
1/2 HP 208-460/60/3 GAS	100013	11"	101105	803782	840004	840024			
1/2 HP 208-460/60/3 ELE.	100013	11"	101105	803782	840011	840101			
1/2 HP 208-460/60/3 STM.	100013	12"	101105	803783	840004	840040			

<b>Model AD-20</b>				MOTOR	IMPELLER	SHEAVE	MOTOR	MOTOR	POWER
				PART#	PART#	PART#	MOUNT	HARNESS	HARNESS
MOTOR SIZE							ASS'Y	PART#	PART#
							COMP.		
1/2 HP 100/50/1 GAS	100000	11"	101104	803734	840000	840020			
1/2 HP 208-460/60/3 H.R.	100013	12"	101105	803787	840004	840024			
1/2 HP 100/50/1 STM	100000	12"	101104	803737	840000	840036			
1/2 HP 100/60/1 GAS	100000	11"	101102	803738	840000	840020			
1/2 HP 100/60/1 STM	100000	12"	101102	803739	840000	840036			
1/2 HP 115/60/1 GAS	100000	11"	101102	803724	840000	840020			
1/2 HP 115/60/1 ELE	100000	11"	101102	803724	840008	--			
1/2 HP 115/60/1 STM	100000	12"	101102	803728	840000	840036			
1/2 HP 115/60/1 H.R.	100000	12"	101102	803728	840000	840020			
1/2 HP 230/60/1 GAS	100001	11"	101102	803725	840000	840020			
1/2 HP 230/60/1 ELE	100001	11"	101102	803725	840008	--			
1/2 HP 230/60/1 STM	100001	12"	101102	803729	840000	840036			
1/2 HP 230/60/1 H.R.	100001	12"	101105	803729	840000	840020			
1/2 HP 240/50/1 GAS	100035	11"	101105	803732	840000	840020			
1/2 HP 240/50/1 ELE	100035	11"	101105	803732	840008	--			
1/2 HP 240/50/1 STM	100035	12"	101105	803735	840000	840036			
1/2 HP 240/50/1 H.R.	100035	12"	101105	803735	840000	840020			
1/2 HP 208-460/50/3 GAS	100013	11"	101105	803784	840004	840024			
1/2 HP 208-460/50/3 ELE	100013	11"	101105	803784	840011	840101			
1/2 HP 208-460/50/3 STM	100013	12"	101105	803785	840004	840041			
1/2 HP 208-460/50/3 H.R.	100013	12"	101105	803785	840004	840024			
1/2 HP 208-460/60/3 GAS	100013	12"	101102	803786	840004	840024			
1/2 HP 208-460/60/3 ELE	100013	12"	101102	803786	840011	840101			
1/2 HP 208-460/60/3 STM	100013	12"	101105	803787	840004	840041			

<b>Model AD-25</b>		MOTOR PART#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE							
1/2 HP 100/50/1 GAS		100000	12"	101104	803758	840000	840021
1/2 HP 208-460/60/3 HR		100013	12"	101105	803789	840004	840025
1/2 HP 100/50/1 STM		100000	12"	101104	803758	840000	840037
1/2 HP 100/60/1 GAS		100000	12"	101102	803762	840000	840021
1/2 HP 100/60/1 STM		100000	12"	101102	803762	840000	840037
1/2 HP 115/60/1 GAS		100000	12"	101102	803748	840000	840021
1/2 HP 115/60/1 ELE		100000	12"	101102	803748	840008	--
1/2 HP 115/60/1 STM		100000	12"	101102	803748	840000	840037
1/2 HP 115/60/1 HR		100000	12"	101102	803748	840000	840021
1/2 HP 230/60/1 GAS		100001	12"	101102	803749	840000	840021
1/2 HP 230/60/1 ELE		100001	12"	101102	803749	840008	--
1/2 HP 230/60/1 STM		100001	12"	101102	803749	840000	840037
1/2 HP 230/60/1 HR		100001	12"	101102	803749	840000	840021
1/2 HP 240/50/1 GAS		100035	12"	101105	803756	840000	840021
1/2 HP 240/50/1 ELE		100035	12"	101105	803756	840008	--
1/2 HP 240/50/1 STM		100035	12"	101105	803756	840000	840037
1/2 HP 240/50/1 HR		100035	12"	101105	803756	840000	840021
1/2 HP 208-460/50/3 GAS		100013	12"	101105	803788	840004	840025
1/2 HP 208-460/50/3 ELE		100013	12"	101105	803788	840011	840101
1/2 HP 208-460/50/3 STM		100013	12"	101105	803788	840004	840042
1/2 HP 208-460/50/3 HR		100013	12"	101105	803788	840004	840025
1/2 HP 208-460/60/3 GAS		100013	12"	101105	803789	840004	840025
1/2 HP 208-460/60/3 ELE		100013	12"	101105	803789	840011	840101
1/2 HP 208-460/60/3 STM		100013	12"	101105	803788	840004	840042

<b>Model AD-30</b>		MOTOR PART#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE							
1/2 HP 100/50/1 GAS		100000	12"	101131	803820	840000	840022
1/2 HP 208-460/60/3 HR		100013	12"	101105	803790	840004	840026
1/2 HP 100/50/1 STM		100000	12"	101131	803820	840000	840038
1/2 HP 100/60/1 GAS		100000	12"	101104	803821	840000	840022
1/2 HP 100/60/1 STM		100000	12"	101104	803821	840000	840038
1/2 HP 115/60/1 GAS		100000	12"	101104	803816	840000	840022
1/2 HP 115/60/1 ELE		100000	12"	101104	803816	840008	--
1/2 HP 115/60/1 STM		100000	12"	101104	803816	840000	840038
1/2 HP 115/60/1 HR		100000	12"	101104	803816	840000	840022
1/2 HP 230/60/1 GAS		100001	12"	101104	803817	840000	840022
1/2 HP 230/60/1 ELE		100001	12"	101104	803817	840008	--
1/2 HP 230/60/1 STM		100001	12"	101104	803817	840000	840038
1/2 HP 230/60/1 HR		100001	12"	101104	803817	840000	840022
1/2 HP 240/50/1 GAS		100035	12"	101106	803808	840000	840022
1/2 HP 240/50/1 ELE		100035	12"	101106	803808	840008	--
1/2 HP 240/50/1 STM		100035	12"	101106	803808	840000	840038
1/2 HP 240/50/1 HR		100035	12"	101106	803808	840000	840022
1/2 HP 208-460/50/3 GAS		100013	12"	101106	803791	840004	840026
1/2 HP 208-460/50/3 ELE		100013	12"	101106	803791	840011	840101
1/2 HP 208-460/50/3 STM		100013	12"	101106	803791	840004	840043
1/2 HP 208-460/50/3 HR		100013	12"	101106	803791	840004	840026
1/2 HP 208-460/60/3 GAS		100013	12"	101105	803790	840004	840026
1/2 HP 208-460/60/3 ELE		100013	12"	101105	803790	840011	840101
1/2 HP 208-460/60/3 STM		100013	12"	101105	803790	840004	840043



