MDG50PNH / MDG50MNV Installation Manual

50 lb Single Pocket / Phase 7 / Non-Coin with S.A.F.E. System

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

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

— WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

AVERTISSEMENT: Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

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

— QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment.
- Évacuez la pièce, le bâtiment ou la zone.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

— L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

MAYTAG®

RETAIN THESE INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE

Part No. 113308-6

Retain This Manual In A Safe Place For Future Reference

This product embodies advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of efficient, trouble free, and most importantly safe operation.

ONLY qualified technicians should service this equipment.

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

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

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

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

Important

For your convenience, log the following information:

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

DEALER'S NAME _____

Serial Number(s) _____

_____

_____

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

Maytag Co.
Benton Harbor, MI
1-800-662-3587

"IMPORTANT NOTE TO PURCHASER"

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

IMPORTANT

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

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

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

CAUTION

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

WARNING

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

FOR YOUR SAFETY

DO NOT DRY MOP HEADS IN THE DRYER.

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

WARNING

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

WARNING

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

WARNING

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

IMPORTANT

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

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

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

IMPORTANT

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

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SECTION I

SAFETY PRECAUTIONS

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

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

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

2. Purchaser and user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions **should be** posted in a prominent location.

3. WHAT TO DO IF YOU SMELL GAS:

   a. **DO NOT** try to light any appliance.

   b. **DO NOT** touch any electrical switch.

   c. **DO NOT** use any phone in your building.

   d. Clear the room, building, or area of **ALL** occupants.

   e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

   f. If you **cannot** reach your gas supplier, call the fire department.

4. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.

5. Dryers **must be** exhausted to the outdoors.

6. Although **Maytag** produces a very versatile dryer, there are some articles that, due to fabric composition or cleaning method, **should not be** dried in it.

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

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

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

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

7. A program **should be** established for the inspection and cleaning of lint in the burner area, exhaust ductwork, and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

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

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

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

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

WARNING: PERSONAL INJURY OR FIRE COULD RESULT SHOULD THE DRYER DOOR SWITCH, LINT DRAWER SWITCH, OR HEAT SAFETY CIRCUIT EVER BE DISABLED.

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

11. Remove articles from the dryer as soon as the drying cycle has been completed.

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

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

13. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%) 33 lb (14.96 kg) of its rated capacity.

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

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

SECTION II

SPECIFICATIONS

MAXIMUM CAPACITY (DRY WEIGHT)		50 lbs	**22.7 kg**
BASKET (TUMBLER) DIAMETER		32-3/4”	**83.2 cm**
BASKET (TUMBLER) DEPTH		37-1/2”	**95.3 cm**
BASKET (TUMBLER) MOTOR		3/4 hp	**0.560 kW**
DOOR OPENING (DIAMETER)		21-1/2”	**54.61 cm**
BASKET (TUMBLER) VOLUME		18.3 cu ft	**0.518 cu m**
DRYERS PER 20’/40’ CONTAINER		10/20	
DRYERS PER 45’/48’ TRUCK		24/26	
WATER CONNECTION		3/4-11.5 NH	
Gas	VOLTAGE AVAILABLE	120v 1ø 2w 60 Hz	
	APPROX. WEIGHT (UNCRATED)	651 lbs	**295.3 kg**
	APPROX. WEIGHT (CRATED)	700 lbs	**317.7 kg**
	HEAT INPUT	150,000 Btu/hr	**37,800 kcal/hr**
	AIRFLOW	750 cfm	**21 cmm**
	INLET PIPE CONNECTION	1/2” M.N.P.T.	

Shaded areas are stated in metric equivalents

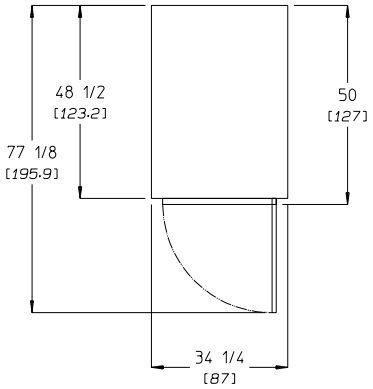
1/30/04

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

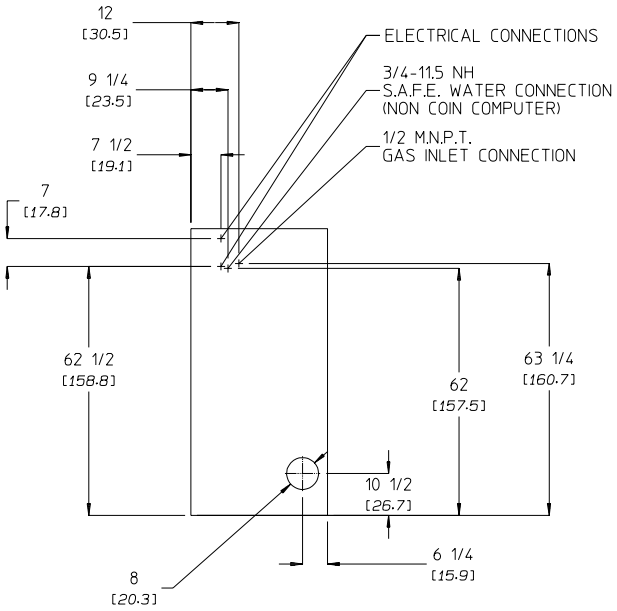
Specifications

DRYER NOTES:

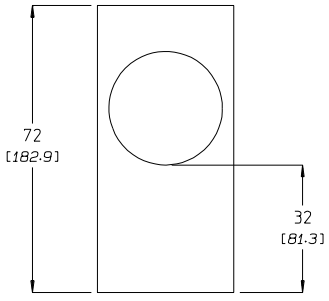
° DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.
° EXHAUST STATIC PRESSURE MUST BE NO LESS THAN 0 AND MUST NOT EXCEED 0.3" (0.74 MB) WATER COLUMN.



PLAN VIEW



REAR VIEW



FRONT VIEW

PSS 3/29/04

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

SECTION III
INSTALLATION PROCEDURES

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

A. UNPACKING/SETTING UP

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

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

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

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

Leveling Dryer

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

B. LOCATION REQUIREMENTS

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

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

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

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

3. The dryer is for use in noncombustible locations.

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

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

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

7. The dryer **must be** installed with a proper exhaust duct connection to the outside as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

