

# AD285DH / AD285D Installation Manual

## Phase 7 / Dual Timer / S.A.F.E. System

**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.



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# Retain This Manual In A Safe Place For Future Reference

**American Dryer Corporation** products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of efficient, trouble free, and most importantly, safe 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. **ADC** 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.** **AD-285 PH7**

**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.

These instructions are only valid if the following country code is on the appliance... If this code is not present on the appliance, it is necessary to refer to the technical instructions which will provide the necessary information concerning the modification of the appliance to the condition of use for the country.

In accordance with EN ISO 3166-1, the names of countries shall be represented by the following codes:

**GB** United Kingdom  
**IE** Ireland

### **“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 LOCK OUT 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.**

“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.»

## **CAUTION**

**DRYERS SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.**

## **WARNING**

**CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYER(S).  
CHILDREN SHOULD BE SUPERVISED IF NEAR DRYERS IN OPERATION.**

**FOR YOUR SAFETY**

**DO NOT DRY MOP HEADS IN THE DRYER.**

**DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.**

**WARNING**

**UNDER NO CIRCUMSTANCES should the dryer door switches, lint drawer switch, or heat safety circuit ever be disabled.**

**WARNING**

**Do not modify this appliance.**

**WARNING**

**The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY OR FIRE COULD RESULT.**

**WARNING**

**DRYER MUST NEVER BE OPERATED WITHOUT THE LINT FILTER/SCREEN IN PLACE, EVEN IF AN EXTERNAL LINT COLLECTION SYSTEM IS USED.**

**IMPORTANT**

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

**Dryer *must not be* installed or stored in an area where it will be exposed to water or weather.**

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

**IMPORTANT**

**Dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).**

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# SECTION I

## SAFETY PRECAUTIONS

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

**WARNING:** The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. **PERSONAL INJURY OR FIRE COULD RESULT.**

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
2. **DO NOT** spray aerosols in the vicinity of this appliance while it is in operation.
3. Purchaser or user 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.
4. WHAT TO DO IF YOU SMELL GAS:
  - a. **DO NOT** try to light any appliance.
  - b. **DO NOT** touch any electrical switch.
  - c. **DO NOT** use any phone in your building.
  - d. Clear the room, building, or area of **ALL** occupants.
  - e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - f. If you **cannot** reach your gas supplier, call the fire department.
5. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.
6. Dryers **must be** exhausted to the outdoors.
7. Although ADC produces a very versatile dryer, there are some articles that, due to fabric composition or cleaning method, **should not be** dried in it.

**WARNING:** Dry only water washed fabrics. **DO NOT** dry articles spotted or washed in dry cleaning solvents, a combustible detergent, industrial chemicals, or "all purpose" cleaner. **EXPLOSION COULD RESULT.**

**WARNING:** **DO NOT** dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, or wax. **EXPLOSION COULD RESULT.**

**WARNING:** *DO NOT* dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

**WARNING:** *DO NOT* use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubberlike materials. Drying in a heated basket (tumbler) may damage plastics or rubber and may be a fire hazard.

8. The possible presence of residual quantities of aggressive or decomposed chemicals in the load may produce damage to the machine and harmful fumes.
9. A program **should be** established for the inspection and cleaning of lint in the burner area, exhaust ductwork, and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

**WARNING:** The collection of lint in the burner area and exhaust ductwork can create a potential fire hazard.

10. For personal safety, the dryer **must be** electrically grounded in accordance with local codes and/or the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

**NOTE:** Failure to electrically ground the dryer properly will VOID THE WARRANTY.

11. **UNDER NO CIRCUMSTANCES** should the dryer door switch, lint drawer switch, or heat safety circuit ever be disabled.

**WARNING: PERSONAL INJURY OR FIRE COULD RESULT** should the dryer door switch, lint door switch, or heat safety circuit ever be disabled.

12. This dryer is not to be used in the presence of dry cleaning solvents or fumes.
13. Remove articles from the dryer as soon as the drying cycle has been completed.

**WARNING:** Articles left in the dryer after the drying and cooling cycles have been completed can create a fire hazard.

14. **READ AND FOLLOW ALL CAUTION AND DIRECTION LABELS ATTACHED TO THE DRYER.**
15. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%), 20 lb (9.07 kg) of its rated capacity.

**WARNING: YOU MUST DISCONNECT AND LOCK OUT THE ELECTRIC SUPPLY AND THE GAS 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.**



**IMPORTANT:** Dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

**CE ONLY**

**IMPORTANT:** This appliance must only be installed and operated in the country of destination indicated on the dryer's data plate. If the appliance is to be installed and operated in a country other than the one indicated on the data plate, a data plate amendment must be obtained from American Dryer Corporation.

IEC335 applies.

# SECTION II

## SPECIFICATIONS

### MODEL ADG 258DH (WITH HEAT RECLAIMER)

### MODEL ADG285D (NO HEAT RECLAIMER)

MAXIMUM CAPACITY (DRY WEIGHT)		30 lb	<b>13.6 kg</b>	
TUMBLER DIAMETER		27-1/4"	<b>69.22 cm</b>	
TUMBLER DEPTH		30"	<b>76.2 cm</b>	
TUMBLER VOLUME		10.18 cu ft	<b>288.27 L</b>	
TUMBLER/DRIVE MOTOR		1/2" hp	<b>0.373 kW</b>	
BLOWER/FAN MOTOR		N / A		
DOOR OPENING (DIAMETER)		21-1/2"	<b>54.61 cm</b>	
DOOR SILL HEIGHT		26-3/8"	<b>67 cm</b>	
WATER CONNECTION		3/4"-11.5 NH (North America)		
		3/4" B.S.P.T. (Outside North America)		
DRYERS PER 20'/40' CONTAINER		14 / 30		
DRYERS PER 48'/53' TRUCK		36 / 38		
<b>GAS</b>	VOLTAGE AVAILABLE		120-480V 1,3ø 2,3,4w 50/60 Hz	
	APPROXIMATE NET WEIGHT		455 lb <b>206.4 kg</b>	
	APPROXIMATE SHIPPING WEIGHT		500 lb <b>226.8 kg</b>	
	AIRFLOW	60 Hz	375 cfm	<b>11 cmm</b>
		50 Hz	313 cfm	<b>8.85 cmm</b>
	HEAT INPUT		72,000 Btu/hr	<b>18,144 kcal/hr</b>
	EXHAUST CONNECTION (DIAMETER)		6"	<b>15.24 cm</b>
	COMPRESSED AIR CONNECTION		N / A	
	COMPRESSED AIR VOLUME		N / A	
	INLET PIPE CONNECTION		1/2" N.P.T.	
1/2" B.S.P.T. (CE and Australia Only)				
<b>ELECTRIC</b>	VOLTAGE AVAILABLE		N / A	
	APPROXIMATE NET WEIGHT			
	APPROXIMATE SHIPPING WEIGHT			
	AIRFLOW			
	EXHAUST CONNECTION (DIAMETER)			
	COMPRESSED AIR CONNECTION			
	COMPRESSED AIR VOLUME			
	OVEN SIZE			
	kW	Btu/hr	<b>kcal/hr</b>	
<b>STEAM</b>	VOLTAGE AVAILABLE		N / A	
	APPROXIMATE NET WEIGHT			
	APPROXIMATE SHIPPING WEIGHT			
	AIRFLOW			
	STEAM CONSUMPTION			
	OPERATING STEAM PRESSURE			
	EXHAUST CONNECTION (DIAMETER)			
	COMPRESSED AIR CONNECTION			
	COMPRESSED AIR VOLUME			
	BOILER HORSEPOWER (NORMAL LOAD)			
	SUPPLY CONNECTION			
	RETURN CONNECTION			

Shaded areas are stated in metric equivalents

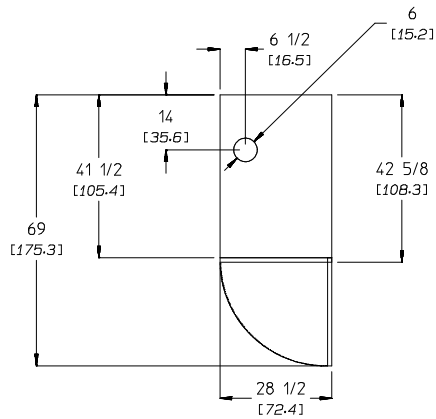
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**NOTE:** ADC reserves the right to make changes in specifications at any time without notice or obligation.

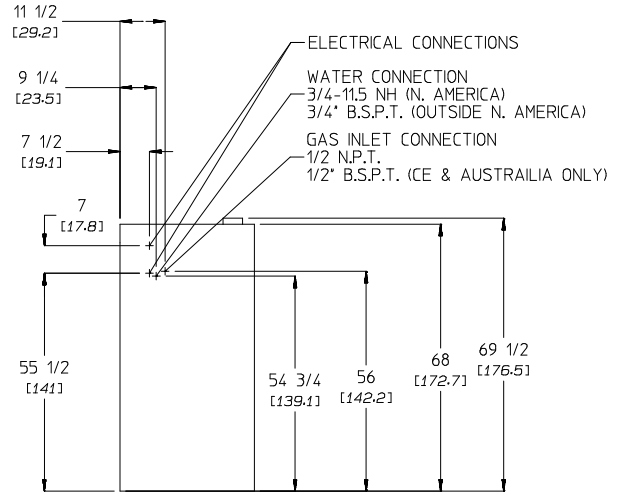
# ADG-285DH (with Heat Reclaimer) Specifications

**DRYER NOTES:**

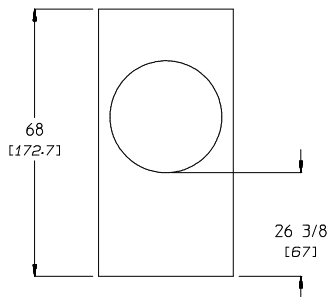
- ° DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.
- ° EXHAUST STATIC PRESSURE MUST BE NO LESS THAN 0 AND MUST NOT EXCEED 0.3" (0.74 MB) WATER COLUMN.



PLAN VIEW



REAR VIEW



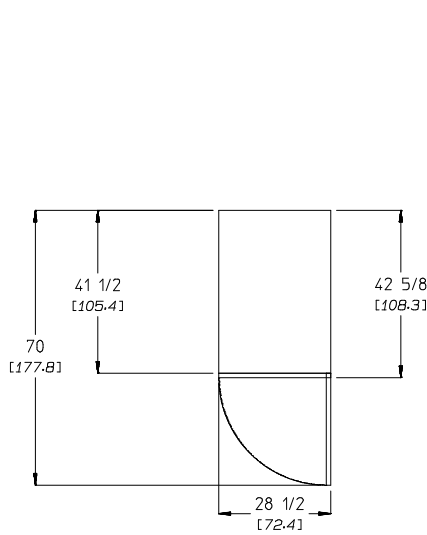
FRONT VIEW

**NOTE:** ADC reserves the right to make changes in specifications at any time without notice or obligation.

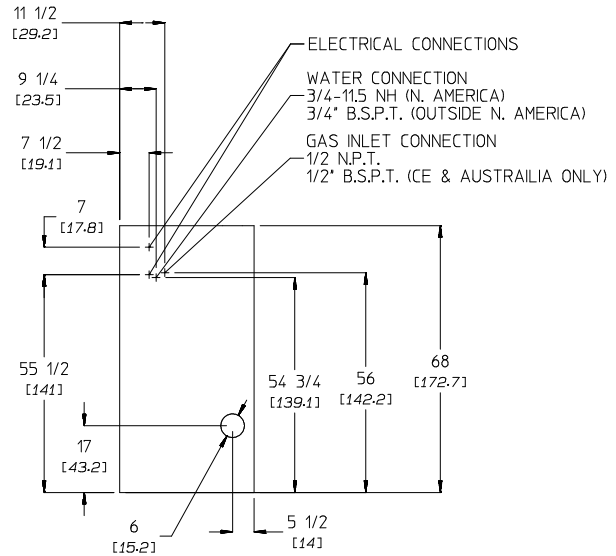
# ADG-285D (No Heat Reclaimer) Specifications

**DRYER NOTES:**

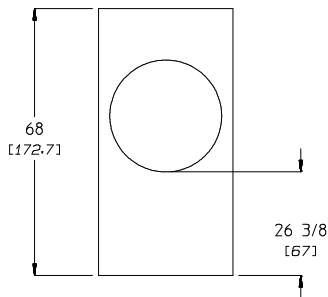
- DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.
- EXHAUST STATIC PRESSURE MUST BE NO LESS THAN 0 AND MUST NOT EXCEED 0.3" (0.74 MB) WATER COLUMN.



PLAN VIEW



REAR VIEW



FRONT VIEW

**NOTE:** ADC reserves the right to make changes in specifications at any time without notice or obligation.

# SECTION III

## INSTALLATION PROCEDURES

Installation **should be** performed by competent technicians in accordance with local and state codes. In the absence of these codes, the installation **must conform** to applicable American National Standards: ANSI Z223.1-LATEST EDITION (National Fuel Gas Code) or ANSI/NFPA NO. 70-LATEST EDITION (National Electrical Code) or in Canada, the installation **must conform** to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing) or Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION (for Electrical Connections).

### A. UNPACKING/SETTING UP

Remove protective shipping material (i.e., plastic wrap and optional shipping box) from dryer.

**IMPORTANT:** Dryer *must be* transported and handled in an upright position at **ALL** times.

**NOTE:** For non-coin dryer models equipped with locks, the lock used is a dummy lock and no key is supplied or needed. The lock can be turned with any key, a screwdriver, a small coin, or any small sharp object. For coin-operated dryers, the MK-100 (master key for both the control door and lint door) *should be* made accessible because it **will be** needed throughout various phases in the installation of the dryer.

