

# ADG-530D II/WDA-530D II

Microprocessor Controls  
Gas (Direct Spark Ignition)

## Installation Manual

**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 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.



For replacement parts, contact the reseller from which the dryer was purchased or

**American Dryer Corporation**

88 Currant Road

Fall River MA 02720-4781 USA

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

e-mail: techsupport@amdry.com

www.amdry.com

# 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 safe, efficient, and trouble free operation.

*ONLY qualified technicians should service this equipment.*

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

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

**FOR YOUR SAFETY**

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

**POUR VOTRE SÉCURITÉ**

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

We have tried to make this manual as complete as possible and hope you will find it useful. **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.** \_\_\_\_\_

**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 (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

**“IMPORTANT NOTE TO PURCHASER”**

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

## **IMPORTANT**

**YOU MUST DISCONNECT AND LOCKOUT 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.**

“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**

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

## IMPORTANT INFORMATION

### A. RECEIVING AND HANDLING

The dryer is shipped in a protective stretch wrap cover with protective cardboard corners and top cover (or optional box) as a means of preventing damage in transit. Upon delivery, the dryer and/or packaging, and wooden skid **should be** visually inspected for shipping damage. If any damage whatsoever is noticed, inspect further before delivering carrier leaves.

Dryers damaged in shipment:

1. **ALL** dryers **should be** inspected upon receipt and before they are signed for.
2. If there is suspected damage or actual damage, the trucker's receipt **should be** so noted.
3. If the dryer is damaged beyond repair, it **should be** refused. Those dryers which were not damaged in a damaged shipment **should be** accepted, but the number received and the number refused **must be** noted on the receipt.
4. If you determine that the dryer was damaged after the trucker has left your location, you should call the delivering carrier's freight terminal immediately and file a claim. The freight company considers this concealed damage. This type of freight claim is very difficult to get paid and becomes extremely difficult when more than a day or two passes after the freight was delivered. It is your responsibility to file freight claims. Dryer/parts damaged in transit **cannot** be claimed under warranty.
5. Freight claims are the responsibility of the consignee, and **ALL** claims **must be** filed at the receiving end. **ADC** assumes no responsibility for freight claims or damages.
6. If you need assistance in handling the situation, please contact the **ADC** Traffic Manager at (508) 678-9000.

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

## B. 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. Purchaser/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.
3. 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.
4. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.
5. Dryer(s) **must be** exhausted to the outdoors.
6. 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, 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.

7. 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.

8. 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 do so will VOID THE WARRANTY.

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

**WARNING: PERSONAL INJURY OR FIRE COULD RESULT.**

10. This dryer is not to be used in the presence of dry cleaning solvents or fumes.
11. 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.

12. **READ AND FOLLOW ALL CAUTION AND DIRECTION LABELS ATTACHED TO THE DRYER.**

13. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%), 40 lbs (18 kg) of its rated capacity.

**WARNING: YOU MUST DISCONNECT AND LOCKOUT 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).**

# SECTION II

## SPECIFICATIONS

### A. SPECIFICATIONS

MAXIMUM CAPACITY (DRY WEIGHT)*		60 lbs	27.2 kg
BASKET (TUMBLER) DIAMETER		27-1/4"	69.22 cm
BASKET (TUMBLER) DEPTH		30"	76.2 cm
BASKET (TUMBLER) MOTOR (2 PLACES)		(2) 3/4 hp	(2) 0.560 kW
DOOR OPENING (DIAMETER) - 2 PLACES		(2) 21-1/2"	(2) 54.61 cm
BASKET (TUMBLER) VOLUME (PER BASKET [TUMBLER])		10.1 cu ft	0.286 cu m
DRYERS PER 20'/48' TRUCK		24/26	
<b>Gas</b>	VOLTAGE AVAILABLE	120-230v 1ø, 2w 50/60 Hz	
	APPROX. WEIGHT (UNCRATED)	850 lbs	385.56 kg
	APPROX. WEIGHT (CRATED)	900 lbs	408.24 kg
	HEAT INPUT (TOTAL FOR BOTH BASKETS [TUMBLERS])	204,000 Btu/hr	51,408 kcal/hr
	AIRFLOW (PER BASKET [TUMBLER])	550 cfm	15.6 cmm
	INLET PIPE SIZE (2 PLACES)	(2) 3/4" N.P.T.	
	EXHAUST DUCT OUTLET (2 PLACES)**	(2) 8"	(2) 20.32 cm

*Shaded areas are stated in metric equivalents*

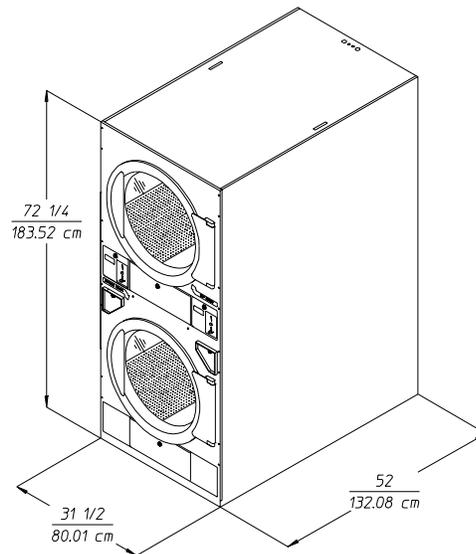
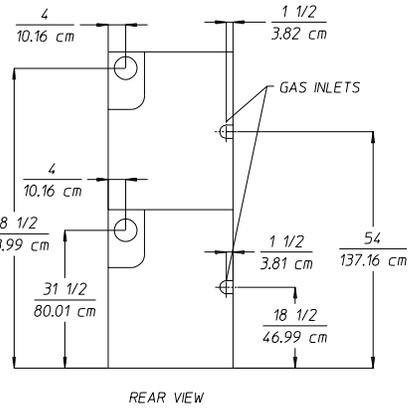
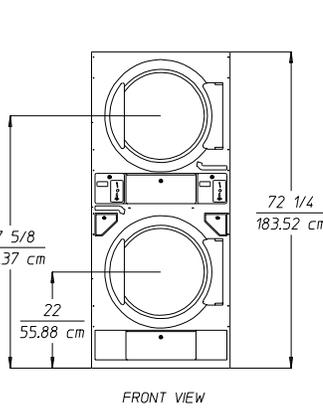
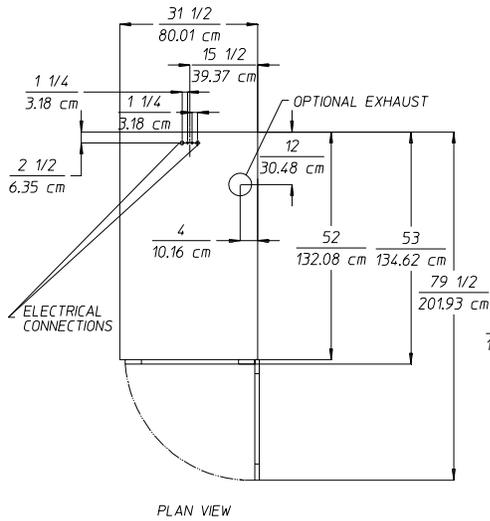
\* Total capacity for both baskets (tumblers).

\*\* Exhaust **must be** increased to a minimum of 8-inches (20.32 cm) in diameter immediately after leaving the dryer cabinet.

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

# Specifications

## ADG-530D/WDA-530 (Gas)



**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/or optional shipping box) from dryer.

**NOTE:** The access keys for the service doors are included in the information packet shipped in the basket (tumbler). These keys **should be** removed and put in a safe place, yet made accessible because some **will be** needed throughout various phases in the installation of the dryer.

*Dryers are shipped with a coin box and coin box faceplate ONLY.* The coin box lock is not included and **must be** purchased elsewhere or the lock can be ordered as a parts order from the **ADC** Parts Department at (508) 678-9000.

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 of the base and two (2) are located in the front. Once the bolts are removed, slide the dryer off of the skid.

With the skid removed to make it easier to slide the dryer into its final position, slightly lower **ALL** the leveling legs so that the dryer will slide on the legs instead of the base frame. The dryer is equipped with four (4) leveling legs, one (1) at each corner of the dryer base. The hex head adjustment bolts for the two (2) front leveling legs are located directly behind the lower access door and the rear two (2) adjustments are directly behind the lower rear back guard panel.

#### 1. Leveling The Dryer

To increase the bearing life, improve efficiency, and provide for better automatic closure of the main door, the basket (tumbler) **should be** tilted slightly to the rear. Four (4) leveling legs are provided for this purpose and are shipped inside of the top basket (tumbler) and **must be** installed at the time of installation. A leveling leg **must be** screwed into the bottom of the dryer base at each corner area, where the bolts used to secure the dryer to the wooded skid were removed.

## B. LOCATION REQUIREMENTS

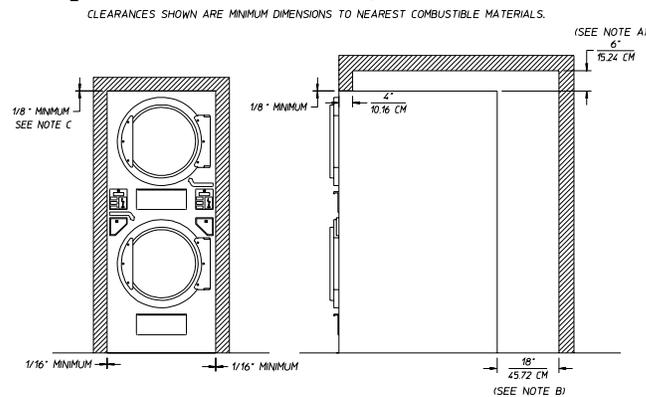
Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location **must conform** with the National Fuel Gas Code ANSI.Z223.1 LATEST EDITION, or in Canada, the installation **must conform** to applicable Canadian Standards: 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.”

Even though a 12-inch (30.48 cm) clearance is acceptable, it is recommended that the rear of the dryer be positioned approximately 2 feet (0.61 meters) away from the nearest obstruction (i.e., wall), for ease of installation, maintenance, and service.

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. Dryer **must be** exhausted to the outdoors as noted in this manual (refer to **Exhaust Requirements** in **Section E**).
8. 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**).



**NOTES:**

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- A. MINIMUM OF 6" (15.24 CM) CLEARANCE IS ACCEPTABLE FOR EASE OF INSTALLATION AND SERVICE (POWER CONNECTIONS). AT LEAST 18" (45.72 CM) IS RECOMMENDED.
  - B. MINIMUM OF 18" (45.72 CM) CLEARANCE IS ACCEPTABLE FOR EASE OF INSTALLATION, MAINTENANCE AND SERVICE. AT LEAST 24" (60.1 CM) IS RECOMMENDED.
  - C. MINIMUM OF 1/8" ABOVE FRONT PANEL FOR EASE OF REMOVAL.

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

9. The dryer **must be** installed with a proper exhaust duct connection to the outside.
10. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

**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:** 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 **should be** located a minimum of 12-inches (30.48 cm) (18-inches [45.72 cm] or more is recommended for ease of installation, maintenance, and service) above the dryer outer top, except along the front of the dryer which may be closed in if desired.

**NOTE:** Even though a minimum of 12-inches (30.48 cm) above the dryer outer top is acceptable, a clearance of 18-inches (45.72 cm) or more is suggested for ease of installation and service (electrical power connections).

**NOTE:** When fire sprinkler systems are located above the dryers, a minimum of 12-inches (30.48 cm) above the dryer outer top is required.

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

Dryers may be positioned sidewall to sidewall. However, allowances **must be** made for 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).

