American Dryer Corp.

AD-330 / AD-320
INSTALLATION MANUAL

DUAL CONTROL MICROPROCESSOR (DMC)
115 / 208 / 230 VOLT, SINGLE PHASE
(for models mfd. prior to February 1992)

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.

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.

AMERICAN DRYER CORPORATION
88 Currant Road
Fall River, MA 02720-4781

Telephone: (508) 678-9010 / Cable: AMDRYTelex: 927520 AMDRY FRIV / Fax: (508) 678-9447

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ADC Part No. 112135

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 properly licensed technicians should service this equipment.

Observe all safety precautions displayed on the equipment or specified in the installation/operator's manual included with the dryer.

Under **NO circumstances should the dryer door switch or the heat circuit devices ever be disabled.**

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 materials and to change or discontinue models.

Important

For your convenience, log the following information:

DATE OF PURCHASE _____ **MODEL NO.** _____

DISTRIBUTOR'S NAME _____

Serial No.(s) _____

_____

_____

Replacement parts can be ordered from your distributor 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 orders directly to the **ADC** Parts Department at (508) 678-9010. 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.

The illustrations on the following pages may not depict your particular dryer exactly. The illustrations are a composite of the various dryer models. Be sure to check the descriptions of the parts thoroughly before ordering.

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS MUST BE POSTED IN A PROMINENT LOCATION. THE INSTRUCTIONS TO BE POSTED SHALL BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

FOR YOUR SAFETY

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

DO NOT DRY MOP HEADS IN THE DRYER.

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

WARNING

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

CHILDREN SHOULD BE SUPERVISED IF NEAR DRYER(S) IN OPERATION.

CAUTION

DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

IMPORTANT

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

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

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

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SECTION I

Important Information

A. Receiving and Handling

The dryer is shipped in a protective stretch wrap cover and protective cardboard corners and top cover as a means of preventing damage in transit. Upon delivery, the dryer and wooden skid should be visually inspected for shipping damage. If any damage whatsoever is noticed, inspect further.

When dryers have been damaged in shipment, follow these procedures:

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 number refused must be noted on the receipt.

4. If you determine that the dryer has been damaged after the trucker has left your location, you should call your local freight terminal immediately and request an inspection and freight claim form. The freight company considers this concealed damage. This type of freight claim is very difficult when a day or two passes after the freight was delivered. It is your responsibility to file freight claims. Dryers/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 receiving end. ADC assumes no responsibility for freight claims or damages.

6. If you need assistance in handling the situation, please contact ADC's traffic manager at (508) 678-9000.

IMPORTANT: THE DRYER SHOULD BE TRANSPORTED AND HANDLED IN AN UPRIGHT POSITION AT ALL TIMES.

B. Safety Precautions

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. Dryer must be exhausted to the outdoors.

4. Although this commercial dryer is a very versatile machine, 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" CLEANERS. FIRE OR EXPLOSION COULD RESULT.

   WARNING: DO NOT DRY RAGS OR ARTICLES COATED WITH GASOLINE, KEROSENE, PAINT, WAX, OIL, OR GREASE. FIRE OR EXPLOSION COULD RESULT.

   WARNING: DO NOT DRY MOPHEADS. 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-LIKE MATERIALS. DRYING IN A HEATED TUMBLER MAY DAMAGE PLASTICS OR RUBBER AND ALSO MAY BE A FIRE HAZARD.

5. A program should be established for the inspection and cleaning of the lint in the burner areas and exhaust duct work. The frequency of cleaning can best be determined from experience at each location.

   WARNING: THE COLLECTION OF LINT IN THE BURNER AREA AND EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD.

6. For personal safety, the dryer must be electrically grounded in accordance with local codes and/or the National Electric Code ANSI/NFPA No. 70 (latest edition).

   NOTE: Failure to do so will void the warranty.

7. Under no circumstances should the dryer door switch(es) or heat safety devices ever be disabled.

   WARNING: PERSONAL INJURY OR FIRE COULD RESULT.

8. Articles being dried should never be left unattended for an extended period of time in the tumbler after completion of the drying and cooling cycles.

   WARNING: ARTICLES LEFT IN THE DRYER AFTER THE DRYING AND COOLING CYCLES HAVE BEEN COMPLETED CAN CREATE A FIRE HAZARD.

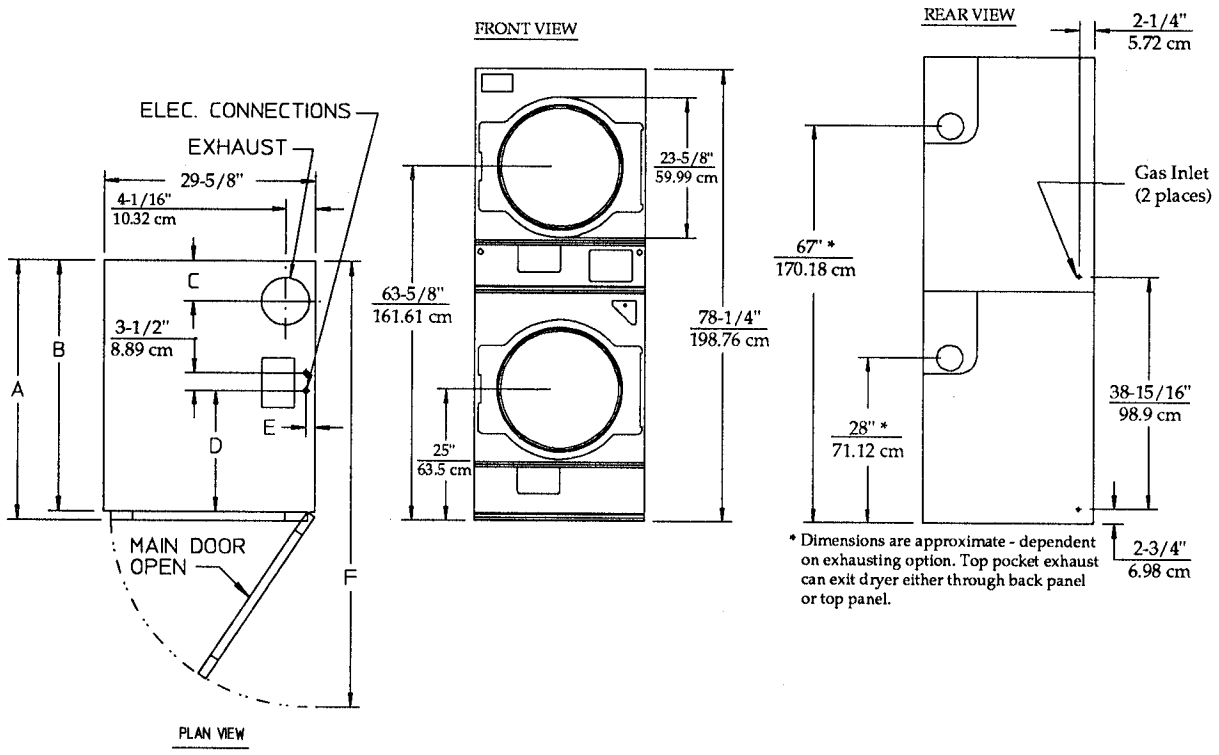
9. This dryer is not to be used in the presence of dry cleaning solvents or fumes.

10. Read and follow all caution and direction labels attached to the dryer.

11. A minimum of 12 inches (24 inches recommended) must be left behind the dryer to allow adequate clearance for air openings into the combustion chamber.

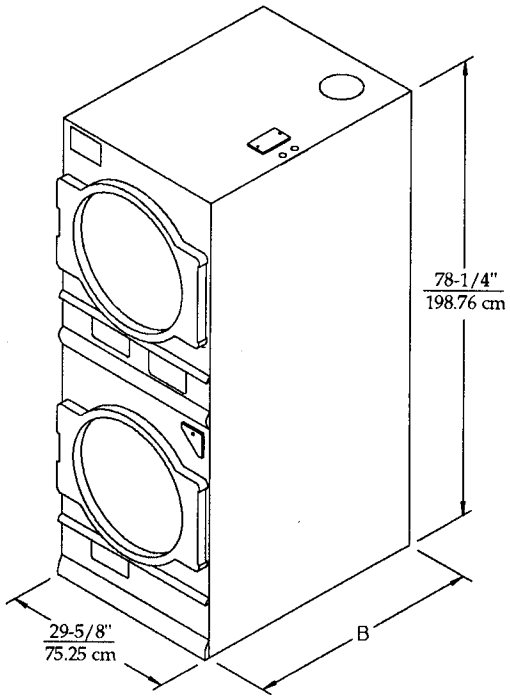
SECTION II

Specifications



	AD-330		AD-320	
A	44"	111.76 cm	39-1/4"	99.69 cm
B	42-3/4"	108.58 cm	37-3/4"	95.88 cm
C	6-3/16"	15.71 cm	5-5/8"	14.29 cm
D	16-11/16"	42.38 cm	12"	30.48 cm
E	1-3/16"	3.02 cm	1-3/16"	3.02 cm
F	71-1/2"	181.61 cm	66-1/2"	168.91 cm

Shaded areas are in metric equivalents.