8. The dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

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

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

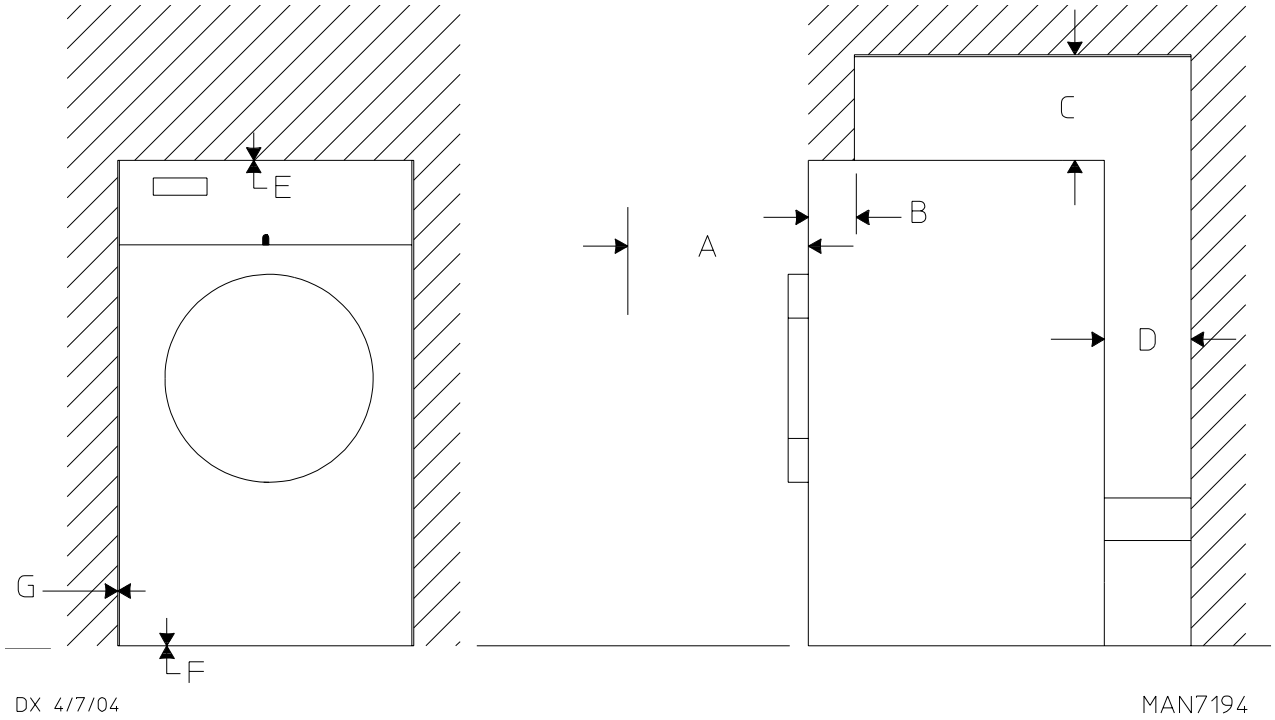
CAUTION: This dryer produces combustible lint and ***must be*** exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint buildup.

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

C. DRYER ENCLOSURE REQUIREMENTS

Bulkheads and partitions **should be** made of noncombustible material.

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



A 30-inches (76.2 cm) for optimum opening of load door.

B The maximum thickness of the bulkhead is 4-inches (10.16 cm). For electric dryers the maximum thickness of the bulkhead is 1-inch (2.54 cm) within 3-inches (7.62 cm) from the top of the control door.

C For gas and electric dryers a minimum overhead clearance of 12-inches (30.48 cm) is required, providing no sprinkler is located above the dryer. For steam dryers or if a sprinkler is located above the dryer, 18-inches (45.72 cm) is required.

D Dryer should be positioned 12-inches (30.48 cm) away from the nearest obstruction and 24-inches (60.96 cm) is recommended for ease of installation, maintenance, and service.

E 2-inch (5.08 cm) minimum is required for opening the control door.

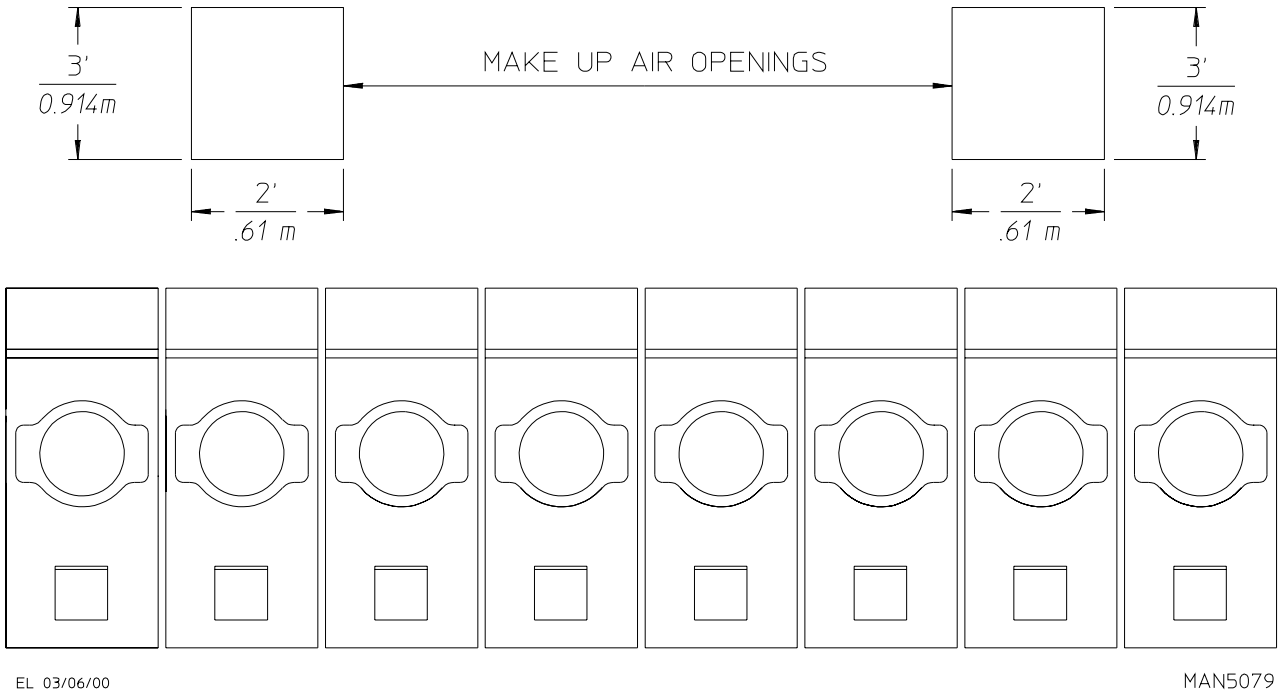
F Flooring should be level or below dryer cabinet for ease of removing panels during maintenance.

G Dryers may be positioned sidewall to sidewall, however a 1/16" (1.5875 mm) minimum allowance must be made for the opening and closing of the control door, along with the removal of panels during maintenance.

D. FRESH AIR SUPPLY REQUIREMENTS

The air supply (make-up air) **must be** given careful consideration to ensure 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 1-1/2 square feet (0.14 square meters) 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 separate make-up air openings for each dryer. Common make-up air openings are acceptable. However, they **must be** set up in such a manner that the make-up air is distributed equally to the dryers. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

EXAMPLE: For a bank of eight (8) dryers, two (2) unrestricted openings measuring 3 feet by 2 feet (0.914 meters by 0.61 meters) are acceptable.



TYPICAL INSTALLATION SHOWING MAKE - UP AIR OPENINGS

IMPORTANT: Make-up air openings ***should not be*** located in an area directly near where exhaust vents exit the building.

