

THE MAYTAG COMPANY • NEWTON, IOWA FORM NO. 456VD PART NO. 56261 Copyright 1980 Printed in U.S.A.

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MAYTAG



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## **DE** - **DG** 110

HEIRILAH PARAKIS

DIMENSIONS	Height to top of control cover43''Height to top of cabinet36''Width28-1/2'Depth (including 1-1/2'' overhang)27''	- 109.2cm - 91.4cm ' - 72.4cm - 68.6cm
CAPACITY	A full washer load is a full dryer load.	
TYPE OF CONTROL	The drying time for this model is controlled operator. Air Fluff, Permanent Press and Re 6 to 9 minutes of cool down on Permanent F Fabrics will automatically be provided.	by a timer which is manually set by the egular Fabrics cycles are available. From Press and from 2 to 5 minutes on Regular
EXHAUST	<ol> <li>Maximum length 50 ft. (15.2m)</li> <li>Subtract 8 ft. (2.4m) for each elbow used. 26' (7.9m) of 4'' (10.2cm) metal exhaust m</li> <li>The dryer may be exhausted out the back the dryer base. See installation instructions</li> </ol>	For example, if 3 elbows are used, only ay be used. , to the left side or straight down through for complete exhausting procedures.
ENERGY	<ol> <li>Motor (All Models)         <ol> <li>1/4 HP; 120 volt, 60 Hz; thermoprotecte</li> <li>Range of wattage draw 280-320.</li> </ol> </li> <li>Gas Models</li> </ol>	ed, automatic reset.
	a. Single port valve - capable of providing 2	2,000 BTU hour.
	<ol> <li>Electric Models         <ul> <li>a. Nichrome helix coil rated at 5300 watts</li> </ul> </li> </ol>	per hour at 240 volts A.C.
AIR FLOW	180 cubic feet per minute exhausted from dry	er.
DRUM SPEED	47 RPM ± 1-1/2	



DIMENSIONS	Height to top of control cover Height to top of cabinet Width Depth (including 1-1/2'' overhang)	43" 36" 28-1/2" 27"	<ul> <li>109.2cm</li> <li>91.4cm</li> <li>72.4cm</li> <li>68.6cm</li> </ul>
CAPACITY	A full washer load is a full dryer load.		
TYPE OF CONTROL	The drying time for this model is co operator. Air Fluff, Permanent Press 6 to 9 minutes of cool down on Pern Fabrics will automatically be provided	ontrolled by and Regunanent Pres	y a timer which is manually set by th ılar Fabrics cycles are available. Fron ss and from 2 to 5 minutes on Regula
EXHAUST	<ol> <li>Maximum length 50 ft. (15.2m)</li> <li>Subtract 8 ft. (2.4m) for each elbo 26' (7.9m) of 4'' (10.2cm) metal ex</li> <li>The dryer may be exhausted out t the dryer base. See installation instal</li> </ol>	ow used. Fo chaust may he back, to ructions for	or example, if 3 elbows are used, only be used. o the left side or straight down throug r complete exhausting procedures.
ENERGY	<ol> <li>Motor (All Models)         <ol> <li>a. 1/4 HP; 120 volt, 60 Hz; thermo</li> <li>b. Range of wattage draw 280-320.</li> </ol> </li> <li>Gas Models         <ol> <li>a. Single port valve - capable of pro</li> </ol> </li> </ol>	protected,	automatic reset. 200 BTU hour.
	<ol> <li>Electric Models</li> <li>a. Nichrome helix coil rated at 530</li> </ol>	0 watts per	r hour at 240 volts A.C.
AIR FLOW	180 cubic feet per minute exhausted f	rom dryer.	
DRUM SPEED	47 RPM ± 1-1/2		

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DIMENSIONS	Height to top of control cover	43"	- 109.2cm	
	Height to top of cabinet	36″	- 91.4cm	
	Width	28-1/2"	- 72.4cm	
	Depth (including 1-1/2" overhang)	27″	- 68.6cm	
CAPACITY	A full washer load is a full dryer load	1.		
TYPE OF CONTROL	The drying time for this model is co "Time Dry" setting which is select automatically provided. "Auto Dry are also available. These settings are thermostats. On the "Auto - Regul provided and on the "Auto Perr automatically provided.	ontrolled in tive up to Regular Fa controlled lar" setting nanent Pre	n two ways. The operator may sel 60 minutes. A 5 minute cool d abrics" and "Auto Dry Permanent I by the timer and through the reg g 5 minutes cool down is automa ess" setting 10 minutes cool do	ect the own is Press" ulating atically own is
EXHAUST	<ol> <li>Maximum length 50 ft. (15.2m)</li> <li>Subtract 8 ft. (2.4m) for each el 26' (7.9m) of 4'' (10.2cm) metal</li> <li>The dryer may be exhausted out the dryer base. See installation installation</li> </ol>	bow used. exhaust ma the back, structions f	For example, if 3 elbows are used by be used. to the left side or straight down the for complete exhausting procedure	d, only hrough s.
ENERGY	<ol> <li>Motor (All Models)         <ol> <li>a. 1/4 HP; 120 volt, 60 Hz; therm</li> <li>b. Range of wattage draw 280-32</li> </ol> </li> </ol>	oprotected 0.	d, automatic reset.	
	<ol> <li>Gas Models         <ul> <li>a. Single port valve - capable of p</li> </ul> </li> </ol>	roviding 22	2,000 BTU hour.	
	<ol> <li>Electric Models         <ol> <li>Nichrome helix coil rated at 53</li> </ol> </li> </ol>	300 watts p	er hour at 240 volts A.C.	
AIR FLOW	180 cubic feet per minute exhausted	from drye	<b>r.</b>	
DRUM SPEED	47 RPM ± 1-1/2			

1

1-3



DIMENSIONS	Height to top of control cover	43"	-	109.2cm
	Height to top of cabinet	36′′	-	91.4cm
	Width	28-1/2"	-	72.4cm
	Depth (including 1-1/2" overhang)	27″	-	68.6cm

CAPACITY A full washer load is a full dryer load.

**TYPE OF CONTROL** The drying time for this model is controlled in two ways. The operator may select the "Time Dry" setting which is selective up to 60 minutes. A 10 minute cool down is automatically provided. "All Fabric Auto Dry" is also available. This setting is controlled by the timer and through the regulating thermostats. On the "All Fabric Auto Dry" setting 5 minutes cool down is automatically provided when the "Regular Fabrics" button is depressed and 10 minutes cool down is automatically provided when the "Permanent Press" button is depressed. "Air Fluff" is controlled through the temperature switch and the "Time Dry" setting on the timer. Time is selective up to 60 minutes.

#### **EXHAUST**

- 1. Maximum length 50 ft. (15.2m)
- Subtract 8 ft. (2.4m) for each elbow used. For example, if 3 elbows are used, only 26' (7.9m) of 4'' (10.2cm) metal exhaust may be used.
- 3. The dryer may be exhausted out the back, to the left side or straight down through the dryer base. See installation instructions for complete exhausting procedures.

#### ENERGY

- 1. Motor (All Models)
  - a. 1/4 HP; 120 volt, 60 Hz; thermoprotected, automatic reset.
  - b. Range of wattage draw 280-320.

#### 2. Gas Models

a. Single port valve - capable of providing 22,000 BTU hour.

## Electric Models a. Nichrome helix coil rated at 5300 watts per hour at 240 volts A.C.

- AIR FLOW 180 cubic feet per minute exhausted from dryer.
- **DRUM SPEED** 47 RPM ± 1-1/2
- 1-4



DIMENSIONS	Height to top of control cover Height to top of cabinet Width Dopth (including 1.1/2// cuprham)	43" 36" 28-1/2"	-	109.2cm 91.4cm 72.4cm	
CADACITY	Depth (including 1-1/2 overnang)	27	-	68.6cm	
CAPACITY	A full washer load is a full dryer load	d.			
TYPE OF CONTROL	The drying time for this model is c "Time Dry" setting which is select automatically provided. "Auto Dry are also available. These settings are thermostats. On the "Auto Dry Reg provided and on the "Auto Perr automatically provided. "Air Fluff" the "Time Dry" setting on the timer	ontrolled in tive up to Regular Fa controlled gular'' setti manent Pre '' is control . Time is se	n two 60 mi abrics" I by tl ng 5 r ess" s Iled th lective	ways. The operator may select the nutes. A 10 minute cool down and "Auto Dry Permanent Press the timer and through the regulation minutes cool down is automatical etting 10 minutes cool down arough the temperature switch ar e up to 60 minutes.	וe is s'' וg ly is nd
EXHAUST	<ol> <li>Maximum length 50 ft. (15.2m)</li> <li>Subtract 8 ft. (2.4m) for each el 26' (7.9m) of 4'' (10.2cm) metal a</li> <li>The dryer may be exhausted out the dryer base. See installation inst</li> </ol>	bow used. exhaust ma the back, structions f	For e by be u to the or cor	xample, if 3 elbows are used, on used. e left side or straight down throug nplete exhausting procedures.	ly jh
ENERGY	<ol> <li>Motor (All Models)         <ol> <li>a. 1/4 HP; 120 volt, 60 Hz; therm</li> <li>b. Range of wattage draw 280-32</li> </ol> </li> </ol>	noprotectec 0.	i, auto	omatic reset.	
	<ol> <li>Gas Models         <ul> <li>a. Single port valve - capable of p</li> </ul> </li> </ol>	roviding 22	2,000 I	BTU hour.	
	3. Electric Models a. Nichrome helix coil rated at 53	300 watts p	er hou	ur at 240 volts A.C.	
AIR FLOW	180 cubic feet per minute exhausted	from dryer	·.		
DRUM SPEED	47 RPM ± 1-1/2				

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## DE - DG 710 & 810

DIMENSIONS	Height to top of control cover Height to top of cabinet Width Depth (including 1-1/2'' overhang)	43" 36" 28-1/2" 27"	- - -	109.2cm 91.4cm 72.4cm 68.6cm
CAPACITY	A full washer load is a full dryer load.			
TYPE OF CONTROL	The drying time for these models Control. The operator selects either " will automatically shut off when the down period is automatically provide is also available with the length of t minutes on "Dry" and 20 minutes on	is autom Regular Fa clothes rea d through the cycle o "More Dry	aticall abrics' ach the the c detern (''.)	y determined by the Electronic " or "Permanent Press". The dryer e correct degree of dryness. A cool ool down thermostat. "Air Fluff" nined by the dryness setting. (13
EXHAUST	<ol> <li>Maximum length 50 ft. (15.2m)</li> <li>Subtract 8 ft. (2.4m) for each elber 26' (7.9m) of 4" (10.2cm) metal estimates</li> <li>The dryer may be exhausted out the dryer base. See installation inst</li> </ol>	ow used. F khaust may the back, t ructions fo	For ex / be us to the pr com	ample, if 3 elbows are used, only sed. left side or straight down through plete exhausting procedures.
ENERGY	<ol> <li>Motor (All Models)         <ol> <li>a. 1/4 HP; 120 volt, 60 Hz; thermo</li> <li>b. Range of wattage draw 280-320</li> </ol> </li> <li>Gas Models</li> </ol>	protected	, autoi	matic reset.
	a. Single port valve - capable of pro	oviding 22,	, <b>000</b> B	TU hour.
	3. Electric Models a. Nichrome helix coil rated at 530	)0 watts pe	er hou	r at 240 volts A.C.
AIR FLOW	180 cubic feet per minute exhausted f	rom dryer.		
DRUM SPEED	47 RPM ± 1-1/2			

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1.	AMPERAGE	Amperage is the amount or the rate of flow of electrical current.
2.	BOOSTER COIL –	1/2 of a split coil needed to assist the holding coil to raise the plunger in the gas valve allowing gas to flow into the second chamber of the valve.
3.	BTU	(British Thermal Unit) A quantity of heat required to raise the temperature of one pound of water $1^\circ F$ .
4.	CAPACITOR -	A device for storing an electrical charge.
5.	CFM —	Cubic feet per minute.
6.	CENTRIFUGAL SWITCH –	A switching device in a motor used to change the path of electricity from both start and run winding to run winding only. It also completes the circuit to the heat source when motor reaches speed.
7.	CLOTHES LIFTERS	Devices attached to the inside of the tumbler used to lift and tumble the clothes during operation of the dryer. Often referred to as baffles.
8.	DIODE RECTIFIER -	A two lead semi-conductor which allows current to flow only in one direction.
9.	DRYNESS CONTROL Board –	A printed circuit board having the function of controlling the degree of dryness on D710 and D810 models.
10.	DUCT –	A construction used to move the moisture laden air from the dryer to the outside. It may be either rigid (which is best) or flexible metal.
11.	DYNAMIC LOSSES –	Pressure losses caused by air turbulences which occur when the air flow changes direction or when there is a change in the cross-section area of the ducting.
12.	EDGEBOARD Connector –	Holder for dryness control.
13.	EVAPORATION -	The process of expelling moisture from garments by heat and/or air movement.
14.	EXHAUST HOOD	A deflector placed at the terminating end of the ducting which prevents air from entering the duct when the dryer is not running.
15.	FRICTION LOSSES -	Friction losses are pressure losses caused by the rubbing of the air molecules along the sides of the ducting.
16.	GATE –	The triggering element of the S.C.R.
17.	IGNITER	A ceramic igniter located on the burner bracket near the main orifice. It reaches a temperature of 2200° in 30 seconds to ignite the gas when it is released.

