AD-78 II

(Gas DSI/Electric/Steam)

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.

American Dryer Corp.®

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

042000WM/pb

ADC Part No. 113141

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	POUR VOTRE SÉCURITÉ
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.	Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

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

Important

For your convenience, log the following information:

DATE OF PURCHASE _____ **MODEL NO.** **AD-78 II (DSI)**

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 OR THE STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS.**

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

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

CAUTION

DRYERS SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

WARNING

CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYER(S).

CHILDREN SHOULD BE SUPERVISED IF NEAR DRYERS IN OPERATION.

FOR YOUR SAFETY

DO NOT DRY MOP HEADS IN THE DRYER.

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

WARNING

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

WARNING

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 rubber 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%), 50 lbs (22.7 kg) of its rated capacity.

WARNING: YOU MUST DISCONNECT AND LOCKOUT THE ELECTRIC SUPPLY AND THE GAS SUPPLY OR THE STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS.**

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

SECTION II

SPECIFICATIONS/COMPONENT IDENTIFICATION

A. SPECIFICATIONS

MAXIMUM CAPACITY (DRY WEIGHT)		75 lbs	**34 kg**
BASKET (TUMBLER) DIAMETER		44-1/2"	**113.03 cm**
BASKET (TUMBLER) DEPTH		24-7/8"	**63.18 cm**
BASKET (TUMBLER) MOTOR		1 HP*	**0.746 kw**
DOOR OPENING (DIAMETER)		31-3/8"	**79.7 cm**
BASKET (TUMBLER) VOLUME		22.4 cu. ft.	**0.634 cu. m.**
CABINET WIDTH		46-3/16"	**117.32 cm**
CABINET DEPTH		34"	**86.36 cm**
CABINET HEIGHT		84-1/4"	**214 cm**
EXHAUST CONNECTION		10"	**25.4 cm**
S.A.F.E. WATER CONNECTION**		1/2" M.N.P.T.	
DRYERS PER 20'/40' CONTAINER		8/18	
DRYERS PER 48'/53' TRUCK		25/27	
Gas	VOLTAGE AVAILABLE	120-240v 1ø, 208-480v 3ø 50/60 Hz	
	APPROX. WEIGHT (UNCRATED)	888 lbs	**402.8 kg**
	APPROX. WEIGHT (CRATED)	938 lbs	**425.5 kg**
	HEAT INPUT	204,000 btu/hr	**51,408 kcal/hr**
	AIRFLOW	1,200 cfm	**33.98 cmm**
	INLET PIPE CONNECTION	3/4" F.N.P.T.	

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Shaded areas are stated in metric equivalents

* Motor specifications are for non-reversing models only. Please consult factory for reversing specifications.

** S.A.F.E. system **must be** supplied with a 40 PSI min +/- 20 PSI (2.75 bar +/- 1.37 bar) water supply.

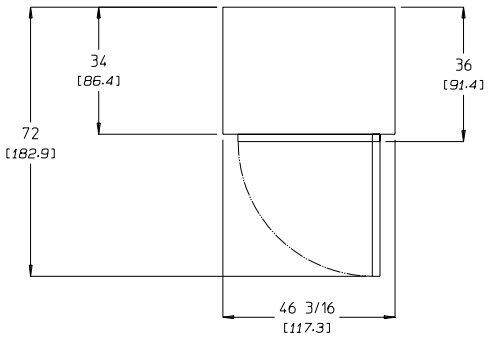
IMPORTANT: Steam dryers ***must be*** provided with a clean, dry, regulated 80 PSI ± 10 PSI (5.51 bar ± 0.68 bar) air supply.

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

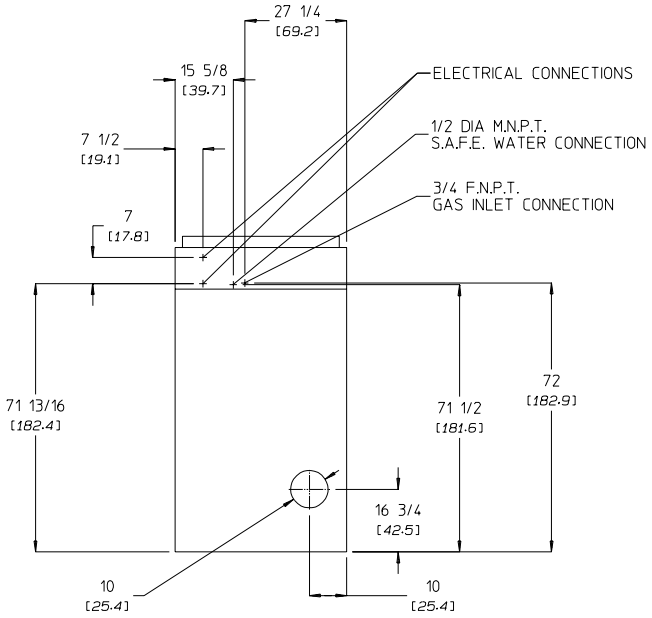
Specifications
ADG-78 (Gas)

DRYER NOTES:

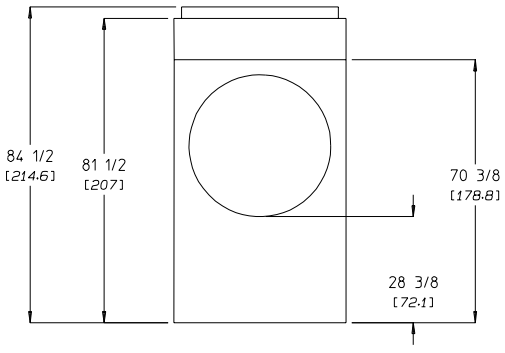
° A MINIMUM OF 3/4 in PIPE MUST BE SUPPLIED TO THE GAS INLET FOR EACH DRYER. SIZE OF PIPING TO DRYER VARIES WITH INSTALLATION CONDITIONS.
° TOP SECTION CAN BE REMOVED FOR EASY INSTALLATION. WITH TOP MODULE REMOVED THE HEIGHT OF THE CABINET IS REDUCED TO 70 3/8 in. (178.75 cm).
° 3 in (7.62 cm) HIGH COVER PANEL IS REMOVABLE FOR EASE OF INSTALLATION, REDUCING THE CABINET HEIGHT TO 81 1/2 in (207 cm).
° DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.
° EXHAUST STATIC PRESSURE MUST BE NO LESS THAN 0 AND MUST NOT EXCEED 0.3" (0.74 MB) WATER COLUMN.



PLAN VIEW



REAR VIEW



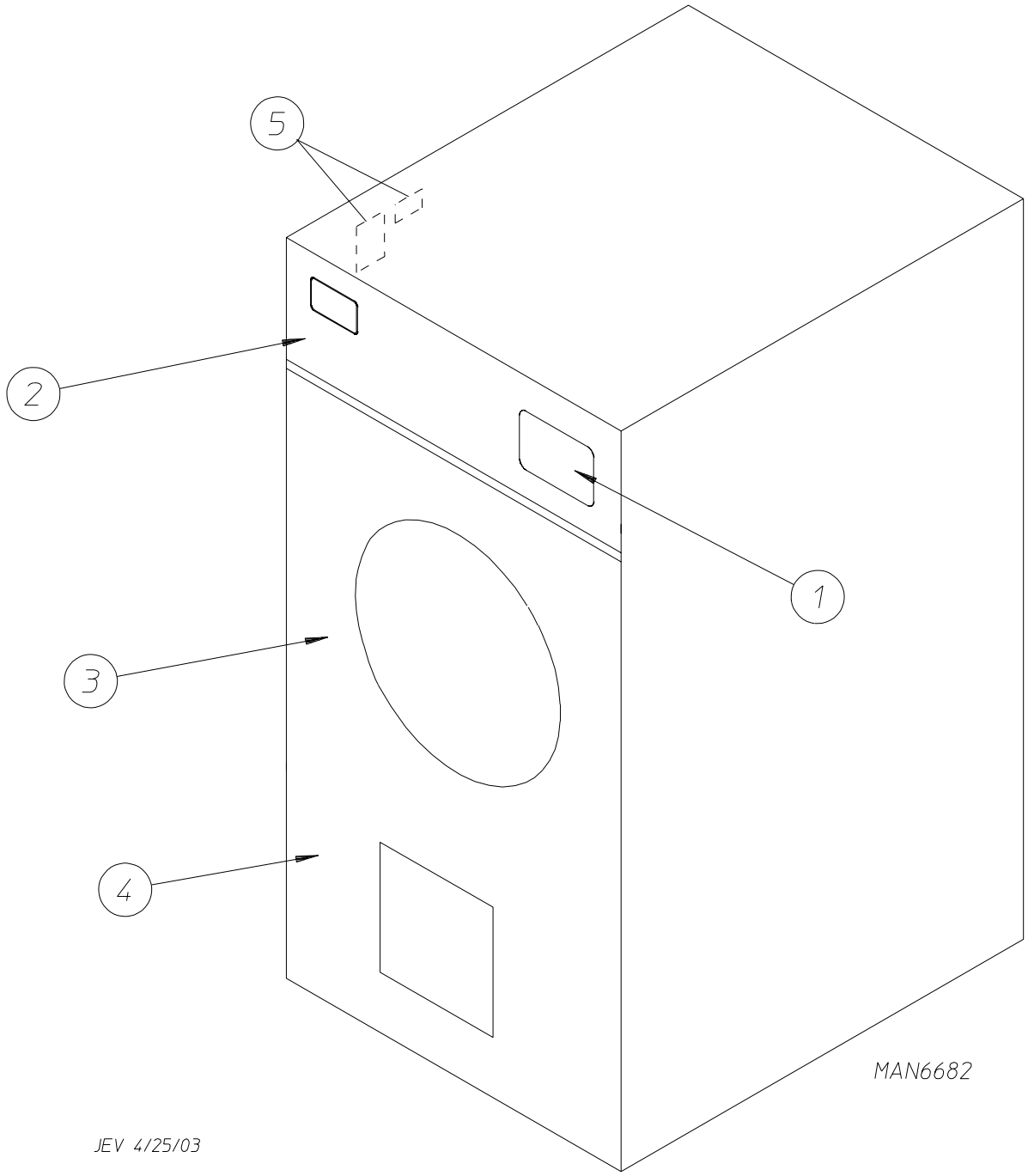
FRONT VIEW

MS 5/5/03

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

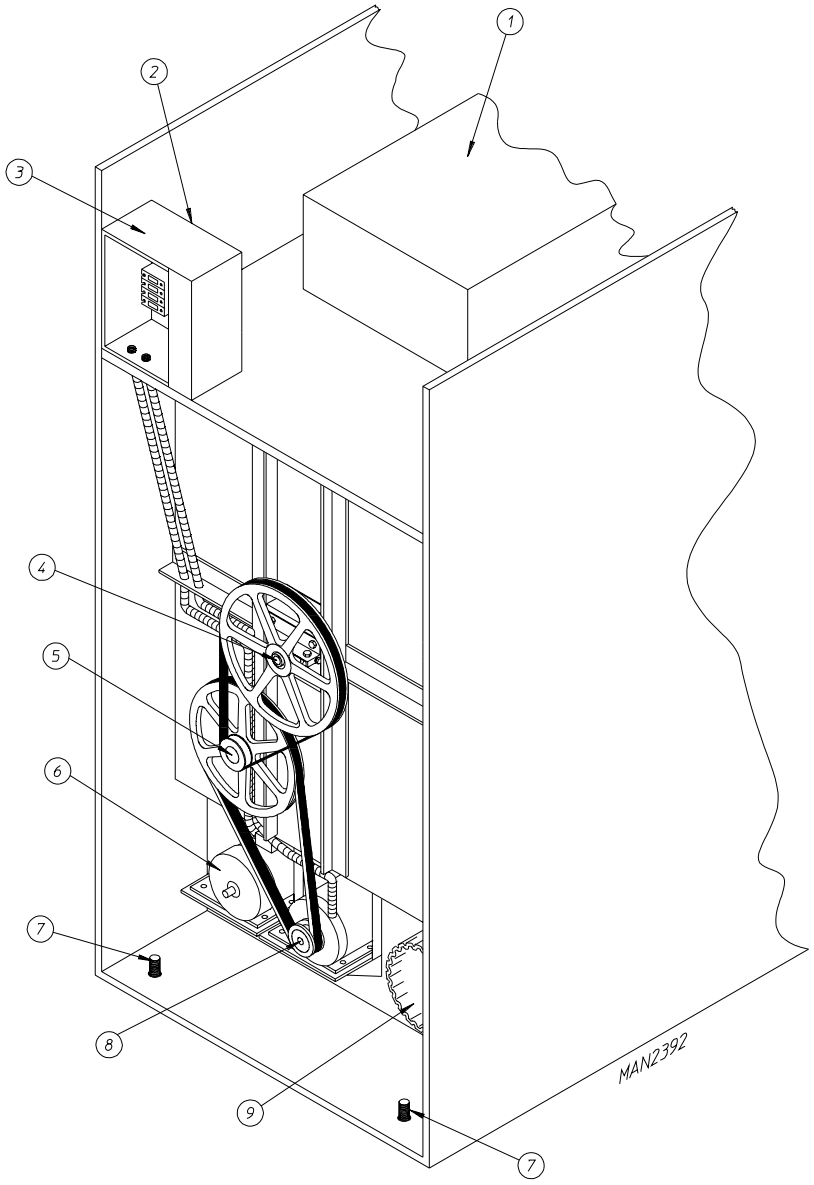
B. COMPONENT IDENTIFICATION

1. Dryer Front View



Illus. No.	Description
1	Controls
2	Control (top access) Door Assembly
3	Main Door Assembly
4	Lint Compartment Area (lint screen located behind door)
5	Data Label and Installation Label (affixed to the left side panel area behind the top control [access] door)

2. Dryer Rear View



Illus. No.	Description
1	Heating Unit
2	1/8” Compressed Air Supply Inlet (behind electric service relay box for steam models only)
3*	Electric Service Relay Box
4	Basket (tumbler) Bearing Mount Assembly
5	Idler Bearing Mount Assembly
6	Basket (tumbler) (drive) Motor Assembly (for reversing models only)
7	Leveling Leg (rear)
8	Blower Motor Assembly
9	Dryer Exhaust

* Electric service connections for gas models and steam models are made in this box.

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. 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 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing).

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

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

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

3. The dryer is for use in noncombustible locations.

4. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply Requirements** in **Section D**).

5. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

6. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

7. 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**).

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 40º F (4.44º C) and 130º F (54.44º C).

B. UNPACKING/SETTING UP

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

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

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

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

To increase bearing life and improve efficiency, the dryer **should be** tilted slightly to the rear.