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

### D. FRESH AIR SUPPLY REQUIREMENTS

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.

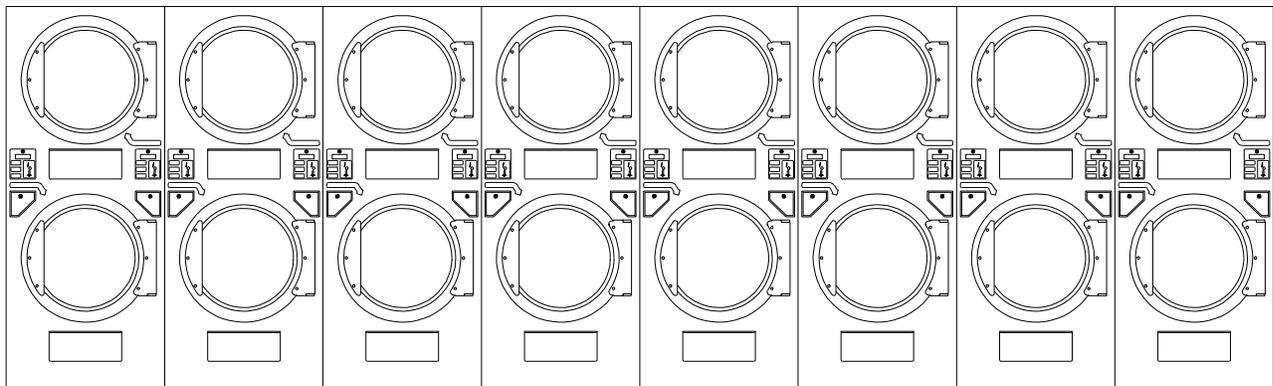
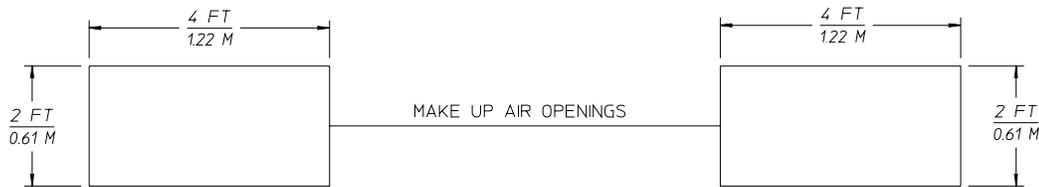
Air supply (make-up air) **must be** given careful consideration to assure proper and safe performance of each dryer. An unrestricted source of air (550 cfm [15.58 cmm]) is necessary for each basket (tumbler). An unrestricted air entrance from the outdoors (atmosphere) of a minimum of 2 square feet (0.19 square meters) is required for each dryer. This area **must be** enlarged if louvers or registers cover the opening.

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

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. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

*EXAMPLE:* For a bank of eight (8) dryers, a total make-up air opening of 16 square feet (1.49 square meters) is required. Two (2) openings measuring 2 feet by 4 feet (0.61 meters by 1.23 meters) 16 square feet (1.49 square meters) is acceptable.

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



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### TYPICAL INSTALLATION SHOWING MAKE-UP AIR OPENINGS

**IMPORTANT:** Make-up air **must be** provided from a source 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.

**IMPORTANT:** Make-up air openings **should not be** located near ductwork exhaust outlets. If the make-up air opening(s) are too close to the exhaust outlet, lint and fumes may be drawn back into the dryer through these openings.

**NOTE:** Component failure due to dry cleaning solvent fumes will **VOID THE WARRANTY**.

## E. EXHAUST REQUIREMENTS

### 1. General Exhaust Ductwork Information

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, overheating of the dryer, and shutdown of the burner by the airflow (sail) switches, burner hi-limits, or basket (tumbler) hi-heat thermostats. The dryer **must be** installed with a proper exhaust duct connection to the outside.

**CAUTION: DRYER *MUST BE* EXHAUSTED TO THE OUTDOORS.**

**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 so long as the minimum cross-sectional area is provided.

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 the sheet metal screws or other obstructions, which 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's top basket (tumbler) exhaust ductwork, 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 exhaust 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 nearest obstruction.

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

**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 0.0195-inches (26 gauge [0.05 mm]) thick."

**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:** Careful consideration *should be* given to where the exhaust duct is located in relation to the make-up air openings. If make-up air opening is too close to exhaust outlet, lint and fumes **will be** drawn back into the dryer area through these openings.

If the length of the ductwork run or quantity of elbows used exceeds the specifications noted in this booklet, the cross-sectional 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-sectional area of the duct can only be increased to an extent. For extended ductwork runs, a professional heating, venting, and air conditioning (HVAC) firm *should be* consulted for proper venting information.

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

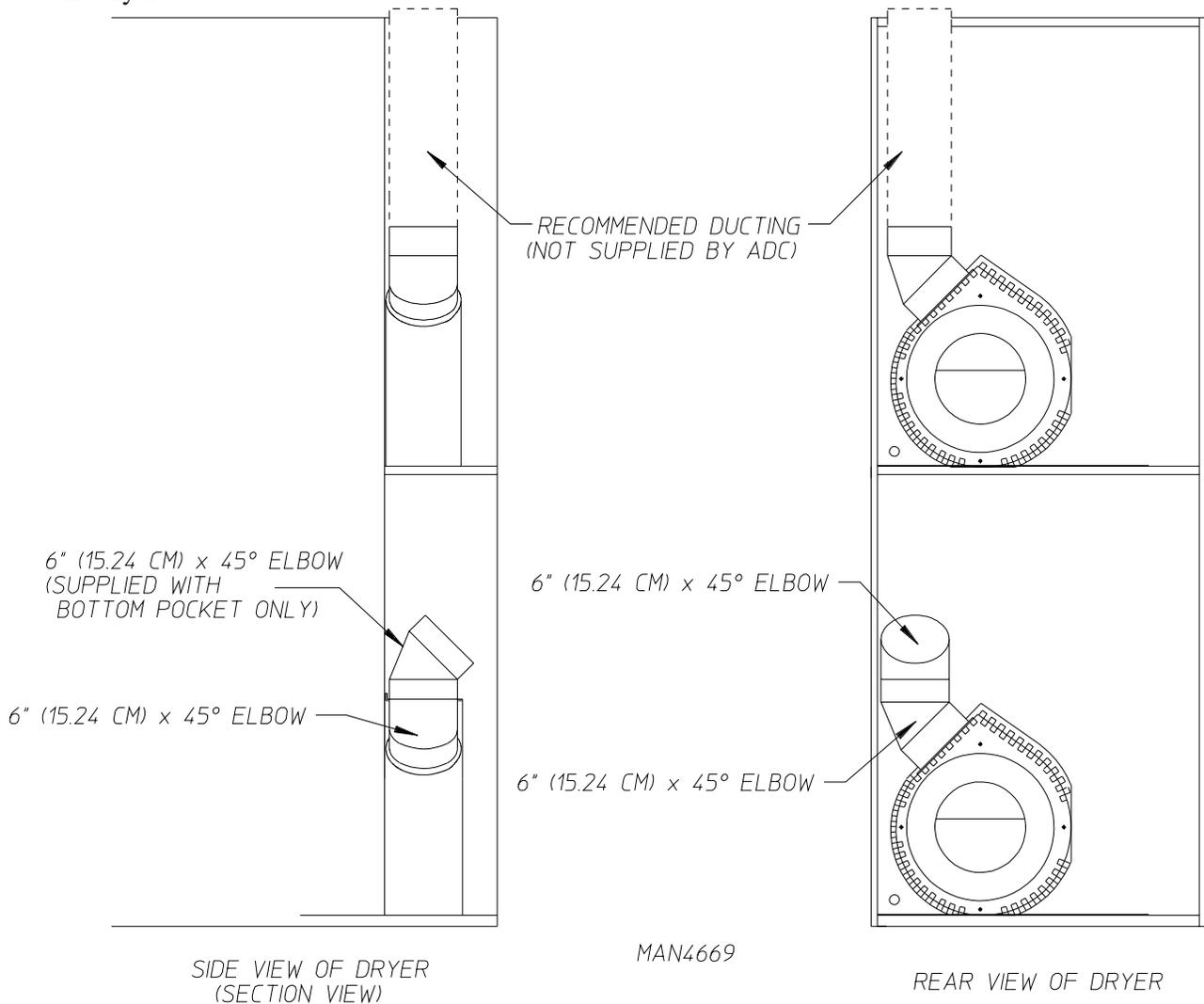
**IMPORTANT:** Even though the dryer's exhaust outlet size is 6-inches (15.24 cm) in diameter (at both the top basket [tumbler] damper duct and the bottom basket [tumbler] elbow where it leaves the dryer), the minimum connection at the point of exit from the dryer in **ALL** cases *must be* increased. The amount of increase in diameter will depend on the venting application/layout as described further in this manual.

**IMPORTANT: UNDER NO CIRCUMSTANCES** can the dryer be vented to the outdoors using a 6-inch (15.24 cm) diameter exhaust duct!!!

## 2. Exhaust Connections of Top and Bottom Baskets (Tumblers)

There is no common venting connection provided with the dryer. Each basket (tumbler) exhaust duct is provided with its own back draft damper. Each basket (tumbler) can be exhausted directly outdoors independently (refer to the **illustration on page 17**) or connected commonly ("Y") together (refer to the **illustration on page 18**). Both single or common "Y" duct can be rigid or flexible ducting.

The **illustration below** shows the ductwork connection points and what internal ductwork is included in the dryer.



The exhaust connection at the top basket (tumbler) **must be** made at the blower duct inside the cabinet. No internal ductwork is included for the top basket (tumbler) (not available from **ADC** and **must be** purchased elsewhere). Depending on the external ductwork layout, the installer has the option of the ductwork coming out of the top or the back of the dryer. The ductwork used inside of the dryer, from the blower duct to where it exits the dryer, **must be** a minimum of 6-inches (15.24 cm) in diameter (30 square inches [193.6 square centimeters] cross-sectional area). At this point, (where the internal ducting ends), the diameter **must be** increased to meet the application as described further in this manual.

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

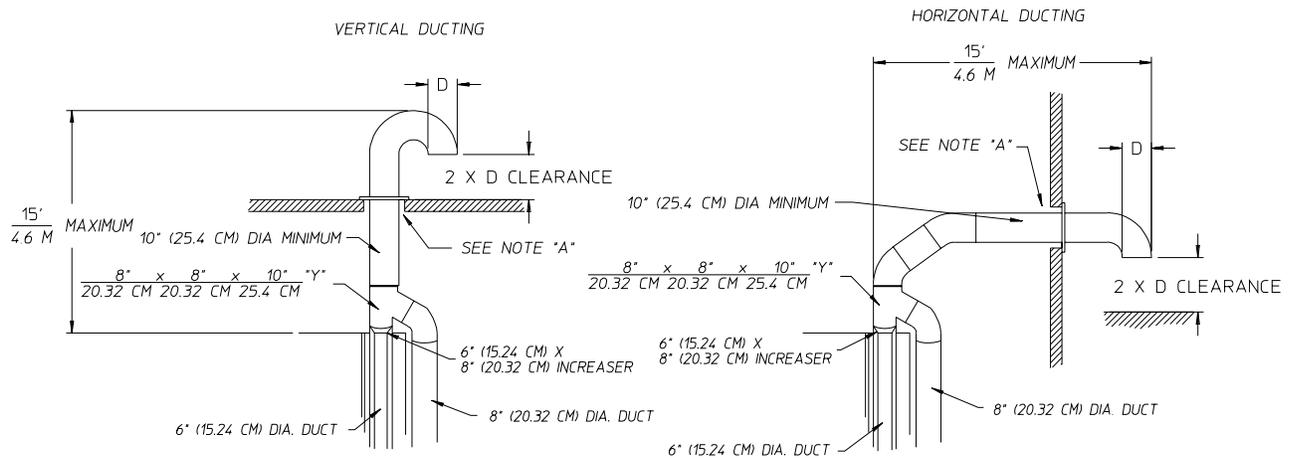
**IMPORTANT:** ALL ductwork joints **must be** taped to prevent moisture and lint from escaping into the dryer and/or building.