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

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

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

E. EXHAUST REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

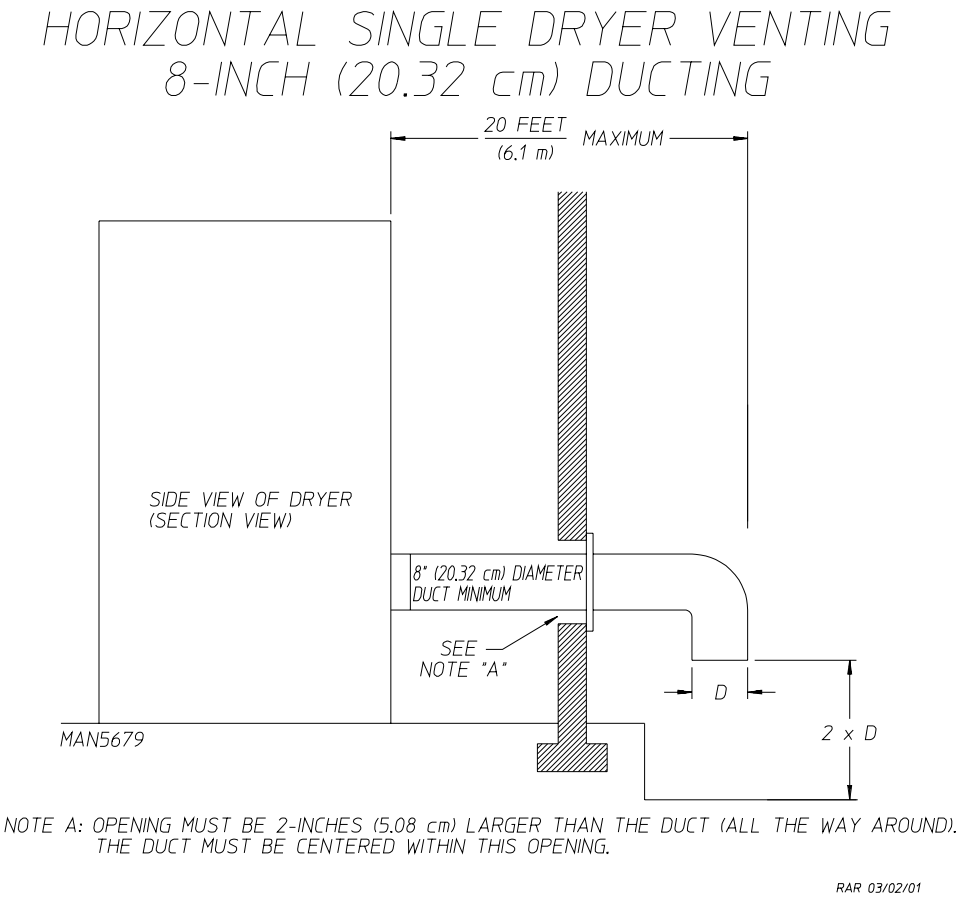
SINGLE DRYER VENTING

IMPORTANT: For exhaust duct runs over 20 feet (6.1 meters) a minimum size of 10-inches (25.4 cm) ***must be*** used.

HORIZONTAL VENTING

When a single 8-inch (20.32 cm) horizontal vent is used, the ductwork to the outlet **cannot** exceed 20 feet (6.1 meters), refer to **Illus. A below**. This calculation of 20 feet (6.1 meters) compensates or allows for the use of a maximum of only one (1) elbow, (which is the outside outlet protection).

Illus. A

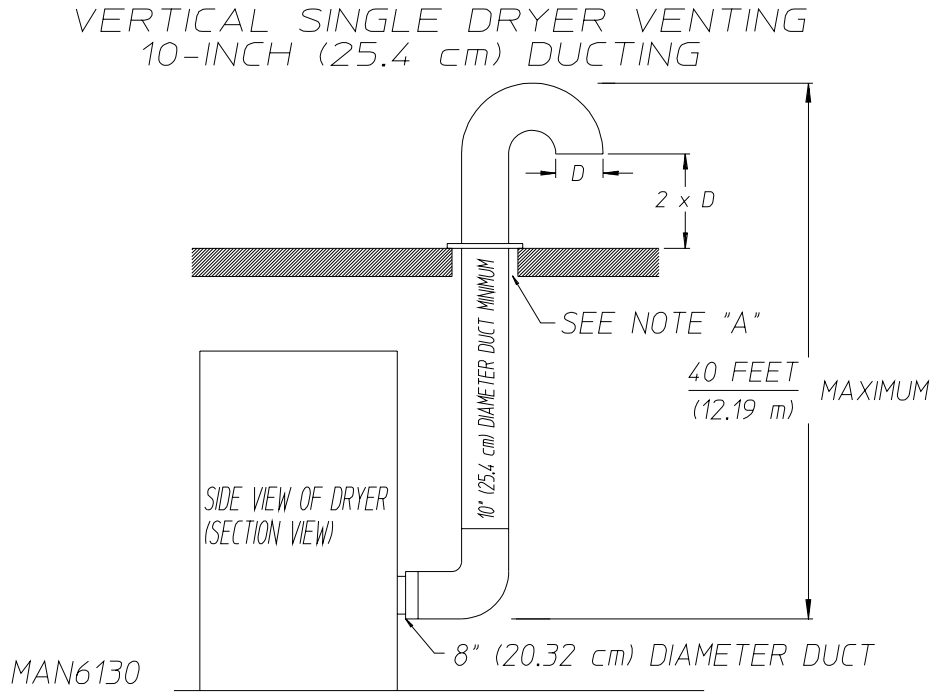


IMPORTANT: Exhaust back pressure measured by a manometer at the dryer exhaust duct area ***must be*** no less than 0 and ***must not exceed*** 0.3 inches (0.74 mb) of water column (W.C.).

VERTICAL VENTING

When vertical single 10-inch (25.4 cm) venting is used (refer to **Illus. B below**), the ductwork from the dryer to the outside outlet **cannot** exceed 40 feet (12.19 meters). This calculation compensates for the use of a maximum of three (3) elbows including the two (2) elbows creating the 180° (turned downward) outside outlet.

Illus. B



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

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

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

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

MULTIPLE DRYER (COMMON) VENTING

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

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

IMPORTANT: No more than four (4) dryers maximum ***should be*** connected to one (1) main common duct with a vertical run.

NOTE: Distance between dryer single ducts being connected to the main common duct ***must be*** a minimum of 34-1/4" (87 cm) dryer width.

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

The **illustrations** on **page 15** 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 has numerous elbows or is unusually long.

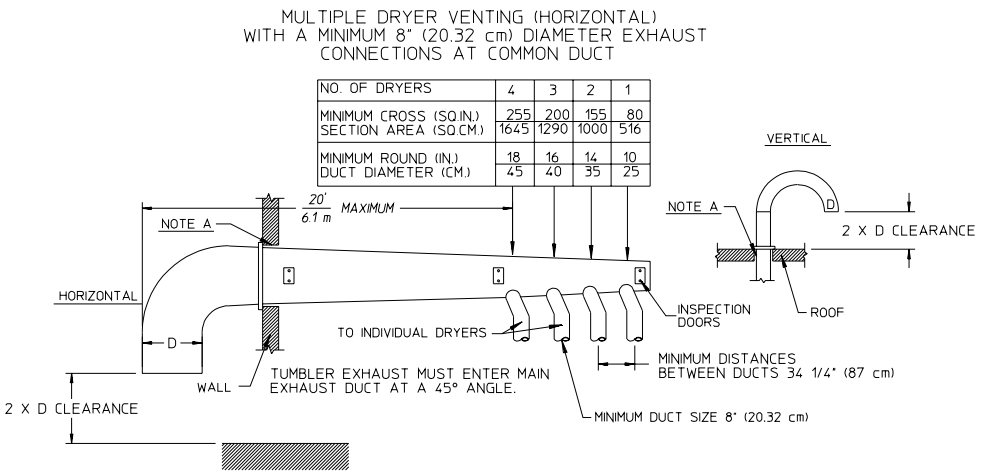
IMPORTANT: For extended ductwork runs, the cross section area of the duct can only be increased to an extent. For extended ductwork runs, a professional heating, ventilating, and air-conditioning (HVAC) firm ***should be*** consulted for proper venting information.

Refer to **page 15** for **Multiple Dryer Horizontal Venting and Vertical Venting** examples/illustrations.