The dryer can be moved to its final location while still attached to the skid or with the skid removed. To unskid the dryer, locate and remove the four (4) bolts securing the base of the dryer to the wooden skid. Two (2) are at the rear base (remove the back panel for access), and two (2) are located in the bottom of the lint chamber. To remove the two (2) bolts located in the lint chamber area, remove the lint door.

With the skid removed, to make it easier to slide the dryer into its final position, slightly lower **ALL** four (4) leveling legs, so that the dryer will slide on the legs instead of the base frame.

#### Leveling Dryer

The dryer is equipped with four (4) leveling legs, one (1) at each corner of the base. Two (2) are located at the rear of the dryer base, and two (2) are located in the lint chamber (coop). To increase bearing life and improve efficiency, the dryer **should be** tilted slightly to the rear.

## B. LOCATION REQUIREMENTS

Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location **must conform** with the National Fuel Gas Code ANSI.Z223.1 LATEST EDITION, or in Canada, the installation **must conform** to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing).

1. The dryer **must be** installed on a sound level floor capable of supporting its weight. Carpeting **must be** removed from the floor area that the dryer is to rest on.

**IMPORTANT:** “The dryer *must be* installed on noncombustible floors only.”

2. The dryer **must not be** installed or stored in an area where it will be exposed to water and/or weather.
3. The dryer is for use in noncombustible locations.
4. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply Requirements** in Section D).
5. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements** in Section C).
6. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclosure Requirements** in Section C).
7. The dryer **must be** installed with a proper exhaust duct connection to the outside as noted in this manual (refer to **Exhaust Requirements** in Section E).
8. The dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements** in Section E).

**IMPORTANT:** The dryer *should be* located where a minimum amount of exhaust duct will be necessary.

9. The dryer **must be** installed with adequate clearance for air openings into the combustion chamber.

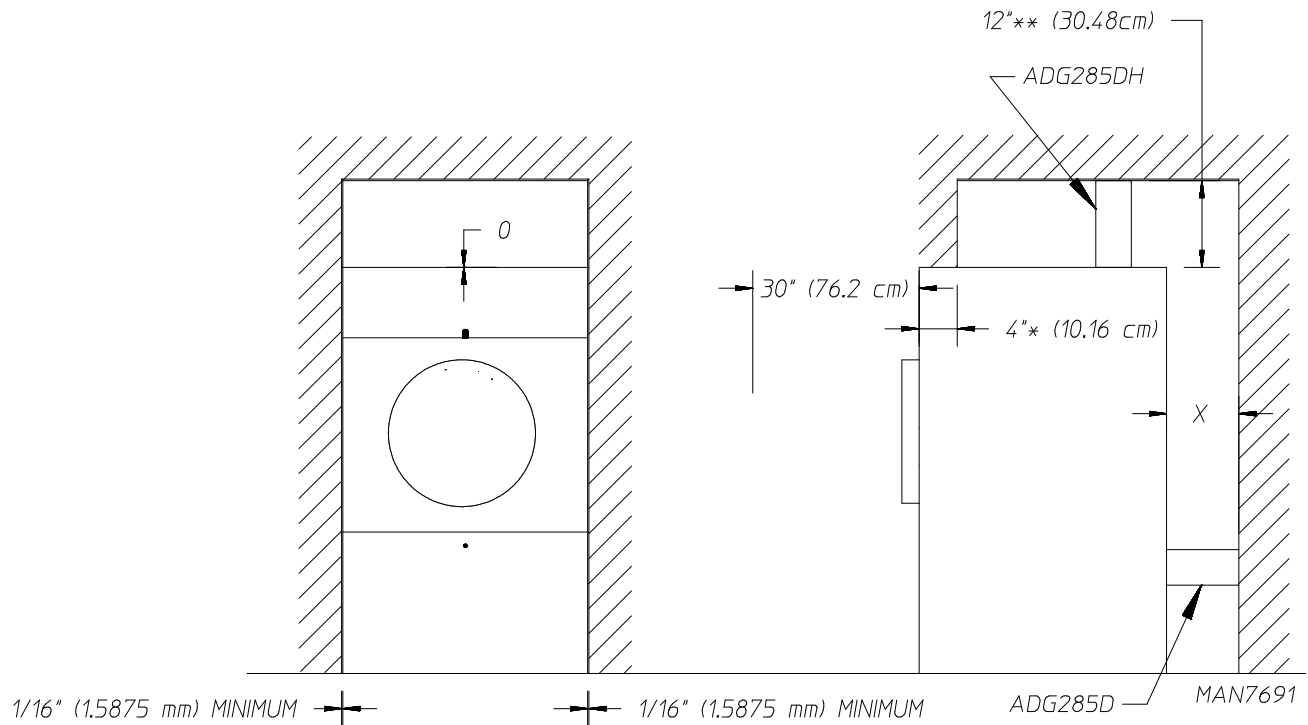
**CAUTION:** This dryer produces combustible lint and *must be* exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint build up.

**IMPORTANT:** The dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

## C. DRYER ENCLOSURE REQUIREMENTS

Bulkheads and partitions **should be** made of noncombustible materials and **must be** located a minimum of 12-inches (30.48 cm) above the dryer's outer top; except along the front of the dryer, which may be closed if desired.

**NOTE:** Allowances **must be** made for opening the control door.



X = 12-inch (30.48 cm) minimum, 24-inches (60.96 cm) is suggested for ease of maintenance.

**NOTE:** Air considerations are important for proper and efficient operation.

Dryers may be positioned sidewall to sidewall. However, a 1/16" (1.5875 mm) minimum allowance **must be** made for the opening and closing of the control door and the lint door. It is suggested that the dryer be positioned about 2 feet (0.61 meters) away from the nearest obstruction for ease of installation, maintenance, and service (to be measured from the back guard). Refer to the **illustration above** for details.

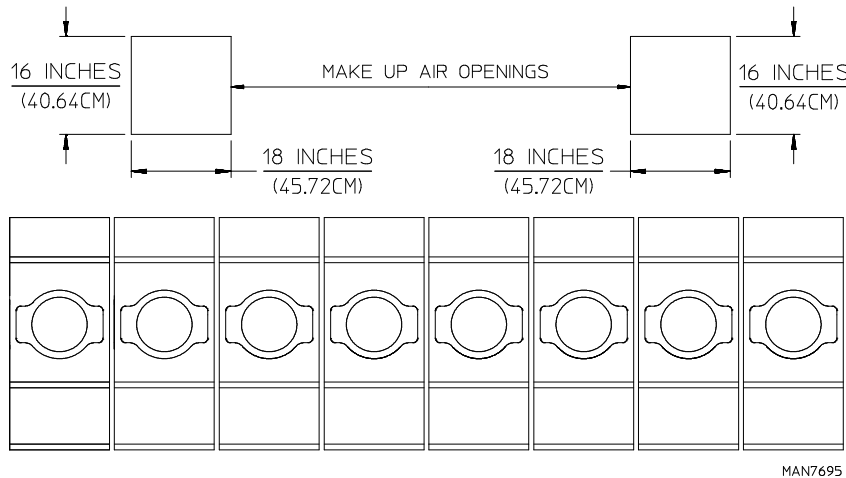
## D. FRESH AIR SUPPLY REQUIREMENTS

This appliance may only be installed in a room that meets the appropriate ventilation requirements specified in the national installation regulations.

When the dryer is operating, it draws in room air, heats it, passes this air through the basket (tumbler), and exhausts it out of the building. Therefore, the room air **must be** continually replenished from the outdoors. If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch “fluttering” problems may result, as well as premature motor failure from overheating. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

Air supply (make-up air) **must be** given careful consideration to ensure proper performance of each dryer. Fresh air ventilation openings **shall not be** blocked and/or sealed. As a general rule, an unrestricted air entrance from the outdoors of 72 inch<sup>2</sup> (464.51 cm<sup>2</sup>) is required for each dryer. (Based on 1 inch<sup>2</sup> [6.5 cm<sup>2</sup>] per 1,000 Btu [252 kcal].)

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they **must be** set up in such a manner that the make-up air is distributed equally to all the dryers.



TYPICAL INSTALLATION SHOWING MAKE - UP AIR OPENINGS

**EXAMPLE:** For a bank of 8 dryers, 2 unrestricted openings measuring 16-inches by 18-inches (40.64 cm by 45.72 cm) are acceptable.

To compensate for the use of registers or louvers used over the openings, this area **must be** increased by approximately 33%. Make-up air openings **should not be** located in an area directly near where exhaust vents exit the building.

Allowances **must be** made for remote or constricting passageways or where dryers are located at high altitudes or predominantly low pressure areas.

**IMPORTANT:** Make-up air **must be** free of dry cleaning solvent fumes. Make-up air that is contaminated by dry cleaning solvent fumes will result in irreparable damage to the motors and other dryer components.

**NOTE:** Component failure due to dry cleaning solvent fumes will void the warranty.



## E. EXHAUST REQUIREMENTS

Exhaust ductwork **should be** designed and installed by a qualified professional. Improperly sized ductwork will create excessive back pressure, which results in slow drying, increased use of energy, and shutdown of the burner by the airflow (sail) switch, burner hi-limit, or lint chamber hi-heat protector thermostat. The dryer **must be** installed with a proper exhaust duct connection to the outside.

The design of the flue system shall be such that any condensate formed when operating the appliance from cold shall either be retained and subsequently re-evaporated or discharged.

**CAUTION:** This dryer produces combustible lint and **must be** exhausted to the outdoors.

When possible, it is suggested to provide a separate (single) exhaust duct for each dryer.

**CAUTION: IMPROPERLY SIZED OR INSTALLED EXHAUST DUCTWORK CAN CREATE A POTENTIAL FIRE HAZARD.**

**IMPORTANT: It is recommended** that exhaust or booster fans not be used in the exhaust ductwork system.

The exhaust ductwork **should be** laid out in such a way that the ductwork travels as directly as possible to the outdoors with as few turns as possible. The shape of the ductwork is not critical as long as the minimum cross section area is provided. Single or independent dryer venting is recommended.

It is suggested that the use of 90° turns be avoided; use 30° or 45° angles instead.

The ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the ducts to be added should overlap the duct to which it is connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Additionally, inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning.

**IMPORTANT:** When connecting ductwork to the dryer exhaust duct, be sure that when screws are used they **DO NOT** restrict the operation (both opening and closing) of the damper.

**NOTE:** When the exhaust ductwork passes through a wall, ceiling, or roof made of combustible materials, the opening **must be** 2 inches (5.08 cm) larger than the duct (all the way around). The duct **must be** centered within this opening.

To protect the outside end of the horizontal ductwork from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the ductwork travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and the nearest obstruction (i.e., roof or ground level).

**IMPORTANT: *DO NOT*** use screens, louvers, or caps on the outside opening of the exhaust ductwork.

**IMPORTANT:** Exhaust back pressure measured by a manometer at the dryer exhaust duct area **must be** no less than 0 and **must not exceed** 0.3 inches (0.74 mb) of water column (W.C.).

**NOTE:** As per the National Fuel Gas Code, “Exhaust ducts for type 2 clothes dryers shall be constructed of sheet metal or other noncombustible material. Such ducts shall be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 26 gauge (0.0195-inches [0.50 mm]) thick.”

## SINGLE DRYER VENTING

**IMPORTANT:** For exhaust duct runs over 40 feet (12 meters) a minimum size of 10-inches (25.4 cm) *must be* used.

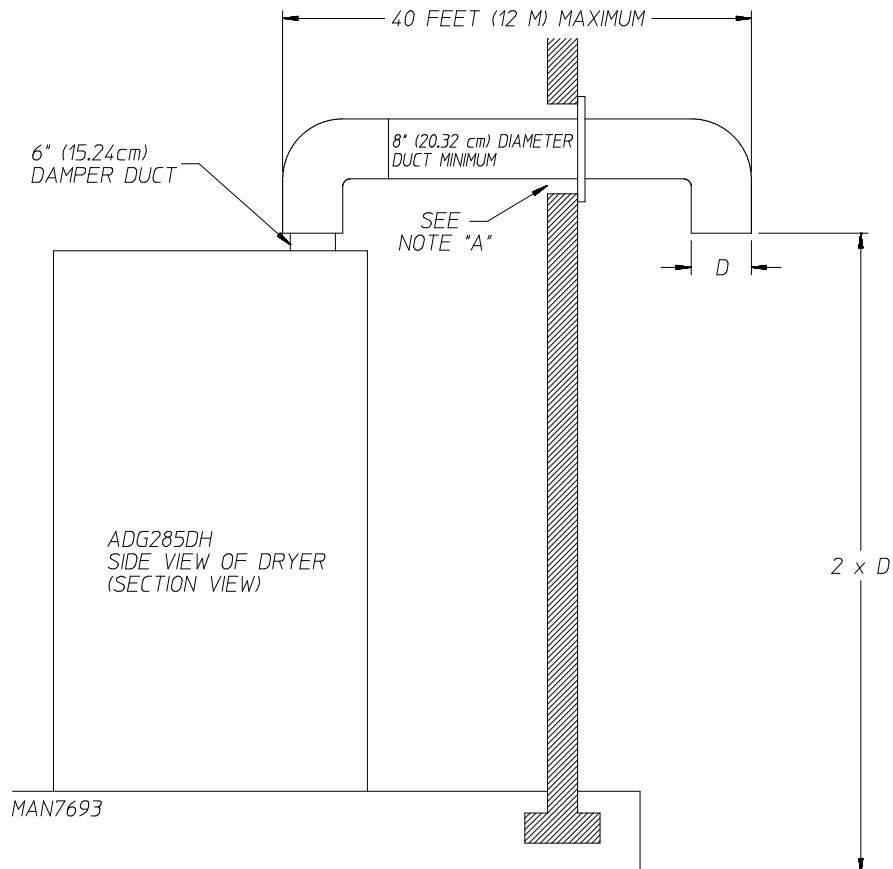
### **HORIZONTAL VENTING OF MODEL ADG285DH (With Heat Reclaimer)**

When horizontal single 8-inch (20.32 cm) venting is used with model ADG285DH, the ductwork to the outlet **cannot** exceed 40 feet (12 meters) refer to **Illus. A below**. This calculation of 40 feet (12 meters) compensates or allows for the use of a maximum of two (2) elbows in addition to those shown.