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

Specifications

	ADG-330D	ADG-320D	
Total Dryer Capacity (Dry Weight)	60 lbs.	40 lbs.	27.2 kg / 18.15 kg
Basket (Tumbler) Diameter	27-1/4"		69.22 cm
Basket (Tumbler) Depth	30"	25"	76.2 cm / 63.5 cm
Basket (Tumbler) Volume (per Basket)	10.1 cu.ft.	8.43 cu.ft.	.287 cu.m. / .239 cu.m.
Basket (Tumbler) Motor (2 Places)	1/3 HP		.249 kw
Door Opening (Diameter)	21-1/2"		54.61 cm
Heat Input (Total for Both Baskets)	136,000 btu/hr	120,000 btu/hr	34,270 / 30,240 kcal/h
Airflow (Total for Both Baskets)	800 cfm		22.64 cmm
Gas Inlet Size (2 Places)	1/2"		1.27 cm
Exhaust Duct Outlet (2 Places)	6"		15.24 cm
Approximate Weight (Uncrated)	806 lbs.	699 lbs.	365.6 kg / 317.1 kg
Approximate Weight (Crated)	830 lbs.	730 lbs.	376.5 kg / 331.13 kg
Dryers per 20'/40' Container	14/20		
Dryers per 45'/48' Truck	30/34		

Electrical Requirements** (per Basket)	Approx. Amp Draw	Dual Element Fuse	Circuit Breaker
115 Volts / 1ø	6	8	15
208 Volts / 1ø	4	6	15
230 Volts / 1ø	4	6	15
240 Volts / 1ø	4	6	15

IMPORTANT: 208 VAC and 230/240 VAC are not the same. When ordering, specify **exact** voltage.

NOTE: A. Fuse ratings are dual element-time delay-current limiting, class RK1 or RK5 **ONLY.**

B. Circuit breakers are thermal magnetic (industrial) type **ONLY.** For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker to be used.

** Contact factory for electrical information not listed.

Shaded areas are in metric equivalents.

Specifications Subject To Change Without Notice.

SECTION III

Installation Procedures

Installation should be performed by qualified professionals in accordance with local and state codes. In the absence of these codes, installation must conform to applicable American National standards:

ANSI Z223.1 - Latest Edition (National Fuel Gas Code)
and/or
ANSI/NFPA NO. 70 - Latest Edition (National Electric Code)

A. Unpacking/Setting Up

Remove stretch wrap protective cover, shipping corners, and top cover from dryer.

NOTE: The access keys to the coin box and service doors are included in the information packet shipped in the top tumbler. These keys should be removed and put in a safe place yet made accessible because some will be needed throughout various phases in the installation of the dryer.

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

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

B. Location of the Dryer

Before installing the dryer, be sure the location conforms to local codes and ordinances.

The dryer must be installed on a sound, level floor capable of supporting its weight. It is recommended that carpeting be removed from the floor area on which the dryer is to rest.

Even though a 12-inch clearance is acceptable, it is recommended that the rear of the dryer be positioned approximately

2 feet away from the nearest obstruction (i.e., wall) for ease of installation, maintenance, and service.

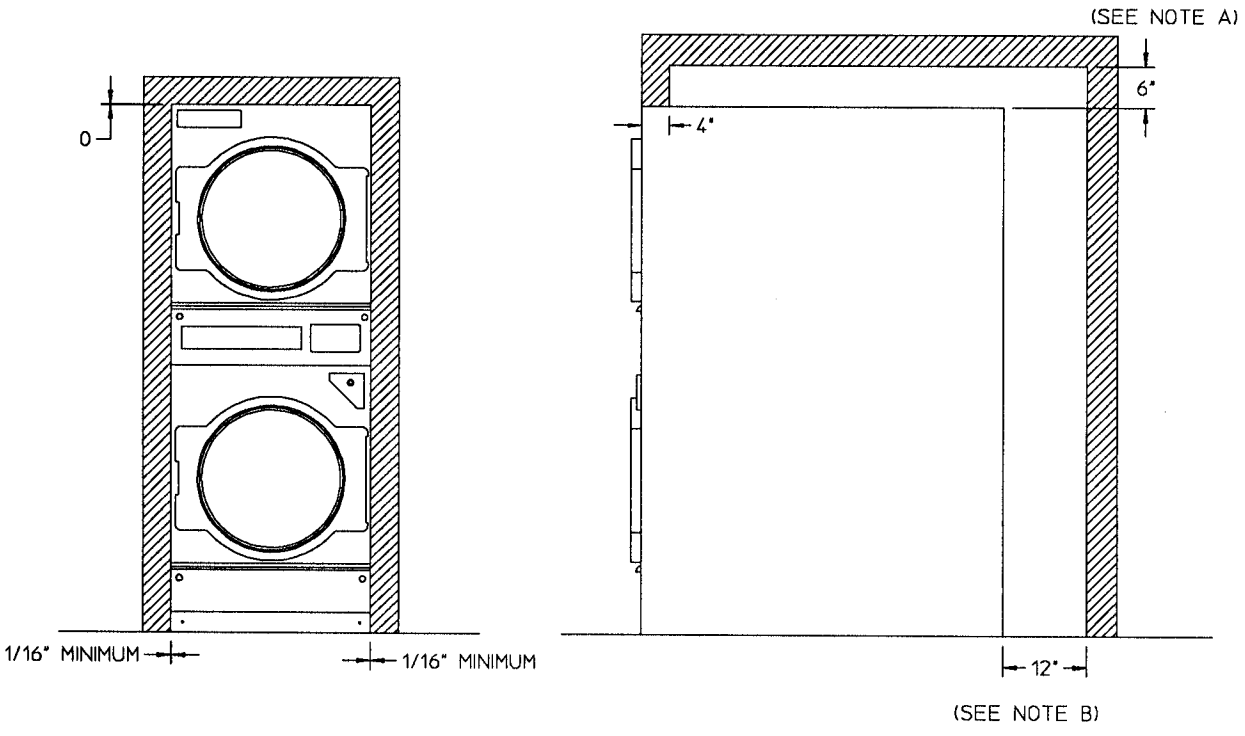
C. Dryer Enclosure Requirements

Bulkheads and partitions should be made of noncombustible materials and must be located a minimum of 6 inches above the dryer outer top, except along the front of the dryer which may be closed in if desired.

NOTE: Even though a minimum of 6 inches above the dryer outer top is acceptable, a clearance of 18 inches (or more) is suggested for ease of installation and service (power electrical connections).

When fire sprinkler systems are located above the dryers, a minimum of 12 inches above the dryer outer top is required.

CLEARANCES SHOWN ARE MINIMUM DIMENSIONS TO NEAREST COMBUSTIBLE MATERIALS.



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NOTES:

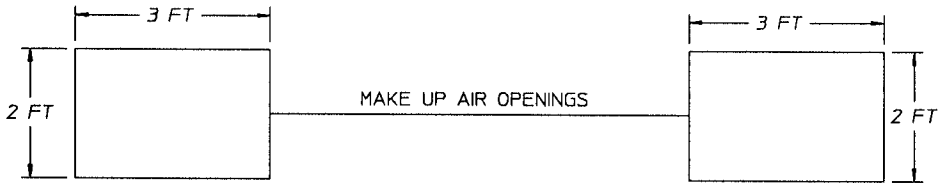
A. MINIMUM OF 6" CLEARANCE IS ACCEPTABLE FOR EASE OF INSTALLATION AND SERVICE (POWER CONNECTIONS), AT LEAST 18" IS RECOMMENDED.

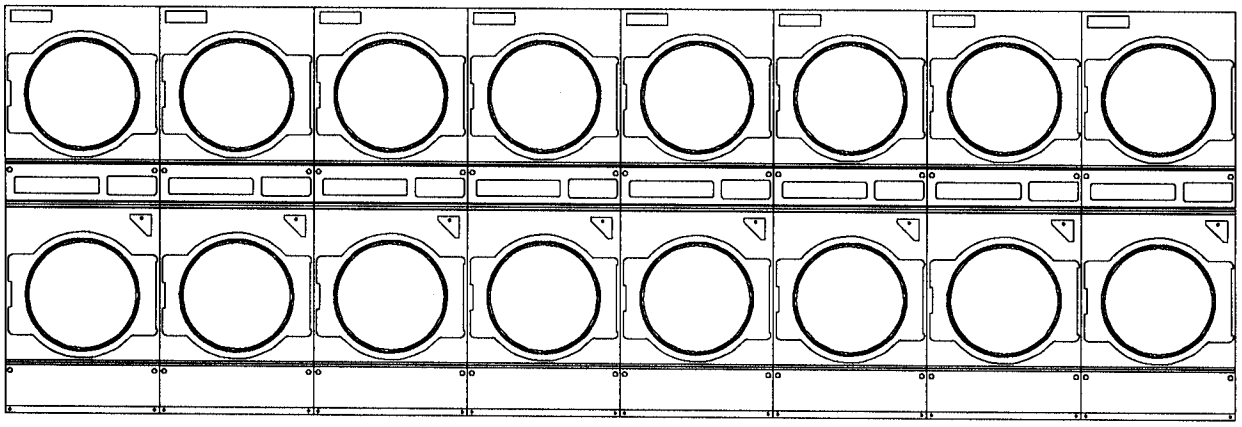
B. MINIMUM OF 12" CLEARANCE IS ACCEPTABLE FOR EASE OF INSTALLATION, MAINTANCE AND SERVICE, AT LEAST 24" IS RECOMMENDED.

D. Fresh Air Supply

Air supply (make-up air) must be given careful consideration to assure proper and safe performance of each dryer. An unrestricted source of air of 800 cfm is necessary for each dryer. An unrestricted air entrance from the outdoors (atmosphere) of a minimum of 1-1/2 square feet is required for each dryer. This area must be enlarged if louvres or registers cover the opening. It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they must be set up in such a manner that the make-up air is distributed equally to the dryers. For example, for a bank of eight (8) dryers, a total make-up air opening of 12 square feet is required. Two (2) openings measuring 2 feet by 3 feet (6 square feet) are acceptable.

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





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TYPICAL INSTALLATION SHOWING MAKE-UP AIR OPENINGS

IMPORTANT: MAKE-UP AIR MUST BE PROVIDED FROM A SOURCE FREE OF DRY CLEANING SOLVENT FUMES. MAKE-UP AIR CONTAMINATED BY DRY CLEANING SOLVENT FUMES WILL RESULT IN IRREPARABLE DAMAGE TO MOTORS AND OTHER DRYER COMPONENTS.