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

HORIZONTAL VENTING

Illus. C



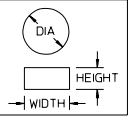
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

RAR 02/20/01 MAN5682

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

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

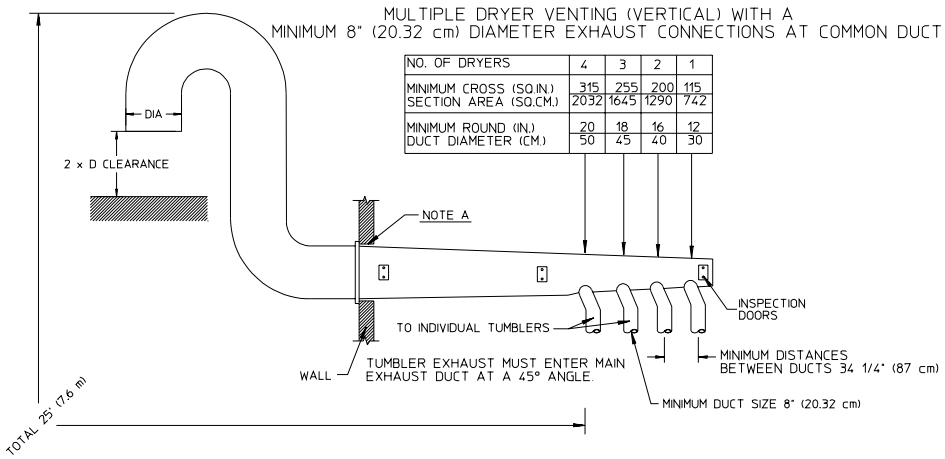
CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = WIDTH x HEIGHT W = WIDTH AND H = HEIGHT.



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

VERTICAL VENTING

Illus. D



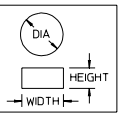
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

RAR 02/20/01 MAN5681

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = .785 (19.939 mm) x DIA^2

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



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

F. ELECTRICAL INFORMATION

1. Electrical Requirements

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

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

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

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

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

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

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

IMPORTANT: The dryer ***must be*** connected to the electric supply shown on the data label. The supply voltage must match the electric service specifications of the data label **exactly**.

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

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

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

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

2. Electrical Service Specifications

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

GAS

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)

NOTES: A. When fuses are used they ***must be*** dual element, time delay, current limiting, class RK1 or RK5 **ONLY**. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data.

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

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		CIRCUIT BREAKER
			60 Hz	50 Hz	
120	1ø	2	12.0	--	20

6/25/08

3. Grounding

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

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

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

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

4. Electrical Connections

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

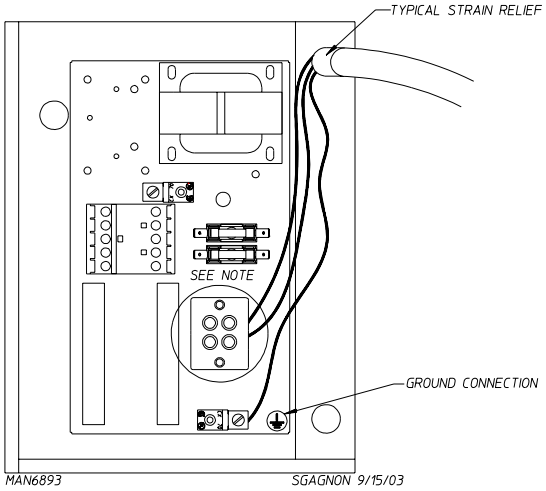
If local codes permit, power to the dryer can be made by the use of a flexible U.L. listed power cord/pigtail (wire size **must conform** to rating of dryer), or the dryer can be hard wired directly to the service breaker panel. In both cases, a strain relief **must be** installed where the wiring enters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

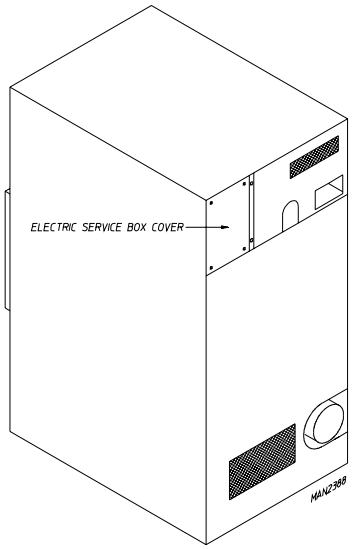
IMPORTANT: A separate protected circuit ***must be*** provided to each dryer.

Single-Phase (1ø) Wiring Connections/Hookup

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

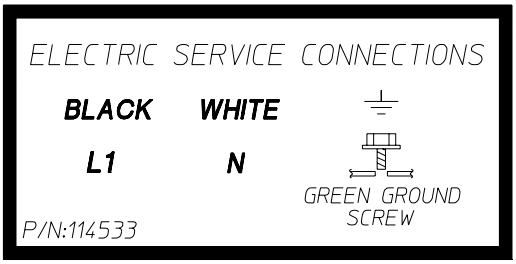
A ground lug is provided in the rear electrical box to connect your service ground.



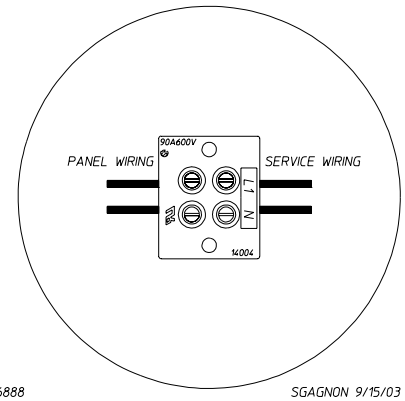


Single-Phase Electrical Lead Connections		
Black + Positive	White or Red + Neutral or L2	Green + Ground

FOR 110V APPLICATIONS



MAN6886 SGAGNON 9/15/03



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G. GAS INFORMATION

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

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

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

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

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

1. Gas Supply

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

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

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

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

The input ratings shown on the dryer data label are for elevations up to 2,000 feet (610 meters), unless elevation requirements of over 2,000 feet (610 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet (610 meters) is made by changing each burner orifice. If this conversion is necessary, contact the **Maytag** dealer who sold the dryer.

2. Technical Gas Data

a. Gas Specifications

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

Shaded areas are stated in metric equivalents

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

b. Gas Connections

Inlet connection ---------- 1/2" N.P.T.
Inlet supply size ---------- 1/2" Diameter Pipe (minimum)
Heat input (per dryer) ------ 150,000 Btu/hr (37,800 kcal/hr)

1) Natural Gas

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

2) Liquid Propane (L.P.) Gas

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

		TYPE OF GAS						Liquid Propane Conversion Kit Part Number
Btu/hr Rating	**kcal/hr Rating**	Natural			Liquid Propane			
		Qty.	D.M.S.*	Part No.	Qty.	D.M.S.*	Part No.	
150,000	**37,800**	3	#29	140820	3	#46	140806	883325

Shaded area is stated in metric equivalent

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

Natural Gas ..... #29 = 0.1360" (3.4540 mm).
Liquid Propane Gas ..... #46 = 0.810" (2.0574 mm).

