

UD-80 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 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.



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

American Dryer Corporation

88 Currant Road Fall River, MA 02720-4781

Telephone: (508) 678-9010 / Cable: AMDRY

ADC Part No. 112134

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. UD-80

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.**

IMPORTANT

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

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 with protective cardboard corners and top cover (or optional box) as a means of preventing damage in transit. Upon delivery, the dryer and/or protective 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 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. 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. 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 the receiving end. ADC assumes no responsibility for freight claims or damages.
6. If you need assistance in handling the situation, please call ADC's 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.

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 telephone. Follow the gas supplier's instructions.
 - F) If you can not reach your gas supplier, call the fire department.
4. Installation and service **must be** performed by a qualified installer, service agency, or the gas supplier.
5. Dryer(s) **must be** exhausted to the outdoors.
6. Although ADC produces 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" 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-like materials. Drying in a heated basket (tumbler) may damage plastics or rubber and also may be a fire hazard.

7. A program should be established for the inspection and cleaning of lint in the burner area, exhaust duct work 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 DUCT WORK 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 ELECTRIC 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 switch, lint basket (drawer) switch, or heat circuit safety devices 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.

SECTION II

UD/AD-80 SPECIFICATIONS

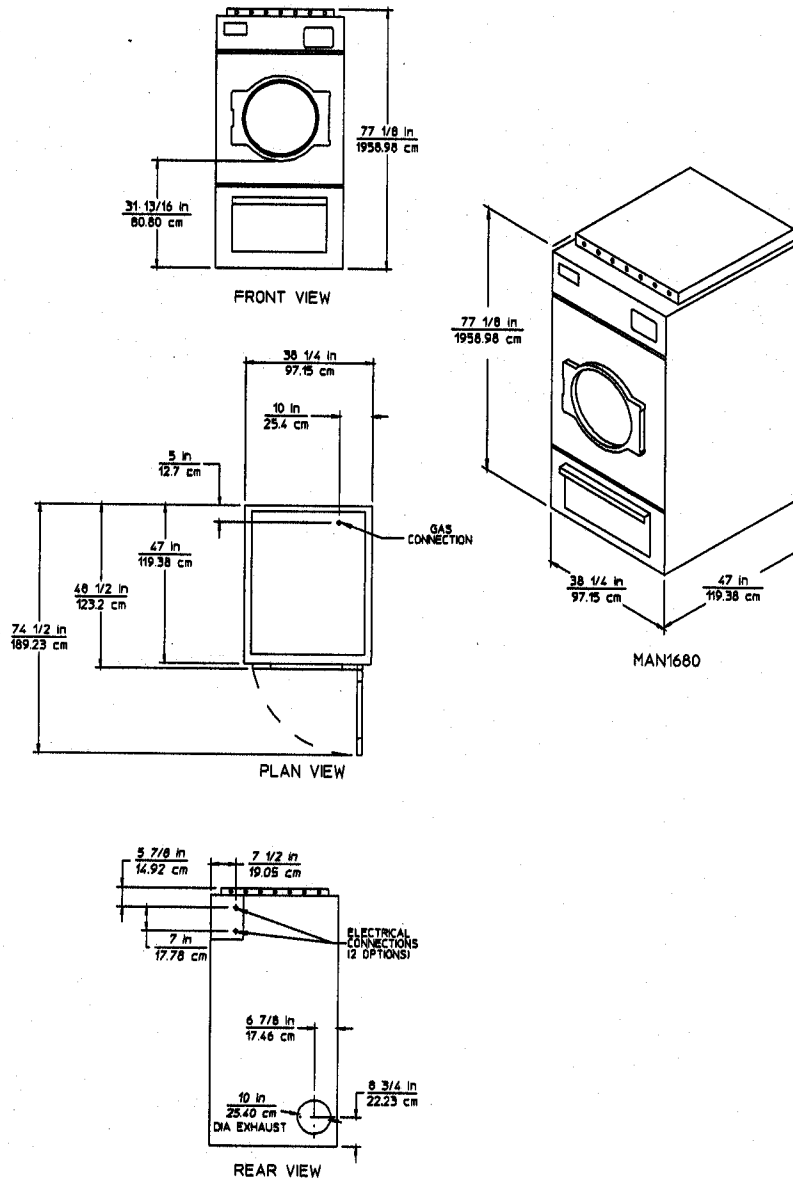
UDG-80 Specifications		
MAXIMUM CAPACITY (dry weight)	80 lbs.	36.4 kg
BASKET DIAMETER	37"	94 cm
BASKET DEPTH	36"	91.5 cm
BASKET VOLUME	22.4 cu.ft.	.634 cu.m.
BASKET MOTOR	1/2 HP	.373 kw
BLOWER MOTOR	3 HP	2.238 kw
DOOR OPENING (Diameter)	21-1/2"	54.61 cm
DRYERS per 20' / 40' CONTAINER	10 / 20	
DRYERS per 45' / 48' TRUCK	24 / 24	
VOLTAGE AVAILABLE*	208-460v / 3ø / 50/60Hz	
APPROXIMATE WEIGHT (uncrated)	690 lbs.	313 kg
APPROXIMATE WEIGHT (crated)	750 lbs.	340 kg
HEAT INPUT @ 60 Hertz	263,000 btu/hr	66,276 kcal/hr
HEAT INPUT @ 50 Hertz	246,000 btu/hr	61,992 kcal/hr
AIRFLOW @ 60 Hertz	1,700 cfm	67.2 cmm
AIRFLOW @ 50 Hertz	1,350 cfm	38.5 cmm
GAS INLET SIZE	1"	2.54 cm

* Refer to the Electrical Service Specification chart on page 24 for detailed electrical information.

Shaded areas are in metric equivalents.

NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

UDG/ADG-80



NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

UDS-80 Specifications

MAXIMUM CAPACITY (dry weight)	80 lbs.	36.4 kg
BASKET DIAMETER	37"	94 cm
BASKET DEPTH	36"	91.5 cm
BASKET VOLUME	22.4 cu.ft.	.634 cu.m.
BASKET MOTOR	1/2 HP	.373 kw
BLOWER MOTOR	3 HP	2.238 kw
DOOR OPENING (Diameter)	21-1/2"	54.61 cm
DRYERS per 20' / 40' CONTAINER	10/20	
DRYERS per 45' / 48' TRUCK	24/24	
VOLTAGE AVAILABLE*	208-460v / 3ø / 50/60Hz	
APPROXIMATE WEIGHT (uncrated)	690 lbs.	313 kg
APPROXIMATE WEIGHT (crated)	750 lbs.	340 kg
HEAT INPUT	11 Bhp	
STEAM CONSUMPTION	375 lbs/hr	170.5 kg/hr
AIRFLOW	2,500 cfm	98.8 cm ³ /min
STEAM SUPPLY (inlet)	1"	2.54 cm
STEAM RETURN (outlet)	1"	2.54 cm
80 PSI COMPRESSED AIR	1/8" F.P.T.	.318 cm

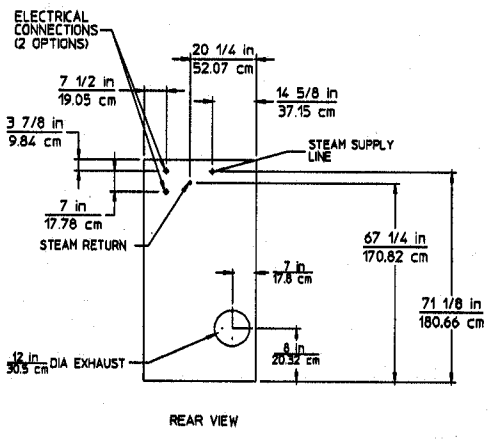
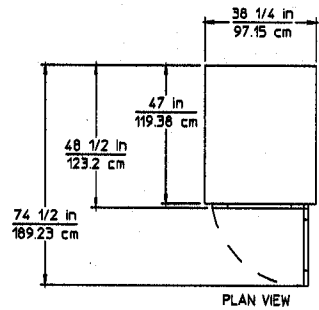
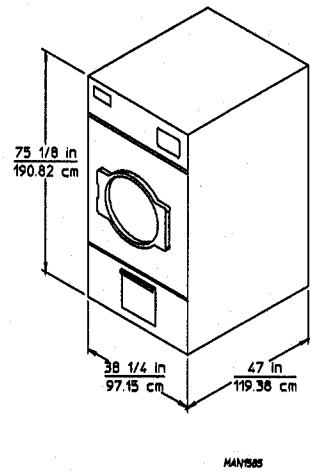
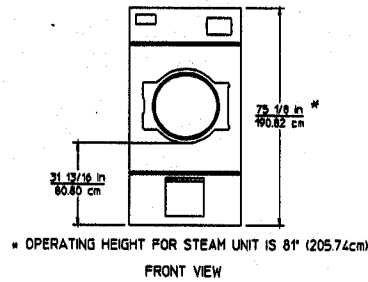
* Refer to the Electrical Service Specification chart on page 25 for detailed electrical information.

IMPORTANT: Dryer must be provided with a clean, dry, regulated 80 PSI (+/-10 PSI) air supply.

Shaded areas are in metric equivalents.

NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

UDS-80



NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

ADS-80 Specifications

MAXIMUM CAPACITY (dry weight)	80 lbs.	36.4 kg
BASKET DIAMETER	37"	94 cm
BASKET DEPTH	36"	91.5 cm
BASKET VOLUME	22.4 cu.ft.	.634 cu.m.
BASKET MOTOR	1/2 HP	.373 kw
BLOWER MOTOR	3 HP	2.238 kw
DOOR OPENING (Diameter)	21-1/2"	54.61 cm
DRYERS per 20' / 40' CONTAINER	10/20	
DRYERS per 45' / 48' TRUCK	24/24	
VOLTAGE AVAILABLE*	208-460v / 3ø / 50/60Hz	
APPROXIMATE WEIGHT (uncrated)	690 lbs.	313 kg
APPROXIMATE WEIGHT (crated)	750 lbs.	340 kg
HEAT INPUT	11 Bhp	
STEAM CONSUMPTION	375 lbs/hr	170.5 kg/hr
AIRFLOW	2,400 cfm	94.8 cmm
STEAM SUPPLY (inlet)	1"	2.54 cm
STEAM RETURN (outlet)	1"	2.54 cm
80 PSI COMPRESSED AIR	1/8" F.P.T.	.318 cm

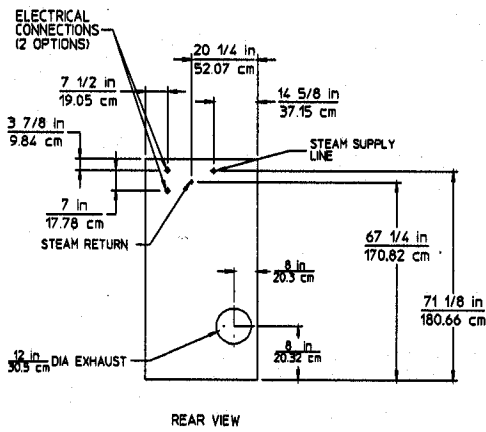
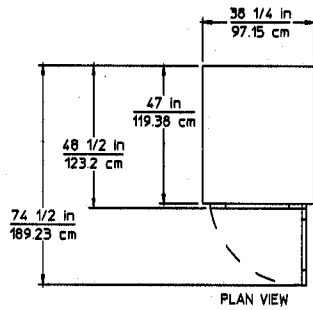
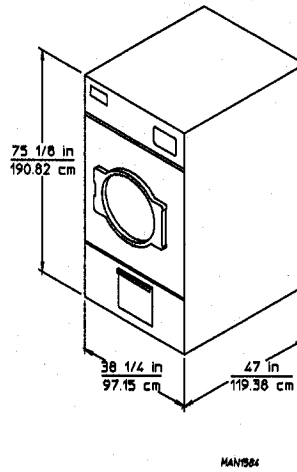
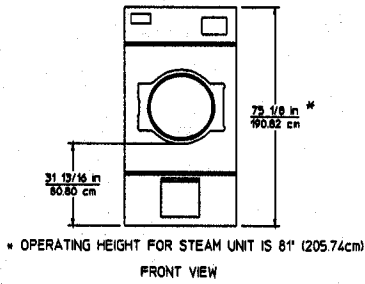
* Refer to the Electrical Service Specification chart on [page 25](#) for detailed electrical information.

IMPORTANT: Dryer must be provided with a clean, dry, regulated 80 PSI (+/-10 PSI) air supply.

Shaded areas are in metric equivalents.

NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

ADS- 80



NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

SECTION III

INSTALLATION PROCEDURES

Installation should be performed by competent technicians in accordance with local and state codes. In the absence of these codes, installation must conform to applicable AMERICAN NATIONAL STANDARDS:

ANSI Z223.1 - LATEST EDITION (NATIONAL FUEL CODE)

or

ANSI/NFPA No. 70 - LATEST EDITION (NATIONAL ELECTRIC 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 (L.P. GAS) or LATEST EDITION (for GENERAL INSTALLATION and GAS PLUMBING)

or

CANADIAN ELECTRICAL CODES PARTS 1 & 2 CSA C22.1-1990 or LATEST EDITION (for ELECTRICAL CONNECTIONS).