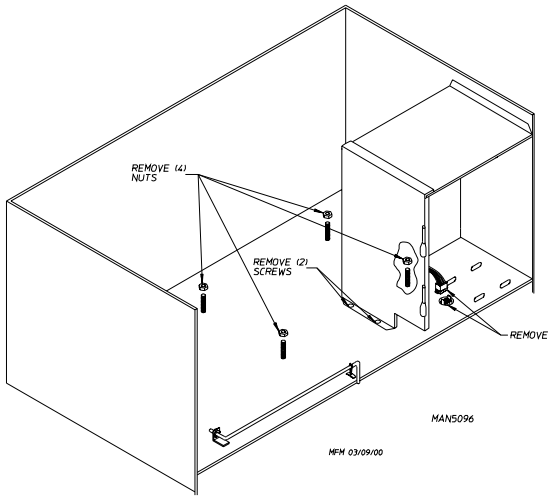
The lint coops of **ALL** AD-78 dryers are supported during shipping by a bracket. ***REMOVE THIS BRACKET BEFORE STARTING THE DRYER.***

If more headroom is needed when moving dryer into position, the top console (module) may be removed.

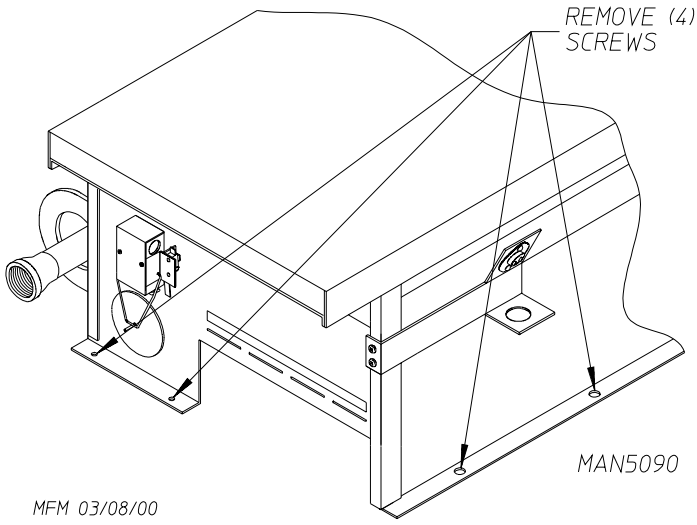
1. To Remove Top Console (Module)

   a. Remove the four (4) nuts as shown in the **illustration**.

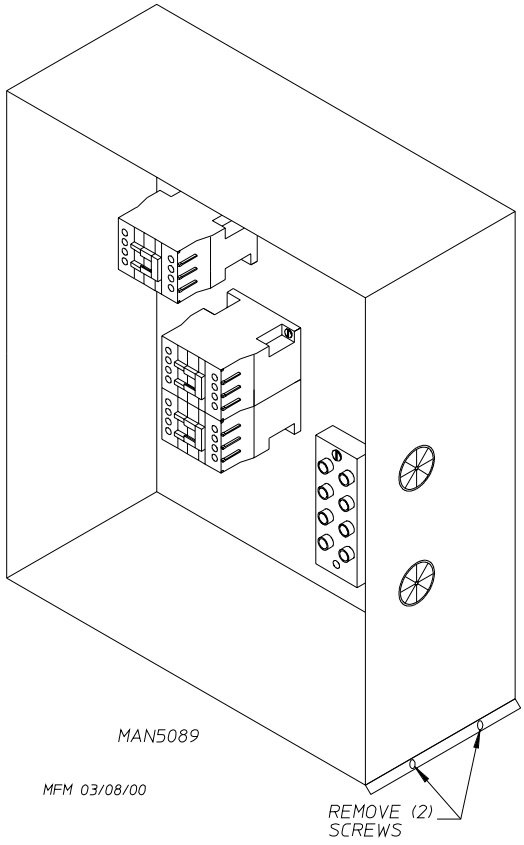
   b. Remove the two (2) hex head self-taping screws on the control box, also disconnect the connector in the control box (refer to the **illustration**).



c. Remove the four (4) self-taping screws on the burner box that secure it to the top of the dryer shown in the **illustration below**.



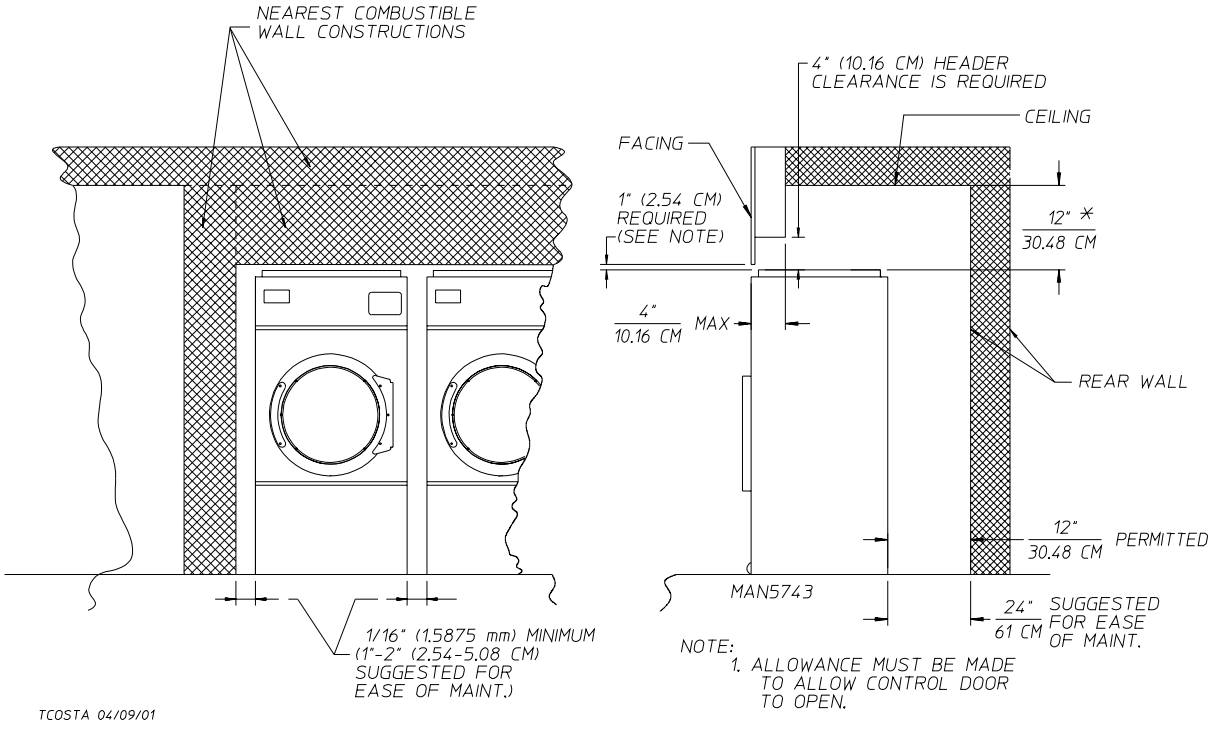
d. Remove the two (2) self-taping screws on the back electrical box and pull through **ALL** associated wires from the motor to this electrical box (refer to the **illustration below**).



e. Reverse procedure for installing top section.

C. DRYER ENCLOSURE REQUIREMENTS

Bulkheads and partitions **should be** made of noncombustible materials and **must be** located a minimum of 12-inches (30.48 cm) (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 partially closed in if desired. The clearance between the bulkhead header and the dryer **must be** a minimum of 4-inches (10.16 cm) and must not extend more than 4-inches (10.16 cm) to the rear of the front. The bulkhead facing **must not be** closed in **ALL** the way to the top of the dryer. A 1-inch (2.54 cm) clearance is required.



*IN CASES WHERE SPRINKLER HEADS ARE OVER THE DRYERS 18" (45.72 CM) IS SUGGESTED.

INSTALLATION: DRYER CLEARANCE TO ADJACENT WALL STRUCTURES.

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

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

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

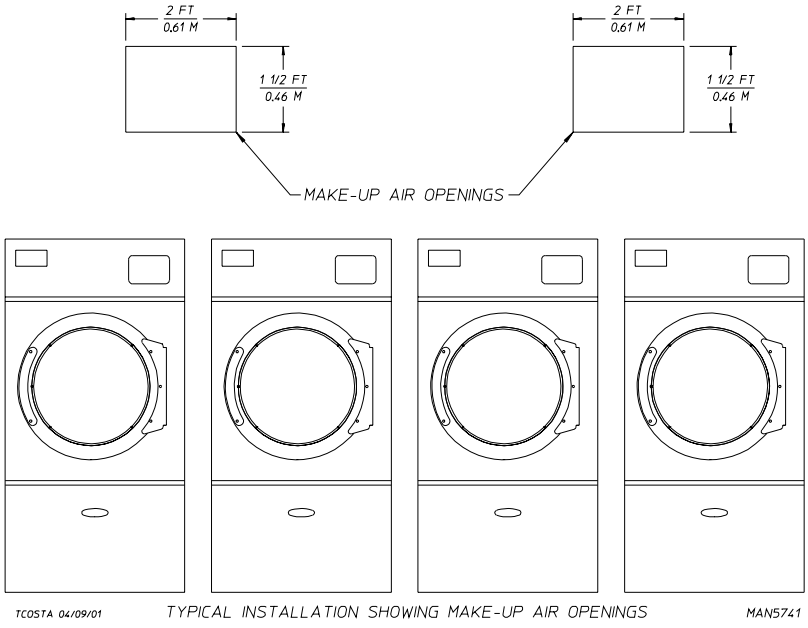
IMPORTANT: Even though a minimum of only 12-inches (30.48 cm) is required, 18-inches (45.72 cm) or more is suggested. The additional clearance is advantageous for ease of installation and service.

IMPORTANT: When fire sprinkler systems are located above the dryers, a minimum of 18-inches (45.72 cm) above the dryer console (module) is required. Dryers may be positioned sidewall to sidewall, however, a 1/16" (1.5875 mm) minimum allowance is required between dryers (or wall) for ease of installation and maintenance. Allowances ***must be*** made for the opening and closing of the control door and the lint door.

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 performance of each dryer. An unrestricted source of air is necessary for each dryer. An airflow of 1,200 cfm (cubic feet per minute) (33.98 cmm [cubic meters per minute]) **must be** supplied to each gas and electric dryer and 1,350 cfm (38.23 cmm) **must be** supplied to each steam dryer. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 1-1/2 square feet (0.41 square meters) is required for each dryer. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.



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 separate make-up air openings 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.

EXAMPLE: For a bank of four (4) dryers, two (2) unrestricted openings measuring 2 feet by 1-1/2 feet (0.61 meters by 0.46 meters), 6 square feet (0.56 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.

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.

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-limit thermostats. The dryer **must be** installed with a proper exhaust duct connection to the outside.

CAUTION: This dryer produces combustible lint and ***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 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. Single or independent dryer venting is recommended.

HORIZONTAL VENTING:

When single dryer venting is used, the length of the ductwork from the dryer to the outside exhaust outlet **must not exceed** 15 feet (4.6 meters). The minimum diameter of this ductwork **must be** at least 10-inches (25.4 cm) (even though the dryer exhaust duct for gas and electric dryers is only 8-inches [20.32 cm]). In the case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust outlet **must not exceed** 15 feet (4.6 meters). 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° and/or 45° angles instead. The radius of the elbows **should preferably be** 1-1/2 times the diameter of the duct. Including basket (tumbler)/dryer elbow connections or elbows used for outside protection from the weather, no more than two (2) elbows **should be** used in the exhaust duct run. If more than two (2) elbows are used, the cross-sectional area of the ductwork **must be** increased. **ALL** ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

VERTICAL VENTING:

When single dryer venting is used, the length of the ductwork from the dryer to the outside exhaust outlet **must not exceed** 20 feet (6.1 meters). The minimum diameter of this ductwork **must be** at least 12-inches (30.48 cm). In the case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust outlet **must not exceed** 20 feet (6.1 meters). 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 90º turns be avoided; use 30º and/or 45º bends instead. The radius of the elbows **should preferably be** 1-1/2 times the diameter of the duct. **ALL** ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

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

NOTE: As per the National Fuel Gas Code, "Exhaust ducts for type 2 clothes dryers shall be constructed of sheet metal or other noncombustible material. Such ducts shall be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 0.0195-inches (26 gauge [0.05 mm]) thick."

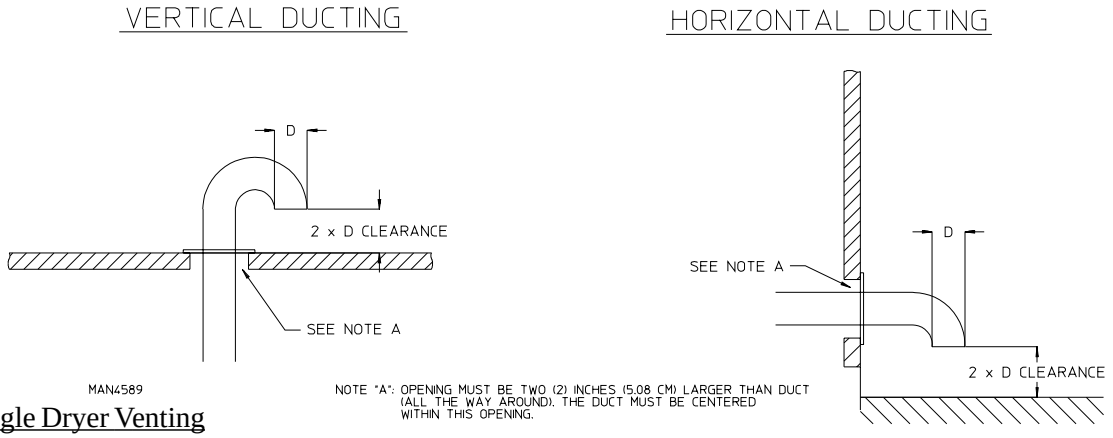
IMPORTANT: Minimum ductwork diameter for horizontal venting is 10-inches (25.4 cm) and for vertical venting the minimum is 12-inches (30.48 cm).