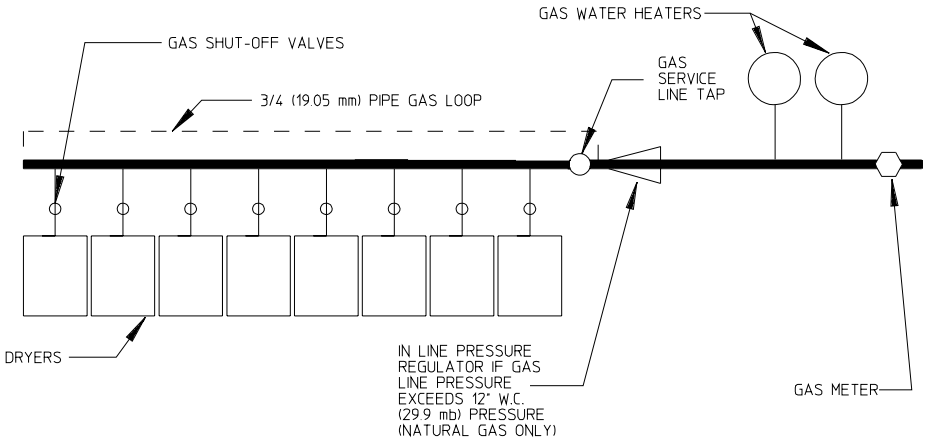
3. Piping Connections

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

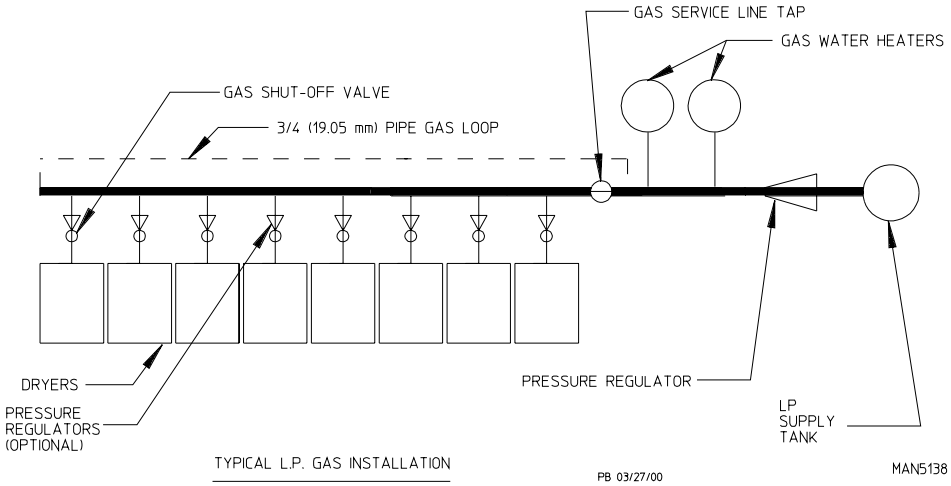
The dryer is provided with a 1/2" N.P.T. inlet pipe connection extending out the back area of the burner box. The minimum pipe size (supply line) to the dryer is 1/2" diameter. For ease in servicing, the gas supply line of each dryer must have its own shutoff valve.

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

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



TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION

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

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

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

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

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

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

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

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

H. PREPARATION FOR OPERATION/START-UP

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

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

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label.

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

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

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

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

7. Check that **ALL** back guard panels and service box covers have been replaced.

8. Check the lint drawer to ensure that it is closed and secured in place.

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

10. Check basket (tumbler) bearing setscrews to ensure that they are **ALL** tight.

11. Check that vent is connected to the dryer and is exhausted to the outdoors.

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 or due to marginal location (installation) conditions.

1. Turn on electric power to the dryer.

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

3. **GAS MODELS ONLY**

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

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

NOTE: Gas model dryers are equipped with an ignition system, which has internal diagnostics. If ignition **is not** established after one (1) time, the heat circuit in the ignition module will attempt two (2) more ignitions (total of three [3] ignition attempts). If there is no flame after the third ignition attempt the module will lockout until it is manually reset. To reset the ignition system, open and close the main door and restart the dryer.

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

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

Natural Gas ---------- 3.5 Inches (8.7 mb) Water Column.
Liquid Propane (L.P.) Gas ----- 10.5 Inches (26.1 mb) Water Column.

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

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

   a. Door Switch(es)

   b. Hi-Limit Thermostats

   c. Cycling Thermostat

   d. Sail Switch

NOTE: The sail switch can be checked for proper operation by opening the lint drawer. While pushing the lint drawer switch in, start a drying cycle. The heating unit should not activate (wait 30-seconds). If heat does activate, make the necessary adjustments to the 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 ensure that no further adjustments are necessary and that **ALL** components are functioning properly.

BASKET (TUMBLER) COATING

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

J. PREOPERATIONAL INSTRUCTIONS

NON-COIN MODELS

To start the dryer:

Microprocessor controller (computer) dryers:

1. Light emitting diode (L.E.D.) display will read "REAdY" (meaning no cycle in progress).

2. Press the letter on the keyboard (touch pad) corresponding to the cycle desired (i.e., key "E") to start (rotate) the dryer.

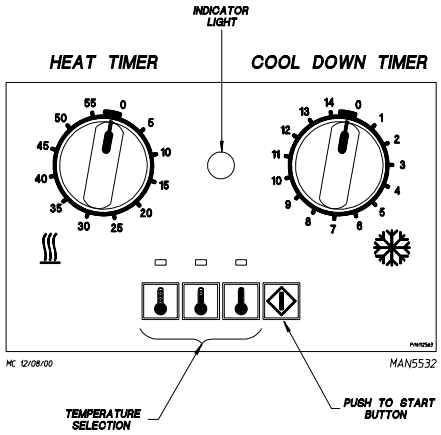
3. L.E.D. display will now show "Cycle In Progress" and "Cycle Status" meaning that the dryer is in the drying cycle (dry mode for 30 minutes) and count downwards in minutes.

NOTE: Pressing keyboard (touch pad) key "A," "B," "C," "D," or "F" will also start the dryer. The six (6) preprogrammed drying cycles "A" through "F" have been stored in the microprocessor controller (computer) memory. Refer to the Programming Manual supplied with the dryer for more specific operating instructions.

NOTE: The dryer can be stopped at any time by opening the main door or by pressing the "STOP" red key. To restart the dryer, press the "START" green key or a preprogrammed cycle key (i.e., "E").

NOTE: Selection (settings) changes can be made at any time during the drying cycle by pressing the "STOP" red key twice. The L.E.D. display will return to "REAdY" at which time a new cycle selection can be made.

DUAL TIMER DRYERS



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

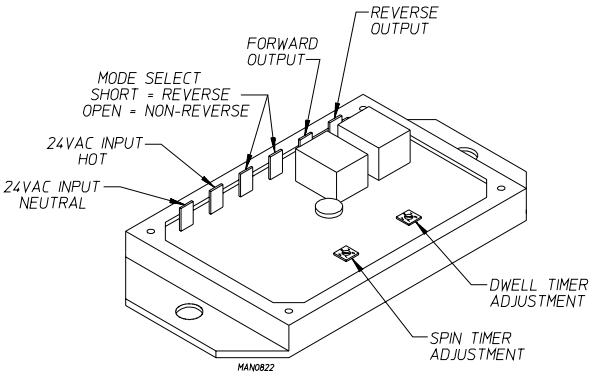
   Spin and dwell (stop) times are adjustable at the reversing timer.

REVERSING TIMER SPIN/DWELL ADJUSTMENTS

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

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

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



K. SHUTDOWN INSTRUCTIONS

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

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.
2. Discontinue the heat supply:

   GAS MODELS **- discontinue the gas supply.**

   a. **SHUT OFF external gas supply shutoff valve.**

   b. **SHUT OFF internal gas supply shutoff valve located in the gas valve burner area.**

SECTION IV

SERVICE/PARTS INFORMATION

A. SERVICE

Service **must be** performed by a qualified trained technician, service agency, or gas supplier. If service is required, contact the dealer from whom the **Maytag** equipment was purchased. If the dealer **cannot** be contacted or is unknown, contact the **Maytag Co.** for a dealer in your area.

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

B. PARTS

Replacement parts **should be** purchased from the dealer from whom the **Maytag** equipment was purchased. If the dealer **cannot** be contacted or is unknown, contact the **Maytag Co.** for a dealer in your area.

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

SECTION V
WARRANTY INFORMATION

A. RETURNING WARRANTY CARDS

Before any dryer leaves the manufacturer's test area, a warranty card is placed on the back side of the main door glass. These warranty cards are intended to serve the customer where we record the individual installation date and warranty information to better serve you should you file a warranty claim.