A. Unpacking/Setup

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

NOTE: For models equipped with locks, the lock used is a dummy lock and no key is supplied or needed. The lock can be turned with any key, a screwdriver, small coin or any small sharp object.

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 base, and two (2) are located in the lint chamber. 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** four 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 hex head adjustment bolts for the two (2) front leveling legs are located at the rear of the dryer base, and two (2) are located in the lint chamber. To increase bearing life and improve efficiency, the dryer **should be tilted** slightly to the rear.

B. Location Of The Dryer

Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances location **must conform** with 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.

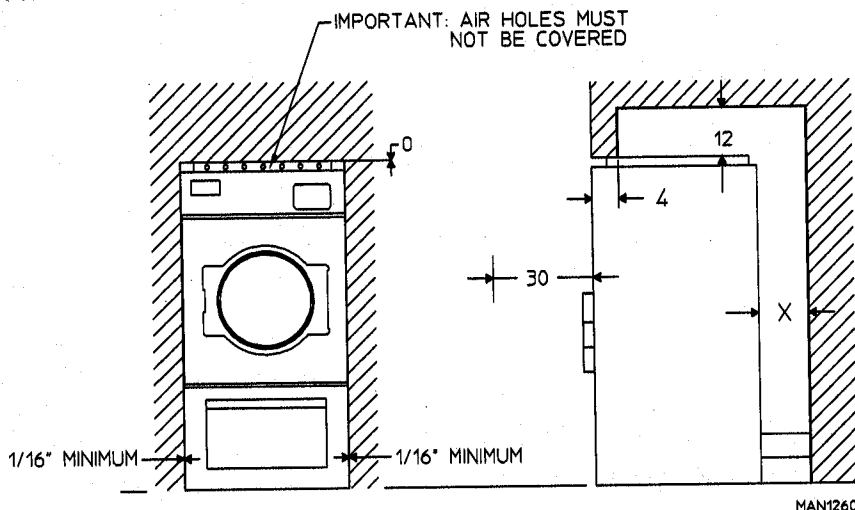
1. The dryer **must be** installed on a sound level floor capable of supporting its weight. It is recommended that carpeting be removed from the floor area that the dryer is to rest on.
2. The dryer **must not** be installed or stored in an area where it will be exposed to water and/or weather.
3. This 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** 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 in an area where correct exhaust venting can be achieved 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: The dryer should be located where a minimum amount of exhaust duct will be necessary.

C. Dryer Enclosure Requirements

Bulkheads and partitions should be made of noncombustible materials and must be located a minimum of twelve (12) inches above the dryer outer top, except along the front of the dryer which may be closed in if desired.



X = 12", 24" is recommended for ease of maintenance.

NOTE: Allowance must be made for opening the control door.

Dryers may be positioned side wall to side wall. However, a 1/16" minimum allowance must be made for the opening and closing of the control and lint doors. It is suggested that the dryer be positioned about two (2) feet away from the nearest rear 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.

D. Fresh Air Supply

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 on gas dryers may result, and you also could have 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. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 2-1/2 square feet is required for each dryer. If registers or louvers are installed over the openings, then the area **must be** increased. 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.

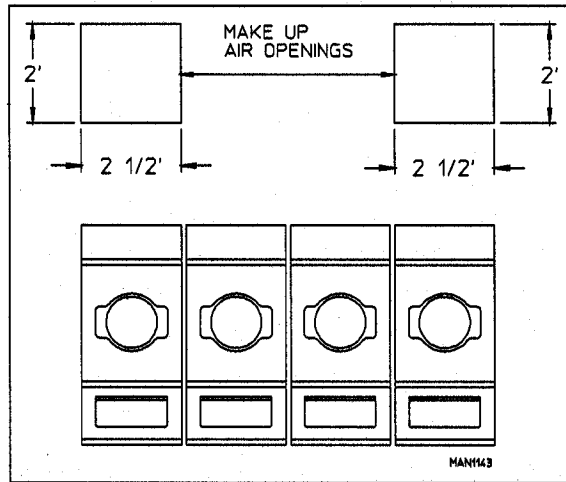
EXAMPLE: for a bank of four (4) dryers, two (2) openings with a total measurement of ten (10) square feet (minimum) is acceptable. Refer to the illustration on page 17 for details.

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 fumes. Make-up air that is contaminated by dry cleaning fumes will result in irreparable damage to motors and other dryer components.

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

NOTES: Component failure due to dry cleaning fumes **VOIDS THE WARRANTY.**



E. Exhaust Requirements

General Information

Exhaust duct work **should be** designed and installed by a competent technician. Improperly sized duct work will create excessive back pressure which results in slow drying, increased use of energy, and shut-down of the burner by the airflow (sail) switch, burner hi-limit, or lint chamber hi-heat protector thermostat.

Where possible, it is suggested that a separate (single) exhaust duct for each dryer/tumbler be provided.

CAUTION: IMPROPERLY SIZED or INSTALLED EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD.

CAUTION: DRYER MUST BE VENTED TO THE OUTDOORS.

The duct should go as directly as possible to the outside air. Avoid sharp 90° right-angle turns in the ducting; use 30° or 45° angles instead. The radius of the elbows should preferably be 1-1/2 times the diameter of the duct. To protect the outside end of the duct from the weather, it may be bent downward as indicated in the illustration on [page 21](#).

Leave at least twice the diameter of the duct as clearance between the duct opening and the nearest obstruction. If the exhaust duct goes through the roof, it may be protected from the weather by using a 180° turn to point the opening down. Allow at least twice the diameter of the duct as clearance from the nearest obstruction.