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.

a. Outside Ductwork Protection

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

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



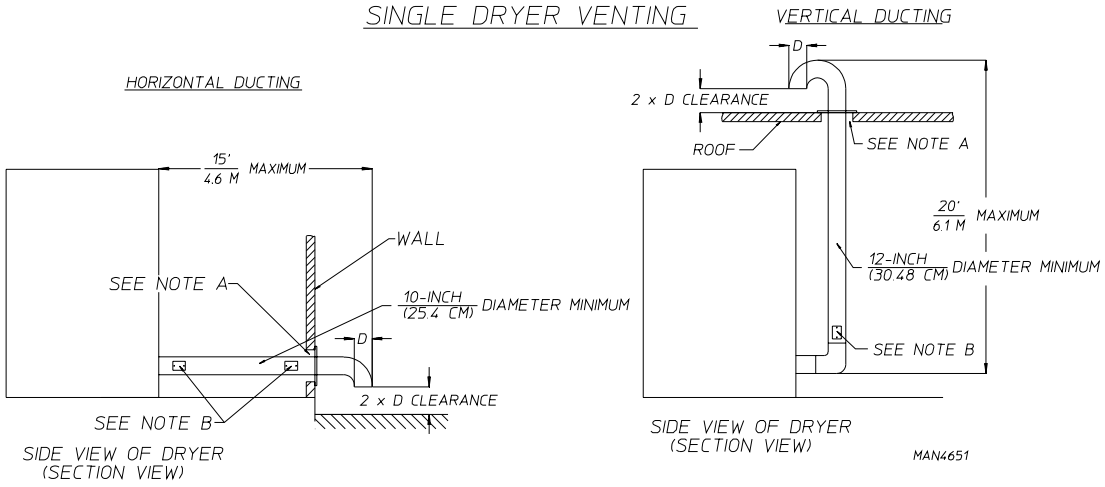
2. Single Dryer Venting

When possible, it is suggested to provide a separate exhaust duct for each dryer. The exhaust duct **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 in the ducting be avoided; use 30° and/or 45° angles instead. The shape of the exhaust ductwork is not critical so long as the minimum cross-sectional area is provided.

IMPORTANT: Minimum duct size for a dryer that is vented horizontally is 10-inches (25.4 cm) for a round duct or an equivalent of 80 square inches (516.1 square centimeters). **THE DUCT SIZE *MUST NOT BE* REDUCED ANYWHERE DOWNSTREAM OF THE DRYER.**

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

IMPORTANT: Minimum duct size for a dryer that is vented vertically is 12-inches (30.48 cm) for a round duct or an equivalent of 80 square inches (516.1 square centimeters). **THE DUCT SIZE *MUST NOT BE* REDUCED ANYWHERE DOWNSTREAM OF THE DRYER.**



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.
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING

IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. When the ductwork approaches the maximum limits noted in this manual, a professional heating, venting, and air conditioning (HVAC) firm ***should be*** consulted for proper venting information.

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

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.

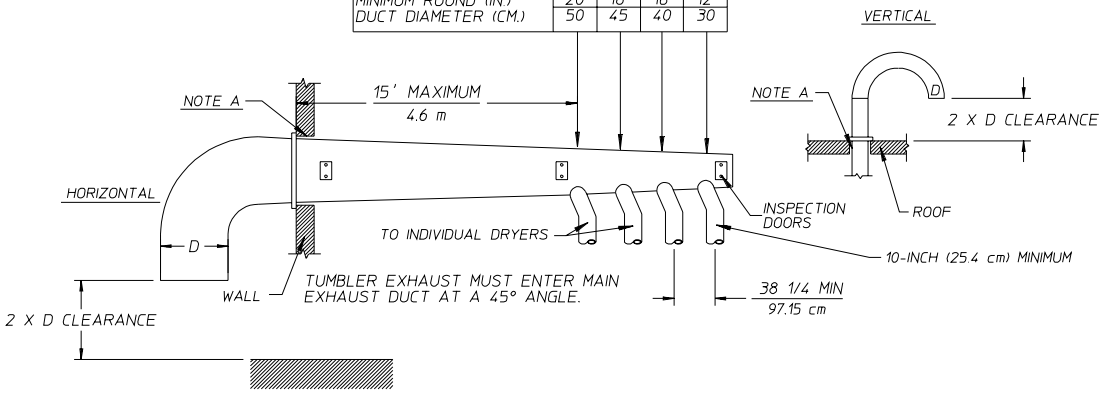
a. Outside Ductwork Protection

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

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

MULTIPLE DRYER VENTING (ADG-78/ADE-78) WITH 8" (20.3 cm) DIAMETER (1200 CFM [34 cmm]) EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS	4	3	2	1
MINIMUM CROSS (SQ.IN.) SECTION AREA (SQ.CM.)	315 2032	254 1638	200 1290	113 729
MINIMUM ROUND (IN.) DUCT DIAMETER (CM.)	20 50	18 45	16 40	12 30



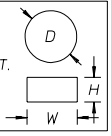
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

PB 04/24/00

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = .785 (19.939 mm) x D^2 WHERE D = DIAMETER OF THE DUCT.

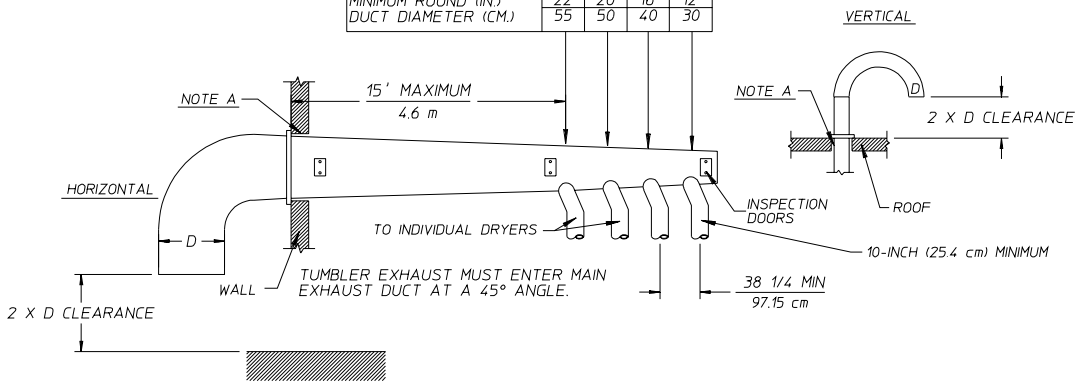
CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W x H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING. MAN5238

MULTIPLE DRYER VENTING (ADS-78) WITH 10" (25.4 cm) DIAMETER (1350 CFM [38 cmm]) EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS	4	3	2	1
MINIMUM CROSS (SQ.IN.) SECTION AREA (SQ.CM.)	330 2129	315 2032	200 1290	113 729
MINIMUM ROUND (IN.) DUCT DIAMETER (CM.)	22 55	20 50	16 40	12 30



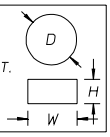
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

PB 04/24/00

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = .785 (19.939 mm) x D^2 WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W x H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING. MAN5239

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.

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

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

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

2. Electrical Service Specifications

ADG-78 (Gas)
ADS-78 (Steam)

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)

IMPORTANT: 208 VAC AND 240 VAC **ARE NOT THE SAME.** When ordering, ***specify exact voltage.***

NOTES:
A. When fuses are used they **must be** dual element, time delay, current limiting, class RK1 or RK5 **ONLY**. Calculate / determine correct fuse value, by applying either local and / or National Electrical Codes to listed appliance amp draw data.
B. Circuit breakers are thermal-magnetic (industrial) motor curve type **ONLY**. For others, calculate / verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3-phase (3ø) dryers **must be** 3-pole type.

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		MINIMUM WIRE SIZE	FUSING Dual Element Time Delay	CIRCUIT BREAKER
			60 Hz	50 Hz			
120	1ø	2	13	---	*	20	20
208	1ø	2	7.6	---	*	15	15
240	1ø	2	7.0	7.8	*	15	15
208	3ø	3	4.7	---	*	15	15
240	3ø	3	4.9	5.7	*	15	15
380	3ø	4**	---	2.9	*	15	15
400	3ø	4**	---	3.0	*	15	15
416	3ø	4**	---	3.1	*	15	15
460	3ø	3	2.8	---	*	15	15

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

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** 380, 400, and 416 volt dryers are built 4-wire only. Customer must contact factory to special order 3-wire systems.

IMPORTANT: The dryer ***must be*** connected to the electric supply shown on the data label that is affixed to the left side panel area behind the top control (access) door. In the case of 208 VAC or 240 VAC, the supply voltage must match the electric service specifications of the data label **exactly**.

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

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

NOTE: For electrically heated and steam models, contact the factory for electrical service specifications.

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

3. Grounding

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

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

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

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

4. Electrical Connections

NOTE: A wire diagram is located in the front electrical control box for connection data.

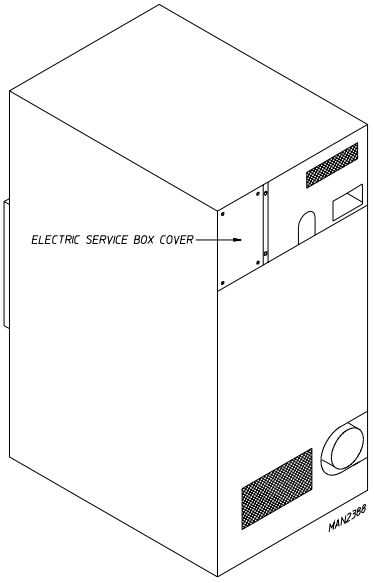
a. Gas Models and Steam Models Only

NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

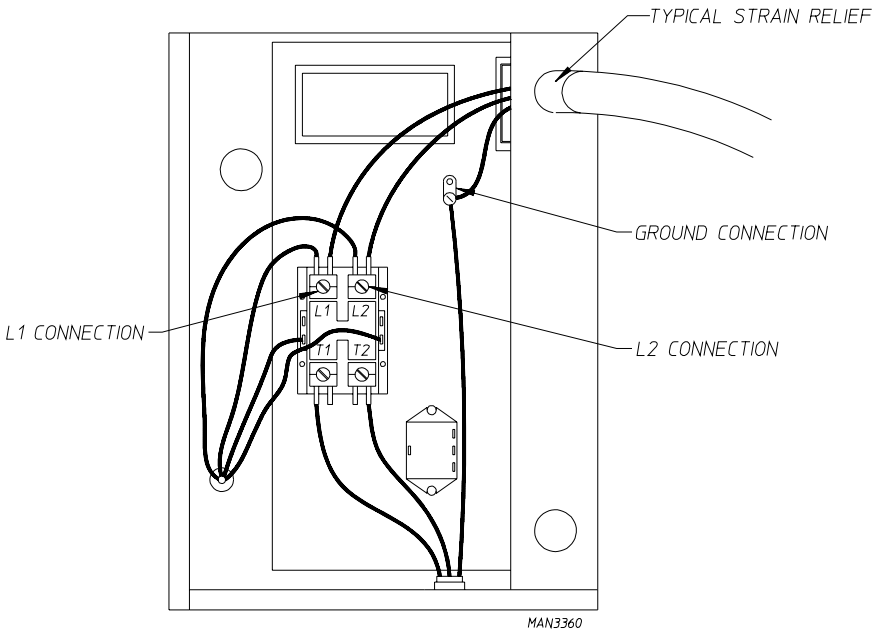
1) Single-Phase (1ø) Wiring Connections (Hookup)

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

Actual electrical wire connections are made to the L1 and L2 terminals of the motor contactor located in the rear service box mentioned above. The ground connection is also made to the copper lug also provided in this box.



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



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

b. 3-Phase (3ø) Wiring Connections (Hookup) For Non-Reversing Models Only

The electrical connections on **ALL** 3-phase (3ø) gas model dryers are made into the rear service box located at the upper left area of the dryer. Electrical connections for electrically heated dryers are made in the electric oven area located at the upper rear area of the dryer.

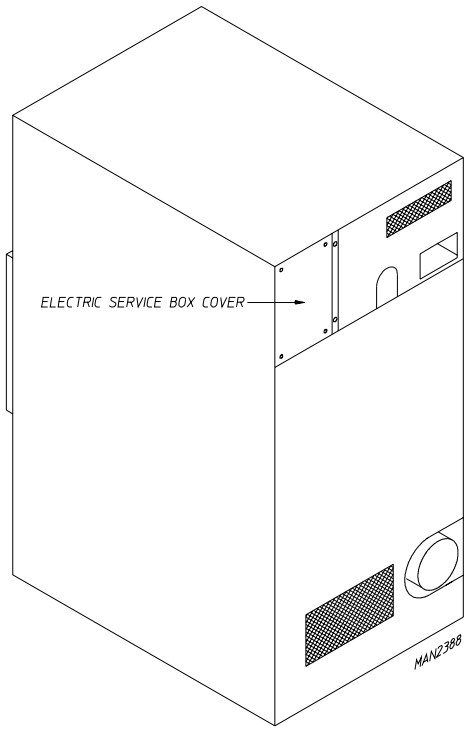
NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

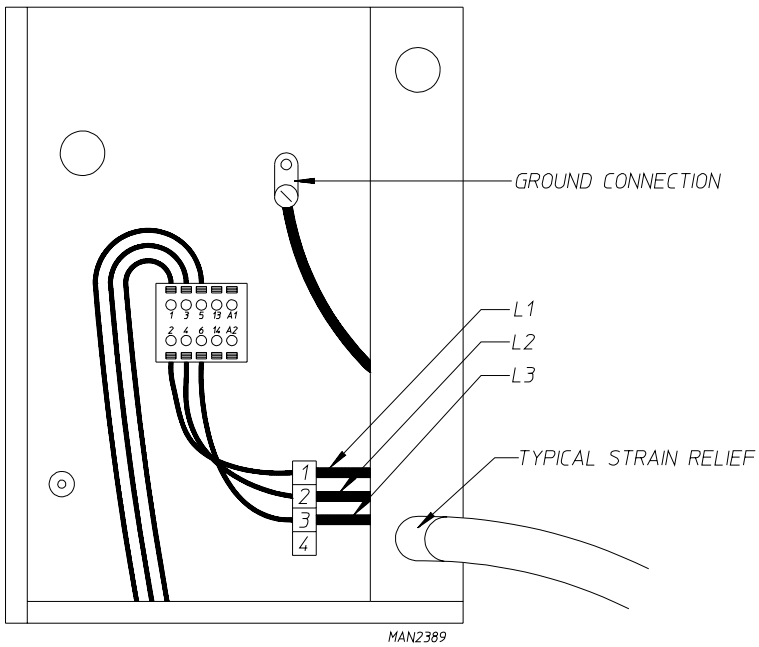
If local codes permit, power to a gas dryer can be made by the use of a flexible U.L. listed power cord/ pigtail (wire size **must conform** to rating of dryer), or the dryer can be hard wired directly to the service breaker panel. In **ALL** cases, a strain relief **must be** installed where the wiring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

1) Gas Models and Steam Models Only

The only electrical input connections to the dryer are the 3-phase (3ø) power leads (L1, L2, L3, and sometimes neutral) and ground. Single-phase (1ø) power for the control circuit is done internally to the dryer. No single-phase (1ø) input connection is required on a 3-phase (3ø) dryer.

For gas dryers manufactured for operation at 3-phase (3ø), the electrical connections are made at the power distribution block located in the service box at the rear, upper left corner of the dryer. The ground connection is made to the copper lug also provided in this box. To gain access to the service box contactor, the service box cover **must be** removed.