<b>Model AD-285</b>			MOTOR PART#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE								
1/2 HP	208-460/60/3	HR	100013	12"	101105	803793	840005	840026
1/2 HP	115/60/1	HR	100000	12"	101104	803920	840001	840022
1/2 HP	230/60/1	HR	100001	12"	101104	803921	840001	840022
1/2 HP	240/50/1	HR	100035	12"	101106	803924	840001	840022
1/2 HP	208-460/50/3	HR	100013	12"	101106	803792	840005	840026

<b>Model AD-50</b>			MOTOR PART#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE								
1/2 HP	208-460/50/3	GAS	100007	12"	101130	803857	840006	840027
1/2 HP	208-460/50/3	ELE	100007	12"	101130	803857	840011	840101
1/2 HP	208-460/50/3	STM	100007	13"	101130	803860	840006	840044
1/2 HP	208-460/50/3	HR	100007	13"	101130	803860	840006	840027
1/2 HP	208-460/60/3	GAS	100007	12"	101133	803850	840006	840027
1/2 HP	208-460/60/3	ELE	100007	12"	101133	803850	840011	840101
1/2 HP	208-460/60/3	STM	100007	13"	101133	803854	840006	840044
1/2 HP	208-460/60/3	HR	100007	13"	101133	803854	840006	840027
3/4 HP	115/60/1	GAS	100033	12"	101133	803862	840002	840023
3/4 HP	115/60/1	ELE	100033	12"	101133	803862	840008	--
3/4 HP	115/60/1	STM	100033	13"	101133	803853	840002	840039
3/4 HP	115/60/1	HR	100033	13"	101133	803853	840002	840023
3/4 HP	230/60/1	GAS	100033	12"	101133	803862	840002	840023
3/4 HP	230/60/1	ELE	100033	12"	101133	803862	840008	--
3/4 HP	230/60/1	STM	100033	13"	101133	803853	840002	840039
3/4 HP	230/60/1	HR	100033	13"	101133	803853	840002	840023
3/4 HP	240/50/1	GAS	100034	12"	101130	803863	840002	840023
3/4 HP	240/50/1	ELE	100034	12"	101130	803863	840008	--
3/4 HP	240/50/1	STM	100034	13"	101130	803847	840002	840039
3/4 HP	240/50/1	HR	100034	13"	101130	803847	840002	840023
1/2 HP	208-460/50/3	RVG	100013	12"	101130	803794	840002	840027
			100035				840006	
1/2 HP	208-460/50/3	RVE	100013	12"	101130	803794	840008	840101
			100035				840011	
1/2 HP	208-460/50/3	RVS	100013	13"	101130	803795	840002	840044
			100035				840006	
1/2 HP	208-460/50/3	RHR	100013	13"	101130	803795	840002	840027
			100035				840006	
1/2 HP	208-460/60/3	RVG	100001	12"	101133	803796	840002	840027
			100013				840006	
1/2 HP	208-460/60/3	RVE	100001	12"	101133	803796	840008	840101
			100013				840011	
1/2 HP	208-460/60/3	RVS	100001	13"	101133	803797	840002	840044
			100013				840006	
1/2 HP	208-460/60/3	RHR	100001	13"	101133	803797	840002	840027
			100013				840006	

<b>Model UD-50</b>				MOTOR PATT#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE									
1/2 HP 208-460/50/3 GAS	100007	13"	101133	803777	840007	840026			
1/2 HP 208-460/50/3 ELE	100007	13"	101133	803777	840011	840101			
1/2 HP 208-460/50/3 STM	100007	13"	101133	803777	840007	840043			
1/2 HP 208-460/50/3 HR	100007	13"	101133	803777	840007	840026			
1/2 HP 208-460/60/3 GAS	100007	13"	101132	803770	840007	840026			
1/2 HP 208-460/60/3 ELE	100007	13"	101132	803770	840011	840101			
1/2 HP 208-460/60/3 STM	100007	13"	101132	803770	840007	840043			
1/2 HP 208-460/60/3 HR	100007	13"	101132	803770	840007	840026			
3/4 HP 115/60/1 GAS	100033	13"	101132	803772	840003	840022			
3/4 HP 115/60/1 ELE	100033	13"	101132	803772	840009	--			
3/4 HP 115/60/1 STM	100033	13"	101132	803772	840003	840038			
3/4 HP 115/60/1 HR	100033	13"	101132	803772	840003	840022			
3/4 HP 230/60/1 GAS	100033	13"	101132	803772	840003	840022			
3/4 HP 230/60/1 ELE	100033	13"	101132	803772	840009	--			
3/4 HP 230/60/1 STM	100033	13"	101132	803772	840003	840038			
3/4 HP 230/60/1 HR	100033	13"	101132	803772	840003	840022			
3/4 HP 240/50/1 GAS	100034	13"	101133	803779	840003	840022			
3/4 HP 240/50/1 ELE	100034	13"	101133	803779	840009	--			
3/4 HP 240/50/1 STM	100034	13"	101133	803779	840003	840038			
3/4 HP 240/50/1 HR	100034	13"	101133	803779	840003	840022			
1/2 HP 208-460/50/3 RVG	100013	13"	101133	803798	840003	840026			
	100035				840007				
1/2 HP 208-460/50/3 RVG	100013	13"	101133	803798	840009	840101			
	100035				840011				
1/2 HP 208-460/50/3 RVS	100013	13"	101133	803798	840003	840043			
	100035				840007				
1/2 HP 208-460/50/3 RHR	100013	13"	101133	803798	840003	840026			
	100035				840007				
1/2 HP 208-460/60/3 RVG	100013	13"	101133	803798	840003	840026			
	100035				840007				
1/2 HP 208-460/60/3 RVE	100001	13"	101132	803799	840009	840101			
	100013				840011				
1/2 HP 208-460/60/3 RVS	100001	13"	101132	803799	840003	840043			
	100013				840007				
1/2 HP 208-460/60/3 RHR	100001	13"	101132	803799	840003	840026			
	100013				840007				