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18.	MANOMETER -	An instrument for measuring the pressure of gas or air.
19.	MEG-OHM –	One Million Ohms.
20.	MOMENTARY CONTACT	A circuit which is completed only momentary. Normally only when the button is held in.
21.	NEON TUBE —	A switching device which becomes conductive when a predetermined amount of voltage is applied.
22.	0HM —	An Ohm is a unit of measurement of the resistance or opposition to the flow of current.
23.	PARALLEL CIRCUIT –	A circuit in which there is more than one current path.
24.	PUSH TO START Switch —	A switch which must be activated to start the dryer.
25.	RADIANT SENSOR	A thermostat-like device which reacts to the brightness or radiant energy output of a heat source.
26.	RECTIFIER –	A device used to convert alternating current to direct current, to block current, to detect current and for steering current.
27.	RESISTOR –	A device used to limit the flow of current or reduce voltage.
28.	RUN WINDING –	The main electromagnetic winding in a motor.
29.	SCR - (Silicon Control Rectifier) —	A solid state switch used much like a relay. It is a combination switch and rectifier.
30.	SELECTOR SWITCH –	A mechanical switch package in which several switching functions are operated by one actuator.
31.	SENSOR –	Two contact plates which detect moisture content of the load in a dryer.
32.	SERIES CIRCUIT –	A circuit in which there is only one current path through all components.
33.	SPLIT COIL -	Two coils mounted on a common valve guide and wired so that their magnetic fields add together.
34.	SHUNT CIRCUIT	A parallel circuit through which a portion of the current may pass in order to regulate the amount passing in the main circuit.
35.	START WINDING -	(Phase winding) - An auxiliary winding used in an AC motor to assist the main winding in developing starting torque.
36.	TEMPERATURE DRYNESS SWITCH	A switch that allows selection of both temperature and dryness levels.
37.	THERMOSTAT –	A bi-metal actuated switch which reacts to temperature changes.
38.	TIMER –	A mechanically driven switch package. Usually controls various machine functions in a predetermined sequence.
39.	TRUNNION BEARING -	A stationary bearing surface on which the dryer tumbler turns.
40.	TUMBLER	Cylinder which contains and tumbles clothes.
41.	WATTAGE -	Wattage is a unit of measurement of the capability of electricity to do work.

2-2





# **Uncrating & Inspection**

#### **UNCRATING DRYER**

- 1. Cut along dotted line at bottom of carton, remove carton and corner posts. Cut should not exceed 3/8" deep.
- 2. Remove tape holding dryer door closed and pull on strip of tape between door and cabinet to open door. Remove accessories from dryer drum. Close and retape door to cabinet.
- 3. Lay the dryer on its front using the four carton corner posts as cushions.



4. With a screwdriver, pry out the four crate base retainer wires. Tilt wires and remove from base frame.



#### INSPECTION

After the carton is removed, inspect the dryer very carefully. If any parts are damaged, they should be replaced before the installation is made. Do not install a dryer having damaged parts expecting to replace them at a later date.

IF SHIPPING DAMAGE IS NOTICED WHEN DRYER IS DELIVERED, A NOTATION SHOULD BE MADE ON THE TRANSPORTATION COMPANY'S FREIGHT BILL. If damage is discovered after the dryer is delivered, the transportation company should be notified and called in to make an inspection.

This request should be made within 15 days of the date of delivery. Claims should be filed against the transportation company for damage after the dryer has been repaired.

THE MAYTAG COMPANY'S RESPONSIBILITY FOR THE SHIPMENT REACHING ITS DESTINATION IN SATISFACTORY CONDITION ENDS WITH DELIVERY OF THE DRYER IN GOOD ORDER TO THE TRANSPORTATION COMPANY.

#### FILING DAMAGE CLAIMS

If the dryer or any part of it is damaged for which a claim is to be filed, the following documents should be compiled in order to file a claim against the carrier.

- 1. Original appliance invoice.
- 2. Copy of freight bill.
- 3. Inspection report if concealed damage.
- 4. Delivery receipt with notation of damage signed by driver of carrier if damage is obvious at time of delivery.
- 5. Invoice for replacement parts required for repair of damaged products.
- 6. Invoice for amount and rate of labor required for repair of damaged products.
- 7. Letter of assignment.



Once the documents are accumulated you may:

- 1. File the damage claim against the carrier.
- 2. Send all information to your Maytag branch office, who will in turn forward the claim to The Maytag Company, Newton, Iowa for appropriate handling.

NOTE: If questions on terms of Transit Loss or Damage Claim Policy, contact your Maytag branch office or regional sales manager.

NOTE: If concealed damage is suspected, a notation on the freight bill reading, "Cartons scuffed - may contain damage", and signed by the delivering carrier will protect you for a damage claim. This notation should be put on before delivering carrier leaves your premises. This notation MUST be on the carrier's copy and your copy of the freight bill.

#### AUTOMATIC DRYER WARRANTY

#### Full One-Year Warranty

For one (1) year from the date of original retail purchase any part which fails in normal home use, including a cabinet which rusts, will be repaired or replaced within a reasonable time free of charge when the appliance is located in the United States or Canada. Appliances located elsewhere are covered by the limited warranty, including parts for the first year.

#### Additional Limited Parts Warranty

After the first year from the date of original retail purchase, through the following time periods, the designated parts which fail in normal home use will be repaired or replaced within a reasonable time free of charge for the part itself, with the owner paying only the cost of labor: 2nd year - all parts, including a cabinet that rusts; 3rd through 5th year - a cabinet or tumbler that rusts.

#### How and Where to Receive Warranty Service

Call or write the authorized Maytag dealer from whom the appliance was purchased or the authorized service firm designated by it.

If the owner moves from the selling dealer's servicing area after purchase, call or write any authorized Maytag dealer or authorized service firm in or near the new location.

Should the owner not receive satisfactory warranty service from one of the above, call or write Service Department, The Maytag Company, Newton, Iowa 50208; and arrangements for warranty service will be made.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

#### THE MAYTAG COMPANY, NEWTON, IOWA 50208





## Pre-Installation & Performance Considerations

#### **GENERAL INFORMATION**

The Maytag dryer is designed to serve dependably for many years. However, it cannot do so unless it is provided with sufficient electrical power, means for suitable exhausting and if a gas model, adequate gas supply. This section contains important information on these and other subjects. We urge you to read it carefully to make sure these requirements are met.

Operating instructions, safety precautions and the warranty are in the operating instruction booklet found in the accessory package which comes with each appliance. To be sure maximum performance is received from the dryer, please read the operating instructions carefully.

NOTE: The wiring diagram for the dryer is located on the inside of the control console.

REMOVE THE DOOR FROM ALL DISCARDED APPLIANCES SUCH AS DRYERS AND COMBINA-TION WASHER/DRYERS TO AVOID THE DANGER OF A CHILD SUFFOCATING SHOULD HE CRAWL INSIDE AND THE DOOR BE SHUT.

#### U. S. MODELS

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE STARTING TO INSTALL THE DRYER. FOR GAS DRYERS, THE INSTALLATION MUST CONFORM WITH THE NATIONAL FUEL GAS CODE, ANSI Z223.1 - 1974. ANY QUESTIONS CON-CERNING THIS SHOULD BE REFERRED TO THE LOCAL GAS UTILITY.

NOTE: On U. S. electric models, the power cord is not provided.

#### **CANADIAN MODELS**

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE STARTING TO INSTALL THE DRYER. FOR GAS DRYER INSTALLATION, REFER TO CGA STANDARD B149.1 OR B149.2 INSTALLA-TION CODE. ANY QUESTIONS SHOULD BE REFERRED TO THE LOCAL GAS UTILITY.

#### LOCATING DRYER



The dryer should be located next to, or as close to the washer as possible, taking into consideration availability of gas and/or electricity and a location that makes exhausting practical. For specific recommendations, see PERFORMANCE CON-SIDERATIONS.

As a convenience, it may be desirable to install the dryer to the left of the washer since the dryer door opens to the left and loading the dryer would be easier. However, if desired, the dryer may be installed to either the right or left of the washer and exhausted out the rear, the left side of the cabinet or through the base frame and down through the floor. The dryer cannot be exhausted through the right side of the cabinet.

For proper operation, it is important to make sure the room in which the dryer is located is adequately ventilated to provide sufficient make-up air. This is especially important in any confined area such as a bedroom, bathroom or closet.

On gas dryers, adequate clearance as noted on the data plate must be maintained to insure adequate air for combustion and proper operation of the dryer. The area where the dryer is located must not obstruct the flow of combustion or ventilating air. When locating a Maytag dryer, the following dimensions should be taken into consideration.





#### **PERFORMANCE CONSIDERATIONS**



To receive continuous satisfactory operation from the Maytag dryer the following performance considerations should be thoroughly evaluated before installing the dryer.

#### ELECTRICAL REQUIREMENTS

#### GAS MODELS

Maytag gas operated dryers are designed for operation on 120 volt, 60 Hz AC approved electrical service, protected by a 15 amp fuse or comparable circuit breaker.

#### ELECTRIC MODELS - UNITED STATES ONLY

Maytag electric dryers are normally manufactured to operate on 120/240 volt, 60 Hz approved electrical service.

Should the dryer be operated on a 208 volt electrical system, the dryer must be converted. The Maytag Company makes a kit available, Part No. 3-4837, which is used to convert the dryer from a 240 volt to a 208 volt system.

If an electric dryer is designed for and installed on a 120/208, 60 Hz or 120/240, 60 Hz approved electrical service, the following electrical requirements will apply.

- 1. The service cord receptacle should be wired with no smaller than No. 10 wire.
- 2. The circuit should be fused through a 30 amp fuse or comparable circuit breaker on both sides of the line.

NOTE: ALL UNITED STATES MODELS ARE SHIPPED WITHOUT THE POWER CORD.

#### **ELECTRIC MODELS - CANADIAN ONLY**

ALL CANADIAN MODELS ARE SHIPPED WITH THE POWER CORD ATTACHED.

Maytag electric dryers are normally designed to operate on 120/240 volt, 60 Hz approved electrical service.

Should the dryer be operated on a 208 volt electrical system, the dryer must be converted. The Maytag Company makes a kit available, Part No. 3-4837, which is used to convert the dryer from a 240 volt to a 208 volt system.

If the dryer is designed for and installed on a 120/208 or 120/240 volt, 60 Hz approved electrical service, the following electrical instructions will apply.

- 1. The dryer is shipped from the factory with the power cord attached to the terminal block.
- 2. The dryer power cord should be plugged into a 30 amp receptacle and fused through a 30 amp fuse on both sides of the line.
- 3. ALL GROUNDING MUST BE DONE IN ACCORDANCE WITH THE CANADIAN ELEC-TRICAL CODE C.22.1 PART 1 AND LOCAL CODES.

#### ODD CYCLE OPERATION

Maytag dryers are normally manufactured for operation on 60 Hz AC approved electrical service. The dryer is not designed for use on 50 Hz AC electrical service and conversion of the product from 60 to 50 cycle operation is not recommended. Dryers designed specially for operation on 50 cycle current are available. For additional information on 50 cycle products write AMERICAN STEEL EXPORT COMPANY, 292 MADISON AVENUE, NEW YORK, NEW YORK 10017.

#### **GROUNDING REQUIREMENTS**

#### **GENERAL INFORMATION**

To prevent the possibility of electrical shock, this dryer (as is the case with other electrical appliances) must be adequately grounded. It is the responsibility of the installer to assure the dryer is adequately grounded at the point of installation, taking into consideration the local conditions and requirements. ALL GROUNDING MUST BE DONE IN ACCORDANCE WITH NATIONAL AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE ANSI/NFPA No. 70-1978.

#### NOTE: CANADIAN MODELS MUST MEET NATION-AL AND PROVINCIAL CODES.

The dryer is grounded through the third prong of the power cord when plugged into a 3-prong grounded receptacle.

#### **GROUNDING - GAS MODELS**

In cases where only a 2-prong receptacle is available, this should be changed to a grounded 3-prong receptacle. If this is not done, the dryer must be grounded in accordance with local electrical codes. An external ground screw, wire and clamp are provided in the accessory package for assistance in meeting local codes. Although not recommended, a 2-prong adapter, Maytag Part No. 2-1808, is available from The Maytag Company. Instructions for usage are provided with each adapter.



#### **GROUNDING - ELECTRIC MODELS**

Electric dryers are equipped with a ground strap for grounding the dryer, which is connected to the P2

terminal block post at the factory. To avoid the possibility of electrical shock, this dryer must not be connected to a 120 volt two wire circuit.



The use of the ground strap is permitted by the national electrical code; however, if use of the ground strap is prohibited by local codes, the dryer must be grounded in accordance with local codes.

#### **GAS REQUIREMENTS**



Maytag gas dryers are manufactured for use on natural gas with those characteristics listed in the following chart. Should conversion of the product from natural to LP gas be required, contact the local gas utility or authorized Maytag dealer.

A 1/2'' gas supply line is recommended which must be reduced to connect to the 3/8'' line on the dryer.

Additionally, a 1/8" N.P.T. (National Pipe Thread) plugged tapping, accessible for test gage connection, must be installed immediately upstream of the gas supply connection to the dryer. Refer to your local gas utility or plumbing contractor should you have questions on the installation of the plugged tapping.



### **GAS CHART**

GAS TYPE	BTU PER CU. FT.	PRESSURE INCHES	SPECIFIC GRAVITY	DRILL SIZE	MAIN BURNER ORIFICE	GAS DATA DECAL
NATURAL (NOTE 1)	1075	3.5	0.65	42	3-13375	3-11162
LPG (NOTE 2)	2500	11	1.53	54	3-13317	3-11167

Conversion kits, complete with instructions are available to qualified service technicians under the following part numbers.

#### CONVERSION KITS

#### NOTE 1. Natural to LPG gas 3-3751 EXHAUSTING REQUIREMENTS



A clothes dryer produces combustible lint and the area around the clothes dryer should be kept free of lint. It is therefore recommended that the dryer be exhausted to the outside using 4" rigid or flexible metal ducting.

The following rules are provided as a guide for proper exhaust ducting installation.

- Keep the duct as short as possible. The longer the duct the more friction and resistance to air flow. See Chart 1 for air flow operating characteristics for various duct lengths.
- Keep the number of elbows and the degree of bend to a minimum to minimize air resistance due to dynamics. We recommend that not over 3 elbows be installed in the duct. It is also desirable to have the elbows installed upstream as far as possible.