#### Illus. A

### **MODEL ADG285DH (With Heat Reclaimer)**

*HORIZONTAL SINGLE DRYER  
VENTING 8 INCH (20.32 CM) DUCTING*



NOTE A: OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND)  
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

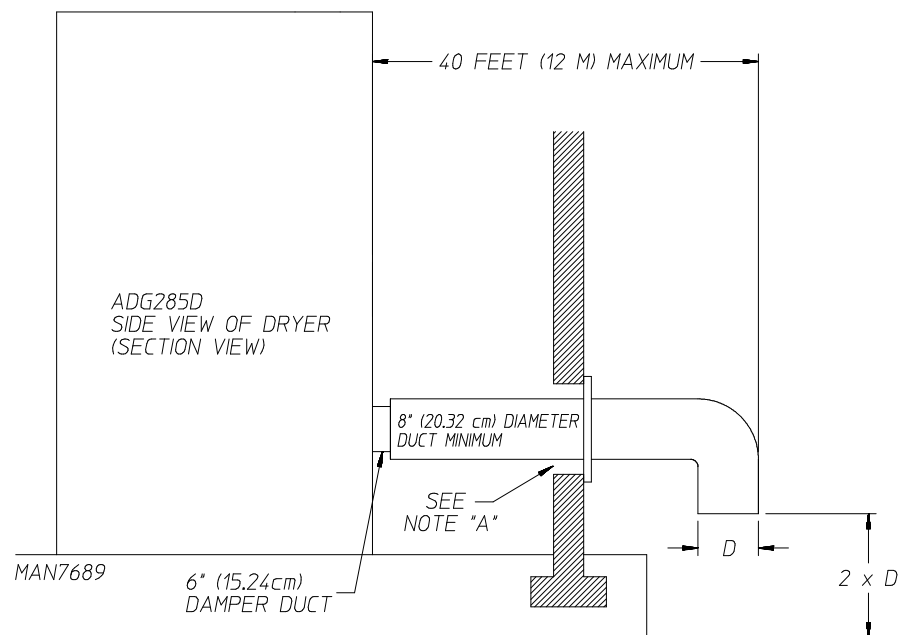
## HORIZONTAL VENTING OF MODEL ADG285D (No Heat Reclaimer)

When horizontal single 8-inch (20.32 cm) venting is used with model ADG285D, the ductwork to the outlet **cannot** exceed 40 feet (12 meters) refer to **Illus. A2 below**. This calculation of 40 feet (12 meters) compensates or allows for the use of a maximum of three (3) elbows in addition to that shown.

### Illus. A2

## MODEL ADG285D (No Heat Reclaimer)

### HORIZONTAL SINGLE DRYER VENTING 8 INCH (20.32 CM) DUCTING



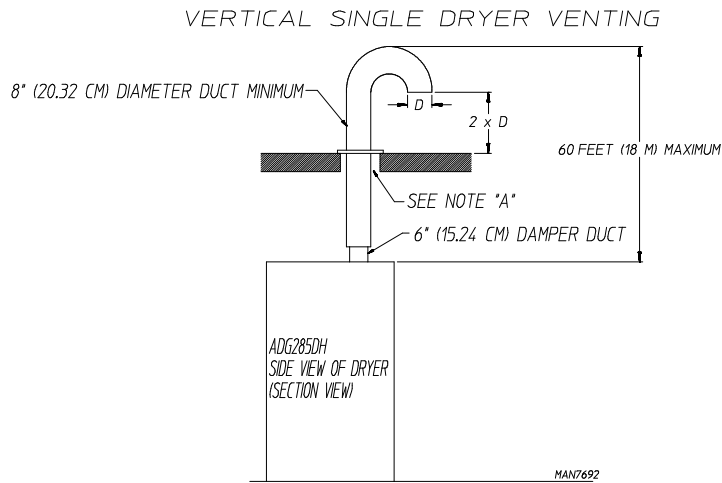
NOTE A: OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND)  
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

## VERTICAL VENTING OF MODEL ADG285DH (With Heat Reclaimer)

When vertical single venting is used with model ADG285DH, the minimum duct size is 8-inches (20.32 cm), refer to **Illus. B1 below**, the ductwork from the dryer to the outside outlet **cannot** exceed 60 feet (18 meters), refer to **Illus. B1 below**. This calculation compensates for the use of a maximum of two (2) elbows. These are the two (2) elbows that create the 180° (turned downward) outside outlet.

### Illus. B1

## MODEL ADG285DH (With Heat Reclaimer)



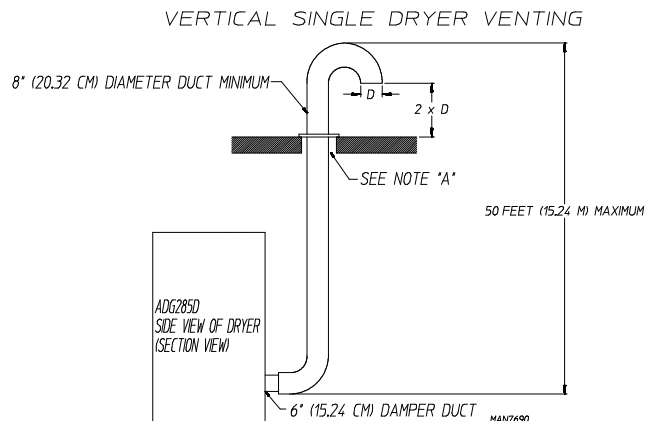
NOTE A: OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND)  
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

## VERTICAL VENTING OF MODEL ADG285D (No Heat Reclaimer)

When vertical single venting is used with model ADG285D, the minimum duct size is 8-inches (20.32 cm), refer to **Illus. B2 below**, the ductwork from the dryer to the outside outlet **cannot** exceed 50 feet (15.24 meters), refer to **Illus. B2 below**. This calculation compensates for the use of a maximum of three (3) elbows. These are the two (2) elbows that create the 180° (turned downward) outside outlet, and the one (1) elbow shown at the back of the dryer.

### Illus. B2

## MODEL ADG285D (No Heat Reclaimer)



NOTE A: OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND)  
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

If the length of the duct run or quantity of elbows used exceeds the above noted specifications, the cross section area of the ductwork **must be** increased in proportion to the number of elbows or duct run added.

**IMPORTANT:** For extended ductwork runs, the cross section area of the duct can only be increased to an extent. For extended ductwork runs, a professional heating, ventilating, and air-conditioning (HVAC) firm **should be** consulted for proper venting information.

**IMPORTANT:** It is recommended that exhaust or booster fans not be used in the exhaust ductwork system.

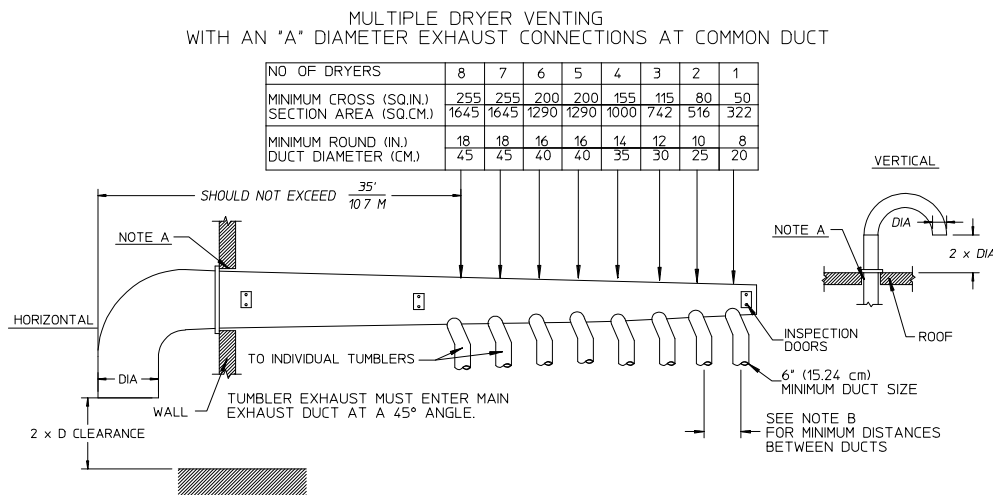
## MULTIPLE DRYER (COMMON) VENTING

### HORIZONTAL VENTING

If it is not feasible to provide separate exhaust ducts for each dryer, ducts for individual dryers may be channeled into a common main duct. Each dryer is provided with a back draft damper. The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of the airflow. No more than eight (8) dryers **should be** connected to one (1) main common duct run.

The main common duct may be any shape as long as the minimum cross-sectional area is provided. The main duct **should be** tapered with the diameter increasing before each individual 8-inch (20.32 cm) duct is added (refer to **Illus. C** below and **Illus. D** on page 18).

### Illus. C



IMPORTANT: NO MORE THAN 8 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT ( VENT )

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FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT =  $785 \times \text{DIA}^2$

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = WIDTH x HEIGHT.

**NOTE A:** OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

**NOTE B:** AD-285 = 28 1/2" (72.39 CM)

Horizontal venting **must not exceed** 35 feet (10.7 meters), this calculation compensates for the use of a maximum of only one (1) elbow, which is the outside outlet protection.

**NOTE:** Distance between dryer single ducts being connected to the main common duct *must be* a minimum of 28-1/2" (72.39 cm) dryer width.

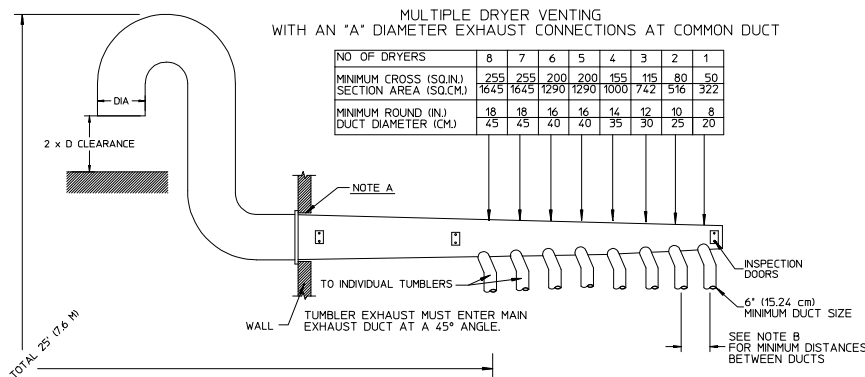
Ductwork *should be* laid out in such a manner where allowances are made at rear area of the dryer for removal of rear service panels or guards.

**Illus. C** (refer to the **illustration** on the previous page) shows the minimum cross section area for horizontal multiple dryer venting. These figures **must be** increased in proportion if the main duct run from the last dryer to where it exhausts has numerous elbows or is unusually long.

**IMPORTANT:** For extended ductwork runs, the cross section area of the duct can only be increased to an extent. For extended ductwork runs, a professional heating, ventilating, and air-conditioning (HVAC) firm *should be* consulted for proper venting information.

## VERTICAL VENTING

**Illus. D**



IMPORTANT: NO MORE THAN 8 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT ( VENT ).

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT =  $785 \times \text{DIA}^2$

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = WIDTH x HEIGHT.

NOTE A: OPENING MUST BE 2 INCHES (5.08 CM) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

NOTE B: AD-285 - 28 1/2" (72.39 CM)

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The maximum length of venting from the last dryer to where it exhausts.

Vertical venting **must not exceed** 25 feet (7.6 meters), this calculation compensates for the use of a maximum of three (3) elbows including the two (2) elbows creating the 180° (turned downward) outside outlet protection.

**IMPORTANT:** No more than eight (8) dryers maximum *should be* connected to one (1) main common duct with a vertical run.

**NOTE:** Distance between dryer single ducts being connected to the main common duct *must be* a minimum of 28-1/2" (72.39 cm) dryer width.

Ductwork *should be* laid out in such a manner where allowances are made at rear area of the dryer for removal of rear service panels or guards.

**Illus. D** (refer to the **illustration** on the previous page) shows the minimum cross section area for vertical multiple dryer venting. These figures **must be** increased in proportion if the main duct run from the last dryer to where it exhausts has numerous elbows or is unusually long.

**IMPORTANT:** For extended ductwork runs, the cross section area of the duct can only be increased to an extent. For extended ductwork runs, a professional heating, ventilating, and air-conditioning (HVAC) firm *should be* consulted for proper venting information.

## F. ELECTRICAL INFORMATION

### 1. Electrical Requirements

**ALL electrical connections must be made by a properly licensed and competent electrician.** This is to ensure that the electrical installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, **ALL** electrical connections, materials, and workmanship **must conform** to the applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

**IMPORTANT:** Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual can result in personal injury or component failure.

**NOTE:** Component failure due to improper installation will VOID THE WARRANTY.

Each dryer **should be** connected to an independently protected branch circuit. The dryer **must be** connected with copper wire only. ***DO NOT use aluminum wire, it could create a fire hazard.*** The copper conductor wire/cable **must be** of proper ampacity and insulation in accordance with electric codes for making **ALL** service connections.