<b>Model AD-65</b>				MOTOR PART#	IMPELLER PART#	SHEAVE PART#	MOTOR MOUNT ASS'Y COMP.	MOTOR HARNESS PART#	POWER HARNESS PART#
MOTOR SIZE									
1/2 HP 208-406/50/3 GAS	100007	13"	101133	803777	840007	840027			
1/2 HP 208-406/50/3 ELE	100007	13"	101133	803777	840012	840101			
1/2 HP 208-460/50/3 STM	100007	13"	101133	803777	840007	840044			
1/2 HP 208-460/50/3 HR	100007	13"	101133	803777	840007	840027			
1/2 HP 208-460/60/3 GAS	100007	13"	101132	803770	840007	840027			
1/2 HP 208-460/60/3 ELE	100007	13"	101132	803770	840012	840101			
1/2 HP 208-460/60/3 STM	100007	13"	101132	803770	840007	840044			
1/2 HP 208-460/60/3 HR	100007	13"	101132	803770	840007	840027			
3/4 HP 115/60/1 GAS	100033	13"	101132	803772	840003	840023			
3/4 HP 115/60/1 ELE	100033	13"	101132	803772	840010	--			
3/4 HP 115/60/1 STM	100033	13"	101132	803772	840003	840039			
3/4 HP 115/60/1 HR	100033	13"	101132	803772	840003	840023			
3/4 HP 230/60/1 GAS	100033	13"	101132	803772	840003	840023			
3/4 HP 230/60/1 ELE	100033	13"	101132	803772	840010	--			
3/4 HP 230/60/1 STM	100033	13"	101132	803772	840003	840039			
3/4 HP 230/60/1 HR	100033	13"	101132	803772	840003	840023			
3/4 HP 240/50/1 GAS	100034	13"	101133	803779	840003	840023			
3/4 HP 240/50/1 ELE	100034	13"	101133	803779	840009	--			
3/4 HP 240/50/1 STM	100034	13"	101133	803779	840003	840039			
3/4 HP 240/50/1 HR	100034	13"	101133	803779	840003	840023			
1/2 HP 208-460/50/3 RVG	100013	13"	101133	803798	840003	840027			
	100035				840007				
1/2 HP 208-460/50/3 RVE	100013	13"	101133	803798	840010	840101			
	100035				840012				
1/2 HP 208-406/50/3 RVS	100013	13"	101133	803798	840003	840044			
	100035				840007				
1/2 HP 208-406/50/3 RHR	100013	13"	101133	803798	840003	840027			
	100035				840007				
1/2 HP 208-460/60/3 RVG	100001	13"	101132	803799	840003	840027			
	100013				840007				
1/2 HP 208-460/60/3 RVE	100001	13"	101132	803799	840010	840101			
	100013				840012				
1/2 HP 208-460/60/3 RVS	100001	13"	101132	803799	840003	840044			
	100013				840007				
1/2 HP 208-460/60/3 RHR	100001	13"	101132	803799	840003	840027			
	100013				840007				



SECTION V  
TECHNICAL DATA

	PAGE NUMBER
Exhaust Duct and Air Intake	103
Steam Dryer Piping	104
Permitted Clearances for Installatin	105
Dryer Dimensions	106, 107
Main Burner Orifice Tables	108
Timer Replacement Chart	109
Diode Logic Board System	110

duct diam. from dryer	Minimum cross-section area in sq. in. & sq. cm.											
6" dia.	530	485	440	395	350	315	270	225	180	135	90	45
152 m.m.	3419	3129	2839	2547	2257	2031	1741	1451	1161	870	580	290
8" dia.	900	825	750	675	600	525	450	375	300	225	150	75
203 m.m.	5806	5322	4838	4354	3871	3387	2903	2418	1935	1451	967	483

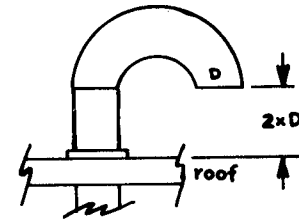
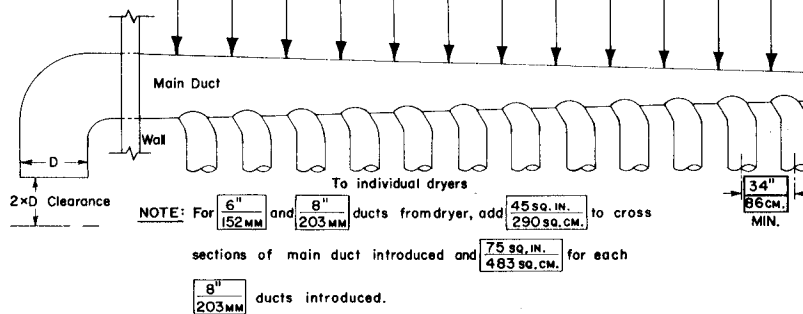


Fig. 2

**EXHAUST DUCT AND AIR INTAKE.** Where possible, it is desirable to provide a separate exhaust air duct for each dryer. The duct should be 6" to 8" in diameter, depending upon the air outlet diameter of the dryer. The duct should go as directly as possible to the outside air. Avoid right angle turns in the ducting; use 30 degree or 45 degree angles instead. The radius of the elbows should preferably be 1 1/2 times the diameter of the duct.

To protect the outside end of the duct from the weather, it may be bent downward as indicated in Figure 1. Leave at least twice the diameter of the duct clear between the duct opening and the nearest obstruction. If the exhaust duct goes through the roof, it may be protected from the weather by a hood, or by using a 180 degree turn to point the opening down. In either case, allow at least twice the diameter of the duct as clearance from the hearest obstruction as indicated above.