The bottom basket (tumbler) includes a 6-inch (15.24 cm) ductwork, which extends from the dryer blower duct to the lower back guard area. At this point, the diameter **must be** increased to meet the application as described further in this manual.

a. Connecting Both Top Baskets (Tumblers) and Bottom Baskets (Tumblers) Together

Both the top basket (tumbler) and the bottom basket (tumbler) can “Y” together to form one (1) connection point. The bottom basket (tumbler) already includes a 6-inch (15.24 cm) diameter ducting extending to the lower back guard area. The minimum connection at this point is 8-inches (20.32 cm). The upper basket (tumbler) includes no internal ductwork (not provided by **ADC**, **must be** purchased elsewhere, **must be** a minimum of 6-inches [15.24 cm], and only to the top of the dryer). At this point, (where the internal ducting ends at top of the dryer), the diameter **must be** increased to meet the application as described further in this manual.

EXTERNAL SINGLE DRYER VENTING CONNECTIONS  
( WITH DRYER COMMON EXHAUST )



MAN4660

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

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

**IMPORTANT:** **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the dryer and/or building.

**NOTE:** Common (“Y”) exhaust connections of the top basket (tumbler) and bottom basket (tumbler) **should be** installed in such a manner that the back guards/panels can be removed easily for servicing.

**IMPORTANT:** Exhaust back pressure measured by a manometer at each basket (tumbler) exhaust duct area **must be** no less than 0 and **must not exceed** 0.3 inches (0.74 mb) of water column (W.C.) when both baskets (tumblers) are operating.

### 3. Single Dryer Venting

When possible, it is suggested that a separate exhaust duct be provided for each dryer. 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. It is suggested that the use of 90° turns be avoided; use 30° or 45° angles instead. The shape of the exhaust ductwork is not critical so long as the minimum cross-sectional area is provided.

**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.).

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

a. Single Dryer Venting - with each basket (tumbler) independently vented **ALL** the way to the outdoors.

**IMPORTANT:** For extended ductwork runs or where numerous elbows are used, the cross-sectional area can only be increased to an extent and a professional heating, venting, and air conditioning (HVAC) firm **should be** consulted for proper venting information.

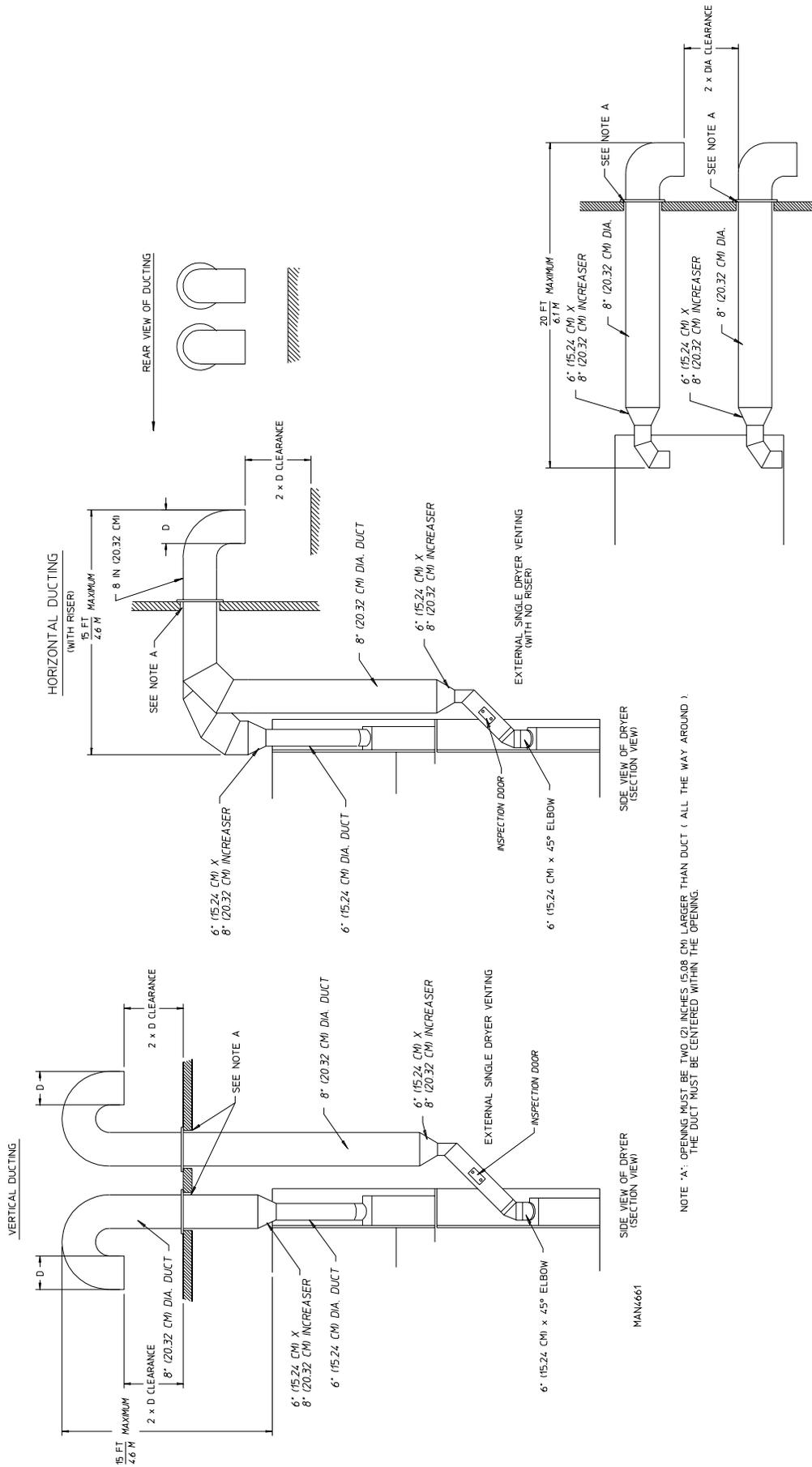
**IMPORTANT: UNDER NO CIRCUMSTANCES** can the dryer be vented to the outdoors using a 6-inch (15.24 cm) diameter exhaust duct!!!

When independent exhaust ducting is used for each basket (tumbler), the connection size at the point where the internal ducting (6-inch [15.24 cm] diameter) leaves the dryer, the minimum size connection is 8-inches (20.32 cm) in diameter (54 square inches [348.4 square centimeters] cross-sectional area) and this is only true providing: (Refer to the **illustration** on **page 17** for details.)

- 1) The maximum duct run is no more than 15 feet (4.6 meters).
- 2) The ductwork is on a horizontal run (no riser).
- 3) There is no more than one (1) elbow, which includes the outside outlet (i.e., elbow used for outside protection).

**IMPORTANT:** Even though the dryer's exhaust outlet size is 6-inches (15.24 cm) in diameter (at both the top basket [tumbler] elbow where it leaves the dryer), the minimum connection at this point of exit from the dryer is 8-inches (20.32 cm) in diameter (54 square inches [348.4 square centimeters] cross-sectional area).

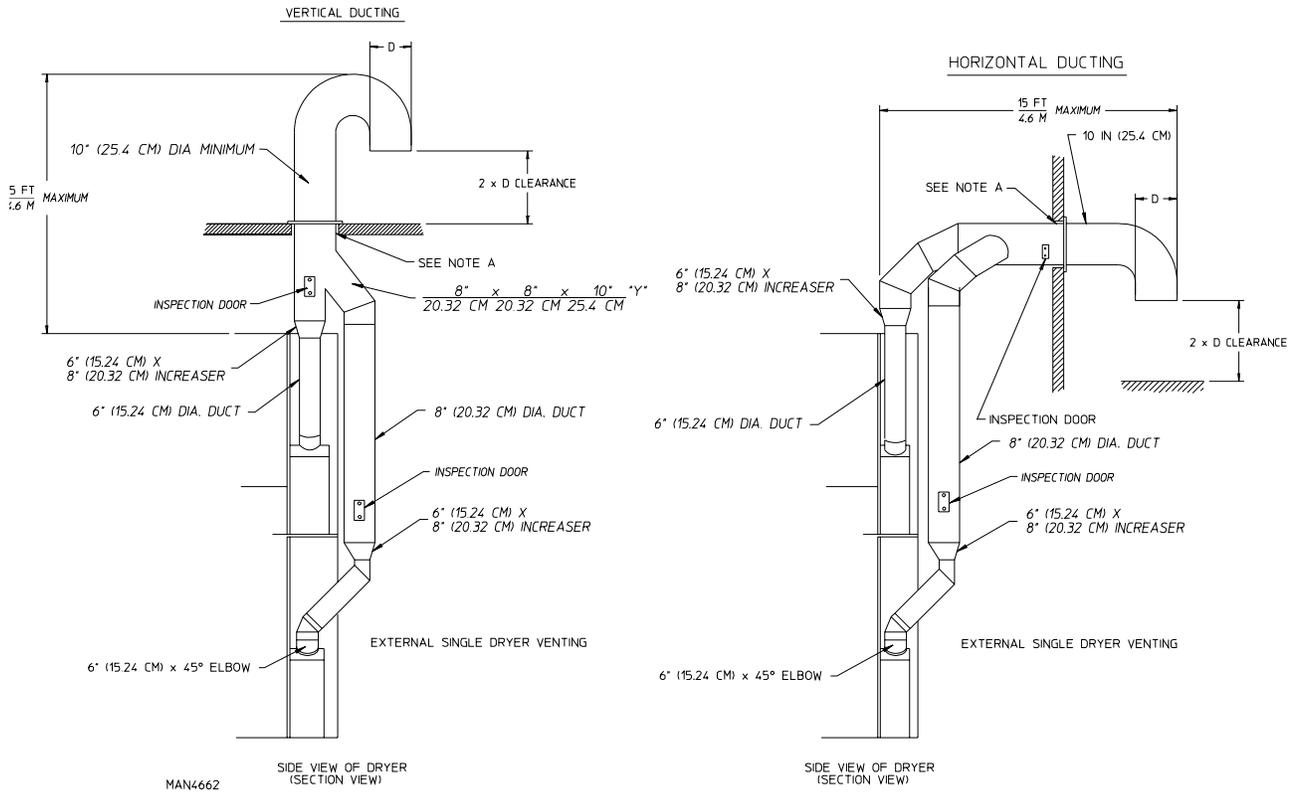
EXTERNAL SINGLE DRYER VENTING CONNECTIONS  
 ( WITH DRYER INDEPENDENT EXHAUST )



NOTE "A": OPENING MUST BE TWO (2) INCHES (50.8 CM) LARGER THAN DUCT ( ALL THE WAY AROUND )  
 THE DUCT MUST BE CENTERED WITHIN THE OPENING.

EXTERNAL SINGLE DRYER VENTING CONNECTIONS

( WITH DRYER COMMON EXHAUST )



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

- b. Single Dryer Venting - with common (top basket [tumbler] and bottom basket [tumbler] connected together) exhaust connections.