NOTE: Component failure due to dry cleaning solvent fumes voids the warranty.

E. Exhaust Requirements

Exhaust duct work should be designed and installed by a qualified professional. Improperly sized duct work 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 tumbler hi-heat thermostats.

CAUTION: Improperly sized or installed exhaust duct work can create a potential fire hazard.

The exhaust duct work should be laid out in such a way that the duct work travels as directly as possible to the outdoors with as few turns as possible. When single dryer venting is used, the duct work from the dryer to the outside exhaust outlet should not exceed fifteen (15) feet. In the case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust outlet should not exceed fifteen (15) feet. The shape of the exhaust duct work is not critical so long as the minimum cross section area is provided.

It is suggested that the use of 90-degree turns in ducting be avoided; use 30-degree or 45-degree angles instead. Excluding 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 section area of the duct work must be increased in proportion to number of elbows added.

1. Exhaust Connections of Top and Bottom Tumblers

There is no common venting connection provided with the dryer. Each tumbler exhaust duct is provided with its own back draft damper. Each tumbler can be exhausted directly outdoors independently (see illustration on page 17) or connected to a common duct (see illustration on page 14). Both single or common duct work can be of rigid ducting or flexible ducting.

For common connections, a kit (ADC P/N 880127) is available from the factory and includes the necessary flex ducting, elbows, and "Y" assembly, etc. to join the top and bottom exhausts together; this is illustrated on pages 14 and 40.

All duct work joints must be taped to prevent moisture and lint from escaping into the building.

IMPORTANT: Exhaust back pressure measured by a manometer at each tumbler exhaust duct area should not exceed 0.3 inches water column when both tumblers are operating.

NOTE: Common exhaust connections of top and bottom tumblers should be installed in such a manner that the back guards can be removed easily for servicing.

2. Single Dryer Venting

Where possible, it is suggested to provide a separate exhaust duct for each dryer. The exhaust duct work should be laid out in such a way that the duct work travels as directly as possible to the outdoors with as few turns as possible. It is suggested that the use of 90-degree turns in ducting be avoided; use 30-degree or 45-degree angles instead. The shape of the exhaust duct work is not critical so long as the minimum cross section area is provided.

IMPORTANT: Exhaust back pressure measured by a manometer at the dryer exhaust duct area should not exceed 0.3 inches water column.

It is suggested that the duct work from each dryer not exceed 15 feet with no more than two (2) elbows (excluding dryer connections and outside exhaust outlet). If the duct work exceeds 15 feet or has numerous elbows, the cross section area of the duct work must be increased in proportion to length or number of elbows in it. In calculating duct size, the cross section area of a square or rectangular duct must be increased 20 percent for each 15 feet. The diameter of a round exhaust should be increased 10 percent for each additional 15 feet. Each 90-degree elbow is equivalent to an additional 15 feet, and each 45-degree elbow, an additional 10 feet.

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work run cannot exceed 15 feet more than the original limitations of 15 feet with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional HVAC firm should be consulted for proper venting information.

The duct work 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 duct work joints must be taped to prevent moisture and lint from escaping into the building. Also, inspection doors should be installed at

strategic points in the exhaust duct work for periodic inspection and cleaning.

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

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

IMPORTANT: Do not use screens or caps on the outside of opening of exhaust duct work.

NOTE: Refer to illustrations on pages 15, 16, and 17 for examples of single dryer venting.

3. Multiple Dryer (Common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers may be channeled into a "common main duct." The individual ducts should enter the bottom or side of the main duct at an angle not more than 45 degrees in the direction of airflow. The main duct should be tapered, with the diameter increasing before each individual 8-inch duct (when dryer common exhaust is used) is added. If single 6-inch tumbler exhaust ducts are used, the diameter should be increased after every second 6-inch duct is added. The cross section area should be 60 square inches for each 8-inch duct added or 60 square inches for every two (2) 6-inch ducts added.

NOTE: See illustrations on page 18 for examples of multiple dryer (common) venting.

IMPORTANT: No more than four (4) dryers or eight (8) tumblers (baskets) total should be connected to one main common duct.

The main duct may be any shape or cross sectional area, so long as the minimum cross section area is provided. The illustrations on page 18 show the minimum cross section area for multiple dryer venting. These figures must be increased in proportion if the main duct run from the last dryer to where it exhausts to the outdoors is unusually long (over 15 feet) or has numerous elbows (more than two [2]) in it. In calculating duct work size, the cross section area of a square or rectangular duct must be increased 20 percent for each additional 15 feet. The diameter of a round exhaust must be increased 10 percent for each

additional 15 feet. Each 90-degree elbow is equivalent to an additional 15 feet, and each 45-degree elbow, an additional 10 feet.

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work run cannot exceed 15 feet more than the original limitations of 15 feet with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional HVAC firm should be consulted for proper venting information.

IMPORTANT: Exhaust back pressure measured by a manometer at each tumbler exhaust duct area should not exceed 0.3 inches water column.

The duct work 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 duct work joints must be taped to prevent moisture and lint from escaping into the building. Also, inspection doors should be installed at strategic points in the exhaust duct work for periodic inspection and cleaning.

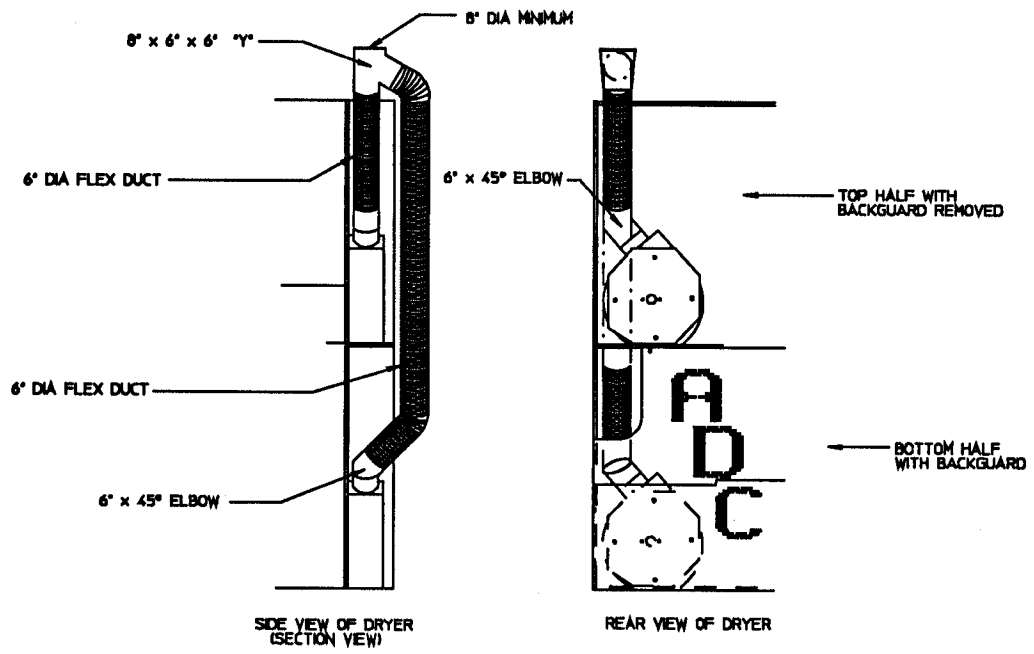
NOTE: Where the exhaust passes through a wall, ceiling, or roof made of combustible materials, the opening must be 2 inches larger (all the way around) than the duct. The duct must be centered within this opening.

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

IMPORTANT: Do not use screens or caps on the outside of opening of exhaust duct work.

NOTE: Refer to illustrations on page 18 for examples of multiple dryer (common) venting.

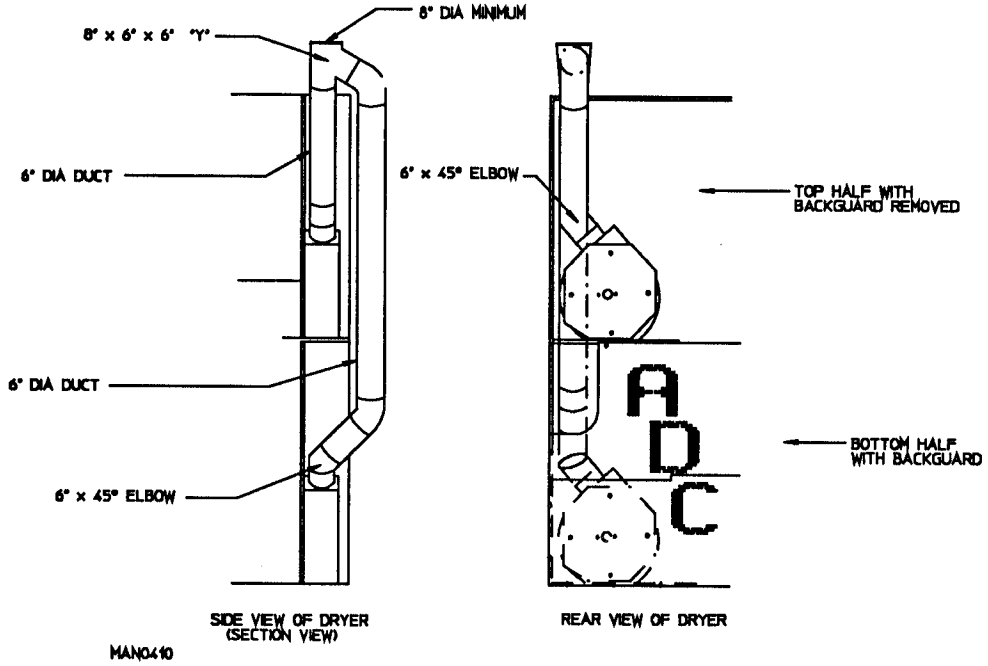
DRYER COMMON EXHAUST CONNECTIONS USING FLEX DUCT WORK



REFERENCE: OPTIONAL EXHAUST DUCT KIT
ADC P/N 880127

NOTE: USE DUCT TAPE AT ALL CONNECTIONS.