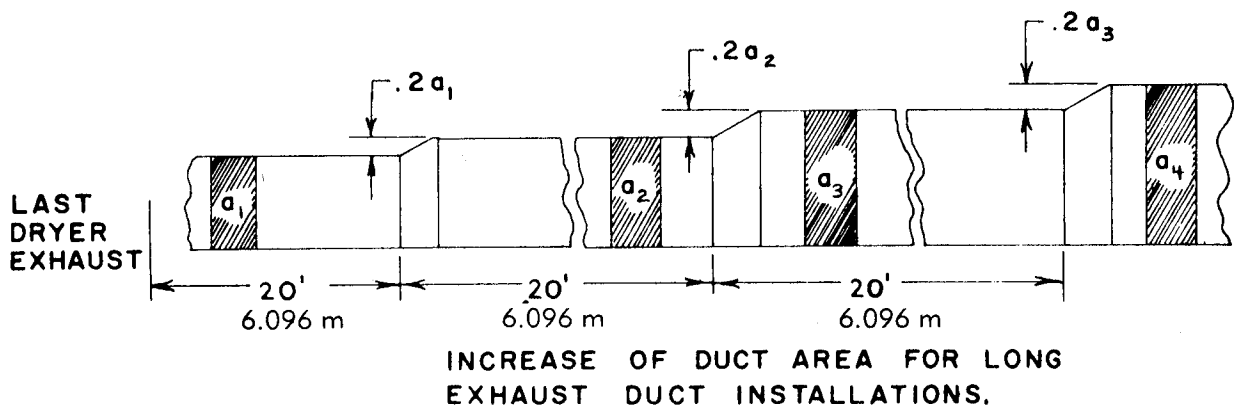
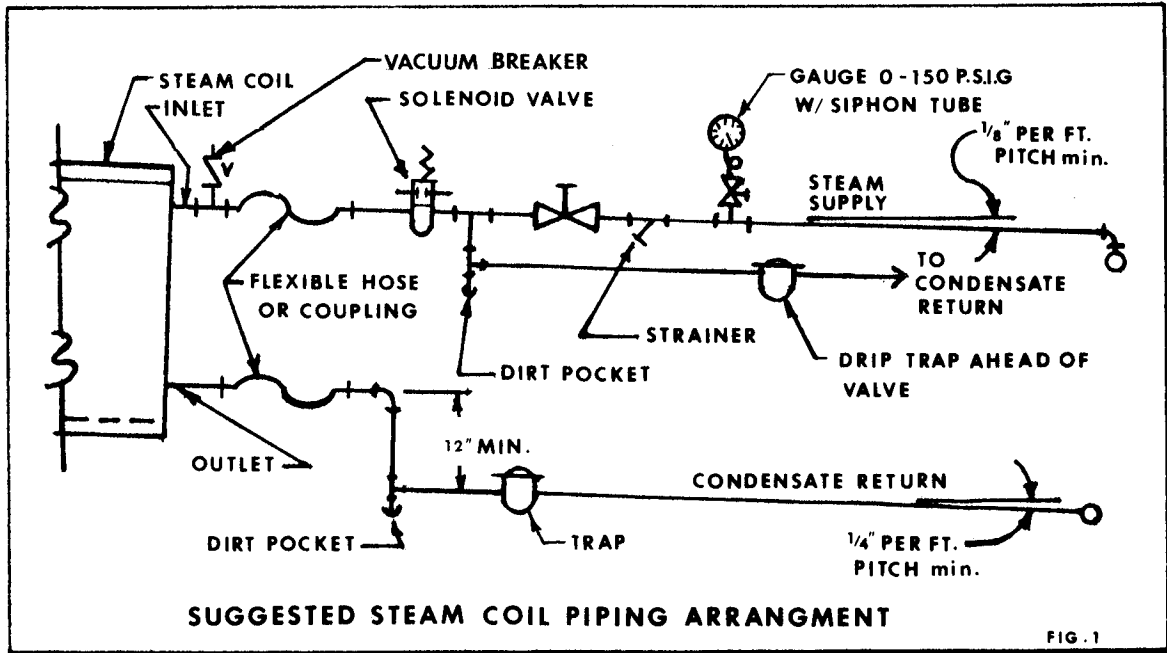
Do not use screens or caps on the outside opening of the exhaust duct. The ducting should be smooth inside, with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct that it is to be connected to. Provide inspection doors for periodic clean-out of lint from the main duct.

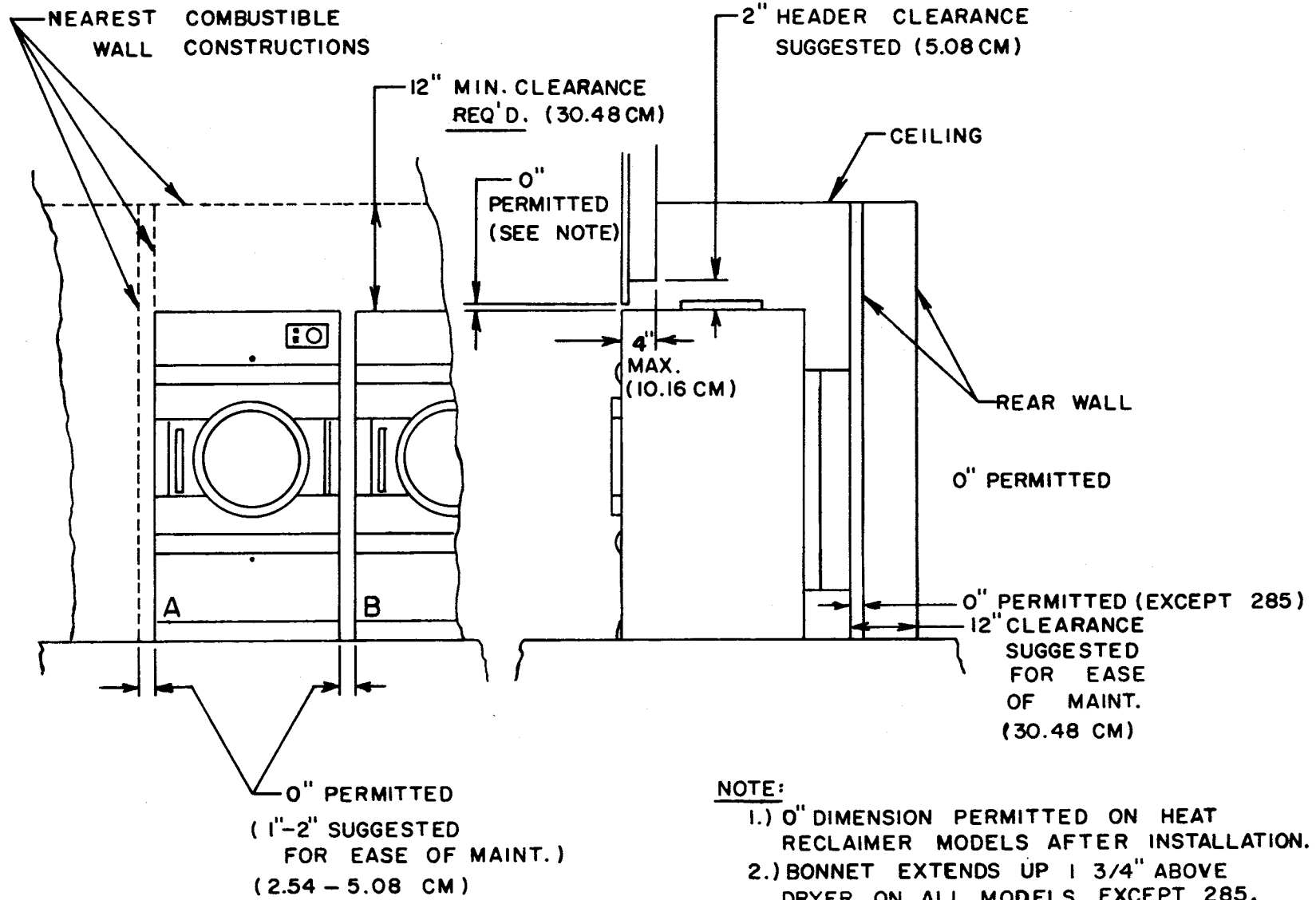
If it is not feasible to provide separate exhaust ducts for each dryer, ducts from the individual dryers may be channeled into a common main duct. The individual ducts should enter the bottom or side of the main duct at an angle not more than 45 degrees and should be spaced at least 34" apart. The main duct should be tapered, with the diameter increasing before each individual duct is added. The minimum increase in cross section area should be 45 square inches for each 6" duct added, and 75 square inches for each 8" duct added. The main duct may be any shape of cross section so long as the minimum cross section area is provided. Figure 1 shows the minimum cross section areas of the main duct for either 6" or 8" dryer ducts. These figures should be increased if the main duct is unusually long (20' or over) or has numerous elbows in it.