#### NOTE 2. LPG back to Natural 3-4672

- 3. The smoother the inside surface of the duct, the less the friction and the greater the air flow. It is because of this that we recommend using smooth rigid aluminum ductwork. Flexible ductwork has a spiral washboard surface which increases friction and sets up dynamic turbulence which decreases air flow. If flexible ductwork is used, we would recommend flexible aluminum which is available from The Maytag Company or your local parts distributor. Although the aluminum flexible duct has more resistance to air flow than rigid aluminum; see Chart 1 for comparison, it has several advantages over most fabric covered flexible duct. These advantages are:
  - a. The peaks and valleys are much less severe.
  - Duckwork should be of a noncombustible material. Both rigid or flexible metal ducts meet this requirement. NEVER USE COM-BUSTIBLE MATERIAL IN DRYER DUCTWORK.
  - c. The aluminum is semi-rigid and selfsupporting. The aluminum ductwork forms a full 4" inside diameter when bent into elbows. It does not collapse or become eliptical,

as elbows are formed or sagging occurs, as do some of the wire wound ducts.



- 4. Never reduce the area of the duct. A 4" round duct has an area of approximately 12.57 square inches. The area of the duct should never be reduced below this figure. To do so will decrease air flow and efficiency of the dryer.
- 5. Dryers should be exhausted to the outside of the building.
- 6. Do not exhaust dryer into any wall, ceiling, crawl space, a concealed space of a building, vent connec-

tion, gas vent or chimney. A lint accumulation in such an area creates a fire hazard.

- 7. When located in a bedroom, bathroom or closet, the dryer must be exhausted to the outside of the dwelling.
- 8. Do not install vent hood in window well or at ground level. There should be a 12" (30.5cm) clearance between the bottom of the exhaust hood and the ground.
- 9. All exhaust duct joints should be taped to prevent lint and moisture laden air from being expelled into the building.
- 10. The exhaust duct and vent hood should be checked periodically and cleaned as necessary to prevent a lint build-up in the duct, the vent hood should also be cleaned to assure free and full movement of the vent hood flapper.

NOTE: The Maytag Company makes available as an accessory item, exhausting kits and accessories needed for completing an installation. These include the 3-4353 flexible ductwork (4' length which extends to 8')

## CHART I

<b>CFM</b> Air Flow	Performance	Length of	Straight Duct
		Rigid	Flexible *Note 2
160 +	Best	23'	13'
150	Good	34'	18'
140	Acceptable	45'	26'
130	Marginal *Note 1	50'	34'

#### FLEXIBLE DUCTWORK LIMITATIONS

#### NONEXHAUSTED INSTALLATION

Since resistance to air flow is greater with flexible metal ductwork than with rigid metal ductwork, the allowable length of duct is reduced. Flexible metal ductwork should not exceed 34' of straight 4'' ducting. The exhaust hood is equivalent to 8' of duct and each  $90^{\circ}$  bend is considered equivalent to 8' when bent to the minimum radius. As an example, if an exhaust hood is used and two  $90^{\circ}$  bends are formed (in a small radius), the maximum straight run of flexible metal duct would be 10'. NOTE: If the radius of a bend with 4'' duct is 12'' or greater, the bend can be considered a straight run. It is recommended that a maximum of (3)  $90^{\circ}$  bends be used in any duct run with an exhaust hood.

\*Note No. 2 on Chart I.

The figures for flexible duct apply only to the 3-4353 flexible metal duct available as an accessory. For other types of flexible metal ducts, refer to manufacturer's design data concerning air friction loss. Friction loss in inches of water, as measured by a manometer, should never exceed .58" of water column.

#### **RIGID DUCTWORK LIMITATIONS**

Rigid metal ductwork should not exceed 50' of straight 4" duct. Each 90° elbow and the exhaust hood should be considered equivalent to 8' of straight ductwork. For example, if an exhaust hood and two 90° elbows are used, the maximum straight duct allowed would be 26'. It is recommended that not more than three 90° elbows be used in any rigid ductwork run with an exhaust hood.

\*Note No. 1 on Chart I.

Chart I lists this as the maximum for "marginal" operation. Under this condition, the exhaust duct and vent hood must be free of lint, the lint filter must be clean and the dryer must not be overloaded. If any of these conditions are not met, the dryer could cycle on the hi-limit thermostat extending the dry time. It is for this reason that we list this as "marginal" operation and the maximum ducting. The ducting should be kept to a minimum. The shorter the ducting, the better the efficiency.

#### LEFT SIDE OR BASE EXHAUSTING

Maytag dryers can be located for left side exhausting through the cabinet or through the base and down through the floor. Refer to the installation instructions for additional information on this method of exhausting.



Although the dryer utilizes a fine mesh lint filter, it will not filter out 100% of the lint produced during the drying process. Because of this, we recommend that the dryer be exhausted to the outside of the building. If the dryer is not externally exhausted, some fine lint

will be expelled into the laundry area. An accumulation of dust or lint in any area of the home creates a fire hazard. The home owner should be made aware of this hazard and instructed on frequent cleaning or vacuuming of the lint accumulations. Refer to the installation instructions for additional information on nonexhausted installations.

If the installer and customer have determined that a nonexhausted installation will be made, the 3-3736 exhaust deflector should be installed as shown. When the exhaust deflector is used, maintain a 6" (15.2cm) clearance between the back of the control panel and the wall.



### NOTE: IN CANADA ALL DRYERS MUST BE EXHAUSTED TO THE OUTSIDE.

#### ADDITIONAL FACTS ABOUT EXHAUSTING

These large capacity Maytag dryers are designed to move 180 cubic feet of air per minute. As exhaust ducting is added, it imposes resistance to the flow of air which must be overcome by the dryer exhaust fan. This resistance is due to static, velocity and dynamic pressure which is expressed in inches of water column as measured by a manometer. There are two types of pressure losses:

- (1) Static or friction losses and (2) velocity or dynamic losses.
- A. Static or friction losses. (We will refer to this as friction.)

Friction losses are caused by the actual rubbing of the air molecules along the sides of the duct. Pressure losses in straight runs of duct are referred to as friction losses. The pressure would drop due to friction losses between points 1 and 2 of the duct in the following drawing.



- B. Dynamic losses result from air turbulence which occur when the air flow changes direction or when there is a change in the cross-section area of the duct.
  - 1. A change of cross-sectional area is illustrated in the above drawing. The reducer 2-3 decreases the cross-sectional area which increases the velocity and results in dynamic pressure loss. The amount of friction through a reducer varies directly with the square of the velocity of air. This simply means that the resistance through a reducer is very high as compared to a straight run of duct.

Proper operation and efficient drying is dependent upon proper air flow. The dryer is designed for use of a 4'' duct and reductions in the duct are not recommended.

2. Dynamics

Between 2 and 3 in the following drawing, an elbow has been added to the duct. The elbow changes the direction of the air flow and sets up air turbulence which results in a pressure loss. Elbows create dynamic pressure losses.



These Maytag dryers are designed to move 180 CFM of air per minute as they are received. As exhausting is added, this air flow is decreased. Chart 1 is provided as a quick reference guide as to allowable lengths of duct and their effect upon air flow and dryer efficiency. There are many factors influencing air flow such as the 9 considerations listed under Exhausting Requirements. In addition to these items, the operator's practices also affect air flow, efficiency and the resulting drying times.

- a. Failure to clean the lint filter regularly will result in a reduction in air flow and will cause the dryer to take longer to dry the clothes.
- b. Overloading restricts proper air flow through the drum which will also decrease efficiency and extend the dry time.

#### ALCOVE OR CLOSET INSTALLATION

When the dryer is to be installed in an alcove area or a closet, clearance should be provided around the dryer for an adequate air supply and for ease of installation and servicing. Clearances for the companion automatic washer should also be considered.

An appliance installed in a closet shall have no other fuel burning appliance installed in the same closet. The dryer must be exhausted to the outside to maximize good drying.

We recommend allowance of more clearance than the minimum installation clearances as shown.



\*Each opening area must be a 36 square inch minimum. These openings must not be obstructed. (Louvered door with equivalent air opening is acceptable.)

#### MOBILE HOME INSTALLATION

Installation of Maytag dryers certified by the American Gas Association and bearing a label stating they are

suitable for installation in mobile homes, when installed in mobile homes, must conform to the Federal Standard for Mobile Home Construction and Safety, Title 24 HUD (Part 280), 1976 or when such standard is not applicable, with the Standard for Mobile Homes ANSI/NFPA No. 501B-1977.

When installing a dryer in a mobile home, provisions for anchoring the dryer to the floor should be made, after the location of the dryer is determined. An anchor bracket kit for this purpose is available, Part No. 3-3740. Instructions for installing the anchor bracket are contained in each kit.

All mobile home installations must be exhausted to the outside with the exhaust duct termination securely fastened to the mobile home structure, using materials that will not support combustion. Exhaust the dryer using flexible metal exhausting materials or rigid metal exausting and locate in an area that provides adequate make-up air. The exhaust duct may not terminate beneath the mobile home.

## PERSONAL SAFETY PRECAUTIONS

With a gas dryer, to prevent the possibility of hazard due to electrical shock, never plug dryer electric cord into a receptacle which has not been adequately grounded and in accordance with local and national codes. See installation instructions with dryer.

Electric dryers with a UL symbol on the data plate have been listed with Underwriters' Laboratories, Inc.; those with a CSA symbol on the data plate have been listed with Canadian Standards Association. Gas dryers with

an A.G.A. symbol on the data plate have been listed with The American Gas Association; those with a CGA symbol on the data plate have been listed with the

Canadian Gas Association. Nevertheless, as with any equipment using electrical and moving parts, there is a potential hazard. To use this appliance safely, the

operator should become familiar with the instructions for operation of the dryer and always exercise care while using the appliance.

- 1. To avoid possibility of fire or explosion:
  - a. Items containing foam rubber (may also be labeled Latex foam) or foam rubber-like materials must not be dried on a heat setting. Foam rubber materials, when heated, can under certain circumstances produce fire by spontaneous combustion.
  - b. Any material on which you have used a cleaning solvent, or which is saturated with flammable liquids or solids, should not be placed in the dryer until all traces of these flammable liquids or solids and their fumes have been removed. There are many highly flammable items used in homes, such as: acetone, denatured alcohol, gasoline, kerosene, some liquid household cleaners, some spot removers, turpentine, waxes and wax removers.
- 2. CHILDREN SHOULD NEVER BE PERMITTED TO OPERATE, OR PLAY IN, WITH OR AROUND THIS DRYER.





#### **PRE-INSTALLATION**

- 1. With dryer still laying on its front, (resting on the carton corner posts) loosen lock nuts on leveling legs.
- 2. Adjust rear legs using a rubber foot from the accessory package. Use as a gage to set rear legs as shown. Install rubber feet on all leveling legs.



NOTE: When the dryer is being installed next to an automatic washer, it would be desirable to set the legs to match the height of the washer. Doing so may require readjustment of the leveling legs once the unit is moved into the desired location.

- 3. Set dryer up. On electric models, attach power cord (not provided). See Electrical Connection.
- 4. Remove dryer door knob and screw from accessory package.
- 5. Remove tape holding door and pull on strip of tape to open. Install knob on door. Do not overtighten screw for door knob. Remove all tape on door and cabinet.

#### LEVELING

- 1. Move dryer into desired location.
- 2. Level dryer by adjusting front and back leveling legs. Adjust as necessary to match height of automatic washer.
- 3. With dryer level, tighten lock nuts against base frame on both front and rear leveling legs.

NOTE: If necessary, pull dryer out to make gas, electrical and/or exhaust connections.

#### **ELECTRICAL CONNECTION**

#### GAS MODELS

On gas models, the electrical power cord comes already attached to the dryer. Plug the power cord into a nearby 120 volt, grounded receptacle. See GROUNDING for additional grounding requirements.

### ELECTRIC MODELS 120/240 VOLT OR MODELS MODIFIED FOR 120/208 VOLT

On electric U.S. models the electrical power cord is not provided with the dryer due to the various types of receptacles available. A minimum 30 amp service cord with strain relief should be acquired.

Connect the power cord as follows:

1. Remove the terminal block cover plate on the back panel of the dryer to gain access to the terminal block.



2. The neutral line of the service cord must always be connected to the P2 service post. The two 120 volt lines of the service cord then go to the P1 and P3 terminal block posts as shown.



3. Be sure terminal block nuts are tight and replace terminal block cover.

The dryer power cord should be plugged into a 30 amp receptacle and fused through a 30 amp fuse on both sides of the line.

#### GROUNDING

#### **GAS MODELS**

In cases where only a two prong receptacle is available, this should be changed to a grounded three prong receptacle. If this is not done, the dryer must be grounded in accordance with local electrical codes. An external ground screw, wire and clamp are provided in the accessory package for assistance in meeting local codes.

ALL GROUNDING AND WIRING MUST BE DONE IN ACCORDANCE WITH ALL LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE ANSI/NFPA No. 70-1978.

#### ELECTRIC MODELS

Electric models are equipped with a ground strap for grounding the dryer, which is connected at the factory to the P2 terminal post. To avoid the possibility of

electrical shock, the dryer must not be connected to a 120 volt two wire circuit.



The use of the ground strap is permitted by the national electrical code; however, if use of the ground strap is prohibited by local codes, the dryer must be grounded in accordance with local codes.

#### **GAS CONNECTION**

Gas operated dryers are equipped with a burner orifice for operation on natural gas. If the dryer is to be operated on LP gas, it must be converted. Conversion kits from natural to LPG or LPG to natural are available through your local Maytag dealer. If other conversions are required, check with your local gas utility for specific information concerning conversion requirements.

NOTE: If the dryer is to be converted, the conversion should be performed by a qualified service technician.

A 1/8" N.P.T. (National Pipe Thread) plugged tapping, accessible for test gage connection, must be installed immediately upstream of the gas supply connection to the dryer. Refer to your local gas utility or plumbing contractor should you have questions on the installation of the plugged tapping.