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

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

B. WARRANTY

For a copy of the manufacturer's commercial warranty covering your particular dryer(s), contact the **Maytag** dealer from whom you purchased the equipment and request a dryer warranty form. If the dealer **cannot** be contacted or is unknown, warranty information can be obtained from the **Maytag Co.**

NOTE: Whenever contacting the **Maytag Co.** 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.

SECTION VI
ROUTINE MAINTENANCE

A. CLEANING

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

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

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

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

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

SUGGESTED CLEANING SCHEDULE

EVERY THIRD OR FOURTH LOAD

Clean the lint screen every third or fourth load. A clogged lint screen will cause poor dryer performance. The lint screen is located in a drawer below the main door (refer to the **illustration** on **page 31**). Open the lint drawer, brush or vacuum the lint off the lint screen, and remove the lint. Inspect lint screen and replace if torn.

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

WEEKLY

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

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

90 DAYS

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

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

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

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

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

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

B. ADJUSTMENTS

7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER

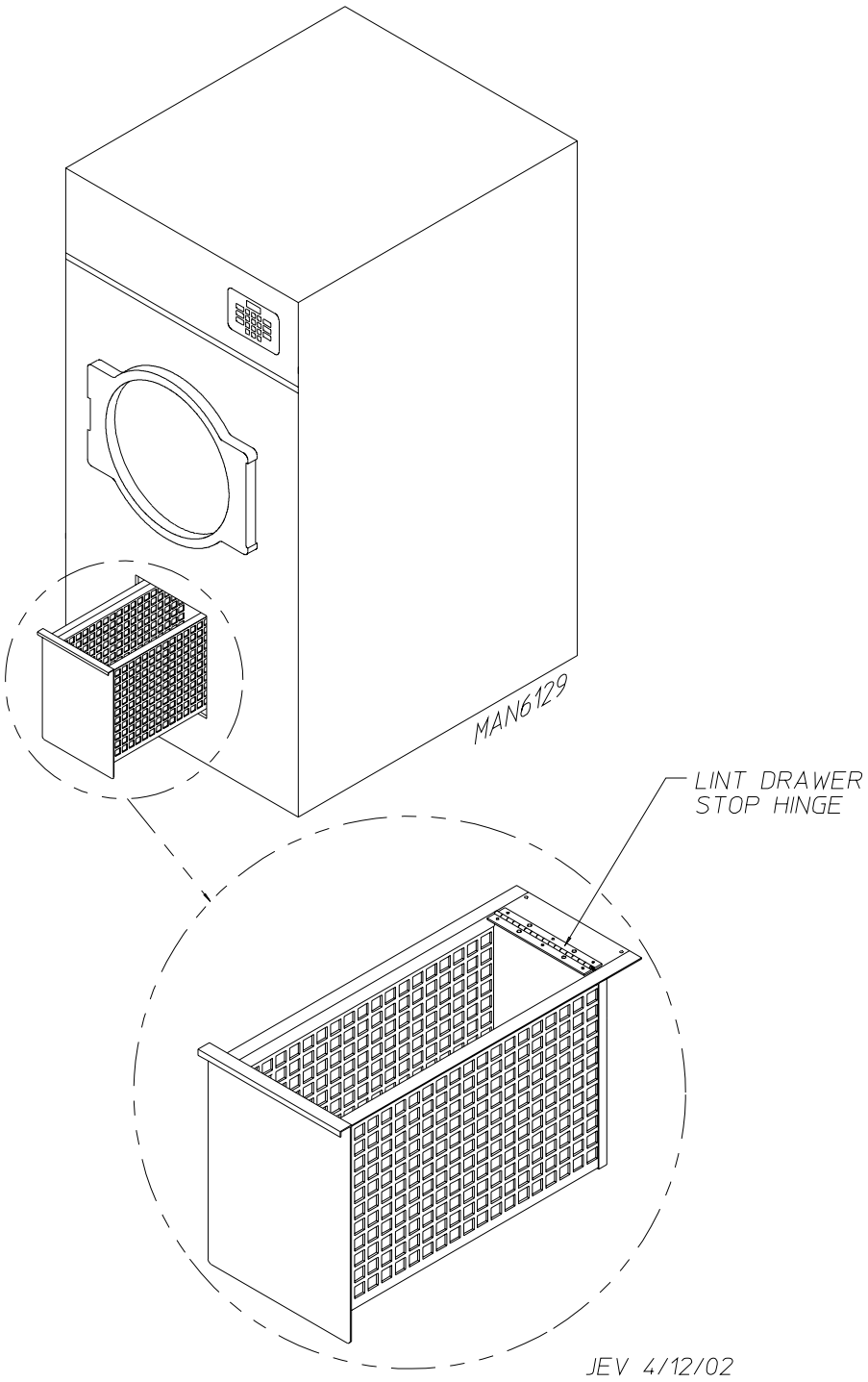
Inspect bolts, nuts, screws, setscrews, grounding connections, and nonpermanent gas connections (unions, shutoff valves, and orifices). Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose V-belts when necessary. Complete operational check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

C. LUBRICATION

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

D. LINT DRAWER REMOVAL

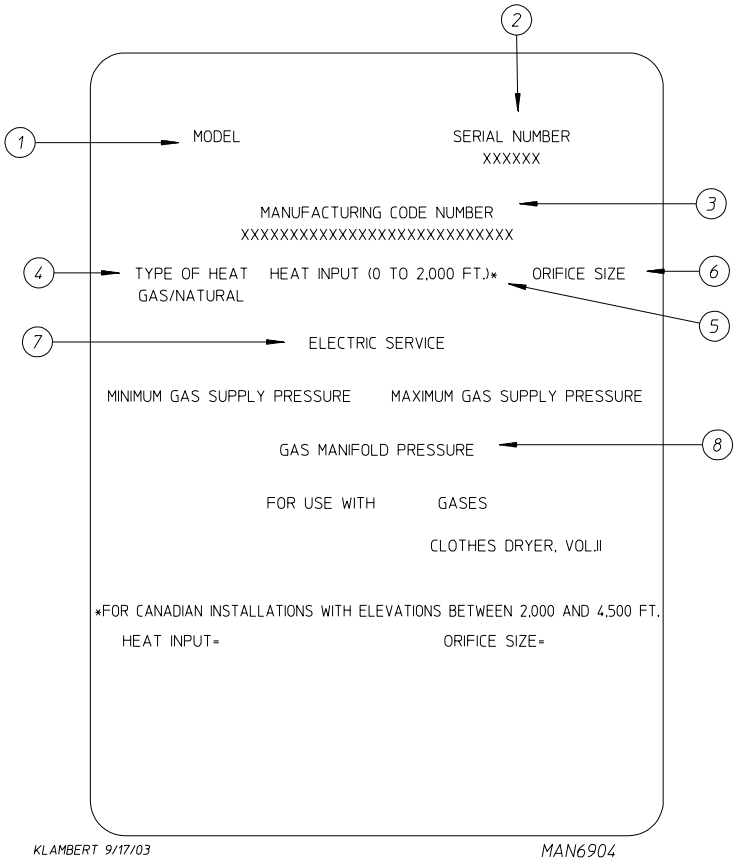
To remove the lint drawer from the dryer pull drawer out approximately halfway. Rotate/move lint drawer stop hinge (refer to the **illustration below**) downward and pull the drawer out.



IMPORTANT: After replacing the lint drawer back into the dryer, be sure to rotate/move hinge back to the upward stop position.

SECTION VII

DATA LABEL INFORMATION



When contacting the **Maytag Co**., certain information is required to ensure proper service/parts information. This information is on the data label affixed to the left side panel area behind the top control (access) door. When contacting the **Maytag Co.**, please have the **model number** and **serial number** available.