An opening from the outside air, to the room in which the dryers are operating, should be provided for make-up air. This should be approximately two to three times the cross section area of the total of the exhaust ducts.\*

Inadequate exhaust facilities may cause high temperature limit switches or air flow switches to shut off the dryers. Do not disable the switches, which are provided for your safety. Instead, investigate the exhaust ducting. Any obstruction, or air friction due to bends in the ducting, will cause back-pressure and slow the passage of air through the system with resulting inefficiency and fire hazard.

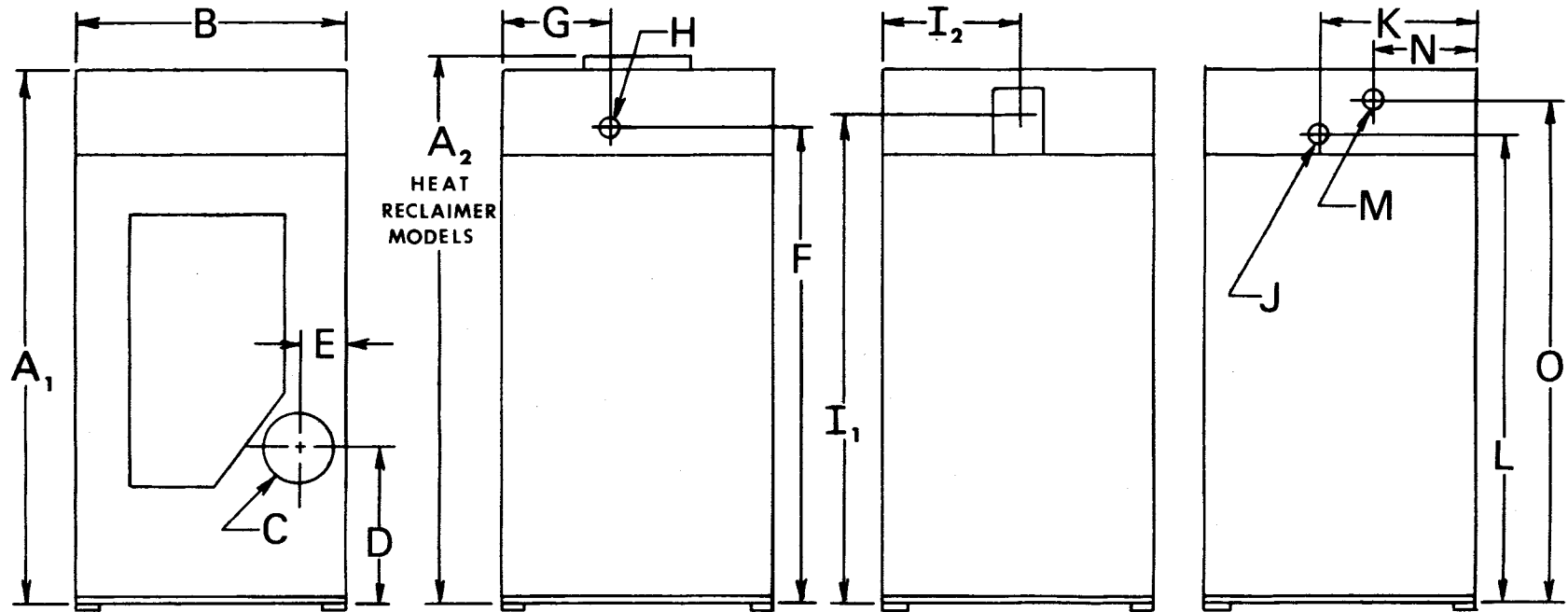
\*For steam dryers, the area should be from four or five times the total area of the exhaust duct.



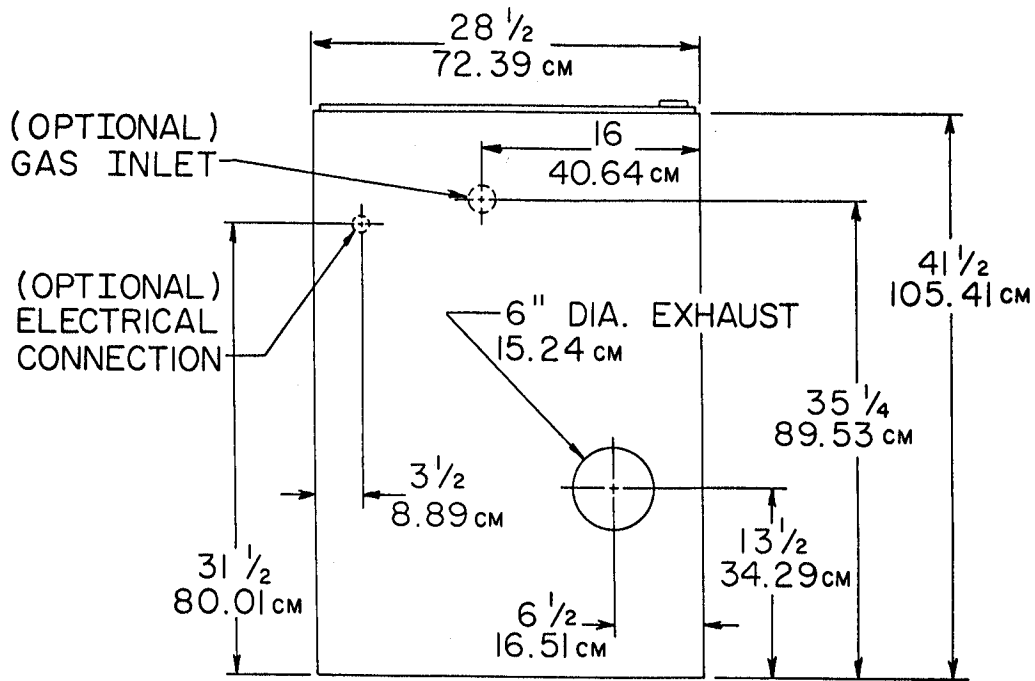


INSTALLATION: DRYER CLEARANCE TO ADJACENT WALL STRUCTURES.