The gas supply should be connected to the dryer using pipe joint compound or a Teflon tape on male thread connections. (NOTE: Any pipe joint compound used must be resistant to the action of any liquified petroleum gas.) Turn on gas supply and open the shut-off valve at the gas valve in the dryer. Check all gas connections for leaks using a soap solution. If bubbles occur, tighten connections and recheck, DO NOT use an open flame to check for gas leaks.

NOTE: As a courtesy many local gas utilities will inspect a gas appliance installation. We recommend that you check with your utility to see if this service is provided in your area.

#### **GAS IGNITION**

This dryer uses an automatic ignition system to light the main burner when the dryer is turned on.

#### ADJUSTING MAIN BURNER

To adjust main burner flame, loosen screw holding air shutter and rotate shutter until a yellow flame appears. Then reverse the rotation of the shutter until the yellow disappears and the burner has a steady blue flame. To achieve this, it may be necessary to adjust the flame until only a very small yellow flame is at the tip of the blue flame. After a period of about 5 minutes, all of the yellow should disappear. If not, readjust the shutter slightly. When the desired results are achieved, tighten the screw to lock the shutter in place.



#### EXHAUSTING

DO NOT EXHAUST DRYER INTO ANY WALL, CEILING, CRAWL SPACE OR A CONCEALED SPACE OF A BUILDING, VENT CONNECTION, GAS VENT OR CHIMNEY. THIS COULD CREATE A FIRE HAZARD FROM LINT EXPELLED BY THE DRYER. FOR THE SAME REASON WE RECOMMEND ONLY METAL EXHAUST DUCT TO MINIMIZE RESTRICTED AIR FLOW AND RELIABLY INSURE THE CONTAINMENT OF EXHAUST AIR, HEAT AND LINT. NEVER INSTALL A SCREEN OVER EXHAUST OUTLET. NEVER USE PLASTIC OR OTHER COMBUSTIBLE DUCTWORK. AT LEAST

ONCE A YEAR INSPECT AND CLEAN INTERIOR OF DUCTWORK. FREQUENTLY CHECK AND CLEAN EXHAUST HOOD TO ASSURE PROPER OPERATION.

Like any other job, exhausting installation can be difficult or easy. To simplify the job, we recommend using tools shown in the following photo, which are available from The Maytag Company.



The hole saw extension can be used with any 1/2'' drill. The hole saw has 1-1/2'' depth of cut and when used with the extension, will speed up and simplify cutting the hole needed for various types of exhausting installations.

DESCRIPTION	SIZE	PART NO.
Hole saw-including drill	4″ dia.	38766
Extension for saw	16″	38767
Blade for saw	4-1/4″ dia.	38179
Replacement drill	7/16″	38180

Once location of the exhaust outlet is determined a 4-1/4" hole should be cut in the wall to accept the exhaust hood. To permit sufficient air circulation under the exhaust hood, there should be no less than a 12" clearance between the bottom of the exhaust hood and the ground. When possible, the exhaust hood should not exhaust directly into a window well. DO NOT terminate exhaust under a house or porch.

NOTE: Where the exhaust hood is to be installed through masonry a special masonry saw is necessary to cut the hole.

Install the exhaust hood and secure with screws to the outside wall and seal with caulking compound or other suitable material.

If necessary the exhaust hood may also be installed through a window by removing the glass and installing

a window plate. Window plates are available from The Maytag Company. Install exhaust hood through hole in the window plate.



Install the ductwork from the dryer to the exhaust hood. All joints on duct sections must be made so that the exhaust end of one pipe is inside the intake end of the next pipe. On flexible metal ductwork, all joints should be secured through the use of the 3-4630 clamp. DO NOT use sheet metal screws when assembling rigid ducting. All joints of rigid ductwork should be taped.



The following two drawings show exhausted installations from a basement. The third drawing shows an exhausted installation from above ground.







#### LEFT SIDE OR BASE EXHAUSTING

If the dryer is to be exhausted out the left side or through the base frame, use the 3-4652 exhaust kit, available from The Maytag Company. Complete instructions are included with the kit.



#### NONEXHAUSTED INSTALLATIONS

CAUTION: IF THE DRYER IS NOT EXTERNALLY EXHAUSTED SOME FINE LINT WILL BE EXPELLED INTO THE LAUNDRY AREA. AN ACCUMULATION OF DUST OR LINT IN ANY AREA OF THE HOME CREATES A FIRE HAZARD. THE HOME OWNER SHOULD BE AWARE OF THIS HAZARD AND INSTRUCTED ON FREQUENT CLEANING OR VACUUMING OF THE LINT ACCUMULATIONS. If the installer and customer have determined that a nonexhausted installation will be made, the 3-3736 exhaust deflector should be installed as shown. When the exhaust deflector is used, maintain a 6" clearance between the back of the control panel and the wall.



NOTE: A Dacron mesh lint bag, Part No. 3-11353, is available from The Maytag Company for use on nonexhausted installations. Although the lint screen and the lint bag will retain most of the lint expelled when installed on the dryer exhaust outlet, a certain amount of lint will continue to be expelled into the laundry area. AN ACCUMULATION OF LINT CREATES A FIRE HAZARD. THEREFORE, FREQUENT CLEAN-ING OR VACUUMING OF THE LINT ACCUMULA-TION IS NECESSARY.

NOTE: IN CANADA ALL DRYERS MUST BE EXHAUSTED TO THE OUTSIDE.





#### **DESIGN CONSIDERATIONS**

The design of these Maytag dryers have the advantage of:

1. **Big Capacity** - The tumbler, with 6.2 cubic feet provides large load capacity.

#### 2. Faster Drying

- a. The heating element and gas valve are designed for high BTU input.
- b. The dryer is designed to move 180 CFM of air to maintain the proper balance between heat and air flow producing an efficient drying atmosphere.
- c. The air intake and exhaust are situated such as to maximize the distance the air travels through and around the garments before being expelled out the exhaust.

A well balanced combination of heat, air flow and drum capacity all add up to efficient drying at temperatures low enough for all dryer-safe fabrics.

3. Serviceability - Front Service - The front of the cabinet and the control panel can both be easily removed from the front without need to disturb the installation. All electrical and mechanical parts can be serviced or replaced from the front. All components are readily accessible for fast, easy service.

#### **HOW IT WORKS**

This section describes briefly how the various components work to provide the desired drying results. Most components apply to all models. Where this is not the case, the models affected will be noted.

#### AIR FLOW

The following elements are involved in the air flow system:

#### INTAKE AND EXHAUST FAN

The dryer uses a "squirrel cage" exhaust fan which is attached to the front motor shaft. This being a direct drive, eliminates belts, pulleys, bearings and set screws normally associated with an exhaust fan.

The exhaust fan pulls room temperature air into the dryer and forces the warm moisture laden air out through the exhaust duct.

#### INTAKE

When the motor starts, the fan pulls room air in through the louvers at the rear of the dryer. This air is pulled over and around the rotating tumbler. As the air passes over the tumbler it is preheated by radiation from the warm tumbler. The incoming air also passes over the inside surface of the cabinet cooling the cabinet by convection. This lowers the cabinet temperature and minimizes the heat being dispelled into the laundry area.

#### HEATING

The preconditioned incoming air is pulled over and through the combustion cone situated in the lower right front corner of the dryer. As the air passes over the flame or heating element, its temperature is elevated. This causes the air to expand which in turn lowers its moisture content. This warm dry air is pulled up the stack and through the stainless steel grid.

#### DRYING

The heated air is drawn through the stainless steel grid at the upper right side of the tumbler back, through the tumbler to the lower left of the tumbler cover. The tumbler with clothes lifters is rotating in a clockwise direction lifting the garments to the top of the tumbler. At this point the garments fall free of the clothes lifters, into and through the air stream. The tumbling garments also create air currents. As this tumbling takes place the



garments keep turning over within the tumbler. Simultaneously the garments are continuously migrating from front to rear and back. This tumbling and migration results in continuous redistribution of garments within the load.

Damp garments tumbling in the warm dry air result in the rapid evaporation of the moisture.

#### FILTERING

The air which is heavy with moisture and which contains lint is pulled through a fine mesh Dacron filter located at the bottom of the door openings. All but the very finest of lint particles will be trapped on the lint filter. The quantity of lint collected on the filter is dependent upon the size and type of load being dried. Man-made synthetic fibers do not give off lint whereas cotton articles such as towels, give off substantial quantities of lint.

#### EXHAUSTING

The moisture laden air is then pulled into the exhaust fan and forced out through the exhaust system. The high speed, 7-1/2" "squirrel cage" fan is designed to move approximately 180 CFM of air through the dryer. The actual volume of air is dependent upon the size of the load in the tumbler and the type of design of the exhaust system. See Section IV for exhausting requirements.

#### **DRIVE MECHANISM**

#### DRIVE MOTOR

The drive motor is a single speed, 1/4 HP, thermoprotected, 120 volt motor. Rotation is clockwise when viewed from the switch end of the motor. For repair or replacement of the motor, see Section VII.



#### **AUTOMATIC CONTROL**

#### (MODELS D410, D510 & D610)

The automatic control dryers operate on the principle that as long as the load being dried is damp, and rapid evaporation is taking place, the temperature of the dryer and exhaust air will remain relatively low. It also follows that as the load gives up moisture and the rate of evaporation slows down, less BTU's or heat is used in evaporation and the temperature of the load and exhaust air increases. With this in mind, let's look at the circuitry.

When the timer is set to a degree of dryness, the circuit is completed to the heat source and the drive motor. The difference between this control and a standard timer operated dryer is the fact that the timer motor is not initially in the circuit.

To see how the control works, let's assume that the load to be dried is a normal load with the garments of somewhat uniform weight, the auto regular setting is selected and the dial set on the middle mark between "more dry" and "less dry".

As indicated in the timer schematic below, the maximum timer controlled drying time on an auto-dry regular setting is approximately 31 minutes plus a five minute cool-down. Since we set the dial to the middle mark we have set the timer at about the mid point or for approximately 15 minutes of timed dry.



With the timer set in this position, the circuits are completed to the heat source and drive motor. NOTE: The switch controlling the timer motor is open.



#### WITH CYCLING THERMOSTAT CALLING FOR HEAT (NORMAL)

At the beginning of the cycle the load is damp, the heat input is used up in evaporation of the moisture and there is little increase in the air temperature. As the load becomes drier, less heat is used up in evaporation and the temperature of the load and exhaust air starts to rise. The exhaust air is being pushed over the regulating thermostat and as the temperature of the exhaust air rises so does that of the thermostat. Once the thermostat reaches a temperature of approximately  $140^{\circ}$  the circuit is broken to the heat source and at the same time is completed to the timer motor.



#### CYCLING THERMOSTAT HAS REACHED TEMPERATURE (OPEN)

At this point the unheated air is cooling the load and the timer motor is advancing the timer towards the off position.

As the temperature of the tumbler, the items being dried and the exhaust air decrease, so does the temperature of the thermostat. When the thermostat cools to a temperature of approximately 125° the thermostat returns to its normal position breaking the circuit to the timer motor and again completing the circuit to the heating element or gas valve. NOTE: The temperatures quoted are the operating temperatures of the thermostat and not the temperature of the clothing or exhaust air. Because of its mass, the thermostat will heat up and cool down slower than the air temperature.

Because of the moisture content and the evaporation rate, the first temperature rise and cycling of the thermostat will take a relatively long period of time. By the same token, the moisture content and the evaporation rate taking place during the first heat off period makes it shorter than subsequent heat off periods.

Each time the thermostat cycles the heat period is shorter and the heat off (timer motor on) time is longer.

In this example, after a total of approximately 13 minutes of heat off time the timer will have advanced to the point where Cam 2 closes the timer motor switch which in turn advances the timer out of the heat portion of the cycle and into the cool-down period.

A selection of the middle mark is a good starting point. Experience gained from drying a few loads will enable the operator to pick a point, either more or less dry, which is most pleasing. Once this point is determined, it can be used for most loads as the automatic control, based upon time and temperature, will automatically adjust itself to the size of load.

If the operator is drying a poorly mixed load; bulky items such as cotton socks along with lightweight flat items it would be desirable to move the dial to the "more dry" so that more time is available to condition the load or to allow the moisture to surface on the bulky items. This is not necessary on a more uniform load of either bulky or lightweight items.

#### ELECTRONIC CONTROL

#### (MODELS D710 & D810)

This is a totally automatic "shut off" control that measures moisture content in the clothes. The system consists of the following components:

> Electronic Control Sensor Assembly Cycle Selector Switch

The basic principle of operation involves the process of accumulating an electrical charge in a capacitor. By selecting various different resistance volumes, different levels of dryness can be set for the shut-off point.

We will look at the control operation in terms of the circuit paths while the capacitor is being charged, while it is being discharged through the damp clothes in the dryer, and at the point of shut-off solenoid operation. Understand that moisture in the clothing load will conduct an electrical current. The wetter the clothes are, the lower their resistance will be. As moisture is removed from the clothes by the drying process, the ability to conduct current is reduced. That is to say, the resistance of the clothes will increase. When all moisture is removed there will be virtually no current through the clothing material. It is this change in resistance that is the basis of determining when the clothes are dry enough to end the drying cycle.

The electronic circuit operates on pulsating direct current which is developed by using a diode rectifier to convert the alternating current from the power line. In following the circuits we will use electron flow direction as being from negative to positive. In discussion of the current flow we will deal with the power line in its two half cycles, positive and negative. In alternating current there are 60 positive and 60 negative half cycles per second. In other words, the polarity is reversed 60 times a second and one side of the line will be changing from positive to negative.

NOTE: The circuit for the Model D710 has been used in the following explanation of how the electronic control works. The Model D810 circuit varies slightly from the D710. However, the basic operation of the electronic control is the same.

#### POSITIVE HALF CYCLE

Line 1 is positive in respect to neutral line.

Current flow is from neutral through the door switch (Blue to Yellow), through the motor centrifugal switch (Yellow to Red), through the start control switch (White/Red to Orange) to the negative side of the capacitor. Electrons (negative charge) collect on the lower plate of the capacitor and are pulled away from the other plate of the capacitor to the positive line.