1. **MODEL NUMBER** – Describes the size of the dryer and the type of heat (gas, electric, or steam).

2. **SERIAL NUMBER** – Allows the manufacturer to gather information on your particular dryer.

3. **MANUFACTURING CODE NUMBER** – The number issued by the manufacturer**,** which describes **ALL** possible options on your particular model.

4. **TYPE OF HEAT** – This describes the type of heat for your particular dryer, gas (either natural gas or liquid propane [L.P.] gas), electric, or steam.

5. **HEAT INPUT** (for GAS DRYERS) – This describes the heat input in British Thermal Units per Hour (Btu/hr).

6. **ORIFICE SIZE** (for GAS DRYERS) – Gives the number drill size used.

7. **ELECTRIC SERVICE** – This describes the electric service for your particular model.

8. **GAS MANIFOLD PRESSURE** (for GAS DRYERS) – This describes the manifold pressure taken at the gas valve tap.

SECTION VIII

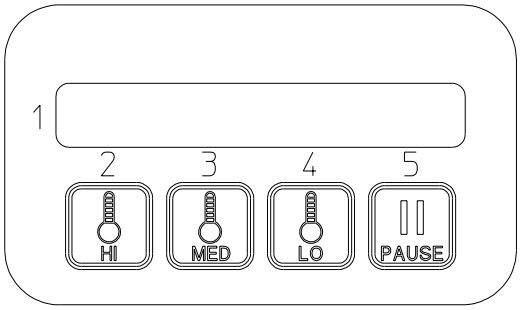
PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

1. Microprocessor Controller (Computer) Board

   a. Phase 7 Coin Models

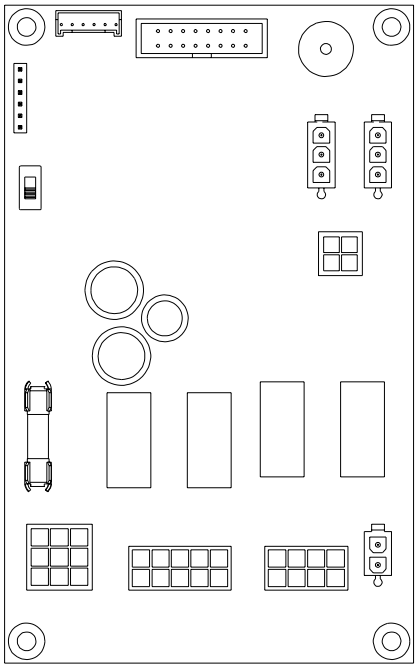
      1) Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

      2) Start the drying cycle by pressing any temperature selection keys (HI, MED, or LO).



JM 9/17/03 MAN6873

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

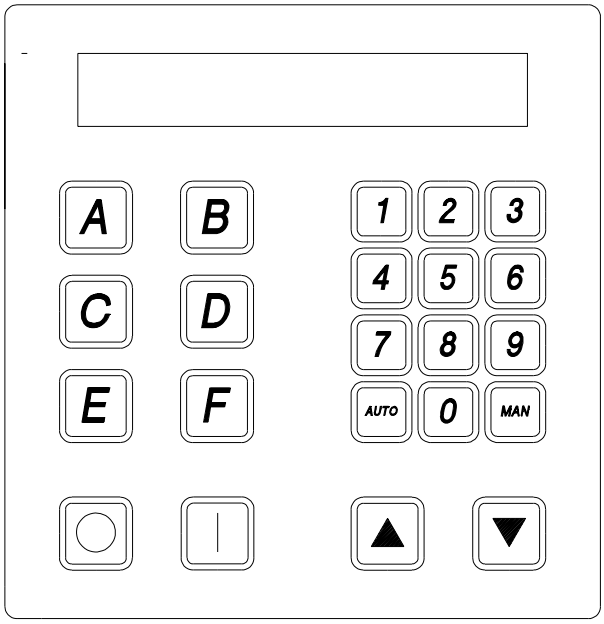


MAN6875 JM 9/11/03

b. Phase 7 Non-Coin Models

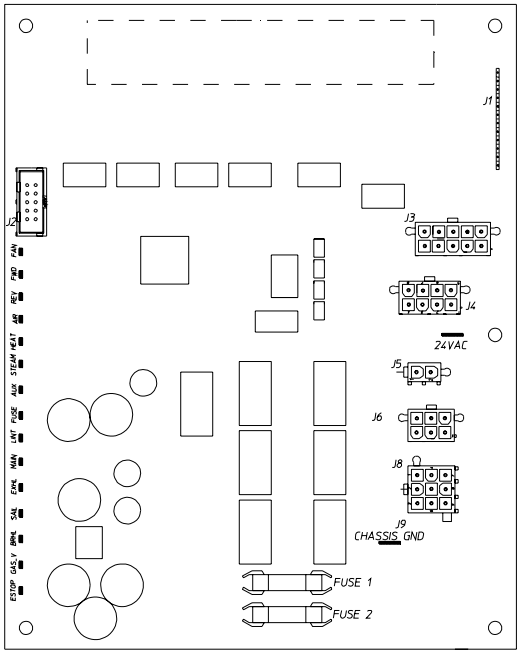
1) Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

2) Start the drying cycle by pressing any of the preset cycles in letters A-F.



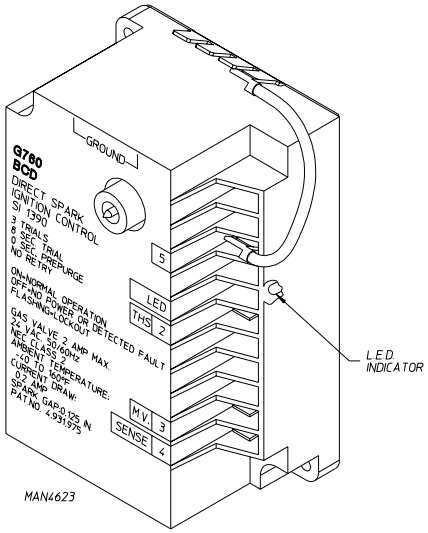
MC 8/02/01 MAN5846

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



MAN5825

2. For Models with Direct Spark Ignition (DSI) Module (Type I)



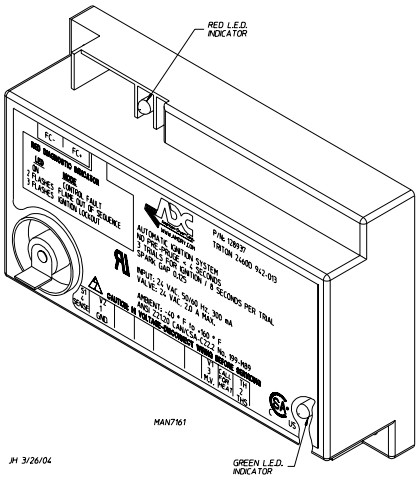
Theory of Operation:

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

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

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

3. For Models with DSI Module (Type II)



Theory of Operation:

Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (8-seconds), the flame sensor detects gas burner flame and signals the DSI module to keep the gas valve open as long as there is a call for heat. The DSI module will "LOCKOUT" if the gas burner flame is not sensed at the end of the trial for ignition period. The trial for ignition period will be repeated for a total of three (3) retries/trials (the initial try and two [2] more retries/trials). If the flame is not sensed at the end of the third retry/trial (inter-purge period of 30-seconds), the DSI module will "LOCKOUT" (a red L.E.D. diagnostic indicator will flash).

An unlit red L.E.D. diagnostic indicator indicates normal operation.

A lit green L.E.D. diagnostic indicator indicates dryer controller is calling for heat and that **ALL** interlocks have been satisfied.