If the top and bottom baskets (tumblers) connect or “Y” together as noted is **Section E**, the minimum diameter size at the “Y” or point of connections is 10-inches (25.4 cm) in diameter (80 square inches [516.13 square centimeters] cross-sectional area). Additionally, the maximum ductwork travel from the top of the dryer to the outside exhaust outlet **must not exceed** 15 feet (4.6 meters). Refer to the **illustration above** for examples.

The vertical ducting need not be a minimum of 10-inches (25.4 cm) in diameter **ALL** the way into the dryer. Connections inside the dryer can be 6-inches (15.24 cm) in diameter for the top basket (tumbler) and for the bottom basket (tumbler) increased to 8-inches (20.32 cm) up to the top area of the dryer and then at that point **must be** a minimum of 10-inches (25.4 cm) in diameter (80 square inches [516.13 square centimeters] cross-sectional area). Additionally, the length of the exhaust run **cannot** exceed 15 feet (4.6 meters) from the top of the dryer to the point where the exhaust ends outside.

4. Multiple Dryer Venting (with Common Main Duct)

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers or baskets (tumblers) may be channeled into a common main duct. Each dryer/basket (tumbler) is provided with a back draft damper. The individual ducts should enter the bottom or side of the main duct at an angle of not more than 45° in the direction of the airflow.

The main common duct may be any shape so long as the minimum cross-sectional area is provided. The main duct **should be** tapered with the diameter increasing before each individual duct is added as per the **illustrations on page 20 and page 21**.

The maximum length of venting from the last dryer to where it exhausts is the following:

VERTICAL - venting run **must not exceed** 8 feet (2.44 meters). This calculation compensates for the maximum use of three (3) elbows including the two (2) elbows creating 180° (turned downward) outside outlet.

HORIZONTAL - venting run **must not exceed** 15 feet (4.6 meters). This calculation compensates for the maximum use of only one (1) elbow which is the outside outlet protection.

**IMPORTANT:** No more than four (4) dryers (eight [8] baskets [tumblers]) maximum **should be** connected to one (1) main common duct. Refer to the applicable section of this manual for specific common venting size.

**NOTE:** The distance between the dryer single ducts being connected to the main common duct **must be** a minimum of 31-1/2" (80.01 cm) dryer's width.

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

The **illustrations on page 20 and page 21** show the minimum cross-sectional area for 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-sectional area of the duct can only be increased to an extent. For extended ductwork runs or where numerous elbows are used, a professional heating, venting, and air conditioning (HVAC) firm **should be** consulted for proper venting information.

**NOTE:** Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning.

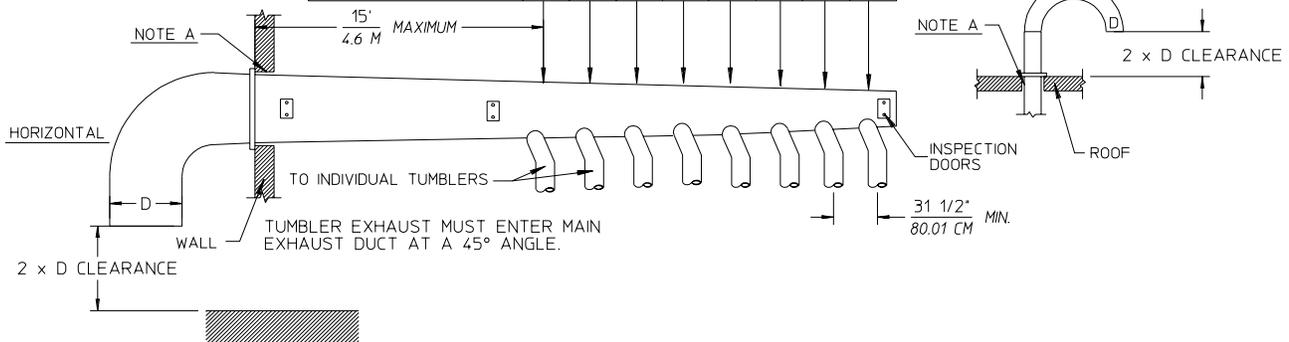
a. Multiple Dryer Venting - where each basket (tumbler) is individually vented.

With multiple venting where each basket (tumbler) is vented independently (a separate exhaust is used for each basket [tumbler]) to the common main duct, a minimum of an 8-inch (20.32 cm) diameter duct (50 square inches [322.58 square centimeters] cross-sectional area) connection between the dryer and common main duct is acceptable providing this duct does not exceed 8 feet (2.44 meters) in length.

**IMPORTANT:** No more than four (4) dryers (eight [8] baskets [tumblers]) can be connected to one (1) common duct vent.

MULTIPLE DRYER VENTING  
WITH 8" (20.32 CM) DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS	8	7	6	5	4	3	2	1
MINIMUM CROSS (SQ.IN.)	324	324	256	256	210	164	120	80
SECTION AREA (SQ.CM.)	2090	2090	1651	1561	1354	1058	774	516
MINIMUM ROUND (IN.)	20	20	18	18	16	14	12	10
DUCT DIAMETER (CM.)	50	50	45	45	40	35	30	25



IMPORTANT: NO MORE THAN 4 DRYERS (8 TUMBLERS) CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

MAN4664

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT =  $785 \times D^2$  WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT =  $W \times H$  WHERE W = WIDTH AND H = HEIGHT.

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

**NOTE:** The distance between the dryer single ducts being connected to the main common duct *must be* a minimum of 31-1/2" (80.01 cm) dryer's width.

**NOTE:** The ductwork *should be* laid out in such a manner where allowances are made at the rear area of the dryer for removal of rear service panels/guards.

**IMPORTANT:** Individual ducts being added to the main common vent must enter the main common vent ductwork at an angle not more than 45° in the direction of the airflow.

The **illustration above** shows the minimum cross section area for multiple (common) dryer venting.

The maximum length of venting from the last dryer to where it exhausts is the following:

VERTICAL - venting run **must not exceed** 8 feet (2.44 meters).

HORIZONTAL - venting run **must not exceed** 15 feet (4.6 meters).

These figures **must be** increased in proportion if the main duct run from the last dryer has numerous elbows or is unusually long. For extended runs or where more elbows are added, the cross-sectional area of the duct can only be increased to an extent and a professional heating, venting, and air conditioning (HVAC) firm **should be** consulted for proper venting information.

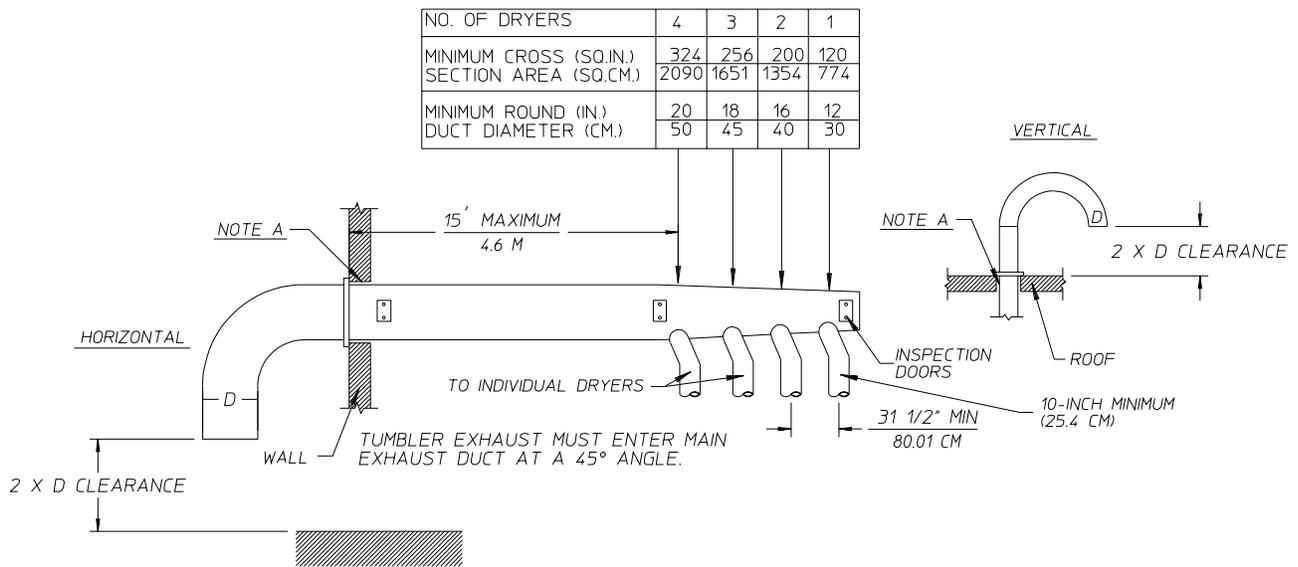
**IMPORTANT:** Exhaust back pressure measured by a manometer at the dryer exhaust duct **must be** no less than 0 and **must not exceed** 0.3 inches (0.74 mb) of water column (W.C.) when both baskets (tumblers) are operating.

**NOTE:** Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning.

b. Multiple Dryer Venting - where baskets (tumblers) of each dryer “Y” together.

With multiple venting where the top basket (tumbler) and bottom basket (tumbler) are connected or “Y” together as described in **Section E (page 12 through page 14)**, the minimum diameter size at the “Y” (point of connection) and main common duct is 10-inches (25.4 cm) in diameter (80 square inches [516.13 square centimeters] cross-sectional). This duct run **cannot** exceed 8 feet (2.44 meters) in length.

MULTIPLE DRYER VENTING  
WITH 10" (25.4 CM) DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT



IMPORTANT: NO MORE THAN 4 DRYERS (8 TUMBLERS) CAN BE CONNECTED TO ONE COMMON DUCT ( VENT ).

MAN4663

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT =  $.785 \times D^2$  WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT =  $W \times H$  WHERE W = WIDTH AND H = HEIGHT.

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

**IMPORTANT:** No more than four (4) dryers (eight [8] baskets [tumblers]) can be connected to one (1) common duct vent.

**NOTE:** The distance between the dryer single ducts being connected to the main common duct *must be* a minimum of 31-1/2" (80.01 cm) dryer's width.

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

**IMPORTANT:** Individual ducts being added to the main common vent must enter the main common vent ductwork at an angle not more than 45° in the direction of the airflow.

The **illustration** on the previous page shows the minimum cross-sectional area for multiple dryer venting.

The maximum length of venting from the last dryer to where it exhausts is the following:

VERTICAL - venting run **must not exceed** 8 feet (2.44 meters).

HORIZONTAL - venting run **must not exceed** 15 feet (4.6 meters).

These figures **must be** increased in proportion if the main duct run from the last dryer has numerous elbows or is unusually long. For extended runs or where more elbows are added, the cross-sectional area of the duct can only be increased to an extent and a professional heating, venting, and air conditioning (HVAC) firm **should be** consulted for proper venting information.

**IMPORTANT:** Exhaust back pressure *must be* no less than 0 and *must not exceed* 0.3 inches (0.74 mb) of water column (W.C.) when both baskets (tumblers) are operating.

**NOTE:** Inspection doors *should be* installed at strategic points in the exhaust ductwork for periodic inspection and cleaning.

## **IMPORTANT VENTING REMINDERS**

1. Ductwork sizing and installation **should be** done by a qualified professional.
2. The dryer **must be** vented to the outdoors.
3. The ductwork **should be** routed as short as possible to the outdoors with as few turns as possible.
4. Avoid 90° turns, use 30° or 45° turns instead.
5. The size (cross-sectional area) of the ductwork will depend on the application (i.e., single dryer venting, common venting, etc.), as well as the length of the duct and the amount of elbows. **DO NOT** exceed the specifications noted in this manual.