DRYER COMMON EXHAUST CONNECTIONS USING RIGID DUCT WORK

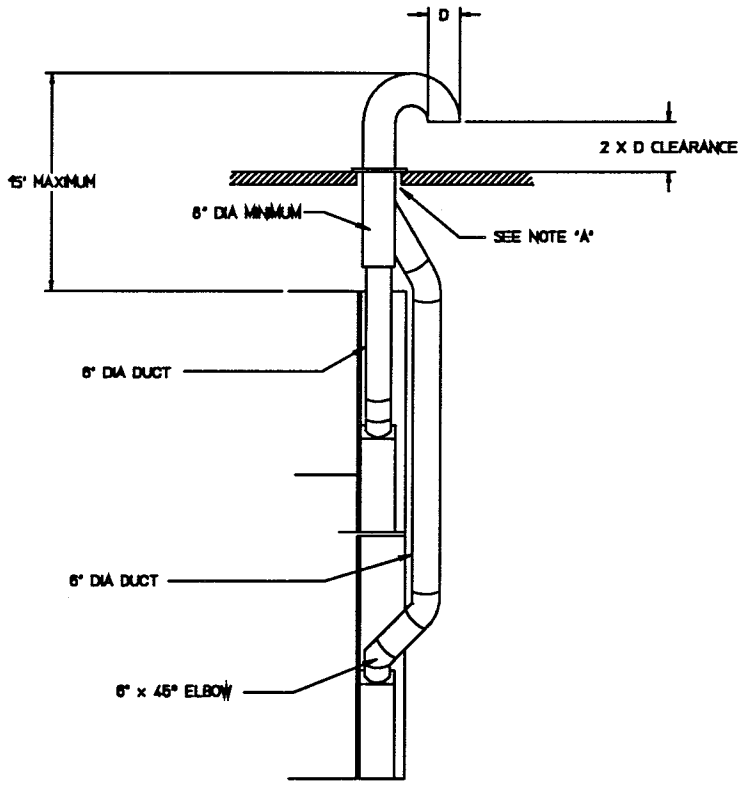


NOTE: USE DUCT TAPE AT ALL CONNECTIONS.

EXTERNAL SINGLE DRYER VENTING CONNECTIONS

(WITH DRYER COMMON EXHAUST)

VERTICAL DUCTING



SIDE VIEW OF DRYER
(SECTION VIEW)

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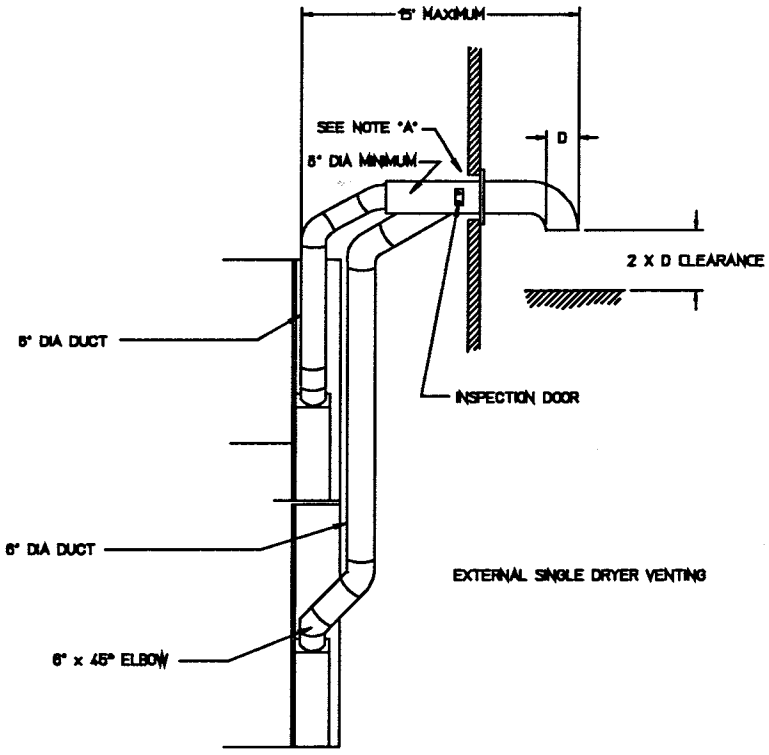
HORIZONTAL DUCTING



EXTERNAL SINGLE DRYER VENTING

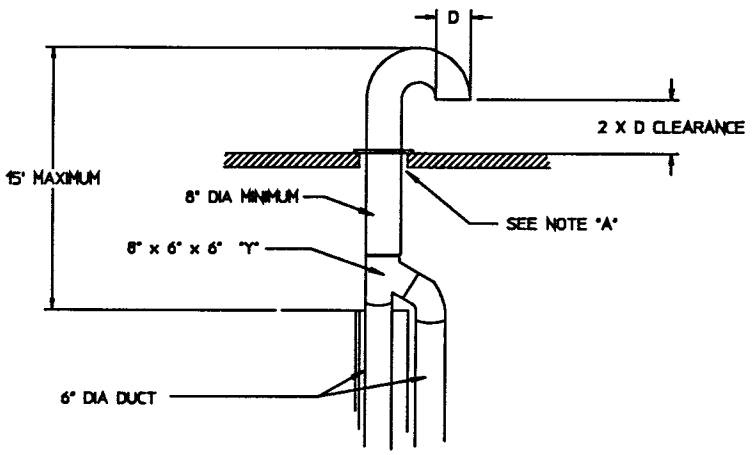
SIDE VIEW OF DRYER
(SECTION VIEW)

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

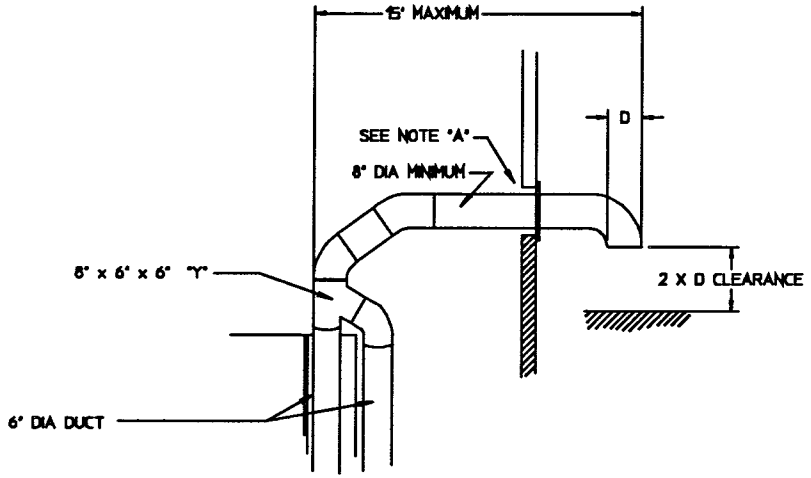
EXTERNAL SINGLE DRYER VENTING CONNECTIONS

(WITH DRYER COMMON EXHAUST)

VERTICAL DUCTING



HORIZONTAL DUCTING



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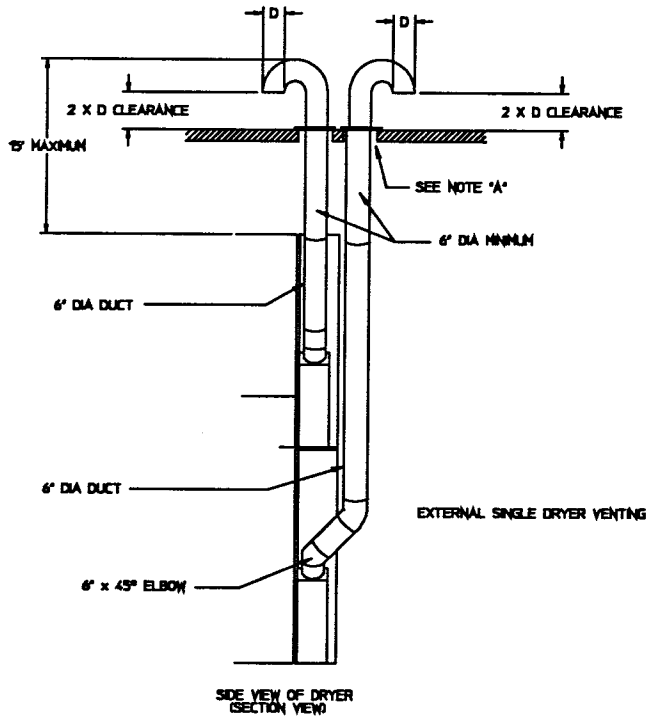
NOTE "A": OPENING MUST BE TWO (2) INCHES LARGER THAN DUCT (ALL THE WAY AROUND).
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