1. Single Dryer Venting

a) 60 HZ MODELS (lateral venting run)

Exhaust duct venting for one (1) UDG-80 - 60 hertz - can be ten (10) inch diameter round duct if the complete duct work consists solely of no more than fifteen (15) feet of straight (lateral) duct and one (1) 90° elbow at which the exhaust terminates. **NO 180° "U" TYPE BENDS ARE ALLOWED and NO OTHER 90° ELBOWS SHOULD BE USED.**

- 1) If a twelve (12) inch round duct is used, the length of the straight (lateral) duct can be increased up to a total of fifty (50) feet with one (1) elbow or up to a total of thirty (30) feet with two (2) 90° elbows.

b) 50 HZ MODELS (lateral venting run)

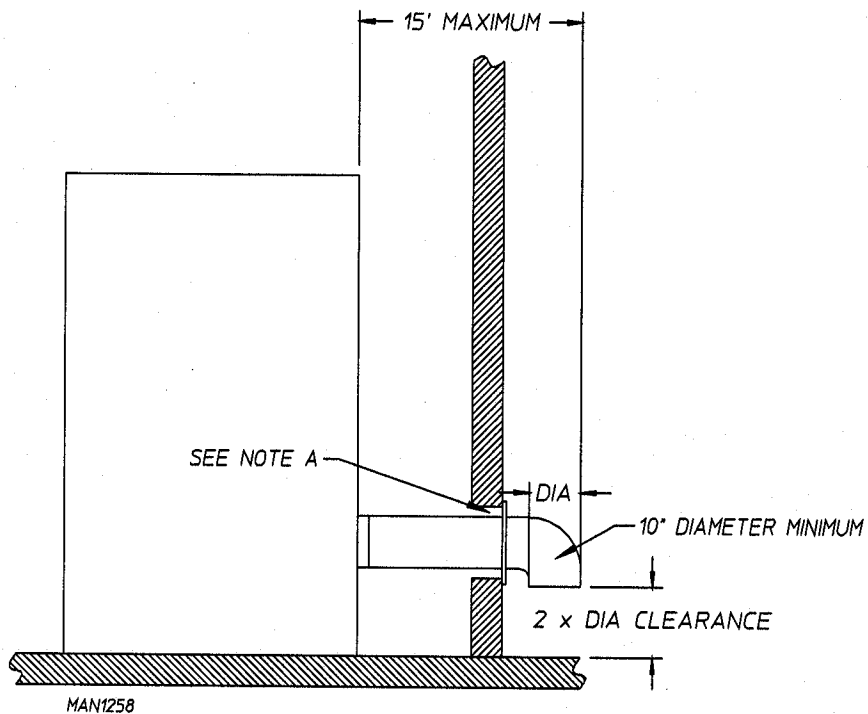
Exhaust duct venting for one (1) UDG-80 - 50 hertz - can be ten (10) inch diameter round duct if the complete duct work consists solely of no more than twenty seven (27) feet of straight (lateral) duct and one (1) 90° elbow at which the exhaust terminates or fourteen (14) feet of straight (lateral) duct with two (2) 90° elbows. **NO 180° "U" TYPE BENDS SHOULD BE USED.**

IMPORTANT: UNDER NO CIRCUMSTANCES SHOULD THE SIZE OF THE DUCT WORK BE LESS THAN TEN (10) INCHES IN DIAMETER.

NOTE: Refer to the illustration on page 19 for Single Dryer (60 Hz) Lateral Venting.

DO NOT USE SCREENS or CAPS ON THE OUTSIDE OPENING OF THE EXHAUST DUCT. The ducting **should be** smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added **should overlap** the duct to which it is to be connected. Provide inspection doors for periodic clean-out of lint from the main duct.

SINGLE DRYER (60 Hz) LATERAL VENTING



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

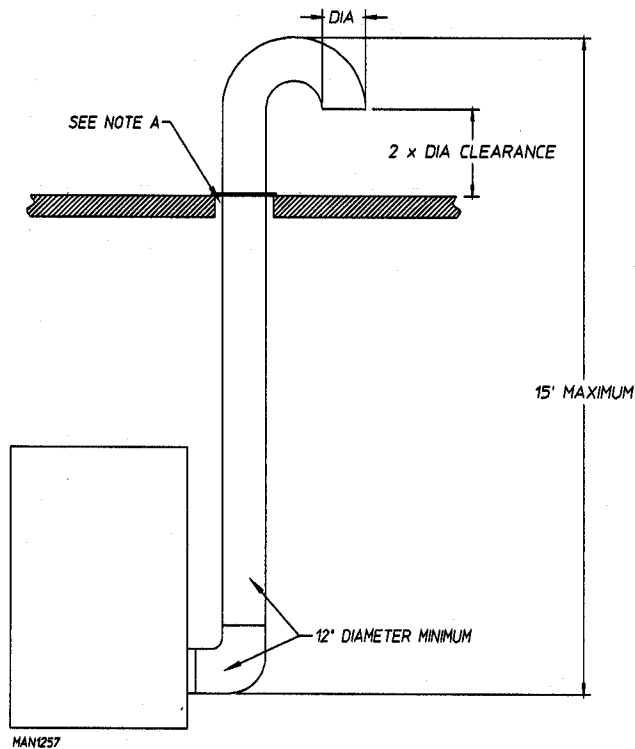
c) 60 HZ MODELS (vertical venting run)

If the exhaust duct work is to be directed upwards and through a roof, a twelve (12) inch diameter round duct minimum **must** be used. The complete duct work run is to consist solely of **no more** than fifteen (15) feet of straight run with one (1) 90° elbow and one (1) 180° elbow at which the exhaust terminates. If more than fifteen (15) feet of straight run is required, a fourteen (14) inch diameter duct **must** be used.

b) 50 HZ MODELS (vertical venting run)

If the exhaust duct work is to be directed upwards and through a roof, a twelve (12) inch diameter round duct minimum **must** be used.

SINGLE DRYER (60 Hz) VERTICAL VENTING



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

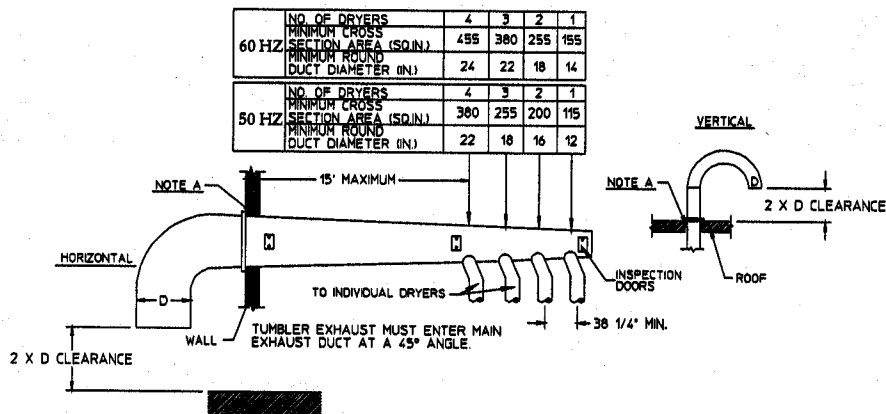
DO NOT USE SCREENS or CAPS ON THE OUTSIDE

OPENING OF THE EXHAUST DUCT. The ducting should be smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. Provide inspection doors for periodic clean-out of lint from the main duct.