2) Electrically Heated Models Only

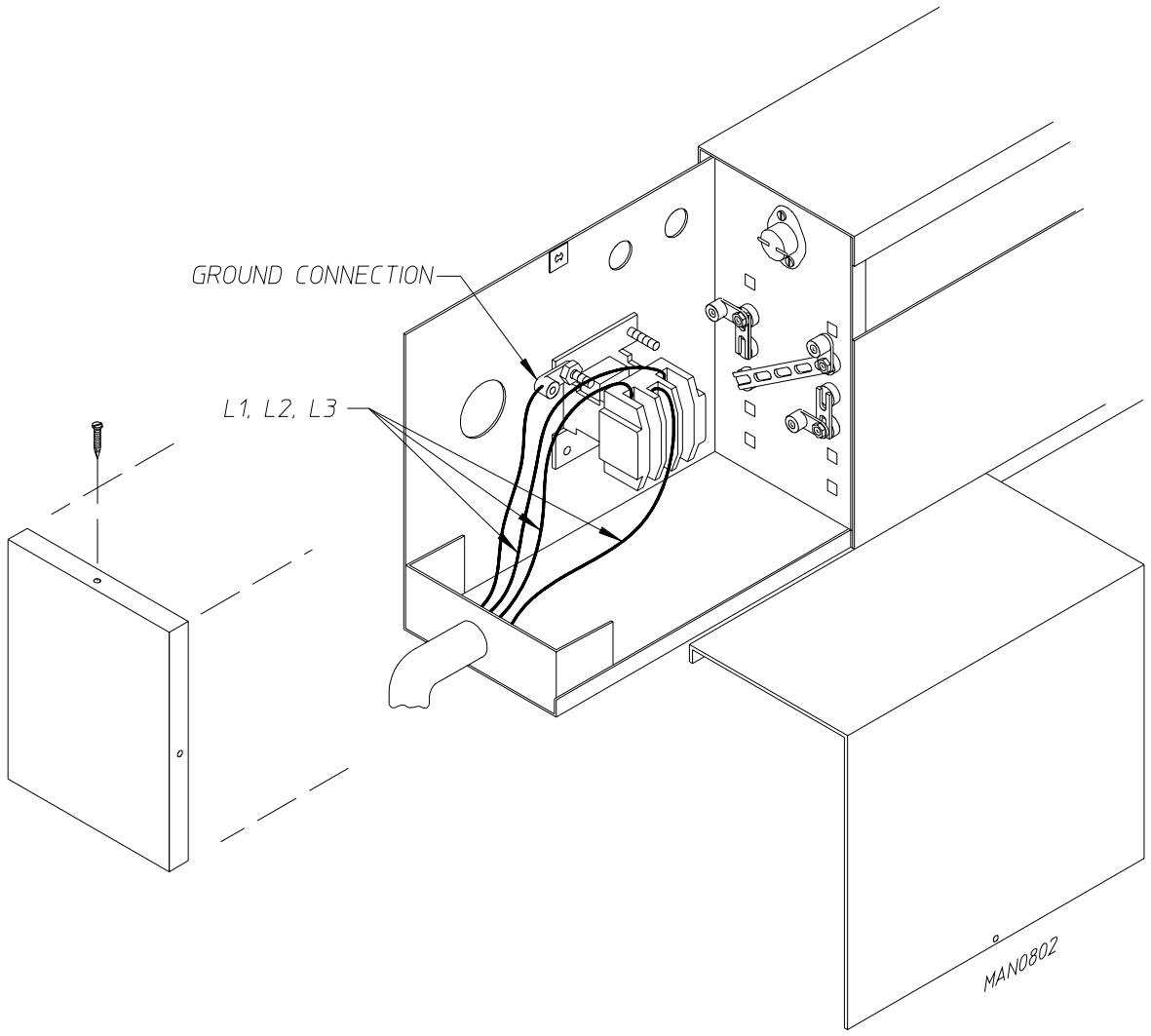
The only electrical input connections to the dryer are the 3-phase (3ø) power leads (L1, L2, L3, and sometimes neutral) and ground. Single-phase (1ø) power for the control circuit is done internally to the dryer. No single-phase (1ø) input connection is required on a 3-phase (3ø) dryer.

CAUTION: The dryer ***must be*** grounded. A ground lug has been provided for this purpose.

Input connection wiring **must be** sized properly to handle the dryer's current draw. This information is printed on the dryer's data label.

NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

The electrical input connections are made at the electric oven contactor located inside the assembly at the rear center upper section of the dryer. The ground connection is made to a copper lug also provided in this area. To gain access, remove oven rear service cover.



IMPORTANT: A strain relief ***must be*** used where the input wiring enters the oven assembly.

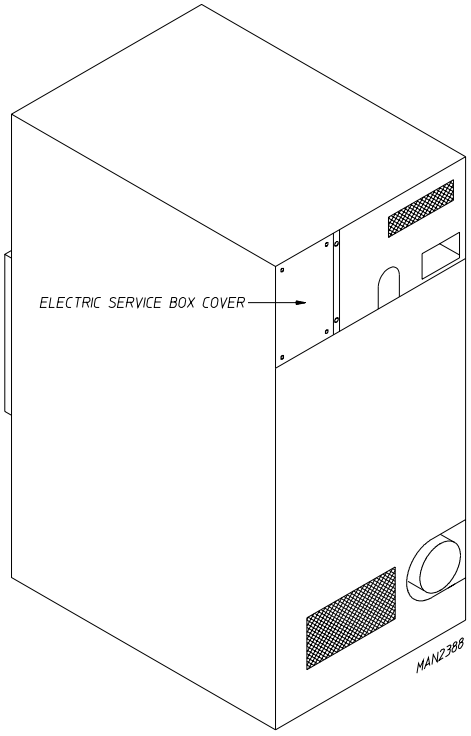
c. 3-Phase (3ø) Wiring Connections (Hookup) For Reversing Models Only

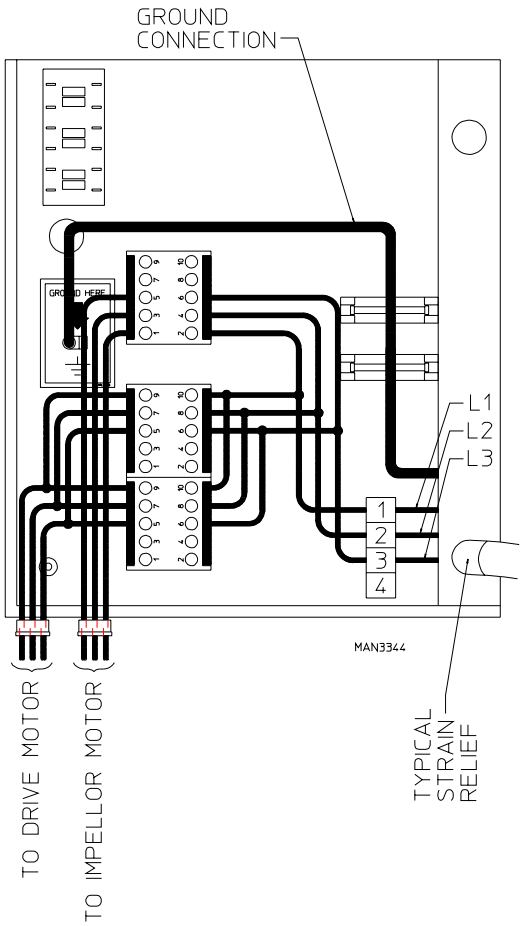
The electrical connections on **ALL** 3-phase (3ø) gas model dryers and steam model dryers are made into the rear service box located at the upper left area of the dryer. Electrical connections for electrically heated dryers are made in the electric oven area located at the upper rear of the dryer.

NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

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

The only electrical input connections to the dryer are the 3-phase (3ø) power leads (L1, L2, L3, and sometimes neutral) and ground. Single-phase (1ø) power for the control circuit is done internally to the dryer. No single-phase (1ø) input connection is required on a 3-phase (3ø) dryer.





For gas model and steam model dryers manufactured for operation at 3-phase (3ø), the electrical connections are made at the power distribution block located in the service box at the rear, upper left corner of the dryer. The ground connection is made to the copper lug also provided in this box. To gain access to the service box contactor, the service box cover **must be** removed.

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 label affixed to the left side panel area behind the top control (access) door. 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

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

Shaded areas are stated in metric equivalents

* Measured at 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 --------- 204,000 (51,408 kcal/hr)

1) Natural Gas

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

2) Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas 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) 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.

ADC MODEL NUMBER	BTU Per Hour Rating	**kcal/hr Rating**	TYPE OF GAS						L.P. Conversion Kit Part Number
			Natural			Liquid Propane			
			Qty.	D.M.S.*	Part Number	Qty.	D.M.S.*	Part Number	
ADG-78	204,000	**51,408**	3	#23	140856	3	#42	140810	881655

Shaded area is stated in metric equivalent

* Drill Measurement Size (D.M.S.) equivalents are as follows:
Natural Gas ..... #23 = 0.1540" (3.9116 mm).
Liquid Propane Gas ..... #42 = 0.0935" (2.3749 mm).

3. Piping/Connections

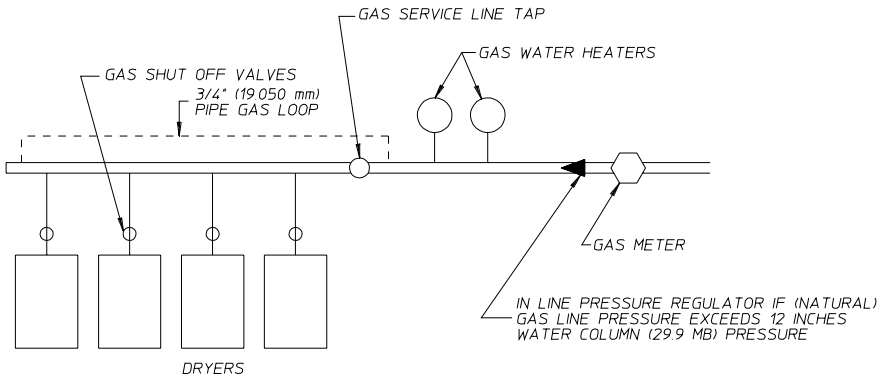
ALL components/materials **must conform** to National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing), as well as local codes and ordinances 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 a 3/4" N.P.T. inlet pipe connection located at the right side of the base of the dryer. The minimum pipe size (supply line) to the dryer is 3/4" N.P.T. For ease in servicing, the gas supply line of each dryer must have its own shutoff valve.

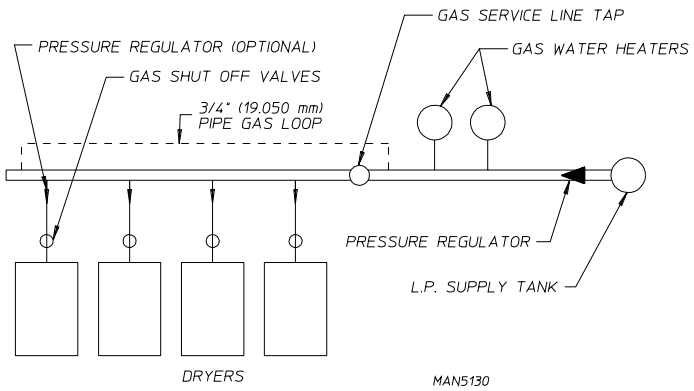
The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of L.P. gas, the supply tank, other gas-operated appliances on the same line, etc. Specific information regarding supply line size **should be** determined by the gas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

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

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION



Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 3/4-inch (19.050 mm) pipe gas loop be installed in the supply line servicing a bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if the (natural) gas pressure exceeds 12.0 inches (29.9 mb) of water column (W.C.) pressure.

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

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

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

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

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

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.

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

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

H. STEAM 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.

IMPORTANT: Failure to comply with the requirements stipulated in this manual can result in component failure, which will VOID THE WARRANTY.

NOTE: The ADS-78 is manufactured with a pneumatic (piston) damper system, which requires an external supply of clean, dry, regulated air (80 PSI ± 10 PSI [5.51 bar ± 0.68 bar]). Refer to **Steam Damper Air System Connections**, **Section H, item 3.**

IMPORTANT: STEAM PH LEVEL – The normal PH level for copper type steam coils ***must be*** maintained between a value of 8.5 to 9.5. For steel type steam coils, the PH level ***must be*** maintained between a value of 9.5 and 10.5. These limits are set to limit the acid attack of the steam coils.

NOTE: Coil failure due to improper PH level will VOID THE WARRANTY.

1. Steam Requirements, High Pressure

   a. Inlet ..... 1" supply line connection – qty. one (1) at top manifold.

   b. Return .. 1" return line connection – qty. one (1) at bottom manifold.

Operating Steam Pressure		
Maximum	125 psig	**861.84 kPa**
Minimum	100 psig*	**689.47 kPa**
Heat Input (Normal Load)	7 Bhp	
Consumption (Approximate)	238.7 lbs/hr	**108.3 kg/hr**

Shaded areas are stated in metric equivalents

* Minimum operating pressure for optimum results.

2. Installation Instructions

   To insure an adequate supply of steam is provided, be sure that the steam supply lines and steam return lines are sized and laid out as stipulated in this manual. Inadequate steam supply lines and steam return lines or improper steam plumbing will result in poor performance and can cause component failure. Clean, dry steam **must be** provided to the dryer.

IMPORTANT: Steam coil failure due to water hammer by wet steam will VOID THE WARRANTY.

a. The pressure of the condensate in the steam supply line will cause water hammer and subsequent heat exchanger (steam coil) failure. The steam supply connection into the main supply line **must be** made with a minimum 12-inch (30.48 cm) riser. This will prevent any condensate from draining towards the dryer.

b. The steam supply line to the dryer must include a 12-inch (30.48 cm) riser along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

c. Flexible hoses or couplings **must be** used. The dryer vibrates slightly when it runs and this will cause the steam coil connections to crack if they are hard piped to the supply and return mains.