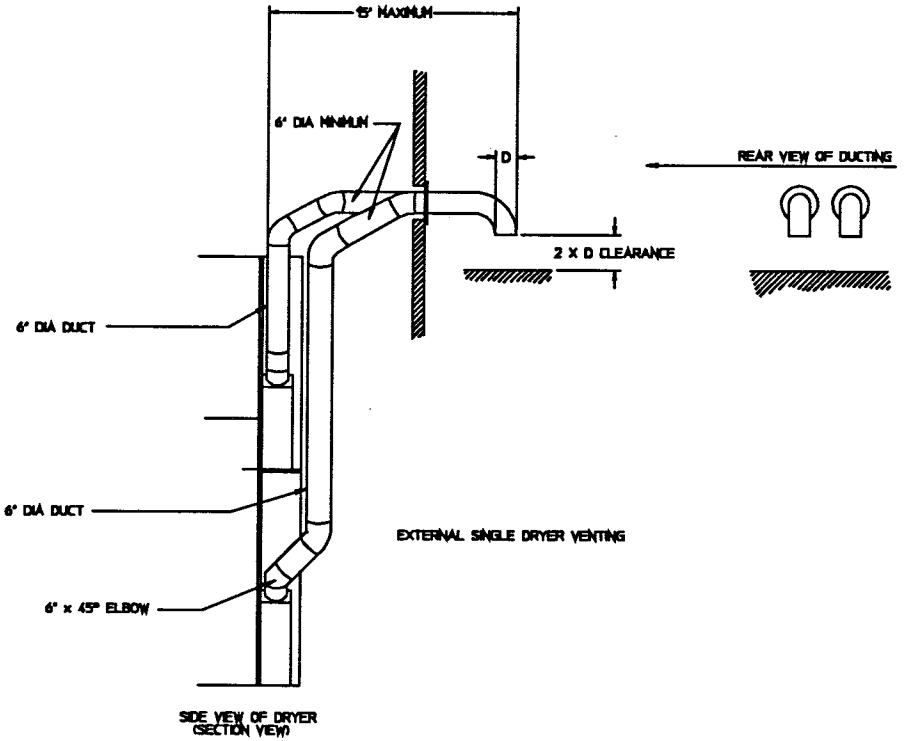
EXTERNAL SINGLE DRYER VENTING CONNECTIONS

(WITH DRYER INDEPENDENT EXHAUST)

VERTICAL DUCTING



HORIZONTAL DUCTING

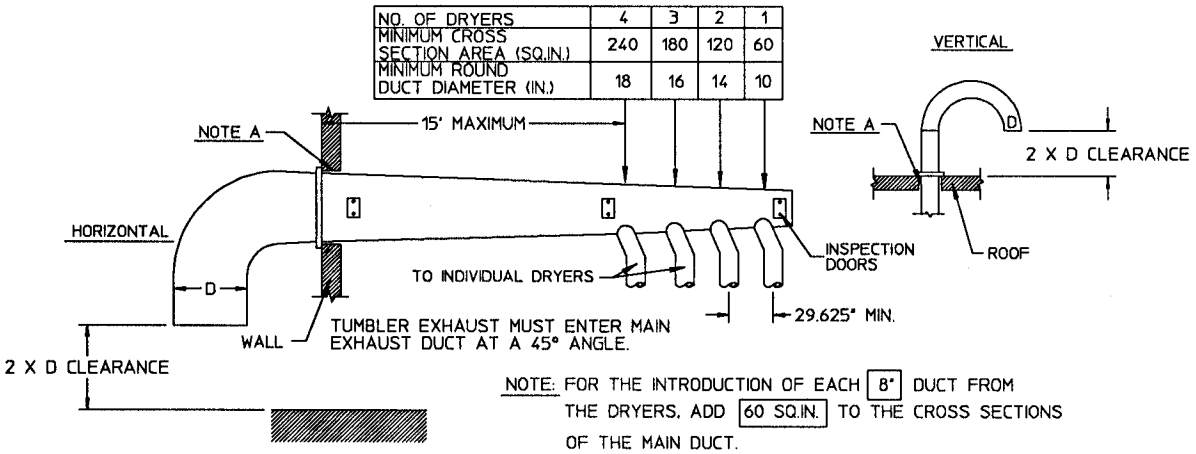


MAN0412

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

MULTIPLE DRYER VENTING
WITH 8" DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS	4	3	2	1
MINIMUM CROSS SECTION AREA (SQ.IN.)	240	180	120	60
MINIMUM ROUND DUCT DIAMETER (IN.)	18	16	14	10

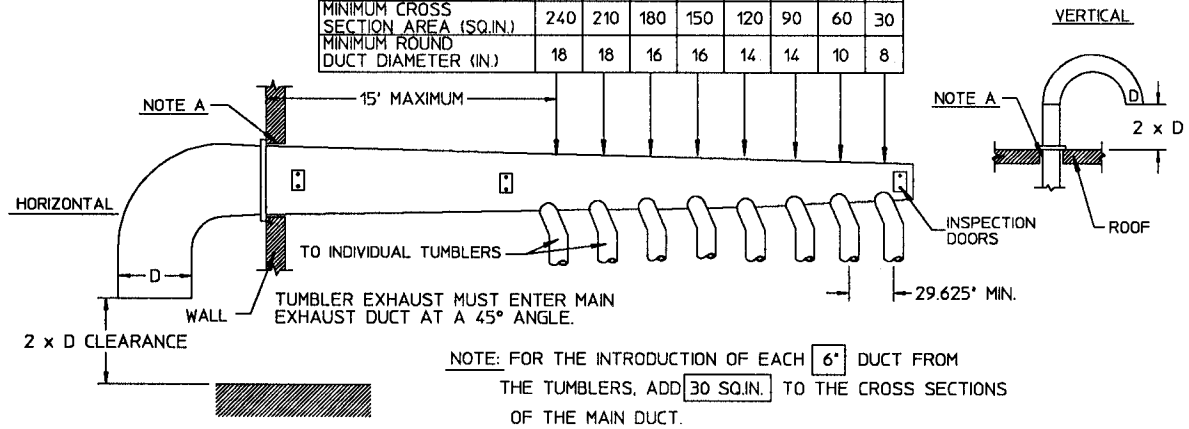


NOTE: FOR THE INTRODUCTION OF EACH [8"] DUCT FROM THE DRYERS, ADD [60 SQ.IN.] TO THE CROSS SECTIONS OF THE MAIN DUCT.

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

MULTIPLE DRYER VENTING
WITH 6" DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS	8	7	6	5	4	3	2	1
MINIMUM CROSS SECTION AREA (SQ.IN.)	240	210	180	150	120	90	60	30
MINIMUM ROUND DUCT DIAMETER (IN.)	18	18	16	16	14	14	10	8



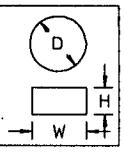
NOTE: FOR THE INTRODUCTION OF EACH [6"] DUCT FROM THE TUMBLERS, ADD [30 SQ.IN.] TO THE CROSS SECTIONS OF THE MAIN DUCT.

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

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

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

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



MAN0414

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

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 with local and state regulations or codes. In the absence of such codes, all electrical connections, material, and workmanship must conform to the applicable requirements of the National Electric Code ANSI/NFPA NO. 70 (latest edition).

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

NOTE: Component failure due to improper installation voids the warranty.

It is recommended that a separate circuit serving each tumbler (basket) be provided. The dryer must be connected with copper wire only. Do not use aluminum wire which could cause a fire hazard.

NOTE: The use of aluminum wire voids the warranty.

2. Electrical Service

Electrical service recommended specs (per tumbler):

Voltage	Phase	No. of Wires	Amp. Draw Per Tumbler	Wire Size*	Breaker Size Per Tumbler
115	1	2	5.8A	#12	15A Single-Pole
208	1	2	3.6A	#14	15A Double-Pole
230/240	1	2	3.4A	#14	15A Double-Pole

* AWG stranded type wire. For individual lengths larger than 100 feet, select next higher size wire.

IMPORTANT: The dryer must be connected to the electrical supply shown on the data label located on the inside of the middle access (control) door.

WARNING: ANY DAMAGE DONE TO DRYER COMPONENTS DUE TO IMPROPER VOLTAGE APPLICATION OR CONNECTIONS WILL AUTOMATICALLY VOID THE WARRANTY.

3. Electrical Connections

A wiring diagram is included with each dryer showing the

wiring connection sequence. The electrical connections are made in a box located at the top of the dryer. The dryer is shipped with three (3) connection points (L1, L2/Neutral, and Ground) for each tumbler (basket).

Electrical Connection Leads		
Black	White	Green
+	-	
Positive (L1)	Neutral (L2)	Ground (GND)

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

NOTE: It is recommended that a circuit serving each tumbler (basket/drum) be provided.

4. Grounding (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 Electric Code ANSI/NFPA No. 70 (latest edition). The ground connection may be to a proven earth ground at the location service panel.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a grounded cold water pipe. Do not ground to a gas or hot water pipe. The grounded cold water pipe must have metal to metal connections all the way to the electrical ground. If there are any non-metallic interruptions, such as, a meter, pump, plastic, rubber, or other insulating connectors, they must be jumped out with no. 4 wire and securely clamped to bare metal at both ends.

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

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 with local and state regulations or codes. In the absence of such codes, all plumbing connections, material, and workmanship must conform to the applicable requirements of the National Fuel Gas Code ANSI Z223.1 (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 shut-off 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).

The dryer must be isolated from the gas supply piping system by closing its individual manual shut-off valves during any pressure testing of the gas supply piping 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 valves.....voiding 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), 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, and increased use of energy and can create a safety hazard.

The dryer must be connected to the type of heat/gas indicated on the dryer data label located on the inside of the middle access (control) door. If this information does not agree with the type of gas available, contact the distributor who sold the dryer or the 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 of up to 2,000 feet unless elevation requirements of over 2,000 feet were specified at the time the dryer order was placed with the factory. The adjustment for dryers in the field for elevations over 2,000 feet are made by changing each burner orifice. If this adjustment is necessary, contact the distributor who sold the dryer or contact the factory.

2. Technical Gas Data

a. Gas Specifications

	Type of Gas	
	Natural	Liquid Propane (L.P.)
Manifold Pressure*	4.0 Inches W.C.	10.5 Inches W.C.
In-Line Pressure (W.C.)	6.0 In. to 12.0 In.	10.5 Inches W.C.
Gas Inlet Size (each tumbler/basket)		1/2" N.P.T.
BTUH Input (each tumbler/basket)		68,000
BTUH Input (total for both tumblers/baskets)		136,000

* Measured at gas valve pressure tap when the gas valve is on. Measured in inches of water column.