2. Multiple Dryer (common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from the individual dryers may be channeled into a common main duct. Each dryer is provided with a back draft damper. The individual ducts should enter the bottom or side of the main duct at an angle not more than 45°. The main duct should be tapered with the diameter increasing before each individual duct is added.

MULTIPLE DRYER VENTING
WITH 10" DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT



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

MAN1151

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

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

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

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

Dryer Exhaust Outlet Size:	10"
Dryer Airflow:	1700 cfm @ 60 Hz / 1350 cfm @ 50 Hz
Model Number:	UD-80
Heat Reclaimer:	No

Inadequate exhaust facilities may cause high temperature limit switches or airflow switches to shut off the dryers. **DO NOT** disable the switches, which are provided for your safety. Instead, investigate the exhaust ducting. Any obstruction or air friction due to numerous elbows/fittings in the ducting will slow the passage of air through the system with resulting inefficiency and potential fire hazard.

DO NOT USE SCREENS or CAPS ON THE OUTSIDE OPENING OF THE EXHAUST DUCT. The ducting should be smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. Provide inspection doors for periodic clean-out of lint from the main duct.

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, 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 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 required that a separate circuit serving each basket (tumbler) be provided. The dryer **must be** connected with copper wire only. **DO NOT USE ALUMINUM WIRE WHICH COULD CAUSE A FIRE HAZARD.**

NOTE: The use of aluminum wire **VOIDS THE WARRANTY.**

2. Electrical Service Specifications

- a) Refer to the specification charts on **page 24** and **page 25** for details.

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

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

NOTE: On gas dryers, to convert from 208 VAC to 240 VAC (or vice versa), the Direct Spark Ignition (DSI) transformer wiring must be changed.

UDG/ADG-80 - Reversing - 3Ø Motor

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 used.
 - C. Circuit breakers for 3Ø dryers must be 3-pole type.

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW	MINIMUM WIRE SIZE*	FUSING	CIRCUIT BREAKER
					Dual Element Time Delay	
208	3Ø	3	16.0	10	20	20
208	3Ø	4	16.0	10	20	20
240	3Ø	3	14.0	12	15	20
380	3Ø	3	9.0	14	15	15
380	3Ø	4	9.0	14	15	15
416	3Ø	3	8.0	14	12	15
416	3Ø	4	8.0	14	12	15
460	3Ø	3	8.0	14	8	15
480	3Ø	4	8.0	14	8	15

* AWG Stranded Type Wire...for individual lengths under 100 feet.

NOTE: Contact factory for electrical information not listed.

NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

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

UDS/ADS-80 - Reversing - 3Ø Motor

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.
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 - C. Circuit breakers for 3Ø dryers **must be 3-pole type.**

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW	MINIMUM WIRE SIZE*	FUSING	CIRCUIT BREAKER
					Dual Element Time Delay	
208	3Ø	3	12.4	10	25	30
230	3Ø	3	12.4	10	25	30
380	3Ø	3	7.4	14	12	15
416	3Ø	3	7.2	14	12	15
460	3Ø	3	6.6	14	12	15

* AWG Stranded Type Wire...for individual lengths under 100 feet.

NOTE: Contact factory for electrical information not listed.

NOTE: ADC RESERVES THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

3. Grounding

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, or in CANADA, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. The ground connection may be to a proven earth ground at the location service panel.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a 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 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 #4 wire and securely clamped to bare metal at both ends.

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

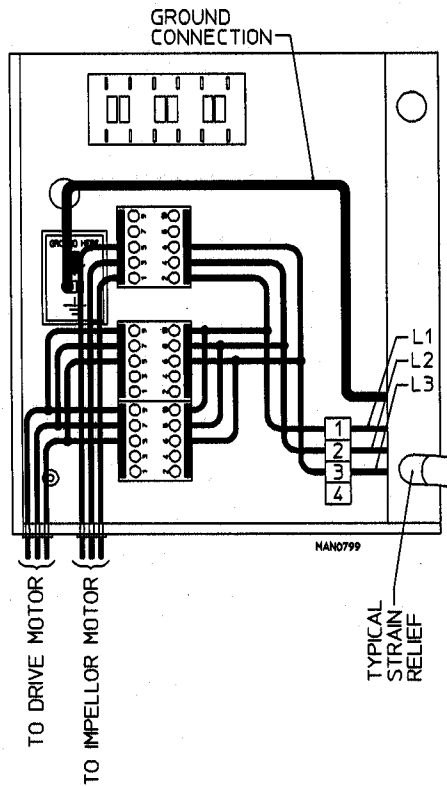
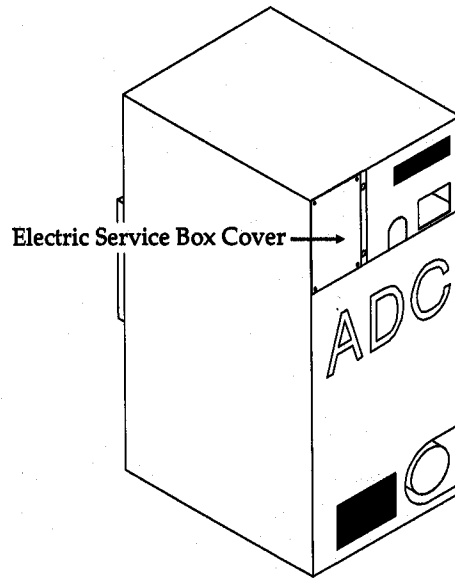
4. Electrical Connections

A wire diagram is located on the back side of the control (service) door for connection data.

a) 3-Phase (3 ϕ) Wiring Connections

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

For gas dryers manufactured for operation at 3-phase (3 ϕ), the electrical connections are made at the power distribution block located in the service box at the rear, upper left corner of the dryer. To gain access to the service box and contactor, the service box cover **must be removed**.



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

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, 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.

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 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 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, 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, 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. If this information **does not** agree with the type of gas available, contact the distributor who sold the dryer or 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 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 ADC factory.