**IMPORTANT: UNDER NO CIRCUMSTANCES can the dryer be vented to the outdoors using a 6-inch (15.24 cm) diameter exhaust duct!!!**

6. The inside of the ductwork **should be** as smooth as possible with no projections from the sheet metal screws.
7. **ALL** ducts **should be** taped to prevent moisture and lint from escaping into the building.
8. Inspection/clean out doors **should be** installed throughout strategic points in the ductwork for periodic inspection and cleaning.
9. Whenever the duct passes through 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.
10. The outside of the ductwork **must be** protected from the weather. A 90° elbow **must be** used for a horizontal run and when going vertically through the roof by using a 180° turn to point the opening downward. The distance between the exhaust duct and the nearest obstruction (i.e., roof or ground) **must be** twice the diameter of the duct.
11. **DO NOT** use screens, louvers, or caps on the outside opening of the exhaust ductwork.
12. The ductwork exhaust outlets **should not be** located near make-up air openings. If make-up air openings are located too close to the exhaust outlet, lint and fumes may be drawn back into the dryer area through these openings.
13. Exhaust back pressure measured by a manometer at each basket (tumbler) exhaust duct **must be** no less than 0 and **must not exceed** 0.3 inches (0.74 mb) of water column (W.C.) when both baskets (tumblers) are operating.

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

## F. ELECTRICAL INFORMATION

### 1. Electrical Requirements

It is your responsibility to have **ALL** electrical connections made by a properly licensed and competent electrician to assure 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.

It is required that a separate circuit servicing each basket (tumbler) be provided. The dryer **must be** connected with copper wire only. ***DO NOT use aluminum wire, which could cause a fire hazard.***

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

### 2. Electrical Connections

A wiring diagram is included with each dryer showing the wiring connection sequence. The electrical connections are made at the terminal block located in the wiring box, at the rear top area of the dryer. The dryer is shipped with three (3) connection points (L1, L2, Neutral, and Ground) for each basket (tumbler).

If local codes permit, power to the dryer can be made by 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.

**NOTE:** It is required that a circuit servicing each basket (tumbler) be provided.

SINGLE-PHASE (1 $\phi$ ) ELECTRICAL CONNECTIONS LEADS		
Black + Positive	White - Neutral	Green  Ground
or L2		

### 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 (sized per local codes) be connected from the ground connection of the dryer to a cold water pipe. **DO NOT ground to a gas pipe or hot water pipe.** The grounded cold water pipe must have metal to metal connections **ALL** the way to the electrical ground. If there are any nonmetallic interruptions, such as, a meter, pump, plastic, or other insulating connectors, they **must be** jumped out with no. 4 wire and securely clamped to bare metal at both ends.

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

### 4. Electrical Service Specifications (per pocket)

**IMPORTANT:** The dryer **must be** connected to the electrical supply shown on the data label located behind the left coin control panel on the right wall (refer to **Section IX** in this manual).

**WARNING:** Any damage done to the dryer components due to improper voltage application or connections will automatically **VOID THE WARRANTY.**

### 5. Electrical Specifications

<b>ADG-530D (Gas)</b>						
<b>ELECTRICAL SERVICE SPECIFICATIONS (PER POCKET)</b>						
<b>IMPORTANT:</b> 208 VAC and 230 VAC <b>ARE NOT THE SAME.</b> When ordering, <b>specify exact voltage.</b>						
<b>NOTES:</b> A. When fuses are used they <b>must be</b> dual element, time delay, current limiting, class RK1 or RK5 <b>ONLY.</b> 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 <b>ONLY.</b> For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.						
SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW	MINIMUM WIRE SIZE	FUSING	CIRCUIT BREAKER
					Dual Element Time Delay	
120	1Ø	2	9.7	*	15	15
208	1Ø	2	5.8	*	15	15
230	1Ø	2	5.4	*	15	15

\* AWG Stranded Wire Type...size wire as per National Electrical Code or local codes.

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

## G. GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to assure 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.

**IMPORTANT:** Failure to comply with these codes or ordinances, and/or the requirements stipulated 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 dryer from supply as noted can cause irreparable damage to the gas valve, which will **VOID THE WARRANTY**.

**WARNING: FIRE OR EXPLOSION COULD RESULT.**

### 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/gas indicated on the dryer data label affixed behind the left coin control panel on the right wall. 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 (610 meters), unless elevation requirements of over 2,000 feet (610 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 (610 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.	<b>8.7 mb</b>	10.5 inches W.C.	<b>26.1 mb</b>
In-Line Pressure	6.0 - 12.0 inches W.C.	<b>14.92 - 29.9 mb</b>	11.0 inches W.C.	<b>27.4 mb</b>

*Shaded areas are stated in metric equivalents*

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

b. Gas Connections:

Inlet connection -----3/4" N.P.T.

Inlet supply size -----3/4" N.P.T. (minimum)

Btu/hr input (per dryer) ---204,000 (51,408 kcal/hr)

Btu/hr input (per pocket) --102,000 (25,704 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) of water column (W.C.) pressure.

2) Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas have the 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) of 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>						L.P. Conversion Kit Part Number
ADC MODEL NUMBER	BTU Per Hour Rating	kcal/hr Rating	Natural			Liquid Propane			
			Qty.	D.M.S.*	Part Number	Qty.	D.M.S.*	Part Number	
ADG-530D	204,000 (TOTAL FOR BOTH BASKETS)	<b>51,408</b>	2	#10	140836	2	#33	140855	881119

*Shaded area is stated in metric equivalent*

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

Natural Gas ..... #10 = 0.1935" (4.949 mm).

Liquid Propane Gas ..... #33 = 0.1137" (2.888 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 BTUs being supplied.

The dryer is provided with two (2) 3/4" N.P.T. inlet pipe connections (one [1] for each basket [tumbler]) at the rear of the dryer. If a separate feed is provided for each basket (tumbler) from the main supply line (header), then a 3/4" line connection is sufficient. However, if the top basket (tumbler) and the bottom basket (tumbler) are connected together, the supply from this connection to the header **must be** a minimum of 1-inch (2.54 cm) and **must not exceed** 50 feet (15.24 meters). For typical gas connections, refer to the **illustration** on **page 29**. It is recommended that a gas shutoff valve be provided to the gas supply line of each dryer basket (tumbler) for ease in servicing.

The size of the gas supply line (header) will vary, depending on the distance this supply line travels from the gas meter (or in case of L.P. gas, the supply tank), the number of tees, other gas-operated appliances on the supply 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 gas pressure, which will result in erratic operation of the burner ignition system.

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

**IMPORTANT:** Water column pressure of 3.5 inches (8.7 mb) for natural gas dryers and 10.5 inches (26.1 mb) for L.P. gas 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.

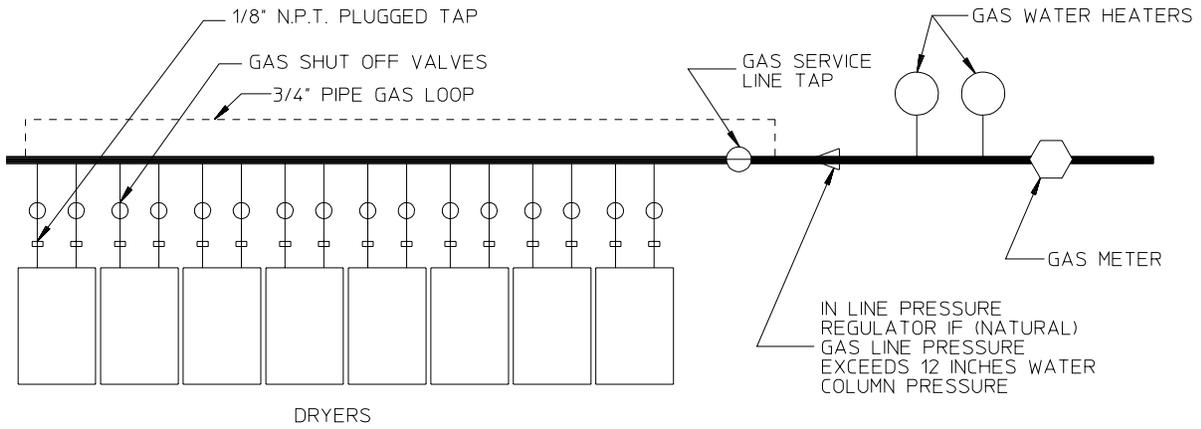
**IMPORTANT:** Pipe joint compounds that resist the action of natural and L.P. gases **must be** used.

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

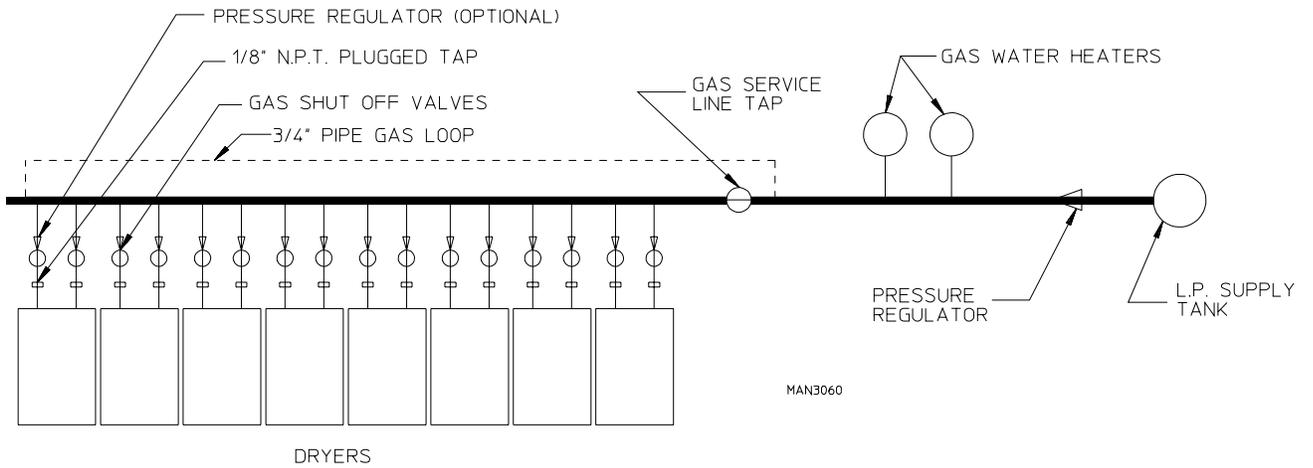
**WARNING: NEVER TEST FOR LEAKS WITH A FLAME!!!**

**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 (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 BTUs being supplied.

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION



MAN3060

## H. PREPARATION FOR OPERATION

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

1. Read and follow 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 located behind the left coin control panel on the right wall (refer to **Section IX** of this manual).
3. Check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.
4. The sail switch damper assemblies are installed and preadjusted at the factory prior to shipment. However, each sail switch adjustment **should be** checked to assure this important safety control is functioning.
5. Check bolts, nuts, screws, terminals, and fittings for security.
6. Be sure ALL gas shutoff valves are in the open position.
7. Be sure ALL back panels (guards) and electric box covers have been replaced.
8. Check ALL service doors to assure that they are closed and secured in place.
9. Rotate the baskets (tumblers) by hand to be sure they move freely.

## I. PREOPERATIONAL TESTS

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.

1. Turn on electrical power to the dryer.
  - a. Open ALL gas shutoff valves.
2. Computer System Operational
  - a. COIN MODELS ONLY
    - 1) The light emitting diode (L.E.D.) display(s) will flash back and forth between “FILL” and the amount needed to start the dryer (i.e., “25”), which means that the dryer is available and 25¢ is required to start it.
    - 2) Insert the proper number of coins into coin acceptor. Once the correct amount needed to start the dryer has been inserted, the L.E.D. display will read “PUSH.”
    - 3) Start the dryer by pressing the desired setting (i.e., LOW TEMP). The L.E.D. display will now read selection (setting) made and the amount of time vended (i.e., “LO 10”).