SECTION IX

MANUAL RESET BURNER HI-LIMIT INSTRUCTIONS

A. PHASE 7

This dryer was manufactured with a manual reset burner hi-limit thermostat, which is monitored by the Phase 7 computer. If the burner hi-limit is open prior to the start of the drying cycle, the dryer will start momentarily and then shut down, the Phase 7 computer will display "burner HIGH LIMIT fault" with an audio indication.

If the burner hi-limit opens during a drying cycle, the Phase 7 computer will also display the same error code described above, along with an audio indication. If the drum temperature is above 100° F (38° C), the dryer will continue to run with no heat for 3 minutes or until the drum temperature has dropped below 100° F (38° C). The clear/stop button on the Phase 7 keyboard (touch pad) **must be** pressed to clear the error condition. The open burner hi-limit **must be** reset "manually" prior to the start of the next cycle.

B. DUAL TIMER

This dryer was manufactured with a manual reset burner hi-limit thermostat. If the burner hi-limit is open prior to the start of the drying cycle, or during the cycle, the dryer will not recognize the open state of the burner hi-limit and will start or continue through the drying cycle with no heat. Manual reset hi-limit **must be** reset manually.

This hi-temperature condition may be caused due to a restricted exhaust, poor airflow, or improper burner operation.

The location of the burner hi-limit is on the right side of the burner box, looking at the burner from the back of the dryer.

WARNING: Discontinue power to dryer before attempting to reset hi-limit.

SECTION X

SENSOR ACTIVATED
FIRE EXTINGUISHING (S.A.F.E.) SYSTEM

S.A.F.E. System In Action

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

We have tried to make this manual as complete as possible and hope you will find it useful. The manufacturer reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

BEFORE YOU START!

CHECK LOCAL CODES AND PERMITS

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

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

IMPORTANT:	It is the installation or owners responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided. Manufacturer assumes no responsibility if the S.A.F.E. system **is not** connected, installed, or maintained properly.

INSTALLATION

1. Requirements

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

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

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

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

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

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

2. Water Connections:

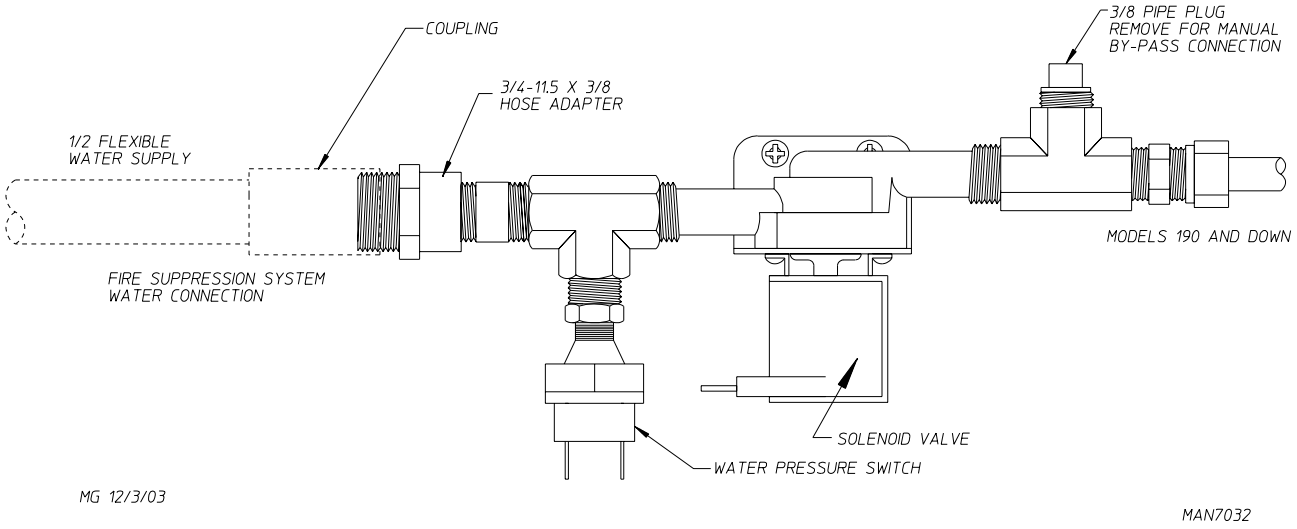
The water connection is made to the 3/4”-11.5 NH hose adapter of the electric water solenoid valve, located at the rear upper midsection of the dryer (refer to the photo).

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

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

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

Typical water supply:

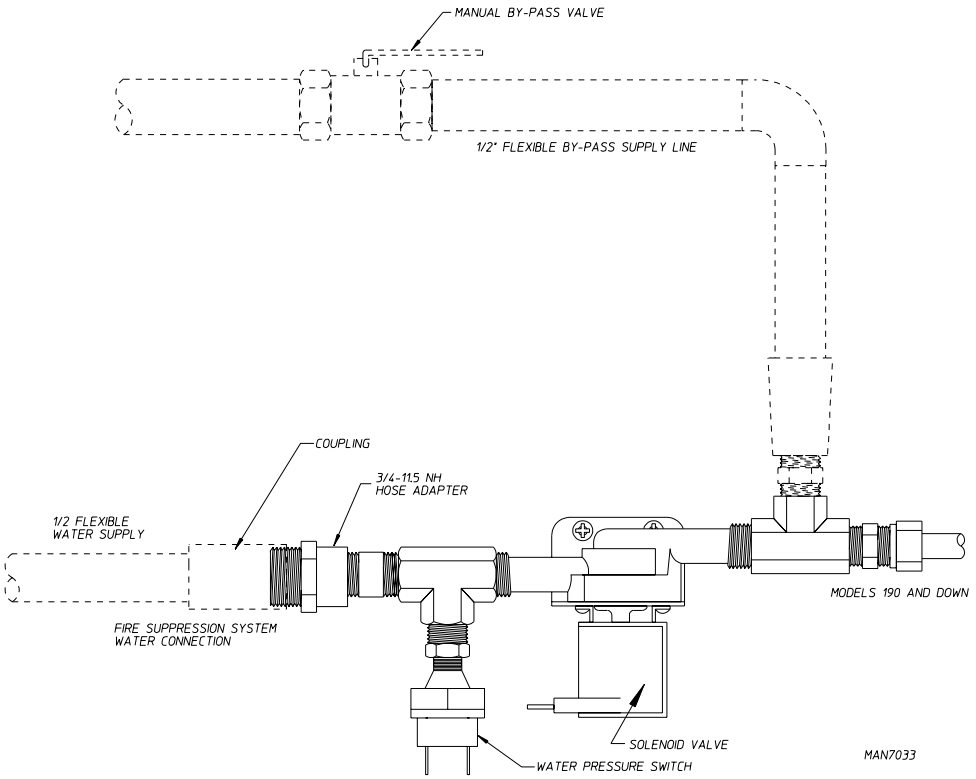


OPTIONAL MANUAL BYPASS

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

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

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



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

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

3. <u>Electrical Requirements</u>

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

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

S.A.F.E. System Theory of Operation

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

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

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

SYSTEM RESET

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

To reset the microprocessor once the control displays "S.A.F.E. SYSTEM WAS ACTIVATED," press the red "STOP/CLEAR" key on the keyboard (touch pad).

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

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

1. Press and hold the red "STOP/CLEAR" key (while in "READY" mode and no cycle is in progress).

2. Press and hold the "A" key.

3. Water valve will open and water will be dispensed into basket (tumbler) area as long as both keys are held.

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

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

S.A.F.E. SYSTEM DIAGNOSTICS

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

S.A.F.E. SYSTEM DIAGNOSTICS MESSAGES

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

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

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

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

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

STARTING A CYCLE WHEN COMPUTER IS IN "S.A.F.E. SYSTEM IS DISABLED" MODE

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

Notes