2. Technical Gas Data

a) Natural Gas

The natural gas supply pressure to the dryer **must be** between 6 inches and 12 inches water column (W.C.). If the pressure is too low, ignition failure and/or slow drying times may result. Excessively high supply pressure will result in erratic operation of the gas valve's internal pressure regulator. The pressure measured at the pressure tap on the body of the gas valve **must be** 3.5 inches water column.

b) Liquid Petroleum (L.P.) Gas

Dryers made for use with L.P. gas have the gas valve pressure regulator blocked open, so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at the gas valve body pressure tap **must be** 10.5 inches water column. There is no regulator provided on 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.

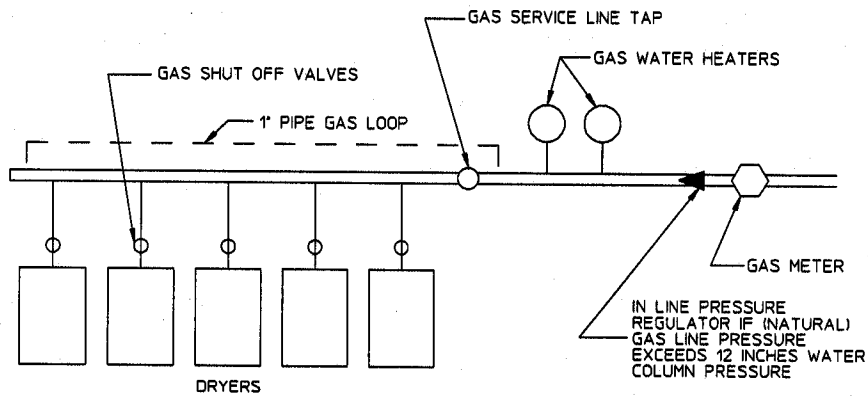
3. Piping/Connections

ALL components/materials must conform to National Fuel Gas Code specifications, or in CANADA, the Canadian Installation Codes (for General Installation and Gas Plumbing).

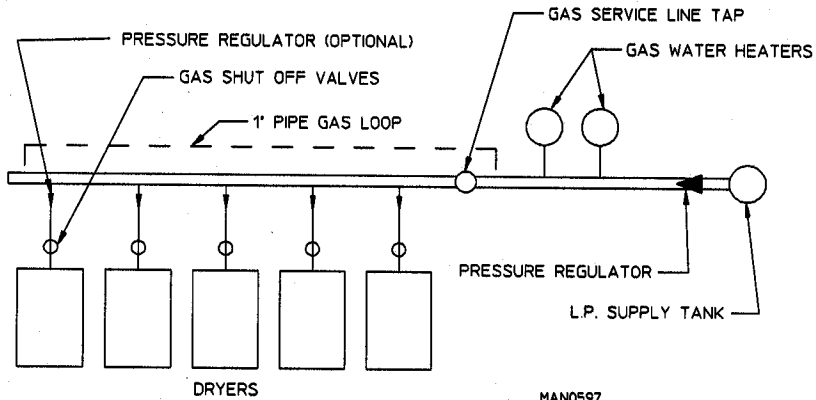
It is important that gas pressure regulators meet applicable pressure requirements and that gas meters be rated for the total amount of **ALL** the appliance Btu's being supplied.

The dryer is provided with a 1" N.P.T. inlet pipe connection extending through the top of the dryer. For ease of servicing, the gas supply line of each dryer should have its own shut-off valve.

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION



MAN0597

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, 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 1 inch 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) the gas line pressure exceeds 12.0 inches water column pressure. Refer to the illustration on the previous page (**page 31**) for details.

IMPORTANT: Water column pressure of 3.5 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 tap, accessible for a test gauge connection, **must** be installed in the main gas supply line immediately upstream of each dryer.

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

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

WARNING: NEVER TEST FOR GAS LEAKS WITH AN OPEN FLAME.

H. Preparation For Operation

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

1. Read and follow **ALL** "CAUTION," "WARNING," and "DIRECTION" labels attached to the dryer.
2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label located on the back of the dryer control (service) 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 pre-adjusted 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 the lint drawer to assure that it is closed and in place.

IMPORTANT: If during installation the lint door screws were removed, they must be reinstalled or personal injury may result.

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

I. Preoperational Tests

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

1. Turn on electrical power to the dryer.

a) Open **ALL** gas shut-off valves.

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

3. *Gas Dryers*

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

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

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

b. A gas pressure test **should be taken** at the gas valve pressure tap of each dryer to assure that the water column pressure is correct and consistent.

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

Natural Gas 3.5 Inches Water Column
L.P. Gas 10.5 Inches Water Column

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

4. Make a complete operational check of **ALL** safety related circuits:
 - a. Door Switch(es)
 - b. Hi-limit thermostat
 - c. Cycling thermostat
 - d. Sail switch
5. Make a complete operational check of **ALL** operating controls.

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

6. 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.

IMPORTANT: The dryer basket (tumbler) is treated with a protective coating. ADC suggests tumbling old clothes or material in the basket (tumbler), using a mild detergent to remove the protective coating.

7. Check the electric service phase sequence. While the dryer is operating, check to see if the blower wheel (impellor/fan) is rotating in the proper direction. Looking from the front, the blower wheel (impellor/fan) should spin in the clockwise 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, or L3 of the power supply to the dryer.

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

I. Preoperational Instructions

1. To start the dryer:
 - a. The L.E.D. display will read "FILL".
 - b. Press the "E" on the touchpad of the keyboard.
 - c. The L.E.D. display will quickly show "Ld30", "LC04", "F180".
The dryer will start, and the L.E.D. display will show "dr30".

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

K. Shut Down Instructions

In the case where the is to be shut down (taken out of service) for a period of time, the following **MUST BE** performed;

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

SECTION IV

SERVICE/PARTS INFORMATION

A. Service

1. Only properly licensed or trained technicians should service the dryer. If service is required, contact the distributor from whom the ADC equipment was purchased. If the distributor **cannot** be contacted or is unknown, contact the ADC Service Department for a distributor 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 can be handled in an expeditious manner.

B. Parts

1. Replacement parts **should be** purchased from the distributor from whom the ADC equipment was purchased. If the distributor **cannot** be contacted or is unknown, contact the ADC Parts Department for a distributor in your area. Parts may also be purchased directly from the factory by faxing to (508) 678-9447 or calling the ADC Parts Department at (508) 678-9010.

NOTE: When ordering directly from the ADC Parts Department, 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 Card(s)

1. Before any dryer leaves the ADC test booth area, a warranty card is affixed to the glass of the main door. These warranty cards are intended to serve the customer in two ways. First when ADC receives the warranty card(s) back from a customer, we mail the appropriate parts manual to the address indicated on the returned card at no charge to the customer. Second, we record the individual installation date of that specific dryer so as to extend the customer's warranty period.
 - a. If a warranty card **does not** come with the individual dryer, contact the ADC Warranty Department or 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 warranty card(s).