(D.M.S.) Drill Manufacturer's Standard - equivalent to standard twist drill or steel wire gauge numbers.

(W.C.) Water column in inches.

b. Natural Gas

Regulation is controlled by each gas valve's internal regulator. Incoming supply pressure must be consistently between a minimum of 6.0 inches and a maximum of 12.0 inches water column pressure.

c. Liquid Propane (L.P.) Gas

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

3. Piping/Connections

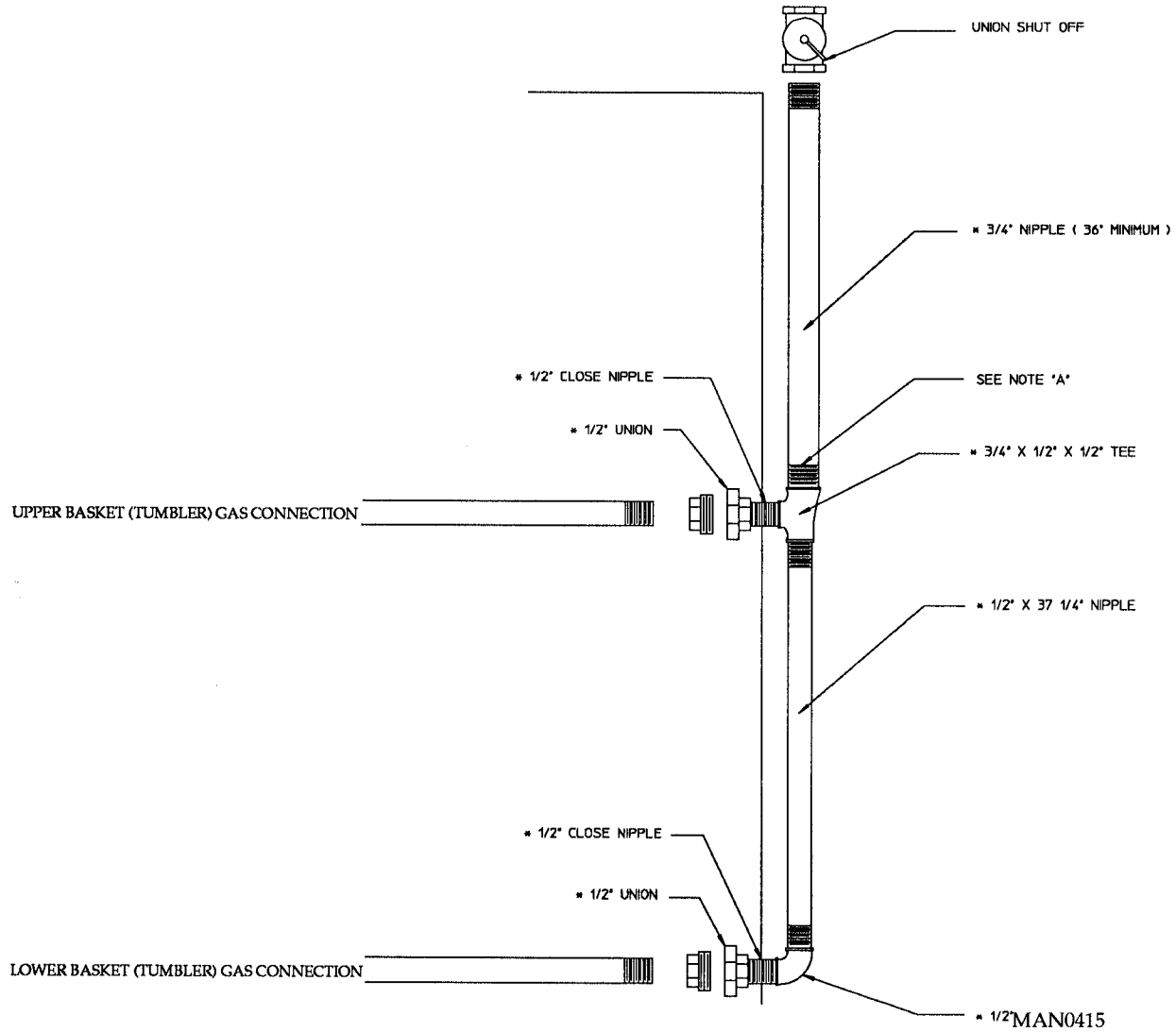
All components/materials must conform to National Fuel Gas Code specifications.

It is important that gas pressure regulators meet applicable

pressure requirements and that gas meters be rated for the total amount of all the appliance BTU's being supplied.

The dryer is provided with two (2) 1/2" N.P.T. inlet pipe connections (one for each tumbler) at the rear of the dryer. If a separate feed is provided for each tumbler from the main supply line (header), then a 1/2" line connection is sufficient. However, if the top and bottom tumbler connections are connected together, the supply from the header must be increased to 3/4" as illustrated below. An optional piping kit is available from the factory as illustrated on page 41. It is recommended that a gas shut-off valve be provided to the gas supply line of each dryer for ease in servicing.

TYPICAL GAS CONNECTIONS



* INCLUDED IN OPTIONAL GAS PIPING KIT **ADC** P/N 880128

IMPORTANT: WHEN UPPER and LOWER PLUMBING BASKET (TUMBLERS) ARE CONNECTED AS ILLUSTRATED, SUPPLY CONNECTION MUST BE A MINIMUM OF 3/4".

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

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

Consistent gas pressure is essential at all gas connections. It is recommended that a 3/4" pipe loop be installed in the supply line serving the bank of dryers. An in-line pressure regulator must be installed in the gas supply line (header) if (natural) gas line pressure exceeds 12.0 inches water column pressure. (Refer to illustration on page 25 for details.)

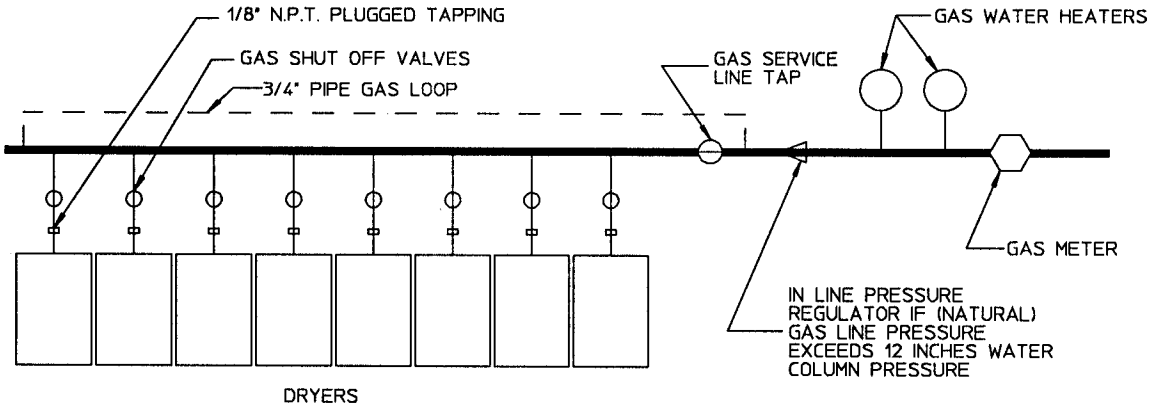
IMPORTANT: Water column pressure of 4.0 inches for natural gas dryers and 10.5 inches for L.P. gas is required at the gas valve pressure tap of each dryer for proper and safe operation.

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

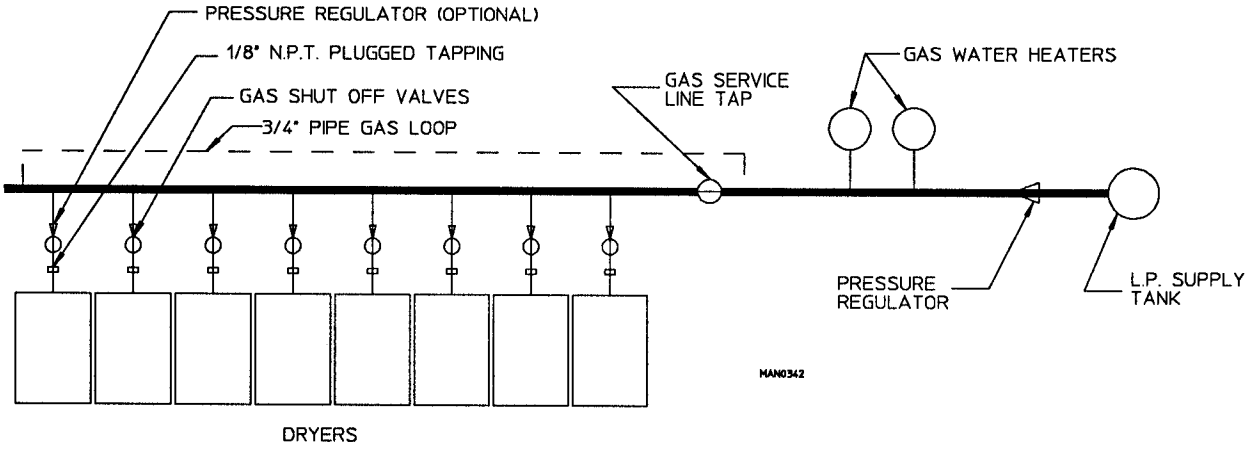
IMPORTANT: Pipe joint compounds that resist the action of natural and L.P. gases must be used.

WARNING: TEST ALL CONNECTIONS FOR LEAKS BY BRUSHING ON A SOAPY WATER SOLUTION (LIQUID DETERGENT ALSO WORKS WELL). NEVER TEST FOR GAS LEAKS WITH AN OPEN FLAME.