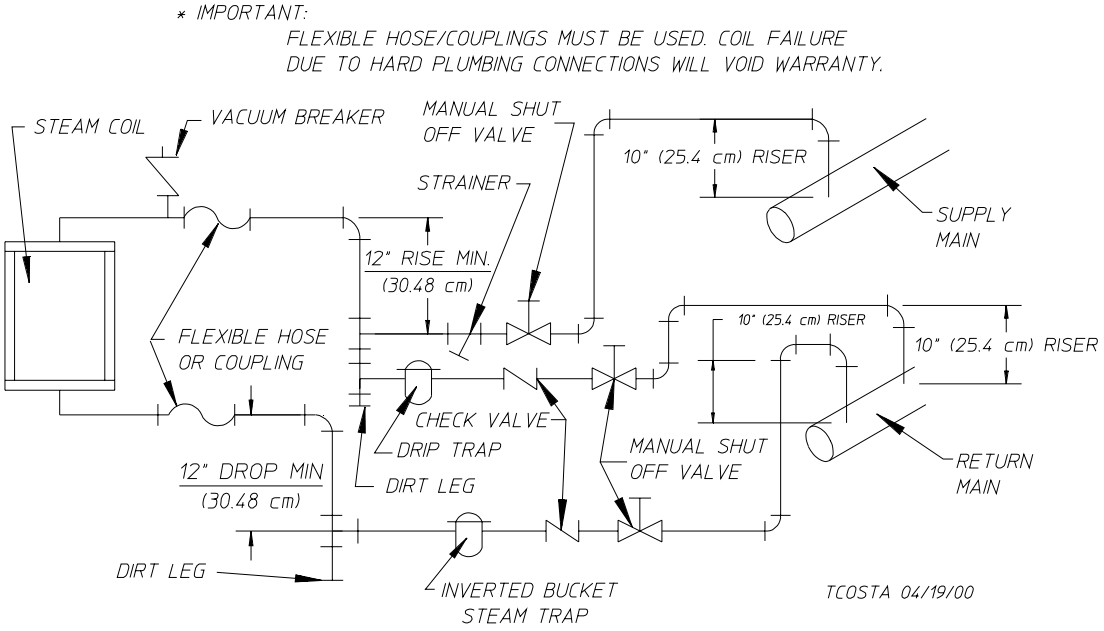
d. Shutoff valves for each dryer **should be** installed in the supply line, return line, and drip trap return line. This will allow the dryer to be isolated from the supply and return mains if the dryer needs maintenance work.

e. Install an inverted bucket steam trap and check valve for each unit at least 12-inches (30.48 cm) below the steam coil as close to the coil as possible.

   1) A trap with a capacity of 700 lbs (317 kg) of condensate per hour at 125 PSI (8.62 bar) is needed for each unit.

f. The supply line and return line **should be** insulated. This will save energy and provide for the safety of the operator and maintenance personnel.

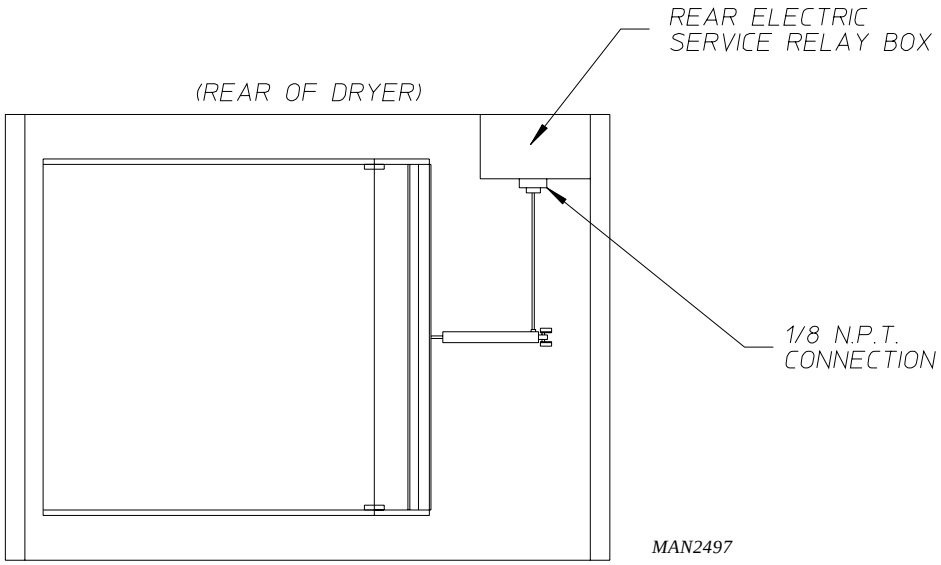
g. Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing steam coil damage. **ALL** horizontal runs of steam supply piping **should be** pitched 1/4-inch (6.35 mm) for every 1 foot (0.30 meters) back towards the steam supply header causing the condensate in the line to drain to the header. Install a bypass trap in any low point to eliminate wet steam.



STEAM DAMPER SYSTEM MAN5221

3. Steam Damper Air System Connections

The ADS-78 is manufactured with a pneumatic (piston) damper system, which requires an external supply of compressed air. The air connection is made to the steam damper solenoid valve, which is located at the rear inner top area of the dryer just in front of the electric service relay box.



a. Air Requirements

COMPRESSED AIR SUPPLY	AIR PRESSURE	
Normal	80 PSI	**5.51 bar**
Minimum Supply	70 PSI	**4.82 bar**
Maximum Supply	90 PSI	**6.21 bar**

Shaded areas are stated in metric equivalents

b. Air Connection

Air connection to system --- 1/8” N.P.T.

c. Air Regulation

No air regulation or filtration is provided with the dryer. External regulation and filtration of 80 PSI (5.51 bar) **must be** provided. It is suggested that a regulator/filter gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to ensure that correct and clean air pressure is achieved.

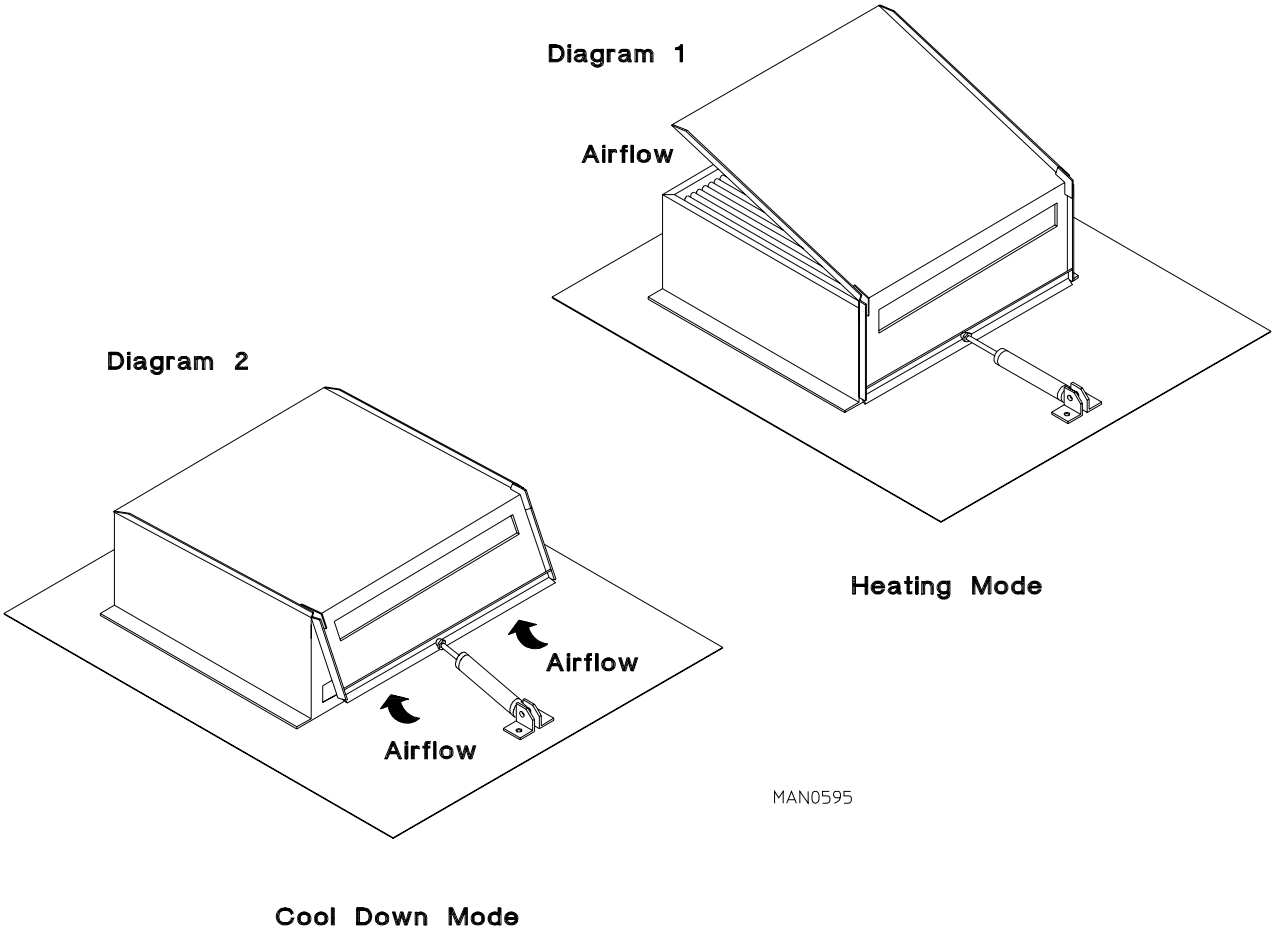
4. Steam Damper System Operation

The ADS-78 steam damper, as shown in Diagram 1 in the **illustration below**, allows the coil to stay constantly charged eliminating repeated expansion and contraction. When the damper is opened, the air immediately passes through the already hot coil, providing instant heat to start the drying process. When the damper is closed, ambient air is drawn directly into the basket (tumbler), allowing a rapid cool down (Diagram 2).

Diagram 1 shows the damper in the heating (open) mode, allowing heat into the basket (tumbler).

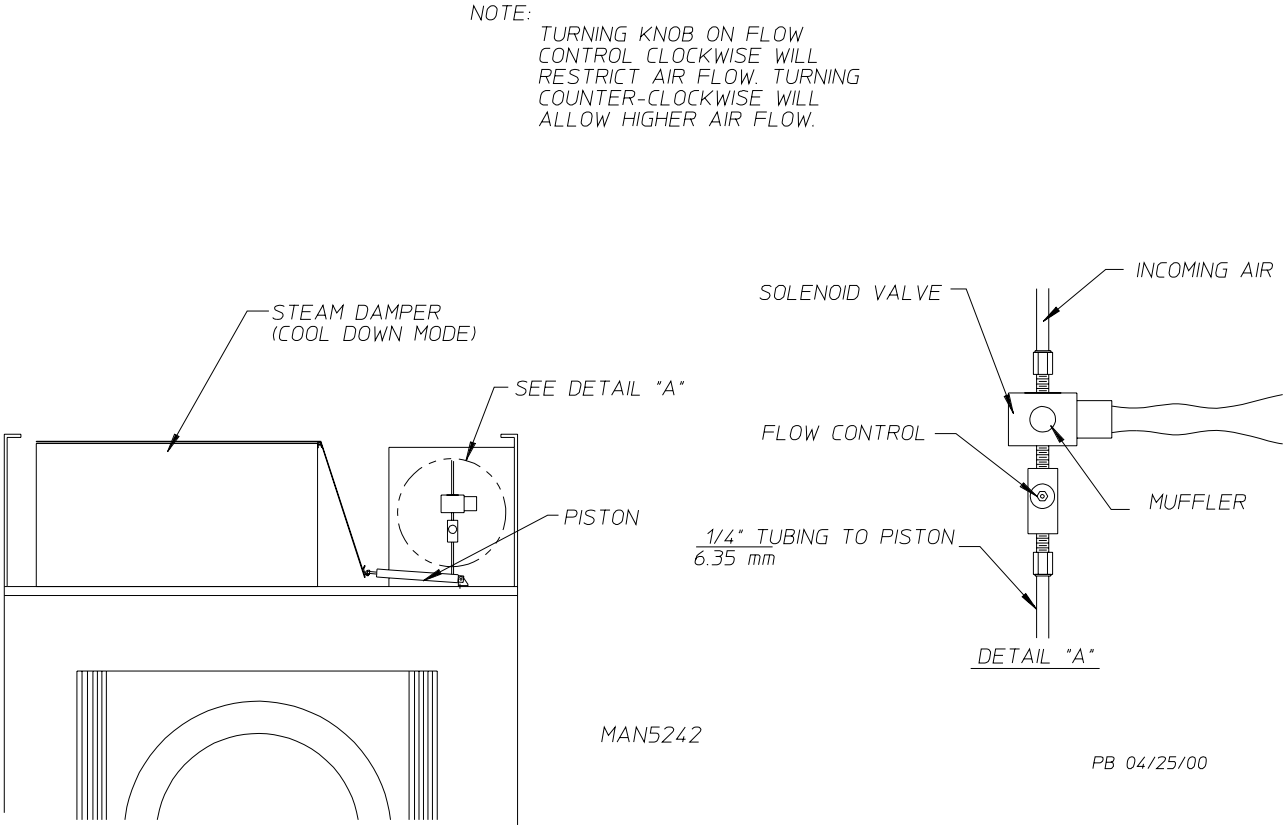
Diagram 2 shows the damper in the cool down (closed) mode, pulling ambient air directly into the basket (tumbler) without passing through the coils.

NOTE: With the dryer off or with no air supply, the damper is in the cool down mode as shown in Diagram 2.



5. Steam Damper Air Piston (Flow Control) Operation Adjustment

Although the damper operation was tested and adjusted prior to shipping at 80 PSI (5.51 bar), steam damper operation **must be** checked before the dryer is put into operation. Refer to **page 33** for instructions to check steam damper system operation. If damper air adjustment is necessary, locate flow control valve and make the necessary adjustments as noted below.



I. PREPARATION FOR OPERATION/START-UP

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

1. Read **ALL** "**CAUTION**," "**WARNING**," and "**DIRECTION**" labels attached to the dryer.

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label affixed to the left side panel area behind the top control (access) door. In the case of 208 VAC or 240 VAC, the supply voltage must match the electric service **exactly**.

3. **GAS MODELS** - check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.

4. **GAS/ELECTRIC MODELS** - the sail switch damper assembly was installed and adjusted at the factory prior to shipping. However, each sail switch adjustment **must be** checked to assure that this important safety control is functioning.

5. **GAS MODELS** - be sure that **ALL** gas shutoff valves are in the open position.

6. Be sure **ALL** back panels (guards) and electric box covers have been replaced.

7. Check **ALL** service doors to assure that they are closed and secured in place.

8. Be sure the lint drawer is securely in place.

9. Rotate the basket (tumbler/drum) by hand to be sure it moves freely.

10. Check bolts, nuts, screws, terminals, and fittings for security.

11. **STEAM MODELS** - check to insure air supply (80 PSI [5.51 bar]) is connected to the dryer.

12. **STEAM MODELS** - check to insure **ALL** steam shutoff valves are open.

13. **STEAM MODELS** - check steam damper operation.

14. Check basket (tumbler) bearing setscrews to insure they are **ALL** tight.

J. 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 or due to marginal location (installation) conditions.

1. Turn on electric power to the dryer.

   a. Open **ALL** shutoff valves (gas models and steam models only).

2. Refer to the Operating Instructions for starting your particular model dryer.

   a. Gas Dryers

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

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

NOTE: Gas dryers are equipped with a Direct Spark Ignition (DSI) system, which has internal diagnostics. If ignition **is not** established within three (3) times, the heat circuit in 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.