**NOTE:** The dryer can be stopped at any time by opening the main door. To restart the dryer, shut the main door and press the desired setting.

- 4) Open main door to stop the dryer, and change selection to “PERM PRESS” (medium) setting. Repeat this procedure, but change the selection (setting) to “HIGH TEMP.” This will confirm that the selection key circuits are functioning properly.

**NOTE:** Selection (setting) changes can be made at any time during the drying cycle by opening and closing the main door and then making a new selection.

- 5) Repeat above procedure for other basket (tumbler).

#### b. OPL (NON-COIN) MODELS ONLY

- 1) The light emitting diode (L.E.D.) display(s) will read “FILL,” which means that the dryer is available.
- 2) Start the dryer by pressing the desired setting “LOW TEMP.” The L.E.D. display will now read selection (setting) made and the drying time portion of the L.E.D. display will read “00” and count upwards in time.

**NOTE:** The dryer can be stopped at any time by opening the main door. To restart the dryer, shut the main door and press the desired setting.

- 3) Open main door to stop the dryer, and change selection to “PERM PRESS” (medium) setting. Repeat this procedure, but change the selection (setting) to “HIGH TEMP.” This will confirm that the selection key circuits and door switch circuits are functioning properly.

**NOTE:** Selection (setting) changes can be made at any time during the drying cycle by opening and closing the main door and then making a new selection.

- 4) Repeat above procedure for the other basket (tumbler).

### 3. Heat Circuit Operational Test

#### a. GAS MODELS

When a gas dryer is first started (during the initial start-up), it has a tendency not to ignite on the first attempt. This is because the gas supply piping is filled with air. It may take a few minutes for this air to be purged from the lines.

The dryer is equipped with a Direct Spark Ignition (DSI) system, which has internal diagnostics. If ignition is not established after the first attempt, the heat circuit DSI module will try two (2) additional times and if a flame is not established, the DSI module will lockout until it is manually reset. To reset the DSI system, open and close the main door and restart the dryer (press desired temperature selection).

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

Once ignition is established, a gas pressure reading **should be** taken at the gas valve pressure tap of each dryer to assure that the water column (W.C.) pressure is correct and consistent.

**NOTE:** Water column (W.C.) pressure requirements (measured at the gas valve pressure tap from the manifold side of the gas valve):

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.

4. Make a complete operational check of **ALL** safety related circuits (i.e., lint basket switches and sail switches).

**NOTE:** The sail switch can be checked for proper operation by opening the main door, and while holding the main door switch in, start the dryer. The heating units should not come on. If it does, make the necessary adjustments.

5. Each basket (tumbler) **should be** operated through one (1) complete cycle to assure 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.

**NOTE:** Drying and cooling cycles are complete when the light emitting diode (L.E.D.) display reads "donE."

6. Computer Programs/Selections

Each microprocessor controller (computer) has been preprogrammed by the factory with the most commonly used program (parameter) selections. If microprocessor controller (computer) program changes are required, refer to the Microprocessor Controller (Computer) Programming Manual which was shipped with the dryer.

# SECTION IV

## OPERATING INSTRUCTIONS

### A. STARTING THE DRYER

#### 1. Coin Dryers

The dryer is available for use when the light emitting diode (L.E.D.) display reads “FILL” and/or the amount needed to start the dryer (i.e., “25”). Once the load has been put into the dryer and the main door is closed, start the dryer as follows:

- a. Insert the proper number of coins into the coin acceptor. Once the correct “Amount To Start” has been inserted, the L.E.D. display will read “PUSH.”
- b. Determine fabric setting (selection). Setting “HIGH TEMP” is the high-temperature range, “PERM PRESS” is the medium-temperature range, and “LOW TEMP” is the low-temperature range.

Once the fabric temperature setting (selection) has been determined, you start the dryer by pressing the fabric setting key desired (i.e., “LOW TEMP”).

- c. The dryer will now start, and the L.E.D. display for the basket (tumbler) selected will read the setting and the time vended (i.e., “LO 10”).
- d. The cycle time will count down until the drying and cooling cycles are completed.
- e. Upon completion of the drying cycle and cooling cycle, the dryer will shut off, the tone (buzzer) will sound for 5-seconds, and the L.E.D. display will read “donE.”

**NOTE:** If the Anti-Wrinkle program is active, the L.E.D. display will remain reading “donE,” and the microprocessor controller (computer) will proceed through the Anti-Wrinkle program until the maximum “Active Guard Time” has expired or until the main door is opened, whichever comes first.

**NOTE:** If the Anti-Wrinkle program **is not** active or in use, the L.E.D. display will read “donE” until the main door is opened, at which time, the L.E.D. display will read “FILL” and the “Amount To Start.”

#### f. Notes

- 1) The dryer basket (tumbler) can be stopped at any time by opening the main door. To restart dryer, shut the main door and press desired setting.

**NOTE:** When a cycle is interrupted by opening the main door, the cycle time will continue to count downward, regardless if the door is open or closed, until a keyboard (touch pad) selection is made.

- 2) Selection (setting) changes can be made at any time during the drying cycle by opening and closing the main door and then making a new selection.
- 3) Additional time can be purchased at any time. If the dryer is in operation (drying mode) and additional coins are inserted, the light emitting diode (L.E.D.) display will read the additional time for amount inserted.

## 2. Non-Coin (OPL) Dryers

The dryer is available for use when the L.E.D. display reads “FILL.” Once the load has been put into the dryer and the main door is closed, start the dryer as follows:

- a. Determine fabric setting (selection). Setting “HIGH TEMP” is the high-temperature range, the “PERM PRESS” is the medium-temperature range, and the “LOW TEMP” setting is the low-temperature range.
- b. Once the fabric temperature setting (selection) has been determined, you start the dryer by pressing the fabric setting key desired.
- c. The dryer will now start, and the L.E.D. display for the basket (tumbler) selected will read the setting (selection) and the drying portion of the L.E.D. display will read “00” and count upwards in time.
- d. Upon completion of the drying cycle and cooling cycle, the dryer will shut off, the tone (buzzer) will sound for 5-seconds, and the L.E.D. display will read “donE.”

**NOTE:** If the Anti-Wrinkle program is active, the L.E.D. display will remain reading “donE,” and the microprocessor controller (computer) will proceed through the Anti-Wrinkle program until the maximum “Active Guard Time” has expired or until the main door is opened, whichever comes first.

**NOTE:** If the Anti-Wrinkle program **is not** active or in use, the L.E.D. display will read “donE” until the main door is opened, at which time, the L.E.D. display will read “FILL.”

### e. Notes

- 1) The dryer basket (tumbler) can be stopped at any time by opening the main door. To restart dryer, shut the main door and press desired setting.

**NOTE:** When a cycle is interrupted by opening the main door, the cycle time will continue to count upward, regardless if the door is open or closed until a keyboard (touch pad) selection is made.

- 2) Selection (setting) changes can be made at any time during the drying cycle by opening and closing the main door and then making a new selection.

## B. 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 heat supply:
  - a. **SHUT OFF external gas supply shutoff valve** (for both the top basket [tumbler] and the bottom basket [tumbler] where the independent supply line to each basket [tumbler] is used).
  - b. **SHUT OFF internal gas supply shutoff valve located in the gas valve train area** (for both the top basket [tumbler] and the bottom basket [tumbler]).

# SECTION V

## SERVICE/PARTS INFORMATION

### A. SERVICE

1. Service **must be** performed by a qualified trained technician, service agency, or gas supplier. 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

1. 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 (508) 678-9000 or you may FAX in your order at (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 VI

## WARRANTY INFORMATION

### A. RETURNING WARRANTY CARDS

1. Before any dryer leaves the **ADC** factory test area, a warranty card is placed on the back side of the main door glass. These warranty cards are intended to serve the customer where we record the individual installation date and warranty information to better serve you should you file a warranty claim.
  - a. If a warranty card did not come with your dryer, contact the **ADC** Warranty Department or the **ADC** Service Department at (508) 678-9000.

**IMPORTANT:** A separate warranty card *must be* completed and returned for each individual dryer.

**NOTE:** Be sure to include the installation date when returning the warranty card(s).

### 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 (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 inquires **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.

- a. 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 insure 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 VII

## 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 build up.

### SUGGESTED CLEANING SCHEDULE

#### *DAILY (beginning of each work shift)*

Clean lint from lint drawer and screen assembly.

Inspect lint screens or drawers for damage and replace if torn.

#### **WEEKLY**

Clean lint accumulation from around microprocessor temperature sensor probes and sensor bracket assemblies.

#### **90 DAYS**

Remove lint from the motor air vents and surrounding area.

**IMPORTANT:** Lint accumulation will restrict the airflow over the motors, causing overheating and irreparable motor damage. Motor failure due to lint accumulation will VOID THE WARRANTY.

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

Remove lint accumulation from around the openings in the dryer's back panels.

Remove lint from gas valve burner train area with a vacuum cleaner with brush attachment.

Remove any lint accumulation from the coin acceptor area, including the optical switch.

Inspect and remove lint accumulation in customer furnished exhaust ductwork system and from the 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.**

Inspect and remove lint accumulation from the dryer's exhaust ductwork back draft dampers.

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

### **6 MONTHS**

In the cleaning of the dryer cabinet, avoid using harsh abrasives. A product for the cleaning of appliances is recommended.

**ALL** bearings and setscrews **should be** checked to insure they are tight.

## **B. ADJUSTMENTS**

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

Inspect bolts, nuts, screws (bearing setscrews), grounding connections, nonpermanent gas connections (unions, shutoff valves, and orifices), and electrical terminals. Tighten loose V-belts when necessary and check the alignment. Inspect drive motor (impeller/fan) shaft belt. A cracked or seriously frayed belt **should be** replaced. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (door switches, lint compartment switches, sail switches, 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 Part No. 882159 which includes two (2) grease fittings.

# SECTION VIII

## TROUBLESHOOTING

**IMPORTANT: YOU MUST DISCONNECT AND LOCKOUT 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.**

The information provided will help isolate the most probable component(s) associated with the difficulty described. The experienced technician realizes, however, that a loose connection or broken/shorted wire may be at fault where electrical components are concerned...and not necessarily the suspected component itself. Electrical parts **should always be** checked for failure before being returned to the factory. The information provided **should not be** misconstrued as a handbook for use by an untrained person making repairs.

**IMPORTANT:** When replacing blown fuses, the replacement *must be* of the exact rating as the fuse being replaced. The information provided *should not be* misconstrued as a handbook for use by an untrained person making repairs.

**WARNING:** ALL SERVICE AND TROUBLESHOOTING **SHOULD BE** PERFORMED BY A QUALIFIED PROFESSIONAL OR SERVICE AGENCY.

**WARNING:** WHILE MAKING REPAIRS, OBSERVE ALL SAFETY PRECAUTIONS DISPLAYED ON THE DRYER OR SPECIFIED IN THIS MANUAL.

### **A. No light emitting diode (L.E.D.) display...**

1. Service panel fuse blown or tripped breaker.
2. Blown control circuit fuse (3AG 3/4-Amp [Slo-Blow] fuse).
3. Disconnected or failed display ribbon connector/cable.
4. Failed display board.
5. Failed microprocessor controller (computer).