From the capacitor, electron current flow is through the 100,000 ohm resistor, through the rectifier (conductive because line polarity is correct) through the 24 million ohm resistor to the junction of the 13 million ohm resistor.

On the Model D710, if "Wrinkle Release" is selected current flow is through the cycle selector switch (Black to Pink), through the shut off solenoid to the start control switch, through the start control switch (Gray to Black) to Line 1.

On all other cycles current flows from the 13 million ohm resistor junction. With the "Dry" button selected on the dryness control switch, current is fed through the 13 million ohm resistor and through the dryness control switch. Current then passes through the solenoid and back through the start control switch (Gray to Black) to Line 1. With "Extra Dry" selected current flows through both 13 million ohm resistors and through the shut-off solenoid. From there it passes through the start control switch (Gray to Black) to Line 1.

#### **NEGATIVE HALF CYCLE**

Line 1 is negative in respect to neutral.

Because of the reversed polarity of the line, the rectifier will not allow current to pass through it. Therefore, the path from Line 1 to neutral is open. The charge accumulated on the capacitor in the positive half cycle will flow from the upper plate back to cabinet ground by way of the neutral line. It then will flow from the cabinet ground through the sensor and wet clothing, through the 560,000 ohm electrode resistor, through the 100,000 ohm resistor to the bottom plate of the capacitor. This discharges the capacitor.

The drying process will reduce the moisture content of the clothing and their ability to carry the discharge current across the sensor. The series resistance of this discharge path will increase as the moisture is removed from the clothing.

During the drying process the capacitor will be alternately charged on the positive half cycle and discharged on the negative half cycle through the clothes. As the clothes dry the discharge path through the clothes increases to the point that the series resistance is greater than the resistance of the charge path. When this point is reached, the charge on the capacitor begins to build.

As the charge on the capacitor accumulates, the voltage across the capacitor will increase. This voltage is also across the neon tube by way of the 2200 ohm resistor from the bottom plate of the capacitor and the 1000 ohm gate resistor from the top plate of the capacitor (also the neutral line). When the voltage in the capacitor (and across the neon tube) reaches 74 volts, the gas in the neon tube begins to conduct. This provides a path across the capacitor and will allow it to discharge through the 1000 ohm gate resistor, the neon tube and the 2200 ohm resistor. This flow of current will develop a positive voltage at the junction of the gate resistor, the neon tube, and the gate terminal of the silicon controlled rectifier. This positive voltage causes the SCR to conduct, completing a current path from neutral to the shut-off solenoid. At this point the shut-off solenoid linkage pulls the selector switch cancel tab to the off position. The end of cycle bell also rings.

Several additional things can happen at this time. If the dryer temperature is above 120° as is normal, the circuit to the drive motor is maintained through the cool-down thermostat. If the cycle which has just been completed was permanent press, an additional contact in the start control switch is made from Red/Black to Pink/Black which puts a 3.3 million ohm resistor into the circuit for a repeating chime operation. When the dryer cools down below 120° the cool-down thermostat opens interrupting the circuit to the motor and ending dryer operation. Had



the cycle been air fluff, the temperature would have been below  $120^{\circ}$  at the time of solenoid operation. The cycle would have ended without the additional cool-down.

#### **MODEL FEATURES**

### TEMPERATURE SELECTION - MODELS D210, D410, D510, D610, D710, D810

Models D210, D410 and D710 have a choice of temperature selections, either DELICATE TEMPERATURE or REGULAR TEMPERATURE. Models D510, D610 and D810 also have a choice of temperature selections, either DELICATE TEMPERATURE, REGULAR TEMPERATURE or AIR FLUFF. The low temperature settings are for use on those items which are tagged dry on low heat. The cycling temperature on low is approximately 15° lower than regular on Models D210, D710 and D810. On the D410, D510, and D610 the regular temperature thermostat is rated at 5° lower than on other models and the differential between low and regular will be approximately 10°. AIR FLUFF will operate with no heat. See Cycle Chart at end of this section for thermostat ratings.

#### DRYNESS SELECTION

#### Models D110, D210 (Timer Controlled)

The operator controls the degree of dryness by selecting the number of minutes the dryer operates.

#### Models D410, D510 D610 (Automatic Time-Temp.)

The operator controls the degree of dryness by making a selection of either more or less dry than normal. The normal selection is at the middle mark.

#### Models D710, D810 (Electronic Control)

With the electronic control dryers, the operator has an option of either "Dry" or "More Dry". The "Dry" is to be used to dry medium and lightweight garments. The "More Dry" is to be used to dry heavyweight items such as wash cloths, blue jeans and rugs. This setting can also be used for extra dryness of any load as well as to improve on the drying of poorly mixed loads; those loads made up of heavy items, with heavy seams and elastic bands, and lightweight faster drying items. The "More Dry" setting will extend the drying time and remove more moisture from the load.

#### SPECIAL CYCLES

#### **PRESS CARE - D610**

With the PRESS CARE "on" button depressed and the

timer dial set on AUTO DRY PERMANENT PRESS, the dryer will have the normal 10 minute cool-down at the end of the cycle, then continue to tumble clothes in cool air for an additional 24 minutes. The buzzer will sound every 5 minutes during this period for 3 to 8 seconds.

#### WRINKLE RELEASE - D710

With the WRINKLE RELEASE setting selected, 7 to 8 minutes of tumbling with heat is provided followed by a cool-down period.

#### **ADJUSTABLE PRESS CARE - D810**

The PERMANENT PRESS cycle with the ADJUST-ABLE PRESS CARE setting selected will extend the cool-down period at the end of the PERMANENT PRESS CYCLE for the amount of time pre-selected, up to 40 minutes. The ADJUSTABLE PRESS CARE setting operates as follows:

With PRESS CARE set at 40 minutes, the dryer will run until the load is dry and the electronic control fires. The end of cycle "chime" will then ring once. The dial, which has not moved up to this point, begins to advance towards the PERMANENT PRESS marking while the load continues to be tumbled without heat for the 40 minutes. Again, the time is adjustable from 0 to 40 minutes. The "reminder chime" will ring once every 8 minutes until the last 2-3 minutes of the cycle. During the last 2-3 minutes the "chime" will sound every 30 seconds until completion of the cycle. Should the customer choose to turn the "reminder chime" off, the chime will sound only once at the time the electronic control fires. There would be no "chime" during PRESS CARE.

#### **PUSH-TO-START SWITCH**

All models incorporate a push-to-start switch. When the dryer door is opened the circuit is broken (at the door switch) to the drive motor. This brings the motor to a stop and breaks the circuit to the heating source. As an extra safety precaution, to prevent small children from starting the dryer, it is necessary to not only close the door but to again activate the push-to-start switch before operation will resume.

#### END OF CYCLE SIGNAL - D410, D510 & D610 Automatic Control

The automatic control dryers incorporate a buzzer which signals the end of the cycle on all dry selections. The buzzer is wired in parallel with the timer and in series with the motor start switch.



#### OFF

- 1. In the normal or off position the timer contact controlling the motor is open.
- 2. Current is available to the buzzer.
- 3. There is no completed circuit since the motor is at rest and the centrifugal switch is in the start position.

#### DRYER IN OPERATION

- 1. The timer contacts controlling the motor are closed.
- 2. The motor is running and the centrifugal switch is in the run position.
- 3. Current is available at the buzzer. However the resistance of the buzzer is much greater than that of the timer switch contacts. The current will shunt or bypass the buzzer in favor of the timer contacts.

#### DRYER SHUTTING OFF

- 1. The timer contact controlling the drive motor is opened.
- 2. Drive motor starts slowing to a stop.
- 3. Since the timer contact is open the current now flows through the buzzer and is completed through the start position.
- 4. The buzzer is now actuated and will buzz for the few seconds required for the motor to slow to the point where the centrifugal switch moves back to the run position.

#### **ADJUSTABLE TONE - MODEL D610**

The tone of the end of cycle signal on the Model D610 can be automatically adjusted by the customer. The signal control lever is raised to increase and lowered to reduce or eliminate the buzzer tone.

#### ELECTRONIC CONTROL - D710 & D810

The electronically controlled dryers have a chime that is sounded once at the end of the cycle on air fluff and at the beginning of the cool-down on regular fabrics. The chime is sounded when the shut-off solenoid is energized. See Section VI for operation of electronic control and solenoid.

On permanent press the solenoid is also actuated when the load is dry. On permanent press unlike the other selections the chime will ring repeatedly until the cool-down phase is completed or the door is opened to remove the door. Note: The Model D810 has a "Reminder Chime" switch which controls the repeating chime. The customer may choose to eliminate the repeating chime should they desire.

The chime circuit is as follows:

From Line 1 at the electrical source through the cooldown thermostat, which is closed until the cool-down is completed, through the shut-off solenoid to the cycle selector switch. From there through the cycle selector switch, Pink to Red/Black and through the start control switch, Red/Black to Pink/Black. From the start control switch the circuit is completed through the electronic control, through the run contacts of the motor centrifugal switch, through the door switch to neutral. Since the load is dry the sequence of charging the capacitor and ringing the chime will repeat every few seconds.

NOTE: The number of times the chime will sound may vary considerably depending on the temperature in the dryer and the length of time required to cool the dryer down enough to open the contacts in the cool-down thermostat, breaking the electrical circuit to the drive motor.

#### DRUM LIGHT - MODELS D510, D610, D710 & D810

The drum light is at the upper left-hand corner of the tumbler opening. The bulb is a heavy-duty bulb of approximately 40 watts. It is wired in series with the door switch so that the light comes on, illuminating the drum only when the door is opened.

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### **CYCLE CHART**

MODELS	CYCLES							TEMP. SELECTION				END OF CYCLE SIGNAL
	AIR FLUFF	PERM	PRESS	REGULAR		WRINKLE RELEASE				COOL		
	MAXIMUM DRY TIME	MAX. DRY TIME	COOL DOWN	MAX. DRY TIME	COOL DOWN	MAX. DRY TIME	COOL DOWN	LOW TEMP.	REG. TEMP.	DOWN OPENS AT	HI·LIMIT	
DE 110	20 min.	50 min.	6-9 min.	70 min.	2-5 min.				140°		200°	
DG 110	20 min.	50 min.	6-9 min.	70 min.	2-5 min.				140°		220°	
DE 210	20 min.	50 min.	6-9 min.	70 min.	2-5 min.			140°	155°		200°	
DG 210	20 min.	50 min.	6-9 min.	70 min.	2·5 min.		1	140°	155°		220°	
DE 410	15 min.	Auto.	10 min.	Auto.	5 min.			140°	150°		200°	BUZZER
DG 410	<u>15 min.</u>	Auto.	10 min.	Auto.	5 min.			140°	150°	L	200°	BUZZER
DE 510	60 min.	Auto.	10 min.	Auto.	5 min.			140°	150°	,	200°	BUZZER
DG 510	60 min.	Auto.	10 min.	Auto.	5 min.			140°	150°		200°	BUZZER
DE 610	60 min.	Auto.	10 min.	Auto.	5 min.			140°	150°		200°	ADJ. BUZZER
DG 610	60 min.	Auto.	10 min.	Auto.	5 min.			140°	150°		200°	ADJ. BUZZER
DE 710	E.C.	E.C.	T.C.	E.C.	T.C.	E.C.	T.C.	140°	155°	120°	200°	CHIME*
DG 710	E.C.	E.C.	T.C.	E.C.	T.C.	E.Ç.	т.с.	140°	155°	120°	200°	CHIME*
DE 810	E.C.	E.C.	T.C.	E.C.	T.C.			140°	155°	120°	200°	CHIME*
DG 810	E.C.	E.C.	T.C.	E.C.	T.C.			140°	155°	120°	200°	CHIME*

\*End of cycle chime repeats on permanent press setting.

s.

T.C. - Thermostatically Controlled E.C. - Electronically Controlled





## **Disassembly & Parts Replacement**

The service procedures in this section basically explain where a part is and how to replace it. Electrical testing procedures are covered in Section IX. For the most part, the procedures will cover all models in this manual. Where a procedure pertains only to specific models, it will be noted.

CAUTION: BEFORE WORKING AROUND ANY ELECTRICAL COMPONENTS OR AN EXPOSED WIRING OR TERMINALS, ALWAYS DISCONNECT DRYER FROM POWER SOURCE.

#### **SELECTOR DIAL**

To Remove The Dial:

1. Pry cap off.



- 2. Remove nut behind cap.
- 3. Remove dial.



### CONTROL PANEL ASSEMBLY & COMPONENTS

#### CONTROL PANEL ASSEMBLY

The control panel assembly is removed by removing the two screws as shown. It may then be tipped forward and layed on the top cover for additional service procedures.



When replacing control panel assembly engage tabs on back-up plate to control panel assembly into the slots of the console.



#### **CONTROL PANEL**

To Remove Control Panel:

- 1. Remove control panel assembly.
- 2. Remove selector dial.
- 3. Remove two outside screws on top of control panel.



- 4. Remove both end caps.
- 5. Remove four nuts holding control panel to back-up plate.
- 6. Insert a flat bladed screwdriver between the top portion of the control panel and back-up plate and gently pry the two apart.
- 7. Disengage notches of control panel from slots in bottom of back-up plate and remove control panel.



#### CONSOLE

To Remove Console:

- 1. Remove control panel assembly.
- 2. Remove eight screws, two on each side and four across the front, holding console to top cover.

#### **TIMER - ALL MODELS EXCEPT D710**

To Remove Timer:

- 1. Remove dial.
- 2. Remove two screws behind dial.



- 3. Remove control panel assembly.
- 4. Remove wires from timer.
- 5. Remove timer. NOTE: When replacing timer, replace wires according to color coding.

#### **SELECTOR SWITCH - MODEL D710**

To Remove Selector Switch:

- 1. Remove dial.
- 2. Remove two screws behind dial.
- 3. Remove control panel assembly,
- 4. Remove wires from selector switch.