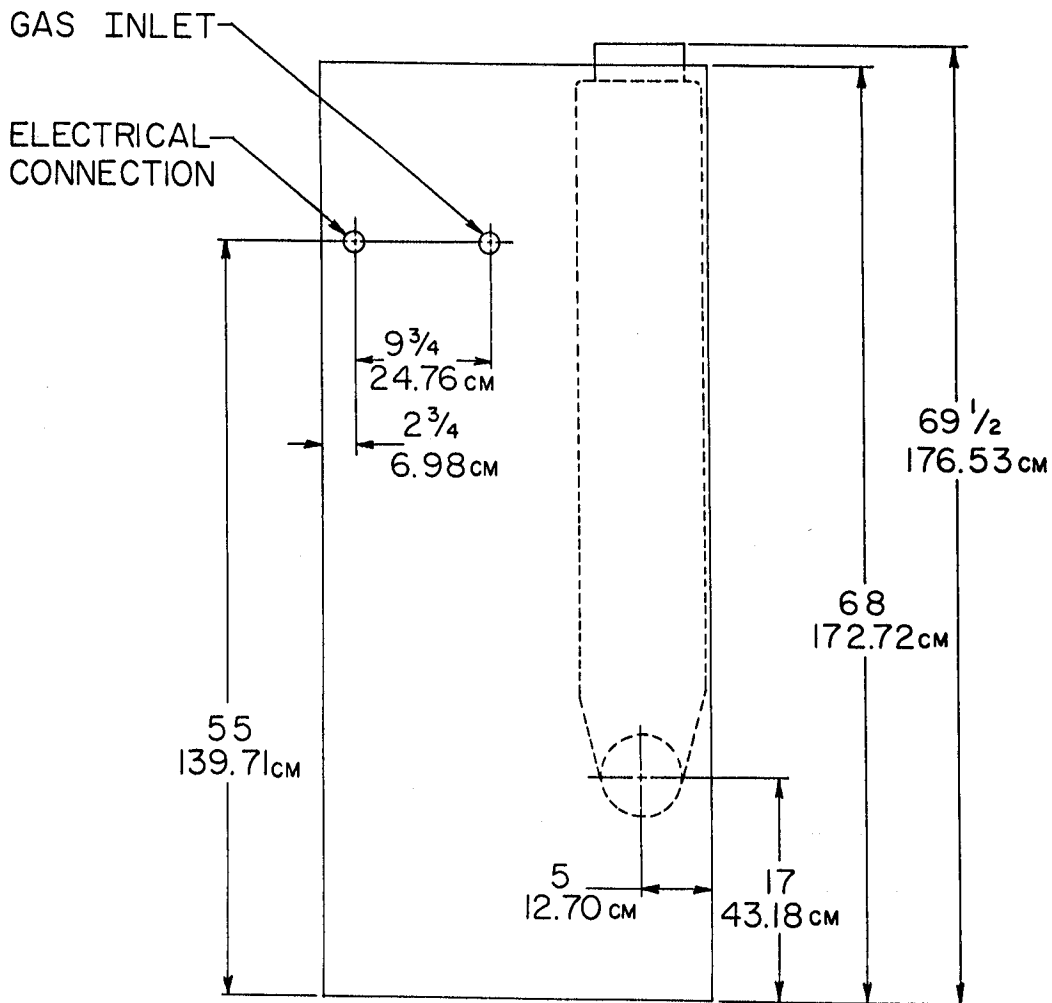




		A <sub>1</sub>	A <sub>2</sub>	B	C	D	E	F	G	H	I <sub>1</sub>	I <sub>2</sub>	J	K HI	K LOW	L	M HI	M LOW	N	O
15#	IN.	68"	69.75	31.38	6"	16.25	6"	59.5	11.5	.5	59.75	17.25	.5	20.25	20.25	61"	1"	1"	12.25	65"
	CM.	172.7	177.2	79.71	15.24	41.28	15.24	151.13	29.21	1.27	151.77	43.82	1.27	51.44	51.44	154.94	2.54	2.54	31.12	165.1
20#	IN.	68"	69.75	34.25	6"	16.25	6"	59.5	13"	.5	59.75	18.75	.5	21.75	21.75	61"	1"	1"	13.75	65"
	CM.	172.7	177.2	87	15.24	41.28	15.24	151.13	33.02	1.27	151.77	47.63	1.27	55.24	55.24	154.94	2.54	2.54	34.93	165.1
25#	IN.	72"	73.75	34.25	8"	20.25	6"	63.5	13"	.5	63.75	18.75	.5	21.75	21.75	65"	1"	1"	13.75	69"
	CM.	182.9	187.3	87	20.32	51.44	15.24	161.29	33.02	1.27	161.93	47.63	1.27	55.25	55.25	165.1	2.54	2.54	34.93	175.3
30#	IN.	72"	73.75	31.38	8"	20.25	6"	63.5	11.5	.5	63.75	17.25	.5	19"	18.25	65.25	1.25	1"	11.5	69.12
	CM.	182.9	187.3	79.71	20.32	51.44	15.24	161.29	29.21	1.27	161.93	43.82	1.27	48.26	46.36	165.74	3.18	2.54	29.21	175.6
50#	IN.	72"	73.75	34.25	8"	20.35	6"	63.5	13"	.5	63.75	18.75	.5	20.5	19.75	65.25	1.25	1"	13"	69.12
	CM.	182.9	187.3	87	20.32	51.44	15.24	161.29	33.02	1.27	161.93	47.63	1.27	52.05	50.17	165.74	3.18	2.54	33.02	175.56
UD50	IN.	76"	77.75	38.25	8"	20.25	8"	67.5	13"	.5	67.5	20.75	.5	22.5	21.75	69.25	1.25	1"	15.0	73.12
	CM.	193.0	197.5	97.2	20.32	51.44	20.32	171.45	33.02	1.27	172.09	57.71	1.27	57.71	55.25	175.90	3.18	2.54	38.10	185.72
65#	IN.	76"	77.75	38.25	8"	20.25	8"	67.5	13"	.5	67.5	20.75	.5	22.5	21.75	69.25	1.25	1"	15.0	73.12
	CM.	193.0	197.5	97.2	20.32	51.44	20.32	171.45	33.02	1.27	172.09	57.71	1.27	57.71	55.25	175.90	3.18	2.54	38.10	185.72



TOP VIEW



BACK VIEW

MODEL 285

TABLE 1		MAIN BURNER ORIFICE SIZE					
STANDARD	NATURAL			PROPANE		BUTANE	
MODEL (BTUH)	PART NO	DMS	REQD	PART NO	DMS	PART NO	DMS
ADG15(A,B,C) (50,000)	140810	42	2	140848	54	140848	54
ADG20(A,B,C) (67,000)	140816	36	2	140800	52	140841	1/16
ADG25(A,B,C) (78,000)	140851	32	2	140802	50	140801	51
ADG30(A,B,C) (90,000)	140843	1/8	2	140803	49	140802	50
ADG50(A,C) (120,000)	140822	27	2	140808	44	140807	45
UDG50(A,C) (130,000)	140818	31	3	140803	49	140802	50
ADG65(A,C) (140,000)	140819	30*	3	140804	48	140803	49