      2) A gas pressure test **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 pressure requirements (measured at the gas valve pressure tap):

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.

   b. Steam Dryers

      1) Check to insure that steam damper is functioning properly.

         a) The steam damper should not "slam" (open or closed) when it reaches the end of (piston) travel. Additionally, the steam damper should not bind and/or stop during travel. If either of these conditions occur, the flow control **must be** adjusted. (Refer to the **illustration** on **page 34** for air adjustment instructions.)

c. Electric Models

1) Check to insure that electric oven/contactor assembly is activating.

3. Make a complete operational check of **ALL** safety related circuits:

a. Door Switch(es)

b. Hi-Limit Thermostats

c. Sail Switch (for gas models and electric models only)

NOTE: To check for proper sail switch operation (for gas models and electric models only), open the main door and while holding main door switch plunger in, start dryer. Dryer should start but heat circuit ***should not be*** activated (on). If the heat system is activated, the sail switch is improperly adjusted and ***must be*** adjusted by bending the actuator arm of the sail switch toward the burner box. If the actuator arm is bent too far toward the burner box of the dryer, the dryer **may not** have heat when needed. After any adjustment to the sail switch, the above procedure ***must be*** repeated to verify proper operation of the sail switch.

4. The dryer **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.

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

a. For microprocessor controller (computer) model check programs/selections...

1) Each microprocessor controller (computer) has been preprogrammed by the factory with the most commonly used parameter (program) selections. If computer program changes are required, refer to the computer programming manual, which was shipped with the dryer.

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

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

7. Reversing basket (tumbler) dryers **should never be** operated with less than a 50 lb (22.7 kg) load (dry weight), since the load's weight affects basket (tumbler) coast time during a direction reversal command. It is important that the basket (tumbler) come to a complete stop prior to starting in opposite direction.

   a. Microprocessor Models

      1) Spin times and dwell (stop) times <u>are</u> <u>not</u> adjustable in the Automatic Mode and have been preprogrammed into the microprocessor controller (computer) for 120-seconds spin time and a 5-second dwell (stop) time.

      2) Spin times and dwell (stop) times are adjustable in the Manual (timed) Mode.

   b. Dual Timer Models

      1) Both dwell (stop) time and basket (tumbler) spin time are adjustable (refer to the **illustration** on **<u>page 64</u>**).

8. Check to insure that **<u>ALL</u>** setscrews (i.e., basket [tumbler] drive, idler, etc.) are tight.

K. PREOPERATIONAL INSTRUCTIONS

1. To start the dryer:

   a. Microprocessor Controller (Computer) Dryers...

      1) The light emitting diode (L.E.D.) display will read "FILL."

      2) Press the "E" on the keyboard (touch pad).

      3) The L.E.D. display quickly shows "Ld30," and "F180." The dryer will start, and the L.E.D. display will show "dr30."

   Refer to the User's Manual for detailed operating instructions.

   b. Dual Timer Dryers...

      1) Turn drying timer knob for a time of 20 minutes.

      2) Select "High Temp."

      3) Push "Push To Start" switch.

      4) To stop dryer, open the main door.

L. 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. ***GAS MODELS*****...discontinue the gas supply**.
        1) **SHUT OFF external gas supply shutoff valve**.
    b. ***STEAM MODELS*****...discontinue the steam supply**.
        1) **SHUT OFF external (location furnished) shutoff valve**.
        2) **SHUT OFF external steam valves in the supply lines and the return lines**.

SECTION IV

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 V
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 VI

ROUTINE MAINTENANCE

A. CLEANING

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

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

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

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

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

SUGGESTED CLEANING SCHEDULE

EVERY THIRD OR FOURTH LOAD

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

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

WEEKLY

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

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

STEAM DRYERS

Clean the steam coil fins. Suggest using compressed air and a vacuum cleaner with brush attachment.

NOTE: When cleaning steam coil fins, be careful not to bend the fins. If the fins are bent, straighten by using a fin comb, which is available from any local air conditioning supply house.

90 DAYS

1. Remove lint from around basket (tumbler), drive motors, and surrounding areas.

2. Remove lint from gas valve burner area with a dusting brush or vacuum cleaner attachment.

3. Clean any lint accumulation in and around both the blower (impellor/fan) and drive motor casing openings.

EVERY 6 MONTHS

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

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

NOTE: ***DO NOT*** OBSTRUCT THE FLOW OF COMBUSTION AND VENTILATION AIR. CHECK CUSTOMER FURNISHED BACK DRAFT DAMPERS IN THE EXHAUST DUCTWORK. INSPECT AND REMOVE ANY LINT ACCUMULATION, WHICH CAN CAUSE THE DAMPER TO BIND OR STICK.

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

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

B. ADJUSTMENTS

7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER

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

C. LUBRICATION

The motor bearings, idler bearings...and under normal/most conditions the basket (tumbler) bearings are permanently lubricated. It is physically possible to relubricate the basket (tumbler) bearings if you choose to do so even though this practice is not necessary. Use Shell Alvania #2 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) fittings.

SECTION VII

TROUBLESHOOTING

WARNING: YOU MUST DISCONNECT AND LOCKOUT THE ELECTRIC SUPPLY AND THE GAS SUPPLY OR THE STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS.**

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...not necessarily the suspect component itself. Electrical parts **should always be** checked for failure before being returned to the factory.

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 in 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.

MICROPROCESSOR CONTROLLER (COMPUTER) MODELS

A. No light emitting diode (L.E.D.) display (for microprocessor controller [computer] models ONLY)...

1. Service panel fuse blown or tripped breaker.
2. Blown control circuit L1 or L2 1/2-Amp (Slo-Blo) fuse.
3. Failed microprocessor controller (computer).
4. Failed control step down transformer (for 380 volts or higher models only).

B. Drive motor is not operating (does not start)...

1. Microprocessor controller (computer) motor indicator dot and relay output L.E.D. indicator dots are on...
   a. Failed drive motor contactor (relay).
   b. Failed arc suppressor (A.S.) board (for reversing models only).

c. Failed drive motor.

2. Microprocessor controller (computer) motor indicator dot and relay output light emitting diode (L.E.D.) indicator dots are on, but motor output L.E.D. indicator is off...

   a. Failed microprocessor controller (computer).

C. Drive motor (Reversing Models only) operates in one (1) direction ONLY...stops and restarts in the same direction...

1. Failed reversing contactor (relay).

2. Failed arc suppressor (A.S.) board.

3. Failed microprocessor controller (computer)...check output indicator.

D. Drive motor operates okay for a few minutes, then stops and <u>will</u> <u>not</u> restart...

1 Motor is overheating and tripping out on internal overload protector...

   a. Motor air vents clogged with lint.

   b. Low voltage to motor.

   c. Failed motor.

   d. Basket (tumbler) is binding...check for an obstruction.

   e. Failed idler bearings or basket (tumbler) bearings.

   f. Failed blower (impellor/fan) is out of balance (for non-reversing models only).

E. Blower (impellor/fan) motor <u>is</u> <u>not</u> operating (<u>does</u> <u>not</u> start)...

1. Microprocessor controller (computer) motor indicator dot and relay output L.E.D. indicator dots are on...

   a. Failed blower (impellor/fan) motor contactor (relay).

   b. Failed arc suppressor (A.S.) board.

   c. Failed blower (impellor/fan) motor.

2. Microprocessor controller (computer) “door” L.E.D. is on but motor output L.E.D. indicator is off...

   a. Failed microprocessor controller (computer).

F. Blower (impellor/fan) motor (Reversing Models only) operates okay for a few minutes, then stops and <u>will</u> <u>not</u> restart...

1. Motor is overheating and tripping out on internal overload protector...

a. Motor air vents clogged with lint.

b. Low voltage to motor.

c. Failed motor.

d. Failed blower (impellor/fan) is out of balance.

G. Both drive motor and blower (impellor/fan) motor (Reversing Models only) <u>are</u> <u>not</u> operating (<u>does</u> <u>not</u> start)...microprocessor controller (computer) motor indicator dots and relay output light emitting diode (L.E.D.) indicators are on...

1. Failed arc suppressor (A.S.) board.

2. Failed contactors (both blower [impellor/fan] motor and drive motor).

3. Failed motors (both blower [impellor/fan] motor and drive motor).

H. Both drive motor and blower (impellor/fan) motor (Reversing Models only) <u>are</u> <u>not</u> operating (<u>does</u> <u>not</u> start)...microprocessor controller (computer) L.E.D. motor indicator dots and the "door" L.E.D. indicator are on but the relay output L.E.D. indicators are off (microprocessor controller [computer] L.E.D. display <u>does</u> <u>not</u> read "door")...

1. Failed microprocessor controller (computer).

I. Both drive motor and blower (impellor/fan) motor run a few minutes and stop...microprocessor controller (computer) L.E.D. display continue to read time or percent of extraction and <u>ALL</u> indicator dots are off...

1. Fault in main door switch circuit...

   a. Main door switch circuit is out of adjustment.

   b. Loose connection in main door switch circuit.

J. Microprocessor controller (computer) L.E.D. display reads "dSFL" continuously and the buzzer (tone) sounds every 30-seconds...

1. Fault in microprocessor heat sensing circuit...

   a. Blown "dSFL" 1/8-Amp fuse on the microprocessor controller (computer).

   b. Failed microprocessor temperature sensor.

   c. Failed microprocessor controller (computer).

   d. Broken wire or connection somewhere between the microprocessor controller (computer) and the microprocessor temperature sensor.

K. Microprocessor controller (computer) light emitting diode (L.E.D.) display reads "door" and the microprocessor controller (computer) "DOOR" L.E.D. indicator is off...

1. Fault (open circuit) in main door/lint drawer switch circuit...

   a. Main door is not closed **ALL** the way.

   b. Main door switch is out of proper adjustment.

   c. Failed lint main door switch.

   d. Broken wire/connection in main door wiring circuit.

2. Failed 24 VAC step down transformer.

L. Microprocessor controller (computer) L.E.D. display reads "door" and the microprocessor controller (computer) "DOOR" L.E.D. indicator is on...

1. Failed microprocessor controller (computer).

M. Microprocessor controller (computer) will not accept any keyboard (touch pad) entries, (i.e., L.E.D. display reads "FILL" and when keyboard [touch pad] entries are selected, the L.E.D. display continues to read "FILL")...

1. Failed keyboard (touch pad) label assembly.

2. Failed microprocessor controller (computer).

N. Microprocessor controller (computer) will only accept certain keyboard (touch pad) entries...

1. Failed keyboard (touch pad) label assembly.

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

1. Transient power voltage spikes...disconnect the electrical power to the dryer, wait 1 minute and reestablish power to the dryer. If problem is still evident...

   a. Failed microprocessor controller (computer).

   b. Failed keyboard (touch pad) label assembly.

P. Dryer stops during a cycle, microprocessor controller (computer) buzzer (tone) sounds for 5-seconds, and then the L.E.D. display reads "dSFL" for approximately 30-seconds, and then returns to "FILL"...

1. Loose connection somewhere between the microprocessor controller (computer) and the microprocessor temperature sensor.

2. Loose "dSFL" 1/8-Amp fuse on the microprocessor controller (computer).

Q. Dryer stops during a cycle, microprocessor controller (computer) buzzer (tone) sounds for 5-seconds, and then the light emitting diode (L.E.D.) returns to "FILL"...

1. Loose connection somewhere in the main power circuit to the microprocessor controller (computer).

R. Microprocessor controller (computer) L.E.D. display reads "SEFL"...

1. Rotational sensor circuit failure...fault somewhere in the basket (tumbler) rotation or circuit...

   a. Basket (tumbler) is not rotating...

      1) Broken or loose V-belts.

      2) Failure in drive motor circuit...refer to **Section B**, **Section C**, and **Section D** on **page 46 and page 47**.

   b. Failed rotational sensor.

   c. Broken wire or connection between rotation sensor and microprocessor controller (computer).

S. Microprocessor controller (computer) L.E.D. display reads "Hot"...

1. Possible overheating condition...microprocessor controller (computer) has sensed a temperature, which has exceeded 220° F (104.5° C).

   "Hot" display will not clear until temperature sensed has dropped to 220° F (104.5° C) or lower and the microprocessor controller (computer) is manually reset by pressing the **"CLEAR/STOP"** key.

T. Heating unit is not operating (no heat)...no voltage at heating unit (i.e., gas model - Direct Spark Ignition [DSI] module, electric model - electric oven contactor, or steam model - steam damper system pneumatic solenoid) when dryer is first started and both the heat indicator dot and the "HEAT" output L.E.D. is on...

GAS MODELS...

1. 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 screen is dirty.

      2) Restriction in the exhaust ductwork.

      3) No exhaust airflow...

         a) Failed blower (impellor/fan).

         b) Fault in blower (impellor/fan) motor circuit (for reversing models only).

2. Tripped burner manual reset hi-limit.

3. Tripped lint chamber sensor bracket basket (tumbler) hi-limit switch.

ELECTRIC MODELS...

1. 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 screen is dirty.

      2) Restriction in the exhaust ductwork.

      3) No exhaust airflow...

         a) Failed blower (impellor/fan).

         b) Fault in blower (impellor/fan) motor circuit (for reversing models only).

2. Tripped oven manual reset hi-limit.

3. Tripped lint chamber sensor bracket basket (tumbler) manual reset hi-limit switch.

STEAM MODELS...

1. Tripped in lint chamber sensor bracket basket (tumbler) manual reset hi-limit.

U. Heating unit is not operating (no heat)...voltage is evident at the heating unit (i.e., gas model Direct Spark Ignition [DSI] module, electric model - electric oven contactor, or steam model - steam damper system pneumatic solenoid) when dryer is first started and both the heat indicator dot and the "HEAT" output light emitting diode (L.E.D.) is not on...

1. Failed microprocessor controller (computer).

V. Heating unit is not operating (no heat)...voltage is evident (confirmed) at heating unit (i.e., gas model - DSI module, electric model - electric oven contactor, or steam model - steam damper system 3-way micro valve)...

GAS MODELS...

1. Fault in DSI system...

   a. Ignitor sparks but no ignition and module locks out ("GREEN" indicator flashes)...

      1) Ignitor probe assembly is out of adjustment or has failed.

      2) Severe air turbulence.

3) Failed Direct Spark Ignition (DSI) module.

4) Failed gas valve.

b. Ignitor sparks, burner lights but goes off right away...

1) DSI ignitor/flame-probe is out of adjustment or has failed.

2) Sail switch is fluttering...

a) Lint screen is dirty.

b) Restriction in exhaust ductwork.

c. Ignitor does not spark and module locks out ("RED" indicator stays on)...

1) Fault in high voltage (HV) wire...break or loose connection.

2) Failed ignitor probe assembly.

3) Failed DSI module.

ELECTRIC MODELS...

1. Failed oven contactor/coil.
2. Failed electric heating element(s).

STEAM MODELS...