### **B. Basket (tumbler) motor does not start, microprocessor controller (computer) shows drying cycle progress and L.E.D. motor indicator dot is on...**

1. Microprocessor controller (computer) indicator is on...
  - a. Failed motor contactor/relay.
  - b. Failed motor.

2. Microprocessor controller (computer) indicator is off (and light emitting diode [L.E.D.] display does not read “door”)...
  - a. Failed microprocessor controller (computer).

**C. Basket (tumbler) does not turn, but motor microprocessor controller (computer) L.E.D. dot and motor output L.E.D. indicators are on...**

1. Loose basket (tumbler) belt (check tension/adjustment).
2. Basket (tumbler) belt jumped off of the motor or idler shaft.
3. Broken basket (tumbler) belt.

**D. The dryer will not stop, even with no cycle (L.E.D. display reads “FILL”) in progress...**

1. Failed motor contactor/relay.

**E. The dryer operates for a few minutes and then stops...microprocessor controller (computer) L.E.D. display continues to read cycle in progress, indicator dots are off and dryer can be restarted by pressing selection key...**

1. Intermittent connection in the main door/lint drawer circuit...
  - a. Main door switch or lint drawer switch out of proper adjustment.
  - b. Loose connections in main door or lint drawer switch wiring.
  - c. Failed main door or lint drawer switch.

**F. The dryer does not start, and the microprocessor controller (computer) L.E.D. display reads “door”...**

1. Microprocessor controller (computer) “door” input L.E.D. is off...
  - a. Main door and/or lint drawer is not properly closed.
  - b. Failed main door switch.
  - c. Failed lint drawer switch.
  - d. Open circuit (broken wire and/or termination) in main door switch wiring or lint drawer switch wiring.
2. Microprocessor controller (computer) “door” input L.E.D. is on...
  - a. Failed microprocessor controller (computer).

**G. The dryer does not start (for COIN MODELS ONLY)...coin(s) inserted and the light emitting diode (L.E.D.) display continues to read “FILL” and/or “Amount To Start” (does not read “PUSH”)...**

1. Coin acceptor is not adjusted properly or is dirty with lint.
2. Failed coin acceptor switch.
3. Parameter in Program Location 01 (**PL01**) set incorrectly.
  - a. Bad coin program **should be** set for “bCrS” and not “bCLO.”

**H. Microprocessor controller (computer) L.E.D. display reads “dSFL”...**

1. L.E.D. display consistently reads “dSFL” and will not clear...
  - a. Microprocessor controller (computer) 1/8-Amp (Slo-Blo) fuse is blown.
  - b. Failed microprocessor controller (computer) temperature sensor.
  - c. Broken wire and/or termination in sensor harness somewhere between the sensor bracket and the microprocessor controller (computer).
  - d. Failed microprocessor controller (computer).
2. L.E.D. display reads “dSFL” for a short period of time (30-seconds or less) and then returns to the normal stop “FILL” mode...

**NOTE:** Once the microprocessor controller (computer) detects a problem, it updates every 30-seconds so that if a problem was a loose connection in this circuit which corrected itself, the “dSFL” display condition would automatically be canceled.

- a. Loose wire and/or termination in sensor harness somewhere between the sensor bracket and the microprocessor controller (computer).
- b. Failed microprocessor controller (computer) temperature.

**I. Microprocessor controller (computer) L.E.D. display reads “Hot”...**

The “Hot” display condition indicates a possible overheating condition. The microprocessor controller (computer) monitors the temperature in the dryer at **ALL** times. If the microprocessor controller (computer) detects that the temperature in the dryer has exceeded 220° F (104° C), it will disable **ALL** of the dryer outputs (shut the dryer down), the buzzer (tone) will sound for approximately 5-seconds, and the L.E.D. display will read “Hot.” The L.E.D. display will continue to read “Hot” until the temperature has dropped to 220° F (104° C) or lower and the microprocessor controller (computer) is manually reset by closing and opening the program switch (PS).

Possible reasons for overheating...

1. Restriction in location exhaust ductwork...
  - a. Dryer exhaust damper stuck in closed position.
  - b. Undersized exhaust ductwork.
2. Insufficient make-up air.

**J. Microprocessor controller (computer) will not accept any, or only accept certain keyboard (touch pad) entries...**

The “SEFL” display condition indicates a rotational sensor circuit failure, which means that there is a fault somewhere in the basket (tumbler) rotation detection circuit...or...the microprocessor controller (computer) program related to this circuit (**PL01**) is set incorrectly in the active mode (“SEn”) where the dryer is not equipped with the optional rotational sensor and **should be** set in the inactive mode (“nSEn”).

If the dryer is equipped with the optional rotational sensor and for whatever reason the microprocessor controller (computer) detects that the basket (tumbler) is not turning, it will disable **ALL** of the dryer outputs (shut the dryer down), and the light emitting diode (L.E.D.) display will read “SEFL.” The L.E.D. display will continue to read “SEFL” until the microprocessor controller (computer) is manually reset by closing and opening the program switch (PS).

Possible causes...

1. Loose/slipping (out of proper adjustment) basket (tumbler) belt.
2. Broken basket (tumbler) V-belt.
3. Failed motor (refer to **Item B** and **Item E** on **page 42 and page 43**).
4. Failure in the rotational sensor circuit...
  - a. Failed rotational sensor.
  - b. Loose connection or break between the rotational sensor and the microprocessor controller (computer).

**K. Microprocessor controller (computer) will not accept any, or only accept certain keyboard (touch pad) entries...**

1. Failed keyboard (touch pad) label assembly.

**L. Microprocessor controller (computer) locks up and the L.E.D. display reads erroneous message(s) or only partial segments...**

1. Transient power voltage (spikes)...disconnect power to the dryer, wait 1 minute (**NOTE**: for dryer models with optional battery backup...disconnect battery), then reestablish power to the dryer. If problem is still evident, proceed to **Item M2 through Item M4**.
2. Failed keyboard (touch pad) label assembly.

3. Improper grounding of the dryer or the microprocessor controller (computer) ground connection to the panel or the dryer are not proper.
4. Failed microprocessor controller (computer).

**M. Dryer stops during a cycle and the microprocessor controller (computer) light emitting diode (L.E.D.) display returns to “FILL”...**

If dryer is equipped with optional battery backup...

1. Refer to **Item M1** on **page 45**, **Item M3**, or **Item M4**, above.

If the dryer does not have battery backup...

1. Loose connection somewhere in the power source to the dryer.
2. Loose connection in main power circuit to the microprocessor controller (computer).
3. Improper grounding of the dryer or the microprocessor controller (computer) ground connections to the panel or the dryer are not proper.
4. Failed microprocessor controller (computer).

**N. Heating unit is not operating (no heat)...basket (tumbler) is turning, microprocessor controller (computer) heat indicator dot is not on but “HEAT” output L.E.D. is not...**

1. Failed microprocessor controller (computer).

**O. Gas heating unit is not operating (no heat)...both microprocessor controller (computer) heat indicator dot and “HEAT” indicator are on...but does not spark at burner when the dryer is first started...**

1. Check motor (impellor/fan) drive belt.
2. Fault in sail switch circuit...
  - a. Sail switch is out of adjustment or has failed.
  - b. Sail switch damper is not closing or is fluttering...
    - 1) Lint drawer/screen is dirty or clogged.
    - 2) Restriction in exhaust ductwork.
3. Fault in burner hi-limit circuit or hi-limit thermostat.
4. Fault in basket (tumbler) hi-limit circuit or hi-limit thermostat.
5. Failed Direct Spark Ignitor (DSI) and/or flame-probe assembly.
6. Failed DSI module (burner control).

**P. No heat (for GAS MODELS ONLY)...Direct Spark Ignitor lights, but there is no flame at burner...**

1. Direct Spark Ignition (DSI) probe is out of adjustment...
  - a. Reposition ignitor assembly closer to the burner ribbon area. Also, check to make sure ribbon in burner is flush **ALL** around the top of the burner tube (ribbon should not stick up at any area).
  - b. Check gap between ignitor assembly and the top of the burner. Gap **must be** set 1/8" ± 1/32" (3.175 mm ± 0.792 mm).
2. Failed ignitor/flame-probe assembly or problem with wiring connections to the assembly.
3. No gas (check shutoff valves) or insufficient (low water column [W.C.] pressure) gas supply.
4. Failed DSI module.
5. Failed gas valve.

**Q. No heat...ignitor sparks, but burner goes on and off right away...**

1. Flame sensor (probe) is out of adjustment...reposition closer to the flame area.
2. Failed flame sensor (probe).
3. Sail switch is fluttering...
  - a. Lint drawer/screen is dirty or clogged.
  - b. Restriction in exhaust ductwork.
4. Insufficient make-up air.
5. Failed DSI module.

**R. Dryer operates, but is taking too long to dry...**

1. Exhaust ductwork run is too long or is undersized...back pressure **must be** no less than 0 and **cannot** exceed 0.3 inches (0.74 mb) of water column.
2. Low and/or inconsistent gas pressure.
3. Insufficient make-up air.
4. Poor air/gas mixture at burner...yellow or poor flame pattern. Adjust gas burner air adjustment shutters.
5. Lint drawer/screen is not being cleaned out on a regular basis or often enough.
6. Extractors (washers) are not performing properly.
7. Sail switch is fluttering...restriction in exhaust ductwork.

8. Failed microprocessor controller (computer) temperature sensor...temperature calibration is inaccurate.
9. Failed microprocessor controller (computer)...temperature calibration is inaccurate.
10. Lint accumulation in location exhaust system.

**S. Condensation on main door glass...**

1. Too long, undersized, or improperly installed ductwork.
2. Exhaust back draft damper is stuck open or partially open.
3. Restriction in exhaust ductwork.

**T. Dryer is making scraping noise at basket (tumbler) area...**

1. Check for object(s) caught in the basket (tumbler) wrapper area.
2. Basket (tumbler) is out of alignment...
  - a. Check both the vertical alignment and lateral alignment.
  - b. Check gap between the front panel and the basket (tumbler) front...setscrews may have come loose and basket (tumbler) walked forwards or backwards.
3. Loose or broken basket (tumbler) tie rod.
4. Broken basket (tumbler) support.

**U. Excessive noise and/or vibration...**

1. Dryer is not level.
2. Motor (impellor/fan) is out of balance or broken.
3. Loose basket (tumbler) tie rod.
4. Basket (tumbler) is out of adjustment, or adjustment bolts (hardware) are loose.
5. Loose motor or motor mount assembly.