TABLE 2		MAIN BURNER ORIFICE SIZE					
HEAT RECLAIMER	NATURAL			PROPANE		BUTANE	
MODEL (BTUH)	PART NO	DMS	REQD	PART NO	DMS	PART NO	DMS
ADG15(A,B,C)H(47,000)	140809	43	2	140848	54	140847	55
ADG20(A,B,C)H(60,000)	140814	38	2	140845	53	140845	53
ADG25(A,B,C)H(70,000)	140849	35	2	140800	52	140841	1/16
ADG285 H (78,000)	140851	32	2	140802	50	140801	51
ADG30(A,B,C)H(80,000)	140818	31	2	140803	49	140802	50
ADG50(A,C)H(95,000)	140819	30	2	140804	48	140803	49
UDG50(A,C)H(100,000)	140819	30	2	140805	47	140804	48
ADG65(A,C)H(105,000)	140820	29	2	140806	46	140804	48

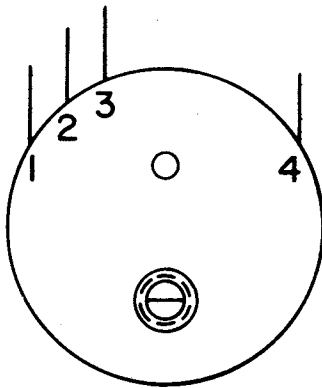
TABLE 3		PILOT BURNER ORIFICE SIZE					
	NATURAL		PROPANE		BUTANE		
MODEL	PART NO	SIZE	PART NO	SIZE	PART NO	SIZE	
ADG (ALL)	140703	.025	140701	.012	140701	.012	

TABLE 4		GAS PRESSURE (INCHES OF WATER)		
MODEL	NATURAL	PROPANE	BUTANE	
ADG (ALL)	4" at Gas Valve Pressure Tap	10½ Inlet Supply Pressure	10½ Inlet Supply Pressure	

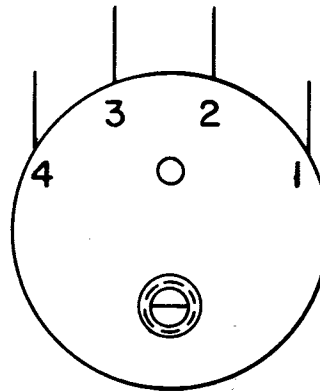
\*USE NO. 31 (P/N 140818) FOR MACHINES OPERATED IN CANADA

TERMINAL NO.	CIRCUIT USE
1	COMMON-LINE
2	MOTOR
3	HEAT
4	BUZZER

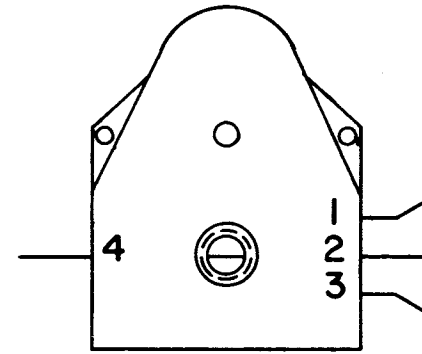
# TIMER REPLACEMENT CHART



MALLORY TIMER  
(FRONT VIEW)



ROBERTSHAW TIMER  
(FRONT VIEW)



GENERAL TIMER  
(FRONT VIEW)

NOTE: CONNECT THE TIMER MOTOR LEADS IN THE SAME LOCATION AS TIMER REMOVED.

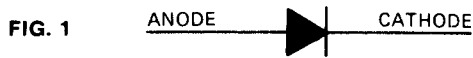
# "DIODE LOGIC" CONTROL SYSTEM FOR COMMERCIAL GAS CLOTHES DRYERS

The "Diode Logic" system expands the use of the simple "Split Coil" silicon carbide ignition system developed for residential gas clothes dryers to commercial clothes dryers. Functionally, the "Diode Logic" system is identical to the "Split Coil" system but is tailored for the higher capacity 36C combination valve.

The 5001A-1 "Diode Logic" board is a very simple and reliable device consisting of only seven active components all of which have ratings well above what they will see in the system application.

- 5 Diodes all rated at 1 AMP 400 VOLTS
- 1 Resistor rated 2 OHMS and 1 WATT
- 1 Resistor rated 3K OHMS and 5 WATTS

A diode in an electric system acts as a check valve in a hydraulic system in that it allows an electric current to flow in only one direction. The symbol for a diode is shown below.



Current flow through the diode occurs when the anode is positive and the cathode is negative. No current flows when the anode is negative and the cathode positive. The physical appearance of the diodes is as shown below.

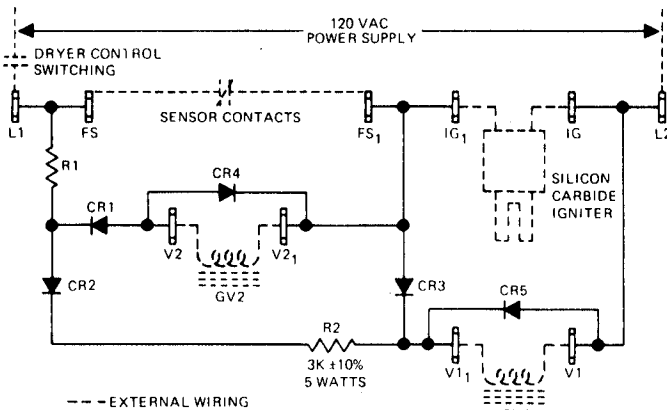
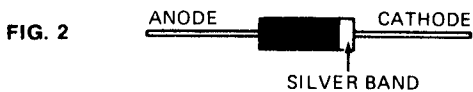


FIG. 3  
SCHEMATIC DIAGRAM — 5001A-1 DIODE LOGIC BOARD

## NORMAL OPERATION OF THE DIODE LOGIC SYSTEM

When the system is energized current flows through the closed sensor contacts and through the silicon carbide igniter causing it to heat. Gas valve 2 (GV2) is shunted by the closed sensor contacts so it is not energized. When L1 is

positive gas valve 1 (GV1) is energized by a circuit through the closed sensor contacts and CR3. CR5 is a back wave diode which maintains current flow through GV1 during the next half cycle when L1 is negative.

When the igniter reaches ignition temperature the sensor contacts open. GV1 remains energized through the fuse R1, CR2 and resistor R2. GV2 is energized on the half cycle when L2 is positive by a circuit through the silicon carbide igniter, CR1 and fuse R1. CR4 is a back wave diode which maintains current flow through GV2 during the next half cycle when L2 is negative.

With both valves energized gas flows to the burner and is ignited by the hot igniter. In this running mode the igniter cools since current through it is limited by CR1 and GV2.

## RECYCLE AFTER MOMENTARY POWER INTERRUPTION

On momentary power interruption GV1 and GV2 close. On resumption of power GV2 opens, but GV1 cannot open because of the current limiting affect of resistor R2. When the sensor cools and its contacts reclose GV2 is shunted out and closes, GV1 opens and the silicon carbide igniter heats and a normal cycle is started.

## IGNITER FAILURE

The "Diode Logic" system also retains the safety feature of the 25K00 split coil system which prevents gas flow if the silicon carbide igniter is broken (the circuit energizing GV2 includes the silicon carbide igniter).