**NOTE:** The use of aluminum wire will VOID THE WARRANTY.

**IMPORTANT:** A separate protected circuit ***must be*** provided to each dryer.

**NOTE:** An individual ground circuit must be provided to each dryer, do not daisy chain.

**IMPORTANT:** The dryer ***must be*** connected to the electric supply shown on the data label. In the case of 208 VAC or 240 VAC, the supply voltage must match the electric service specifications of the data label **exactly**.

**IMPORTANT:** The wire size ***must be*** properly sized to handle the related current.

**WARNING:** **208 VAC AND 240 VAC ARE NOT THE SAME**. Any damage done to dryer components due to improper voltage connections will automatically VOID THE WARRANTY.

**NOTE:** Component failure due to improper voltage application will VOID THE WARRANTY.

**NOTE:** ADC reserves the right to make changes in specifications at any time without notice or obligation.

## 2. Electrical Service Specifications

**IMPORTANT:** Figures shown are for non-reversing models only. For reversing models contact the factory.

<h1>Gas</h1>					
<b>ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)</b>					
<b>IMPORTANT:</b> 208 VAC AND 230/240 VAC ARE NOT THE SAME. When ordering, specify exact voltage.					
<b>NOTES:</b>					
A. When fuses are used they must be dual element, time delay, current limiting, class RK1 or RK5 ONLY. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data.					
B. Circuit breakers are thermal-magnetic (industrial) motor curve type ONLY. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.					
C. Circuit breakers for 3-phase (3 $\phi$ ) dryers must be 3-pole type.					
SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		CIRCUIT BREAKER
			60 Hz	50 Hz	
120	1 $\phi$	2	8.7	—	15
208	1 $\phi$	2	5.2	—	15
240	1 $\phi$	2	4.8	5.8	15
208	3 $\phi$	3	3.0	—	15
240	3 $\phi$	3	3.6	3.6	15
380-400	3 $\phi$	4 or 3	—	2.2	15
416	3 $\phi$	4 or 3	—	2.3	15
460 / 480	3 $\phi$	3	2.1	—	15

Check your national and local code for breaker and wire size

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## 3. Grounding

A ground (earth) connection **must be** provided and installed in accordance with state and local codes. In the absence of these codes, grounding **must conform** to applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the installation **must conform** to applicable Canada Standards: Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. The ground connection may be to a proven earth ground at the location service panel.

For added personal safety, when possible, it is suggested that a separate ground wire (no. 18 minimum) be connected from the ground connection of the dryer to a grounded cold water pipe. **DO NOT ground to a gas pipe or hot water pipe.** The grounded cold water pipe must have metal-to-metal connection **ALL** the way to the electrical ground. If there are any nonmetallic interruptions, such as, a meter, pump, plastic, rubber, or other insulating connectors, they **must be** jumped out with no. 4 copper wire and securely clamped to bare metal at both ends.

**IMPORTANT:** For personal safety and proper operation, the dryer **must be** grounded.

Provisions are made for ground connection in each dryer at the electrical service connection area.



#### 4. Electrical Connections

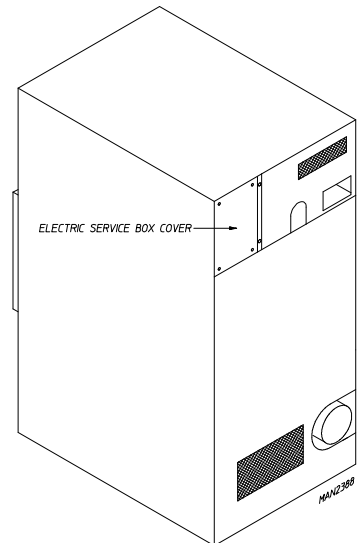
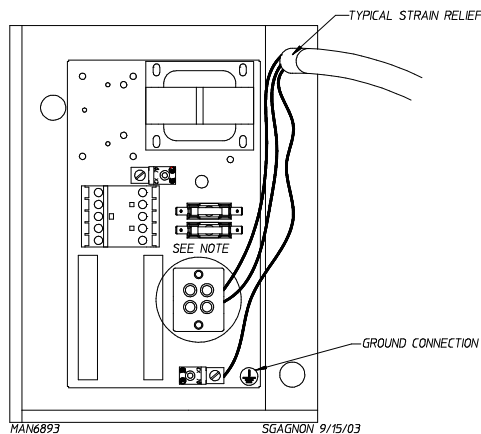
A wiring diagram is located inside the control box for connection data.

If local codes permit, power to the dryer can be made by the use of a flexible U.L. listed power cord/pigtail (wire size **must conform** to rating of dryer), or the dryer can be hard wired directly to the service breaker panel. In both cases, a strain relief **must be** installed where the wiring enters the dryer.

**IMPORTANT:** A separate protected circuit **must be** provided to each dryer.

##### a. Single-Phase (1 $\phi$ ) Wiring Connections/Hookup

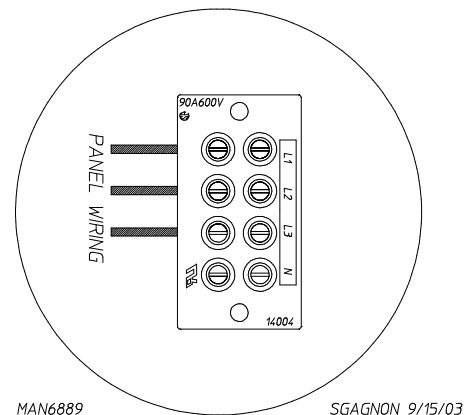
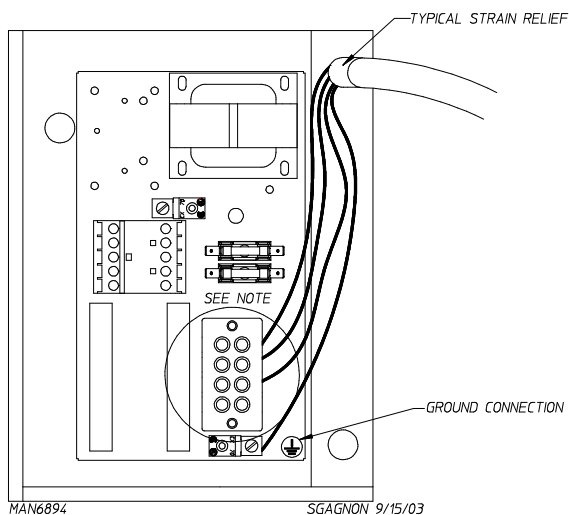
The electrical input connections on **ALL** single-phase (1 $\phi$ ) gas dryers are made into the rear service box located at the upper left area of the dryer.



##### b. 3-Phase (3 $\phi$ ) Wiring Connections/Hookup

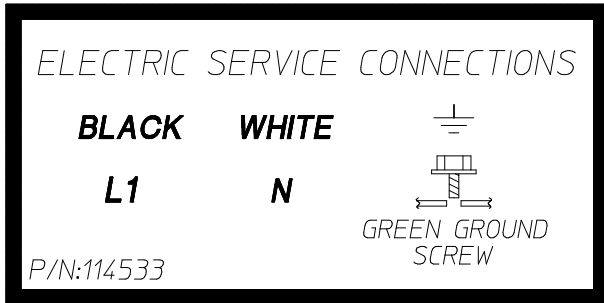
The electrical connections on **ALL** 3-phase (3 $\phi$ ) gas dryers are made into the rear service box located at the upper left area of the dryer. The electrical connections are made at the power distribution block located in the service box. The ground connection is made to the copper lug, also provided in this box. To gain access, the service box cover **must be** removed.

The neutral will only be used on 4-wire service. This is typical for 380-416V, 50 Hz.



Single-Phase Electrical Lead Connections		
Black + Positive	White or Red + Neutral or L2	Green + Ground

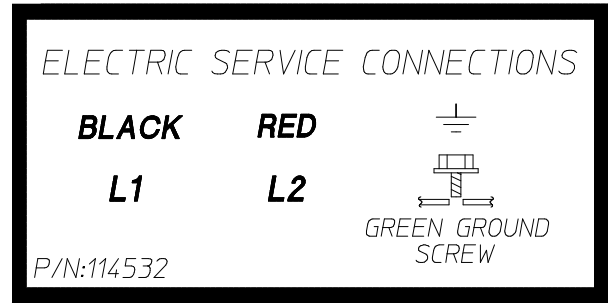
FOR 110V APPLICATIONS



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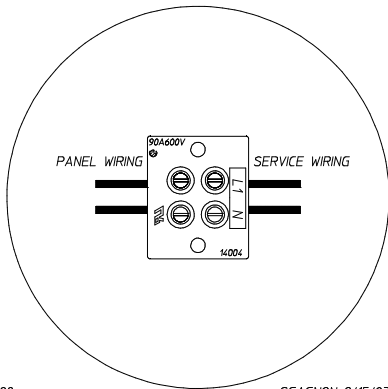
SGAGNON 9/15/03

FOR 208-240V APPLICATIONS

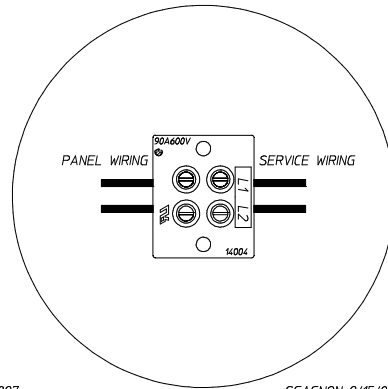


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A ground lug is provided in the rear electrical box to connect your service ground.

## G. GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to ensure that the gas plumbing installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, **ALL** plumbing connections, materials, and workmanship **must conform** to the applicable requirements of the National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION.

In Australia, the fuel gas code is AS 5601/AG 601, local authority, gas, electricity, and any other relevant statutory regulations.

**IMPORTANT:** Failure to comply with codes or ordinances, and/or requirements in this manual, can result in personal injury and improper operation of the dryer.

The dryer and its individual shutoff valves **must be** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa). The dryer **must be** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

**IMPORTANT:** Failure to isolate or disconnect the dryer from supply as noted can cause irreparable damage to the gas valve, which will VOID THE WARRANTY.

**WARNING: FIRE OR EXPLOSION COULD RESULT DUE TO FAILURE OF ISOLATING OR DISCONNECTING THE GAS SUPPLY AS NOTED.**

### 1. Gas Supply

The gas dryer installation **must meet** the American National Standard: National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION, as well as local codes and ordinances and **must be** done by a qualified professional.

**NOTE:** Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer **must be** connected to the type of heat or gas indicated on the dryer data label. If this information does not agree with the type of gas available, **DO NOT operate the dryer**. Contact the reseller who sold the dryer or contact the **ADC** factory.

**IMPORTANT:** Any burner changes or conversions **must be** made by a qualified professional.

The input ratings shown on the dryer data label are for elevations up to 2,000 feet (609.6 meters), unless elevation requirements of over 2,000 feet (609.6 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet (609.6 meters) is made by changing each burner orifice. If this conversion is necessary, contact the reseller who sold the dryer or contact the **ADC** factory.

**IMPORTANT:** THIS GAS DRYER **IS NOT** PROVIDED WITH AN INTERNAL GAS SUPPLY SHUTOFF AND AN EXTERNAL GAS SUPPLY SHUTOFF **MUST BE** PROVIDED.

2. Technical Gas Data

a. Gas Specifications

<b>TYPE OF GAS</b>					
	NATURAL			LIQUID PROPANE	
Manifold Pressure*	3.5 inches W.C.	8.7 mb	10.5 inches W.C.	26.1 mb	
In-Line Pressure	6.0 - 12.0 inches W.C.	14.92 - 29.9 mb	11.0 inches W.C.	27.4 mb	

Shaded areas are stated in metric equivalents

\* Measured at the outlet side of gas valve pressure tap when gas valve is on.

b. Gas Connections

Inlet connection ----- 1/2" N.P.T.  
 Inlet supply size ----- 1/2" Pipe (minimum)  
 Btu/hr input (per dryer)----- 72,000 (18,144 kcal/hr)

1) Natural Gas

Regulation is controlled by the dryer's gas valve's internal regulator. Incoming supply pressure **must be** consistent between a minimum of 6.0 inches (14.92 mb) and a maximum of 12.0 inches (29.9 mb) water column (W.C.) pressure.

2) Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas valve's internal pressure regulator blocked open so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at each gas valve pressure tap **must be** a consistent 10.5 inches (26.1 mb) water column. There is no regulator or regulation provided in an L.P. dryer. The water column pressure **must be** regulated at the source (L.P. tank) or an external regulator **must be** added to each dryer.

		<b>TYPE OF GAS</b>						Liquid Propane Conversion Kit Part Number
Btu/hr Rating	kcal/hr Rating	Natural			Liquid Propane			
		Qty.	D.M.S.*	Part No.	Qty.	D.M.S.*	Part No.	
72,000	18,144	2	#33	140855	2	#51	140801	874054

Shaded area is stated in metric equivalent

\* Drill Measurement Size (D.M.S.) equivalents are as follows:

Natural Gas ..... #33 = 0.1130" (2.8702 mm).  
 Liquid Propane Gas ..... #51 = 0.0670" (1.7018 mm).