B. Warranty

For a copy of the ADC commercial warranty covering your particular dryer(s), contact the ADC distributor from whom you purchased the equipment and request a commercial dryer warranty form. If the distributor **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

ADC has a Warranty Parts Department that handles all returned warranted merchandise. 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") from the factory.

NOTE: R.M.A.'s are valid for only sixty (60) 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. The **model number** and **serial number** of 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. **NO** replacements, credits, or refunds will be issued for merchandise damaged in transit. Damage claims are the responsibility of the shipper.
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 "COD" 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 that is filing the claim will be notified in writing by "Certified Mail - Return Receipt Requested," as to the information necessary to process the claim. If a reply is not received by the ADC Warranty Parts Department within thirty (30) days of the letter date, then **no replacement, credit, or refund** will be issued, and the merchandise **will be discarded.**

SECTION VI

ROUTINE 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 FLAMMABLE VAPORS and LIQUIDS.

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

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

DAILY (beginning of each work shift)

Clean lint from basket(s)/tumbler(s).

Inspect lint screen(s)/drawer(s) for damage and replace if torn.

WEEKLY

Clean lint accumulation from lint chamber, thermostat, and micro-processor temperature sensor (sensor bracket) area.

90 DAYS

Inspect and remove lint accumulation in customer-furnished exhaust duct work system and from dryers' 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.

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

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

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

6 MONTHS

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

ALL bearings and set screws should be checked to insure they are tight.

B. Adjustments

7 Days After Installation and Every 6 Months Thereafter

Inspect bolts, nuts, screws (bearing set screws), non-permanent gas connections (unions, shut-off valves, orifices, etc.), electrical terminations, and grounding connections.

Tighten loose belt(s) when necessary and check the alignment.

Inspect drive (motor/impellor [fan]) shaft belt. A cracked or seriously frayed belt(s) should be replaced.

Complete operational check of controls and valves.

Complete operational check of **ALL** safety devices (door switches, lint compartment switches, sail switches, burner and hi-limit thermostats).

C. Lubrication

The motor bearings, idler bearings, and tumbler bearings are permanently lubricated. No lubrication is necessary.

SECTION VII

TROUBLESHOOTING

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

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

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

The information provided **should not** be misconstrued as a handbook for use by an untrained person making repairs.

IMPORTANT: When replacing blown fuses, the replacement **must be** of the exact rating as the fuse being replaced.

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 (Computer) OPL Models

A. No L.E.D. display...

1. Service panel fuse blown or tripped breaker.
2. Blown control circuit L1 fuse or L3 fuse.
3. Failed microprocessor controller (computer).

B. Basket (tumbler) motor does not operate (in either direction) and the door L.E.D. indicator as well as the appropriate motor L.E.D. display indicator dot and L.E.D. output indicator are all on...

1. Broken V-belt.
2. Failed arc suppressor (A.S.) board (3).
3. Failed drive motor reversing contactor (relay).
4. Failed drive motor.

C. Basket (tumbler) motor operates in one direction only...stops and restarts in the same direction...

1. Appropriate L.E.D. display drive motor indicator dot is on but the appropriate L.E.D. output indicator dot is not ...
 - a. Failed microprocessor controller (computer).
2. Appropriate L.E.D. display drive motor indicator dot is on and the appropriate L.E.D. output indicator dot is on ...
 - a. Failed reversing motor contactor relay.
 - b. Failed arc suppressor (A.S.) board.

D. Drive motor operates okay for a few minutes, then stops and will not restart ... both appropriate L.E.D. display motor indicator dot and L.E.D. motor output indicator are on...

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

E. Blower motor does not operate and door input L.E.D. indicator as well as the appropriate motor L.E.D. display indicator dot are on...

1. L.E.D. output indicator is off ...
 - a. Failed microprocessor controller (computer).
2. L.E.D. output indicator is on ...
 - a. Failed blower motor contactor (relay).
 - b. Failed arc suppressor (A.S.) board.
 - c. Failed blower motor.

F. Blower motor operates okay for a few minutes, then stops and will not restart ... both appropriate L.E.D. display motor indicator dot and L.E.D. motor output indicator are on...

1. Motor is overheating and tripping out on internal overload protector ...
 - a. Motor air vents are clogged with lint.

- b. Low voltage to motor.
 - c. Failed motor.
 - d. Impellor (fan/blower) is dirty with lint or impellor (fan) is out of balance.
- G. Both drive motor and blower motor (heating unit also off) do not operate and door input L.E.D. as well as the appropriate L.E.D. display indicator dots are on...**
- 1. Both appropriate output motor L.E.D. indicators are on ...
 - a. Failed arc suppressor (A.S.) board.
 - 2. Both appropriate output motor L.E.D. indicators are off ...
 - a. Failed microprocessor controller (computer).
- H. The dryer operates for a few minutes and then stops ... micro-processor controller (computer) display continues to read cycle in progress and L.E.D. display indicator dots are off and the dryer can be restarted by pressing selection/start key...**
- 1. Intermittent connection in main door/lint drawer circuit ...
 - a. Main door switch or lint drawer switch out of proper adjustment.
 - b. Loose connection in main door switch or lint drawer switch circuit.
 - c. Failed main door switch or lint drawer switch.
- I. The dryer does not start, and the microprocessor controller (computer) display reads "door"...**
- 1. Microprocessor controller (computer) "door" input L.E.D. is off ...
 - a. Main door and/or lint drawer is not properly closed.

- b. Failed main door switch.
 - c. Failed lint drawer switch.
 - d. Open circuit (broken wire and/or termination) in main door switch circuit wiring or lint drawer switch circuit wiring.
 - e. Failed 24 VAC step down transformer.
2. Microprocessor controller (computer) "door" input L.E.D. is on ...
- a. Failed microprocessor controller (computer).

J. Microprocessor controller (computer) display reads "dSFL"...

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

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

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

- b. Failed microprocessor temperature sensor.

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

The "Hot" display condition indicates a possible overheating condition. The microprocessor controller (computer) monitors the temperature in the dryer at all times. If the microprocessor controller (computer) detects that the temperature in the dryer has exceeded 220° F (104° C), it will disable all of the dryer outputs (shut the dryer down), the buzzer (tone) will sound for approximately 5 seconds, and the L.E.D. display will read "Hot". The L.E.D. display will continue to read "Hot" until the temperature has dropped to 220° F (104° C) or lower and the microprocessor controller (computer) is manually reset by pressing the "CLEAR/STOP" key.