1. Air-operated system...

a. No (external) compressed air (80 PSI [5.51 bar] is required) to steam damper solenoid.

b. Failed steam damper pneumatic solenoid.

c. Steam damper stuck in closed position, check for obstruction.

d. Leak in pneumatic system.

e. Failed steam damper air piston.

f. Flow control valve misadjusted.

2. Electrical mechanical system...

a. Failed electrical mechanical motor.

b. Steam damper stuck in closed position...check for obstruction.

W. Dryer operates but is taking too long to dry...

1. Exhaust ductwork run too long or is undersized...back pressure **must be** no less than 0 and **cannot** exceed 0.3 inches (0.74 mb) water column (W.C.).

2. Restriction in exhaust ductwork...

   a. Dryer back draft damper is sticking partially closed.

   b. Restriction/obstruction in ductwork...

      1) Check ductwork from dryer **ALL** the way to the outdoors.

3. Insufficient make-up air.

4. Blower (impellor/fan) is rotating in the wrong direction (for 3-phase [3ø] models only).

5. Lint screen is dirty or is not being cleaned often enough.

6. Inadequate airflow...

   a. Blower (impellor/fan) failure.

GAS MODELS...

1. Low or inconsistent gas pressure.

   Natural gas pressure...3.5 inches (8.7 mb) of water column.

   Liquid propane (L.P.) gas pressure...10.5 inches (26.1 mb) of water column.

2. Poor air/gas mixture at burner (too much or not enough air) at the burner...yellow or poor flame pattern...

   a. Not enough make-up air.

   b. Restriction in the exhaust ductwork.

   c. Gas pressure too high.

   d. Blower (impellor/fan) is rotating in the wrong direction (for 3-phase [3ø] models only).

   e. Burner orifice size (drill measurement size [D.M.S.]) too large for application (i.e., high elevation).

3. Sail switch is fluttering...

   a. Restriction in the exhaust ductwork...

      1) Lint screen is dirty or is not being cleaned often enough.

4. Gas supply may have too low a heating value.

ELECTRIC MODELS...

1. Not enough make-up air.
2. Restriction in the exhaust ductwork.
3. Lint screen is dirty or is not being cleaned often enough.
4. Blower (impellor/fan) is rotating in the wrong direction only (for 3-phase [3ø] models only).
5. Failed electric element(s).
6. Sail switch is fluttering...
    a. Restriction in the exhaust ductwork.
    b. Sail switch is not adjusted properly.

STEAM MODELS...

1. Low steam supply...
    a. Steam trap is too small.
    b. Supply line is too small.
2. Low steam pressure.
3. Insufficient make-up air.
4. Lint screen is dirty or is not being cleaned often enough.
5. Restriction in the exhaust ductwork.
6. Dirty steam coil...
    a. Fins are clogged with lint.
7. Steam damper system is not functioning properly...
    a. Steam damper is sticking closed.
    b. Leak in the pneumatic (air) system.
8. Extractors (washers) are not functioning properly.
9. Failed microprocessor controller (computer)...temperature calibration is inaccurate.
10. Failed microprocessor temperature sensor...calibration is inaccurate.
11. Microprocessor temperature sensor covered with lint.

NOTE: Lint accumulation on the sensor bracket can act as an insulator, which will affect the accuracy of the Automatic Drying Cycle.

X. At the completion of the "AUTO" drying/cooling cycle, the load is coming out over dry...

1. Percent of dryness (dryness level) of the cycle selected is too high.
2. Factor "A" and Factor "B" is not set correctly or Factor "B" has to be adjusted for adverse local conditions.

Y. At the completion of the "AUTO" drying/cooling cycle, the load is coming out over damp...

1. Percent of dryness (dryness level) of the cycle selected is too low.
2. Factor "A" and Factor "B" is not set correctly or Factor "B" has to be adjusted for adverse local conditions.

Z. Main burners are burning with a yellow flame (for gas models only)...

1. Poor air/gas mixture (too much gas or not enough air) at the burner...
   a. Not enough make-up air.
   b. Restriction in the exhaust ductwork.
   c. Gas pressure is too high.
   d. Blower (impellor/fan) is rotating in the wrong direction only (for 3-phase [3ø] models only).
   e. Burner orifice size (drill measurement size [D.M.S.]) too large for application (i.e., high elevation).

AA. Condensation on main door glass...

1. Too long, undersized, or improperly installed ductwork.
2. Back draft damper is sticking in the partially closed position.

BB. Scraping noise at basket (tumbler) area...

1. Check for obstruction caught in basket (tumbler)/wrapper area.
2. Basket (tumbler) is out of proper alignment...
   a. Check both the vertical alignment and lateral alignment.
   b. Check for gap between the front panel and basket (tumbler)...bearing setscrews may have come loose, and basket (tumbler) walked forward or backward.
3. Loose basket (tumbler) tie rod.
4. Failed basket (tumbler) support.

CC. Excessive noise and/or vibration...

1. Dryer is not leveled properly.
2. Blower (impellor/fan) is out of balance...
   a. Excessive lint build up on impellor blower (impellor/fan).
   b. Failed blower (impellor/fan).
3. Loose basket (tumbler) tie rod.
4. Failed basket (tumbler) support.
5. Loose motor mount.
6. Failed idler bearings or basket (tumbler) bearings.
7. V-belts too tight or too loose.
8. Basket (tumbler) bearing setscrews are loose.
9. Failed motor bearing.

TIMER MODELS

A. Dryer will not start...both drive motor and blower (impellor/fan) motor are not operating (DO NOT start) and indicator light is off...

1. Service panel fuse blown or tripped breaker.
2. Dryer control circuit L1 or L2 1/2-Amp (Slo-Blo) fuse is blown.
3. Main door switch is not operating properly...
   a. Main door is not closed **ALL** the way.
   b. Main door switch is out of proper adjustment.
   c. Failed main door switch.
   d. Broken connection/wire somewhere in the main door switch circuit.
4. Failed push-to-start relay.
5. Failed 24 VAC step down transformer or a fault in the wiring.
6. Failed heat timer.
7. Failed control step down transformer (for 380 volts or higher models only).

B. Drive motor is not operating (does not start)...

1. Failed drive motor contactor (relay).
2. Failed reversing timer (for reversing models only).
3. Failed drive motor.

C. Drive motor (for Reversing Models only) operates in one (1) direction ONLY...stops and restarts in the same direction...

1. Failed reversing contactor (relay).
2. Failed reversing timer.

D. Drive motor operates okay for a few minutes, then stops and will not restart...

1. Motor is overheating and tripping out on internal overload protector...
   a. Motor air vents clogged with lint.
   b. Low voltage to motor.
   c. Failed motor.
   d. Basket (tumbler) is binding...check for an obstruction.
   e. Failed idler bearings or basket (tumbler) bearings.

E. Blower (impellor/fan) motor is not operating (does not start)...

1. Failed blower (impellor/fan) motor contactor (relay).
2. Failed blower (impellor/fan) motor.

F. Blower (impellor/fan) motor operates okay for a few minutes, then stops and will not restart...

1. Motor is overheating and tripping out on internal overload protector...
   a. Motor air vents clogged with lint.
   b. Low voltage to motor.
   c. Failed motor.
   d. Failed blower (impellor/fan) is out of balance.

G. Both drive motor and blower (impellor/fan) motor (for Reversing Models only) are not operating (DO NOT start) and indicator light is on...

1. Fault at L1 or L2 termination(s) between the terminal block and contactors (relays).

2. Failed contactors (both blower [impellor/fan] motor and drive motor).

3. Failed motors (both blower [impellor/fan] motor and drive motor).

H. Heating unit <u>is</u> <u>not</u> operating (no heat)...no voltage at the heating unit (i.e., Direct Spark Ignition [DSI] module)...

1. Fault in sail switch circuit...

    a. Sail switch is out of adjustment or has failed.

    b. Sail switch damper <u>is</u> <u>not</u> closing or is fluttering...

        1) Lint screen is dirty.

        2) Restriction in the exhaust ductwork.

        3) No exhaust airflow...

            a) Failed blower (impellor/fan).

            b) Fault in blower (impellor/fan) motor circuit (for reversing models only).

2. Tripped burner manual reset hi-limit.

3. Tripped lint chamber sensor bracket basket (tumbler) manual reset hi-limit switch.

ELECTRIC MODELS...

1. Fault in sail switch circuit...

    a. Sail switch is out of adjustment or has failed.

    b. Sail switch damper <u>is</u> <u>not</u> closing or is fluttering...

        1) Lint screen is dirty.

        2) Restriction in the exhaust ductwork.

        3) No exhaust airflow...

            a) Failed blower (impellor/fan).

            b) Fault in blower (impellor/fan) motor circuit (for reversing models only).

    c. Tripped oven manual reset hi-limit.

    d. Tripped lint chamber sensor bracket basket (tumbler) manual reset hi-limit.

    e. Failed temperature selection switch or circuit.

f. Failed temperature cycle thermostat (try another selection).

STEAM MODELS...

1. Tripped lint chamber sensor bracket basket (tumbler) manual reset hi-limit.

2. Failed temperature selection switch or circuit.

3. Failed temperature cycle thermostat (try another selection).

4. Failed heat timer.

I. No heat...voltage is evident at heating unit (i.e., gas model-Direct Spark Ignition [DSI] module, electric model-electric oven contactor, or steam model-steam damper system pneumatic solenoid)...

GAS MODELS...

1. Fault in DSI system...

   a. Ignitor sparks but no ignition and module locks out ("GREEN" indicator flashes)...

      1) Ignitor probe assembly is out of adjustment or has failed.

      2) Severe air turbulence.

      3) Failed DSI module.

      4) Failed gas valve.

   b. Ignitor sparks, burner lights but goes off right away...

      1) DSI ignitor/flame-probe is out of adjustment or has failed.

      2) Sail switch is fluttering...

         a) Lint screen is dirty.

         b) Restriction in exhaust ductwork.

   c. Ignitor <u>does</u> <u>not</u> spark and module locks out ("RED" light emitting diode [L.E.D.] indicator stays on)...

      1) Fault in high voltage (HV) wire, break loose connection.

      2) Failed ignitor probe assembly.

ELECTRIC MODELS...

1. Failed oven contactor/coil.

2. Failed electric heating element(s).

STEAM MODELS...

1. Air-operated system...

   a. No (external) compressed air (80 PSI [5.51 bar] is required) to steam damper solenoid.

   b. Failed steam damper pneumatic solenoid.

   c. Steam damper stuck in closed position, check for obstruction.

   d. Leak in pneumatic system.

   e. Failed steam damper air piston.

   f. Flow control valve misadjusted.

2. Electrical mechanical system...

   a. Failed electrical mechanical motor.

   b. Steam damper stuck in closed position, check for obstruction.

J. 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 (W.C.).

2. Restriction in exhaust ductwork...

   a. Dryer back draft damper is sticking partially closed.

   b. Restriction/obstruction in ductwork...

      1) Check ductwork from the dryer **ALL** the way to the outdoors.

3. Insufficient make-up air.

4. Blower (impellor/fan) is rotating in the wrong direction (for 3-phase [3ø] models only).

5. Lint screen is dirty or is not being cleaned often enough.

6. Inadequate airflow...

   a. Blower (impellor/fan) failure.

GAS MODELS...

1. Low and/or inconsistent gas pressure.

   Natural gas pressure...3.5 inches (8.7 mb) of water column (W.C.).

   Liquid propane (L.P.) gas pressure...10.5 inches (26.1 mb) of water column.

2. Poor air/gas mixture at burner (too much gas or not enough air) at the burner, yellow or poor flame pattern...

   a. Not enough make-up air.

   b. Restriction in the exhaust ductwork.

3. Sail switch is fluttering...

   a. Lint screen is dirty or is not being cleaned often enough.

   b. Restriction in the exhaust ductwork.

4. Gas supply may have too low a heating value.

ELECTRIC MODELS...

1. Not enough make-up air.

2. Restriction in the exhaust ductwork.

3. Lint screen is dirty or is not being cleaned often enough.

4. Blower (impellor/fan) is rotating in the wrong direction (for 3-phase [3ø] models only).

5. Failed electric element(s).

6. Sail switch is fluttering...

   a. Restriction in the exhaust ductwork.

   b. Sail switch is not adjusted properly.

STEAM MODELS...

1. Low steam pressure.

2. Insufficient make-up air.

3. Lint screen is dirty or is not being cleaned often enough.

4. Restriction in the exhaust ductwork.

5. Dirty steam coil...

    a. Fins are clogged with lint.

6. Steam damper system is not functioning properly...

    a. Steam damper is sticking closed.

    b. Leak in the pneumatic (air) system.

7. Extractors (washers) are not functioning properly.

8. Exceptionally cold/humid or low barometric pressure atmosphere.

9. Cycle temperature thermostats are covered with lint.

NOTE: Lint accumulation on the sensor bracket can act as an insulator, which will affect the accuracy of the Automatic Drying Cycle.

K. Main burners are burning with a yellow flame...

1. Poor air/gas mixture (too much gas or not enough air) at the burner...

    a. Not enough make-up air.

    b. Restriction in the exhaust ductwork.

    c. Gas pressure is too high.

    d. Blower (impellor/fan) is rotating in the wrong direction (for 3-phase [3ø] models only).

    e. Burner orifice size (drill measurement size [D.M.S.]) too large for application (i.e., high elevation).

L. Condensation on main door glass...

1. Too long, undersized, or improperly installed ductwork.

2. Back draft damper is sticking in the partially closed position.

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

1. Check for obstruction caught in basket (tumbler)/wrapper area.

2. Basket (tumbler) is out of proper alignment...

    a. Check both the vertical alignment and lateral alignment.

    b. Check for gap between the front panel and basket (tumbler)...bearing setscrews may have come loose, and basket (tumbler) walked forward or backward.

3. Loose basket (tumbler) tie rod.

4. Failed basket (tumbler) support.

N. Excessive noise and/or vibration...

1. Dryer is not leveled properly.

2. Blower (impellor/fan) is out of balance...

    a. Excessive lint build up on blower (impellor/fan).

    b. Failed blower (impellor/fan).