### 3. Piping Connections

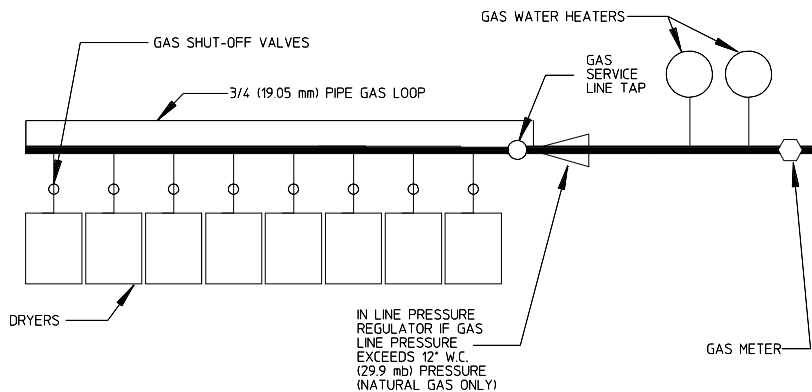
**ALL** components/materials **must conform** to National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing), as well as local codes and ordinances and **must be** done by a qualified professional. It is important that gas pressure regulators meet applicable pressure requirements, and that gas meters be rated for the total amount of **ALL** the appliance Btu being supplied.

The dryer is provided with a 1/2" N.P.T. inlet pipe connection located in the upper rear of the dryer. The minimum pipe size (supply line) to the dryer is 1/2" pipe. For ease in servicing, the gas supply line of each dryer must have its own shutoff valve.

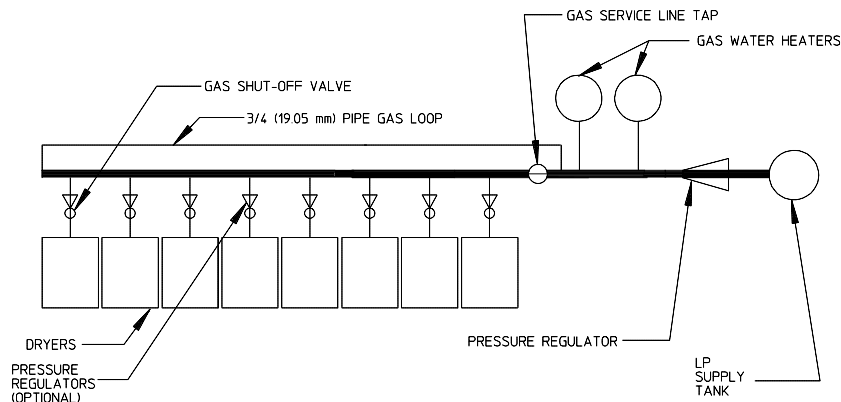
**IMPORTANT:** The gas supply line to each dryer *must be* a minimum of 1/2-inch. **DO NOT** REDUCE THIS PIPE SIZE REQUIREMENT.

The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of L.P. gas, the supply tank, other gas-operated appliances on the same line, etc. Specific information regarding supply line size **should be** determined by the gas supplier.

**NOTE:** Undersized gas supply piping can create a low or inconsistent pressure, which will result in erratic operation of the burner ignition system.



TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION

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Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 3/4-inch (19.05 mm) pipe gas loop be installed in the supply line servicing a bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if the (natural) gas pressure exceeds 12.0 inches (29.9 mb) of water column (W.C.) pressure. Refer to the **illustrations** on the previous page.

**NOTE:** A water column test pressure of 3.5 inches (8.7 mb) for natural gas and 10.5 inches (26.1 mb) for liquid propane (L.P.) dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.

A 1/8" N.P.T. plugged tap, accessible for a test gauge connection, **must be** installed in the main gas supply line immediately upstream of each dryer.

**IMPORTANT:** Pipe joint compounds that resist the action of natural gas and L.P. gas **must be** used.

**IMPORTANT:** Test **ALL** connections for leaks by brushing on a soapy water solution (liquid detergent works well).

**WARNING: NEVER TEST FOR LEAKS WITH A FLAME!!!**

**IMPORTANT:** The dryer and its individual shutoff valve **must be** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

**NOTE:** The dryer **must be** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

## H. PREPARATION FOR OPERATION AND START-UP

The following items **should be** checked before attempting to operate the dryer:

1. Read **ALL** “**CAUTION,**” “**WARNING,**” and “**DIRECTION**” labels attached to the dryer.
2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label.
3. Check to ensure that the dryer is connected to the type of heat or gas indicated on the dryer data label.
4. The sail switch damper assembly was installed and adjusted at the factory prior to shipping. However, each sail switch adjustment **must be** checked to ensure that this important safety control is functioning.
5. Check bolts, nuts, screws, terminals, and fittings for tightness.
6. Be sure that **ALL** gas shutoff valves are in the open position.
7. Check **ALL** back guard panels and service box covers have been replaced.
8. Make sure the lint coop support bracket has been removed.
9. Check the lint door to ensure that it is closed and secured in place.

**IMPORTANT:** If during installation the lint door safety chain was disconnected, it *must be* reconnected or personal injury may result.

10. Rotate the basket (tumbler and drum) by hand to be sure it moves freely.
11. Check bolts, nuts, screws, terminals, and fittings for security.
12. Check basket (tumbler) bearing setscrews to ensure that they are **ALL** tight.

## I. PREOPERATIONAL TEST

**ALL** dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test **should be** performed before the dryer is publicly used. It is possible that adjustments have changed in transit or due to marginal location (installation) conditions. Installer must instruct the user on how to correctly operate the dryer before leaving.

1. Turn on electric power to the dryer.
2. Refer to the Operating Instructions for starting your particular model dryer.
  - a. When a gas dryer is first started (during initial start-up), it has a tendency not to ignite on the first ignition attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for the air to be purged from the lines.

**NOTE:** During the purging period, check to be sure that **ALL** gas shutoff valves are open.

**NOTE:** Gas model dryers are equipped with a Direct Spark Ignition (DSI) system, which has internal diagnostics. If ignition **is not** established after the first attempt, the heat circuit in the DSI module will lock out until it is manually reset. To reset the DSI system, open and close the main door and restart the dryer.

- b. A gas pressure test **should be** taken at the gas valve pressure tap of each dryer to ensure that the water column (W.C.) pressure is correct and consistent.

**NOTE:** Water column pressure requirements (measured at the pressure tap of the gas valve body):

Natural Gas ----- 3.5 Inches (8.7 mb) Water Column.

Liquid Propane (L.P.) Gas ----- 10.5 Inches (26.1 mb) Water Column.

**IMPORTANT:** There is no regulator provided in an L.P. dryer. The water column pressure **must be** regulated at the source (L.P. tank), or an external regulator **must be** added to each dryer.

3. Make a complete operational check of **ALL** safety related circuits
  - a. Door Switches
  - b. Hi-Limit Thermostats
  - c. Cycling Thermostat
  - d. Sail Switch

**NOTE:** The sail switch can be checked for proper operation by opening the lint door while the heating circuit (gas burner) is active (on). The heating until should shut off within a few seconds. If not, make necessary adjustments to the sail switch.

4. Make a complete operational check of **ALL** operating controls.



**NOTE:** If computer program changes are required, refer to the computer programming section of the manual supplied with the dryer.

5. The dryer **should be** operated through one (1) complete cycle to ensure that no further adjustments are necessary and that **ALL** components are functioning properly.

#### BASKET (TUMBLER) COATING

The basket (tumbler) is treated with a protective coating. We suggest dampening old garments or cloth material with a solution of water and nonflammable mild detergent and tumbling them in the basket (tumbler) to remove this coating.

6. Check the electric service phase sequence (3-phase [3 $\phi$ ] models only). While the dryer is operating, check to see if the blower (squirrel cage fan) is rotating in the proper direction. Looking from the front, the blower (squirrel cage fan) should spin in the clockwise (CW) direction. If it is, the phasing is correct. If the phasing is incorrect, reverse two (2) of the three (3) leads at connections L1, L2, and L3 of the power supply to the dryer.

**IMPORTANT:** If the blower (squirrel cage fan) is rotating in the wrong direction, this **will not** only drastically reduce drying efficiency, but it can also cause premature component failure.

## J. PREOPERATIONAL INSTRUCTIONS

### COIN MODELS

#### 1. Microprocessor Controller (Computer)

- a. When the microprocessor controller (computer) is in the ready state, the liquid crystal display (L.C.D.) screen will display "Ready, Insert \$XX.XX (amount) to Start".
- b. Insert coin(s). Once the correct "Amount to Start" has been inserted, the L.C.D. will display "Select Temperature".
- c. Select temperature by pressing "HI," "MED," or "LO." The cycle will start and the L.C.D. will display the Dry Cycle selected and the remaining time.
- d. The dryer will continue through the drying and cooling cycles, until the vended time has expired.

**NOTE:** To stop dryer, open main door or pressing the pause key. Continuation of the cycle will resume only after the door has been closed and any of the three (3) temperature selection is pressed.

- e. Upon completion of the drying and cooling cycles, the tone (buzzer) will sound and the dryer will go into the Anti-Wrinkle Mode for 99 minutes, or until the main door has been opened.

**IMPORTANT:** For more detailed information regarding the microprocessor controller (computer) on your dryer, refer to the microprocessor user's manual included with the dryer.

## 2. Mechanical Drop/Rotary Coin Meter or Slide Coin Meter

- a. Insert coin and turn knob (rotary type meter), or for slide meter unit, push in coin chute.
- b. Select Temperature.
- c. Push the “Start” button.
- d. To stop dryer, open the main door.



## NON-COIN MODELS

1. The light emitting diode (L.E.D.) display reads “READY” (no cycle in progress).
2. Press the letter on the keyboard (touch pad) corresponding to the cycle desired (i.e., key “D”).

**NOTE:** “0-40” WILL REQUIRE THE “START/ENTER”  KEY TO BE PRESSED AFTER THE NUMBER IS SELECTED IN ORDER TO ACCEPT THE SELECTION AND START DRYING.

3. The dryer will then start. (I.E., blower, basket [tumbler], and heat).
4. The L.E.D. display will read MANUAL DRYING CYCLE D, 00:00 MIN REMAIN.

**NOTE:** Press and hold the “UP ARROW” to view the basket (tumbler) temperature at any time.

**NOTE:** The dryer can be stopped at any time by pressing the “STOP/CLEAR”  key, at this time the dryer will go into a cycle pause. If the “STOP/CLEAR”  key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the “READY” state.

**NOTE:** Press and hold the “DOWN ARROW” to view the basket (tumbler) RPM.

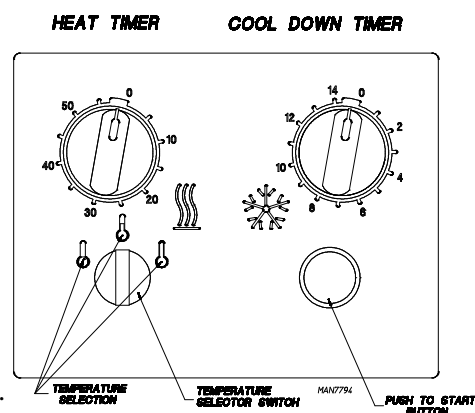
5. When the programmed drying time has expired, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Cool Down Cycle.
6. Once the Cool Down Cycle begins at the end of the heat cycle, the L.E.D. display will read COOL DOWN TEMP \_\_\_/\_\_\_ MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

**IMPORTANT:** For more detailed information regarding the microprocessor controller (computer) on your dryer, refer to the microprocessor user’s manual included with the dryer.

## DUAL TIMER DRYERS

1. Turn drying timer knob for a time of 20 minutes.
2. Select “High Temp.”
3. Push “Push to Start” button.
4. To stop dryer, open the main door.

Spin and dwell (stop) times are adjustable at the reversing timer.

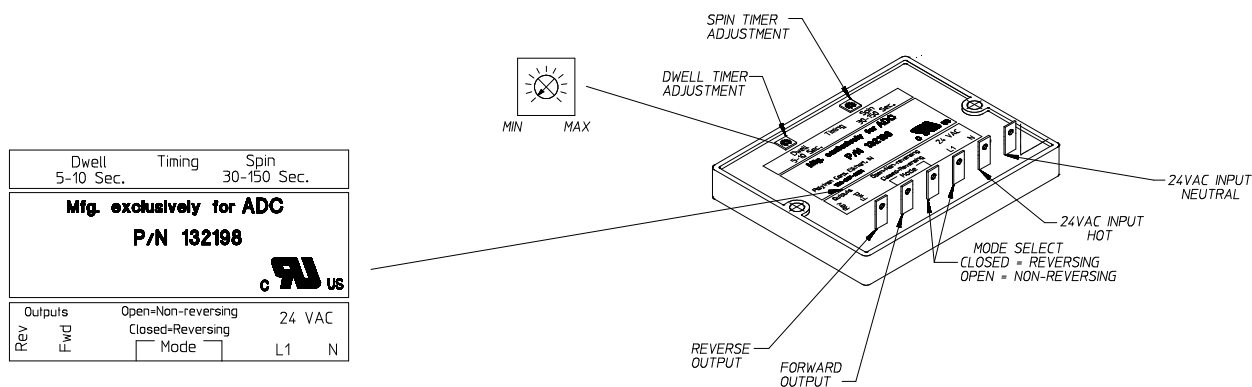


## REVERSING TIMER SPIN/DWELL ADJUSTMENTS

Timer models have an electronic reversing timer in the electrical service box, which is located in the upper left rear area of the dryer.

Both the Dwell (stop) Time and the basket (tumbler) Spin Time are adjustable by mode selection switches located on the electronic timer (as noted in the **illustration below**).

TIMING LEGEND											
<b>SPIN TIME</b>											
Adjustment Position Number	1	2	3	4	5	6	7	8	9	10	11
Approximate Time in Seconds	30	42	54	66	78	90	102	114	126	138	150
<b>DWELL (STOP) TIME</b>											
Adjustment Position Number	1	2	3	4	5	6	7	8	9	10	11
Approximate Time in Seconds	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10



## K. SHUTDOWN INSTRUCTIONS

If the dryer is to be shutdown (taken out of service) for a period of time, the following **must be** performed:

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.
2. Discontinue the gas supply:
  - a. SHUT OFF external gas supply shutoff valve.
  - b. SHUT OFF internal gas supply shutoff valve located in the gas valve burner area.