**V. Basket (tumbler) turns too fast (as opposed to other baskets [tumblers])...**

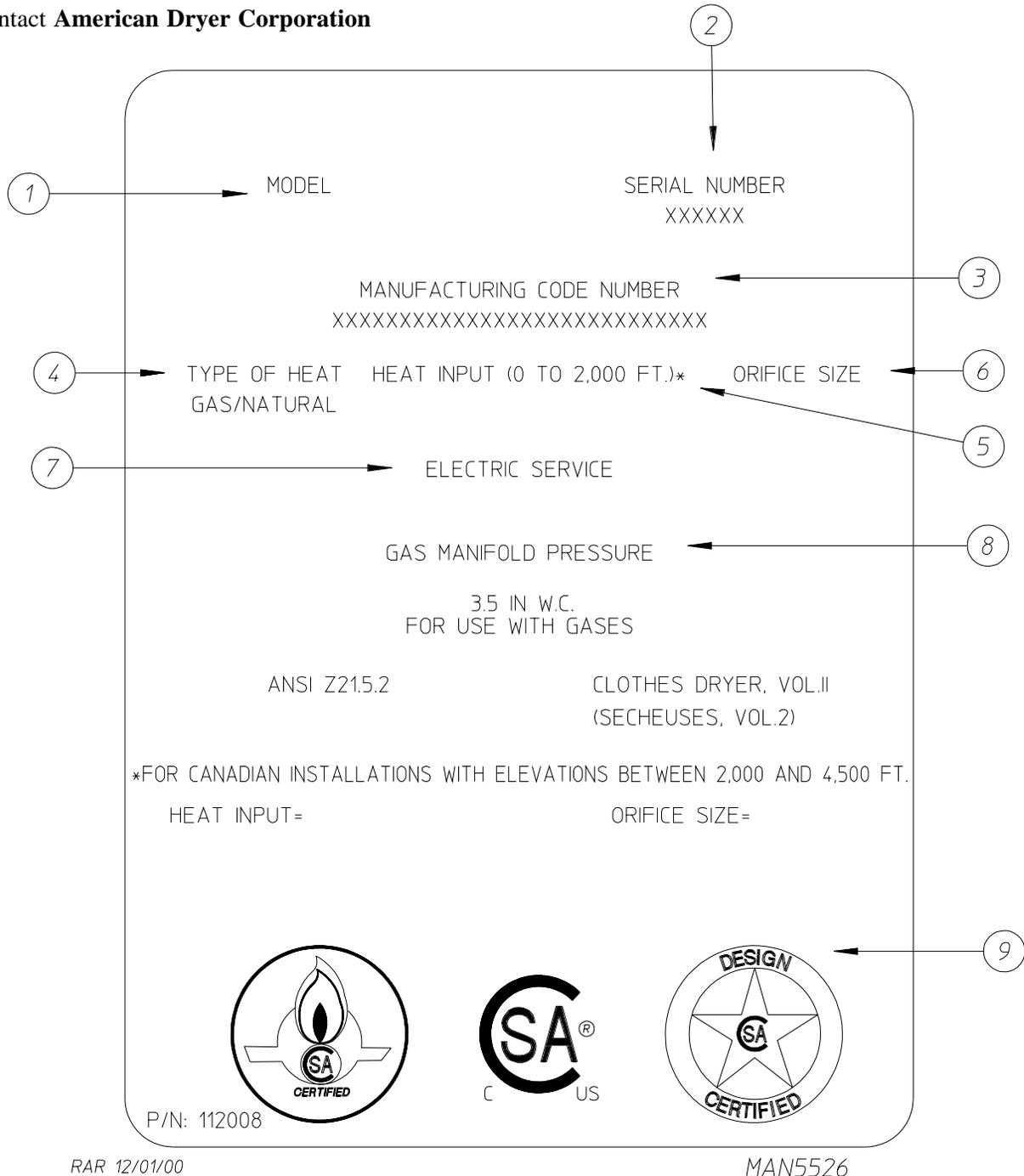
1. Foreign object(s) caught between basket (tumbler) belt and motor shaft.

# SECTION IX

## DATA LABEL LOCATION/INFORMATION

### A. DATA LABEL

Contact **American Dryer Corporation**



When contacting **American Dryer Corporation**, certain information is required to insure proper service/parts information from **ADC**. This information is on the data label that is located behind the left coin control panel on the right wall. When contacting **ADC**, please have the **model number** and **serial number** available.

## **THE DATA LABEL**

### **1. MODEL NUMBER**

The model number is an **ADC** number, which describes the size of the dryer and the type of heat (gas, electric, or steam).

### **2. SERIAL NUMBER**

The serial number allows **ADC** to gather information on your particular dryer.

### **3. MANUFACTURING CODE NUMBER**

The manufacturing code number is a number issued by **ADC**, which describes **ALL** possible options on your particular model.

### **4. TYPE OF HEAT**

This describes the type of heat for your particular dryer: gas (either natural gas or liquid propane [L.P.] gas) or steam.

### **5. HEAT INPUT (for GAS DRYERS)**

This describes the heat input in British Thermal Units per Hour (Btuh).

### **6. ORIFICE SIZE (for GAS DRYERS)**

Gives the number drill size used.

### **7. ELECTRIC SERVICE**

This describes the electric service for your particular model.

### **8. GAS MANIFOLD PRESSURE (for GAS DRYERS)**

This describes the manifold pressure taken at the gas valve tap.

### **9. APPLICABLE APPROVAL SEAL(S)**

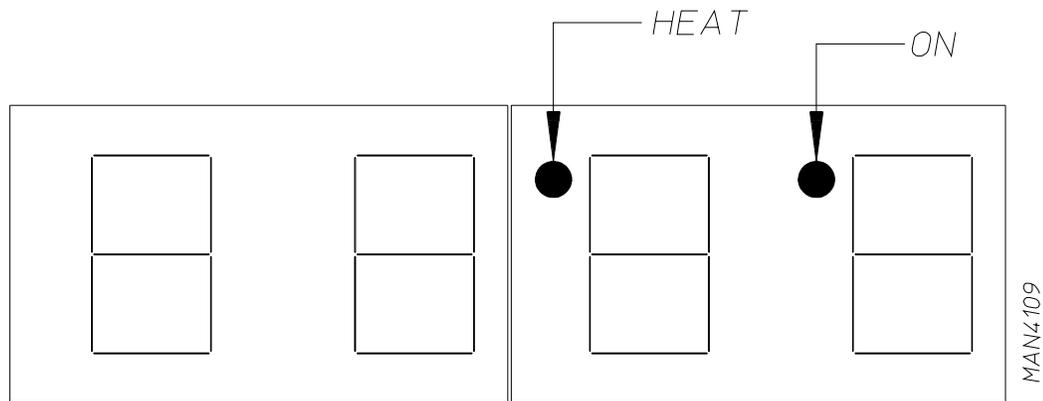
I.E., Canadian Standards Association International.

# SECTION X

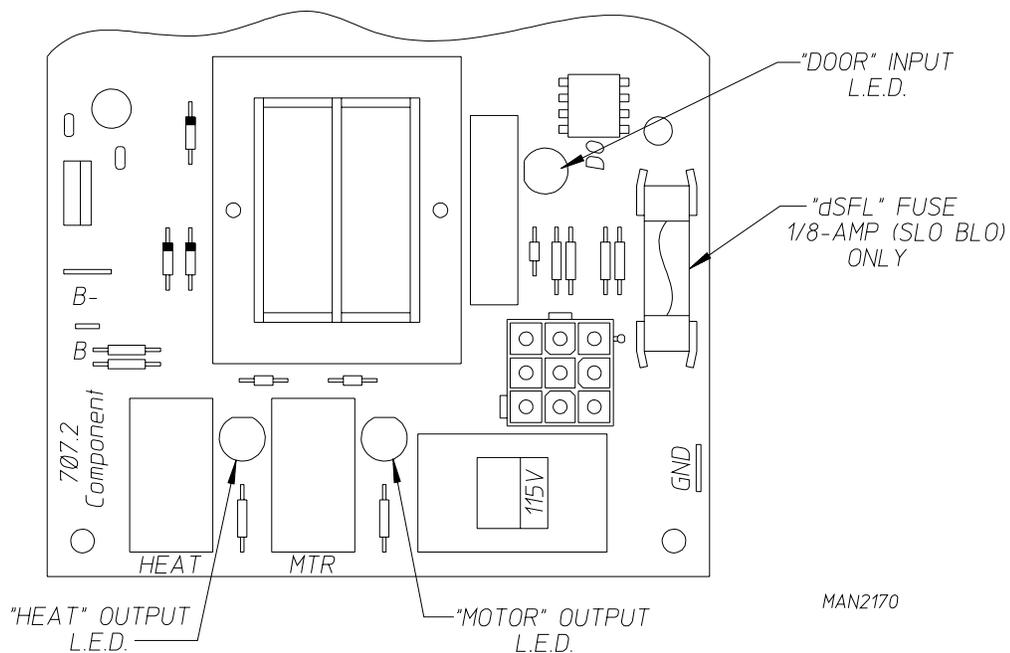
## PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

### 1. Microprocessor Controller (Computer) Board

- a. Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.
- b. Start the drying cycle.
- c. Verify that the motor(s) and the heat indicator dots, in the microprocessor controller (computer) light emitting diode (L.E.D.) display are on. (Refer to the **illustration below.**)



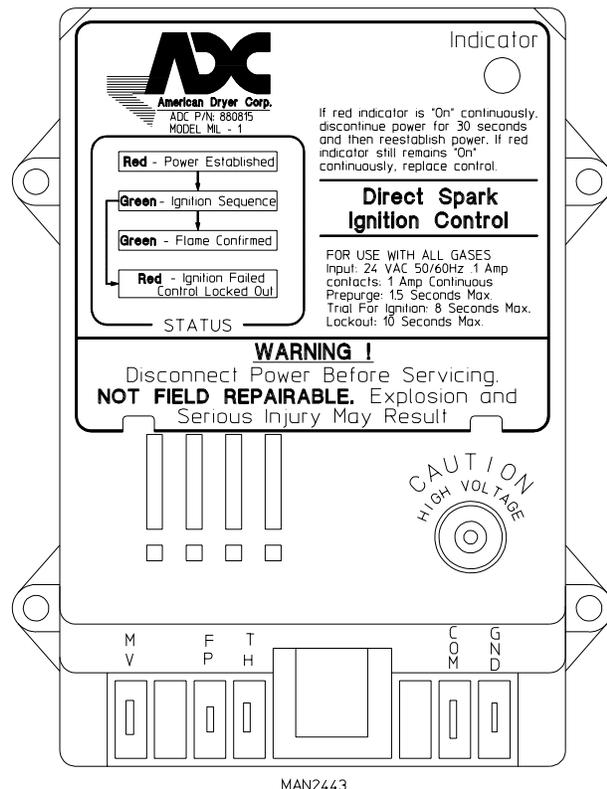
- d. Verify that the motor(s), heat, and door indicator lights on the back side of the microprocessor controller (computer) board are lit. (Refer to the **illustration below.**)



- e. Open main door. The dryer must stop and **ALL** output indicator lights on the back side of the microprocessor controller (computer) board must go out. (Refer to the **illustration** on the previous page.)
- f. Try to restart the dryer with the main door open.
- g. The microprocessor controller (computer) board's light emitting diode (L.E.D.) display must read "DOOR."
- h. Close the main door and restart the dryer.
- i. Functional check of microprocessor controller (computer) board is complete.

2. For Direct Spark Ignition (DSI) System Models Manufactured With ADC Module Part No. 880815

- a. Upon completing installation of the replacement DSI module, reestablish power to the dryer.
- b. Starting the drying cycle.
- c. The ignition DSI module's light emitting diode (L.E.D.) indicator will light "red" for up to approximately 1.5-seconds (prepurge time).
- d. The module's indicator light will then turn "green." The gas valve will be energized and the ignitor probe will spark for approximately 8-seconds. The burner flame **should now be** established.
- e. With the burner flame on, remove the flame sensor wire from the FS terminal of the DSI module.
- f. The burner flame must shut off and the ignition module must lockout with the DSI module's indicator light "red."
- g. Stop the drying cycle, with the flame sensor wire still removed, restart the drying cycle.
- h. The ignition module must proceed through the prepurge, with the indicator light "red," the ignition trial time of approximately 8-seconds, with the indicator light "green," and then proceed to lockout with the indicator light "red."
- i. Functional check of the DSI module is complete.



- 1) Replace the flame sensor wire from the FS terminal to the DSI module.

ADC 113116

1 - 10/20/99-50  
4\* 02/25/00-200  
7 - 09/30/02-100

2 - 10/21/99-250  
5 - 03/29/00-300  
8\* 05/08/03-100

3 - 01/18/00-250  
6 - 04/25/01-100