3. Loose basket (tumbler) tie rod.

4. Basket (tumbler) is out of adjustment or adjustment bolts (hardware) are loose.

5. Failed basket (tumbler) support.

6. Loose motor mount.

7. Failed idler, basket (tumbler), or blower drive bearings.

8. V-belts too tight or too loose.

9. Bearing setscrews (either basket [tumbler], idler, or blower shaft) are loose.

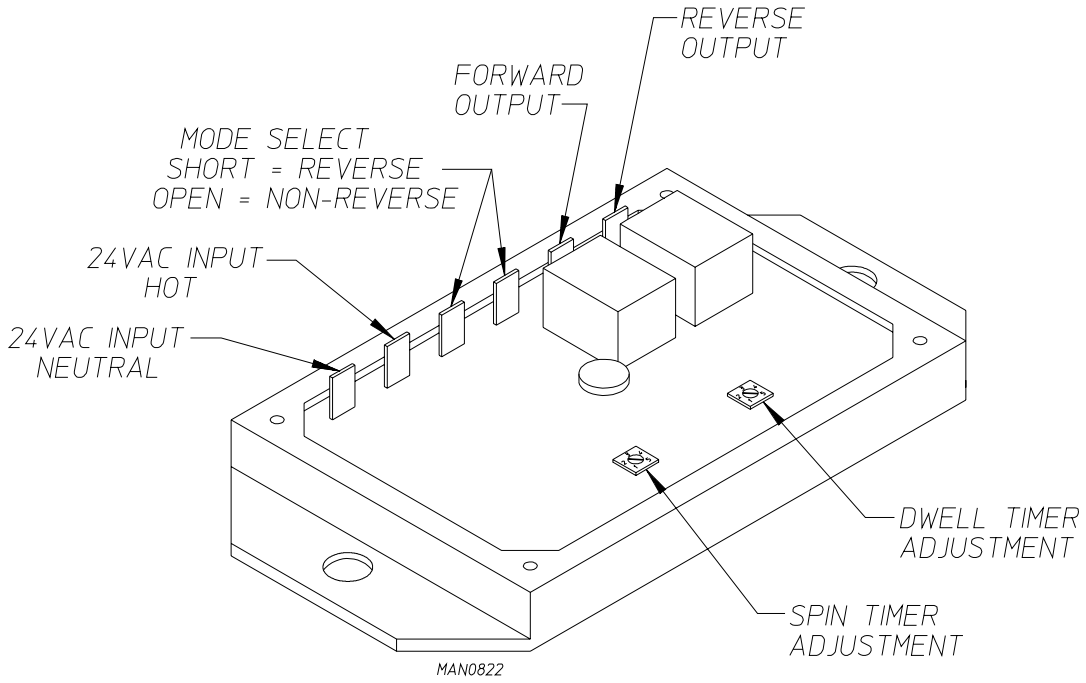
10. Failed motor bearing.

SECTION VIII

REVERSING TIMER SPIN/DWELL ADJUSTMENTS

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

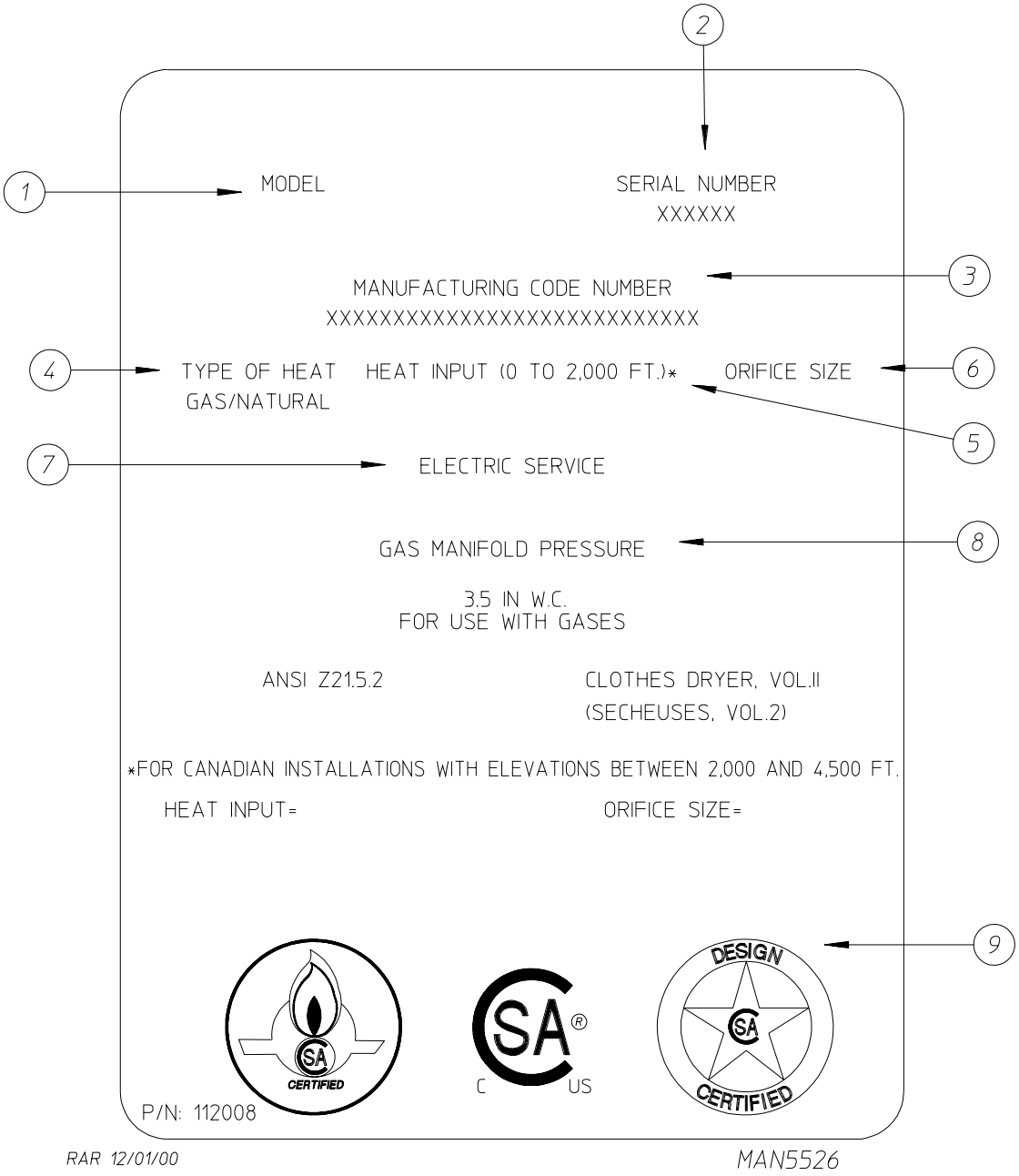
Both the dwell (stop) time and the basket (tumbler) spin time are adjustable by mode selection switches located on the electronic timer (as noted in the **illustration below**).



TIMING LEGEND					
SPIN TIME					
Adjustment Position Number	1	2	3	4	5
Time in Seconds*	30	60	90	120	150
DWELL (STOP) TIME					
Adjustment Position Number	1	2	3	4	5
Time in Seconds*	5	6.3	7.6	8.9	10.2
* Values shown are +/- 1-second.					

SECTION IX
DATA LABEL 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 affixed to the left side panel area behind the top control (access) door. When contacting **ADC**, please have the **model number** as well as the **serial number** readily 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

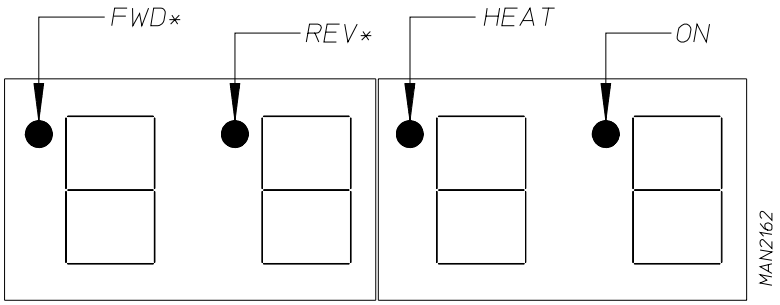
PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

1. Microprocessor Controller (Computer) Board

   a. Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

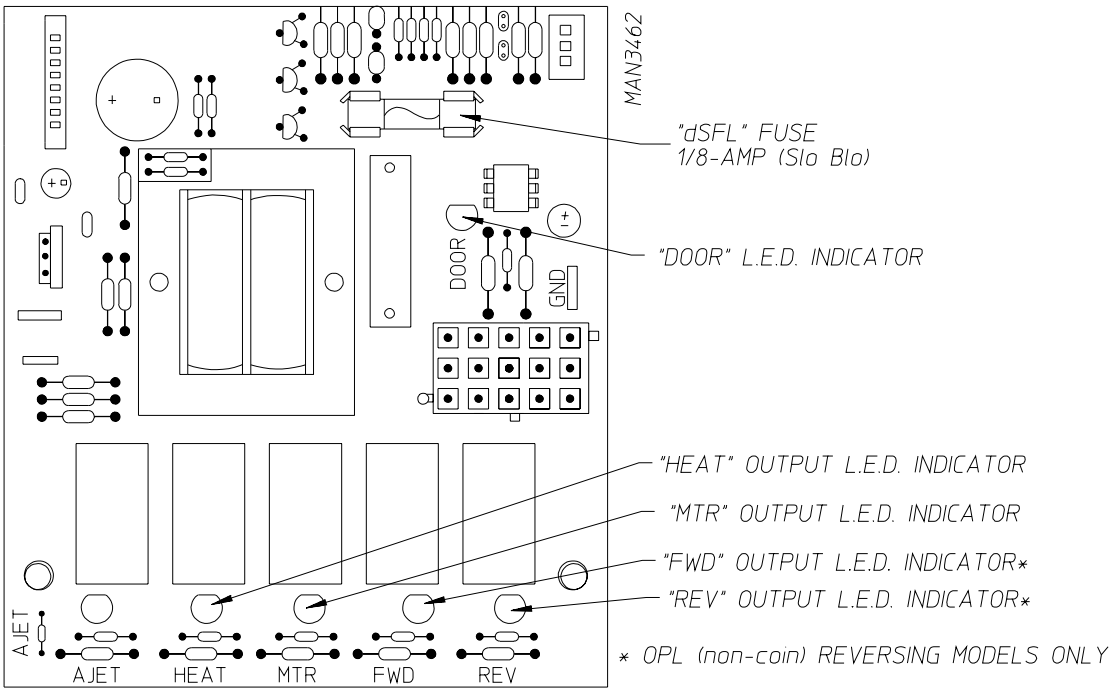
   b. Start the drying cycle.

   c. Verify that the motors, heat, and the heat indicator dots, in the microprocessor controller (computer) light emitting diode (L.E.D.) display are on. (Refer to the **illustration below**.)



*OPL (NON-COIN) REVERSING MODELS ONLY.

   d. Verify that the motors, 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.

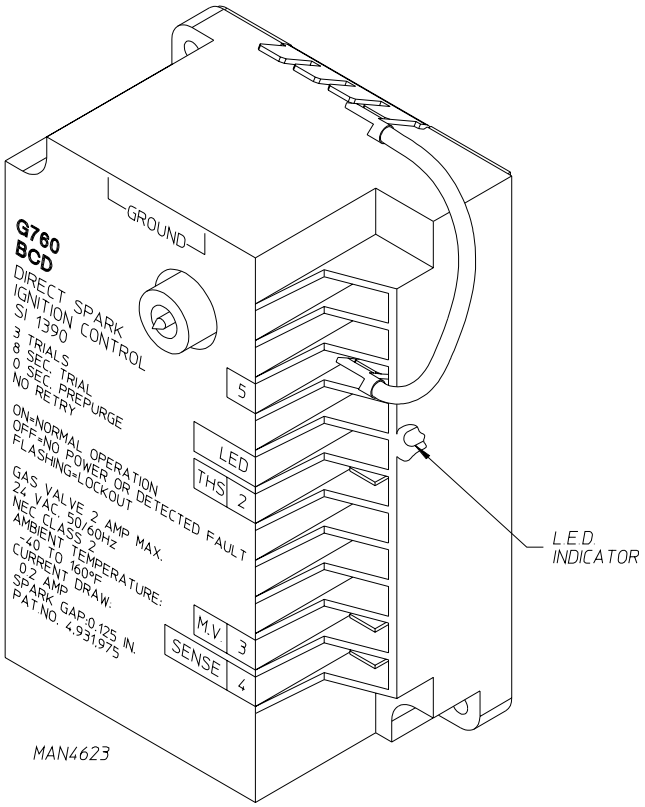
2. For Models With Johnson Controls Direct Spark Ignition (DSI) Module (G760)

Theory Of Operation:

Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (6-seconds), the flame sensor detects gas burner flame and signals the DSI module to keep the gas valve open...as long as there is a call for heat. The DSI module will "LOCKOUT" if the gas burner flame is not sensed at the end of the trial for ignition period. The trial for ignition period will be repeated for a total of three (3) retries/trials (the initial try and two [2] more retries/trials). If the flame is not sensed at the end of the third retry/trial (inter-purge period of 30-seconds) the DSI module will "LOCKOUT" (L.E.D. flashes).

A steady L.E.D. indicator indicates *normal operation*.

No L.E.D. indicator indicates a power or an internal failure has occurred.



3. <u>For Direct Spark Ignition (DSI) System Models Manufactured With **ADC** Module Part No. 882627</u>

a. Upon completing installation of the replacement DSI module, reestablish power to the dryer.

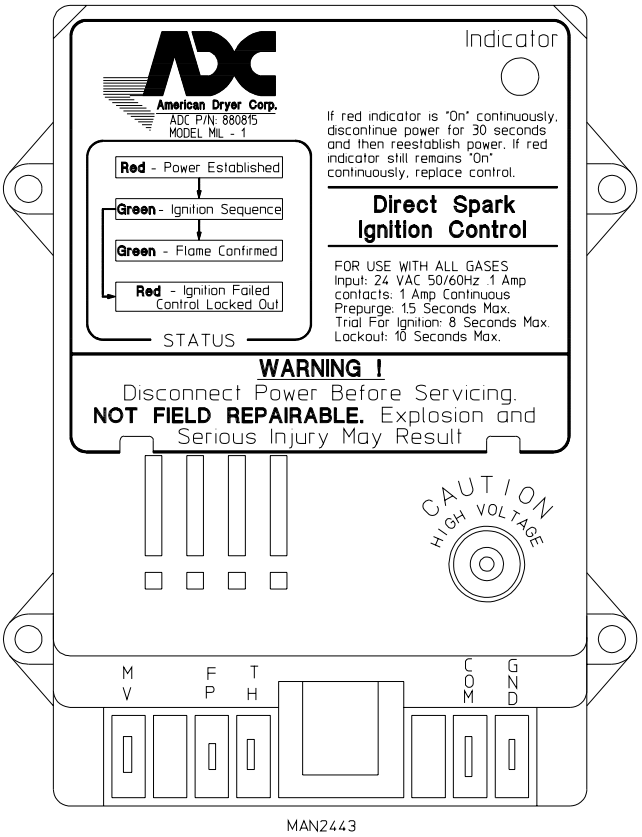
b. Starting the drying cycle.

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 <u>will</u> <u>be</u> 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 113141 **1** - 05/01/00-25 **2 *** 10/24/00-25 **3 *** 04/23/01-25
4 * 09/13/01-25 **5** - 02/01/02-25 **6** - 06/24/02-25
7 - 09/18/02-25 **8** - 03/03/03-25 **9** * 05/06/03-25

American Dryer Corp.