# SECTION IV

## SERVICE AND PARTS INFORMATION

### A. SERVICE

Only properly licensed or trained technicians should service the dryer. If service is required, contact the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Service Department for a reseller in your area.

**NOTE:** When contacting the **ADC** Service Department, be sure to give them the correct **model number** and **serial number** so that your inquiry is handled in an expeditious manner.

### B. PARTS

Replacement parts **should be** purchased from the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Parts Department for a reseller in your area. Parts may also be purchased directly from the factory by calling the **ADC** Parts Department at +1 (508) 678-9000 or you may FAX in your order at +1 (508) 678-9447.

**NOTE:** When ordering replacement parts from the **ADC** reseller or the **ADC** factory be sure to give them the correct **model number** and **serial number** so that your parts order can be processed in an expeditious manner.

# SECTION V

## WARRANTY INFORMATION

### A. WARRANTY REGISTRATION

Warranty registration for this product is done on-line. To do so, go to [www.adclaundry.com](http://www.adclaundry.com). First choose SERVICE (top left), then WARRANTY, then WARRANTY REGISTRATION. This registration is intended to serve the customer wherein, we record the individual installation date and warranty information to better serve you should you file a warranty claim.

If you encounter problems online, contact the **ADC** Warranty Department or the **ADC** Service Department at +1 (508) 678-9000.

**IMPORTANT:** Online registration *must be* entered for each individual dryer. The web page will accept up to 50 serial numbers at a time.

**NOTE:** Be sure to include the installation date when registering.

### B. WARRANTY

For a copy of the **ADC** commercial warranty covering your particular dryer(s), contact the **ADC** reseller from whom you purchased the equipment and request a dryer warranty form. If the reseller **cannot** be contacted or is unknown, warranty information can be obtained from the factory by contacting the **ADC** Warranty Department at +1 (508) 678-9000.

**NOTE:** Whenever contacting the **ADC** factory for warranty information, be sure to have the dryer's **model number** and **serial number** available so that your inquiry can be handled in an expeditious manner.

### C. RETURNING WARRANTY PARTS

**ALL** dryer or parts warranty claims or inquiries **should be** addressed to the **ADC** Warranty Parts Department. To expedite processing, the following procedures **must be** followed:

1. No parts are to be returned to **ADC** without prior written authorization (“Return Material Authorization” [R.M.A.]) from the factory.

**NOTE:** An R.M.A. is valid for only thirty (30) days from date of issue.

The R.M.A. issued by the factory, as well as any other correspondence pertaining to the returned part(s), **must be** included inside the package with the failed merchandise.

2. Each part **must be** tagged with the following information:
  - a. **Model number** and **serial number** of the dryer from which part was removed.
  - b. Nature of failure (be specific).
  - c. Date of dryer installation.
  - d. Date of part failure.
  - e. Specify whether the part(s) being returned is for a replacement, a credit, or a refund.

**NOTE:** If a part is marked for a credit or a refund, the invoice number covering the purchase of the replacement part **must be** provided.

**NOTE:** Warranty tags (ADC Part No. 450064) are available at “no charge” from ADC upon request.

3. The company returning the part(s) must clearly note the complete company name and address on the outside of the package.
4. **ALL** returns **must be** properly packaged to ensure that they are not damaged in transit. *Damage claims are the responsibility of the shipper.*

**IMPORTANT:** No replacements, credits, or refunds **will be** issued for merchandise damaged in transit.

5. **ALL** returns **should be** shipped to the ADC factory in such a manner that they are insured and a proof of delivery can be obtained by the sender.
6. **Shipping charges are not the responsibility of ADC. ALL returns should be “prepaid” to the factory. Any “C.O.D.” or “COLLECT” returns will not be accepted.**

**IMPORTANT:** No replacements, credits, or refunds **will be** issued if the claim **cannot** be processed due to insufficient information. The party filing the claim **will be** notified in writing, either by “FAX” or “CERTIFIED MAIL - Return Receipt Requested,” as to the information necessary to process claim. If reply **is not** received by the ADC Warranty Department within thirty (30) days from the FAX/letter date, then no replacements, credits, or refunds **will be** issued, and the merchandise **will be** discarded.

# SECTION VI

## ROUTINE MAINTENANCE

### A. CLEANING

A program and/or schedule **should be** established for periodic inspection, cleaning, and removal of lint from various areas of the dryer, as well as throughout the ductwork system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper air circulation. The accumulation of lint can restrict this airflow. If the guidelines in this section are met, an ADC dryer will provide many years of efficient, trouble free, and most importantly, safe operation.

**WARNING: LINT FROM MOST FABRICS IS HIGHLY COMBUSTIBLE. THE ACCUMULATION OF LINT CAN CREATE A POTENTIAL FIRE HAZARD.**

**WARNING: KEEP DRYER AREA CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE, AND OTHER FLAMMABLE VAPORS AND LIQUIDS.**

**NOTE:** Suggested time intervals shown are for average usage, which is considered six (6) to eight (8) operational (running) hours per day.

**IMPORTANT:** Dryer produces combustible lint and *must be* exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint buildup.

### SUGGESTED CLEANING SCHEDULE

#### ***EVERY THIRD OR FOURTH LOAD***

Clean the lint screen every third or fourth load. A clogged lint screen will cause poor dryer performance. The lint screen is located behind the lint door in the base of the dryer. Open the lint door, brush the lint off the lint screen, and remove the lint. Inspect lint screen and replace if torn.

**NOTE:** The frequency of cleaning the lint screen can best be determined from experience at each location.

#### ***WEEKLY***

Clean lint accumulation from lint chamber, thermostat, and microprocessor temperature sensor (sensor bracket) area.

**WARNING: TO AVOID THE HAZARD OF ELECTRICAL SHOCK, DISCONTINUE ELECTRICAL SUPPLY TO THE DRYER.**

## **90 DAYS**

Inspect and remove lint accumulation in customer furnished exhaust ductwork system from dryer's internal exhaust ducting.

**WARNING: THE ACCUMULATION OF LINT IN THE EXHAUST DUCTWORK CAN CREATE A POTENTIAL FIRE HAZARD.**

**WARNING: *DO NOT* OBSTRUCT THE FLOW OF COMBUSTION AND VENTILATION AIR.**

**WARNING: INSPECT AND REMOVE ANY LINT ACCUMULATION, WHICH CAN CAUSE THE BACK DRAFT DAMPER TO BIND OR STICK.**

**NOTE:** A back draft damper that is sticking partially closed can result in slow drying and shutdown of heat circuit safety switches or thermostats.

**NOTE:** When cleaning the dryer cabinets, avoid using harsh abrasives. A product intended for the cleaning of appliances is recommended.

## **B. ADJUSTMENTS**

### ***7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER***

Inspect bolts, nuts, screws, setscrews, grounding connections, and nonpermanent gas connections (unions, shutoff valves, and orifices). Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose V-belts when necessary. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (door switches, lint drawer switch, sail switch, burner, and hi-limit thermostats).

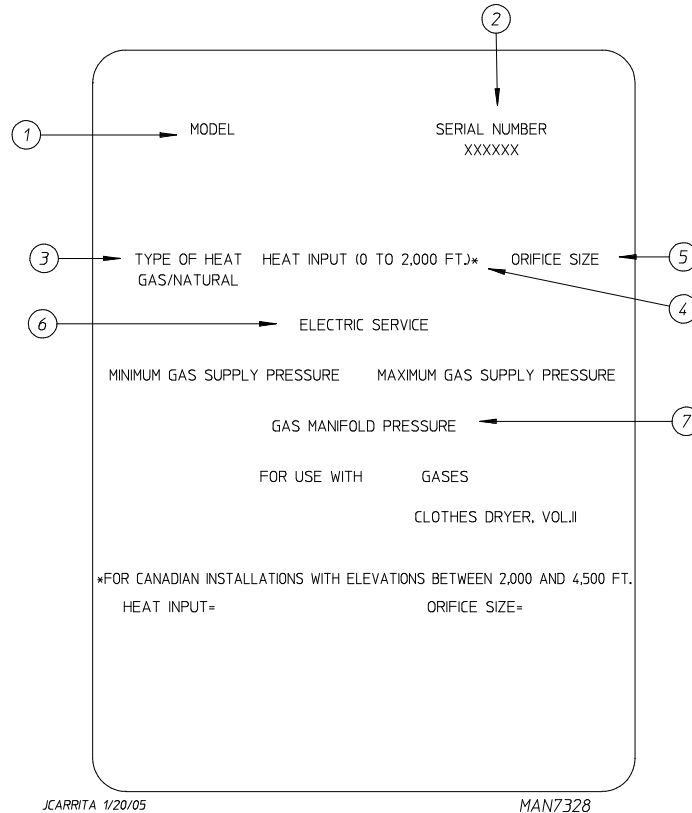
## **C. LUBRICATION**

The motor bearings, idler bearings, and under normal/most conditions the basket (tumbler) bearings are permanently lubricated. It is physically possible to relubricate the basket (tumbler) bearings if you choose to do so even though this practice is not necessary. Use Shell Alvania #2 grease or its equivalent. The basket (tumbler) bearings used in the dryer **DO NOT** have a grease fitting. Provisions are made in the bearing housing for the addition of a grease fitting, which can be obtained elsewhere, or from **ADC** by ordering kit P/N 882159 (includes two [2] fittings).



# SECTION VII

## DATA LABEL INFORMATION



When contacting **American Dryer Corporation**, certain information is required to ensure proper service/parts information from **ADC**. This information is on the data label that is affixed to either the backside of the upper control door or left side panel/wall area behind the control door. When contacting **ADC**, please have the **model number** and **serial number** available.

1. **Model Number** – This describes the style of dryer and type of heat (gas, electric, or steam).
2. **Serial Number** – Allows the manufacturer to gather information on your particular dryer.
3. **Type of Heat** – This describes the type of heat for your particular dryer, gas (either natural gas or L.P. gas), electric, or steam.
4. **Heat Input** (For Gas Dryers) – This describes the heat input in British thermal units per hour (Btu/hr) or kilowatts (kW).
5. **Orifice Size** (For Gas Dryers) – Gives the number drill size used.
6. **Electric Service** – This describes the voltage and current rating for a particular model.
7. **Gas Manifold Pressure** (For Gas Dryers) – This describes the manifold pressure taken at the gas valve tap.

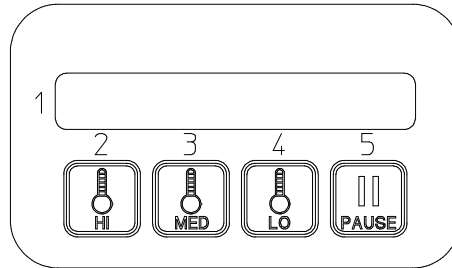
# SECTION VIII

## PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

### 1. Microprocessor Controller (Computer) Board

#### a. Phase 7 Coin Models

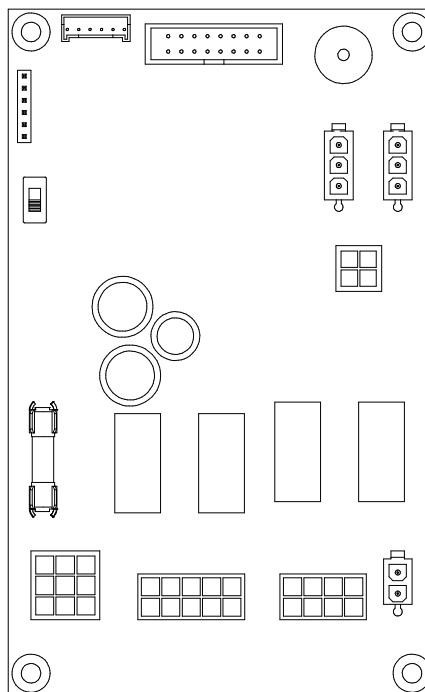
- 1) Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.
- 2) Start the drying cycle by pressing any temperature selection keys (HI, MED, or LO).



JM 9/17/03

MAN6873

- 3) Verify that the applicable indicator lights on the microprocessor controller (computer) board are lit. (Refer to the **illustration below.**)

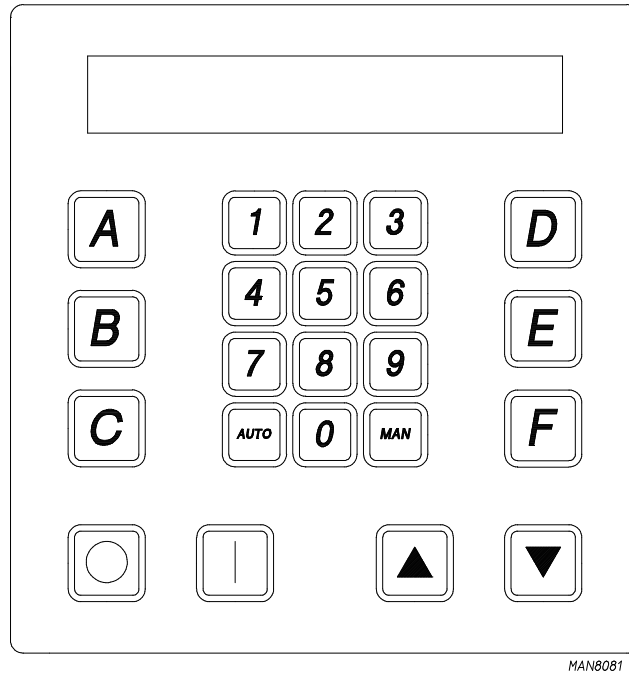


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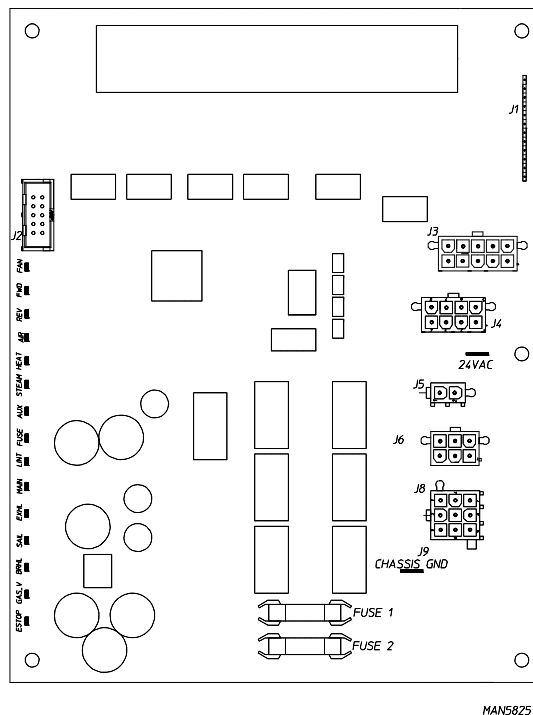
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b. Phase 7 Non-Coin Models

- 1) Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.
- 2) Start the drying cycle by pressing any of the preset cycles in letters A-F.