5. Remove selector switch. NOTE: When replacing selector switch, replace wires according to color coding.

### PUSH TO START SWITCH - MODELS D110, D210, D410, D510 & D610

To Remove Start Switch:

1. Remove control panel assembly.

- 2. Remove wires from start switch.
- 3. Remove two screws holding switch and bracket for switch to the back-up plate.



4. Squeeze expanded end of switch together and remove switch from bracket. Note positioning of switch in bracket to insure proper installation of replacement start switch.

#### START CONTROL SWITCH - MODELS D710 & D810

To Remove Start Control Switch:

- 1. Remove control panel assembly.
- 2. Remove wiring from start control switch.
- 3. Remove two screws holding switch to back-up plate.



- 4. Disconnect linkage from start control switch to shut-off solenoid.
- Remove start control switch. NOTE: When replacing start control switch, replace wires according to color coding.

#### SHUT-OFF SOLENOID - MODELS D710 & D810

To Remove Solenoid:

- 1. Remove control panel assembly.
- 2. Remove wires to shut-off solenoid.

3. Remove two screws holding solenoid to chime and solenoid bracket.



- 4. Remove chime actuator.
- 5. Disconnect linkage from solenoid to start control switch.
- 6. Align pin of solenoid plunger with slot in chime actuator and remove actuator from plunger.

NOTE: When replacing shut-off solenoid, the chime actuator should be repositioned on the solenoid plunger and the linkage reconnected before securing solenoid to the bracket.

#### CHIME ACTUATOR - MODELS D710 & D810

To Remove Chime Actuator:

- 1. Remove control panel assembly.
- 2. Remove screw holding actuator to chime and solenoid bracket.



- 3. Remove two screws holding shut-off solenoid.
- 4. Remove chime actuator using flat blade screwdriver to pry actuator off bracket.
- 5. Disconnect linkage from solenoid to start control switch.
- 6. Align pin of solenoid plunger with slot in chime actuator and remove actuator from plunger.
#### CHIME - MODELS D710 & D810

To Remove Chime:

- 1. Remove control panel assembly.
- 2. Remove two screws holding shut-off solenoid and move solenoid off to one side.
- 3. Remove screw holding chime to bracket and remove chime.



#### **REMINDER CHIME SWITCH - MODEL D810**

- 1. Remove control panel assembly.
- 2. Remove wires to reminder chime switch.
- 3. Remove two screws holding reminder chime switch to back-up plate.



4. Remove reminder chime switch.

#### **BUZZER - MODELS D410 & D510**

- To Remove Buzzer:
- 1. Remove control panel assembly.
- 2. Remove wires to buzzer.
- 3. Remove screw holding buzzer to back-up plate.
- 4. Remove buzzer. Note locating tab on buzzer and corresponding slot on back-up plate.



#### **BUZZER - MODEL D610**

The tone of the buzzer on the Model D610 is adjustable. Therefore, in addition to the buzzer switch there is also a slide lever with pivot arm which can be removed.

To Remove Buzzer:

- 1. Remove control panel assembly.
- 2. Remove wires to buzzer.
- 3. Remove screw holding buzzer to back-up plate.



4. Remove buzzer. Note shaft of buzzer and corresponding slot in pivot arm of slide lever.

To Remove Adjustable Slide Lever:

- 1. Remove buzzer.
- 2. Remove two screws holding slide lever retaining plate.



3. Remove slide lever with pivot arm. Note position of pivot arm, slide lever and retaining plate for future mounting procedures.

# TWO TEMPERATURE SWITCH - MODELS D210, D410 & D710

- 1. Remove control panel assembly.
- 2. Remove wires to temperature switch.
- 3. Remove two screws holding temperature switch to back-up plate.



4. Remove temperature switch. NOTE: When replacing temperature switch, replace wires according to color coding.

# THREE TEMPERATURE SWITCH - MODELS D510, D610 & D810

To Remove Temperature Switch:

- 1. Remove control panel assembly.
- 2. Remove wires from temperature switch.
- 3. Remove two screws holding temperature switch to back-up plate.



4. Remove temperature switch. NOTE: When replacing temperature switch, replace wires according to color coding.

# DRYNESS CONTROL SWITCH - MODELS D710 & D810

To Remove Dryness Control Switch:

- 1. Remove control panel assembly.
- 2. Remove wires to dryness control switch.
- 3. Remove two screws holding dryness control switch to back-up plate.



 Remove dryness control switch. NOTE: When replacing dryness control switch, replace wires according to color coding.

# DRYNESS CONTROL BOARD - MODELS D710 & D810

To Remove Dryness Control Board:

- 1. Remove control cover assembly.
- 2. Grasp the control board as shown and carefully move the board from side to side while gently pulling out.



NOTE: Attempted repair of the dryness control board is not recommended. Should failure occur, replace the complete dryness control board.

# EDGEBOARD CONNECTOR ASSEMBLY - MODELS D710 & D810

To Remove Edgeboard Connector Assembly:

- 1. Remove control panel assembly.
- 2. The edgeboard, capacitor, wire harness and bracket are all one assembly. Remove the two screws holding the assembly to the back-up plate.
- 3. Disconnect edgeboard wires from various other electrical components.
- Remove complete edgeboard connector assembly. NOTE: When replacing edgeboard connector assembly, replace wires according to color coding.

#### AUTO DRY SWITCH - MODEL D510

To Remove Auto Dry Switch:

- 1. Remove control panel assembly.
- 2. Remove wires from auto dry switch.
- 3. Remove two screws holding auto dry switch to back-up plate.



4. Remove auto dry switch. NOTE: When replacing auto dry switch, replace wires according to color coding.

#### **PRESS CARE SWITCH - MODEL D610**

To Remove Press Care Switch:

- 1. Remove control panel assembly.
- 2. Remove wires from press care switch.
- Remove two screws holding press care switch to back-up plate.
- 4. Remove press care switch. NOTE: When replacing press care switch, replace wires according to color coding.



#### **CABINET & COMPONENTS**

#### DOOR GASKET

To Remove Door Gasket:

1. The door gasket is removed by grasping one end, located at the bottom of the door and pulling it from the door. It is not necessary to remove the door from the dryer.



To Replace Door Gasket:

The following drawing shows the shape of the door gasket. The thicker end of the gasket fits behind the tabs on the door.



For appearance, start installing one end of the gasket at the bottom middle of the door. Work the thicker end of the gasket behind each tab. If the ends of the gasket overlap, distribute the gasket more evenly around the door circumference.



NOTE: Door seals ordered for repair purposes are designed for installation on both domestic and commercial model dryers. When the seal is used on domestic models, it is necessary to cut off 1/2'' from one end before installing.

#### **DOOR KNOB**

To Remove The Door Knob:

- 1. Open door.
- 2. Remove screw from inside the door which holds the knob and pull knob out.



#### DOOR

To Remove Door Assembly:

- 1. Open door.
- 2. Support door and remove four screws (two from

upper hinge and two from lower hinge) which hold the door.

3. Remove door.



#### FRONT PANEL REMOVAL

To Remove The Front Panel:

1. Remove two screws holding front panel.



- 2. Lift up on front panel and swing bottom of panel away from dryer to disengage top of panel from dryer.
- Front panel may be set off to one side or if necessary, the door switch wires may be disconnected and the front panel removed completely from the unit.

#### **DOOR HINGES**

To Remove Door Hinges:

- 1. Remove front panel because each door hinge is backed up by a retaining clip which will fall from plate when the hinge is removed.
- 2. Remove two screws holding each hinge.

#### **DOOR LATCH**

The door latch is in two parts. The door part of the latch is removed as follows:

- 1. Remove door from dryer.
- 2. Separate door panels by removing knob, hinges and two screws on opposite end from hinges.
- 3. Using a pair of pliers, squeeze the expanded end of latch together and remove it from the door.



Removing Panel Part Of Door Latch:

- 1. Remove front panel.
- 2. Squeeze the expanded end of the latch together and remove latch.



#### DOOR SWITCH

To Remove Door Switch:

- 1. Remove front panel.
- 2. Remove wires from switch.
- 3. Squeeze expanded end of switch together and remove switch.



TUMBLER LAMP - MODELS D510, D610, D710 & D810

To Replace Tumbler Lamp:

- 1. Remove front panel.
- 2. The lamp assembly is in the upper left corner.



#### **TOP COVER**

To Remove Top Cover:

- 1. Remove front panel.
- 2. Remove two screws (one in each front corner) which hold top cover to cabinet.
- 3. Remove main wire harness wiring from motor, thermostats, etc. NOTE: Although not required, removal of the tumbler will make it easier to trace and remove the wire harness wiring.
- 4. Remove wire harness from cord grommets on dryer base.
- 5. Remove control panel assembly.
- 6. Pull main wire harness through opening in top cover.
- 7. Remove console.
- 8. Push top cover back to disengage from cabinet and remove top cover.

#### CABINET

To Remove Cabinet:

- 1. Remove front panel.
- 2. Remove top cover assembly. NOTE: Control panel or console need not be removed from the top cover.
- 3. Remove tumbler.
- 4. Remove rear bulk head.
- 5. Remove six screws (three on each side) holding cabinet to base frame.
- 6. Remove cabinet.



#### SENSOR - MODELS D710 & D810

To Remove Sensor:

- 1. Open dryer door.
- 2. Remove two screws holding sensor, pull sensor out and remove wires.
- 3. Remove sensor.
- 4. If a wire has come off of a sensor terminal it will probably be necessary to remove the front panel to reinstall it.

#### THERMOSTATS

#### **HI-LIMIT THERMOSTAT - ALL MODELS**

The hi-limit thermostat for a gas or an electric dryer is located on the heat cone.

To Replace Hi-Limit Thermostat:

- 1. Remove front panel.
- 2. Loosen back screw.



- 3. Remove front screw.
- 4. Remove wires and slide thermostat out.

# REGULAR CYCLING THERMOSTAT - MODELS D410, D510 & D610

The regular cycling thermostat for these models is located on the blower housing. It is the lower, right thermostat.



To Replace Regular Cycling Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat to housing.
- 4. Remove thermostat.

# LOW CYCLING (DELICATE) THERMOSTAT - MODELS D410, D510 & D610

The low cycling thermostat for these models is located on the blower housing. It is the lower left thermostat.



#### To Replace Low Cycling Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat to housing.
- 4. Remove thermostat.

#### **CYCLING THERMOSTAT - MODELS D110**

The cycling thermostat for this model is the only thermostat on the blower housing.



To Replace Cycling Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat.
- 4. Remove thermostat.

# REGULAR CYCLING THERMOSTAT - MODELS D210, D710 & D810

The regular cycling thermostat for these models is located on the blower housing. It is the lower right thermostat.



To Replace Regular Cycling Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat to housing.
- 4. Remove thermostat.

#### LOW CYCLING (DELICATE) THERMOSTAT MODELS D210, D710 & D810

The low cycling thermostat for these models is located on the blower housing. It is the lower left thermostat.



To Replace Low Cycling Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat to housing.
- 4. Remove thermostat.

# COOL-DOWN THERMOSTAT - MODELS D710 & D810

The cool-down thermostat for these models is located on the blower housing. It is the upper right thermostat.



To Remove Cool-Down Thermostat:

- 1. Remove front panel.
- 2. Remove wires from thermostat.
- 3. Remove screws holding thermostat to housing.
- 4. Remove thermostat.

#### **HEAT SOURCES**

#### GAS VALVE - DG MODELS ONLY

The gas value is a single level value providing 22,000 BTU.

To Remove Gas Valve:

- 1. Remove front panel.
- 2. Shut off gas supply and disconnect supply line to valve.
- 3. Remove two screws holding valve and burner assembly to base.
- 4. Disconnect wire harness.



- 5. Disconnect wires from radiant sensor located on heat cone.
- 6. Remove wires from hi-limit thermostat.
- 7. Slide valve bracket out of slot in base and remove valve and burner assembly.



To Remove Gas Valve From Valve Bracket And Burner:

Remove three screws holding valve bracket and burner to underside of gas valve.



To Remove Orifice From Gas Valve:

The orifice can be removed with a  $3/8^{\prime\prime}$  socket or wrench,



#### **GAS VALVE COILS**

The gas valve coils may be replaced if necessary. Replacement coils complete with installation instructions are available. Check the parts catalog for the part number.

#### IGNITER

The igniter is used to ignite the gas as it comes from the gas valve. It is located on the left side of the burner (as viewed from the front of the dryer). The igniter is very fragile and must be handled carefully.



The igniter assembly with ceramic holder and lead wires is attached directly to the burner by one screw and washer assembly. The igniter leads are attached to the gas valve leads by a plug type connector.

When replacing the igniter make sure the dimension between the igniter and the edge of the flame spreader is approximately 1/4". If the igniter is allowed to touch the flame spreader, it will short out and fail. If the distance between the igniter and spreader is too great, it will not ignite the burner at all.

#### **RADIANT SENSOR**

The radiant sensor acts much like a thermostat. The radiant sensor is located on the left side of the heat cone (as viewed from the front of the dryer).

To Remove The Radiant Sensor:

- 1. Remove front panel.
- 2. Remove screw holding sensor to heat cone.
- 3. Remove wires from sensor.
- 4. Pull tab on sensor bracket from slot in heat cone.



#### **HEAT CONE**

The heat cone holds the heating element on electric dryers and goes around the gas burner on gas dryers.

To Remove Heat Cone:

- 1. Remove front panel.
- 2. On electric models, remove two screws holding cone cover in place. Cone cover is not present on gas models.
- 3. Remove screw in front of cone holding cone to base.



- 4. Remove one screw at back of cone holding cone tab to inlet air duct.
- 5. Pull cone out of dryer.

#### HEATING ELEMENT - ELECTRIC MODELS ONLY

The heating element is a 5300 watt element. It is located inside the heat cone.

To Replace The Element:

- 1. Remove front panel.
- 2. Remove two screws holding cone cover and remove cover.



- 3. Remove screws holding heat cone to base and remove cone.
- 4. Remove four screws holding cone halves together and lay halves side by side.