Possible reasons for overheating...

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

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

The "SEFL" display condition indicates a rotational sensor circuit failure which means that there is a fault somewhere in the basket (tumbler) rotation detection circuit ... or ... the microprocessor controller (computer) program related to this circuit - PLO2 (Program Location 2 [key 2]) - is set incorrectly in the active mode ("SEn") where the dryer is not equipped with the optional rotational sensor and **should be** set in the non-active mode ("nSEn").

If the dryer is equipped with the optional rotational sensor and for whatever reason the microprocessor controller (computer) detects that the basket (tumbler) is not turning, it will disable all of the dryer outputs (shut the dryer down), and the L.E.D. display will read "SEFL" until the problem is corrected and the microprocessor controller (computer) is manually reset by pressing the "CLEAR/STOP" key.

Possible causes...

1. Loose/slipping (out of proper adjustment) basket (tumbler) drive V-belt.
2. Broken basket (tumbler) drive V-belt.
3. Failed drive motor reversing contactor (relay).
4. Failed arc suppressor (A.S.) board.
5. Failed drive motor.
6. Failure in the rotational sensor circuit ...
 - a. Failed rotational sensor.
 - b. Rotation sensor magnet missing from holder.
7. Failed microprocessor controller (computer).

M. Microprocessor controller (computer) will not accept any, or only accept certain keyboard (touchpad) entries...

1. Failed keyboard (touchpad) label assembly.
2. Failed microprocessor controller (computer).

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

1. Transient power voltage (spikes) ... disconnect power to the dryer, wait one (1) minute (**NOTE:** For dryer models with optional batt battery back up...disconnect the battery), then reestablish power to the dryer. If problem is still evident proceed to **Items N2 thru Items N6.**
2. Possible problem with power voltage supply to the dryer ... loose connection or low voltage.
3. Failed keyboard (touchpad) label assembly.
4. Improper grounding of the dryer or the microprocessor controller (computer) ground connections to the panel, microprocessor controller, or dryer are not proper.

5. Failed arc suppressor (A.S.) board.
6. Failed microprocessor controller (computer).

O. Dryer stops during a cycle and the microprocessor controller (computer) L.E.D. display returns to "FILL"...

If the dryer is equipped with optional battery back up...

1. Refer to Item N4, Item N5, and Item N6 above.

If the dryer does not have optional battery back up...

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

P. Gas heating unit is not operating (no heat) ... the basket (tumbler) is turning, the microprocessor controller (computer) L.E.D. display heat dot is on but "HEAT" output L.E.D. is not...

1. Failed microprocessor controller (computer).

Q. Gas heating unit is not operating (no heat) ... both the microprocessor controller (computer) L.E.D. display heat indicator dot and "HEAT" output L.E.D. are on ... but no spark at burner area when the dryer is first started...

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 drawer/screen is dirty or clogged.
 - 2) Restriction in exhaust duct work.
 - 3) Improperly sized duct work (undersized).
2. Fault in burner hi-limit circuit or thermostat.
 3. Fault in lint compartment/chamber (basket/tumbler) hi-limit.
 4. Failed Direct Spark Ignition (DSI) module (burner control).
 5. Failed Direct Spark Ignition (DSI) ignitor and/or flame probe assembly ... check for proper gap (1/8" +/- 1/32") between the ground rod and the ignitor rod.
- R. No heat ... ignitor sparks, burner goes on and off right away...**
1. DSI flame sensor (probe) out of adjustment ... reposition closer to the flame area.
 2. Failed Direct Spark Ignition (DSI) flame sensor probe assembly.
 3. Sail switch is fluttering ...
 - a. Lint drawer/screen is dirty or clogged.
 - b. Restriction in exhaust duct work.
 - c. Improperly sized duct work (undersized).
 4. Insufficient make-up air.
 5. Failed Direct Spark Ignition (DSI) module.
- S. Dryer operates but is taking too long to dry...**
1. Exhaust duct work run too long or is undersized ... back pressure **cannot** exceed .3 inches Water Column (W.C.).
 2. Low and/or inconsistent gas pressure. Supply gas line to the dryer may be too small ... minimum size is one (1) inch.

3. Insufficient make-up air.
4. Poor air/gas mixture at burner ... yellow or poor flame pattern.
Adjust gas burner air adjustment shutters.
5. Lint drawer/screen not being cleaned on a regular basis or often enough.
6. Extractors (washers) not performing properly.
7. Sail switch is fluttering ... restriction in exhaust.
8. Failed microprocessor temperature sensor ... calibration is inaccurate.
9. Failed microprocessor controller (computer) ... temperature calibration is inaccurate.
10. Failed burner hi-limit.
11. Failed lint compartment chamber (basket/tumbler) hi-limit thermostat.
12. Lint accumulation in exhaust duct work system.

T. Condensation on main door glass...

1. Too long, undersized, or improperly installed duct work.
2. Back draft damper is sticking in partially closed position.
3. Restriction in exhaust duct work.

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

1. Check for object caught in the basket (tumbler) wrapper area.
2. Basket (tumbler) bearing support set screws have come loose.
3. Basket (tumbler) is out of proper alignment ...
 - a. Check both vertical alignment and lateral alignment.

b. Check gap between front panel and basket (tumbler) front.

V. Excessive noise and/or vibration...

1. Dryer not leveled properly.
2. Impellor (fan) out of balance ...
3. Loose basket (tumbler) tie rod.
4. Basket (tumbler) is out of adjustment, or adjustment bolts (hardware) are loose.
5. Loose motor or motor mount assembly.
6. Failed basket (tumbler) support.
7. Failed idler bearings and/or tumbler bearings.
8. V-belt(s) either too tight or too loose.

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

1. Burner air shutters are not adjusted properly.
2. Insufficient make-up air.
3. Incorrect gas (water column) pressure.
4. Dust and/or lint in the burner.

X. Dryer is overheating...

1. Exhaust duct work run is too long or undersized ... back pressure **cannot** exceed .3 inches Water Column (W.C.).
2. Insufficient make-up air.
3. Gas pressure is too high ...
 - a. Natural gas **must not** exceed 3.5 inches Water Column (W.C.).

b. L.P. (liquid propane) gas must not exceed 10.5 inches Water Column (W.C.).

ADC 112134 1--03/01/93-100 2*-06/03/93-100
3*-12/13/93-100 4--03/18/94-250
5*-08/25/94-200