- 3) Verify that the applicable indicator lights on the microprocessor controller (computer) board are lit. (Refer to the **illustration below.**)





# SECTION IX

## SENSOR ACTIVATED

### FIRE EXTINGUISHING (S.A.F.E.) SYSTEM

The exclusive Sensor Activated Fire Extinguishing (S.A.F.E.) System will extinguish fires that may start in the drying basket (tumbler). A series of sensors positioned throughout the basket (tumbler) and interfaced with the microprocessor will trigger the S.A.F.E. system water jet(s) to quickly extinguish the flames. The water jet(s) remain on for 2 minutes and will automatically activate again if a fire condition remains or reignites. While the water jet(s) are activated, the basket (tumbler) will jog to move the water throughout the load. The microprocessor will display that the system was activated and will continue to display until the dryer is attended to.

#### **BEFORE YOU START!**

#### **CHECK LOCAL CODES AND PERMITS**

Call your local water company or the proper municipal authority for information regarding local codes.

**IMPORTANT:** It is your responsibility to have **ALL** plumbing connections made by a qualified professional to ensure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

**IMPORTANT:** It is the installer's or owner's responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided. The manufacturer assumes no responsibility if the S.A.F.E. system **is not** connected, installed, or maintained properly.

#### **INSTALLATION**

##### 1. Requirements

The S.A.F.E. system **must be** supplied with a minimum water pipe size of 1/2" and be provided with 40 psi +/- 20 psi (2.75 bar +/- 1.37 bar) of pressure. For use of optional manual bypass, a second source with the same piping and pressure requirements is required.

Flexible 1/2 feeds **must be** provided to avoid damage to electric water solenoid valve by vibration.

**IMPORTANT:** Flexible supply line/coupling **must be** used. Solenoid valve failure due to hard plumbing connections **WILL VOID WARRANTY.**

If the rear area of the dryer, or the water supply is located in an area where it **will be** exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.

**WARNING:** If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system **will be** INOPERATIVE!!

**IMPORTANT:** Appliance is to be connected to the water mains using a new hose set and the old hose set **should not be** reused.

## 2. Water Connections:

The water connection is made to the 3/4"-11.5 NH hose adapter of the electric water solenoid valve, located at the rear upper midsection of the dryer (refer to the photograph).

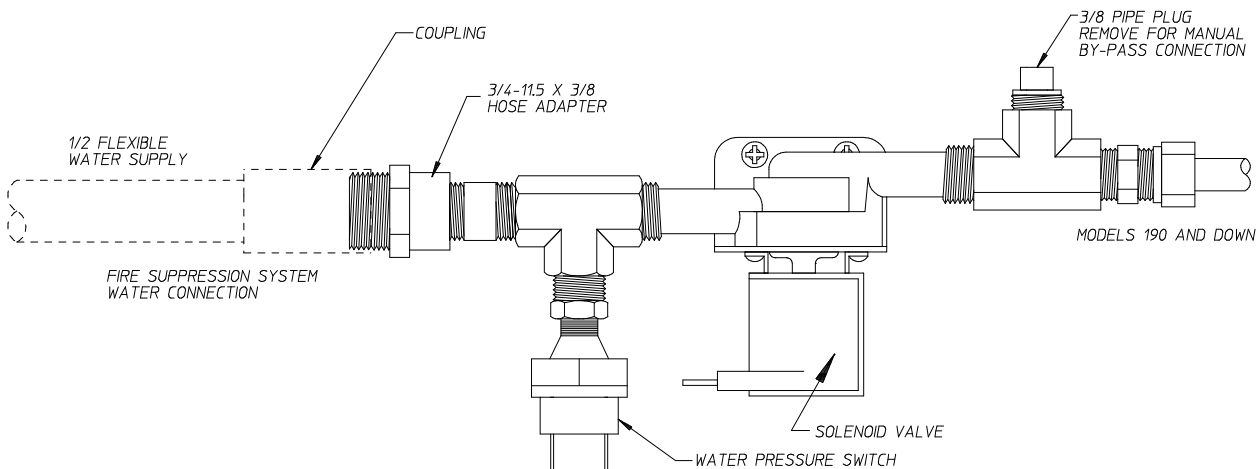
The water solenoid valve has a 3/8" M.P.T. connection supplied with a 3/4"-11.5 NH hose adapter to provide the minimum 1/2-inch supply (feed) line. Flexible supply line/coupling **must be** used in an effort to avoid damaging the electric water solenoid valve.



**NOTE:** The 3/4"-11.5 NH is a standard hose coupling screw thread. It **is not** to be confused with 3/4" N.P.T. The sealing of an NH connection is made with a washer opposed to the mating threads of an N.P.T. assembly. The two (2) thread designs **are not** compatible.

**IMPORTANT:** Flexible supply line/coupling **must be** used. Solenoid valve failure due to hard plumbing connections **WILL VOID WARRANTY**. **It is recommended** that a filter or strainer be installed in the water supply line.

## Typical water supply:



MG 12/3/03

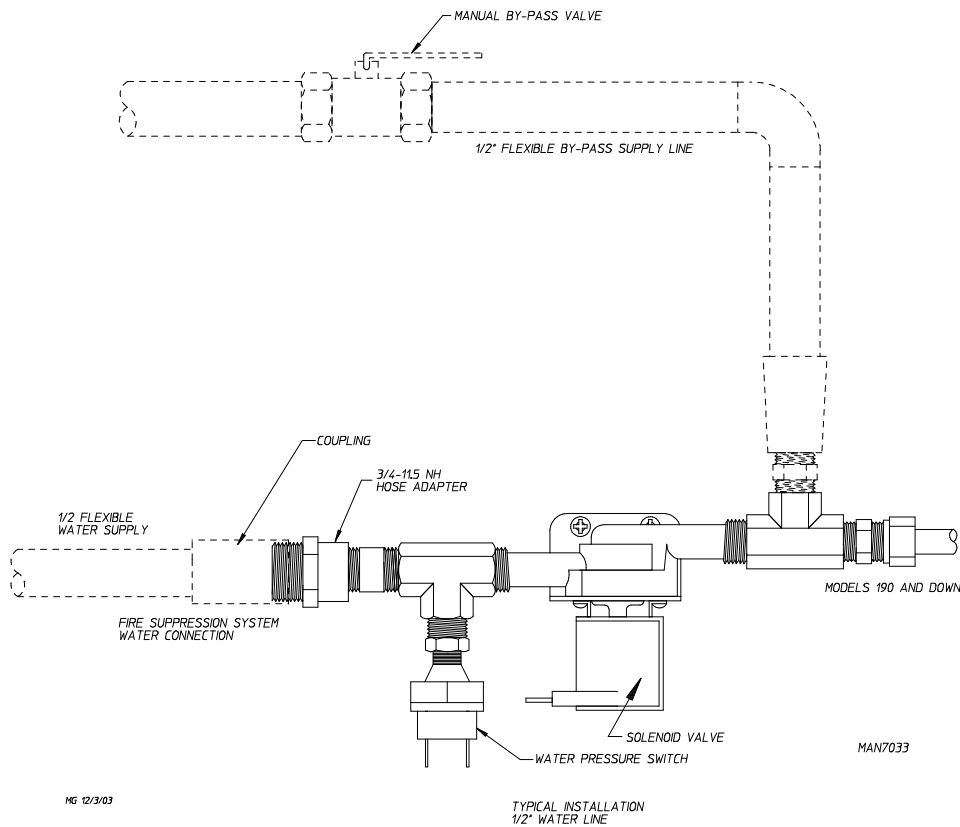
MAN7032

## OPTIONAL MANUAL BYPASS

Provisions are made in the dryer S.A.F.E. system for the installation of an optional manual bypass. Depending on the model dryer, the connections for the manual bypass are made at the “T” or “three way” fitting located in the outlet supply side of the water solenoid valve. The use and connections of this manual bypass are at the option or discretion of the owner.

The water connection for the manual bypass is made to the “T” or “three way” fitting, which has a 3/8” F.P.T. and a coupling **must be** used to provide the minimum 1/2” supply (feed) line.

If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.



**WARNING:** If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system **will be** INOPERATIVE!!

The manual ball cock shutoff valve **must be** located outside of the dryer at a distance from the dryer where it is easily accessible.

### 3. Electrical Requirements

No independent external power source or supply connection is necessary. The 24 volt power to operate the S.A.F.E. system is accomplished internally in the dryer (from the dryer controls).

**WARNING:** Electrical power ***must be*** provided to the dryer at **ALL** times. If the main electrical power supply to the dryer is disconnected, the S.A.F.E. system is INOPERATIVE!!

## S.A.F.E. SYSTEM THEORY OF OPERATION

While the dryer is in an idle state, or 20-seconds after the heat turns off, the Phase 7 control monitors the thermistor probe, located in the top of the basket (tumbler) chamber, and records the minimum temperature. If the minimum recorded thermistor probe temperature is greater than 120° F (48° C) and the control detects a 50° rise in temperature, this will be the trip point and the S.A.F.E. system routine will activate.

While a drying cycle is in process and the heat has turned on at least once, the Phase 7 control monitors the exhaust temperature transducer. If the drying cycle temperature set point is set greater than 160° F (71° C) and the control detects an exhaust temperature rise 25° F greater than set point, this will be the trip point and the S.A.F.E. system routine will activate. If set point is below 160° F (71° C), the trip point will be 185° F (85° C).

Once the S.A.F.E. system routine is activated, the control will display “S.A.F.E. SYSTEM ACTIVATED” and water will be injected into the basket (tumbler) chamber. Any time water is being injected into the basket (tumbler), the basket (tumbler) drive will turn the load for 1-second every 15-seconds. This process will continue for a minimum of 2 minutes. After the 2 minutes have elapsed, the control will check if the temperature remained above trip point; if so, the water will remain on. The control will continue to check if the temperature is above trip point every 30-seconds. If the water has been on for a constant 10 minutes, the water will be turned off, regardless of the temperature, and the control will display “S.A.F.E. SYSTEM WAS ACTIVATED”. If the temperature has dropped below trip point, the control will turn off the water prior to 10 minutes.

## SYSTEM RESET

After the microprocessor determines that the situation is under control and shuts the water being injected into the basket (tumbler) off, the microprocessor display will read “S.A.F.E. SYSTEM WAS ACTIVATED”, and the horn/tone will sound until reset manually.

**NON-COIN** – To reset the microprocessor once the control displays “S.A.F.E. SYSTEM WAS ACTIVATED”, press the red “STOP/CLEAR” key on the keyboard (touch pad).

**COIN** – To reset the microprocessor once the control displays “S.A.F.E. SYSTEM WAS ACTIVATED”, press and hold the red “PAUSE” key for 3-seconds on the keyboard (touch pad).



## S.A.F.E. SYSTEM WATER VALVE CHECK

The operation of the water solenoid valve can be tested to ensure that the water supply system and valve are functional. Before attempting a system check, be sure that **ALL** water supply shutoff valves to the dryer are in the OPEN position; the dryer **must be** in the “READY” mode with no cycle loaded or in progress.

### **NON-COIN**

1. Press and hold the red “STOP/CLEAR” key (while in “READY” mode and no cycle is in progress).
2. Press and hold the “A” key.
3. Water valve will open and water will be dispensed into basket (tumbler) area as long as both keys are held.

The Phase 7 non-coin microprocessor controller (computer) will prompt the user to perform a S.A.F.E. system valve check at every 4000 hours to ensure proper functionality. At the 4000 hour mark, the control will wait for end of the cycle and then will prompt the user to “PLEASE EMPTY TUMBLER, THEN PRESS THE ‘STOP/CLEAR’ AND ‘A’ KEYS TO TEST THE WATER VALVE”. When the ‘STOP/CLEAR’ and ‘A’ keys are pressed, the control will activate the S.A.F.E. system water valve for 2-seconds, at which point the control will prompt the user with the following message: “IF WATER DID NOT TURN ON, CALL FOR SERVICE. THANK YOU.”.

**NOTE:** The control **will not** let the user continue until the valve test has been completed.

### **COIN**

While the control is in the program mode, press and hold the “PAUSE” key for 3-seconds to get into the valve test mode. Valve test mode: the control will display “PRESS AND HOLD MEDIUM TO OPEN WATER VALVE”. When the medium key is pressed, the control will activate the water output.