- 5. Remove screws and insulators holding ends of element and thread element out of insulators. Do not uncurl loops on ends of element to fit around screws. Always completely remove screws.
- 6. Be very careful when installing new elements so the element is not stretched. If you come up short or long on the element at the end, go back and readjust the element from the beginning. Do not stretch the last part of the element to fit. Check for cracked insulators. Any which are damaged should be replaced.

#### **TUMBLER & RELATED COMPONENTS**

#### **TUMBLER FRONT**

The tumbler front holds the front of the tumbler in the correct position and provides a bearing surface for the tumbler to ride on.

To Remove Tumbler Front:

- 1. Remove front panel.
- 2. Remove four screws holding tumbler front to cabinet.



Remove screw holding ground wire to cabinet.
Pull tumbler front out and away from tumbler.

NOTE: Two tabs on each side of the tumbler front fit into notches in the front of the cabinet. These must be disengaged to remove tumbler front.

#### **OUTLET DUCT (OUTER HALF)**

The outer half of the outlet duct is held to the front of the tumbler front.

To Remove Outlet Duct:

- 1. Remove front panel.
- 2. Remove nine screws holding outer half of outlet duct to tumbler front.



3. Remove outlet duct (outer half).

#### **OUTLET DUCT (INNER HALF)**

The inner half of the outlet duct is held to the back of the tumbler front by four screws.



#### **GUIDES FOR LINT FILTER**

To remove guides, remove screws.



#### **TUMBLER FRONT SEAL**

The tumbler front seal fits around the circumference of the back of the tumbler front. Should it be necessary to replace this seal, clean the surface and use Maytag Part No. 55978 rubber adhesive.



#### **TUMBLER FRONT BEARINGS AND PADS**

At the bottom inside of the tumbler front are two Teflon carbon bearings which rest on cork pads. These bearings are to provide a surface for the front of the tumbler to ride on. If it is necessary to replace a front bearing, drill out old rivets and rivet new bearings on.



#### TUMBLER AND BELT

The tumbler is a round cylinder with no permanently attached front or back.

To Remove Tumbler And Drive Belt:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Reach under tumbler and remove drive belt from motor and idler pulleys.



- 4. Slip belt off tumbler.
- 5. Pull tumbler out of cabinet.

To Replace Drive Belt:

The drive belt may be replaced from the front without disturbing the installation. The following procedure should be used:

- 1. Disconnect power cord.
- 2. Remove the front panel.
- 3. Remove the tumbler front assembly.
- 4. Place belt over the top of the dryer tumbler with the smooth side against the tumbler and position it about 1/2" in front of the back screws which hold the clothes lifters. In order to get the belt between the bottom of the tumbler and the blower it will be necessary to lift up on the tumbler.



5. The best position to take while installing the belt is to sit on the floor facing and as close to the dryer as possible. Place your left arm along the left side of the tumbler and your right arm along the bottom of the tumbler (as close to the blower as possible).



6. With the right hand, loop the belt over the top of the motor pulley making certain the grooves of the belt are against the pulley and that the belt is properly seated into the pulley.



7. With the left hand, loop the belt under the motor pulley.



8. With the right hand, position the belt over the top of the idler pulley and begin to work it around the circumference of the idler pulley while pushing the pulley up and to the left.



NOTE: It is neither necessary nor advantageous to push extremely hard on the pulley. This tends to put the idler

pulley and motor pulley in a bind and also puts a strain on the installer so he cannot work efficiently with his hands to complete the belt installation.

9. Once the belt is almost around the entire circumference of the idler pulley, use the left hand to push the belt over the bottom of the idler pulley while at the same time making certain that the belt is between the idler pulley and the belt guide.



10. With the belt completely installed, feel with both hands to see that it is properly positioned in the motor pulley and in the approximate middle of the idler pulley. When you have determined by feeling that it is installed correctly, lift up and push back while slowly turning the tumbler one or two revolutions in a clockwise direction to allow the belt to properly align itself.



#### **CLOTHES LIFTERS**

There are three clothes lifters (two tall and one short) which are used to aid in tumbling the clothes.

To Remove The Clothes Lifters:

1. Remove front panel.

2. Remove two screws holding each lifter to the tumbler.



For ease in replacing a clothes lifter you will find a locating tab on the underside of the lifter. Pilot slots are also found in the tumbler. When the clothes lifter is installed, the tab is inserted into the slot in the tumbler. This correctly aligns the screw holes in the lifter with those in the tumbler.

#### **ROLLER AND BEARING ASSEMBLY**

There are two roller and bearing assemblies attached to the tumbler back. The back of the tumbler rides on these rollers.

To Remove Roller And Bearing Assembly:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove tumbler.
- 4. Remove retaining ring from groove in shaft.



- 5. Remove fiber washer.
- 6. Remove roller.
- 7. To remove roller shaft remove nut on back.

NOTE: There is a spacer washer behind the roller. When replacing parts be certain the order of the replacement is correct.



#### **TUMBLER BACK**

To Remove Tumbler Back:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove tumbler.
- 4. The tumbler back is secured to the back panel by four screws.



#### FELT SEAL FOR TUMBLER BACK

The felt seal for the tumbler back can be replaced from the front of the dryer. However, for ease in servicing we recommend removal of the tumbler back from the dryer.

To Remove Felt Seal:

- 1. Remove front panel of dryer.
- 2. Remove four screws holding tumbler front assembly and remove assembly.
- 3. Remove tumbler and belt.
- 4. On electric models, remove cone cover and heat cone. On gas models, remove gas valve assembly and heat cone.
- 5. From back of dryer, remove four screws holding tumbler back assembly and remove assembly.
- 6. Remove the old seal and as much adhesive as possible. Thoroughly clean surface where new seal will be installed.

7. The Teflon coated side (which is the lighter of the two colors) goes against the tumbler. The seal is then looped in a "U" shape so the slot edge of the lighter colored side is cemented to the tumbler back. Use Maytag Part No. 55978 rubber adhesive to hold the seal.



8. With felt seal replaced, reassemble dryer.

#### **INLET DUCT**

The inlet duct is secured to the back of the tumbler back by three screws, one at top and two at the bottom under the felt seal.



#### **BLOWER**

#### **COVER FOR BLOWER**

To Remove Cover For Blower:

- 1. Remove front panel.
- 2. Remove tumbler front.



- 3. Remove six screws holding cover to blower housing.
- 4. Remove screw holding cover to base.



5. It is not necessary to remove wires from thermostats to gain access to blower. Simply lay blower cover forward.

#### SEAL FOR BLOWER

The felt seal for the blower is secured to the lip of the cover for the blower. If a seal is replaced, clean surface and use Maytag Part No. 55978 rubber adhesive to hold seal.



**BLOWER IMPELLER** 

The blower impeller is attached directly to the motor shaft and behind the blower cover.

#### To Remove Impeller:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove blower cover.
- 4. Remove clip retaining ring.



- 5. Compress and remove clamp around hub of impeller.
- 6. Work impeller back and forth while pulling off shaft. It may require considerable effort to remove the impeller.

#### **BLOWER HOUSING**

To Remove Blower Housing:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove blower cover.
- 4. Remove blower impeller.
- 5. Remove clip retaining ring located behind blower impeller.



- 6. Remove four screws holding blower housing to motor mounting bracket.
- 7. Remove blower housing.
- 8. When replacing blower housing be certain the clip retaining ring is properly replaced into the groove in the motor shaft.

#### **EXHAUST DUCT PIPE**

One end of the exhaust duct pipe is held to the back of the cabinet by one screw. It fits over the blower housing on the opposite end.



#### **DRIVE MECHANISM**

#### DRIVE MOTOR AND BASE

The motor is held to the motor base by metal clips which clamp over the motor mounts located at each end of the motor.

To Remove The Drive Motor:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove tumbler.
- 4. Remove complete blower.

NOTE: The motor base is held to the dryer base by two screws on one side and on the other side by a tab which fits into a slot in the dryer base. It is easier to remove the complete motor and base in order to remove the motor. To do this, remove the two screws and disconnect motor wires.



To Remove Motor From Motor Base:

1. Using a screwdriver, roll the clips off of the motor mounts.



2. Remove motor.

#### **MOTOR PULLEY**

The motor pulley is held in position by a 1/8" set screw.

To Remove Motor Pulley:

- 1. Place hex head wrench in set screw.
- 2. Using a hammer or rubber mallet, strike the end of the hex head wrench, as shown.



When replacing the motor pulley make sure the set screw aligns with the flat side of the motor shaft. Tighten set screw securely. See Section VIII for procedures on motor pulley adjustment.

NOTE: Motor pulleys are identifiable by the grooves in the hub of the pulley. Model D10 dryers use the two groove 60 cycle pulley as shown.



NOTE GROOVES

#### **IDLER ASSEMBLY**

To Remove The Idler Pulley:

- 1. Remove front panel.
- 2. Remove tumbler front.
- 3. Remove tumbler.
- 4. Remove spring and screw holding assembly.



NOTE: When replacing the idler assembly apply a light coating of 56016 Maytag center seal grease to the motor support where it is contacted by the spacer for the idler.



#### **IDLER PULLEY**

The idler pulley is held to the idler bracket by a retaining clip.

To Remove The Idler Pulley:

1. Pry clip from groove in shaft with a small screwdriver.



2. A fiber washer is located on both sides of the pulley. Be certain these are replaced when you reassemble these parts.





# Mechanical Troubleshooting

There are a number of factors which can contribute to an undesirable noise during dryer operation. If you encounter one of the conditions listed in this section, check the recommendations shown.

#### **RATTLE (CHECK THE FOLLOWING)**

MAYTAG

- 1. Exhausting.
- 2. Gas service line.
- 3. Dryer not level.

#### LOOSE SCREWS (CHECK THE FOLLOWING)

- 1. Clothes lifters.
- 2. Tumbler front or tumbler back.
- 3. Gas valve bracket.
- 4. Heater enclosure.
- 5. Heater shield.
- 6. Internal exhaust pipe.
- 7. Door hinges.
- 8. Control panel.
- 9. Front panel.
- 10. Inlet duct.
- 11. Main wire harness.

#### THUMPING NOISE (CHECK THE FOLLOWING)

- 1. Worn rollers.
- 2. Alignment of rollers to tumbler back.
- 3. Clothes lifters.
- Roller and bearing surfaces of tumbler wrapper, must be smooth.

#### VIBRATION (CHECK THE FOLLOWING)

- 1. Dryer not level.
- 2. Loose motor support.
- 3. Defective motor.
- 4. Idler spacer rubbing against motor support. Apply a light coating of 56016 Maytag center seal grease to the motor support where it is contacted by the spacer for the idler.

## RUBBING OR SCRAPING NOISE (CHECK THE FOLLOWING)

- 1. Worn Teflon bearings on tumbler front.
- 2. Felt at front and rear of tumbler out of position.

#### SQUEALING NOISE (CHECK THE FOLLOWING)

- 1. Dry shaft for idler pulley. Use turbine oil, Maytag Part No. 55977.
- 2. Dry shaft for tumbler rollers.(Use SBL Maytag Part No. 55975)

The following symptoms may be encountered which could result in a mechanical malfunction. If you encounter one of them, follow the instructions shown.

#### DRYER RUNS & HEATS BUT TAKES TOO LONG TO DRY - ALL MODELS (CHECK THE FOLLOWING)

- 1. Is lint filter clean. The lint filter should be cleaned regularly before drying.
- Look in the area below the lint filter. In the event the dryer has been operated without the filter in position, there is a possibility that an item could have gotten down into this area resulting in a blockage of air flow.
- 3. Carefully evaluate the exhaust. This is most important for proper air flow through the dryer. The following are some conditions to consider:
  - a. Extremely long exhaust.
  - b. Too many elbows.
  - c. Flexible exhaust which may have collapsed or kinked, resulting in restriction of air flow.
  - d. Exhaust or exhaust hood restricted with lint. Clean exhaust and exhaust hood.
  - e. Check for reducer in exhaust duct. Duct is to be a minimum of 4" diameter.
  - f. If the tumbler speed is too fast, this could result in the clothes not tumbling properly, and taking longer than normal to dry. The tumbler speed should be approximately 47 RPM. Check tumbler speed as follows:

Attach a light colored object to one of the clothes lifters. Open door, hold door switch in and start dryer. After the tumbler revolves once, then start counting each revolution. Continue to count for two minutes. If the average tumbler speed exceeds 47 RPM, the drive belt may not be properly seated in the groove of the motor pulley. Reposition belt properly into pulley grooves and again check tumbler speed. If problem persists, replace belt and idler pulley.

4. Assuming tumbler speed is proper, however, exhausting is still questionable, you may wish to disconnect the exhaust from the dryer and dry a load. (At this time, it would be well to point out and discuss overloading of dryer which could extend drying time.) If results are satisfactory, exhaust is at fault, and should be revised for proper performance.

#### DRYER RUNS AND HEATS BUT TUMBLER DOES NOT TURN (CHECK THE FOLLOWING)

 One of the first things to consider is the drive belt. It may have come off the drive pulley or it may have broken. When replacing the drive belt, observe the motor pulley. There is a possibility that it may have come off the motor shaft or it may be loose on the shaft. Positioning of the pulley on the motor shaft is important for proper alignment with the idler assembly. The distance from the back of the motor pulley to the face of the motor support should be 3/8".

A gage for establishing the proper position of the pulley is available from The Maytag Company under Part No. 38623.

To use the gage, place the thicker part against the motor support and the thinner end between the pulley and mounting ring. With the proper 3/8'' dimension established, tighten the pulley set screw.



2. Carefully inspect the idler bracket and idler assembly for excessive wear. Also the pulley should spin freely on the idler bracket shaft. The idler bracket should also pivot without resistance where it is attached to the motor base. If necessary replace the idler bracket assembly and lubricate the idler bracket shaft with turbine oil.

#### CHIME RINGS - DRYER DOESN'T SHUT OFF - D710 & D810 ONLY (CHECK THE FOLLOWING)

If the chime rings but the dryer will not shut off, check for a broken linkage between the start-control switch and shut-off solenoid.