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION



H. Preparation for Operation

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

1. Read and follow all caution, warning, and direction lables attached to the dryer.

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label located on the rear side of the middle access (control) door.

3. Check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.

4. The sail switch damper assemblies are installed and preadjusted at the factory prior to dryer shipment. However, each sail switch adjustment should be checked to assure that this important safety control is functioning.

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

6. Be sure all gas shut-off valves are in the open position.

7. Be sure all back panels (guards) and electric box covers have been replaced.

8. Check all service doors to assure that they are closed and secured in place.

9. Rotate the tumblers (baskets/drums) by hand to be sure they move freely.

I. Preoperational Tests

All dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test should be taken before the dryer is publicly used. It is possible that adjustments have changed in transit.

1. Turn on electric power to dryer. Open all gas shut-off valves.

2. Computer System Operational Test

    a. Display(s) will flash back and fourth between "FILL" and the amount needed to start the dryer (i.e., "25"), meaning the dryer is available and 25 cents is required to start it.

b. Insert the proper number of coins into coin acceptor. Once the correct amount needed to start the dryer has been inserted, display(s) will read "PUSH"....."tEnP."

c. Start the dryer by pressing the desired setting for either the upper or lower dryer tumbler (i.e., "LO" selection for upper dryer). Display will now read selection (setting) made and the amount of time vended (i.e., "LO 10").

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

d. Open main door to stop dryer, and change selection to "PERM PRESS" (medium) setting. Repeat this procedure, but change selection (setting) to "HI" (high). This will confirm that setting key circuits and door switch circuits are functioning properly.

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

e. Repeat above procedure for other tumbler.

3. Heat Circuit Operational Test

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

Dryer is equipped with a direct spark ignition (DSI) system which has internal diagnostics. If ignition is not established after first attempt, the system will retry two (2) more times. If ignition is not established after three (3) attempts, the heat circuit DSI module will lock out until it is manually reset. To reset the DSI system, open and close main door and restart dryer (press desired temperature selection).

NOTE: During the purging period, check to be sure that all gas shut-off valves are open.

Once ignition is established, a gas pressure test should be taken at the gas valve pressure tap of each dryer to assure that the water column pressure is correct and consistent.

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

Natural Gas - 4.0 Inches W.C.

L.P. Gas - 10.5 Inches W.C.

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

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

NOTE: The sail switch can be checked for proper operation by opening the middle access (control) door while the dryer is running and the heating unit (burner) active (on). The heating unit(s) should shut off within a few seconds. If not, make necessary adjustments.

5. Each tumbler (basket) should be operated through one complete cycle to assure that no further adjustments are necessary and that all components are functioning properly.

NOTE: Drying and cooling cycles are complete when display reads....."donE."

IMPORTANT: The dryer tumblers (baskets/drums) are treated with a protective coating. This coating can be removed by tumbling old clothes or material in the baskets/drums, using a mild detergent to remove the protective coating.

6. Computer Programs/Selections

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

SECTION IV

Operating Instructions

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

1. Insert the proper number of coins into the coin acceptor. Once the correct "amount to start" has been inserted, displays will read "PUSH"....."tEnP."

2. Determine fabric setting (selection). Setting "HI TEMP" is the high temperature range, "PERM PRESS" is the medium-range setting, and "LO TEMP" is the low-range temperature.

   Once the fabric temperature setting (selection) has been determined, you start the dryer by pressing the fabric setting key for the tumbler being used (i.e., "LO TEMP" setting for the upper tumbler).

3. The dryer will now start, and the display for the tumbler selected will read the setting and the time vended (i.e., "LO 10").

4. The cycle time will count down until the drying and cooling cycles are completed.

5. Upon completion of the drying and cooling cycles, the dryer will shut off, the tone will sound for five (5) seconds, and the display will read "donE."

   NOTE: If the anti-wrinkle program is active, the display will remain reading "donE," and the computer will proceed through the anti-wrinkle program until the maximum "guard on time" has expired or until the main door is opened, whichever comes first.

   If the anti-wrinkle program is not active or in use, the display will read "donE" until the main door is opened, at which time, the display will read "FILL" and the "amount to start."

6. Notes

   a. Dryer tumbler can be stopped at any time by opening the main door. To restart dryer, shut main door and press desired setting.

NOTE: When cycle is interrupted by opening main door, cycle time will continue to count downward, regardless if door is open or closed until keyboard selection is made.

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

c. Additional time can be purchased at any time. If the dryer is in operation (drying mode) and additional coins are inserted, displays will read "PUSH"....."tEnP," and the selection (setting) key for the appropriate tumbler must be pressed.

NOTE: Any one of the three (3) selections keys can be pressed for the appropriate tumbler. No matter which key is pressed, the microcomputer will continue the cycle selection that was in operation at the time of inserting additional coins.

When both tumblers (baskets/drums) are in operation and additional coins are inserted for one tumbler (basket/drum) and the appropriate tumbler (basket/drum) selection is made, the other tumbler (basket/drum) automatically resumes cycle status.

SECTION V

Maintenance

A. Cleaning

A program or schedule should be established for periodic inspection, cleaning, and removal of lint from various areas of the dryer as well as throughout the duct work 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, your new 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.

Suggested Interval*	Function
Daily	Clean lint from the lint basket. Inspect lint screen for damage and replace if torn.
30 Days	Clean lint accumulation from around microprocessor temperature sensor probes and sensor bracket assemblies. WARNING: TO AVOID THE HAZARD OF ELECTRICAL SHOCK, DISCONTINUE ELECTRICAL POWER SUPPLY TO THE DRYER.
90 Days	Remove lint from the motor air vents and surrounding area. IMPORTANT: Lint accumulation will restrict the airflow over the motor, causing overheating and irreparable motor damage. Motor failure due to lint accumulation will void the warranty. Remove lint accumulation from around the openings in the dryer's back panels. Remove lint from gas valve burner train area with a dusting brush or vacuum cleaner attachment.

Remove any lint accumulation from inside control box and at rear area behind control box.

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

6 Months — Inspect and remove lint accumulation in customer-furnished exhaust duct work system and from dryer's internal exhaust ducting.

WARNING: THE ACCUMULATION OF LINT IN THE EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD.

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

Inspect and remove lint accumulation from the dryer exhaust duct work back draft dampers.

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

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

B. Adjustments

Suggested Interval	Function
7 Days After Installation and Every 6 Months	Inspect bolts, nuts, screws (bearing set screws), non-permanent gas connections (unions, shut-off valves, orifices, etc.), electrical terminations, and grounding connections.
	Motor and drive belts should be examined. Cracked or seriously frayed belts should be replaced. Tighten loose V-Belts when necessary and check belt alignment.
	Complete operational check of controls and valves.
	Complete operational check of all safety devices (door switches, lint compartment switches, sail switch, burner and hi-limit thermostats.)

C. Lubrication

The motor bearings, idler bearings, and basket bearings are permanently lubricated and no relubrication is necessary.

SECTION VI

Troubleshooting

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 or shorted wire may be at fault where electrical components are concerned . . . . . not necessarily the suspect component, itself.

Electrical parts should always be checked for failure before being returned to the factory.

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.

WHILE MAKING REPAIRS, OBSERVE ALL SAFETY PRECAUTIONS DISPLAYED ON THE DRYER OR SPECIFIED IN THIS BOOKLET.

Problem/Symptom	Possible Cause
1. No display.	a. Service panel fuse blown or tripped breaker. b. Blown FU3 fuse (3AG-.5A). c. Failed dual control micro-computer (DMC).
2. Dryer (motor) does not start (one basket only). Display reads correct time vended, and both motor indicator dot and relay board motor L.E.D. are on.	a. Blown FU1/FU2 fuse on relay board (RB). b. Failed relay board (RB1/RB2). c. Failed motor (MTR1/MTR2).

3.	Dryer (motor) does not start (one basket only). Display reads correct time vended, and motor indicator dot is on, but relay board motor L.E.D. is not on.	a. Blown FU4/FU5 fuse (3AG-.5A). b. Failed door switch (DS1A/DS2A). c. Failed lint basket switch (SFSW1A/SFSW2A). d. Failed dual control micro-computer (DMC).
4.	Dryer does not start (both baskets).	a. Failed step-down transformer (XFMR1).
5.	Dryer runs a few minutes and stops. Display continues to read time, and motor indicator dot is off.	a. Door switch (DS1B/DS2B) is out of proper adjustment. b. Lint basket switch (SFSW1B/ SFSW2B) is failed or is out of proper adjustment.
6.	Dryer motor runs a few minutes and stops. Display continues to read time, and both motor indicator dot and relay board motor L.E.D. are on.	a. Motor is overheating and tripping out on internal overload protector: 1) Motor air vent is clogged with lint. 2) Low voltage to motor. 3) Failed motor (MTR1/MTR2). 4) Failed idler or basket bearings.
7.	Dryer basket does not turn (motor runs).	a. Broken drive belt. b. Incorrect idler tension.
8.	Microcomputer will not accept coin entries. Display continues to read "FILL" and/or "amount to start."	a. Failed coin acceptor optical switch (LCS). b. Failed dual control microcomputer (DMC). c. Failed coin acceptor.