## S.A.F.E. SYSTEM DIAGNOSTICS

**NON-COIN** – In the event that the Phase 7 non-coin microprocessor controller (computer) detects a fault in the S.A.F.E. system, the control will display the message “S.A.F.E. SYSTEM DISABLED...READY”. To find out why the S.A.F.E. system is disabling, press and hold the red “STOP/CLEAR” and green “START” keys. This will cause the control to display a diagnostic message, as detailed in the “S.A.F.E. SYSTEM Diagnostics Messages” section.

**COIN** – In the event that the Phase 7 coin microprocessor controller (computer) detects a fault in the S.A.F.E. system, the control will display the message “S.A.F.E. SYSTEM DISABLED...READY, INSERT XX TO START”. To find out the reason for the S.A.F.E. system disabling, press and hold the red “PAUSE” and “LOW” keys. This will cause the control to display a diagnostic message, as detailed in the following section.

## S.A.F.E. SYSTEM DIAGNOSTICS MESSAGES

**OPEN THERMISTOR PROBE** – This message indicates that the S.A.F.E. system thermistor probe either is not connected or is damaged. If this condition is detected, the Phase 7 non-coin control will immediately enter S.A.F.E. SYSTEM DISABLED mode.

**SHORTED THERMISTOR PROBE** – This message indicates that the S.A.F.E. system thermistor probe is damaged or the wiring is shorted. If this condition is detected, the Phase 7 non-coin control will immediately enter S.A.F.E. SYSTEM DISABLED mode.

**DISCONNECTED WATER VALVE** – This message indicates that the water valve is open or that it is not connected to the control. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED mode.

**SHORTED WATER VALVE** – This message indicates that the water valve is shorted or that the wiring to the valve is shorted. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED mode.

**WATER NOT CONNECTED** – This indicates that there is no water pressure at the water valve. This will occur if water is not connected to the dryer, or if there is low water pressure in the water line coming to the dryer. This could also signify a defective pressure switch or defective wiring to the pressure switch. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. SYSTEM DISABLED mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. SYSTEM DISABLED mode.

## STARTING A CYCLE WHEN COMPUTER IS IN “S.A.F.E. SYSTEM IS DISABLED” MODE

**NON-COIN** – When the S.A.F.E. system is disabled, the user can still start a cycle. However, when a cycle is started, the control will display the following message: “S.A.F.E. SYSTEM IS DISABLED. PRESS ‘START’ TO CONTINUE”. This message will be displayed every time a cycle is started, until the disabling condition has been corrected.

**COIN** – When the S.A.F.E. system is disabled, the user can still start a cycle. Simply insert credit and select a cycle to start.

# SECTION X

## PROGRAMMING

### A. NON-COIN PROGRAMMING

To Enter Programming Mode  
Press **0** And **▲** Keys Together

To Exit Programming Mode Press **0** Multiple Times  
Until Display Returns to "Ready".

0:	SELECT LANGUAGE
1:	SELECT SYSTEM PARAMETERS
0:	DRYER SETUP
0:	SELECT MODEL
1:	SYSTEM TEMP
2:	ENTER LINT COUNT 1 TO 5
3:	ENTER AUDIO ALERT ON TIMES 0 TO 10
4:	ROTATION SENSOR
1:	REVERSING SETUP
0:	ENTER SPIN TIME 30 TO 120 SECONDS
1:	ENTER STOP TIME 5 TO 10 SECONDS
2:	WRINKLE GUARD SETUP
0:	WRINKLE GUARD AUDIO ALERT
3:	STEAM INJECTION SETUP
2:	PROGRAM A - F CYCLES
	ENTER A - F
	SELECT CYCLE TYPE
	AUTO
0:	REVERSE MODE
1:	ENTER DRY TEMP 160 (71) TO 200 F (94 C) *
2:	ENTER DRYNESS LEVEL
3:	ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
4:	CONTROLLED COOL DOWN
5:	ENTER COOL DOWN TIME 0 TO 99 MINUTES
6:	ENTER COOL DOWN TEMP 70 (21) TO 100 F (38 C)
	MANUAL
0:	REVERSE MODE
1:	ENTER DRY TIME 0 TO 99 MINUTES
2:	ENTER DRY TEMP 100 (38) TO 200 F (94 C) *
3:	CONTROLLED COOL DOWN
4:	ENTER COOL DOWN TIME 0 TO 99 MINUTES
5:	ENTER COOL DOWN TEMP 70 (21) TO 100 F (38 C)
6:	STEAM INJECTION
3:	PROGRAM 0 - 40 CYCLES
	ENTER 0 - 40
	SELECT CYCLE TYPE
	AUTO
0:	REVERSE MODE
1:	ENTER DRY TEMP 160 (71) TO 200 F (94 C) *
2:	ENTER DRYNESS LEVEL
3:	ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
4:	CONTROLLED COOL DOWN
5:	ENTER COOL DOWN TIME 0 TO 99 MINUTES
6:	ENTER COOL DOWN TEMP 70 (21) TO 100 F (38 C)
	MANUAL
0:	REVERSE MODE
1:	ENTER DRY TIME 0 TO 99 MINUTES
2:	ENTER DRY TEMP 100 (38) TO 200 F (94 C) *
3:	CONTROLLED COOL DOWN
4:	ENTER COOL DOWN TIME 0 TO 99 MINUTES
5:	ENTER COOL DOWN TEMP 70 (21) TO 100 F (38 C)
6:	STEAM INJECTION
4:	DEFAULT SETTING FAULT HISTORY
5:	SAFE SYSTEM VALVE TEST OR <b>0</b> + <b>A</b>
DISPLAY: <b>0</b> <b>▼</b> SAFE TEMP <b>▲</b> TUMBLER TEMP <b>▼</b> CTL VAC / RPM	
* 160 F (71 C) MAXIMUM TEMP ON AXIAL MODELS	

#### Phase 7.2 Non-Coin Diagnostic Codes

MAIN DOOR OPENED – A main door or door circuit is open.  
EXHAUST HIGH TEMP FAULT – Tumbler is above 220° F (104° C).

LINT ACCESS OPEN – Lint drawer or lint door circuit is open.  
EXHAUST HIGH LIMIT FAULT – Temp. disk under tumbler is open.

SAIL SWITCH CLOSED FAULT – Sail switch is closed – should be open at the start of a cycle.

SAIL SWITCH OPEN FAULT – Sail switch remained open after the cycle started. Should have closed.

BURNER HIGH LIMIT FAULT – Burner temp. disk has opened.

BURNER IGNITION CONTROL – No signal to gas valve from (DSI) module during trial for ignition time. DSI module is bad.

IGNITION FAULT – Gas valve did not remain open after trial for ignition. Indicates that no flame was detected.

FLAME FAULT – Flame was detected during trial for ignition but failed later.

ROTATION FAULT – Indicates the tumbler is not rotating.

OPEN EXHAUST TEMPERATURE PROBE – Indicates the exhaust temperature probe is open or shorted.

OPEN FIRE SUPPRESSION SYSTEM (F.S.S.) PROBE FAULT – Indicates the temperature probe for the F.S.S. is open or shorted.

LOW VOLTAGE FAULT – Volt dropped below the operating value.

EE PROM FAULT ### – Error in memory location. Fault correction:

Enter the program mode by pressing the UP and STOP keys. Press "4" and ENTER keys in password "FAA" Press UP ARROW.

Press enter to confirm reset of EE PROM.

#### Inputs (Red L.E.D.s)

**All indications are with L.E.D. lit**

ESTOP – Indicates E-STOP has been pressed.

GAS\_V – Indicates the gas valve is open (ON).

BRHL – Indicates the burner high limit disk is closed (temperature below 330° F [166° C]).

SAIL – Indicates the sail switch is closed.

EXHL – Indicates the exhaust high limit disk is closed (temperature below 225° F [107° C]).

MAIN – Indicates the status of main door is closed.

LINT – Indicates the lint drawer is closed.

FUSE – Indicates the status of the control voltage after POWER ON button has been pressed.

#### Outputs (Green L.E.D.s)

**All indications are with L.E.D. lit**

AUX – This is for a spare output to be programmed.

STEAM – Indicates the status of the steam injection output.

\_HEAT – Indicates the status of the heat output.

AIR – Indicates the status of the air jet output.

REV – Indicates the status of the tumbler reverse direction output. If the request to tumble the drum in the reverse direction is made, then the L.E.D. is ON.

FWD – This L.E.D. will indicate the status of the tumbler forward direction output.

FAN – This L.E.D. will indicate the status of the fan output.

## B. COIN PROGRAMMING

Enter Programming Mode By Placing The Programming Switch On The Phase 7 Board Up While No Cycle Is In Progress. "Program Mode" Will Then Be Displayed.

Navigating Within The Programming Mode: "Med" Key To Enter A Program Location. "Hi-temp" / "Lo-temp" Keys Increase / Decrease Program Location. "Pause" Key Rejects Entry And Moves To Next Program Location.

Changing A Parameter Value: With Parameter Value Displayed Pressing "Lo Temp" Or "High Temp" Changes The Parameter Value. "Med" Key Must Be Pressed To Accept A New Parameter.

	FUNCTION	SAMPLE AXIAL DRYER SETTINGS
PL01 CONTROL SETTINGS	Language	English
	Temperature Scale	F
	Buzzer Mode	Buzz
	Beep Count 1 to 9 Beeps	2
	Dry Mode	Coin Dry Mode
	Pause Time 1 to 3 Minutes	1 Minute
	Ready Prompt	Rdy Inst Amt to Start
PL02 MACHINE SETTINGS	Model	Gas Dual Motors
	Rotation Sensor	On
	Lint Clean 1 to 10 Hours	2
	Axial Thermistor Input	On
PL03 HI KEY SETTINGS	Axial Thermistor Setpoint	180F 82C
	Time for Amt to Start 1-99M	10 Minutes
	Time for Top Off 1 to 99 M	10 Minutes
	Dry Temp 100 to 190F*	150F 66C
PL04 MED KEY SETTINGS	Cool Time 0 to 9 Minutes	2
	Time for Amt to Start 1-99M	12 Minutes
	Time for Top Off 1 to 99 M	12 Minutes
PL05 LO KEY SETTINGS	Dry Temp 100 to 190F*	140F 60C
	Cool Time 0 to 9 Minutes	2
	Time for Amt to Start 1-99M	14 Minutes
PL06 VENDING ITEMS	Time for Top Off 1 to 99 M	14 Minutes
	Dry Temp 100 to 190F*	120F 49C
	Cool Time 0 to 9 Minutes	2
	Currency Symbol	USD (\$)
	Vending Mode	Accumulative Time
	Vending Safeguard	Bad Coin Reset
PL07	Left Coin Den .05 to 25.00	0.25
	Right Coin Den .05 to 25.00	0.10
	Amount to Start .05 to 25.00	0.25
	Amount for Top Off	0.25
	No Faults / Faults	

150F (66C) Maximum Temperature on Axial Models

### Typical Programming Example:

Change a single coin acceptor from factory setting to yield 20 minutes for \$.50, \$.50 as the minimum amount to start, and no differential in regard to temperature key selection.

Settings: Time for Amt to Start (PL03, PL04, PL05) ..... 20  
Left Coin Denomination (PL06) ..... \$ .25  
Amount to Start (PL06) ..... \$ .50

### Clearing Coin Credit:

NO CYCLE IN PROGRESS AND PROGRAM SWITCH DOWN.

Hold PAUSE while pressing HI 3 times, LO twice, and MED once.

"Clear Credit?" will appear. Press any key to complete.

### Accessing and Clearing Coin Vault Total

Enter program mode by switching program switch (up) while no cycle is in progress.

Press HI – "Coin Vault total is \$XXX" will appear.

Press HI – "Clear Coin Vault Total?" will appear.

Press MED to clear this amount or PAUSE to leave as is.

### Hot Keys:

In the Coin Mode Hot Keys are enabled while in a cycle by placing the program switch in the program (up) position.

In Free Mode Hot Keys are always enabled.

HI – Remaining credit – coin mode / remaining time – free mode.

MED – Temps – Exhaust / left, S.A.F.E. / right, Axial / middle (Axial dryer)

LO – Tumbler RPM

S.A.F.E. TEST: Switch to program mode. Press and hold the "Pause" key until prompted to press MED to open the water.

### L.C.D. Operating Messages

When Display Reads "Out of Order"

Pressing LO displays one of the causes listed below.

MODEL FAULT – Wrong model selected at PL01/3rd position.

SAIL SWITCH CLOSED – Sail switch closed before starting.

SAIL SWITCH OPEN – Sail switch failed to close after starting.

BURNER HI-LIMIT – Oven thermostat switch has opened.

EXHAUST HI-LIMIT – Tumbler thermostat switch has opened.

BURNER CONTROL – No gas valve signal – Bad DSI unit.

IGNITION FAULT – No flame ignition detected thru all retries.

FLAME FAULT – Flame detected at ignition but failed later.

CLEAN LINT – Due to failure to clean out lint.

CHECK CONTROL BOARD FUSE #2 – 2 on Phase 7 board is open.

EXHAUST PROBE FAULT / AXIAL – Indicated probe has failed.

ROTATION SENSOR – Rotation sensor or tumbler drive has failed.

EXHAUST HI-TEMP – Overheating condition has occurred.

BURNER PURGE FAULT – Gas return signal before heat output.

### "S.A.F.E. System Disabled"

In Coin Mode hold "Pause" and "LO" keys down together.

OPEN / SHORTED THERMISTOR – Probe or probe circuit bad.

OPEN / SHORTED WATER VALVE – Water valve or circuit bad.

WATER NOT CONNECTED – No water pressure at sol. valve.

### "S.A.F.E. System (was) Activated"

Indicates the S.A.F.E. system is active or was active because a fire was detected. The buzzer sounds at a fast pace while the system is active.