The fuse (R1) insures safe operation should CR1 short. CR1 shorting would negate the recycle sequence after momentary power interruption and there is the possibility the igniter, energized on half wave, would hold the sensor contacts open but not be hot enough to light gas.

## ANALYZING THE 5001A-1 DIODE LOGIC BOARD

The "Diode Logic" board may be tested with an Ohmmeter or Multi-Test meter set at RX100 to use for checking continuity.

An Ohmmeter or a Multi-Test meter set to measure ohms or continuity is really a sensitive ammeter with a small battery connected in series. The + (positive) and - (negative) markings on the Multi-Test meter terminals indicate how the meter must be connected to measure DC current or voltage. When set to measure resistance (ohms) or continuity the meter becomes the power supply as well as the indicating meter and the polarity of the terminals may be reversed — the lead from the negative terminal may be positive and vice-versa. We suggest you check this characteristic of your meter using a separate diode as follows:

The meter will show continuity when the positive ohmmeter output (regardless of meter marking) is connected to the diode anode and the negative ohmmeter output is connected to the diode cathode. The meter will indicate an open circuit if the leads are reversed.

Below is a drawing of the actual 5001A-1 "Diode Logic" board with the terminals labeled as in the schematic diagram above. The terminals on an actual 5001A-1 board do not have the sub numbers required to differentiate between the V1, V2, FS and 1G terminals so in testing a board it will be necessary to refer to this drawing to physically locate the correct terminals for checking with the continuity meter.

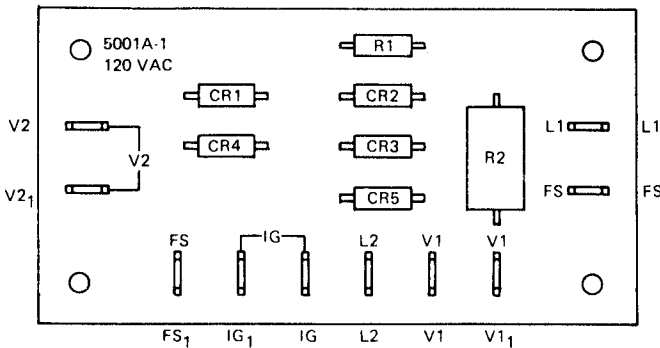


FIG. 4

With all external wiring disconnected, the 5001A-1 "Diode Logic" must pass all the following continuity checks:

With V2 positive, there must be electrical continuity between V2 and L1 — FS — V2<sub>1</sub> — FS<sub>1</sub> — 1G<sub>1</sub>

With V2 negative, there must not be continuity between V2 and L1 — V2<sub>1</sub>

With V1, negative, there must be continuity between V1, and V1 — L2 — 1G — FS<sub>1</sub> — L1

With V1, positive, there must not be continuity between V1, and V1 — V2<sub>1</sub> — L1

The above checks are for continuity only. The meter needle will deflect different amounts for the various check points depending on the number of diodes or the presence or absence of a resistor in a particular leg of the circuit.

## CHECKING PERFORMANCE OF THE 36C00 GAS VALVE

The 36C00 gas valve for use in the "Diode Logic" system must meet certain special electrical performance requirements. For testing, the valve must be connected in the "Diode Logic" system in accordance with the attached circuit diagram.

Note the following:

- A SPST manually operated switch has been wired in place of the sensor.
- The 36C00 valve must be mounted in a horizontal gas line in the upright position — mounting tolerance  $\pm 15^\circ$ .
- Inlet pressure to the 36C00 valve must not exceed 14" W.C.
- All voltage measurements must be taken at the L1/L2 "Diode Logic" board terminals.

## OPERATING VOLTAGE CHARACTERISTICS

The 36C00 gas valve must not open at a system input voltage of less than 82VAC, 50/60 HZ and must open at a system input voltage of 102 VAC, 50/60 HZ.

Once open, the 36C00 gas valve must remain open when the system input voltage is reduced to a minimum of 90 VAC, 50/60 HZ.

With the system in the normal running condition (senser switch open and both valves open) and power is restored after a momentary power interruption, the valve must remain closed and must not leak more than 500 CC/HR (500 CC is less than .01 CU. FT.) when the voltage is increased to 135 VAC 50/60 HZ.

To check these voltage operating characteristics, proceed as follows:

1. Adjust the power supply voltage to 81 VAC.
2. Close the manually operated senser switch.
3. Close the control switch.
4. After approximately 30 seconds or when the igniter appears to be up to ignition temperature, open the manually operated senser switch. There must be no flow of gas to the dryer burners.
5. Open the control switch.
6. Reclose the manually operated senser switch.
7. Adjust the power supply voltage to 102 VAC.
8. Close the control switch.
9. After approximately 30 seconds or when the igniter appears to be up to ignition temperature, open the manually operated senser switch. Gas should immediately start flowing to the dryer burners and be ignited by the silicon carbide igniter. The system is now in a normal operating mode.
10. Reduce the power supply voltage to 90 VAC. The system should continue to operate normally.
11. Adjust the power supply voltage to 120 VAC.
12. Momentarily open and then reclose the control switch. Gas flow to the dryer burners must be interrupted and remain interrupted. With the manually operated senser switch still open, increase the power supply voltage to 135 VAC. Leakage through the valve should not exceed 500 CC/HR (500 CC is less than .01 CU. FT.).

## DIODE LOGIC CONTROL SYSTEM

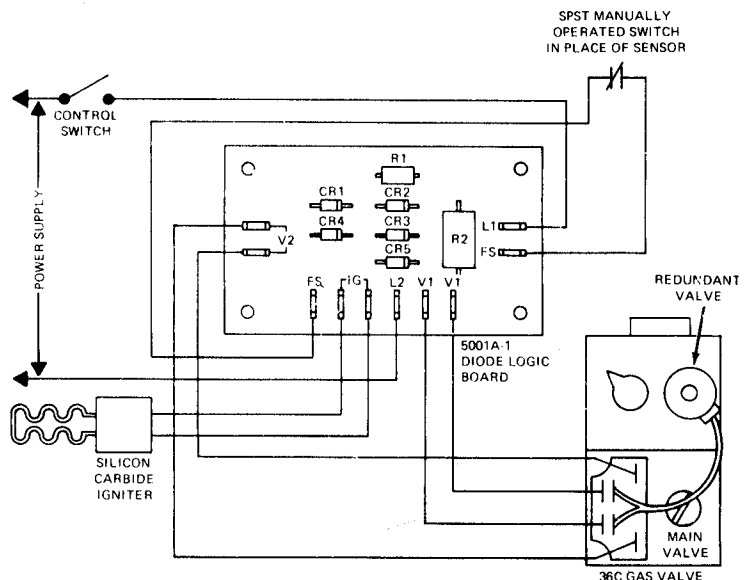


FIG. 5