9.	Incorrect time vended after initial coin(s) to start are inserted.	a. Program set incorrectly. Check Program Location 1 (PL01). Parameter set for "ACOn" rather than "AtIn."
10.	Motor runs all the time, even after vend time has expired.	a. Failed relay board (RB1/RB2).
11.	Display reads "dSFL," and then "OFF."	a. Failed temperature sensor (TS1/TS2). b. Failed dual control microcomputer (DMC).
12.	Display reads "door."	a. Failed door switch (DS1B/DS2B). b. Failed lint basket switch (SFSW1B/SFSW2B). c. Failed dual control microcomputer (DMC).
13.	Display reads "OFF."	a. Fault in dual control microcomputer (DMC) heat sensing circuit. See item 11.
14.	Microcomputer will not accept any or only certain keyboard entries.	a. Failed keyboard label assembly. b. Failed dual control microcomputer (DMC).
15.	Microcomputer locks up and display reads erroneous message(s) or only partial segments.	a. Transient power voltage (spikes). Disconnect power to dryer, wait one minute and reestablish power to dryer. If problem is still evident: 1) Failed dual control microcomputer (DMC). 2) Failed keyboard label assembly.
16.	FU3 (3AG-.5A) fuse keeps blowing.	a. Fault in 25-volt control circuit.

		1) Hi-limit (HLS1/HLS2) circuit. 2) Sail switch (SS1/SS2) circuit. 3) Hi-limit (HLS3/HLS4) circuit. 4) Door switch (DS1A/DS2A) circuit. 5) Lint basket switch (SFSW1A/ SFSW2A) circuit. 6) Failed relay board (RB1/RB2). 7) Failed DSI module (BC1/BC2). 8) Failed step-down transformer (XFMR1).
		b. Failed dual control microcomputer (DMC).
17.	FU1 or FU2 fuse keeps blowing.	a. Failed relay board (RB1/RB2). b. Basket binding . . . Check basket area for obstruction. c. Failed motor.
18.	FU4/FU5 or FU6/FU7 fuse keeps blowing.	a. Fault in 25-volt control circuit. 1) Door switch (DS1A/DS2A). 2) Lint basket switch (SFSW1A/ SFSW2A) circuit. 3) Hi-limit (HLS3/HLS4) circuit. 4) Sail switch (SS1/SS2) circuit. 5) Hi-limit (HLS1/HLS2) circuit. 6) Defective DSI module.
19.	Heating unit is not operating (no heat). No spark at burner area when dryer is first started and heat indicator dot is on.	a. Blown FU6/FU7 fuse (3AG-.5A) b. Fault in sail switch (SS1/SS2). 1) Sail switch is out of adjustment or is failed.

		2) Sail switch damper is not closing or is fluttering. a) Lint basket is dirty. b) Restriction in exhaust.
		c. Fault in hi-limit (HLS3/HLS4) circuit. 1) Failed hi-limit thermostat.
		d. Fault in hi-limit (HLS1/HLS2) circuit. 1) Failed hi-limit thermostat.
		e. Failed DSI module (BLC1/BLC2).
		f. Failed DSI ignitor probe assembly (IG/FP1 - IG/FP2).
20.	No heat. Ignitor sparks when dryer is turned on, but ignition is not evident and will not ignite on retries.	a. Failed DSI module (BC1/BC2). b. Ignitor probe and ground rod out of adjustment (IG/FP1 - IG/FP2). c. Ignitor probe assembly (IG/FP1 - IG/FP2) out of alignment to burner. Reposition closer to burner. d. Low or inconsistent gas pressure. e. Air turbulance. Inspect exhaust for obstruction. f. Failed ignitor probe assembly (IG/FP1 - IG/FP2). g. Failed gas valve (GV1/GV2).
21.	No heat. Ignitor sparks, burner goes on and off right away.	a. DSI ignitor probe out of adjustment. Reposition closer to burner flame area. b. Sail switch fluttering. 1) Lint basket dirty. 2) Restriction in exhaust duct work.

		c. Insufficient make-up air.
		d. Failed ignitor probe assembly (IG/FP1 - IG/FP2).
		e. Failed DSI module (BC1/BC2).
		f. Failed gas valve (GV1/GV2).
22.	Dryer operates but is taking too long to dry.	a. Exhaust run too long or undersized. Back pressure cannot exceed .3 inches W.C.
		b. Restriction in exhaust.
		1) Damper sticking partially closed.
		2) Restriction in exhaust. Check from dryer all the way to outdoors.
		c. Low and/or inconsistent gas pressure.
		d. Insufficient make-up air.
		e. Poor air/gas mixture at burner (yellow or poor flame pattern). Adjust gas burner air adjustment shutter.
		f. Lint basket not being cleaned on a regular basis.
		g. Extractors (washers) not performing properly.
		h. Sail switch is fluttering. Restriction in exhaust.
		i. Failed dual control microcomputer (DMC).
		j. Failed temperature sensor (TS1/TS2).
		k. Failed hi-limit (HLS1/HLS2).
		l. Failed hi-limit (HLS3/HLS4).

23. Condensation on door glass.

a. Too long, undersized, or improperly installed exhaust duct work.

b. Damper sticking in closed position.

24. Dryer noise.

A. Clicking noise from dryer exhaust area.

a. Dryer exhaust damper(s) fluttering.

1) Too long, undersized, or improperly installed exhaust.

2) Exhaust restriction. Check for obstruction all the way to outdoors.

B. Clicking or scraping noise at tumbler area.

a. Check for object caught in basket/ wrapper area.

b. Basket out of proper alignment.

1) Check both vertical and lateral alignment.

2) Check gap between front panel and basket. Bearing set screws may have come loose, and basket walked forward or back.

c. Loose basket tie rod.

d. Failed basket support.

25. Excessive vibration.

a. Dryer not leveled properly.

b. Impellor out of balance.

1) Excessive lint buildup on impellor.

2) Failed impellor.

c. Basket out of adjustment or adjustment bolts are loose.

d. Loose motor mount hardware.

e. Failed basket support.

ADG-330 / ADG-320 OPTIONAL
EXHAUST DUCT KIT

ITEM #	QTY	P/N	DESCRIPTION
1	1	143535	"Y", 8 x 6 x 6
2	1	143519	FLEX DUCT, 6" x 4 FT.LG.
3	1	143509	FLEX DUCT, 6" x 8 FT.LG.
4	2	143536	45° ELBOW, 6"
5	12	150300	#10 x 1/2" TEK SCREW

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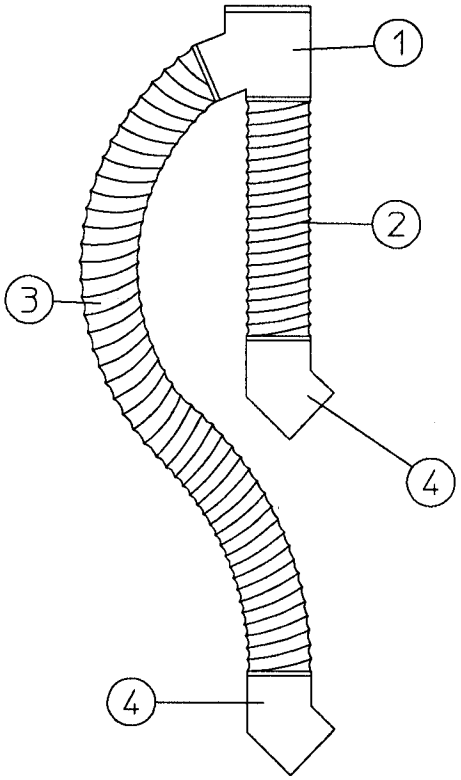
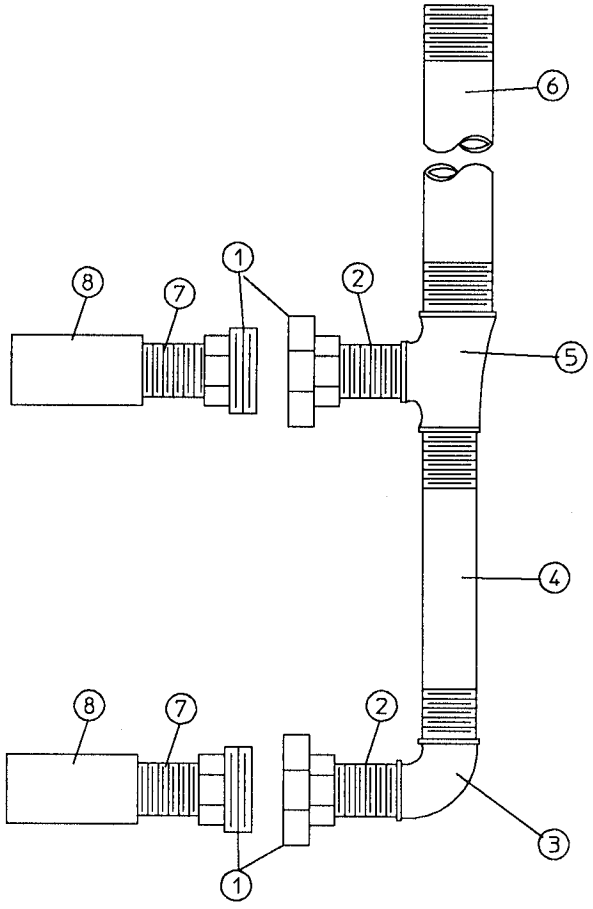


ADG-330 / ADG-320 OPTIONAL
GAS PIPING KIT

ITEM #	QTY	P/N	DESCRIPTION
1	2	142600	1/2" UNION
2	2	142700	1/2" CLOSE NIPPLE
3	1	142500	1" x 90° ELBOW
4	1	142824	1/2" x 37 1/4" NIPPLE
5	1	142505	3/4" x 1/2" x 1/2" TEE
6	1	142821	3/4" x 36" NIPPLE
7	2	142814	1/2" x 2 1/2" NIPPLE
8	2	143001	1/2" COUPLING



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ADC 112135 1—03/08/91-200 2—06/04/91-200 3—09/03/91-200
4—09/23/91-200 5—12/16/91-50 6—01/21/92-150
7---03/02/92-200 8—04/08/92-200 9—05/07/92-200
10 - 07/03/92-500 11-08/18/92-200 12—10/29/92-200
13 - 11/25/92-500

American Dryer Corp.