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TIMER



\* SEE MOTOR TEST SECTION



\* SEE MOTOR TEST SECTION



#### \* SEE MOTOR TEST SECTION



#### • SEE MOTOR TEST SECTION



\* SEE MOTOR TEST SECTION



\*\* SEE GAS CONTROL TESTING









**DE 410** 











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si.







DE 110 (DRYER WON'T START)



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# **Electrical Troubleshooting**

#### GENERAL

In both the mechanical and electrical troubleshooting sections, reference made to areas which should be checked apply specifically to those mentioned. Conditions which are not identical, will require additional diagnosis.

The service technician should acquaint himself with the normal operation of the dryer so he will be able to recognize a malfunction. This will save time and avoid unnecessary expense for the customer.

Care should be exercised when using testing equipment or working on this dryer to avoid personal injury. Always follow printed instructions carefully.

#### **ELECTRICAL TESTING METERS**

#### APPLIANCE TEST METER

The appliance test meter, Part No. 38599, features a "taut band" meter movement suspension which provides maximum protection against damage. It can be used to detect open and closed circuitry and to measure resistances. The ohms ranges are; 0-3000 (RX1), 0-300,000 (RX100) and 0-3,000,000 (RX1000). The AC volt ranges are 0-150 and 0-300. DC ranges are 0-15 and 0-150. An accessory temperature probe is available which can be used to check exhaust temperature, etc. The range of the probe is 50° F. to 300° F.



#### **CLAMP-ON AMMETER**

The clamp-on ammeter, Part No. 38186, can be used to detect shorts in dryer heating elements and to determine when the element has been cycled off by a thermostat. Overloads on the circuit breaker or fuse can be traced to either the dryer or circuit breaker by checking the dryer current draw. If it is less than the breaker rating, the breaker is defective.



Each circuit in the dryer has a normal current draw which is an indication of the performance of that particular circuit. Current draw levels less than or more than normal give clues to malfunctions. The clamp-on ammeter measures these circuits without breaking the circuit. It measures the strength of the magnetic field developed around each conductor. Current is read by separating the conductors and clamping the jaws of the ammeter around each conductor on which current is to be read. Voltage readings may be taken by using the leads supplied with the meter. The meter is preset to read on the 0-300 VAC range but can be dropped down to a 0-150 VAC range by pressing the red button on the front of the meter. Complete operating instructions are provided with each meter.

#### **VOLT-WATTMETER**

The 38519 volt-wattmeter may be used in checking for either low or high wattage readings. The meter is designed for use on either AC or DC current.



The D10 model dryer has a normal wattage rating which can be used as a basis for comparison with wattage readings taken from a unit being tested. On gas models the normal wattage reading would be approximately 300 watts, while on electric models the reading would be approximately 5600 watts at 240 volts AC current. 208 volt electric dryers, when properly converted, also carry a normal wattage reading of 5600 watts.

Readings which are above the normal wattage range indicate a possible electrical problem or increased load on the motor through mechanical difficulties. Wattage readings below normal indicate the unit is not operating at maximum efficiency.

Of equal importance is the ability of the power line to supply sufficient voltage without an excessive observation of voltage while the appliance is operating. A voltage drop of 10% or less from the rated voltage is acceptable for proper operation. Line voltage which drops considerably during the motor start period cannot support continued normal operation of the product. Larger wiring in the home may help solve problems of this type. If the power to the main circuit panel of the home also drops during the starting phase, the power company should be consulted. This condition is often indicated by dimming of lights or slow starting of motors.

NOTE: In order to use the volt-wattmeter on an electric dryer a 240 volt plug adaptor must be used. Since this is not always practical, you may want to restrict the use of the volt-wattmeter to gas dryers only.

#### DRIVE MOTOR TESTING & ANALYSIS

#### GENERAL

Drive motor failures are normally recognized by certain malfunctions associated with the dryer performance. Specifically, the following situations can be caused from drive motor problems.

A. Drum will not turn. Motor hums.

- B. Dryer will not heat. Motor centrifugal switch contact open.
- C. Dryer runs for a short time then stops. Won't start again for several minutes. Motor is overheating and trips overload protector.
- D. Drum stops when "push-to-start" button is released. Motor centrifugal switch inoperative.

Testing procedures are most effective when the drive motor remains installed in the dryer. A simple motor test cord may be used to electrically check operation of the motor. This test determines whether or not the motor will run independently of other components.

The test cord pictured below is available from The Maytag Company (Part No. 38183) or may be constructed from an existing power cord.



A. Drum will not turn - motor "hums".

- 1. Disconnect power supply to dryer; and wires from motor terminal board.
- 2. Connect test cord as shown.



3. Plug test cord into electrical outlet; (120 volt). If motor still "hums", it should be replaced.

NOTE: To check centrifugal switch only: disconnect test cord from receptacle and test leads from motor. With an ohmmeter check for continuity between motor leads Red and Yellow and Black and Blue. Continuity on either of these checks indicates inoperative centrifugal switch. Replace motor centrifugal switch if available, or complete motor.



- B. Dryer will not heat motor centrifugal switch contact open.
  - 1. Disconnect power supply to dryer and wires from motor terminal board.
  - 2. Connect motor test cord to motor terminals as shown.



 Plug test cord into 120 volt electrical outlet. With motor running, use an ohmmeter and check for continuity between motor terminals Black and Blue. No continuity, replace motor or if switch is available, motor centrifugal switch.



- C. Dryer runs for a short time then stops. Will start again after several minutes.
  - If this condition exists, (and mechanically the motor load is normal), it is an indication the motor is overheating. Be sure motor end bells are cleaned of any lint build-up which would restrict proper air flow through the motor.
  - 2. Disconnect power supply to dryer; and wires to motor. Check for continuity between terminals Red and Yellow and Blue and Black. If continuity exists on either check, replace motor switch (if available) or complete drive motor.



3. Attach motor test cord as shown.



Plug motor test cord into 120 volt receptacle. If motor switch is inoperative, or windings are overheating, replace switch or complete motor. If drive motor does not "overheat" with test cord operation, check other components in the dryer for improper circuitry or mechanical overload.

- D. Drum stops when "push-to-start" button is released.
  - 1. Check wiring to start control switch and/or drive motor.
  - 2. If wires are all in position, replace motor centrifugal switch (if available) or complete drive motor.

# TROUBLESHOOTING - ELECTRONIC CONTROL MODELS

NOTE: Care must always be exercised to avoid the possibility of electrical shock.

#### DRYER WON'T SHUT OFF "SOLENOID NEVER ENERGIZED"

Regular, Permanent Press, Air Fluff

- 1. Disconnect White/Blue wire at dryness control board or sensor. Select regular or permanent press setting on Model D710. Select regular setting on Model D810.
  - a. If dryer shuts off in 12 to 15 minutes (normal dryness) or in 18 to 22 minutes (extra dryness), difficulty is caused from a "ground" in sensor.

Be sure wires are on sensor connectors and check sensor bars to make sure something has not "grounded" across bars.

- b. If dryer still does not shut off in prescribed times, proceed to check two.
- 2. With regular, permanent press or airfluff selection made disconnect dryer from power supply.
  - a. Perform the following continuity check at the start control switch (remove following wires from terminals).



- 1. White/Red to Orange (D710).
- 2. White/Red to Orange/Black (D810).

No continuity, replace the start control switch.

- b. Remove Gray wire from start control switch. On Model D710 remove Pink wire from dryness control switch. On Model D810 remove Brown wire from dryness control switch. Check for continuity between these two main wires (not switch terminals). No continuity, replace wires or shut off solenoid, depending upon where open circuit exists.
- c. Disconnect Pink and Brown wires from dryness control switch. With the "dry" button depressed continuity should be read. No continuity should be read with the "more dry" button depressed.
- d. If the above checks do not show a problem, replace dryness control board.

Observing the neon bulb during a check can shorten the time to test the dryness control. If the bulb glows or flickers during the check, the edgeboard connector assembly, including the capacitor, is at fault and should be replaced.

# DRYER WON'T SHUT OFF - SOLENOID ENERGIZES ALL SELECTIONS

1. Observe operation of solenoid to make sure linkage from solenoid to switch is not bent or disconnected.



Be sure operation of solenoid does not "reset" switch. This can be determined by manually moving switch slider bar towards solenoid after it has energized. If dryer stops, difficulty is caused from bent solenoid bracket or linkage.

2. If linkage and bracketry are satisfactory, replace cool-down thermostat.



DRYER SHUTS OFF TOO SOON - SOLENOID ENERGIZED

- 1. Check to be sure dryer is externally grounded.
- Check continuity between sensor bars by placing a conductive object across bar. No continuity, White/Blue to Green, clean or replace sensor bars.
- 3. Disconnect dryer from power supply. Check continuity between Pink/Black to Red/Black on start control switch (Model D710) and Blue to White/Brown on start control switch (Model D810). With the solenoid energized (in the off position) you should have continuity. No continuity replace start control switch.



4. If all the above steps do not solve the problem, replace dryness control board.

# REPEAT CHIME DOES NOT RING - PERMANENT PRESS ONLY

- Dryer must proceed to "cool-down", before repeating chime will ring. If solenoid does not chime at least once, perform checks under heading "dryer won't shut off".
- Disconnect dryer from power supply. Check continuity between Pink/Black to Red/Black at start control switch (Model D710) and Blue to White/Brown at start control switch (Model D810). With the switch manually pulled to the "off" position (push link tab toward solenoid) there should be continuity. NOTE: This contact should open (no continuity) when the start control switch is activated.

- 3. Check continuity between Pink and Red/Black of the cycle selector switch (Model D710) and Orange to Brown of the timer (Model D810). No continuity on either check, replace component part.
- 4. If problem is not located in the above checks, replace dryness control board.

# CHIME DOES NOT RING - PRESS CARE ONLY (D810)

- Timer must proceed to "cool-down", before chime will ring. If solenoid does not chime at least once, perform checks under heading "dryer won't shut off". Additionally check Black to Pink/Black at timer, "Press Care" selection made. No continuity, replace timer. Check Pink/Black to Red/Black at start control switch, no continuity, replace start control switch. Check timer motor. If not operating replace.
- Disconnect dryer from power supply. Check continuity between Pink to White/Blue at the start control switch. With the switch manually pulled to the "off" position (push link towards solenoid). There should be continuity. NOTE: This contact should open (no continuity) when the start control switch is activated.
- 3. Check continuity between White/Blue and Brown at the timer. No continuity replace timer.
- 4. If problem is not located in the above checks, replace dryness control board.

#### **DUAL GAS CONTROL - TESTING**

#### GENERAL

For the most part, service in the gas control area, should be divided into four sections:

- A. Igniter
- B. Radiant Sensor
- C. Coils
- D. Dual Gas Control Housing Assembly

By a "process of elimination" procedure, these components can each be considered. Perform the following checks:

 A. Igniter - Disconnect igniter assembly leads from gas valve leads by pulling plug type connector apart. See Section VII.

Check for continuity between the igniter assembly terminals as shown. No continuity, replace igniter assembly.



B. Radiant Sensor - Remove wires from sensor terminals.

With dryer cool, check for continuity between the sensor terminals. No continuity, replace radiant sensor.



SERVICE TIP: If you encounter an igniter which has failed, particularly one which is broken in several places, the radiant sensor may be the cause. To determine if the radiant sensor should be replaced:

- 1. Disconnect electrical supply to dryer and remove damaged igniter.
- 2. Install new igniter and reconnect electrical supply.
- 3. Select a cycle with heat and observe igniter. If it stays on for more than 60 seconds once it begins to glow, replace radiant sensor.
- C. Coils Coil continuity may be checked without separating wires from wire connectors. Disconnect wire harness coupler (Molex) to the gas control, wires Black and White from radiant sensor and Red leads from igniter.

Using an ohmmeter check continuity as indicated below.

Correct Readings

Igniter Wires Red to Red 425-450 ohms

Sensor Wires White to Black 450-475 ohms

NOTE: Incorrect reading on either test, replace complete valve. See Section VII.

NOTE: Coils are available individually. Instructions for proper installation are provided with each coil. Should there be any doubt about continuity readings or replacement of coils, it is recommended the complete gas control be replaced.

D. Dual Gas Control Housing Assembly - Internal components for this gas control are not available individually. Any service or repair (as determined from above checks) must be accomplished by replacing complete gas control. See Section VII for replacement procedures.

# **ELECTRICAL TROUBLESHOOTING CHARTS**

### **Covering Continuity Test Procedures**

The charts on the following pages are simple guides to aid you in diagnosing and correcting a malfunction of the dryer due to a failure of an electrical component. With these charts and an inexpensive volt-ohmmeter, (available from The Maytag Company under Part No. 38559) all electrical components can be checked to determine the cause of an electrical failure.



NOTE: Although these charts are designed to cover three basic problems (failure to start, run or heat) they can also be used to locate virtually any electrical problem area.

#### **USING THE CHARTS**

To check a circuit you do not need to start at L1 and work your way step by step to L2 or neutral. Your experience will dictate those parts which should be checked first. Normally, the sequence of checks followed will be determined by the nature of the failure. where the failure would normally occur and by which components are most readily accessible. As an example: If a timer were being checked and there are several checks which can be made on the timer in that circuit. then all checks should be made on the timer before continuing on to another component. In the event spot checking does not reveal the nature of the failure, the procedure of attaching one of the prods of the voltmeter to L1 and moving the second prod to each consecutive terminal will reveal the broken circuit, whether it be a component part, wire or an electrical connection.

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The following symbols are used in the charts:

The straight lines are wires. The wires are identified by number, color or both.



The dots indicate an electrical connection.



This designates an electrical connector which may be a double terminal or in the case of a timer, it may be a buss bar. No switches are involved.



This depicts a resistance circuit. Since there are no switches involved, there should always be continuity between the two terminals. The amount of resistance will vary depending upon the component being checked.



This depicts a switch which is closed providing a circuit between the contacts of the part. Since these charts indicate a completed circuit, all the switches shown are in the closed position.





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